WINTER MOUNTAIN LEADER SCHEME PROVISION: 2024/2025 SEASON REPORT

Facts, figures, and informative insights relating to the provision of the Winter Mountain Leader scheme by Mountain Training Scotland Providers: Winter season 2024/25

Mountain Training Scotland

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Introduction

This report aims to provide an in-depth look into every facet of the delivery of the Mountain Training Winter Mountain Leader scheme by Mountain Training Scotland approved providers in Scotland during the 2024-2025 winter season. It is not designed to be light reading. Against the backdrop of climate change, it also stands as a historical account of the evolving nature of Scottish winters and the practical consequences for those operating in the Scottish mountains.

Mountain Training Scotland would also like to express our profound thanks and gratitude to our dedicated providers and their hardworking staff. Despite the numerous challenges posed by the unpredictable weather and conditions, in what was one of the most challenging seasons ever, their unwavering commitment played an instrumental role in making this season a success.

We would like to extend our warmest congratulations to all the candidates who achieved their Winter Mountain Leader qualification during the 2024-2025 season. To those who completed their training, we send our best wishes for the next phase of your Winter Mountain Leader journey.

Mountain Training Scotland cannot control weather, conditions, or unforeseen events like pandemics. While efforts are made to mitigate such impacts, the priority remains preserving the quality and integrity of the training scheme. The main challenge ahead lies in delivering the scheme in unpredictable winter conditions due to climate change, while ensuring candidates can complete their Winter Mountain Leader scheme pathway whilst maintaining the scheme's integrity and relevance.

Although climate change will continue to complicate the provision of the Winter Mountain Leader courses, the flexibility and adaptability of the course providers have proven invaluable in managing these challenges.

The Scottish Qualifications Authority (SQA) has allocated the Winter Mountain Leader qualification within the Scottish Credit and Qualification Framework (SCQF) at SCQF Level 9 and with a Credit Rating of 31 Points.

Winter 2024/2025 Summary

The 2024–25 Winter Mountain Leader season was one of the most operationally difficult on record. Unstable weather, rapid freeze–thaw cycles, and increasingly thin, inconsistent snow cover created substantial challenges for course delivery across all Scottish winter venues. While early winter showed promise, conditions deteriorated sharply from mid-January onward, leading to restricted terrain options, limited usable snowpack, and ultimately widespread cancellations late in the season.

Figure 1 Snow cover in southern section of Glen Coe, March 2025.

Despite these constraints, providers successfully ran 15 courses (10 training, 5 assessments) and 5 reassessments, though 10 further courses were cancelled due to lack of appropriate winter conditions. A total of 82 candidates completed training and 31 completed assessment, with female participation continuing its long-term upward trend. Pass rates were unusually high, partly because nearly all the March assessments were cancelled.

For the first time since the Winter Mountain Leader scheme began in 1965, no course managed an overnight snowhole[1]. Hard, thin, or unstable snowpack, combined with persistent mild spells, made snow holing universally unviable. Course directors and their staff instead employed a range of alternative expedition strategies, such as extended

[1] One course in January potentially could have overnighted though unforeseen events on-site precluded them staying out.

journeys involving ‘emergency shelter’ stops, and extended night navigation blocks, to maintain scheme integrity whilst managing safety.

Conditions varied significantly between Highland mountain regions, with the Cairngorms frequently holding the most usable snow but also experiencing rapid thaws, storm-force winds, and limited runout safety. Winter Mountain Leader course directors and their staff demonstrated considerable adaptability, often travelling long distances between venues and restructuring programmes at short notice to meet environmental constraints.

Across the season, only one incident was reported, highlighting the inherent risk of operating on marginal or mixed terrain with poor runouts. Staff continued to prioritise conservative decision-making in line with evolving winter hazards.

The season reinforced several themes: the need for highly flexible scheduling, close communication between providers and Mountain Training Scotland, rapid decision-making informed by real-time weather and avalanche information (thank you SAIS and Met Office), and a willingness to adapt long-standing expedition models to increasingly dynamic winters. Climate-driven changes to snowpack reliability are accelerating, raising important long-term questions about the future structure of the Winter Mountain Leader scheme.

Looking ahead, Mountain Training Scotland intends to continue monitoring snowhole use, support adaptive delivery models, strengthen information sharing, and reassess how the scheme best prepares leaders for the evolving realities of Scottish winters.

Figure 2 Winter Mountain Leader training group practicing leadership and group management on steep ground

Weather: Conditions and Impact on programmes (including course director comments)

This is a detailed timeline of the winter matching the weather prevailing each month with course report comments submitted by course directors. It provides insight into how course directors manage a tonne of variables to ensure courses run are both viable and authentic. They also offer insight into how Winter ML courses of the future may run and may look, considering the challenges inherent with climate change.

November – Early December: A Promising start

Winter arrived abruptly on 21st November with Storm Darragh, bringing the first major snowfalls and whiteout conditions above 600 m. Northerly gales and heavy precipitation produced deep drifts on lee slopes, laying down a usable winter base.

By early December, high pressure established itself, consolidating the snowpack and providing settled, cold conditions. A re-assessment started the season and benefited from classic early-winter conditions, with firm snow and stable underfoot cover.

Mid–Late December: Fluctuating temperatures

A series of mild interludes and thaws during mid-December rapidly depleted snow cover below 800 m. The snowpack became confined to coire back-walls and higher plateaux, with isolated ribbons persisting in gullies. By Christmas week, significant snow loss occurred on most aspects, briefly halting meaningful winter activity.

Early January: Return of winter

Winter conditions returned around 2-9th January, bringing renewed snowfall and drifting on gale- to storm-force northerlies. This created widespread accumulations of weakly bonded windslab, interspersed with buried surface hoar layers. Conditions were challenging and avalanche-prone, though sufficient snow permitted limited course delivery.

There can be such a thing as too much snow! As noted by one course director:

"Travel was hard work with thigh deep wind slab across most of the mountain above 800m."

Another also noted:

"Winter arrived in a big way this week…. The quantity of snow did make things challenging, getting anywhere required care, as most candidates' vehicles were not equipped with winter tyres, once on the mountain it was slow and hard work. The best bit of road was from the snow gates up to the car parks."

Mid–Late January: Major thaw and Storm Eowyn

By 17th January, a major thaw stripped virtually all snow from the Northern Cairngorms.

This abrupt change from the deep snow conditions last week and course adaptions required as a result were noted by one course director who wrote:

"A challenging week of weather and conditions. The course started with a widespread blanket of deep snow down to Glen level. A thaw was forecast but was significantly more dramatic than expected, leaving to large amounts of snow loss by mid-course. Despite very limited snow for the second half of the course, all syllabus areas were covered. This week provided a very good illustration that it is possible to cover the syllabus in "marginal" conditions. Upon reflection (and for future learning), we should have made use of the widespread snow and done more poor-visibility navigation earlier in the week. However, the thaw was so much more dramatic than expected that it took us by surprise. Furthermore, the deep snow at the start of the week was so unconsolidated that travelling long distances would have been very difficult."

As a result of the sudden and catastrophic thaw a provider, running the only Winter Mountain Leader course, the following week took the decision to cancel the course as a result.

Winter reasserted itself with the arrival of Storm Eowyn (24th January), which transformed conditions back to full winter, rebuilding cover down to around 600 m. Freezing levels remained low for a time, although a rain event on 28th January left a hard crust on the surface.

February: Alternating instability and thaw

Early February brought widespread snow cover and intermittent instability. Mild air mid-month led to a steady thaw, followed by a brief refreeze that produced firm, icy snow on most aspects.

However, the thin conditions and fluctuating temperatures (which caused the snowpack to become very firm) whilst good for movement-based activity involving crampons and axes, was less conducive to digging holes. This coincided with the first assessment course of the season running. The course director directing the assessment remarked:

"Conditions didn't allow for snowholing; I doubt that depth was available anywhere, plus then a considerable thaw on Monday was followed by freezing conditions, so the old snowpack was rock hard. New snow during the week was insufficient for full snow holes.

