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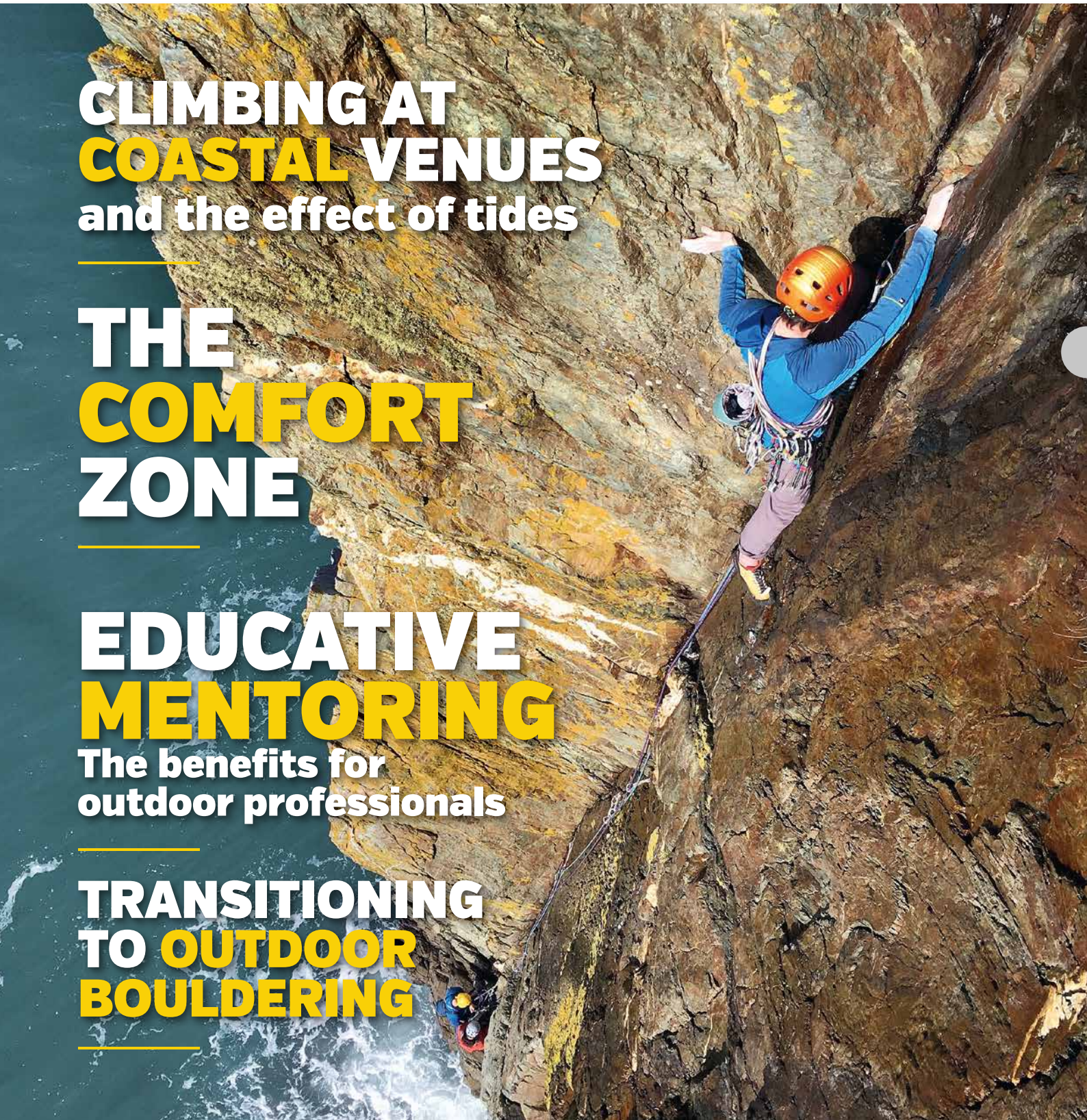

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NEXT ISSUE

Summer 2022 Toponymy for group leaders and the final part of regenerative agriculture

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Our front cover
Pete Herd leading his colleagues Alice Kerr and Alex Kay up Atlantis, at Gogarth's South Stack cliff, Castell Helen. © Dave Rudkin

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EDITORIAL

ABOVE The editor with trainee hiking leaders in the Middle East in February 2022. © Faris Hajjar.

One of the interesting learning points that I've gained from working with the International Climbing and Mountaineering Federation (UIAA) is that the pandemic-powered concept of walking as essential exercise has fuelled a huge increase in hiking worldwide.

is has also resulted in a signi cant diversi cation in participation, particularly in countries and regions where some degree of segregation has been prevalent. In Iran and some Arabic states women have con ded to me that mountain activities have allowed them to participate in mixed groups that were largely banned from wider society – echoing the early history of mountaineering much closer to home. is represents a huge opportunity for our community to share good practice, to increase safety and also to reduce the impact of this in ux into wild places.

For those of us who work internationally I am optimistic that these new converts will counterbalance economically the restrictions that Brexit has brought to our communities within Europe.

e world is starting to open up again, albeit through ports reminiscent of post-apocalyptic ction. Remarkably, almost every article that has been submitted for this issue of e Professional Mountaineer has resonance for the wider world community of leaders, instructors, coaches and guides. e UK and Ireland really does lead the world in many aspects of adventure leadership; perhaps the time has come to step into the breach.

Steve Long
Technical editor

OUR COVER

Dave Rudkin

Dave is a qualified WMCI and IFMGA British Mountain Guide, running his own guiding business based in North Wales. He delivers Mountain Training and British Mountain Guides' schemes and provides bespoke support for candidates. Website: www.daverudkin.com and i: @dave_rudkin_guiding

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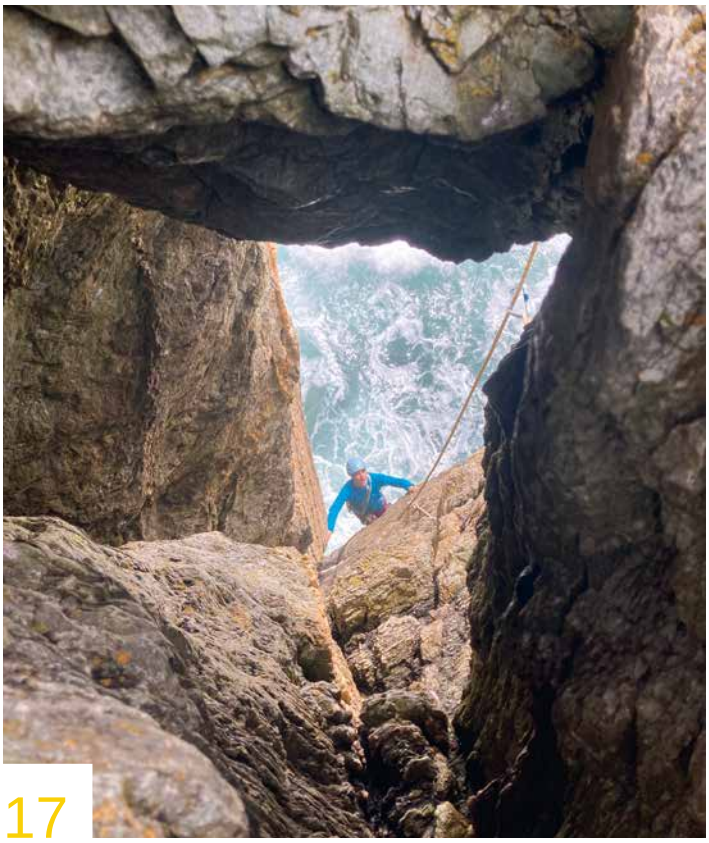

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Feeling inspired?

If you would like to contribute to the next issue, please contact Belinda Buckingham at belinda@mountain-training.org

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NEWS

ASSOCIATION OF MOUNTAINEERING INSTRUCTORS (AMI)

The AGM/CPD weekend is 22-24 April in the Peak District with over 20 workshops on offer. A huge thanks to Peter Stollery for arranging this. At the AGM Kris Quayle (Charity/Equity and Diversity Rep) and Jay Jackson (CPD Rep) will be leaving the committee and we offer our gratitude for their sterling work. Peter also arranged a well attended winter CPD weekend at Glenmore Lodge in January.

As part of the work of the Equity and Diversity Group, AMI offered a series of three very successful webinars titled 'Navigating inclusion in the outdoors' over the winter, sponsored by Rab and Lowe Alpine. 50 or more attended each one, due to the relevance and quality of the events.

The new AMI Environmental Working Group has been set up. The aim is to produce guidance for members and their clients on how we can reduce our impact and develop CPD events to extend this best practice into the future.

This is my last 'association news', as Rob Pugh takes over the AMI Chair role at the AGM. The period I've been in post has not been without its (obvious) challenges, but I'm proud of what the committee has achieved in that time. My heartfelt thanks to them and the membership, for their support throughout my tenure.

Have a great spring and summer out on the rock.

Phil Baker (Chairman)

© Hannes Bonitz

The AMI is the representative body for professionally qualified Mountaineering and Climbing Instructors in the UK and Ireland and is committed to promoting good practice in all mountaineering instruction. Full members hold the Mountaineering and Climbing Instructor's qualification or higher qualification the Winter Mountaineering and Climbing Instructor.

T 01690 720123
www.ami.org.uk

BRITISH MOUNTAIN GUIDES (BMG)

We finished 2021 with an AGM weekend in Aviemore and enjoyed the opportunity to meet face to face in a large group for the first time in nearly 2 years. At the AGM, Nigel Shepherd completed his term as a director, and Chair of Professional Standards and handed the role over to Jim Kerr, another senior Guide in the BMG.

The BMG, working together with similar organisations, continues to engage with government officials and politicians explaining the challenges we face over the removal of free access to work in the EU. In late November we attended an IFMGA Mobility Conference which has been useful. We have good relations with the authorities in Europe and amongst the professional associations.

As covid recedes and travel restrictions slowly ease people are eager for our services both in the UK and abroad. Let's hope we get back to something approaching normal client interest in the latter part of the winter season.

The Training scheme has continued through covid. Already this year we have delivered off-piste training in the Alps and full Scottish conditions were evident on Ben Nevis for delivering our winter training.

We have a couple of initiatives underway to promote the BMG with a series of virtual open meetings to answer questions from young mountaineers who are interested in a career in Guiding, and we are producing some video clips to illustrate our work to potential clients.

Martin Doyle (President)

© Tim Neil

The BMG is a member of the International Federation of Mountain Guides (IFMGA), currently comprising 24 nations worldwide, with growing membership, it is the professional organisation that trains and assesses Mountain Guides in all disciplines. A British Mountain Guide operates to the highest recognised level throughout the world, in all terrain and in diverse roles.

T 01690 720386
www.bmg.org.uk

NEWS

BRITISH ASSOCIATION OF INTERNATIONAL MOUNTAIN LEADERS (BAIML)

We concluded a difficult 2021 with a really successful Annual Conference in Llanberis – it was great to see so many members back together again and to see everyone engaged with the CPD program and also to welcome Scott Smith as our new Members Director – I'm already looking forward to Buxton '22.

