

in England and Wales

Mountain and Cave Rescue

Review of The year



January to December 2011

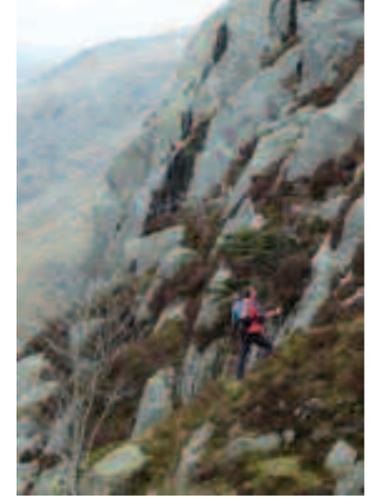
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First Word

Chairman

David Allan



This first ever published 'Review of the Year' certainly reflects the challenges, variety and commitment associated with rescue. I think it unlikely we even considered the 'law of unintended consequences' when we made the decision, some years back, to make the skills of mountain rescue teams freely available, to local communities and to other SAR services, for incidents away from the mountains. Perhaps we believed at the time that the frequency of mountain incidents had reached its zenith. We were certainly wrong on this count.



However, despite the rise in the number of incidents on the hills, plus the increased variety and frequency of events away from the hills, mountain rescue teams have taken all this in their stride and continue to deliver an entirely voluntary service, 365 days a year.

Although many untoward episodes on the hills are the result of a rather careless underestimation of the importance of weather and time by some, the majority of incidents are down to simple bad luck experienced by well-provisioned walkers and climbers. Mountain rescue is firmly committed to the freedom of the hills for all and within that must be the freedom to take some risks and learn from experience.

The importance of the ability to adventure was well summarised by Wilfrid Noyce, for a period regarded as the best mountaineer in the country.

'If adventure has a final and all-embracing motive, it is surely this: we go out because it is our nature to go out, to climb mountains, and to paddle rivers and plunge into the depths of the oceans... When man ceases to do these things, he is no longer man.'

If the presence of mountain rescue enables more people to seek adventure this alone is a worthwhile achievement.

Amongst the records that show episodes when parties have simply lost their way, there are accounts of difficult and protracted rescues that have tested teams' abilities severely. There

are no accounts of incidents when teams failed to accomplish a rescue. At a time when air ambulances feature prominently in the public gaze it must be remembered that in the dark and in bad weather, when a significant number of the most testing incidents occur, this facility is not available and mountain rescue teams are the only service on call.

The many hours of training demanded from team members to achieve this level of competence is considerable. Added to this the requirement to maintain equipment and raise funds takes mountain rescue into the realms of a second job for many. Without the support of unseen and unsung families many team members could not contribute to the extent that is seen.

Remarkably the service is not short of volunteers and all the indicators show that mountain rescue will continue to provide the high standard it has established both on and off the hills.

We would welcome your feedback on our work and on this Review of the Year. You can contact me via our website at www.mountain.rescue.org.uk.

Mountain and Cave Awareness Weekend: 5-7 May: Events will be taking place across England and Wales – this is a great opportunity to meet and support your local team and find out more about what they do.

National Training Day: Plas y Brenin: Saturday 5 May: A chance for team members to network with other teams and hone their skills.

UK MR Conference: Leeds University: 7-9 September: England and Wales play host to this biennial event in 2012, entertaining delegates from Scottish and Irish mountain rescue.

2012 KEY DATES

Left: A very difficult rescue on Easy Gully, Pavey Ark, Great Langdale with Langdale Ambleside MRT. Above: Taking care of a casualty, inside the casualty shelter. Top right: Lakes dog handler Roger Pickup search dog training on Mickledon. All images and cover shot © Paul Burke.

WOODHEAD MP JOINS THE CELEBRATIONS: 20 JUNE

The Member of Parliament for Penistone and Stocksbridge, the Rt Hon Angela Smith (Labour), is an APPG member who has strengthened connections with her local team in recent years. Woodhead MRT, based near Holmfirth in West Yorkshire, celebrated the official opening of its refurbished HQ and the new Woodhead Barn facilities in June. (www.woodheadbarn.co.uk)

'Angela Smith spoke at the opening event,' says Scott Roberts of the Woodhead team, 'and she talked to our guests about our local activities as well as the broader aspects of mountain rescue teams across the country, particularly the support for the emergency services in non-mountain work such as floods and winter weather conditions.'

Friends in high places

Our message in government

© Paul Burke.

All Party Parliamentary Groups (APPGs) are non-party political gatherings of MPs and representatives from the House of Lords who have a shared interest and a shared commitment to a topic. There has been some sort of APPG for mountain rescue in England and Wales since 1997 but it was revitalised after the 2010 election when the newly elected member for Penrith and the Borders, Rory Stewart MP, took on leadership of the group.

'My constituency work and interest in mountains and uplands had taught me that government needed to back our voluntary mountain and cave rescue teams,' says Rory. 'Our first priority as an APPG was to push — hard — on the Treasury's door and find a way through the problems surrounding a VAT exemption or rebate, or a grant to support the service. The announcement of that financial support, during 2011, was our first major achievement and we've been consolidating the APPG membership and connections ever since.'

That consolidation has included an emphasis on a membership that involves a cross-section of interested MPs and Lords: from all political parties, from both Houses, not too Cumbrian and not only upland areas.

'We've now got members from Wales and the Peak District as well as Tony Cunningham, Jamie Reed (Labour), Tim Farron (Liberal Democrat) and myself and John Stevenson (Conservative) from Cumbria and those with links to lowland rescue teams too,' says Rory, 'as well as connections to climbing and caving.'

The APPG meets roughly every three months and has rapidly established strong links to MREW officers, especially our Chairman, David Allan, and to local teams.

'During the past eighteen months, the APPG has been revitalised and has begun to take a more active interest in

mountain rescue,' says David. 'It has been particularly good to see individual MPs from the group visiting their local teams and becoming much better informed about their skills and commitment.'

'The APPG as a whole was instrumental in securing the grant towards equipment for the 2011-12 period and into the future. It is proving very valuable for us to have such a specific point of contact.'

'The aim is a very light touch involvement,' says Rory. 'Some charities have recently focused on advocacy and policy discussions, but I don't think it's always a good idea. I feel the secret of the traditional — and successful — mountain rescue approach is getting on with the job and being firmly embedded in each team's local community. I see our role as supporting that continuing emphasis. We're there to promote and publicise when needed and to pursue issues when appropriate. For instance, we're hoping to create an event in Parliament, probably late in 2012 or in 2013, so that we can inform our colleagues about the nature of search and rescue in the UK and raise awareness more generally through news media and other channels. That is something that we as an APPG can do to help and to promote the work already being done by MRT volunteers and supporters across the country.'

The secret of the traditional – and successful – mountain rescue approach is getting on with the job and being firmly embedded in each team's local community



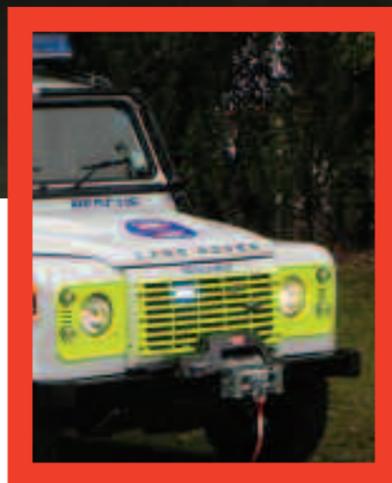
© Daryl Garfield.

THREE TEAMS INVOLVED IN THE RESCUE OF AN INJURED CAVER ON CHRISTMAS DAY: 25 DECEMBER

It's oft-repeated that team members are on call 24/7, 'whatever' and many can testify to the children's birthdays, family celebrations and romantic dinner dates cut short by the insistent bleep of the pager. And, for members of three northern rescue teams this year, any Christmas Day feasting and post-dinner TV-watching was put firmly on hold at 5.40pm by a call to rescue an injured caver.

The 39-year-old man had suffered a serious leg injury, when hit by a falling boulder in Molluscan Hall in the Ease Gill system, on the western fringe of the Yorkshire Dales. Members of the Clapham-based Cave Rescue Organisation, with Upper Wharfedale FRA and Kendal MRT gave the man pain relief and splinted his leg before bringing him to the surface via County Pot, ten hours after he went underground.

Kendal team members stretchered the man – described as a 'six-foot-tall, heavy casualty' – across wet and boggy ground to an ambulance waiting at Bull Pot Farm. The injured caver was then taken to hospital and rescuers were back home around midnight.



The Royal Wedding gift

Helping save lives from Patterdale via the Peak District to South Snowdonia...

The first Saturday in September saw representatives of about fourteen different MRTs gathering in Deeside, just over the Welsh border from Chester, to see the results of a generous wedding gift that became a Royal donation, and that is now saving lives on the Cumbrian hills.

Back in the Spring, Jaguar Land Rover gave Prince William and his bride-to-be, Miss Catherine Middleton, a Land Rover as a wedding present. As Patron of Mountain Rescue England and Wales, Prince William, now HRH The Duke of Cambridge, handed the gift on to MREW.

David Allan, Chairman of Mountain Rescue England and Wales, takes up the story: 'We arranged for the names of the fifty or so teams to be put in a hat and then, on his brother's behalf, Prince Harry picked out a winner at a meeting of the Princes' Charities Forum. The Patterdale team's name came out of the hat and, since the draw, they've passed on one of their

Land Rovers to another team, Glossop MRT in the Peak District and they, in turn, have passed on a vehicle to the South Snowdonia team.'

During the summer, the wedding present Land Rover, a Defender 110 Utility Wagon with a 2.4 litre Puma engine and 6-speed manual transmission, was in an industrial unit in Deeside, home of the North Wales Police Commissioning Centre (NWPPCC).

Huw Jones and his team at the NWPPCC specialise in work on all sorts of police and other emergency vehicles, making sure that they're adapted for specific purposes and equipped for a range of specialist roles. They worked with Daryl Garfield, Vehicles Officer for MREW, and Neil Barrow of Patterdale MRT, on the interior and exterior of the Land Rover to create a state-of-the-art rescue vehicle including off-road capability, roll cage, high visibility livery and emergency services warning systems.

'We've worked on similar conversions over the past six years,' says Huw, 'but we always knew that this one would be high profile because of the back story to the original donation of the vehicle.'

On Saturday 3 September, the vehicle was unveiled as part of an open day at NWPPCC, attended by representatives of Jaguar Land Rover, Mountain Rescue England and Wales, North Wales Police and team members from search and rescue teams across England and Wales.

It has been at work in the Cumbrian mountains ever since and Patterdale MRT handed over their vehicle to the Glossop team in a ripple effect early in 2012.



Main shot and inset: The Wedding Present Land Rover – almost ready to rescue! Top: Martin Cotterell (Patterdale Team Leader) and Dave Freeborn (Patterdale) take a sneaky peek; Daryl Garfield (MREW Vehicles Officer), David Allan (MREW Chairman), Martin Cotterell, Andy Gunther (NWPPCC), John Williams (Patterdale Chairman) and Dave Freeborn at NWPPCC in September © Judy Whiteside. Above: John Williams hands the keys over to members of Glossop team in January 2012 © Patterdale MRT.

This year's facts and figures

After a two year high for some areas – notably the Lakes and North Wales – it appears that 'normality' has resumed! Concerns that the numbers might continue ever upwards would appear to be unfounded.

Mountain

2011 also saw a substantial reduction in the fatality rate — and the majority of these deaths were medical rather than traumatic.

Mountain biking accidents have doubled in both relative and absolute terms. Opportunities for following prepared trails have increased but the inherently dangerous consequences of an accident have been highlighted with a fatality to one rider. Most of the previous recorded fatalities while mountain biking resulted from medical collapses. This should bring home the need for care and experience gained under controlled conditions.