We had a 10am start on Friday and dug emergency shelters at GRXXXX to get a break before navigating out in the dark to GRXXXX."

Another training course director working a course the same week also noted:

"What looked like a lean forecast in the way of conditions actually provided everything we needed. Did make the most of Tuesday night which ended up being a bit more Scottish than forecasted, stayed out slightly longer than planned, but it felt like too good an opportunity to miss given the predicted weather for the rest of the week. Was a bit too late down given that we didn't take dinner with us, but the team were all up for it and coped well.

None of these candidates had snow holed before and were keen to try, in the end the scarce conditions and a very hard snowpack made the decision not to dig in straight forward. There

was a mature discussion with the team about quality use of time too, in the end, they decided (I gave them the choice) to make the most of the second opportunity for night navigation rather than digging."

Lean conditions with a wintery feel and patchy but consolidated snowpack can offer ideal conditions to conduct axe and crampon training, though not so good for any activity involving digging. Though the patchy icy snowpack and associated runouts required careful venue and route selection for activity. This training course director summed up the challenges and mitigation measures used:

"The underfoot conditions meant easy travel, but we also had the perfect variety of snow to cover all the personal snowcraft skills easily. Particularly serious snow conditions for the steep ground journey day managed by staying low on crag aprons and focussing on personal movement skills when appropriate. Snow also not good for covering emergency shelters being generally shallow and rock hard."

From 13-20th February, further snow showers and strong south-easterly winds generated new windslab accumulations. Persistent cold allowed weaknesses to develop within the snowpack, and several human-triggered avalanches were reported by SAIS.

Regional contrasts were notable: while the Northern Cairngorms experienced weak layers and instability, the Glen Coe area reported generally shallow, stable snow under a milder regime.

Figure 3 Winter ML training candidates on shallow snowpack, Glen Coe.

Whilst there was a persistent localised avalanche problem to be considered, the colder, more wintry conditions provided the firm underfoot conditions influenced the training course director's decisions regarding the expedition:

"I decided not to attempt to snowhole due to the generally low snow depths, and the firmness of the snow. However, two-night navigation exercises were completed, the second as part of a 20km day into night journey. Lighter bags allowed us to cover much greater distances and access wilder terrain. Widespread neve at height allowed good travel conditions."

Conditions were not always so 'friendly'. The following week conditions began to turn milder and windier. One training course director faced a particularly challenging week accessing the available snow cover which was around 900m which required a great deal of travelling to maximise accessing different winter venues.

"A challenging week with gale to storm force winds every day. With the usable snow only being high up, this made for some interesting decision making and we opted to drive west on two days to escape the worst of the winds…. We were unable to snow hole due to the gale/storm force winds and the only night it would have been even vaguely possible (proved to be too windy) the freezing level was above the summits.

The final day was a classroom based one. The early starts and late finishes, with the driving west, resulted in a lack of reviewing time at the end of each day and the training team were aware of the need to allow people to discuss and explore issues in a positive learning environment rather than shouting at each other in the wind. The practicalities of reaching the high snow of the last day, and general levels of tiredness because of the late finish on the night nav all led to the training team opting for an indoor day, proved to be productive and allowed for lots of questions and additional lectures to be delivered."

The second assessment course was run in this period. The assessment course director working the same week as the training (though started a day later) also noted similar challenges:

"A challenging week of conditions with high winds throughout and raising temperatures increasing the height of the snowline.

A day further west on Beinn a Chaorainn on Wednesday gave an excellent venue for looking at steep ground management.

A later start and just after dark finish on Thursday was the only real poor visibility day, and the candidates managed some very unpleasant weather well, with gale force winds and periods of heavy rain.

Prior to the course starting it was clear that we would not be snow holing due to lack of snow conditions. Given the high winds speeds and rising temperatures Wednesday/Thursday we wouldn't have stayed out overnight anyway."

The last week in February was at peak challenge level, and not in a good way. There was some discussion whether to go ahead with running the third assessment course that week. It did run but encountered sparse snow conditions challenges. The course director working wrote a good overview of the challenges the assessment team had to manage:

"We had snow cover from 800m+ throughout the week plus areas holding historic pockets of snow. However, this was still a challenging week to provide a WML assessment that was authentic. Because of the limited snowpack of any depth and size with serious run outs and consequence made it very challenging to safely manage candidates when demonstrating for example ice axe arrest, personal movement in steep ground and emergency ropework.

For days 3 to 4 we chose to exped and set up a base camp on the great moss Loch nan Cnapan. The weather and conditions were conducive for this and made for a very successful couple of days out. It meant we could keep our feet in snow for the majority of the exped plus undertake a night navigation walk over Monadh Mor making use of the more permanent snowfields making it a very authentic WML navigation exercise. We also experienced one of the best visual displays of our nearest and dearest planets"

By 27th February, another period of thaw and rain at all levels led to instability, including a reported (by SAIS) avalanche in the Northern Corries. An individual sustained a sliding-fall injury during this period but completed their course. This highlighted that whilst the course staff teams strove to mitigate ever present terrain hazards caused by the sparse snowpack it was a reminder that even the most competent of mountaineers can slip.

Early March: Mild Conditions and Reduced Cover

Early March saw mild, wet conditions dominate across all mountain areas. The snowpack was limited to corrie back-walls and plateau edges above 1000 m and was generally soft, wet, and stable.

There were still some blips of winter weather though, luckily. As noted by this training course director:

"A course of two halves, 3 wintery days at the start of the course allowing journeying with some big days to do as much as possible before 3 warm, wind days allowing the other bits to be collected. Pleased we started on Saturday as the first 3 days made the course possible.

We did not snow hole as there was not the conditions, even if there had been appropriate snow it is unlikely we would have as 4+ hours lost to digging would not have been a sensible use of time in this situation."

What were shortly to be the last Winter Mountain Leader courses to be run in the season, a training and assessment, started the first week in March. The training started a day earlier. There had been a great deal of discussion amongst the providers and staff s to where we could run courses that week. Based on the weather forecast the decision was taken to go ahead. As it turned out the weather then decided to not conform to the forecasts.

The training course director described some of the adaptations they made to account for the sparse and challenging conditions that week:

"Limited snow and storm force winds made for an 'entertaining' week of decision making and adaptability. The syllabus was covered one way or another but the lack of winter navigation was disappointing, the training team worked hard with the candidates to deliver

relevant navigation up skilling but it did require a bit of let's pretend'. Night nav was pretty windy and conducted in v poor visibility for the first half, as soon as a historical avalanche forecast was added the candidates became quite challenged with planning while trying to stand up, take and walk on a bearing etc. The best we could do given the conditions. There was enough snow to snow hole in the usual places but the above summit freezing level made it impossible. "

The assessment course director and their team faced a nightmare scenario. A rapidly disappearing snowpack and sparse conditions. As it was an assessment there was a significant amount of pre course discussion with the candidates to ensure best use made of conditions and that all candidates were fully aware of how the assessment would be run:

"Due to the snow conditions, this has been a particularly challenging course to deliver; I was very concerned prior to the course that we would not be able to look at the key aspects of the syllabus in a realistic context. We tried to bring the course forward a day, to give us one more day of cooler weather, but this was not possible ... The decision was made to go straight out on expedition Monday/Tuesday and try to cover as much as possible before the forecast warmer conditions from Tuesday onwards. This saved the course, as the Meagaidh plateau allowed us to look at low visibility navigation in decent snow cover on Monday night and the slot between XXXX and XXXX gave us a suitable venue / firm snow to look at security on steep ground on the Tuesday. We also managed to find suitable venues on Wednesday / Thursday to cover (or revisit) key syllabus areas.