We're continuing to engage with the UK and European Governments, as well as being a stakeholder in various groups that are all trying to find a viable way forward through the ramifications of Brexit – but it's a slow, and often painful process. We urge members to make sure they're reading our newsletters and in the Facebook Members Group as that's where regular updates are posted.

This edition's photo comes from a recent training event for aspirants on the IML scheme preparing for their winter assessments near Les Diablerets in Switzerland, which included the latest developments in transceiver use and avalanche rescue.

We wish you all a safe and happy Spring Season.

Kelvyn James (President)

© Ian Spare

The BAIML is the professional association for International Mountain Leaders (IMLs) in the UK. It represents the UK at UIMLA, the Union of International Mountain Leader Associations, which is the international governing body for IMLs. Full members hold the IML award and are committed to a dedicated CPD programme.

T 01690 720272
www.baiml.org

MOUNTAIN TRAINING ASSOCIATION (MTA)

2022 got off to a great start for Mountain Training's association: Our winter CPD weekend at Glenmore Lodge in January was fully booked covering everything from an introduction to winter skills through to how to teach them; we've run a programme of on-line avalanche awareness courses in January and February; and the staff at Mountain Training had a full day of equity, diversity and inclusivity training at the end of January.

We are well on the way in gathering information from members to help us with the association's strategic plan and recently circulated a members' survey for everyone to be able to contribute.

Our collaboration work with the Met Office continues into its fourth year with a selection of in person specialist weather workshops scheduled across the UK throughout the year. We will also continue to source a variety of online webinars as part of a more blended approach to Continuing Personal Development (CPD).

Our regional volunteers are doing a great job creating regional activity programmes for the year ahead and we continue our tour of the regional groups with an event at Nene Park, Ferry Meadows for the Central England region on Saturday 26th March 2022.

We'll be offering another opportunity to be part of our mentoring programme and will be looking at a more educative approach (as outlined in the article on Educative Mentoring, page 34), and we are putting plans in place for an Autumn conference in November.

Enjoy the Spring and stay safe,

Belinda Buckingham (Development Officer)

© Iain McKintyre

The MTA is a membership organisation providing support and development opportunities for all candidates of Mountain Training. Promoting good practice and continuing personal development opportunities for walking, climbing and mountaineering leaders and coaches. Full members hold one or more of the Mountain Training qualifications.

T 01690 720272
www.mountain-training.org/mta

WORDS AND PHOTOS BY
JIM LANGLEY

FLOWERS IN THE WINDOW

MAIN PHOTO Alpine meadows, Sandersee and Johannisberg at the head of the valley. 1. Heiligenblut with the Grossglockner to the right of the spire. 2. Purple saxifrage.

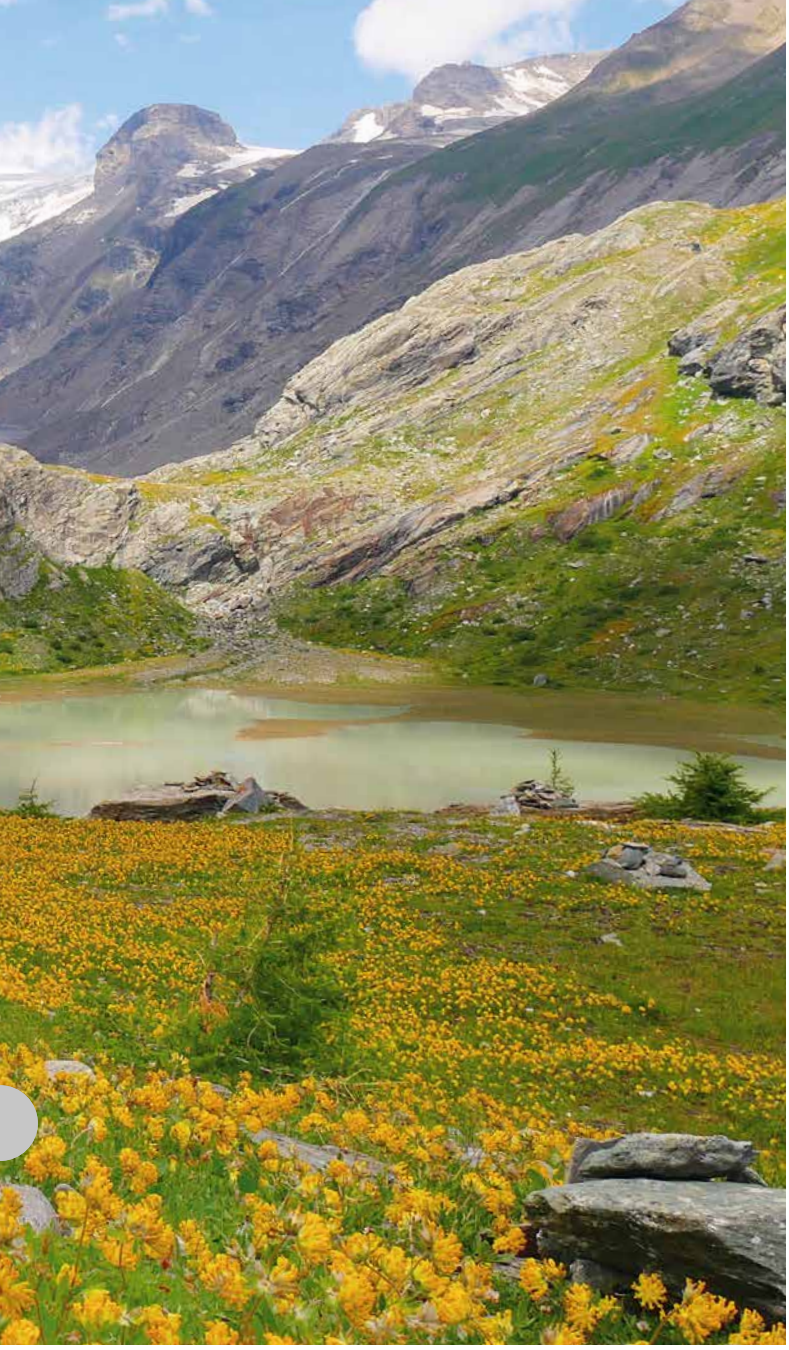
Concluding this series of botanical (with a slice of geological) adventures across the Alps we come to an environmentally fascinating part of the Eastern Alps in Austria.

e Hohe Tauern National Park not only hosts the highest mountains in Austria and a vast array of stunning alpine owers but also a glimpse into the colossal mountain building forces which have created this spectacular mountain chain.

I cannot talk about owers and ecology without mentioning geology – they are inseparable! Geology has a profound e ect and impact on the veneer of soil and species that form a cover over the land and above all it's fascinating! I have written about the scope of this in past articles and it also features in my book, e Alps: a natural companion.

e 'Tauern window' is a well-known geological feature, and one of only a few locations across the Alps, where evidence of the enormous thrusting forces that created the mountains can be seen. e overlying sedimentary rocks of the Eastern Alps have been eroded away exposing the underlying metamorphic Helvetic and Penninic rock below. In the Tauern window the rock is of a high-grade crystalline form dominated by gneiss.

e geology of the area illustrates the complexity of alpine mountain building. e Alps were not created in one event but over several mountain-building phases. e Hohe Tauern lies in the Eastern Alps which span from eastern Switzerland to eastern Austria and is the largest geological region of the Alps, at around 450km across. Originally the rocks forming this region were part of the African continent. An arm of this continent, known as the Apulian arm, moved northwards around 110 million years ago



3. Looking east from Tauernkopf with Hinteres Modereck centred in the distance. 4. Scree saxifrage. 5. Martagon lily. 6. Alpine bistort and kidney vetch. 7. Yellow genipi.

(mya) colliding with the ocean that separated it from the European continental plate. e rocks were folded as they were squeezed into a low mountain range. Around 40mya a second mountain building phase began and the ocean separating the two continents nally disappeared. e folded sedimentary rocks of the Eastern Alps were thrust up above the Penninic and Helvetic Alps which were part of the European continent.

We accessed the Hohe Tauern National Park on a beautifully constructed toll road completed in 1935 for the express purpose of bringing visitors close to the heart of this stunning alpine region e High Alpine Road, a very popular route, climbs to over 2,500 metres and o ers close views of glaciated mountains including the Gross Weisbachhorn. e route is a honeypot with visitor centres, museums and exhibitions bringing the visitor closer to the landscape! Not my thing at all and there are more impressive roads in Switzerland which aren't toll roads! None-the-less it was a convenient way to get into the park where we based ourselves in the picturesque village of Heiligenblut.

Our rst excursion was via cable car from Heiligenblut to Schareck, the top of the lift station, where there was the prospect of walking a 'geotrail'. With the work of getting to this elevation overcome by cable car, we began a short walk towards Tauernkopf (2628m) which lies on the border between the regions of Salzburg and Corinthia. e area consists of a hugely varied and complex array of rock types from limestone, dolomite marble and gypsum to carbonate rocks and crystalline metamorphic rocks. It also o ers a wide range of habitats from rm karst landscape to areas of loose and friable rock. ere is an incredible opportunity to nd a range of specialist alpine plants that have developed adaptations to survive in these speci c environmental conditions. Summers are short at this altitude and with an average temperature of -3°C and 8 months of snow cover, the alpine plants really have their work cut out to develop, produce owers, pollinate and set seed before the oncoming winter.

To an uninitiated eye the area looks barren and devoid of life yet in the tiny cracks and crevices a variety of plants grow in the skeletal soils eking out what meagre nutrients they can. Plants found in these extreme environments are specialists at survival. Competition is low and adaptation is the name of the game. in, mobile soils require soft, spreading roots with which to anchor the colonising plants and those plants which are able to establish themselves pro t from a long-life. It is not uncommon to nd cushion-forming or mat-forming plants living over 100 years in these environments. Once their ability to survive has become entrenched they then seem to begin to thrive in this harsh mountain environment.

We set o the following day for a starkly contrasting walk from the trailhead at Winkl, a few kilometres north-west of Heiligenblut. We followed the Möll river on a trail that ascends over 1,200 metres

8. Large-flowered leopard's bane. 9. Pygmy gentian. 10. Sandersee with the snowy summit of Johannisberg at the head of the valley.

to Kaiser Franz Joseph Hohe. e valley climbs towards the Pasterze glacier which lies beneath the mighty Grossglockner: At 3,798 metres this is the largest mountain in Austria and the glacier, at 8.4 kilometres, is the longest in the Eastern Alps. e Pasterze glacier, as with all alpine glaciers, is retreating fast and has shrunk from 11 kilometres to its current 8.4 in the last 100 years.

Our walk followed the rst stage of the Alpe Adria trail, a 750 kilometre alpine walk beginning at the Kaiser Franz Joseph Hohe which passes through Slovenia before ending at the Adriatic coast in Italy. e trail passed a historic chapel named after Briccius who allegedly brought the blood of Christ to Heiligenblut (which translates as Holy blood). Beyond the chapel a bridge crosses the river and the trail climbs through forest to Trogalm, a traditional mountain pasture and summer alm settlement. e nutrient-rich meadows abound with tall herb plants maintained by summer grazing. Amongst the vegetation were woolly thistle, glacier pink, alpine leek and numerous charismatic martagon or Turk's cap lily. is widespread lily extends from Portugal east through Europe and as far as Mongolia! Its showy owers, with recurved purple-spotted tepals, resemble a turban (an explanation of its name origin) and release a strong evening fragrance to attract moths to feed from its sweet nectar.