There appears to be considerable

frustration among teams about the continuing number of persons reported lost or overdue. These are the types of incidents that are avoidable. In these cases, the persons involved generally show a lack of preparation — before venturing out, they failed to plan their route with sufficient care, they didn't plan for their whole group's abilities, they failed to gain sufficient experience at navigation or they failed to take the appropriate equipment to navigate with. The underlying reasons for this are an ignorance of the fundamental importance of navigation and the failure to master the basics of good navigation and route planning.

A summary of the last five years' mountain incidents and accidents in England and Wales.

Year	Incidents	Fatalities	Injured	Persons assisted
2011	1062	33	668	1307
2010	1120	53	659	1397
2009	1059	37	667	1471
2008	886	48	557	1202
2007	796	33	501	1141

A summary of the last five years' non-mountain incidents and accidents in England and Wales.

Year	Incidents	Fatalities	Injured	Persons assisted
2011	449	53	107	318
2010	704	44	118	335
2009	597	59	126	401
2008	457	67	99	346
2007	462	38	89	325



Non-mountain

The drop in non-mountain incident numbers is much more dramatic than with mountain incidents. It is interesting to note that the overall level of non-mountain activity has levelled out, matching the figures of three and four years earlier.

Incident figures fell in 2011, so how exceptional were the previous two years?

Annual numbers of mountain rescue deployments over the last three years have risen sharply before falling again in 2011. But how do those 'incidents' break down into 'mountain' and 'non-mountain' activities and is there a monthly pattern? And how do the figures affect the mountain rescue service?

'Mountain' activities are those leisure pursuits that are mountain or wilderness related — principally hill walking (about 75%) and rock climbing (about 10%), but also adventure activities such as hang gliding, parapenting, mountain biking and orienteering. All tend to low points in December, February and March and high points during May to October. High points in April and May correspond to Easter and May bank holidays. With few exceptions, monthly deployments in 2010 were highest, with the exception of the spring holiday periods — spring and summer weather in 2010 was particularly poor.

January and February reflect the effects of severe wintry weather in 2009 and 2010. Heavy snow and low temperatures gave rise to excellent conditions for winter climbing and walking, hence the dramatic increase in deployments.

Deployments during the summer of 2010 were markedly higher than the other years which appears directly related to visitor numbers. Anecdotal evidence from the tourism industry supports this.

Speculation that 2010 was an exceptional year appears justified — based on visitors taking their holidays in this country, especially in the areas of national parks. Changes in holiday patterns appear to result from a reduction in foreign holidays by UK residents and not an increase in visitors from abroad.

The figures should not be interpreted as a likely indicator of future trends, however, as early analysis suggests there were a number of exceptional factors at play in 2010.

'Non-mountain' incidents consist mainly of search and resilience activities in support of the statutory emergency services where access problems or unprecedented demand required our assistance. Thankfully, the number of major incidents remains small but there

are many instances where the police, fire and ambulance services require the specialised expertise, equipment and experience of mountain rescue to fulfil their statutory duties.

Unlike the 'mountain' figures, there is no clear monthly pattern. Calls fluctuated between 20 and 50 per month — relatively few. But, for the teams involved, they form a considerable proportion of their workload.

The fluctuations in January and December exactly match periods of severe wintry weather across England and Wales which severely stretched the Ambulance Service.

Mountain rescue teams were able to provide manpower in 4x4 transport, coupled with a high level of medical care, to fill the gap and this was equally true in rural and urban areas. Their expertise, equipment and local knowledge were also invaluable in accessing remote roads where motorists, commercial and private, were stranded by snow drifts.

Using approximate figures, these increases in deployments account for an extra eighty in 2009 and 240 in 2010, compared to 2011 — clearly significant, especially when the duration of deployments is taken into account.

Increases in incident numbers have always been attributable to adverse weather conditions but the service can manage this, even during prolonged period of severe winter conditions. Visitor patterns do influence 'mountain' incidents but overall, they appear quite minor and do not affect every team. All of mountain rescue, however, is affected during periods of severe wintry weather.

So... 2010 was, indeed, an exceptional year — which can be explained, in small part, by changes in visitor patterns but chiefly by its exceptional weather. 2011 saw a return to something closer to 'normal'.



Top: Ogwen Valley MRO in training © Dave Jones.
Above: Scarborough & Ryedale team Land Rover
© Judy Whiteside.

When mobile technology leads the way

SARLOC and SARCALL



Main shot: Woodhead MRT © Gordon Gibbons Inset: Wasdale MRT undertake a search on Scafell Pike © Wasdale MRT

There is much in the media about the downsides of walkers in the mountains relying on mobile phone technology for navigation and safety, rather than the traditional skills with a map and compass. Mountain rescuers have plenty of experience of the negatives but teams are also developing the tools to make the most of the positive benefits and opportunities too. SARCALL and SARLOC are two systems that are already showing how texting and smartphone technology can come to the aid of an injured or lost walker.

John Hulse of Ogwen Valley MRO in North Wales is responsible for the development of SARCALL, a system that enables a local police force to call out the right team at the right time for the right job together with enabling teams to send messages and share operational logs.

'There'd been a centralisation of our Police Force Communications Centre (FCC) and the staff there were trying to deal with mountain search and rescue call-outs across an area spanned by eight different teams, each one with slightly different procedures. We needed to create a simple, accessible system

We needed to create a simple accessible system for FCC staff to call us out as easily and efficiently as possible

and make it easy for FCC staff to call us out as easily and efficiently as possible.'

SARCALL went live in North Wales in August 2009 and the system has since handled more than 1,600 search and rescue call-outs from UK police forces. In some cases, the elapsed time between the police operator logging into SARCALL, selecting the team, writing and sending the SMS message and the team leader(s) responding to the FCC is less than three minutes — a remarkable response level that can only benefit the casualty.

John continues the story: 'SARCALL is now in active use by 35 teams in the UK, including most of the cave rescue teams together with two Scottish mountain rescue teams. We've also seen interest from government and military agencies who see the opportunities for rapid and reliable dispatching and communications together with the benefits of sharing operational information and links as part of the message. It's definitely a good example of mobile phone, email and

web technology helping both rescuers and the rescued.'

SARCALL is firmly based on mountain and cave rescue teams' operational needs and this principle is key to the ongoing development of the system. One more recent request quickly developed into the SMS Response module of the system. Here team members can use their mobiles and send an SMS text to inform leaders of their availability once a call-out has been initiated. This information is then available in a number of formats and allows a team leader to make informed decisions right at the start of a job, a critical period for any rescue.

In early 2011, SARLOC followed on the heels of SARCALL and, in just one year, has already contributed to over 250 call-outs. Russ Hore — a member of the Ogwen Valley team who was involved in the development of the forerunner of SARCALL successfully used on the Ogwen site for over a year — developed SARLOC so that mountain rescuers could locate a lost person using the web browser built into many smartphones.

'As long as the person has a signal and has sent an alert to 999, we can send them a text message with the URL of a web page which automatically requests the phone's location,' says Russ. 'The smartphone then sends its position to the team — accurate to less than 100 metres — and this is displayed on a screen map in the team's base in seconds. At the same time, the caller receives a message reassuring them that the team know where they are and help is on its way. It couldn't be much simpler and shows that new technology can be used to make things safer in the mountains too.'

SARLOC clearly demonstrates how new technology can be used to make things safer in the mountains.

SARLOC AIDS SEARCHERS TWICE IN ONE WEEKEND: 26/27 NOVEMBER

SARLOC proved its worth in the Lake District and Snowdonia, with two incidents over the same weekend in November.

In the first, a couple from Derby, in their late twenties, had set off to climb Scafell Pike. The weather conditions on the mountain were extremely poor with high winds, driving rain and visibility down to five metres in dense cloud. Totally disorientated on the summit plateau, around 50m below the 978m summit — and unsure where they were — and with only one small torch between them, they called the police mid-afternoon. Wasdale team members mobilised with haste.

Fortunately the walkers were carrying a smartphone so the team could get a message to the couple which allowed them to feed back the phone's exact grid reference position to the rescue base in Gosforth.

Nine team members headed to their location, with a further five back at base ready to bring up additional gear if the walkers, who were very cold, tired and wet, were unable to make their own way down. They were quickly found, warmed and assisted down the mountain. The six-hour search ended, with everyone safely off the mountain, at 7.00pm.

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CLIMBERS RESCUED IN MARATHON ELEVEN-HOUR OPERATION ON CRAIG YR ISFA, NORTH WALES: 23 JULY

On Saturday, 23 July, three members of North East Wales Mountaineering Club went to climb on Craig yr Isfa. This crag at the back of Cwm Eigiau (a hanging valley above the Conwy Valley) and below the east slopes of Carnedd Llewelyn) gives nearly 1000ft of classic rock climbing as well as routes of much higher grades. Two of the classic routes are the Amphitheatre Buttress (960 ft V.Diff) and Great Gully (725 ft hard V.Diff).

The leader was introducing two less experienced rock climbers to multi-pitch climbing. They had decided to climb the popular Amphitheatre Buttress. However, after the long walk in, they found several other parties had the same idea, so they opted for a similarly graded route, Great Gully.

They had climbed the first couple of pitches when the leader came to the 'Door Jamb'. This short, steep and frequently wet chimney is usually avoided by moving out of the gully to the right. Once height is gained, climbers return to the gully. The leader moved to the right but possibly too far. It was here that he fell a short distance, dislocating his left shoulder. His two colleagues were unable to reach him and he was unable to retreat. Fortunately, one of the party was able to get a mobile phone signal to telephone for mountain rescue.

North Wales Police contacted the team leaders of Ogwen via SARCALL shortly before 1700hrs. Two team members and two trainees, who had been climbing in the Ogwen Valley, were in Oggi Base. They were immediately deployed by Land Rover up the track to Ffynnon Llugwy reservoir from where they were to make their way to the top of Craig yr Isfa on foot. The first problem for the team leaders was to establish exactly where the casualty was.

The weather was fine and with long daylight hours, it was decided to request the assistance of RAF 22 Squadron. The Sea King overflew the crag but realised that a winch from that location was not easily feasible. So, the helicopter picked up the two from the Hasty Party, overflew the casualty site and then deposited them at the top of the crag. The two trainees were then airlifted to join them. The Sea King returned to Oggi Base to ferry more troops and technical rescue equipment to the top of the crag.

By about 1830hrs, enough manpower and kit was at the top of the crag. Anchors were established for the main and safety ropes, and team members were being deployed down the crag. Once in the gully, good 'rescue' anchors were hard to find, so the descent was made in pitches of about 50m. Radio

communications from the top of the crag to Oggi Base are good. However, despite a series of strategically situated repeater/link stations around North Wales, the dog's hind leg shape of Cwm Eigiau prevents good comms from the crag itself. To overcome this, a team member was able to place his Land Rover on a suitable high spot at the entrance to the cwm, high above the Conwy Valley. (As the evening and rescue progressed, he was supplied with supper of hot lasagne, delivered on horseback!)

The crag party comprised twelve team members including five well experienced in technical rope rescue, two trainees, two paramedics and one orthopaedic surgeon. Several problems faced the rescue party. First, was to locate the casualty. It wasn't known how far down the route he was but it was known that he wasn't in the gully but somewhere north of it. Although the casualty's injuries were reported as a dislocated shoulder, there were fears the shoulder injury could be masking other injuries. Was this to be a relatively easy lower of the casualty to the scree below, or was this to be a complex stretcher lower? Although the evening was fine and daylight remained until 22.30 or so, this rescue was going to be completed in the dark. Working on a large crag in a gully where any loose kit or rocks will fall directly onto people below requires the greatest of care. At every short pitch, good quality rescue anchors had to be built for both main and safety ropes as it wasn't known exactly where the casualty would be found.