There was a lot of time consuming communication with the candidates prior to the course, luckily they were both understanding and appreciative of our efforts to make the course run. During the course there was also a lot of time spent working out where to go / what to cover."

Figure 4 Winter ML candidates on summit of Beinn a' Chaorainn

By the end of the week, most areas reported only patchy snow, and a prolonged mild spell effectively curtailed viable winter activity. However, just to make the already tough decision whether to call an end to course for that season tougher, the weather forecasts once more dangled a 'carrot' of colder weather and snow… This prompted a great deal of angst as we were looking at cancelling multiple fully booked courses. Eventually the difficult decision was agreed by the providers involved and MTS, on the grounds of lack of viable conditions and candidate and staff safety, to cancel the courses.

Mid-Late March: Warm weather and widespread cancellations

As frustrating it was for candidates and staff, it turned out it was the correct decision. An unseasonably warm spell with daytime temperatures of 15-17 °C caused rapid snow loss, leaving only isolated remnants. For the courses running the following week, we again faced a series of difficult decisions, as once again the weather forecasts were hinting at colder weather. Again, the providers involved in discussion with MTS took the difficult decision to cancel the course going ahead the following week.

Although colder air returned briefly around 13th March, snow cover remained too thin and unconsolidated for safe or authentic Winter Mountain Leader course delivery.

A short-lived return of high pressure around 20th March brought bright, settled, but superficial snow cover. Ground conditions remained unfrozen, and the snowpack lacked depth and continuity.

The final week of March saw a renewed thaw. Despite some visual snow cover, hazard levels and poor runouts prevented credible course delivery. As the final courses were assessments it was agreed by the providers and MTS that viable and authentic delivery of an assessment was not achievable and accordingly the decision was taken to cancel the last courses of the season bringing the season effectively to a close.

Lessons and Recommendations for 2025-26

Reviewing the course reports several themes to support managing challenging conditions emerge.

Flexible and adaptive course scheduling: Continue flexible course programming which are likely to involve shorter notice confirmation windows to match rapid weather changes.

Diversified venues: Maintain ability to relocate between Cairngorms, Glen Coe, and Creag Meagaidh depending on localised snow conditions and weather influences.

Communication: Retain clear, timely coordination between MTS and providers (and their course directors) during marginal conditions.

Weather and conditions beta: Strengthen info-sharing between SAIS, Met Office, Winter Mountain Leader providers and course staff particularly around rapid thaw events. *Note: Met Office adopting ensemble forecasts and a probability-based forecast may support better decision making in this regard in the near future.*

Continue to manage poor runouts: limited runout safety is an on-going issue with a sparse, patchy (often on steeper aspects) and often icy snowpack emphasising use of axe and crampons but with little margin to arrest a slide should a person fall due to. This may mean an increasingly conservative and risk averse approach to selecting venues for steep ground journeying.

Figure 5 Winter ML candidates operating on a sparse and shallow snowpack in Glen Coe.

Overnight snow holing

One of the trends noted in the past twelve years is the challenges with regards overnight snow holing. Overnight snow holing has never not been without challenges, though in the 90s/early 00s the author's experience of these challenges was more often around excessive snow and drifting; now it is patchy cover, decreased snow depth (and increased risk of roof collapse in sudden thaws) and wildly fluctuating temperatures. The 2024-2025 season, as noted in the introduction, was the first season since the inception of the Winter Mountain Leader scheme in 1965 that not one course managed to overnight snowhole (Note: one course could have done but other issues necessitated a change of plan).

Figure 6 Emergency snowhole

The role of snow holes within the Winter Mountain Leader scheme

The Winter Mountain Leader does not qualify leaders how to conduct expeditions using snow holes as the base or main form of accommodation. As such personal snow holing skills are not assessed within the syllabus.

Historically the inclusion of snow holing/snow shelters in the Winter Mountain Leader scheme is part of the process we use to ensure candidates are fit and resilient enough to

cope with the demands of the winter environment. The Winter Mountain Leader handbook states that candidates should be aware that when conditions are overly hazardous, for example in conditions of a rapid thaw or high avalanche risk, it may not always be possible, nor safe, to overnight in a snow hole during the course.

What do we do when snow holes are not viable?

Providers and their staff have significant experience in fulfilling the scope and content of the Winter Mountain Leader syllabus in challenging weather and snowpack conditions, including making adaptions to what is viewed as the 'exped' phase of the course when it may not be possible or unsafe to snow hole due to weather, snow conditions, or a combination of both.

Providers and their staff have extensive experience of methods for adapting the scheme expedition phase due to unfavourable conditions, examples of which include, but are not limited to, walking through the night with short halt to dig a single person emergency shelter within which to cook/brew then continue on; phased extended day into night activity; lectures/discussions on snow holing. Examples of this can be read about in the Weather: Conditions and Impact on programmes section.

It should be noted that that not undertaking an overnight snow holing is not an 'easy option'. Neither is it inherently safer. Walking into the night and navigating back out requires careful assessment by course staff to a/ ensure candidates are not taken into potentially very serious situations, and b/ are not driven to an exhausted physical and mental state where mistakes will inevitably be made.

Figure 7 Day into night navigation

Winter ML Snowhole/snow shelter activity 2018 to 2025

The following charts illustrate the change in how we conduct what is often referred to as the 'expedition phase' of the Winter ML.

As an aside Scotland's 'permanent' snowpack called the Sphinx melted out on the 6th August 2025, at 1430Hrs thus vanishing for the 12th time. The snow patch had previously melted fully in 1933, 1959, 1996, 2003, 2006, 2017, 2018, 2021, 2022, 2023 and 2024.

In 2025 it is now certain that all the snow patches have all gone making these 6 years in a row now. The annual July snow patch survey on some of Scotland's highest mountains recorded the third lowest total in 50 years this summer.

For Winter Mountain Leader groups lack of snow depth or snow hardness/consolidation has been one of the main challenges in groups using snowholes, though uncooperative weather continues to play a significant part.