It wasn't long before the trail passed through colourful meadows of bell ower, scabious, rattle, rockrose and campion as we approached the Margaritzenstausee reservoir. We climbed easily over Elisabethfelsen from where the evidence of the rapidly retreating glacier can be seen as it smacked back above the pro-glacial lake of Sandersee. In this upper region the scoured bedrock and piles of glacial rock can be clearly seen and bright swathes of owering clover, vetch, alpine bistort and mountain avens have colonised and cover the area in the absence of a developed soil.

We climbed up the nal steep slopes from quiet alpine nature to Kaiser Franz Joseph Hohe, a world away from what we had been enjoying! From here we had the option of taking a bus back down the valley or to complete the circular walk we could descend on the northern side of the valley. I'm no fan of loud and busy tourist locations so we bade a quick farewell to the noise and chaos and headed down through quiet alpine meadows with the sound of cowbells, bird song and buzzing insects. e volume of the Möll river started to drown out the engine sounds as we descended back into the land of nature.]

Jim Langley is an IML and co-author of The Alps — a natural companion. He runs professional development workshops for leaders and instructors here in the UK (mainly Snowdonia) but also in the Alps for IML's. To join a workshop or to learn more about his educational business, Nature's Work check out his website www.natureswork.co.uk

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"If it's not good enough to eat at home, it's not good enough to eat on the mountain."
– Jess Szekely, TentMeals founder

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ABOVE A geology related photo as you can see bedding plane has been thrusted and the noticeable slip faults as well as a pile of boulders at the bottom of the cliff from tectonic movement.

Walking the Isonzo or So a Front in the Triglav National Park

Reading Jim Langley's Trekking in Triglav article, in the Autumn 2021 issue, inspired me to share my own experience of walking in the Triglav National Park (TNP). Whereas Jim's article focussed in on the central part of TNP and highlighted the ora of the seven lakes and Triglav area, I will focus on the geology and cultural sights of southern and western region of the TNP.

WORDS AND PHOTOS BY
MARTIN MCGOWAN

Geology of the area

Most of the Julian Alps are limestone with some dolomite. In the south-west of the TNP the major geological feature is the Ravne fault that runs from north-west to south-east from Krn through the Tolminka Valley and onto Tolminske Ravne. Further north is the Sava fault and to the south is the Idrija fault. is area is where the Dinarics meets the Alps, and as the Adriatic plate rotates these faults move, especially the Ravne fault as the 1976, 1998 and 2004 earthquakes can attest. Tectonic forces have caused the Tolmin and Julian (Krn) nappes to move south and these thrusts have caused the older Dachstein limestone and Dolomite (Triassic) to be on top of the younger Cretaceous limestone marls. e presence of the older Dolomite below the Dachstein limestone is one of the causes of high-level springs and lakes

More recent tectonic activity has caused fault-slipping, leading to the development of the Tolminka valley which has sunk 1200m in the last 3 million years and has no evidence of glacial features. e other notable post glacial feature of these mountains is the Schichttreppenkarst, where there is a limestone pavement and cli s stripped bare by the glacial action and where the moraine lls in the previous deep sinkholes under the glacier. is action leads to a stark contrast between the green moraine and the white rock.

World War 1

 e So a or Isonzo was a signi cant front in WW1 between Italy and the Central Powers. When Italy entered the war in 1915 it captured a large amount of territory from the Austro-Hungarian Empire and continued its progress until halted by the mountains. Over the course of the war most of the front from Sud Tyrol to Trieste was static with the trenches running across the mountains. However, in 1917 the Central Powers made a breakthrough on the So a in the 12th Battle of Isonzo or the Battle of Caporetto. In this battle the combined German and Austro-Hungarian armies attacked from Tolmin and Bovec to push the Italians back 150km to the Piave

1. Kanin. Layers of Dachstein are horizontal in this section of the nape.
2. Slovenia Peski war memorial.
3. Javorca Chapel. 4. Cheese making.

River, this battle forms the backdrop for Ernest Hemmingway's "Farewell to Arms". Post WW1 this area was given to Italy as part of the Rapallo treaty.

Walking

From Tolmin, heading towards the Tolminka, there is an Austro-Hungarian war grave at Lo e containing the unmarked graves of thousands, soon after which you will reach the start of the TNP. Here are the Tolminka and Zadlaš ica gorges, an impressive set of canyons, and just above them is Dantejeva Jama (Dante's cave), where Dante is said to have been inspired to write the inferno section of his epic poem, the Divine Comedy. Continuing along the footpath to Tolminske Ravne you will pass a number of points of interest on the Slovenian Geological Trail. Most of these features are related to the Ravne fault, and you will see examples of fault breccia and z folds associated with the thrust of the local nappe, starting with the younger rocks at the bottom.

From the village Tolminske Ravne head to Ko a na planini Razor. is hut is situated beside a dairy farm, where you can see the local Tolminski Sir cheese being made. e Ko a na planini Razor was originally the Italian o cers' quarters between the wars and there were barracks on the site. From the hut there is a circular route up to the ridge that runs north-west from Vogel and demarks the old Rapallo treaty border between Italy and the former Kingdom of Yugoslavia. If taking this route, you will need some via ferrata equipment to deal with the descent from Vrh na Šrkbino (2054m). e best circular route is to take the footpath to Šrkbino (gap or pass) to see a wonderful example of a cirque and karren karst on the slopes of Vrn na Šrkbino. You then can join the ridge to Tolminski Kuk. From the summit of Kuk you can return to the Ko a via Tolminski Migovec. is route o ers excellent views of Komma plateau to the north, the gulf of Trieste to the south and the large landslides from the 1998 quake in the Polog valley to the east.

If you prefer a hut-to-hut option, then you can continue along the ridge to the north. Here you will reach Bogatin, under which it is believed that the Zlatorog lives (also known as Goldhorn, or Goldenhorn, a legendary white chamois buck). But, be warned the hunter who chased the Zlatrog fell to his death. At Vratca you can head to Ko a na Bogatinom, a traditional style alpine hut that was an Austro-Hungarian eld hospital in WW1 or a further 15 minutes away is the modern block of Dom na Komni, which is open all year round.

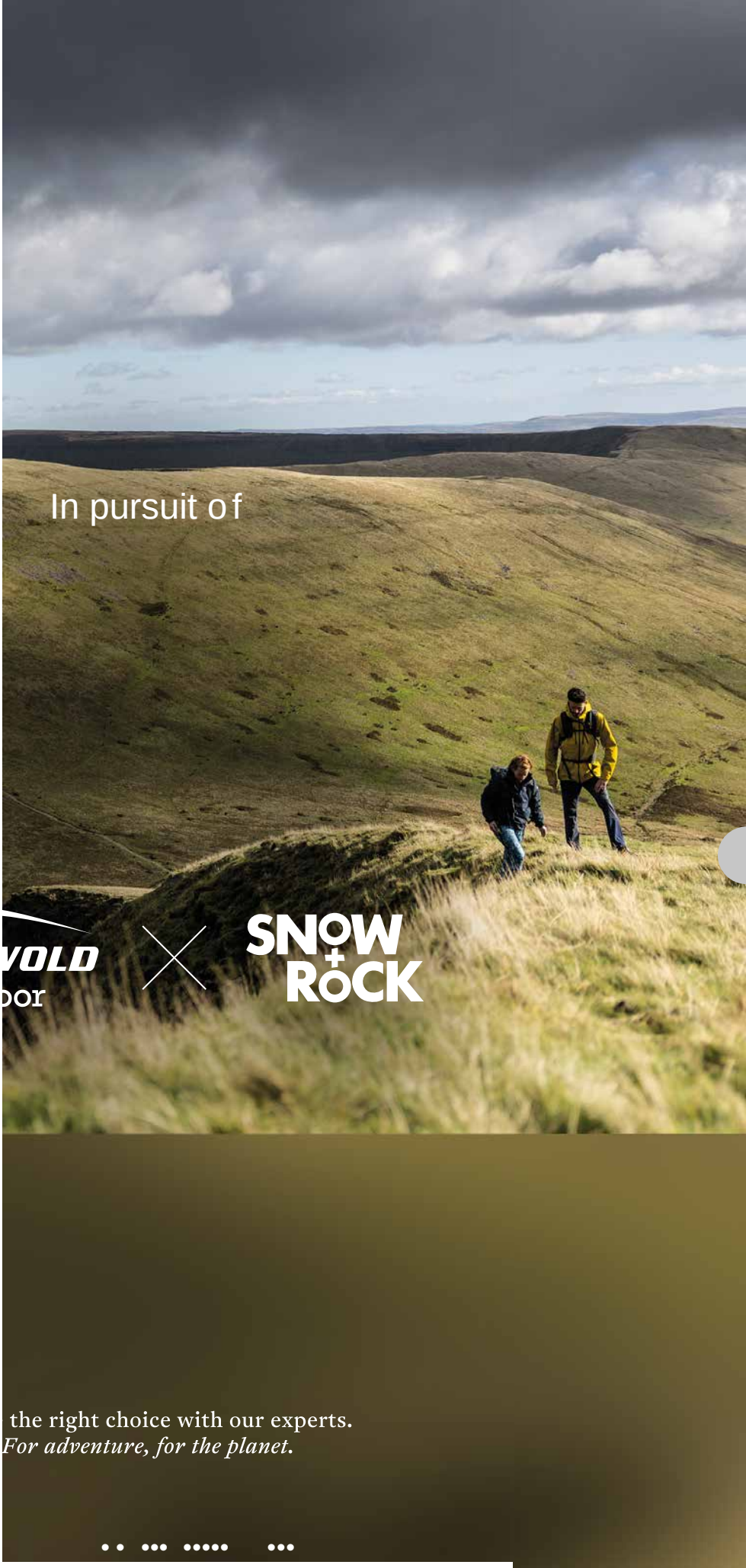
From Bogatinom you can return to Vratca via Lan evica which gives an excellent view of the northern part of the Šoca valley. Just below Vratca, you can see some obvious square doorways in the hills just o the path. ese are the remains of Italian command bunkers and pillboxes built in the 1930s. Continuing to Krn you have a choice; you can stay at a higher level going via Prehodci and onto the Austrian war memorial at Peski. is route allows you to see both Italian (western side) and Austrian (eastern side) trenches on Batognica, as well as a large depression on the mountain caused by a mine explosion. From Bogatinom you descend a stairway to a doorway and Krnska Škribina where you will see a large piece of eld artillery. e alternative route to Krn is via the Krn Lake hut and o ers an opportunity for some refreshments and a stunning view of the Krnsko Jezero. e downside is nearly 700m of slog up a barren white limestone slope to Krnska Šribina.

e Krn hut is just below the summit of this shark n mountain which has a commanding view of the Šoca as it bends around this high massif, and makes an excellent stopping point for watching the sunset and/or having a quick pre-breakfast trip to the summit for sunrise over the Julian Alps. Below Krn you'll see the town of Kobarid (Caporetto) which has an excellent o cial museum, a private collection of artefacts and an Italian chapel and charnel house built by the fascists to hold all the war dead from across the Isonzo front.