The team leader at Oggi Base was confronted by many challenges and decisions. Communications had been resolved with the positioning of a link station, sufficient team

members were on the crag so now there was time to consider logistics. There were twelve team members out on the hill – many of whom had been on the mountain for leisure earlier in the day – who now needed food and drink. If the rescue went to plan, the casualty would be lowered to the foot of the crag, then down the 200ft high scree to the back of the cwm where, hopefully, 22 Squadron would return in the early hours of the morning to winch him to safety. The ten or so team members who would have descended the crag along with the remaining two climbers would also arrive at the back of the cwm in the early hours. They would be tired and hungry and would be facing the one hour or so walk out to the road head.

As the crag party was descending the gully in a series of pitches, it was realised that

when the X-ray demonstrated a locked dislocation with a large 'Hill Sacks lesion', typically not reducible without an anaesthetic).

The challenge was to get the casualty back into the line of the gully so he could be lowered down to the bottom. To do this, both casualty and rescuer had to be raised about 40m.

Fortunately, the casualty was not a stretcher case. So, with some assistance and a very brave face, he was lowered to the scree below and out to a good winching location by about 1.30am.

Meanwhile, back at Base, the team leader had arranged for the deployment of food and drinks for the party of ten and two climbers who were descending to the back of the cwm. Two team members with a carrier bag full of lovingly cooked sausages, rolls, loads of chocolate and several flasks of hot drinks were

food was laid out. The twinkling head torches of the rescue party could be seen descending the crag, their pace increased by the smell of sausage butties wafting from below, until...

The crew of the Sea King had been disappointed to be unable to hasten the whole rescue by winching the casualty directly off the rock face, so they had offered to return in the early hours to winch him from the back of the cwm. Good to their word, and to the relief of the rescue party, the Sea King returned... just after the picnic had been spread out. Alas it was too late!

The casualty was winched to safety and flown to hospital in Bangor, whilst team members hastily gathered the pieces of meat, bread, sauce, grass and sheep droppings and bundled it all back into the carrier bag ready for the remainder of the troops.

We had always respected the mountain rescue teams but, until this incident, had never appreciated how professional, skilled and generous they really were.' North East Wales Mountaineering Club

more rope might be needed to complete the rescue. Manpower back at Oggi Base was limited at that time so a Land Rover, with additional ropes, was dispatched up the reservoir road and two troops from the top of the crag were sent down to meet it. As more manpower arrived at Base, lighting and hot drinks were dispatched to the top of the crag.

In the gully, the rescue party had been lowered in a series of pitches to where they were level with the casualty. In the darkness and about 300ft (100m) up this cliff face, a delicate traverse was made to reach the casualty. The doctor tried to reduce the dislocation but without success – not easy for either doctor or patient in the dark, 100m up a rock face. (Professional pride was restored to some extent later

sent around to the Conwy Valley and up the steep gated road into the hanging valley of Cwm Eigiau. The driver was keen to get the food to the rescue party before it got too cold. As he drove up into the cwm, he only noted the closed gate at the penultimate moment! The ultimate moment was the realisation that, if he braked hard, his lovingly prepared food would be plastered all over the dashboard and windscreen. The decision was easy: a slightly bent car and gate or the wrath of ten hungry team members?

Vehicle access up the cwm was limited so it was Shank's Pony to the back of the cwm. They had made excellent time by arriving before the rescue party at about 1.00am. With a flat area of heather as the table top, the

With the casualty away to hospital, it remained to get the two climbers, the rescue equipment and rescuers down to safety. This was achieved by about 3.00am. Then the long walk out of the cwm to two waiting Land Rover Defender 130s, brought up the track to Eigiau Cottage.

Finally, all personnel arrived back at Oggi Base at about 5.00am to a most welcome cooked breakfast and hot drinks.

Later that day, the party of three returned to thank the team. And we can also report that, in the true spirit of mountaineering, all the climbing kit abandoned on this rescue was retrieved by rock climbers a few days later and returned to Oggi Base.

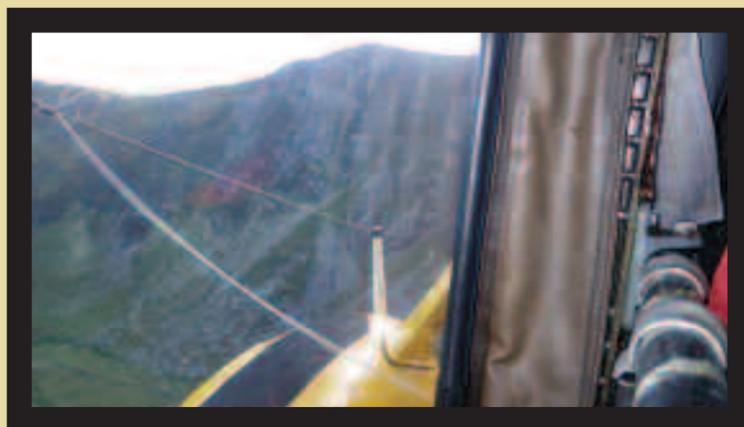
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In the second incident, in North Wales, SARLOC led Ogwen Valley team members directly to two 58-year-old lost walkers, after the pair set off with neither map nor compass, heading for Moel Siabod, just south of Plas y Brenin. The pair, with one torch between them, quickly ran into low cloud, heavy rain and high winds.

By 4.00pm, when they still hadn't found the summit – or got anywhere near it – they called 999. When they were questioned by the team leader, a definitive description of where they might be could not be established. In fact some of the descriptions seemed contradictory.

There was some urgency for this search as one man had a managed medical condition, and having been out in the poor weather for such a long time, his condition might have changed, making the search and rescue more urgent.

When team members reached the party, the team's GPS showed them to be standing within the 'You are here' circle on the map!



View from the Sea King © Ogwen Valley MRO.



Fit for action



Main shot: Woodhead team members undertake casualty care © Gordon Gibbons Inset images © Patterdale MRT/John Ellerton.



The topic of mountain rescuer fitness has been on the fringe for many years. I wanted to quantify how hard mountain rescue is, and open a discussion on how concerned we should be with rescuer fitness. The full study was originally published in the *Emergency Medicine Journal* in 2011.

Why should we be concerned? Firstly, from the casualty's perspective, time to hospital can be important in their medical outcome and rescuer fitness is a small but important component of this. A casualty in a hypothermia-inducing environment might be a few degrees colder by the time an unfit team arrives, with serious consequences. We also know that if someone is operating close to their maximum work capacity and then has to perform a skilled task, such as applying a splint or giving a drug, performance is reduced. The fitter you are, the better.

The second broad area encompasses the welfare of the rescuer. Infrequent heavy physical exertion is associated with sudden death but fitter people have some protection. In the 'employed' world, such as the police and fire services, the employer has a duty to protect the health of the rescuer; work-specific fitness testing and reaching a minimum standard partly addresses this liability. Though not strictly applicable to MR, we need to look after our own.

What is already known? The short answer is very little! There are plenty of opinions but few facts. Which is the most strenuous part of rescue? Is it going up or carrying the casualty down? What developments would make MR easier, apart from helicopters? Is investing in lighter equipment or changing stretcher design more beneficial at overcoming bottlenecks? We have no data to prioritise our research.

Mountain and cave rescuers need to be fit for action and many teams have doctors involved, not only for their expertise in dealing with casualties but also for the value of their shared knowledge. Dr John Ellerton is a member of Patterdale MRT in Cumbria but is also involved with research into mountain medicine, both across the UK and internationally. Here, he writes about studies into the fitness of mountain rescuers.

This exploratory study was done with the aims of:

- Determining how fit a group of mountain rescuers were by measuring their VO_2 max — the gold standard for endurance fitness.
- Measuring the work done during a simulated, but realistic, rescue and comparing the workload with other emergency services.
- Investigating whether we could use heart rate as a marker of work.

The study could not have been done without: help from Jamie H Macdonald PhD, Lecturer in Clinical Exercise Physiology and Outdoor Activities at the School of Sport, Health and Exercise Sciences, Bangor University and Patterdale MRT; funding from MREW and equipment from Penrith Leisure Centre and Polar watches.

Measuring rescuers' VO_2 max. Wearing a portable gas analyser, the rescuer exercised on a treadmill at increasing gradients until exhausted. By looking at each breath, we determined oxygen uptake and found that for the eight rescuers (age 46 ± 9 years) the mean VO_2 max was 52 ± 4 . This is well within the 'excellent' category and comparable to much younger naval fire fighters. City ambulance men have been found to be considerably less fit (VO_2 max 37). So rescuers are fit but do they need to be?

Measuring work during a simulated rescue. We designed a realistic rescue scenario. For those familiar with the Patterdale area, we chose Greenside, an incident hot spot above Red Tarn (approximately 3km and 430m ascent) and the rescuers were encouraged to keep to logged times for real rescues. They also carried a standard rucksack load — half a Bell stretcher.

During 30 minutes at the casualty site, rescuers prepared the stretcher with casualty (70kg water), vacuum mattress and Entonox® apparatus before descending using a variety of methods — sledging, carrying and manhandling.

The results were striking. Ascent was much more strenuous than descent. In terms of heart rate (HR), it was greater than 154 per minute for 80% of the time during ascent, compared with only 6% during descent. The typical rescue load was 17% of body mass which increases the work significantly. No other group of rescue workers has been shown to work for as long as MR — the maximum for fire fighters was 25 minutes whilst we worked for 114 minutes!

Can heart rate be used as a marker of work? The simple answer is yes. This means that instead of being kitted out in fragile, expensive gas analysers, we can use watches with a heart rate monitor. So we can measure work during real call-outs, carrying different kit, different loads, and in different weather and type of call-out.

No other group of rescuers has been shown to work for as long as MR...

We have learnt a lot about mountain rescue from this study. Rescuers work extremely hard and for long periods but also appear to be self-selecting in having the required fitness to safely do what is required.

Should we define a minimum standard of fitness? I suspect that no reasonable standard will be physiologically meaningful and it is better to rely on self-selection. This works when we attract the right rescuers who are based in mountaineering and know what it is like to carry a big pack up a hill!

LIMITED EDITION PENCILS GIFTED TO MOUNTAIN RESCUE: JUNE

A unique and very valuable gift, from Derwent Cumberland Pencils, was donated last year to mark the wedding of Prince William and Miss Catherine Middleton.

David Allan and Peter Bell (MREW President) travelled to Keswick in December to receive the unusual wedding present from Alex, who manages the

Keswick Pencil Museum.

'The beautifully crafted case contains every pencil the company makes and is an item that anyone with more than a passing interest in art and illustration would dream of owning,' says David Allan. 'The intention is to auction the gift at a high profile event during 2012. But, if anyone would like to

make a pre-emptive bid...

'I would like to take this opportunity to express our gratitude to the company for recognising mountain rescue in this way.'



OOPS! THE RESCUER RESCUED: 4 SEPTEMBER

When a mountain rescue team member suffers an accident, enjoying a day on the hill or going about their daily life, it's generally agreed they'd rather crawl on their hands and knees than face the inevitable ribbing of their fellow team mates. Until it actually happens. As Richard Prideaux, deputy team leader of North East Wales SAR discovered, when he came off his mountain bike in a forest.

It was a wet Sunday afternoon and the weather seemed perfect for a short blast on the bike so he picked up his biking rucksack, packed the usual bits – mostly repair stuff, a small first aid kit a few other items, and a GPS.