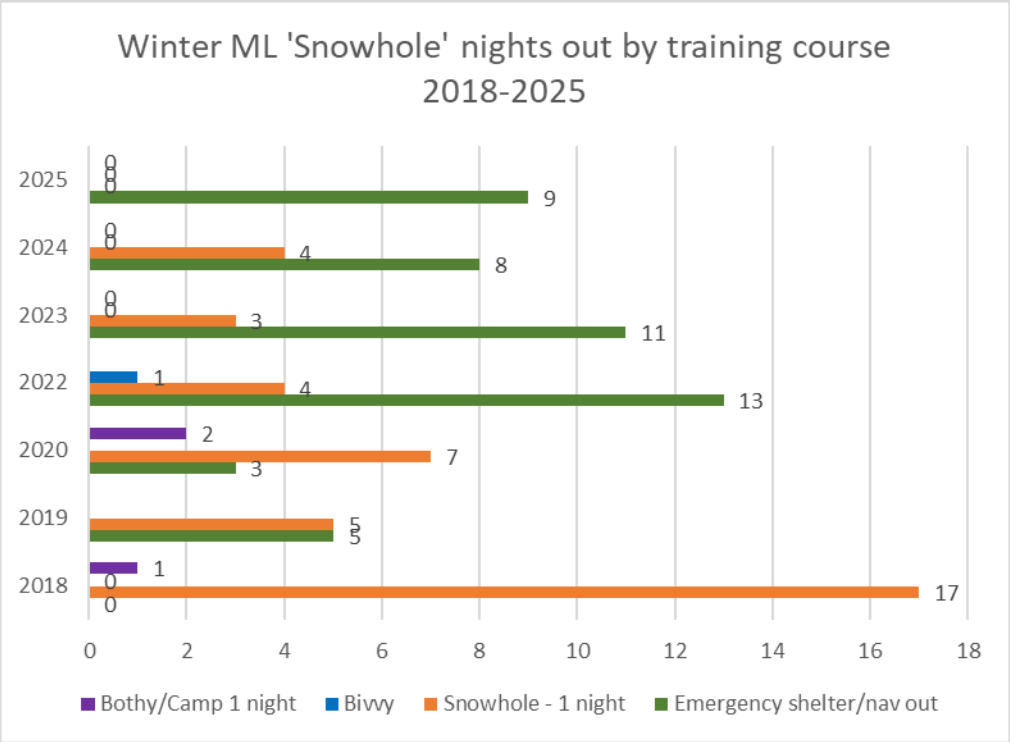

Figure 8 Winter Mountain Leader 'snowhole' nights out by training course

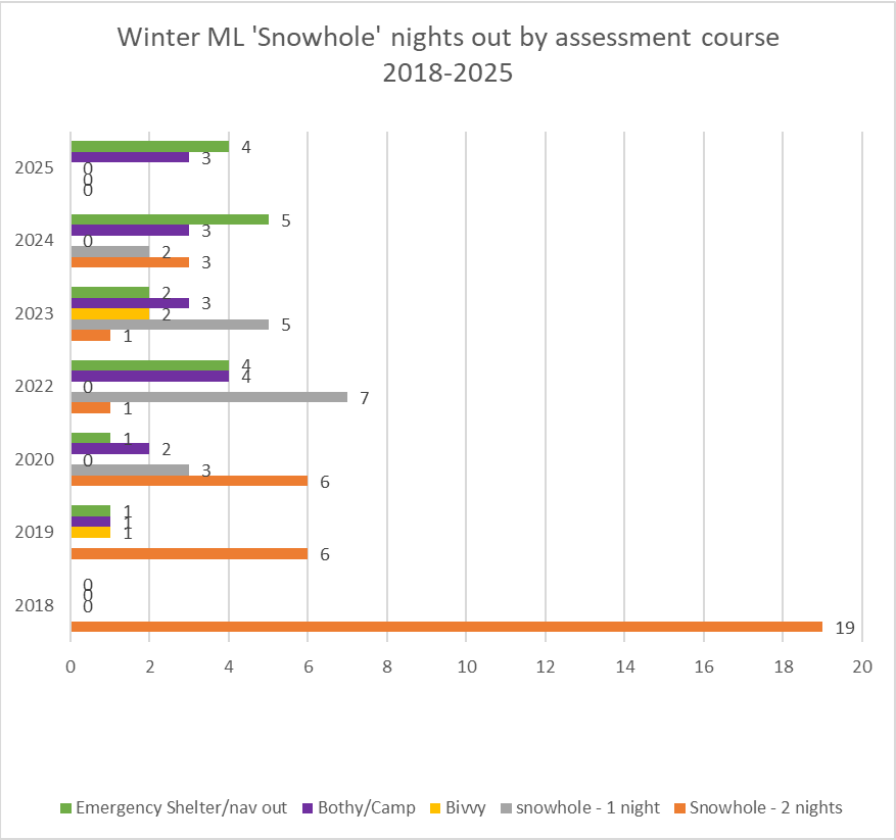

Figure 9 Winter Mountain Leader 'Snowhole' nights out by assessment course

Snowhole/emergency shelter activity venues

Historically Winter Mountain Leader courses have tended to avoid 'honey pot' locations when undertaking snowhole activity to avoid concentrated use and associated impact. In the past an extensive snowpack and less 'dynamic weather' supported journeying to more remote locations.

Since the early 2000s Winter Mountain Leader groups, particularly those operating in the Cairngorms have adopted a 'pack in, pack out' approach to solid human waste. This principle is aided by groups operating in the Cairngorms using the 'Snow White' project (which was set-up by Heather Morning, current Chief Instructor at Glenmore Lodge, when she was with the Cairngorm Mountain Ranger Service in 2007). Since then, the service has been operating the 'Keep Cairngorm Snow White' project which continues to be run free of charge.

In the past few years, several things have impacted on accessing more remote locations, particularly in the Cairngorms: snow level increasingly higher; a less consistent, extensive and deep snowpack; increasingly stormier weather which limits access to higher/more remote locations.

In the past few years in response to changing snow conditions the centre of gravity of Winter Mountain Leader course activity has shifted to the Cairngorms. This has tended to

concentrate use on those sites in the Cairngorms that a/ are often more accessible b/ offer ease of egress in 'bad' weather, and/or c/ have more reliable and deeper snow depositions.

As there was no overnight snow holing undertaken in 2024-2025 season there is no corresponding data.

Course staff when faced with unfavourable weather and conditions had to adopt alternate strategies for when overnight snow holing is not an option. A strategy commonly used when overnight snow holing is not feasible is to either dig, or improve upon an existing shelter, and use that as a temporary 'rest stop' to prepare a meal/rest for a few hours (or less) before heading off to navigate.

On training the intent is to undertake a one night overnight expedition using a snow hole as a high-level base. Given on training candidates are very much in a learning phase, decisions regarding overnighting are cautiously evaluated.

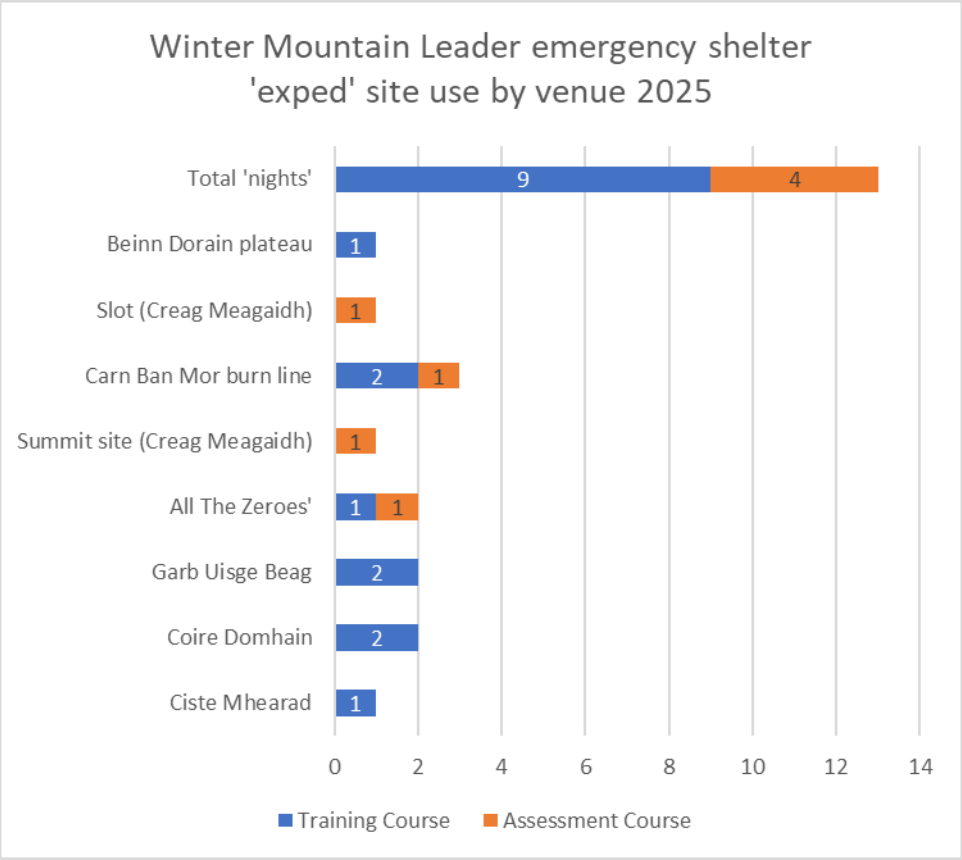

Figure 10 Winter Mountain Leader emergency shelter 'exped' site use by venue 2025

As can be seen venue use for the creation and/or use of snow holes/emergency shelters was (except for three nights) focused on Cairngorm venues (due to snow conditions during the season), through venues were evenly distributed. Course staff tend to avoid 'honey pot' areas if conditions permit.