From Krn you can drop straight down into the Šoca valley to the village of Dreznica. e walking route is a long series of zigzags for nearly 700m or you can use the via ferrata route. My preferred route is to head back to Batognica and then head to Planina Sleme. Along the way you will see another high alpine lake, some excellent wild ower meadows and you may even bump into one of the locals distilling a herbal schnapps at Sleme. From here you can visit an outdoor museum at Mrzli Vrh that has the trenches and the 'Bes' war chapel. Continuing along the ridge will bring you down to the village of Zatolmin

e nal recommendation is a trip to Javorca in the Polog Valley where there is a beautiful wooden chapel built to remember the Austro-Hungarian dead from this part of the front. If you have your own transport you can easily spend a day walking in this valley: visiting the chapel; more large underground Italian bunkers from the 1930s; have a go on the pulley bridge; see the large landside from the 1998 earthquake as the Ravne fault runs through the valley; and if you have a local connection with the JSPTD (Caving Section of the Tolmin Alpine Club) there is also a 700m deep pull through trip in Poloska Jama. e other notable war memorial in the area is the German one in Tolmin, however if you wish to see inside it, then you will need to book beforehand as you will be accompanied by museum personnel.

Martin McGowan is an International Mountain Leader and member of BAIML, he has been to Slovenia many times. As well as mountaineering in both summer and winter, he has been on 10 caving expeditions with ICCC and JSPTD exploring the Migovec System, which is now 43km long and 972m deep. He works as a teacher.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MAIN PHOTO Decision making. 1. Group navigating the valley . 2. Pointing out features.

Decision making, cognitive navigation and GPS

WORDS AND PHOTOS BY NIGEL WILLIAMS

Fundamentally navigation is a decision-making process; humans have developed the neurological pathways for spatial awareness and creating memory maps for over 400,000 years to support that process. It is only in the last 100 years or so that we have had access to additional tools to support recreational navigation skills when we venture into unknown terrain or need to operate in poor weather. However, most navigation errors are down to decision making rather than the simple mechanics of map and compass use.

Global Positioning Systems (GPS) became freely available to the public in 1993, and with digital mapping, came to our phones in 1999. 30 years of technology can bypass 400,000 years of cognitive development and it is incredibly useful when our attention needs to be focused on another task such as driving or we need a quick location x. I nd myself using it most when I am not lost but want accurate con rmation of my location.

It is frustrating when people on navigation courses refer to being taught map-reading at school in a classroom and assume it is navigation is false assumption can be a potential barrier to learning to navigate if they found map reading di cult. e tasks require di erent cognitive skills and we are all capable of navigating, as our brains were set up to do so long before maps.

For me, map-reading conjures up the classroom-based static plotting and theory, it is 2-dimensional and often numeracy-based. On the move navigation is a practical 3-dimensional experience; more of an art, as every bit of terrain is unique, and a map cannot provide equivalent detail. is is why I like to use progressions of map scale and detail, from orienteering maps to Ordnance Survey (OS) and Harvey maps, when helping novices learn navigation skills.

e main di erence though, is that classroom-based map reading for the novice has little decision-making and no immediate consequences. Whereas navigation is fundamentally a spatial decision-making process with consequences, usually good but occasionally creating a challenging situation.

It is hard to be inspired by classroom map reading and learning symbols if one has never knowingly seen the objects they depict. A group of Inuit children coming to Scotland on an exchange visit recently said that one of the things they most wanted to see and experience was a forest. If a novice wants to learn to navigate, perhaps we

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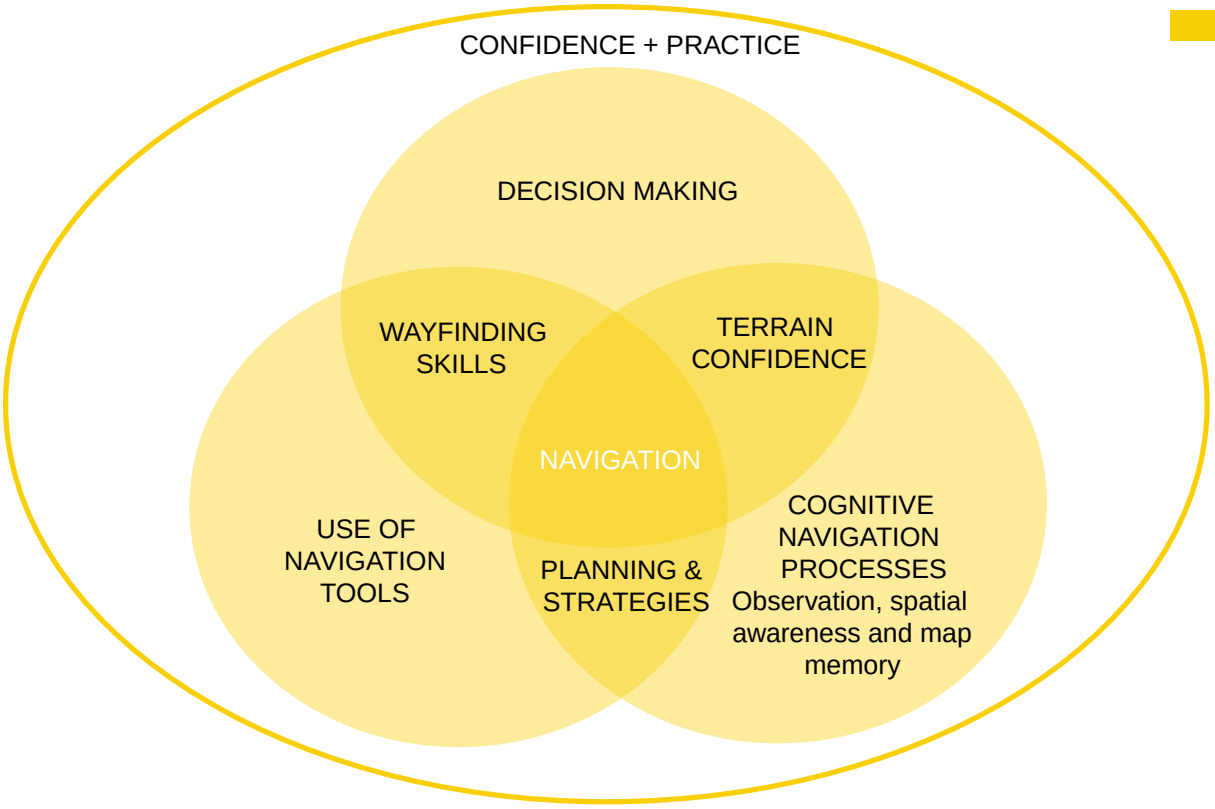

FIGURE 1 Components of navigation.

should start as our ancestors did, lead them for a walk without a map.

With some terrain experience we can make an informed study of a map and make route-planning decisions to then navigate on the ground. Clearly those planning decisions can have consequences, and navigation and map reading start to overlap.

Navigation decision-making requires information-gathering through the observation of landmarks, developing spatial awareness and creating a memory map including visualisation of the destination. It is di cult to learn from reading books or online and even using Virtual Reality (VR) headsets doesn't provide meaningful consequences to decisions.

Our rst navigation decisions are usually route choice at junctions, and later extends to the choice of appropriate navigation strategies in ever more challenging terrain or environmental conditions. As leaders we throw in further issues which in uence our navigation decisions to do with the group and environmental factors. It requires practice and con dence.

Decision-making also brings us into the world of "heuristic biases" such as: being drawn to details that con rm our own existing beliefs; trying to t the map to the ground; assuming someone else is doing the navigating; relying on the person believed to be the most experienced; following people ahead of us assuming they are going the same way as us; or choosing what looks like the easiest path option when we are tired.

Terrain con dence is a key element of developing navigation decision making skills. It is noticeable how people's attention goes to their feet when walking o a path in rough ground, they struggle even with micro route nding. eir ability to observe landmarks and form a cognitive map is compromised. When we most need to use all our neurological capability our focus is distracted until we develop the con dence and skill to look around without stumbling.

Stepping away from a path is a signi cant stage in our learning to navigate and it is easy to understand why; leaving the handrail of a path we move into another dimension and the sense that it could be easier to get lost. In a similar way when navigating purely by GPS, our focus goes on the dot or arrow and away from landmark observations and thus increases dependance on the device. e GPS by-passes the need for conscious navigation decision making at key points of the journey. It also bypasses some of the development of terrain con dence when moving o the path, as it removes the anxiety of that extra dimension and becoming disorientated. e more we venture into remote countryside and challenging environmental conditions, the more reliant we can become on the technology. At the very time we need it most is also the time when it is most likely to let us down, if we don't manage how we use it e ectively.

I put a version of Figure 1 in an earlier article but what I nd interesting now is the realization that complete reliance on a GPS seems to bypass almost every element of it.

 ere is increasing research and evidence suggesting that habitual (rather than occasional) use of the GPS might impact development or e ciency of the cognitive navigation pathways and decision-making processes. We are now seeing the rst generation of people in the outdoors who have never known life before GPS, yet the demand for recreational navigation courses seems to be thriving.

It might not be apparent here but I am a user and fan of the GPS, it provides many bene ts. However, we have a choice as to how we interact with it on the hill. ere is a decision-making continuum – at one end we can follow the dot 100% of the time and let the GPS control us making all the decisions. At the other end we can exercise our spatial awareness, observation and decision-making skills using map and compass, with the GPS used to con rm a decision after it has been made, in that scenario we control the GPS.

Between those two are a range of levels of integration using navigation tools combined with our cognitive skills. Examples might be using a free location app such as OS Locate giving a grid reference but more usefully an altitude. Or using tracking information to monitor distance/time travelled etc. Using the GPS to help us make a route choice decision or monitoring progress through regular position checks whilst using a paper map.

Ultimately, we integrate the tools to bene t both navigation e ciency and the decision-making cognitive processes. Which ones to use and when and how are decisions we make from experience.]

Climbing at coastal venues and the e ect of tides

WORDS AND PHOTOS BY ADAM HARMER
UNLESS OTHERWISE CREDITED

ABOVE Sea Cliff chimney – Symphony Crack, Rhoscolyn.

Climbing at coastal venues can bring great pleasure and enjoyment but also horror and epics [i]. To avoid the latter, I have given some pointers and helpful hints to keep you from a wetter day than planned.

Sea cli s can feel intimidating at rst as people start climbing with the sea crashing into the rocks below, but a few suggestions can make things a bit friendlier. For starters, choose routes where you can walk out so that you don't feel bound to the route and cut o as the tide comes in. Alternatively, you can select your route knowing that there is an easier route on the same cli or leave an abseil rope in place so that you can prusik back up if the rain arrives. Choose your climbing partner wisely and go with a friend who has climbed on sea cli s before so that you can bene t from their experience.

One last point before we go into information around tides, is to check for restrictions on climbing due to nesting birds. Some routes are restricted during nesting season and some sea cli s are completely out of bounds, your guidebook or the United Kingdom Climbing (UKC) website should tell you which are a ected and when.