After half an hour of sweaty, skin-prickling ascent he'd climbed 300m up into the hills and forest behind his farm and began to negotiate a series of trails cut into Clocaenog forest. The trails link firebreaks and forest roads with wet and mossy single track sections, requiring careful riding at the best of times, and lead into some remote areas of the forest.

About a kilometre in, he hit a submerged branch on a particularly wet section and catapulted over the bars.

'I found myself sat upright on the forest floor with a GPS in one hand and my phone in the other. I rang my girlfriend, gave her the eight-figure grid ref and briefly explained what had happened, then asked her to bring the car up to the forest track. Then I rang the other deputy team leader and ask for a bit of advice.

'Apparently, my conversational ability was hampered by the fact I appeared to be drifting about on the edge of consciousness. And then my phone died.'

A quick DIY primary survey established he wasn't leaking any red stuff in major quantities, everything else seemed to be as mobile as it was before, although his right arm was a bit swollen and painful. Having initially decided to walk back uphill to the track and await his girlfriend he had second thoughts when a sharp pain either side of his C-spine

kicked in, so he lay down on the edge of the track.

'Lisa (a trainee team member) arrived, called me an idiot, and put a KISU over me. After a quick chat we decided maybe I did need a bit of help after all, and she drove off to get a signal and call Huw, leaving me with my MR rucksack and radio just in case.'

Meanwhile, Huw had called out the team – AND the police helicopter, worried Richard was now lying unconscious in the rain in a remote forest with unknown injuries, in need of assistance.

'I could hear the distant helicopter flying low, and my pride winced at the thought it may be for me. It made a couple of low passes so I dug around (with one arm, not easy) in my MR rucksack and found a handsmoke. I pulled off the cap, fingered the ringpull and gave it a yank. I was careful to point it away from my face but, unfortunately, pointed it too far away and effectively shot myself in the leg!'

Very soon, Lisa and the heli crew arrived, followed by the team Land Rover.

A strange mixture of feelings welled up inside me. On one hand I was relieved it was my mates coming to help me. I knew they were good at what they do, and they'd take care of me. I also knew I'd quite likely die from them taking the... well, you get the idea.

'I was touched by the tenderness of the normally rough, tough mountaineers surrounding me. And it was a valuable experience to be on the receiving end for real.'

Richard had sustained a broken AC joint or clavicle (they still aren't sure) but, thankfully, not a spinal injury.

'Did I crawl on my belly to the roadside and keep it all hidden from the team? No. Was I grateful they were called and I received the care I did? Without doubt. Would I do it again? Not so sure... but it has given me a deeper appreciation for what it

Did I crawl on my belly to the roadside and keep it all hidden from the team? No.

is like to be a casualty and, more importantly, what it's like to be lying in the rain wondering if anybody's coming to help you.

'We shouldn't underestimate what it feels like to see a Land Rover full of well-trained, enthusiastic and disciplined volunteers turn up and know they're there to help you. We all know that the call-out where we get to directly help somebody makes up for a dozen stand-downs and false starts, but when YOU are the person being rescued, that feeling is multiplied a hundredfold.'



NEWS LOG

Going underground

Cave rescues, by their nature, can be protracted and difficult affairs. Often, they can demand all the technical considerations of casualty recovery above ground – lighting, steep ropework, medical care and stretcher handling – conducted against the clock of rising water levels along tight, convoluted passages of unforgiving rock. Miles from the nearest entry point. Not to mention the dangers of mud slide, rock fall and foul air!

Despite all these factors, cavers tend to be an adventurous bunch, and with good reason – under the ground is arguably the only area of the British Isles where original exploration is still possible. Each year enthusiasts find and explore new passages and shafts, pushing the boundaries of their 'playground' ever further into the earth.

Cave rescue team members are all highly skilled and experienced cavers, with extensive knowledge of the technical demands and dangers of their local cave systems – so when an incident occurs underground, they are key to any rescue operation.

There are thirteen cave rescue teams in England and Wales, three of which are also fell rescue teams, operating above and below ground. During 2011, they undertook a total of 56 incidents underground, including two cave diving fatalities. And it's interesting to note that the incident report also lists one bull, one cow, seven sheep, two lambs and six dogs amongst the casualties! Never a dull moment.

CAVERS RESCUED AFTER FLOODS TRAP GROUP UNDERGROUND: 10 AUGUST

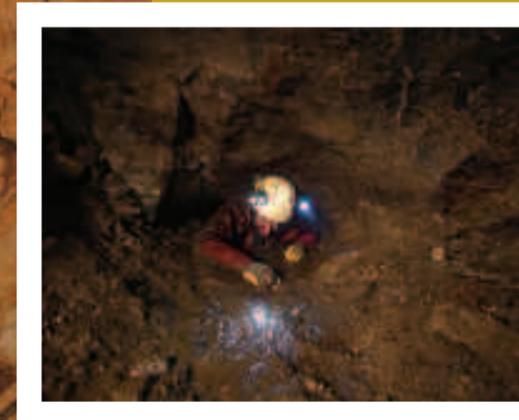
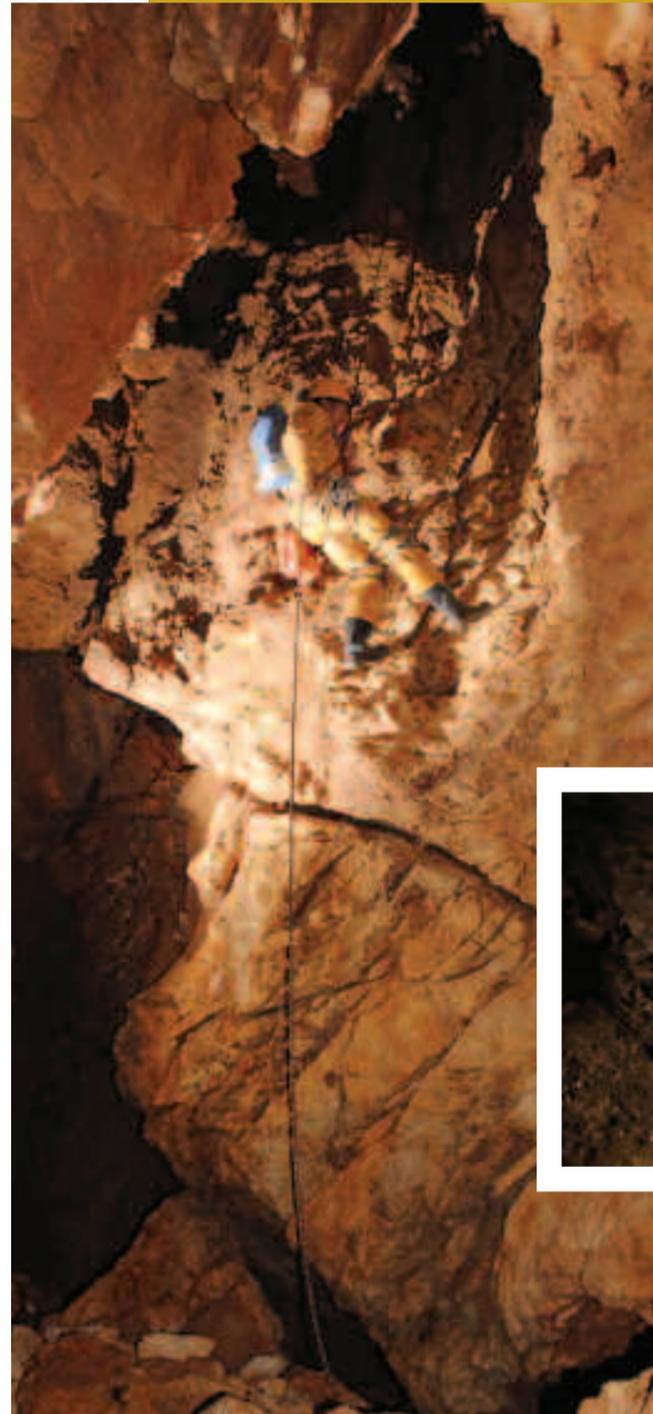
A group of four adults and eight teenagers became trapped in Long Churn Cave following heavy rainfall and severe flooding in August. Rescuers had to wait for flood levels to subside before they could enter the system on the lower slopes of Ingleborough but eventually the level fell for a short 50-minute period.

Search teams from Cave Rescue Organisation, assisted by Upper Wharfedale FRO – 48 team members in total – were able to locate the party sheltering beyond the Cheese Press and assist them to the surface, none the worse for their ordeal. Some had lost their wellington boots but all could progress the 200m to the exit.

Due to water levels quickly rising again CRO had to abandon ropes and equipment in the cave; this was retrieved later the following day when water levels once again fell to a safe level.

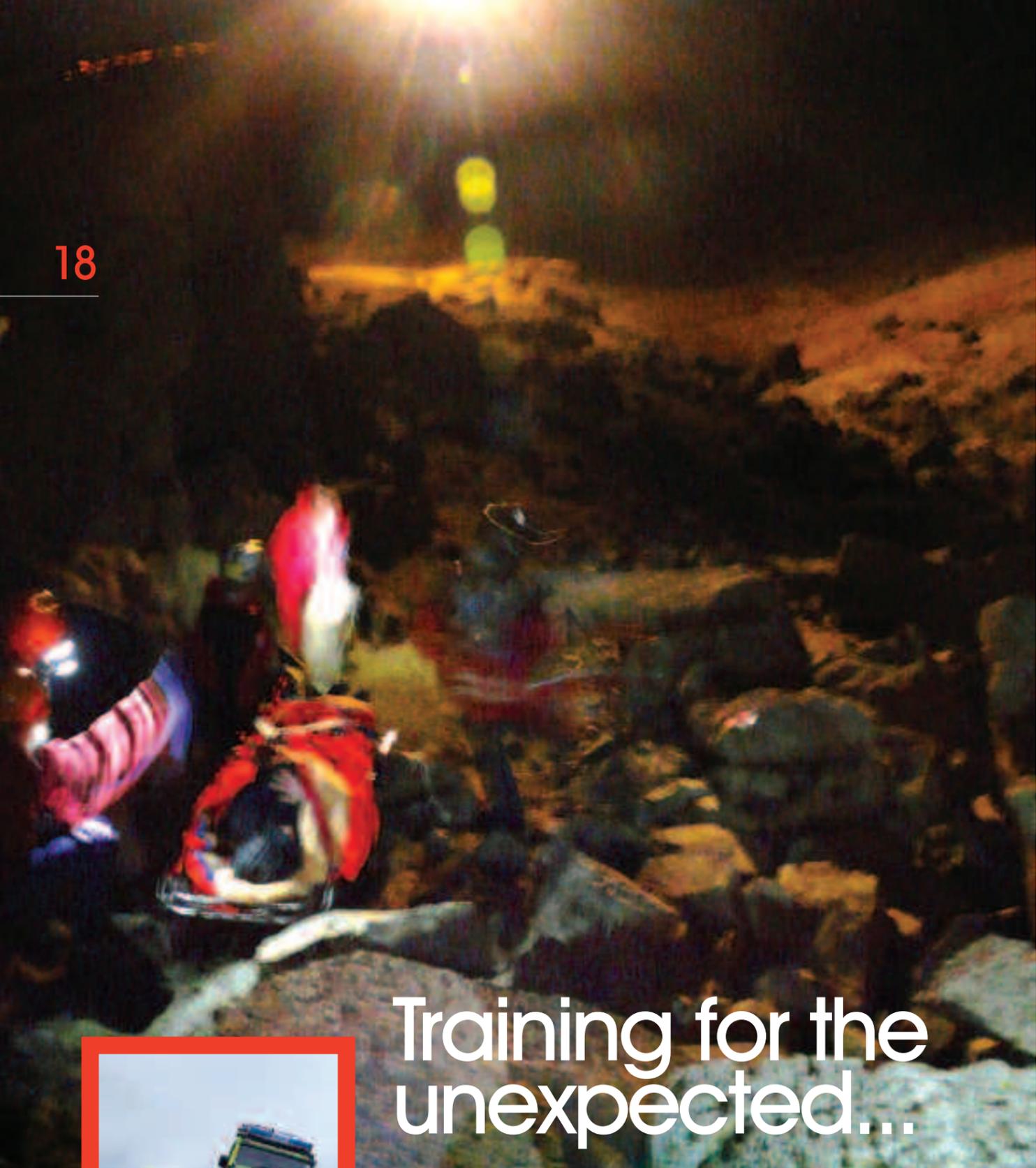
The trapped caving party included two instructors, eight young people aged between 16 and 25 and two adult leaders taking part in a personal development programme run by the Groundwork organisation.