Monitoring over use of 'honey pot' snow hole and shelter venues

MTS Provider Winter Mountain Leader course staff continue to monitor their activity and seek to avoid concentrated activity in small number of venues – Ciste Mhearad and Coire Domhain historically being the main 'honey pot' venues. It should be noted these venues are also considerably used by other winter instructional groups for a variety of activities, ranging from digging shelters, snow anchors, avalanche rescue and winter skills. So, whilst the numbers involved with Winter Mountain Leader 'shelter and snow hole' course activity are comparatively small, they tend to be 'lumped in' with this course activity and all counted as 'Winter Mountain Leaders'.

Registrations

The bar chart below shows the trend with Winter Mountain Leader registrations over the past 23 years. *Note: 2003/2004 Winter ML training was a requirement for International Mountain Leader. This changed in 2005*.

As can be seen the trend is currently downwards. Factors impacting on this include:

- Fickle winters – and associated challenges gaining required winter QMDs.
- Less demand for Winter Mountain Leaders from local authorities.

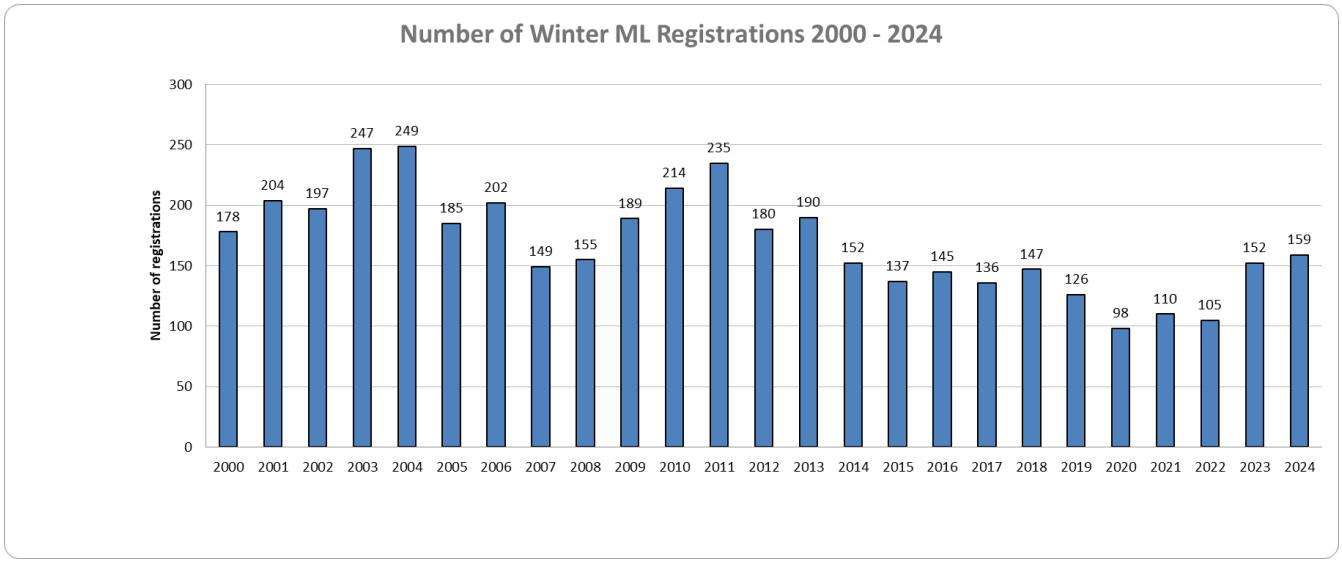

Figure 11 Winter Mountain Leader registrations 2000-2024

Winter Mountain Leader registrations YTD October 2025 are sitting at 86 which compares with 94 for the same period YTD October in 2024, and well for same YTD 2019 (or pre-COVID benchmark) which saw 66 registrations.

The percentage of female candidates has increased since 2019 from 9% to 26% in 2024.

Figure 12 Winter Mountain Leader registrations in 2024 by gender

Completion rates

Winter Mountain Leader candidates are more likely to be trained than Mountain Leader candidates are. The average time from registration to training for all candidates is mean = 1.17 years (14 months) and median = 0.28 years (just over 3 months). There are no significant differences in the proportion of female and male candidates getting to training, after two years - 84% and 82%, respectively. After two years over 80% of Winter Mountain Leader candidates have completed a training course.

The average time from training to assessment for all Winter Mountain Leader candidates: mean = 4.37 and median = 3.1 years.

It is noteworthy that significantly more male candidates than female candidates get to assessment, after four years 44% and 37% respectively[2].

Have lean winters had an impact on completion rates?

This question is now starting to be posed in the light of MTS providers having run training courses in marginal conditions, and the challenges unpredictable and often marginal conditions recent winters have posed to candidates during their consolidation between training and assessment. Working out completion rates is a time-consuming process. Given the significant challenges in providing courses date back to 2019 and average completion rates are around four years, it's too early to assess whether course run in marginal conditions have a direct impact on completion rates.

[2] Mountain Training Scotland Mountain Leader and Winter Mountain Leader completion statistics Will Hardy 21/01/2020

What we can say is that (except for the lockdown winter of 2021 where no course activity took place) winters since 2019 have been increasingly problematic. This can be noted in the number of days courses managed to snowhole – 2018 being the last year all courses ran managed at least one overnight in a snowhole.

Pre 2019 (2013-2018) the average number of course places has been 131 training and 102 assessments.

Since 2019 the average number of course places have been 96 training and 63 assessments.

If we compare numbers pre-2019 then training is down by 27% and assessment down by 38%. Overall numbers completing training and assessment are down by 32%. This would indicate a growing gap between candidates completing training and those attending assessment; anecdotally candidates have mentioned the key challenge (especially for this based south of the border) are getting days in due to personal time commitments and timing a trip to coincided with 'winter conditions.

Figure 13 Navigating at night

Pass rates

The table below shows the pass rates from winter 2013 to winter 2025 (Note: due to lockdown there was no activity in 2021). As can be seen, once corrected for the years when large numbers of assessment were cancelled the pass rate has remained consistent with a mean rate of 74%.

Year	Pass rate	Comments
2013	78%	
2014	73%	
2015	65%	
2016	72%	
2017	75%	
2018	77%	
2019	71%	
2020	80%	Note: this potentially skewed due to assessment course cancellations due to lockdown.
2022	73%	
2023	82%	
2024	73%	
2025	94%	Note: this skewed due to majority of assessments being cancelled due to conditions
Mean	76%	
Mean corrected	74%	This removes 2020 and 2025 where a signifcant number of assessments were cancelled.

Figure 14 Winter Mountain Leader assessment pass rates 2013-2025

So, whilst fewer candidates are coming forward the pass rate has remained consistent which would indicate that the assessment standard has remained consistent and candidates are presenting with typical experience despite the challenges gaining relevant experience has often proven.

Looking forward the key challenge for candidates is gaining relevant 'winter' experience and the issues around doing so in a winter that is increasingly moving away from the traditional mental model of being 'very snowy with bad weather and a prevailing avalanche problem' to one that is less precise and encompasses a variety of weather and terrain conditions.