So, to tides and timing your visit to sea cli s. In some places around the UK coast, we can have a huge tidal range, sometimes with over 10m of cold water climbing the wall below you.

A tip to get the most from your coastal adventures is to download a good tidal app. I personally like Imray's Tides Planner, it's free but for a small fee (£3.99) you can download all of the tidal data for the whole of the UK for the year ahead. (Figure 1)

Figure 2 shows some screen shots from the app, which allows you to pick various locations around the UK and save your favourites. With a bit of further exploration, you can also often nd details like high and low water times for the day and whether they are in uenced by neap or spring tides (which I'll explain later).

What does all this mean?

Well, simply put, low water (LW) is the time that the water will be at its lowest point a good time to walk along the base of certai tidal crags or get maximum mileage, as the cli s will be more exposed from the salty stu . High water (HW) is the opposite, and often the starting moves of routes are either covered by (or very close to) the sea. On days where high water coincides with the time you are wanting to climb, it might be worth exploring bigger cli s. For example if high water is around midday then a day at somewhere like Gogarth would give you more climbing, as you could miss the botton pitch and still have loads above you, wherea climbing at Rhoscolyn, where the routes are shorter, means you would be around that tidal zone a lot more.

[i] Epics: long and sometimes fraught events, activities or expeditions that become more involved and complex than originally intended.

FIGURE 1 Tides Planner app.

FIGURE 2 Tides Planner app screenshots.

1. Mark and Emily Walker and Finlay Davies (age 6) with Adam on summit of Old Man of Hoy.

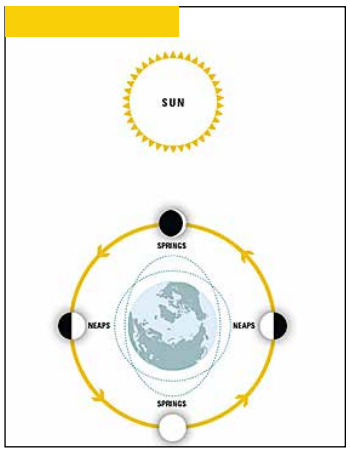

FIGURE 3 SOURCE: Sea Kayak Navigation www.pesdapress.com

2. Symphony Crack, Rhoscolyn. 3. Symphony Crack Belay, Rhoscolyn.

Looking back at Figure 2, we can see that on the 8th February 2021 in Liverpool (Alfred Dock) high water was at 08:20, so a slightly delayed start, having that extra co ee, could be considered tactical as the tide will be dropping by the time you arrive.

Don't lose focus though, it's important to acknowledge that the time was for Liverpool, not North Wales (Holyhead, to be particular) or St Bees in Cumbria. So, zoom into your app and get the time closest to your chosen venue for the day. Because it takes time to ll Liverpool Bay as the tides rush in from the Irish Sea, high water at Holyhead on that given day was about 50 minutes earlier, at 07:30.

Another signi cant factor to consider is whether the tides are under the in uence of a spring or neap cycle. You may know that the tides are a ected by the lunar cycle, approximately 27 days, which means that as the moon orbits the Earth at certain times it aligns with the sun, and at other times it opposes it. Figure 3 helps to clarify this a little and explains why we get approximately two spring cycles and two neap cycles a month.

As the moon moves around the earth its gravitational force causes a bulge of water, and when the moon and sun are in line theses bulges are bigger and cause the spring tides. But what di erence does a spring or neap tide make to us? Well, a spring tide means the water drains out further and leaves more of the crag visible at low water, and at high water the sea comes higher up the crags, and often quite quickly. e distance these tides rise and fall is called the 'tidal range' and when the tide is rising it is known as the ' ood' and when falling it's the 'ebb'. So, in our previous example we could say the tide started ebbing at 07:30 for Holyhead.

During spring tides, the 'tidal range' is considered to be twice that of a neap tide. In some parts of the UK that can create tidal streams (water moving left or right along the coast, not just up and down). Tidal streams don't really have much e ect on climbers other than that it can help to explain why we can see o shore waves on calm days or if you fell in, why you might get moved along the coast as opposed to out to sea or into the shore.

e next big consideration is weather. We all know that if it's raining the crag will be wet, but if the wind has been blowing hard for several days before your visit to sea cli s you might encounter a challenging 'sea state'[ii]. Let's take Pembrokeshire as an example, if the wind has been blowing strongly from the south for a few days then we could expect large waves below the south facing cli s, but the north and west facing cli s might be less impacted by the sea state. e distance winds travel also a ects the sea state and swell. ere's no surprise that the waves are often bigger at Sennen Cove in Cornwall than they are at St Bees in Cumbria or the Great Orme in Llandudno, because the wind could have travelled thousands of kilometres across the Atlantic una ected by land masses. is distance is called 'fetch' and is the maximum length of water over which a wind can blow. So, at Pembrokeshire expect a big sea if it's been blowing force six for ve days from the south-west, even though the forecast says its dry, the environment could be very intimidating!

I have put together these ve simple tidal tips to consider before heading out to the sea cli s:

1 Download a tidal app
2 Establish the time for (local) high water
3 Are we on a spring cycle, neap cycle or in between?
4 Check the weather forecast (particularly windspeeds and direction)
5 What impact will the above factors have on our day?

To get the grey matter going, can you answer these questions:

1 Where do the terms 'spring' and 'neap' originate?
2 Some places have more than two high waters in a day, can you name any?
3 Will the sea state be bigger if it's wind against or wind with?
4 If high water is 9.5m at Liverpool would you expect a big spring or a small neap tide?
5 If the high water time is around midday at either Dover or Liverpool are we more under the influence of spring or neap cycles?

Answers are:

1 These are not to do with the seasons, but one theory is that it is thought to have had Norse connotations with neap meaning an abundance (or comparatively level amount) of water, so boats could still float in harbours whilst on spring tides with their very high and very low levels they could bottom out on the seabed/shore.
2 The Isle of Wight has a false high tide
3 Bigger waves are normally created when winds are running against the tide
4 A 9.5m would suggest a spring tide
5 Midday high waters generally correlate with spring tides.]

Adam Harmer is a Sole Trader and has had many years workeding at Plas y Brenin but now runs his own business delivering Adventure Sports coaching and NGB qualifications. He has kayaked on all seven continents. He holds the highest level of Paddle sport qualification and is a regular climber in North Wales where he resides. Adam is also a WMCI and delivers ML and RCI training courses in both the Lake District and North Wales.

[ii] Sea state: a graded scale from 0 (smooth, mirror-like) to 9 (Air lled with foam, sea completely white with driving spray) with respect to wind, waves and swell. .

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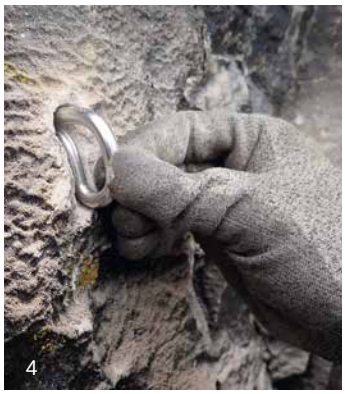

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Sustainable BOLTING PART THREE

WORDS AND PHOTOS BY STUART HALFORD

This article started life as a two-part series but has grown a third instalment. Part one (Spring 2021) sought to promote the use of resin- xed anchors (over expansion bolts), explaining the reasoning behind this idea and how the use of such bolts can help preserve the quality of sport climbs over time. Part two (Autumn 2021) described how to go about preparing a line for bolting, the installation process generally, and how it can be completed in stages.

Here I aim to provide an initial insight into the idea of using di erent designs of bolts for di erent situations and show pictorially and in more detail how resin- xed anchors can be installed. Included are a few extra tips to make the job run smoothly.

Bolt Design Options

Happily, there are several reputable manufacturers producing high quality glue-in anchors for climbing. Gone are the days when we had to rely upon inappropriate re-purposed construction ttings or curious designs produced in some enthusiast's potting shed.

Information on design, type of metal and intended use is usually well-covered on manufacturers' websites, so head there for detailed guidance and have in mind how your route will be best equipped. However, to whet your appetite, part of the range from just one manufacturer is shown here (Figure 1).

Longer bolts provide greater security for when the rock quality is less good. Larger 'eyes' are often preferred for creating lower-o s and belays, as more can be clipped into or threaded though them. Some lower-o bolts come with rope threading rings or 'horns' already tted and may have the eye bent through 90 degrees to orientate the ring optimally. In this range, bolts intended for harsh salt-air environments are more highly polished and have gentler curves – both of which help provide extra resistance to corrosion. Plenty to consider here, including the diameter of hole for the bolts you're using and recommended resin.

The Installation Process

When surveying your line, mark the carefully planned location for each bolt with a wax crayon. You'll spend less time later, hanging around with the drill relocating the best spots (Figure 2).

1. Bolt design options. 2. Marking bolt locations. 3. Wear PPE and drill to correct depth and diameter. 4. 'Chisel out' a vertical recess to hold the inner part of the eye. 5. Blow dust out of the hole. 6. Brush dust out of the hole. 7. Flush out the hole until the water runs clear. 8. Dry the hole with cloth wrapped around a hole brush. 9. A cloth left in the hole helps you find them when gluing and shows work in progress. 10. 'waste' some onto a rag to ensure glue and hardener is mixing to the right colour. 11. Inject resin. 12 Squeeze out excess resin. 13. Clean away the excess resin. 14. Tag the bolts as 'not fixed' whilst resin cures.

Wear your Personal Protective Equipment (PPE) and drill your hole to the correct depth and diameter. A depth gauge on the drill can be useful. Don't push too hard on the drill, or you'll overcome and negate the tool's hammer action. Regularly o er-up the bolt into the hole so you don't go too deep (Figure 3).

is design of bolt (Figure 4) requires a hole drilled with two di erent bit sizes. A third even smaller bit is then used to 'chisel out' a vertical recess to hold the inner part of the eye.

Blow and brush out the hole. e cleaner the hole is, the stronger the xing will be (Figure 5 and 6).

Flush and brush the hole. You're looking for the water to run clear (Figure 7).

Use strips of cloth wrapped around a hole brush to dry the now-clean hole. When your cloth comes out dry, the hole is prepped (Figure 8).

Some bolts are hand-made. As such, even bolts of the same size and design can vary very slightly. With this in mind, if you've prepped a hole with a particular bolt and that bolt ts, keep that speci c bolt ready for that speci c hole. Either leave it in the hole ready for gluing if completing the job in one visit or order the bolts on a karabiner so you can nd the right bolt for the right hole later. A cloth left in the holes with or without the bolts helps you nd them during the gluing phase and shows others that work is in progress (Figure 9). Best not to leave loose bolts unattended!

When starting a new cartridge of resin, 'waste' some onto a rag. is is to ensure that the glue and hardener is mixing to the right colour before injecting it, and to provide a sample that can be checked for correct curing later. Bear in mind that you will probably be doing this hanging from a rope so will need to nd some kind of ledge or edge to put your rag on or balance it on your thigh and carefully bag it (Figure 10).

Carefully inject the resin into the hole, starting at depth and slowing drawing the applicator outwards. Put some resin in the vertical slot if you've created one (Figure 11).