Long Churn Cave is often used by novice caving parties, though it was the scene of two deaths when Caroline Fletcher and Stuart Goodwill drowned in 2007.



Facing page: Top: David Allan and Peter Bell with Alex. Bottom: Richard Prideaux receives tender care from a fellow team member © NEWSAR.

Left: Abseil underground © Gloucestershire Cave Rescue Group. Inset: Crawling through the slime © Rob Eavis.



Training for the unexpected...

...and the expected



Main shot and insets © Paul Burke.

Given that rescuers can be called to a huge range of situations and terrains, training is a massive part of any team member's commitment. After basic search and rescue training as a probationer, training includes rope work, winter skills, first aid and casualty care plus advanced driving, media skills and swiftwater rescue. And, once learned, all these skills must be maintained, practised and updated with alarming regularity.

Mike Margeson is MREW Training Officer and team leader of Duddon and Furness MRT. He leads a small group which ensures that the national organisation provides the right courses, workshops and back up to provide relevant shared training opportunities for the individual teams.

'One of the highlights of 2011 was the successful relaunch of the National Training,' says Mike. 'We planned for about 60 people but there was so much demand, we ended up with almost 140 team members gathering at the National Mountaineering Centre, Plas Y Brenin, in May. All the specialist subcommittees

were represented in the programme with topics from digital mapping to equipment testing, steep angle rescue to water challenges.'

From an internal perspective, another milestone was the completion of new National Guidelines on Rope Rescue.

'The Training subcommittee had been working on these for two years,' says Mike, 'and it was great to see these voted on and accepted at a national meeting in May. The next step is to review the MREW Party Leader and Team Member Guidelines, which are over ten years old and in need of updating and confirmation.'

So, how much time does training take up?

It is hard to calculate an average training commitment for the 'typical' mountain rescue volunteer but the following gives an indication of the likely dedication required.

- Regular team training — usually at least one full day (often a Sunday) and one evening per month. This will cover search techniques, rope work, communications training — you name it. That amounts to about 120 hours per annum.

- First aid and casualty care — at least two evening sessions per year to keep up to date and up to three days to achieve an initial CasCare certificate that then needs to be refreshed every three years. Consider that to be about twelve hours per annum.

- Winter training — many upland teams try to get away for a weekend to Scotland or similar terrain in winter conditions so that their snow and ice

skills are up to speed in case they're needed locally. That's probably another commitment of 24 hours over two days — with maybe a bit of fun and relaxation thrown in!

And that's just the core training. For someone who also has particular responsibility in their team for something like swiftwater skills or communications technology, there will be extra national sessions and exchanges and, for those who are training a search dog, you can easily double the 'average' training commitment. That's a lot of hours.

'There is no way anyone would volunteer for mountain rescue — and persevere beyond probationer stage — without a lot of enthusiasm and commitment,' says MREW Training Officer, Mike Margeson. 'It's a huge time commitment for the training alone — and that's before you build in call-outs!'

There is no way anyone would volunteer for mountain rescue – and persevere beyond probationer stage – without a lot of enthusiasm and commitment.



TWO DOZEN CHILDREN RESCUED AFTER BOY FALLS 100FT: 8 JULY

A party of schoolchildren was rescued from a hillside in June, after one of them fell 100ft sustaining suspected spine and spleen injuries.

The major six-hour operation involved four mountain rescue teams in the Brecon Beacons National Park.

Central Beacons MRT was alerted at 7.35pm to the incident at Llyn y Fan Fach in the west of the national park and they were joined by Brecon, Longtown and Western Beacons team members, along with handlers and their dogs from the Search and Rescue Dogs Association.

The boy had fallen from a path near the lake, south-east of Llanddeusant and the group of 24 children were caught in heavy rain and blustery winds 1,969ft up in the Black Mountain.

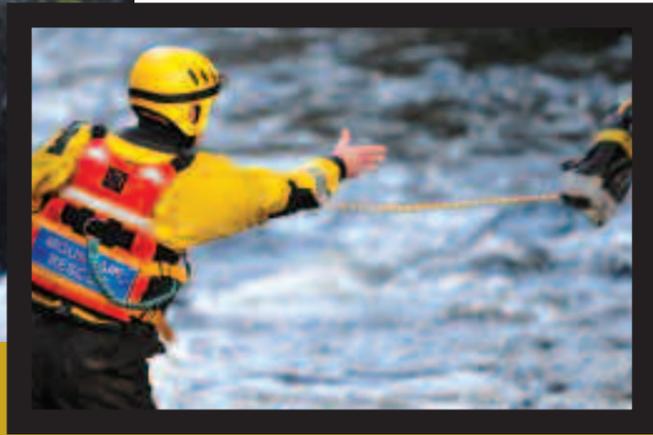
'Brecon were first to arrive at the cas site and they assessed the youngster for injuries,' said Rob Jones of Central Beacons. 'The 24-strong party were in dire need of taking off the hill. They were duly escorted back to a gathering point.'

An RAF Sea King helicopter from RMB Chivenor flew the boy to hospital for further treatment. Meanwhile, the other youngsters were ferried back to their school buses in the rescue team vehicles.



And so much more than mountains

Joint swiftwater training in the Lake District Main shot © Paul Burke Inset and right © Cheryl King.



EXERCISE GWYNIAD WATERMARK IN WALES: MARCH

Al Read of Ogwen Valley MRO was one of many search and rescue volunteers who took part in a major multi-agency emergency planning exercise in North Wales in March. Known as Exercise Gwyniad (and the local element of the national Exercise Watermark tests), this involved

the wide range of members of the Welsh Joint Emergency Services Group: fire and rescue, police, RAF SAR, RNLI, ambulance and, of course, mountain rescue.

'We had the chance to practise our role at a major incident command,' says Al, 'as well as

deploying a team in this scenario situation, building our integration into a multi-agency incident and strengthening communications with all the agencies involved.'

A small team were involved in the planning of the event, testing exercises and gathering reference film footage, and then two teams

were available to participate in the Exercise itself, one deploying from the Ogwen base by air and one based in the Bala area. Personnel were also embedded in the control and command groups. Involvement ranged from river bank rescues to creating a high line system to transport

personnel after a bridge had washed away.

'Flooding in Wales has been an all-too-frequent occurrence in recent years so this was a great first step in building our capabilities and connections,' says Al. 'There is still a lot more to learn but the lessons from

Gwyniad have been thoroughly debriefed and we will participate in future planning exercises to ensure that those connections to other services and agencies are as strong as possible ahead of future incidents.'

For many, the image of mountain rescue has been shaped by TV coverage of the major flooding incidents across England and Wales, particularly the Cockermouth floods in November 2009. Teams invest significant resources – both time and money – in water training and equipment and 2011 was a key year in this area.

MREW has had a National Water Committee for several years, chaired by Ewan Thomas and liaising with government, the RNLI and MCA, and the emergency services. A key aim is to ensure that teams involved in water incidents are trained and equipped to work safely and to work well with other agencies.

In addition, Ewan Thomas and Al Read have represented MREW at the Chief Fire Officers' Association National Water Rescue Group. This national multi-agency meeting covers all aspects of water and flood rescue. MREW contributed to the Flood Rescue Concept of Operations document published by this group in 2010 and revised in 2011.

To build on this cross-agency work, the first National MREW Water Conference was held at Edale MRT Base in January, attracting almost 100 representatives from 34 teams.

'The conference proved extremely popular, with a huge demand for available places,' says Andy Lee, Edale team member and chairman of the conference. 'Lectures covered a vast range of topics from incident command and safety management to updates on national guidelines and the latest personal protection and other equipment. Over lunch, reps from Avon, Buxton, Cockermouth, Edale and Penrith shared their recent experiences from actual water incidents and highlighted the key learning points from each. And we had lots of different kit and equipment on display with some of the suppliers there too.'

The day revealed a lot about the nature and risks of water rescue:

- Preparation is essential
- Train for risk, including hours of darkness
- Define call-out criteria and processes
- Communication can be an issue
- Make provision for decontamination
- Safety is paramount and a 'water team approach' is vital.

'Feedback was really enthusiastic to make this an annual event,' says Andy. 'There were plenty of ideas for lecture topics and interactive sessions. Planning carried on throughout the year for a second conference early in 2012.'

NEWS LOG

JOINT SWIFTWATER RESCUE EXERCISE FOR SOUTH LAKES TEAMS: NOVEMBER

There are seventy Swiftwater Level 3 trained and certified team members in the four South Lakes teams (Coniston, Duddon and Furness, Kendal and Langdale Ambleside), all needing to keep their water skills up to date alongside their other mountain and search skills.

'It's a major commitment in training time and equipment,' says



Mike Margeson. 'Teams have responded to, and learned from, the major flooding incidents in Carlisle and Cockermouth but they've also recognised the different needs of incidents in the many lakes, tarns and rivers across our area.'

Given that teams might often work together on incidents involving water – that has certainly been the experience so far – it made sense to do some training together and a cold Saturday in November saw 25 team members from the four teams on the banks of the River Leven that flows south out of Windermere.

'The plan was to practise a variety of retrieval techniques and also test our planning, command and control processes,' says Mike. 'I created a sense of urgency by inviting along our local TV and other media to film us in action so we needed to work together and provide a seamless display of effective rescue under pressure.'

All hands on deck...

It's often assumed that mountain rescue teams exist, in the main, to assist their fellow climbers and foolhardy walkers from the crags, hills and mountains. And cave rescue team members, surely, must operate solely underground, and in the dark? But, even in the hills, things happen involving individuals who aren't necessarily climbers, walkers or cavers. And it's mountain and cave rescue teams, with their specialist training, equipment and firmly ingrained local knowledge who go to the rescue.

AIRCRAASH ON INGLEBOROUGH: 21 MARCH

When a Cessna light aircraft crashed into the side of Ingleborough in March, search and rescue efforts were hampered by foggy weather and the fact its location was unknown.

Thirty-six Cave Rescue Organisation members, two search dogs, and twelve Kendal MRT members were involved in the subsequent rescue.

Kathryn Jackson Deputy Team Leader Kendal MRT: 'I've got a corker for you,' says the police controller. I have time to wonder what it would take to make it my oddest shout yet before she tells me a light aircraft has crashed.

I begin information gathering but, apart from knowing there are two very much alive occupants of the plane to find, I am some way off knowing where to start looking for them...

I speak to the pilot who sounds remarkably calm. He tells me he is cold and bruised and thinks his passenger may have a broken nose and possibly a broken ankle and is also very cold. I reassure him we're doing all we can to locate them and ask what he can tell me about their position.

They'd set off from Blackpool, towards Kirkby Lonsdale, but think they may have been off track. Ok... what can they see? It's dark and misty and they're on a hill!