Overview of training and assessment course places

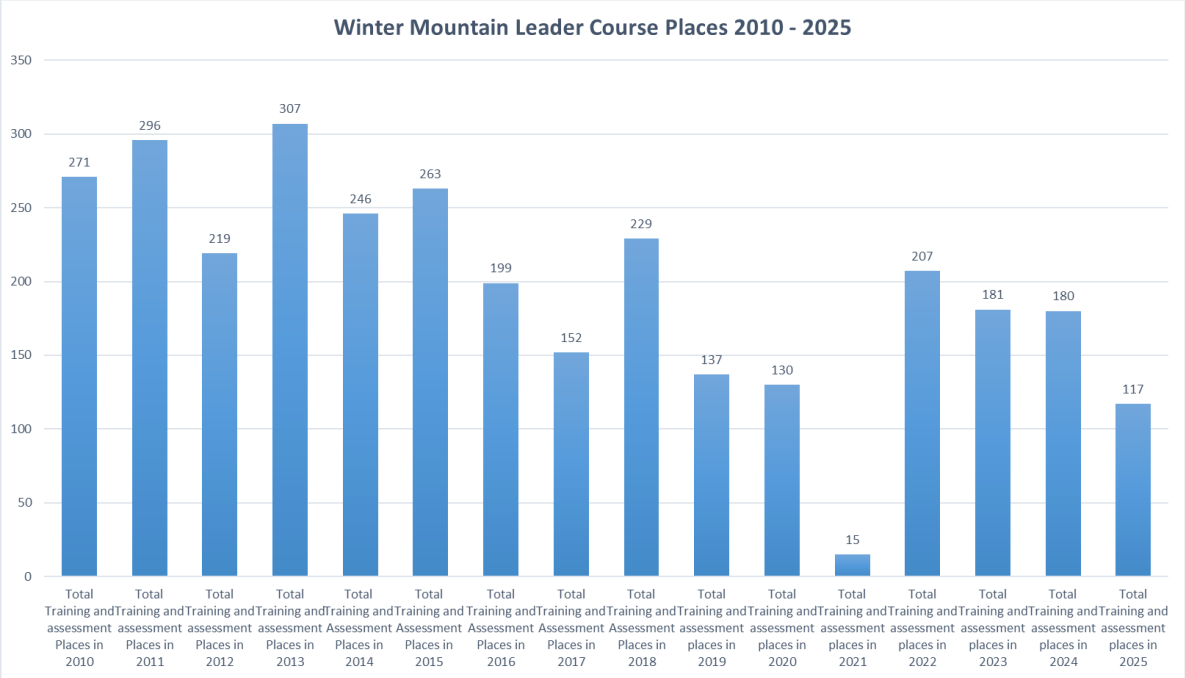

Figure 15 Winter Mountain Leader Course Places completed 2010-2025

Figure 16 Comparison of Winter Training and assessment courses run from 2017 to 2025

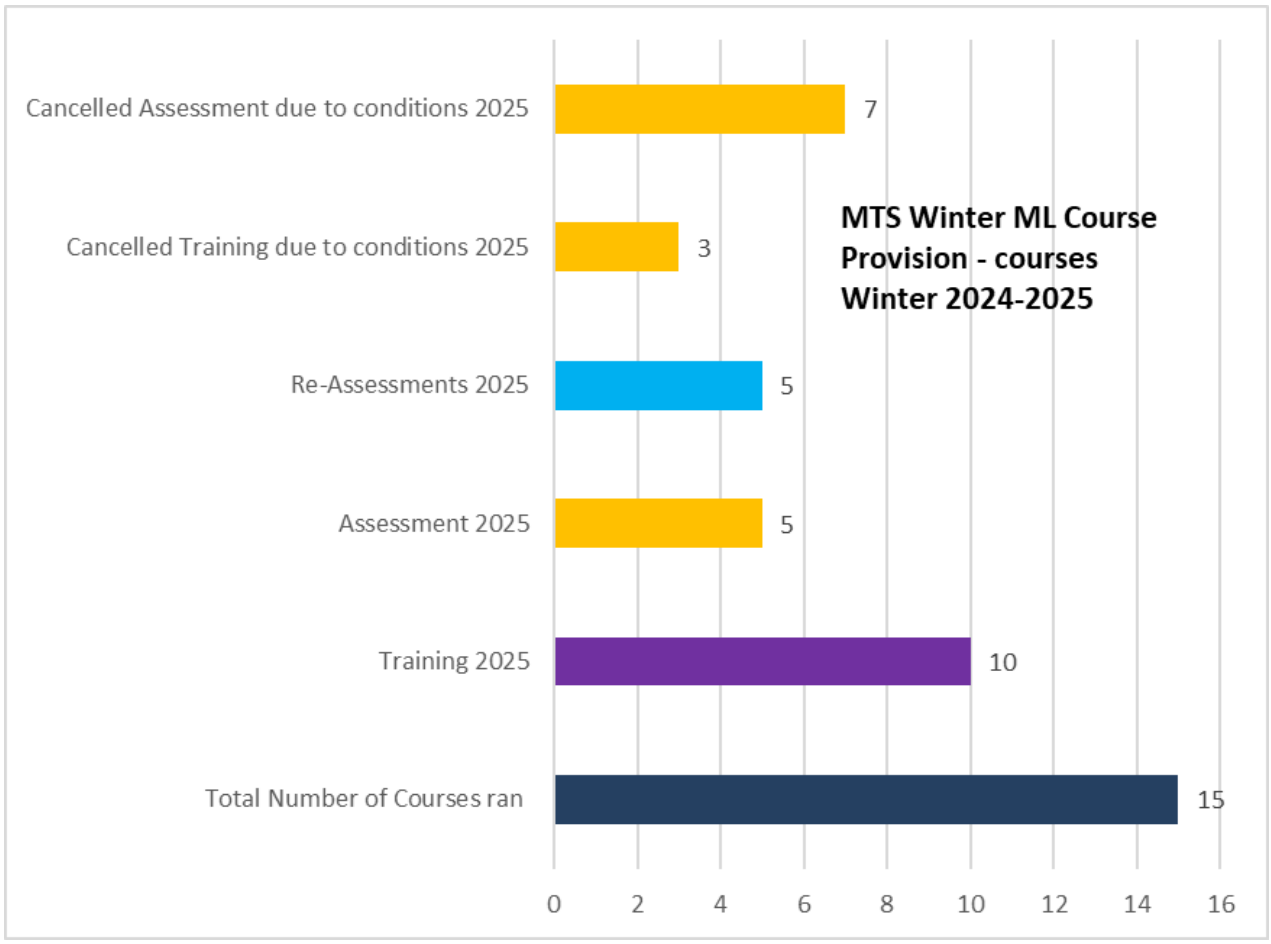

Figure 17 Winter Mountain Leader Training and assessment courses ran in Winter 2024/2025

Breakdown of Winter Mountain Leader Training and assessment places Winter 2024/2025

Five Mountain Training Scotland Winter Mountain Leader providers successfully conducted a total of 15 courses, comprising 10 training courses and 5 assessments. Additionally, they ran five re-assessments. Unfortunately, due to conditions our providers ended up cancelling 3 training and 7 assessment courses.