Release the pressure on your applicator, wipe the end in readine for the next hole and insert the bolt. Some designs bene t from a twisting action. You want enough resin in the hole so that some excess is squeezed out (Figure 12).

Wear multiple layers of rubber gloves, at least one glove per bolt. at way you have ve clean digits to redistribute or remove resin in order to ensure the neck of the bolt is covered correctly, the hole is sealed against water and to make good the surface. Clean the bolt eye with a rag. Remove and bag your dirty glove with the other (clean) hand and continue the job or move on down the rope with clean gloves to the next bolt (Figure 13).

A couple of other pieces of good practice are important and you may have to abseil again to complete these if your resin is curing quickly in the nozzle. e rock around and below your bolts will be lthy with damp dust. Give the area a good brushing – don't just leave it to nature, especially on overhung rock. Consider tagging the bolts as 'not xed' until the required curing time is complete and you have had the opportunity to abseil the line and check each xing (Figure 14).

Sustainable bolting is an involved and oddly engaging endeavour and undoubtedly important if we want to preserve our rock for the future.]

anks to those who donate to Cumbria Bolt Fund for providing the equipment used in this series, and to Ian Wilson MCI for modelling services.

Stuart Halford is a Winter Mountaineering & Climbing Instructor based in Cumbria. He works on a freelance basis in the UK mountains and as Operations Manager and Expedition Leader for the Greenland Exploration & Logistics Consultancy (GELCO).

Countryside changes: regenerative agriculture

Part 2: A simple solution

WORDS BY BEL MYERS

Farmers take action

ere is a growing feeling that farming practice, especially after World War 2, is degrading the soil and contributing to world crises: accelerating soil loss; threatening crop yields and food supply; wiping out wildlife; causing widespread water and air pollution; and releasing greater carbon emissions from the soil, thus contributing to global warming.

With the legacy of the 1930s United States (US) mid-west Dust Bowl, which was swiftly followed by the establishment of the US Soil Conservation Service (now the Natural Resources Conservation Service), it's perhaps not surprising that early in the 1990s some US farmers started to trial an approach to farming which put soil regeneration as the primary aim. is approach, called "regenerative agriculture" (or "conservation farming"), is now being used by a third of farmers in the traditional croplands of the US and Canada and on a signi cant proportion of farms around the world. It works with very di erent soil conditions, climates, topography – uplands and lowlands - and types of enterprise, whether arable or horticultural crop growing, grassland livestock farming, or a mixture.

The key elements of this approach are to:

- Minimise disturbance to the soil so No Ploughing
- Keep the soil covered;
- Introduce diversity; and
- Use animals to boost organic matter: optional, though increasingly used by many farmers

With crop growing, this approach means selectively harvesting the produce from the main or "cash crop", such as wheat, leaving the crop residue above ground to decay; then drilling seeds through the crop residue to plant "cover crops" so the soil is never disturbed or left bare. Near the time for planting the next main crop, any cover crops still growing may be killed o using rolling or herbicides. e seeds of the next main crop can then be drilled through the green mulch.

Diversity is introduced through planting together di erent sorts of cover crops, maybe half a dozen or more (one US farmer uses over 19) and in the United Kingdom (UK) they are usually from the cereal, legume, brassicas and herb families. Having many di erent cover crops, each giving particular nutrients, helps boost soil nutrition.

Complex crop rotations help break up habitual cycles of insect pests and crop diseases as well as boost diversity. Some cover crops are also selectively harvested and the produce sold or used to provide food for livestock on the farm.

e key elements are being applied to livestock farming too. Many farmers are now planting seed mixes of deep-rooted grasses, legumes, herbs, and owers on pastureland to provide a diverse "menu" of plants for livestock, giving them a choice of what to eat, and more nutritious organic matter for the soil.

In addition, some are pursuing "regenerative grazing". With traditional grazing, where livestock are kept in the same eld for a long time, the grass has little chance to grow and by the end of the season has run out of energy trying to do so. It remains weak and short rooted. Under regenerative grazing, which mimics the migratory behaviour of original grassland herds, cattle and other animals such as chickens and pigs are moved frequently to graze for short periods in new pastureland. In an extreme version of this, called "mob grazing", a high density of cattle is moved daily or even twice a day to graze a new relatively small area of pastureland which is then left for up to a year to recover. e high density of cattle tramples more forage into the soil, helping root growth, and the longer recovery periods for the grasses allow them to become taller, more diverse and more nutrient rich before they are grazed again.

e organic matter and nutrients in the soil bene t greatly from the animal dung left over a wide area, and di erent pasture heights provide varied grassland habitats. Also, the soil structure, organic content, water retention, wildlife - birds, beetles, grasshoppers, etc., species diversity and carbon capture are all improved. e result is that livestock produce meat higher in nutrients and more quickly. Overall, outputs are increased by as much as 50%, often with reduced operational costs. And the cows? " e stock love it – they run through the gate (to the next grazing patch) as soon as its opened" (UK Farme

Regenerative Grazing can also enable a longer grazing season, cutting down or even eliminating the amount of time cattle have to be overwintered indoors, reducing the greater cost that incurs. is also helps the survival of dung beetles, currently in decline in the UK. ese creatures play a vital role in carrying cow dung into the soil to depths of up to 1 metre. Overwintering cattle outdoors gives the dung beetles food over a longer period and lowers their risk of dying from the devastating residue of pesticides used to treat the parasites which are contracted by cattle when they are overwintered indoors together.

Local applications

e key principles of regenerative agriculture should be applied exibly to suit local circumstances. In the UK, many crop farmers are reintroducing livestock to fertilise the elds and selectively harvest nutritious cover crops grown on the farm, thus saving on imported feed. Some farmers are adding locally sourced horse manure to the elds and even suitably treated human waste.

Regenerative Agriculture can also be used side by side with "Rewilding" which aims to step back from active management and farming for a pro t and let natural ecosystems restore themselves. Regenerative grazing can similarly complement "Conservation Grazing" being carried out on adjacent land: for example, where lower density grazing is needed to protect sensitive soils, such as on

MAIN PHOTO Cover crop of vetch and oats © Sergiy Akhundov: Shutterstock. 1. Cattle strip grazing cover crops © Ecoprint: Shutterstock. 2. Dung beetle on cow pat © Ian Redding, Alamy. 3. Wild flower border on the South Downs © Bel Myers.

peatland and thin chalk soils, or where the aim is to restore speci c species or habitats through selective grazing.

The results

Farmers have demonstrated that using these key elements of regenerative agriculture can bring bene ts after as little as two years and sometimes spectacular ones after ve to ten years. First of all, they boost soil health, including:

- Increased organic matter: increases of +1% a year have been reported from farmers in the US and UK (Leicestershire); organic matter in soil on one US farm has reached over 10%, surpassing the estimated 8% organic content of the original prairie grassland.
- More underground livestock: many farmers use worm or worm cast counts to monitor improvements in organic matter within the soil.
- Better soil structure, with greater water absorption generating less run o and stronger resilience to drought, ooding, and erosion.
- A greater diversity of pollinators and natural ghters of plant disease above ground.

e improved soil health is yielding many bene ts including:

- Higher crop yields overall, based on the total yield over the year from all crops grown, rather than simply the yield of the main crop. Cover crops may be cash generators as well as helping soil nutrition and sequestering carbon. Monoculture farms may produce their single crop more cheaply, but they don't necessarily produce more food overall.
- Decreased use of fertilisers, herbicides and pesticides. Many farmers start o accompanying crop sowing with "precision fertilization", injecting a small amount of fertiliser very close to a seed, although they eventually drop this practice in time. e use of herbicides and pesticides decreases too, as increased biodiversity generates natural pest zappers.
- Higher levels of carbon sequestered in the soil: rough increasing soil's organic matter – a 1% increase in organic matter generates a 0.6% increase in carbon content - farmers have shown they can boost the carbon content of their soils signi cantly over just a few years. Such results depend crucially on following the "no till" approach, keeping soil covered and generating organic matter for the soil.
- A better income for farmers, with generally higher, more reliable nancial returns gained from lower cost inputs and fewer dips in income because of the stronger resilience of their soils to adverse weather events and changes in crop price. Farmers are sometimes able to charge more for higher quality produce.

Many complimentary measures are being taken to improve soil health. For example, using drones with Global Positioning System (GPS) locators to map the soil health and yield of individual elds, or even sections of a eld, can help farmers further reduce chemical inputs and water through more selective application.

Farmers are also boosting biodiversity and natural ways of combating plant disease by introducing wild ower borders and strips, sometimes running from the edge to the centre of a crop growing area. Many are planting hedgerows and trees to help stabilise the soil, avoid water run-o , boost carbon storage and provide shelter for livestock. Changing some livestock farming practices can also reduce the harm to soil ecosystems. For example, some farmers are switching to traditional hardier breeds of cattle, such as English Longhorns, which, as well as being more suited to overwintering outside, also reduce the risk to dung beetles of "death by drowning" encountered in the runnier dung of some modern breeds!

In Part 3, we'll look at the future of regenerative farming, how you can nd out more about it and how to spot it in action.]

Bel Myers is a Hill and Moorland, and Mountain Leader, trainer and writer on the outdoors, personal and global health. Bel is a member of the MTA.

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LITTER

A problem or an opportunity?

Plastic, together with other types of litter, is a pervasive contaminant of the natural environment and poses a real threat to wildlife.

WORDS AND PHOTOS BY GARETH MORTON

ABOVE Bagged camping litter by Llyn Cau, Cadair Idris, Summer 2020.

Microplastics from Africa and North America have recently been found airborne in the French Pyrenees, 2,877 metres above sea level[1]. ey are in the polar ice and at the deepest points of the ocean. Some of the stats are both mind-boggling and disturbing:

- Around the world, nearly a million plastic beverage bottles are sold every minute.
- Estimates for how long plastic endures range from 450 years to forever.
- More than 40 percent of plastic is used just once, then discarded[2].

Closer to home, over the summer of 2020, Snowdonia Society volunteers picked up 200 bags of litter from rubbish "hotspots" such as the Llanberis Path, the summit area and from around Llyn Ogwen[3]. Litter (all types, not just plastic) is unsightly and poses a signi cant threat to wildlife. It, like excessive footpath erosion, is a sign of the pressure our 'wild' spaces are under and clear evidence that fundamental changes in behaviours by visitors are required to protect the very resource upon which outdoors professionals rely.

As outdoor professionals I believe we have a role here, as well as a duty to look after our 'workspace'. We can act positively and use litter as a tool to teach people to take simple steps to care for the world around them. Litter can be a doorway to all sorts of interesting conversations about the environment, human behaviour, visitor impacts, pressure on the hills and access issues. e big question is how? First and foremost, set an example and secondly, educate (what I call 'Walk the Talk, then Talk the Talk').

1 Walk the Talk

Outdoor professionals are role models. Every aspect of their clothing, kit and behaviour can be a topic of keen interest by those we take out on adventures and our behaviour and kit should extend to caretaking duties i.e. litter picking. So, it can help to look the part and have some tools of the trade.