So, with our cas site 'somewhere in the north of England', we follow up as many means as possible of narrowing down the search and also contact CRO, Bowland Pennine MRT and SARDA. Naively, I still presume there must be easy ways of finding a plane. The police are working on a mobile phone triangulation although this is not going to be terribly accurate given the masts in the area.

ARCC at Kinloss dispatch Sea Kings and pass on to us the ATC report of the last known radar position of the plane as 'south west of Settle' but no-one seems to know a time for this. Plane location beacons have not been triggered and it seems likely they don't have one. Kev, Kendal's radio officer and official gadget geek, tinkers with locating the mobile by internet and GPS.

With all this high tech stuff going on, we also get out a big map and look at likely big bits of land that might just get in the way of a small plane!

CRO have assembled and are planning to drive likely valleys. At control rooms in Kendal, Clapham and Kinloss, heads are scratched, ideas and strategies put forward and I am learning to ignore the pressure of a briefing room full of team members waiting to be tasked! We send two vehicles full of personnel to a forward position in Kirkby Lonsdale.

The phone ping comes back as between Settle and Austwick and we find a few possible areas of high ground but are suspicious of the accuracy as, unless the cloud is very low and very thick, the areas would be in view of the lights of settlements and reasonably busy roads.

With several team members still at base, I decide to send them home - we may need fed, watered and rested personnel later!

Cumbria police stand down and pass the baton to their North Yorkshire colleagues leaving CRO leading the incident for MR but the control room team at Kendal stays in place and the forward team at Kirkby Lonsdale goes to Clapham for a brew. This turns into a long night out as the incident develops and they assist CRO on the hill.

Three counties, three police forces, loads of blue lights and a load of confusion...

Tom Redfern Duty Controller

CRO: At 21.20, Kendal MRT requests assistance in the search for a downed light aircraft. We're asked to search Crag Hill and the area southeast of Bull Pot Farm, all within our Cumbria operational area but, to prove just how dynamic the situation was, three minutes later, Kendal request we concentrate from Leck Fell (Lancashire) eastwards to Masongill (North Yorkshire).

Our duty vehicle, CRO 1, and off-road ambulance and personnel carrier, CRO 3, depart Clapham along the A65 to Cowan Bridge. Our standby vehicle, CRO 2, follows a little while later as it is now evident the location is far from certain. From a quickly established forward base in Cowan Bridge car park, a search dog is deployed up to Leck Fell, followed by a team in CRO 3. A second CRO search team is deployed to the Bull Pot Farm road to overlook the Ease Gill area.

Three counties, three police forces, loads of blue lights, and a lot of confusion!

At this point North Yorkshire Police advise that their search is being concentrated further east in the Settle, Rathmell and Austwick areas, following triangulation of the pilot's mobile phone signal. We call the search teams off the hill and regroup back in Clapham. At 22.36 we take over MR incident control.

Meanwhile, Rescue 128 is searching the Ingleborough area. Unfortunately, darkness and very dense low cloud severely restrict the helicopter's search ability. The crew manage to make contact with the downed pilots by mobile and are told they can hear the helicopter. Using the 'is the sound of the helicopter getting louder or quieter?' technique, the Sea King crew are able to give a rough location for the crash site before abandoning the search due to the marginal flying conditions.

At 22.42 a CRO team and search dog are deployed onto Ingleborough above Crummackdale followed by a second group and dog to Gaping Gill. At this point Kendal MRT arrive in two vehicles, at what proved to be the start of an intensive night of successful joint

working between the two teams.

A third CRO team go onto the southern slope of Ingleborough, swiftly followed by a Kendal team to search up from Crina Bottom.

Bill Batson SARDA and CRO:

Along with my dog, Glen, a CRO navigator and two other team members, I am deployed to the area of Juniper Gulf pot hole, to begin our search. We make our way up the main Ingleborough to Horton in Ribblesdale path, moving quickly and working Glen up the path and to the windward side. Shortly after commencing our search we enter very dense mist that reduces visibility to a few metres. From this point forward, events become increasingly different to SARDA's normal training routine.

We move quickly up the path to stay ahead of the CRO personnel following, trying to avoid filling the area with 'non-casualty' scent.

While I work Glen, my navigator and other team members begin shouting loudly to attract the attention of the crashed pilots - the noise and distraction made worse by continuous radio chatter. Without doubt, this is a distraction and affects Glen's willingness to range.

After about 30 minutes, we hear a distant, indistinct shout and request searchers to stop shouting and maintain radio silence. I push Glen in the approximate direction of the initial noise. He takes off into the mist, clearly on a mission, returns, then takes us back to the crash site, some 200 metres from the point where he first picked up the scent. It is 00.15hrs.

The casualties are still inside an extremely badly damaged aircraft - both conscious but injured with suspected fractured ankles and facial injuries. There's a strong smell of aviation gasoline and many pieces of wreckage and plexiglass in the immediate vicinity.

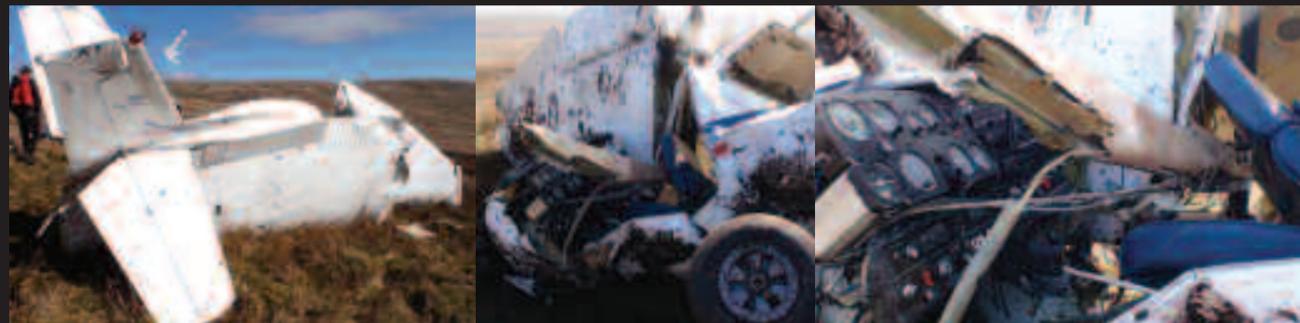
Two team doctors arrive with further medical equipment and two stretcher parties commence the 2km evacuation over rough terrain to Trow Gill. From there, a fleet of team Land Rovers brings the casualties and team members down to Clapham. All personnel are off the hill by 05.00hrs.

HONISTER MINE OWNER DIES IN HELICOPTER CRASH: 9 MARCH

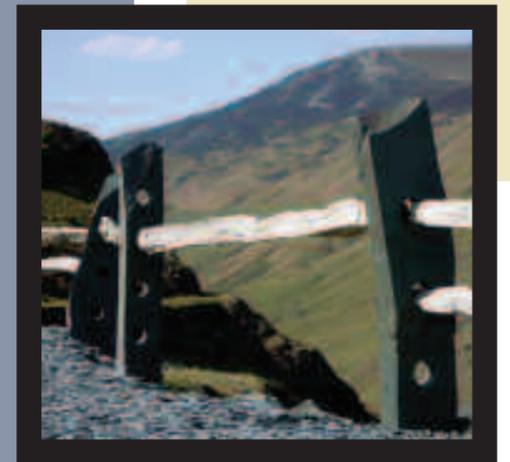
Mark Weir, the 45-year-old boss of the Honister Slate Mine, died in a helicopter crash near the mine in March. When he failed to return to his home in Cockermouth after a short routine flight in his helicopter, police were alerted at 10.10pm and members of the Cockermouth and Keswick teams joined police and search dogs in the search. A Sea King helicopter from RAF Lossiemouth also joined the operation.

At 12.44am a helicopter was found crashed, 200m south east of the Honister Slate Mine, in Borrowdale. The pilot was found dead in the helicopter at the scene.

It was a poignant call-out for many of those out searching. A local man, Mark was unafraid of courting controversy with his ambitious plans for Honister, including the development of a via ferrata and high-flying zipwire from Fleetwith Pike. Mark Weir was well known to all by reputation and personally to many.



Images © Steve Dorney



View from Honister © Judy Whiteside.

Fundraising and support

The Mountain and Cave Rescue Benevolent Fund

When it was first mooted that MREW set up a benevolent fund, it's doubtful anyone realised just how complex and time-consuming the exercise would be. But, after many meetings and much discussion over many years, 2011 finally saw things begin to take shape.

The Mountain and Cave Rescue Benevolent Fund will aim to bridge the gap in times of hardship if a rescue team member is injured — or worse, killed — whilst undertaking a rescue. When tragedy strikes, the kids still need feeding, bills still need paying, and life goes on relentlessly — often while families struggle to cope. Thankfully, it's

not an everyday occurrence but, over the years, there have been occasions when just such a fund might have been a huge help and comfort to those involved.

The Fund will be managed as a separate entity, under a Deed of Trust. Final arrangements should be in place by the summer of 2012.

Many businesses and manufacturers support mountain and cave rescue teams at local level — be it financial donations, discounted clothing and equipment, or even vehicle maintenance and building materials. Teams, of course, are steeped in their own communities so relationships have their own synergy, mutually beneficial to all parties.

At national level, however, sponsorship deals — particularly in the current economic climate — are harder to come by. But 2011 has seen significant developments in two key areas: information and communications technology and national fundraising.

The newly named Information, Communications and Technology subcommittee has been working for some time with digital mapping software company Mapyx Limited to develop SARMAN, a 'search and rescue management' solution.

The system provides a search management and mapping tool that encapsulates the way search management is undertaken by teams. Mark Lewis, MREW ICT Officer says, 'We provide the search theory and stats, Mapyx provides the technical GIS skill and the finance to develop the system — free of charge.

'With their ongoing commitment to

Mountain rescue is definitely leading the way!

update and develop, this represents a contribution from Mapyx of many thousands of pounds.

'This last year saw SARMAN training rolling out across the teams. Ultimately, there will be a central network and it's even being picked up now by the police and RAF search managers. Mountain rescue is definitely leading the way!

Other exciting projects, progressing through 2012, include work with manufacturers such as Viewranger, Satmap and Garmin to allow teams to use OS mapping.

National fundraising enables MREW to provide central support to teams through equipment, insurance and training. We received a huge boost in 2011 with a proposal from Go Outdoors to support MREW through Pennies, the 'electronic charity box'. When customers pay by card or online, they can donate an amount on top of their payment — the electronic equivalent of throwing their change in the collection box — and even a few pennies per transaction can add up to a substantial annual donation.

COAST TO COAST FOR THE MOUNTAIN AND CAVE RESCUE BENEVOLENT FUND: MAY

The embryonic Benevolent Fund received its opening donation in early May, when Magazine Editor Judy Whiteside and Rossendale and Pendle team member, Gail Todd, walked coast to coast to raise funds.

The pair were supported along the way by members of the ten rescue teams through whose areas they passed. The two week jaunt set off from St Bees in blue skies and sunshine, waved off by members of the Wasdale team. Then it was on via Ennerdale (Cockermouth) to Rosthwaite (Keswick). Accompanied by Sir Chris Bonington, they ambled on to Grasmere (Langdale Ambleside) before the weather broke for a very

wet evening in the company of Patterdale. Rain and low cloud were the order of the day over Kidsty Pike with Penrith team members, then the longest slog of the fortnight with Kirkby Stephen on hand for much needed moral support. Three stops in Swaledale saw the girls both caving and heading for the rapids in a raft, before another long haul across the North York Moors to the Lion Inn (Cleveland). Finally, Scarborough team members saw the girls safely into a soggy Robin Hood's Bay for champagne and hot chocolate and a worthy £3312 plus Gift Aid in the pot.

You can still donate to the fund at justgiving.com/twirliesontour.