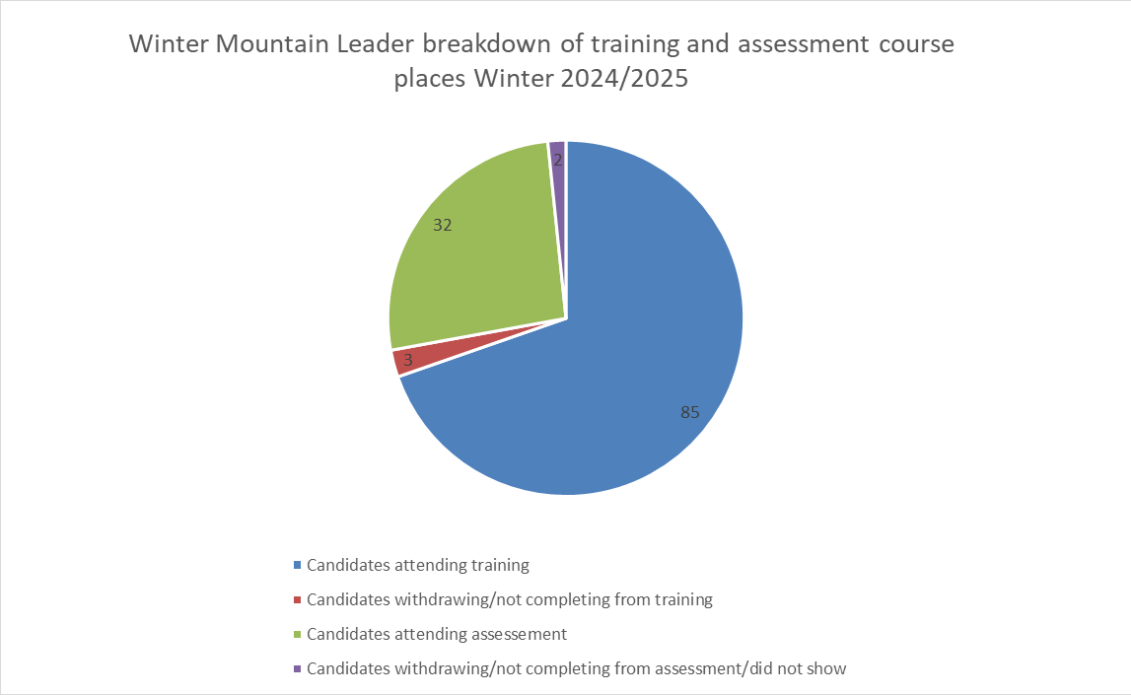

Figure 18 Winter Mountain Leader breakdown of training and assessment places 2024-2025

Winter Mountain Leader training 2024-2025 summary stats.

- Candidates attending training 85
- Candidates completing training 82
- Candidates withdrawing/not completing from training 3

Winter Mountain Leader assessment 2024-2025 summary stats.

- Attended 33
- Total completed 31
- Pass 29
- Defer 2
- Fail 0
- Withdrew/no show 2

Overall, a total of 117 candidates booked on a course which is down on pre-COVID 2019 numbers of 149.

Of those who completed training 32% were female (26); and of those who completed their assessment 24% were female (7).

Figure 19 Winter ML Training completed % of places by gender 2023/2025

Figure 20 Winter ML assessment % places by gender 2024/2025

Analysis of Defer/Fail Results

Out of the 32 who attended assessment, 31 completed their assessment.

29 (of which 6 were female (18%); 22 males; and 1 gender neutral/not specified) passed.

- Number deferred: 2
- Number failed: 0
- Withdrew/no show: 2
- 94% pass rate (compared with pass rate of 73% in 2023/24) *Note: this stat skewed due to the bulk of assessments in March being cancelled.*

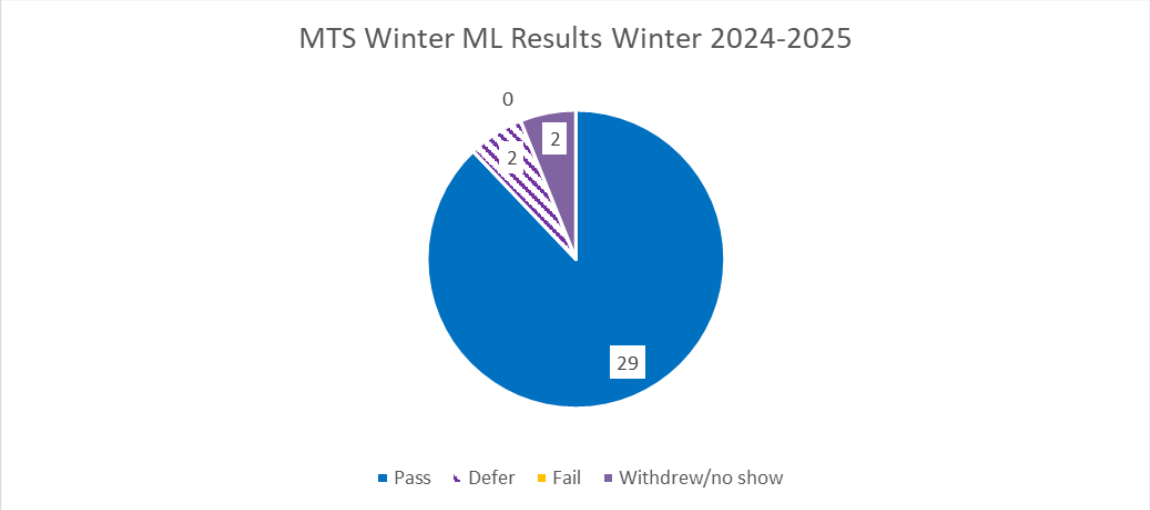

Figure 21 Winter Mountain Leader assessment results Winter 2024/2025

What did candidates defer on?

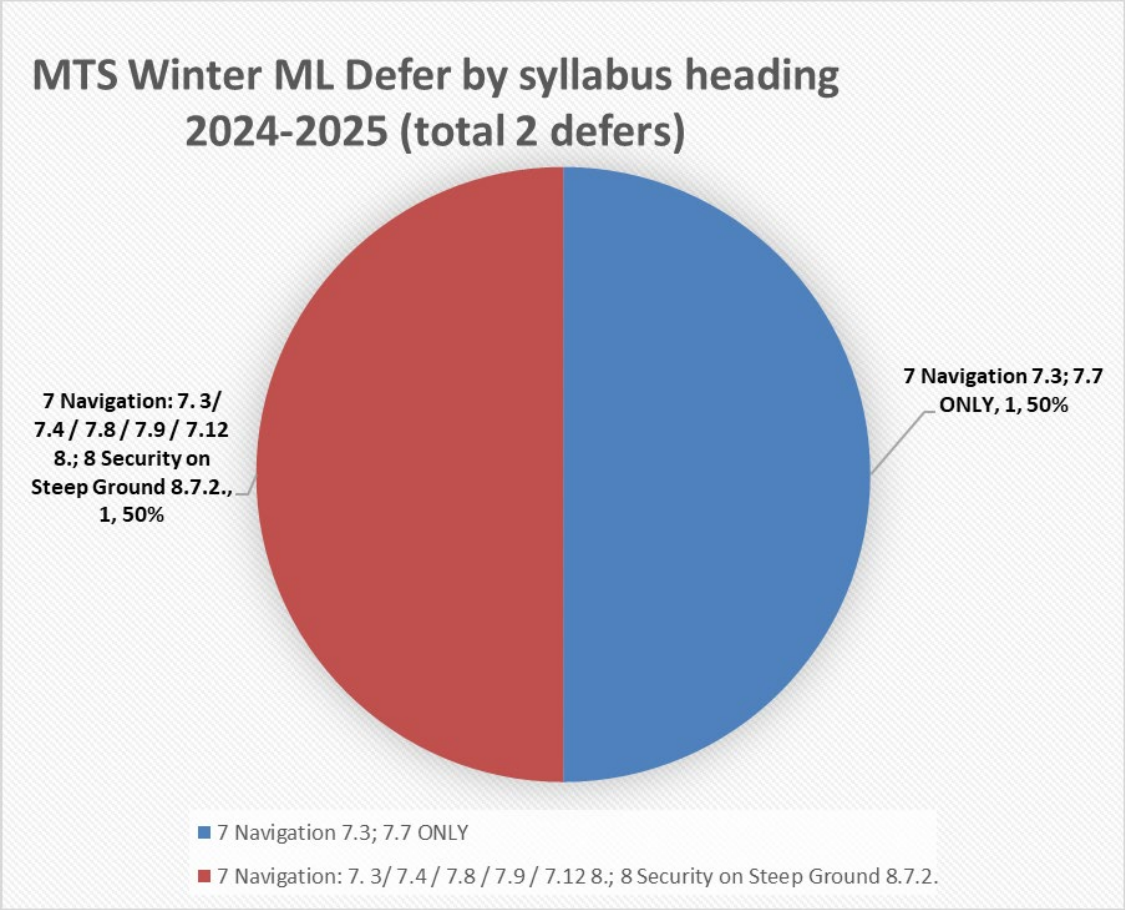

Figure 22 MTS Winter Mountain Leader Defer by syllabus heading 2024-2025

Defers	Number of candidates
7 Navigation 7.3; 7.7 ONLY	1
7 Navigation: 7. 3/ 7.4 / 7.8 / 7.9 / 7.12 8.; 8 Security on Steep Ground 8.7.2.	1
total	2

Community of Practice

Provider and Course Director Support Visits

There were three moderations, two on training and one on assessment, were undertaken which was down on the planned six (due to courses being cancelled).