Litter picker: there are plenty around and I currently use one very kindly provided by the BMC's Hills 2 Ocean campaign[4]. It folds in half, so it stows away on the side of your rucksack or in gear holders on a rucksack belt. I have attached a strap to mine so I can hang it over my shoulder ready for use. Being able to quickly stash it securely but have it accessible is important. Gloves are an alternative tool, but of course require more direct contact with litter.

Litter bag: You need something strong but not too big. Big bags can get heavy, blow around in the wind and generally be

How long does it take to 'disappear'?

Apple cores	Two weeks
Paper towels, paper bags, newspapers, and tissues	A month
Cereal boxes, paper bags, banana skins	Six weeks
Waxed milk and fruit juice cartons	2-3 months
Cotton clothing	Six months
Woollen clothing	One to 5 years
Orange peel and cigarette ends	Two years
Plastic bags	10 to 20 years
Nylon items, disposable nappies	30-40 years
Tin cans, trainers, foam coffee cups, leather	50 years
crisp packets	75-80 years
Aluminium drinks cans	Around 200 years
Plastic bottles	500+ years
Glass jars and bottles	One to two million years?

FIGURE 1. How long does it take for litter to decompose? Recycle IT 4 U.

1. Litter picker and collection bag (a big one) strapped to a rucksack for moving on steep ground. 2. Litter picker with added shoulder strap and small tough plastic litter collection bag (ex-shopping bag).

awkward to carry and detract from your prime role – tending to your clients. I use standard-sized heavy gauge plastic shopping bags which are strong enough to withstand the rigours of multiple outdoor outings (reuse is important!). Also, two bags means when one gets full you can strap it to your rucksack or stu it inside and deploy bag number two.

Tactics: Keep a separate bag in your vehicle for tidying up where you park. You'll probably nd most litter there or within 100 metres or so of the road. Do a quick pick of the car park/meeting spot and leave it in the car.

Don't pick everything on your route out if you are coming back the same way. Make a note of it and pick it on the way back!

Empty and crush cans and plastic bottles/packaging to make the most of space and reduce weight.

On the hills, litter tends to 'gather' at popular stopping points so consider these and when you might need to deploy your picker. If you're at a crag, do a quick pick of your surroundings at lunchtime.

If you've got a big group and you're with them for a few days, consider issuing litter pickers and running a competition to see who collects the most litter. You'll need a small weighing scale and to provide clear rules about not getting into danger – going after that plastic bottle on a crumbly cli edge for example.

Finally, a couple of things to remember:

- Your prime concern is to your clients – don't let the litter picking distract you.
- If you can't pick everything or your bag is full, don't worry, you have done your bit for that day and you can pick it next time.
- Safety First. If you cannot reach it easily – leave it. Try not to touch any litter – some of it is disgusting. Gloves are useful.

2 Talk the Talk

Hopefully your clients will notice what you're doing and ask about it. Alternatively, plan to discuss it at some point. Arm yourself with some useful facts and try a litter quiz. Google is a great research tool here and Figure 1 is one that I have used (on my ML assessment no less).

A little bit of research will uncover a host of relevant information and stats. For example, on average the RSPCA receives 14 calls a day about animals a ected by litter and these calls increase in the summer months[5]. And these are only the ones that are found – plenty of others die (as any litter picker will tell you).

e outdoors is increasingly popular, and honeypot locations are straining under the load. If the problems continue then they could put access to the hills at risk. What landowner is going to put up inde nitely with hordes of tourists visiting or y-camping and leaving their rubbish behind? National Parks have talked about 'managing' visitor numbers because of the environmental toll and litter is very much part of that complicated problem.

Litter can also be used to discuss ways your clients can reduce their potential litter impact: using reusable sandwich bags or drinks bottles/asks (not disposable bottles or cup). It can even, if you're so inclined, open the door to wider ranging discussions about reducing the environmental impacts of outdoor sports.

No-one likes litter, but people need to take collective and individual responsibility and we, as outdoor professionals, need to lead the way - and nothing speaks louder than individual action. We need to teach, using both words and actions, the age-old mantra: take nothing but memories, leave nothing but footprints.]

1 No mountain high enough: study nds plastic in 'clean' air. Pollution. e Guardian
2 10 Shocking Facts About Plastic. National Geographic.
3 Snowdon rubbish: 200 bags collected by volunteers. BBC News.
4 Hills 2 Oceans returns for 2021. thebmc.co.uk

Gareth Morton is a member of MTA and is a Mountain Leader although he still works full time in the recycling industry where he is a Chartered Waste Manager. He is passionate, in equal measure, about the outdoors, recycling and litter.

The CLAIMS JOURNEY continued: The insurer investigation

ABOVE Summit is Optional. © Patrick Hickie.

WORDS BY DANIEL THOMPSON

Following on from our article ‘ e importance of accurate and prompt incident reporting’ in the last issue, the next stage of a claims journey is collating and preparing key evidence and documentation from the respective parties involved.

Once a claim has been reported to your insurers, the insurer will review the claim and con rm whether the incident triggers the policy coverage or whether the incident falls outside of the coverage purchased. is is a key point, ensuring that the coverage you have purchased meets your requirements and covers the scope of your activities.

Following con rmation that the incident falls within the scope of coverage, the insurer’s claims team will need to gather as much information as possible to either build a defence on your behalf or identify that negligence has occurred and look to limit costs and admit liability. e documentation that the insurers will request will evidence the following:

- the accident event
- the causes of the accident event
- that the client has discharged their obligations to control the causes coming together to give rise to the accident event

Examples of the information an insurer would expect to see following an incident will include:

- Accident Report, in line with the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Accident Investigation Report
- Risk Assessments
- Safe Working Procedures/Safe system of work or Method Statement
- Training Records
- Witness Statements
- Maintenance records – equipment
- Inspection regime – equipment
- Closed-circuit television (CCTV) footage
- Photographs of location
- Previous accident records
- Manufactures instructions/operating manual
- Instructions regarding wearing of Personal Protective Equipment (PPE)
- If the risk of a fall cannot be eliminated then the use of equipment to minimise the distance of a fall or the risk of injury e.g. harnesses, crash mats, etc.

Whilst the list above will seem very extensive, when defending a claim, the claimant’s solicitors will also be asking for copies of this information, if it is relevant to the claim, therefore providing this information at your earliest opportunity to your insurers and their solicitors will give them the best opportunity to defend the case.

Within any sport or recreation activity the coach or leader may not write up a speci c risk assessment each time, however this can often be the di erence between having a defendable case or not. Commonly, insurers have to admit liability simply on the basis that the defence is poor due to lack of documentation and insurers will understandably have to review the chance of success versus the additional costs of trying to take the case to court.

Essentially, if it’s not written down or evidenced, a claimants solicitor will simply argue ‘It clearly didn’t happen!’

Using an example where you have provided all of the evidence to the insurers, the next step will be for the respective solicitors to liaise with one

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To find out more about our insurance products for instructors and leaders please visit: https://mountaineering.sportscover.com/

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another and make their point, leading to either admittance or den of liability.

e claims process can be complex and has strict processes an timescales to follow. Front line sta are often thrust into the world of insurance claims with no preparation or understanding when an employee has an accident at work or makes a claim. is lack o knowledge can lead to costly mistakes being made which impact liability decisions or compliance with the timescales as laid down the United Kingdom (UK) legal framework.

When investigating a claim, we should always consider primary liability (i.e. the liability of the defendant) rst. In most cases the insured will owe a duty of care, for example: an employer to an employee or shops/restaurants/hotels to visitors.

Once it has been established that a duty of care exists there is a 3-stage test to establish liability:

1 Was the duty of care breached?
2 Did the breach cause injury to the claimant?
3 Was the injury foreseeable?

Breach of Duty of Care

Usually this is the reasonable person test – what would a reasona person have done or not done in the circumstances of the particul incident.

A court is likely to look at:

- Cost of preventative measures
- Relevant industry standards
- Extent of potential risk to the claimant
- Seriousness of any likely injury
- Was the defendant an expert
- Whether the claimant accepted the risk

Did the breach cause injury to the claimant?

Courts apply the 'but for' test – 'but for the defendant's negligence would the claimant have sustained injury?'

Was the injury foreseeable?

ere only must be a type of injury which could be foreseen even if it came about in an unexpected way. However, the burden of proo on the claimant unless there is a criminal conviction.

Contributory Negligence

To secure a nding of contributory negligence the defendant mus establish that, on the balance of probabilities, the claimant was a fault, the fault has caused the relevant injury, and it will be just a equitable for the damages to be reduced.

Once a liability decision has been made it is relayed to the claimant/solicitor usually within a three-to-four month timescale of the claim being submitted. If the claim is to be admitted, it will stay within the con nes of the claim's portal, meaning the timescales and costs are set down in law and are there to be followed for speed and economy.

Should liability be denied or there is an allegation of fraud ther the claim will fall from the portal and the claimant's solicitors are at liberty to revert to an hourly rate for their fees, making the cla far more expensive. It is then the solicitor's responsibility to advi the claimant whether there is a good enough case to take to cou or whether the claim should be dropped as there is insu cient evidence to win.]

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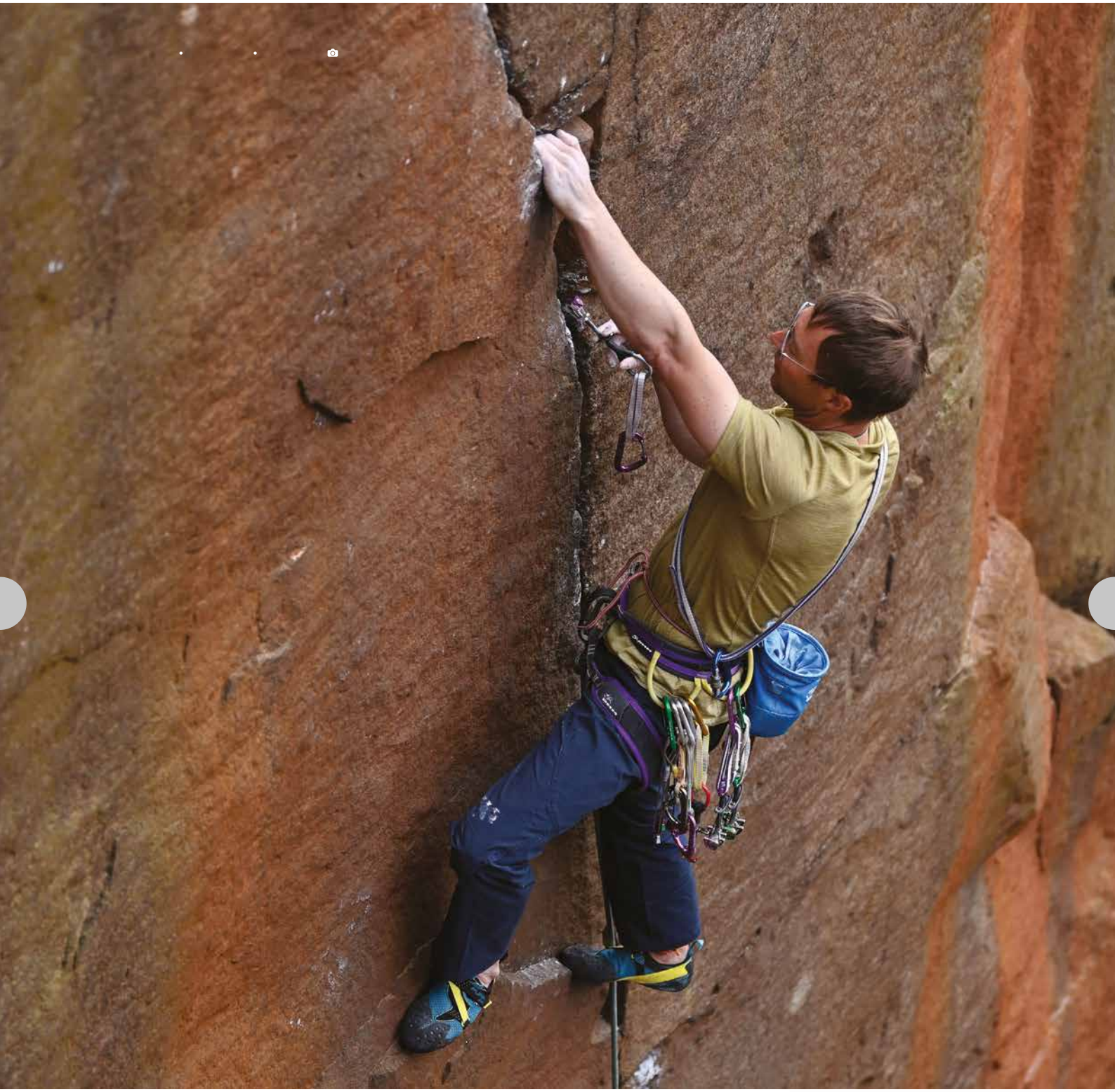