MOUNTAIN RESCUE AT THE AUDI POLO CHALLENGE: 1 JUNE

National Fundraising Chairman, Mike France, and Magazine Editor, Judy Whiteside, travelled to Chester Racecourse in June as guests at the Audi Polo Challenge.

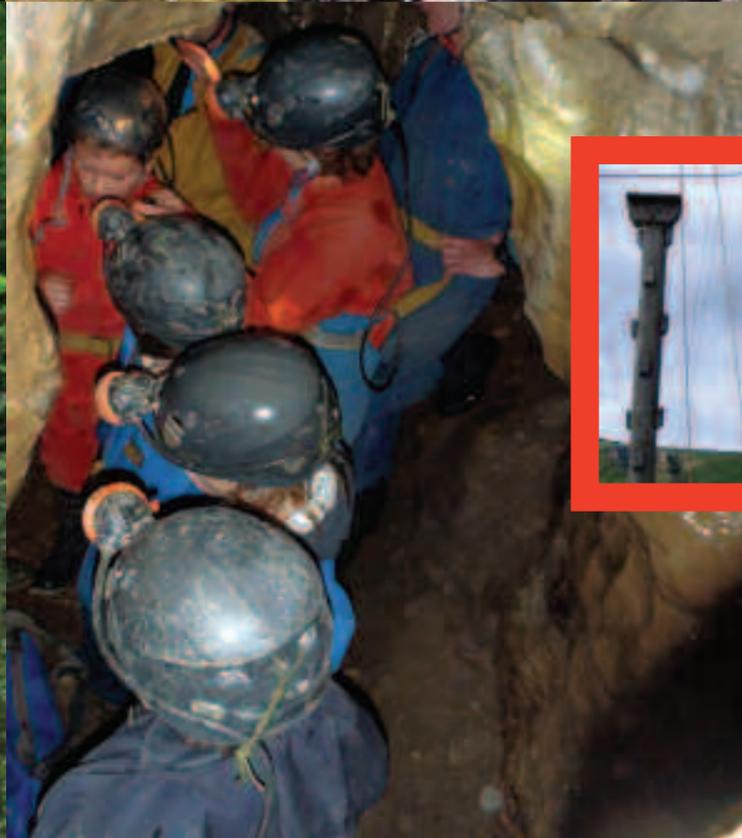
The event featured the newly-married Duke of Cambridge and his team Umbongo, once again pitting their skills against the Audi UK team — and winning — in aid of three charities, the English Schools Swimming Association (ESSA), Skillforce and Mountain Rescue, of which William is patron.

An impressive list of VIP guests included familiar faces from the world of film, TV and music and dinner was 'designed' by celebrity chef James Martin. The delightfully ditzy Paloma Faith provided the evening entertainment, after an impromptu warm-up turn from Jon Culshaw.

A great day out and a donation of £20,000 for Mountain Rescue, so thank you to Audi UK for their hospitality and generosity. This was the fifth polo match for Mountain Rescue in as many years — the third with Audi UK — with donations now amounting to over £100,000.



The Duke of Cambridge in action at Chester Racecourse © Audi UK.



Images © Peak District MRO.

A key part of working with our Royal patron, HRH The Duke of Cambridge, is liaison with the various charities which form the Princes' Charities Forum.

Many of these charities deal with young people whose circumstances are less than ideal, whether through sickness or misfortune, and mountain rescue is ideally placed to offer opportunities and experiences to these youngsters which they might not otherwise have.

The last three years have seen teams across the country entertaining young people from Centrepont, WellChild and Child Bereavement. The first such day, hosted by Patterdale MRT in the Lake District, in 2009, was also host to Prince William. The Prince and mountain rescuers took to the hills with a group from Centrepont, before being whisked across the water in the team's rib to meet WellChild children and their families enjoying a ferry trip along Ullswater.

The second year saw Ogwen Valley MRO hosting the event from their base in North Wales. Centrepont youngsters learned the rudiments of climbing and abseiling, whilst the WellChild families spent the day at a nearby outdoor centre, variously abseiling and whizzing across a pond on a zipwire!

The third outing, in 2011, brought the addition of Child Bereavement to the party. The activities took place in the Peak District, hosted by mountain and cave rescue teams from the region and this time there was a trip underground to contend with too!

For 2012, the fun and games moves back to the Lake District, hosted by Keswick MRT. The event will take place on Saturday 7 July and we're sure a good time will be had by all!

Who are the other charities?

Centrepont, another of Prince William's charities, was founded in 1969 by Ken Leech, vicar of St Anne's, Soho. Concerned about the number of young people sleeping rough in the West End of London, he and a group of volunteers opened up the basement of the church as a temporary night shelter. More than forty years later, the charity continues to campaign to give homeless young people a future.

WellChild, one of Prince Harry's charities, is committed to helping sick children and their families as they deal with the consequences of serious

illness and complex conditions. Their care and support enables many terminally ill children to leave hospital and return home, whilst also supporting their siblings and parents.

The Child Bereavement Charity, another of Prince Harry's charities, supports families, and provides training to professionals, across the entire spectrum of child bereavement — both when a child of any age dies or is dying, or when a child is facing bereavement.

Working with other charities



RESCUE DOG FINDS PAIR STUCK ON MOUNTAIN OVERNIGHT: 9 SEPTEMBER

Two men, who had survived through the night stuck on Crib Goch in the Snowdon range, were no doubt pleased to see Search Dog Cluanie romping towards them in the cold light of day.

Llanberis team was alerted at 7.05am and SARDA Wales handler Helen Howe and her dog Cluanie joined the search for the pair, one of whom also had a split boot sole, adding to his problems.

Helen and Cluanie headed across to the North Ridge from the Rock Step area of Crib Goch with Richard Beech, also from SARDA Wales.

Cluanie headed off on the ridge, first into Cwm Glas, and worked upwards. In strong winds, rain and very thick cloud, she worked up the ridge and came back and indicated her find to Helen.

The boys had been able to give an approximate location but in the end they were higher than they thought and the dog saved a great deal of time in some pretty foul conditions.

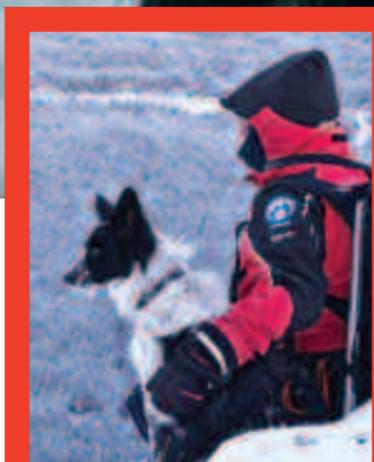
The pair were praised for going well equipped on the popular scrambling route, which is used as a route towards the summit of 3,560ft Snowdon.

A team spokesperson said, 'All credit must be given to the guys rescued as they had survived the night, had bivvi bags and a stove, and only called the team out once it was light and they thought the team would be up.'

'One of them had a totally destroyed boot which the sole had come away from and had to be repaired. Helen and three other members of the Llanberis Team then helped the guys down safely off the mountain.'



Search Dog Cluanie in action © SARDA Wales.



Man's best friend



Mountain rescue is rarely about celebrity but there are some members who seem to attract more than their fair share of attention when out and about – our search and rescue dogs. There are currently over 75 search and rescue dog handlers working in England and Wales, with a further 35 in training. All of these dogs will have been trained from puppies, learning the key commands such as 'speak' (bark) and 'down' (lie down) early in their training, and becoming sound with stock such as sheep. Training usually takes up to three years before they can become operational.

Why dogs? When a person is missing, whether in a rural or mountain environment, a dog team will be much more efficient at finding them than a search team made up solely of people.

If the missing person is ill, injured or vulnerable, this added speed and efficiency can make the difference between life and death. Dog teams can also operate effectively in thick cloud or darkness where people struggle.

The people. Every mountain dog handler is an accomplished mountaineer as well as being a member of a mountain rescue team. Search dogs are trained for the tasks they will fulfil in their local area, so some are trained for work in lowland areas, others to work on high mountains, and some will be trained to trail (following a specific person's scent where they have walked).

Handlers play key roles in their own rescue teams as well as being available as a dog team to every other rescue team in their region. The level of commitment is very high, as each handler will have two lots of training requirements to fulfil. It also means that dog teams may be called out more frequently than a local team member and have to learn the terrain of a much broader search area.

The other people who are very involved in training search and rescue dogs are the 'dogsbodyes.' It is impossible to train a search dog if they have no one to search for and SARDA teams can

call on a team of willing volunteers to act as dogsbodyes. They turn up at every training session to lie in fields, under caravans or under boulders until the dogs find them — often remaining hidden in all weathers for up to six hours.

The dogs. Across England and Wales there are two main types of search dog:

Air scenting dogs search areas looking for human scent particles and this air scenting skill has been the established approach to search dog training for many years. The dogs do not generally discriminate scent, that is, look for specific people, but they will look for anyone who is in the area.

However, what is interesting is that they will discount other team members who are with their party whilst hunting. As long as the dog is downwind of a casualty, or items that have human scent on them, they should find them.

Once they find a person, they will return to their handler, indicate with a bark or by jumping up, then take their handler back to the body and get a game as a reward.

Trailing dogs discriminate each person's unique scent. They are given an article of the missing person's clothing, from which they take the scent and then hunt for a trail which matches that scent, ignoring all others that may be around.

They will indicate the location of the

trail to the handler and then, working on a long line, follow the trail to the missing person. Once they find the person, the dog will get food or a toy (or both!) as a reward, which is key to the training of a trailing dog. In the UK, trailing dogs have followed trails up to 48 hours old in call-out situations.

SARDA Wales began using trailing dog teams in 2005. Iain Nicholson and Mij are one of the trailing dog teams. 'Mij has been trained to work in a variety of environments, from urban and rural, to high mountain terrain,' says Iain.

'It's important to train in all the areas you're likely to encounter and be operational in. Often, when trailing a missing person from a car park or house, the trail may start in an urban or rural area but quickly head to moorland or mountain areas — as we've found a number of times working with teams in the Pennines and the Lake District.'

The call-outs. Across England and Wales, dog teams get called out to about 190 jobs a year on average. Their work is usually part of a much bigger search operation but the number of finds is crucial and plays a major part in saving lives. And the dogs love the challenge too!

Main shot: Lakes Search Dog Dottie © Daryl Garfield. Inset: John Coombs with SARDA England Search Dog Flash © William Coombs.

Above: 'Wannabe' SARDA England search dog © Bill Batson; Iain Nicholson with Mij and SARDA England Search Dog Floss.

How can you support mountain rescue?

Mountain rescue in the UK is free of charge to the casualty but we rely on the support and generosity of the public to maintain this valuable community service. Without you, we simply could not function. Of course, each team is responsible for raising funds on their own patch – find your local team on the map, then take a look at our website for the relevant contact details – mountain.rescue.org.uk/organisation/teams.

Money raised centrally is spent primarily on equipment, insurance and training, for the benefit of all the teams, and their members, across England and Wales. There are also a number of ways you can support nationally.

CHOCKS AWAY FOR MOUNTAIN RESCUE: JUNE 2011

Last June saw Woodhead team members devising new ways to entertain the crowds and display their mountain rescue skills in the form of their stretcher display team, aptly dubbed 'The Pith Helmets'.

Visitors to the Honley Show saw these stretcher-bearers-with-a-difference perform a variety of manoeuvres to music, with one or two surprises thrown in.

'My favourite,' said team leader Keith Wakeley, 'was the historic flight, which had me in stitches!' Vice chairman Pete Stott explains, 'it was the brainchild of the team fundraising officer – a cross between the Red Arrows and the White Helmets, but without motorbikes or aeroplanes!'

'Mountain rescue is a serious business but to let our hair down, yet also entertain and raise awareness is too good an opportunity to miss.'

Pith Helmets member, trainee Lesley Gill, said, 'It's great fun and a wonderful workout. We move quickly with the stretchers, and the routine lasts about fifteen minutes. Very tiring!'

'The many hours of practice required demonstrates the level of commitment, discipline, strength, stamina and teamwork required at the sharp end of mountain rescue teams,' adds Keith.

Members of Woodhead MRT, otherwise known as 'The Pith Helmets' take a welcome breather from proceedings for a spot of formation posing © Woodhead MRT.



Join Basecamp/subscribe to the magazine — the national support group for mountain rescue in England and Wales. With single membership at £24 per year and joint membership at £42 it's the simplest way to support all the teams. In return you will receive a 'supporter' badge, a window sticker and a year's subscription to our quarterly Mountain Rescue magazine. Join through our online shop!

Remember us in your Will!

A gift to mountain rescue in your Will allows you to support our future. Legacies are a vital part of our funding — even a small gift can make a big difference. And it's the surest way to fund the equipment and training for mountain rescue teams in the years to come as gifts are exempt from inheritance tax, capital gains tax and income tax, so the charity receives the full value of your bequest.

Give online through our secure online donation system.

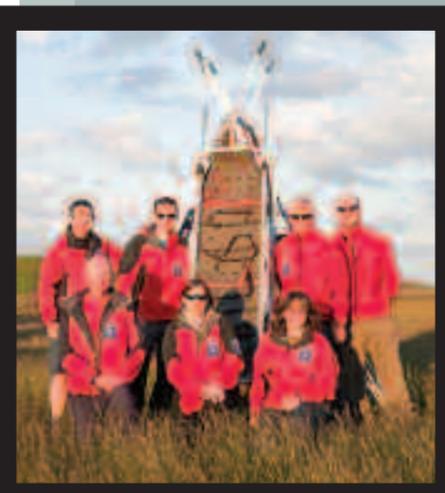
Organise an event in aid of Mountain Rescue England and Wales or join an existing one and raise sponsorship. Either way, you'll not only provide funding for mountain rescue but will raise awareness. There are lots of wonderful activities you can organise and even though a fundraising event might seem daunting, with lots of enthusiasm, commitment and support you will find the experience enjoyable and very rewarding.

Take a look at our website for a more detailed guide to organising an event — www.mountain.rescue.org.uk/funding/organising-events.

Read our books or buy a badge. Or a teddy, or a car sticker. Or a thermal mug. Whatever takes your fancy really — but now you can do it through our online shop, and subscribe to Basecamp too. So check out www.mountain.rescue.org.uk/shop.



SUPPORT YOUR LOCAL TEAMS ON MOUNTAIN AND CAVE AWARENESS: MAY BANK HOLIDAY WEEKEND



We'd been thinking for some time there should be a 'Flag Day' for Mountain and Cave Rescue and, three years ago, the annual date was set.

Since then, each year, teams across England and Wales have set up marquees, stuck pins in display boards, put on their best team bib and tucker and set about devising ever more ingenious ways of engaging, informing – and often entertaining – the public. Not to mention fundraising.

So, get in touch with your local team – or watch your local press – to find out what they're up to and go support!

Equipping the team – the costs

Teams are generally responsible for kitting themselves out, from personal clothing and comms equipment to bigger items such as vehicles, and even their rescue base buildings! Most team members wear and carry a combination of essentials supplied by their team, supplemented by their own gear. Bear in mind that each time a team member takes part in an incident, whatever its nature, they must be prepared to be out there for many hours, often in dreadful conditions.



So, let's start from the outside and work inwards. Obviously personal choice means people sport a variety of boots, accessories and undergarments on the hill so, for the purposes of this exercise, we've chosen the sort of gear that a fictional 'average' team member might need.

Some of that Grand Total is paid by the team member (for instance, boots, socks and thermals) and some may be provided by team sponsors or national fundraising — for instance, last year saw Mountain Equipment support MREW with the development of a belay jacket now in use by many teams across the country. But most of it needs to be financed by donations, whether from individuals and local organisations and businesses (like you) to each team, or via discounts and subsidies from long-term supporters such as Mountain Equipment, Cotswold Outdoor, Go Outdoors, Pàramo, Keela and Land Rover.

As you can see, mountain and cave rescue is an expensive business (don't even mention training costs and insurance!) but your generosity keeps us equipped and ready for that next call-out. Thank you for that generous support.



Left: Keswick team training on Sharp Edge © Keswick MRT. Above: Essential kit © Judy Whiteside.

Outer layer:	
Waterproof jacket	225.00
Windproof smock or belay jacket	50.00
Waterproof trousers	100.00
	375.00
Next layer:	
Fleece or similar	30.00
Spare warm clothing	30.00
	60.00
Base layer:	
Thermal leggings	25.00
Thermal T-shirt	25.00
	50.00
Footwear:	
3-season boots	130.00
All terrain socks	50.00
Gaiters	25.00
Crampons	130.00
	335.00
Head gear:	
Beanie hat or similar	20.00
Neck warmer	20.00
Head torch	50.00
Helmet	40.00
	130.00
Hands:	
Technical outer gloves	40.00
Inner glove liners	15.00
Hand torch	40.00
	95.00
Other accessories:	
40 litre rucksack	50.00
OS Maps (laminated)	30.00
A-Z maps	15.00
Compass	25.00
Personal First Aid kit	25.00
Notepad and pen	3.00
2-man bothy shelter or KISU	40.00
Spare batteries	150.00
	338.00
Communications equipment:	
Radio with GPS	500.00
Pager* (per annum)	72.00
(*Many teams now use mobile phones)	572.00
GRAND TOTAL	£1,955.00



Where to find your local team

LDSAMRA

Lake District
Search & Rescue
Association

Cockermouth MRT
Coniston MRT
COMRU (Mines Rescue)
Duddon & Furness MRT
Kendal MRT
Keswick MRT
Kirkby Stephen MRT
Langdale Ambleside MRT
Patterdale MRT
Penrith MRT
Wasdale MRT
Lakes District Mountain
Rescue Search Dogs

NESRA

North East
Search & Rescue
Association

Cleveland SRT
North of Tyne SRT
Northumberland NPSRT
RAF Leeming MRT
Scarborough & District SRT
Swaledale FRO
Teesdale & Weardale SRT
SARDA (England)

MPSRO

Mid Pennine
Search & Rescue
Organisation

Bolton MRT
Bowland Pennine
MRT
Calder Valley SRT
Cave Rescue
Organisation
Holme Valley MRT
Rossendale &
Pendle MRT
SARDA (England)

YDRP

Yorkshire Dales
Rescue Panel

Upper Wharfedale FRA
RAF Leeming MRT
Cave Rescue Organisation

NWMRA

North Wales
Mountain Rescue
Association

Aberglaslyn MRT
Llanberis MRT
North East Wales SRT
North Wales CRO
Ogwen Valley MRO
Outward Bound Wales SRT
SARDA (Wales)
Snowdonia National Park
South Snowdonia SRT
HM Coastguard MRT 83
RAF Valley MRT

PDMRO

Peak District
Mountain
Rescue
Organisation

Buxton MRT
Derbyshire CRO
Derby MRT
Edale MRT
Glossop MRT
Kinder MRT
Oldham MRT
Woodhead MRT
SARDA (England)

SWSARA

South Wales
Search & Rescue
Association

Brecon MRT
Central Beacons MRT
Gwent CRT
Longtown MRT
West Brecon CRT
Western Beacons MSRT
SARDA (South Wales)

PenMaCRA

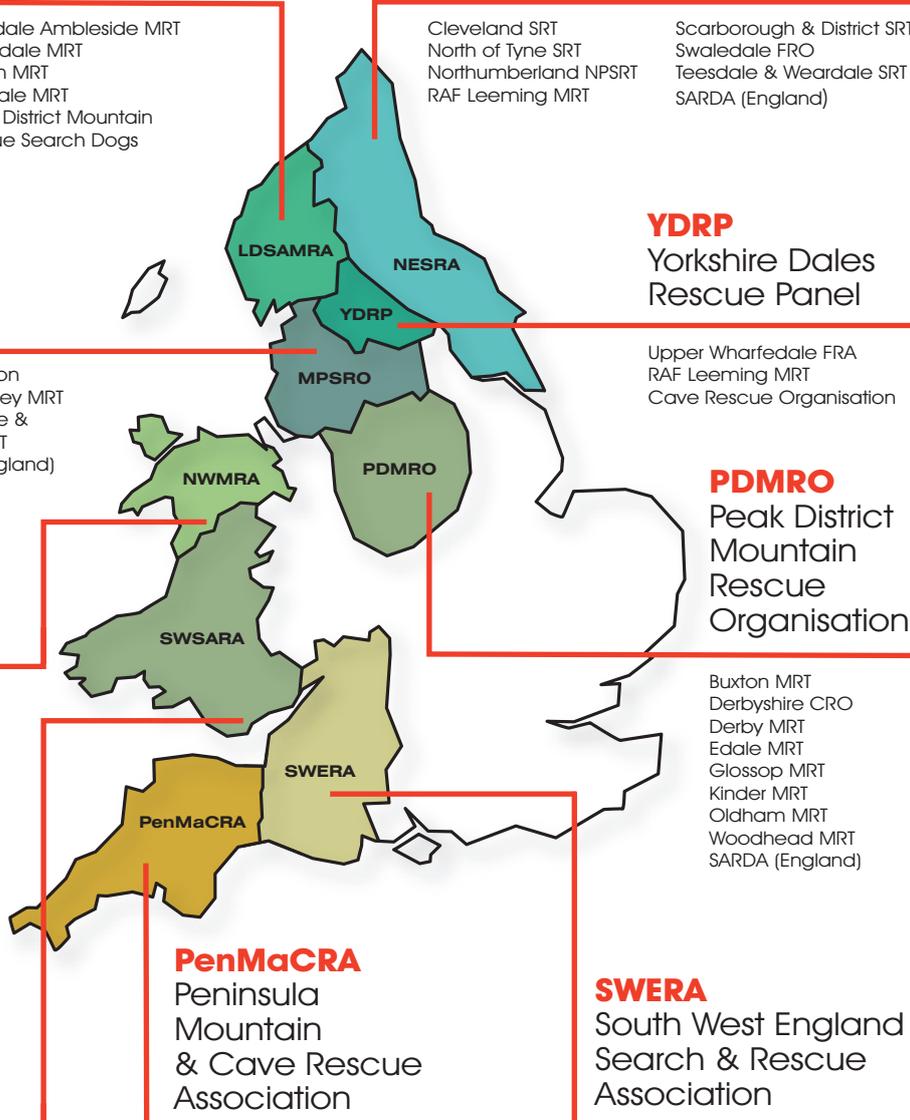
Peninsula
Mountain
& Cave Rescue
Association

Cornwall SRT
Dartmoor SRT
(Ashburton)
Dartmoor SRT
(Okehampton)
Dartmoor SRT
(Plymouth)
Dartmoor SRT
(Tavistock)
Devon CRO
Exmoor SRT
SARDA (England)

SWERA

South West England
Search & Rescue
Association

Avon & Somerset SAR
Gloucester CRG
Mendip Cave Rescue
Severn Area RA



In case of accident or incident requiring Mountain Rescue assistance
Dial '999' — ask for the 'Police' — then 'Mountain Rescue'

Bar code here



To find out more about mountain and cave rescue in England and Wales go to mountain.rescue.org.uk or caverescue.org.uk

Mountain Rescue England and Wales is a registered charity number 222596.
British Cave Rescue Council is a registered charity number 1137252.