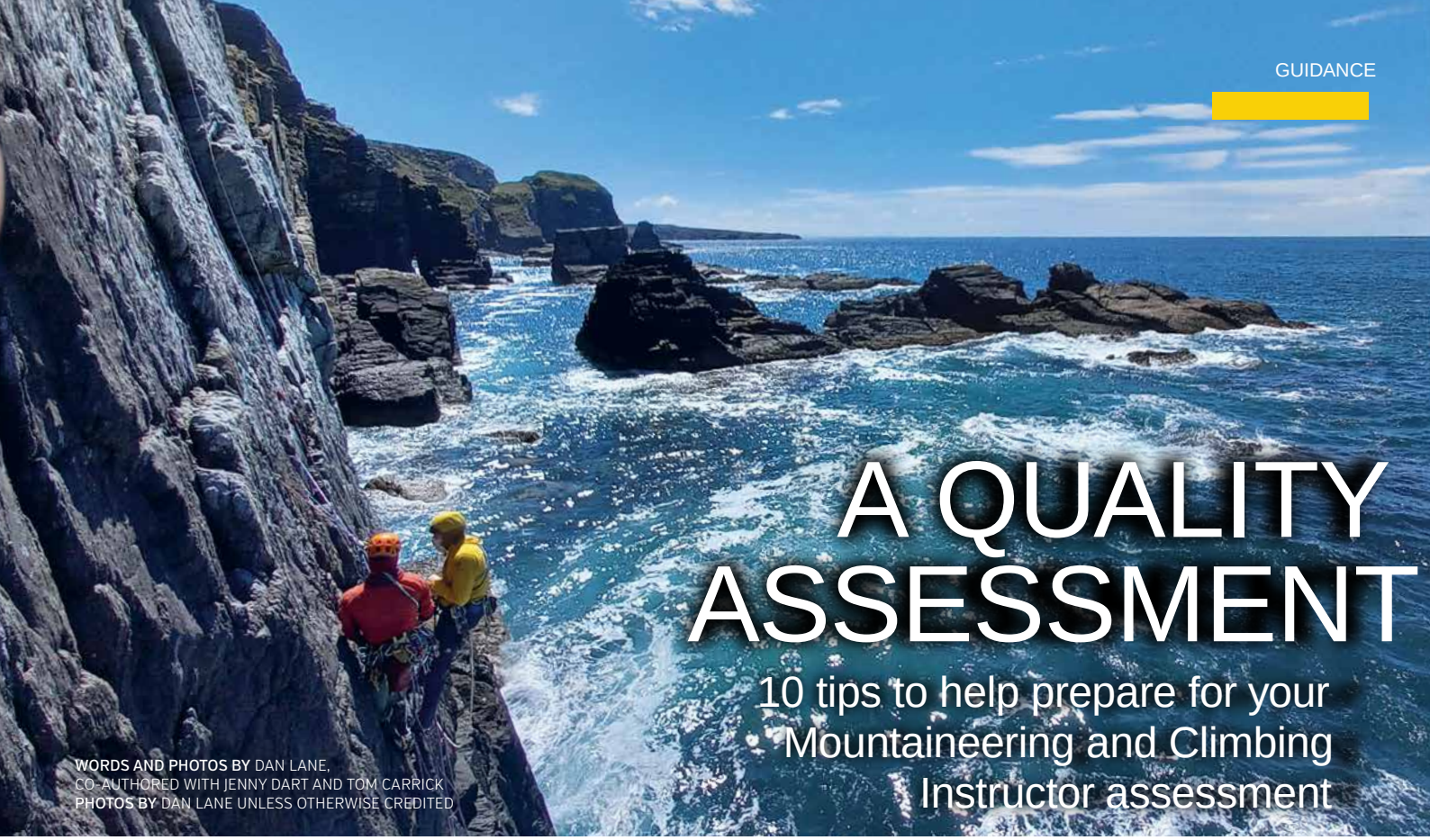

A QUALITY ASSESSMENT

10 tips to help prepare for your Mountaineering and Climbing Instructor assessment

WORDS AND PHOTOS BY DAN LANE,
CO-AUTHORED WITH JENNY DART AND TOM CARRICK
PHOTOS BY DAN LANE UNLESS OTHERWISE CREDITED

ABOVE Tom Carrick and Matt Stygall at Castell Helen on MCI Assessment 2.

Historically, the Mountaineering and Climbing Instructor (MCI) Assessment has the lowest rst-time pass rate of any Mountain Training quali cation. So much so that it was included in a recent PhD study to look at the factors hindering candidates progressing to assessment and passing rst time.

2021 was a magni cent year for the quali cation, with 33 new instructors qualifying, despite the covid-related challenges the candidates faced during their preparation and consolidation phase. I was fortunate enough to pass in May 2021, along with two good friends. Subsequently we put our heads together and concluded that the following factors all contributed to our successful assessment week.

1 Find a training bubble

Having like-minded people who are working towards the same goal is a great way to keep motivation high. You'll keep encouraging, supporting, and inspiring each other. In all likelihood, at least one of you will be keen to drag the others out when the weather is sub-optimal too, so you'll all get more done. Additionally, because you're all there for the same reason, you won't feel like you're spoiling your not-so-keen-friend's day by dragging them out to be a guinea pig, again. Also, video each other giving brie ngs and teaching – this is a great re ection tool and helps build con dence that you're keeping it concise and relevant.

2 Get out of your bubble

Having said that you want to nd a bubble, it's also good to escape it regularly. If you never leave your bubble, you run the risk of ingraining bad practice, and not taking on board other useful skills or feedback. To combat that, we found that going away to observe others working, or do workshops individually was a great way of making sure we were on track. Additionally, we could report back what we learnt or discussed to the rest of the bubble, meaning we all learnt more.

3 Use real 'mock-clients'

Mates are great – by all means use mates without much climbing experience from time to time. However, mates will also go with the ow, and always try to make your life easy; you will also treat them di erently to how you would treat real clients. What's much better practice is to nd real 'mock-clients' who will behave like real clients and do the kind of strange things that real clients will do. If you can, make your practice meaningful by being observed by experienced and current assessors who will give you real feedback rather than just relying on mock clients who will always tell you they've had a wonderful day.

4 It's not about climbing hard

You may have heard people say you need to be an E1 leader to pa your MCI? Nonsense. As long as you're slick, quick, e cient and con dent at VS you'll be more than capable. Just get out there and get lots of VS mileage in at lots of di erent venues and di erent styles of route.

5 Do more than just go climbing

Similarly, sometimes candidates think just going climbing lots will make them a good MCI. Unfortunately, it doesn't work quite like that. e only way to get good at teaching leading, is to teach leading. e only way to nail the navigation element of the syllabus is to go and practice navigation. And the only way to get good at mountaineering instruction is to go mountaineering with mock-clients. Combining all this with workshops, as mentioned above, will put you in a good position.

6 Vary your consolidation

Try to keep it varied and current. I found it much more useful to mix in all the di erent elements and syllabus areas regularly, rather than doing 10 days of rescue practice in a month then deeming that 'done', and not touching it again until assessment, for example. Rotate areas to keep it interesting. It'll also keep skills and knowledge fresh in your mind and allow you time to re ect

1

1. Jenny Dart teaching leading to mock clients at Lawrencefield, Peak District. 2. Tom Furey supporting Tom Carrick working with a mock client during his consolidation phase in Cwm Idwal. 3. Mountaineering day on Tryfan during MCI training. 4. Dan Lane briefing the group on a Learn to Lead course at the Roaches © James Hoyes.

Dan Lane is a Mountaineering and Climbing Instructor with over 15 years of personal experience. He's based in Snowdonia, but spends a lot of time working and climbing all over the UK. He's currently working as Operations Manager at RAW Adventures as well as freelancing as an MCI. He can be found on Instagram at @danlanemountaineering

Jenny Dart is a freelance MCI as well as working as a Speech and Language Therapist in the NHS based in Snowdonia.

Tom Carrick is an MCI who grew up in Snowdonia works currently in Forestry and Freelances as an Instructor.

and consider any improvements. is variety will make it more e cient with the weather too - poorer weather days can be used for scrambling, rescues, or navigation, so you can make the most of all the UK and Ireland's weather days.

7 Be honest

Remember that training bubble? Well, get ready to be honest, brutally so at times. Equally, be prepared to receive honest feedback from your peers. We're all professionals here, and generally at MCI level we should be able to provide good, honest, constructive feedback positively. Don't be afraid to tell your friends they did something in a less than ideal way, just be ready to explain your thinking to help them understand and improve. If you get in the habit of patting each other on the back every single time, that may lead to a bit of shock and disappointment at assessment. After all, wouldn't you rather see your friends pass next to you, having helped them along the way rather than watch them defer because you didn't want to point out their errors during consolidation?

8 Make everything as situational as possible: context is king!

rough lockdown we could only practice on our stairs, banisters, and table legs, but, if possible, get out and do the real thing, in a real environment (safely!) Working as a three to practice rescues is a great use of your 'bubble' so someone can hold a safety rope, for example). It all makes a lot more sense in the real world – trust me!

9 Don't try to second guess your assessment

Knowing every inch of Milestone Buttress is great but be prepared to be exible. Don't sandbag yourself by only having three options your con dent with – if the weather or crowds make those options impossible, what are you going to do? Get good at being exible, challenge yourself by visiting lots of venues and practice improvising to give your mock-clients the best day you can, even if its somewhere you don't know too well.

10 Have fun!

Of course, di erent things work for di erent people, but the three of us certainly agree that the above points are a really good starting point to maximise your chances of a successful assessment.]