One visit was a 'two for one' deal – one training and one assessment being run at the same time at the same venue. Due to the challenging conditions, and that the two courses would be operating in the same area I visited both courses working 'on the hill'. Main intent of the visit was to offer moral support to the staff working the courses. The training course had started the day prior (2/3/2025) and I met the course director and their group on the hill later in the day. I spent the bulk of the day with the assessment course who started their course on the 3/3/2025.

All the visits observed courses being extremely well run, with enthusiastic groups of candidates, in a relaxed, professional and friendly manner, with the staff involved running excellent quality days which made effective use of the (often limited) terrain options and challenging snow conditions.

Staffing

In the 2024-2025 winter season MTS had a total of 23 course directors of training (20 m; 3f) and 16 course directors of assessment (15 m; 1 f). Of these, one was a probationary training director (also completed probation this season). There are currently three outstanding probationary directors – 2 x training and 1 x assessment.

Seminars

The annual seminar for MTS Providers, Course Directors, and staff involved in delivering Mountain Training Scotland's Winter Mountain Leader Award was a reflective, discussion-based session aimed at reviewing the previous season, sharing experiences, and updating on key issues related to the Winter Mountain Leader scheme.

The Winter Mountain Leader seminar held at Am Fasgadh, Newtonmore, was started by George McEwan, Executive Officer of Mountain Training Scotland, who welcomed attendees and outlined the day's programme. He then delivered a comprehensive review of the 2024 winter season, presenting registration and assessment statistics, analysis of pass, defer, and fail rates, and discussion of equality considerations including reasonable adjustments. The session also examined incidents and unusual occurrences from the 2023–24 period, alongside an update on snow hole activity within the scheme.

This was followed by a focused discussion on the use of microspikes in the Winter Mountain Leader award, addressing their relevance and implications for training and assessment. In the afternoon, Mark Diggins presented on the effects and management of climate change in Scottish winters and outlined recent developments in Scottish Avalanche Information Service (SAIS) communication.

The seminar then explored approaches to terrain use for skills delivery and decision-making, considering best practice in the context of variable and marginal conditions. The day concluded with confirmation of the 2025 seminar details, an update on Winter Mountain Leader marginal conditions guidance, and a final review of key outcomes.

Incidents and Unusual Occurrences

MTS were notified of only one event.

During a Winter Mountain Leader assessment, an individual was traversing steep, mixed snowpack terrain when the turf beneath their foot gave way, causing a loss of balance and an uncontrolled slide. Despite initial efforts to arrest the movement using an ice axe, the tool was dislodged on exposed ground, leading to further tumbling over uneven terrain before coming to a stop. The incident was primarily caused by the failure of the turf to support the individual's weight.

This incident highlights the inherent challenges faced by staff when delivering or assessing the Winter Mountain Leader scheme in marginal and potentially hazardous winter conditions, where maintaining realism must be balanced against ensuring safety.

In recent years, limited snow cover has often resulted in thin, icy, or mixed terrain that increases the risk of uncontrolled slides and other incidents. While there are no specific concerns about the handling of this event, it underlines the importance of vigilance regarding lapses in concentration and the need for staff to have prior experience working with candidates on less consequential ground (though in itself that is a challenge as any terrain steeper than flat has potential for a sliding fall and with little snow build up most snow slopes have some sort of poor runout).

Given the continuing variability of Scottish winter conditions, Mountain Training Scotland (MTS) will consider to advising course staff to further reduce exposure to consequential terrain when appropriate, even if this limits realism in training or assessment. MTS fully supports any decision by trainers, or assessors to prioritise safety over syllabus coverage, and a wider discussion will be initiated within the provider network at the next seminar in December 2025 to explore how best to continue managing marginal snow conditions and related hazards in future seasons.

Candidate Reasonable Adjustment Adaptations

MTS is fully committed to unimpeded access to, and equal opportunities in, training and assessment and to considering the needs of all potential candidates. One of the strengths of the Winter Mountain Leader qualification is the emphasis through the syllabus on competencies rather than prescriptive techniques. This allows both trainers, assessors and candidates flexibility in their choice and use of appropriate techniques.

The expectation is that course directors and providers of MTS Winter Mountain Leader training and assessment courses will make provision for reasonable adjustments and

assistance to be given to candidates where required. The provider (if required, after seeking support and advice from the MTS Executive Officer) should outline the nature of the candidate's special requirement, and through discussion with them suggest an appropriate adjustment.

In winter of 2024/2025 MTS had notification of ten candidates for whom 'reasonable adjustments' were made, or their course staff considered their condition, though the candidates did not require any specific 'reasonable adjustments' to be made.

A summary of each situation is given below.

Winter ML Training

- Candidate with claustrophobia – course director chose not to snowhole, though as it turned out conditions precluded snow holing in any event.
- Two medical conditions were noted among candidates: one individual with well-managed type 1 diabetes, experienced in monitoring and controlling their condition, and another with an overactive thyroid requiring frequent bathroom breaks.
- One candidate with long COVID and epilepsy was closely supported during the night navigation exercise, with reasonable adjustments offered and implemented as needed.
- Candidate had a recent autism diagnosis required additional processing time and occasional space, which was readily accommodated by the staff.
- Candidate with PTSD who, after early discussions and monitoring, went on to perform very well in the field.
- One candidate was undergoing treatment for PTSD. Appropriate reasonable adjustments were discussed at the start of the week, but this individual managed the course effectively without any issues.
- One candidate disclosed being on the autistic spectrum and having cystic fibrosis. Neither condition affected their performance or required specific management during the course, and the individual was already known to the training team from previous Mountain Leader training and assessment.

Winter ML assessment

Two candidates expressed significant anxiety about snow holing during a Winter Mountain Leader assessment conducted in very cold, deep-snow conditions. One also reported chronic fatigue and a previous injury. Given the extreme cold, physical fatigue, and concerns over comfort and safety in available snowhole locations, the decision was taken not to overnight. This was considered a reasonable adjustment, with the decision made in the interests of the candidates' well-being, safety, and effective learning under challenging winter conditions.

Looking Ahead

Since 1st Jan 1975 (that is as far as CMS records go back) MTS Providers and their staff have trained, assessed, and passed the following number of candidates.

- 6011 Winter Mountain Leaders trained.
- 3999 Winter Mountain Leaders assessed,
- 2914 Winter Mountain leaders passed.

The challenges of this season, much like previous ones, continue to raise significant questions regarding scheme provision. Given the undeniable impact of climate change on current and future winters, we face the ongoing challenge of ensuring that the Winter Mountain Leader qualification remains pertinent and applicable to leaders operating in winter conditions in the UK and Ireland.

The senior Met Office staff presenting at the SAFOS Risk Communication event held at Stirling University in November 2025 noted with climate change that there was - "Greater chance of warmer, wetter winters and hotter drier summers." The presenters also noted that regarding 'on the ground' decision making, the past is no longer a reliable guide to the future.

One notable impact of climate change is the increase in extremes of weather, influencing both average temperatures and precipitation, consequently affecting snow cover.

"There has been an overall decline in observed snow cover in the Cairngorms National Park (1969-2005). This trend conforms to those seen across other mountain areas and the Arctic and is in keeping with the observed global warming trend.

There is a clear observed decrease in the number of days of snow cover at all elevation levels over the 35 winters between 1969/70 and 2004/05, with higher elevations having a larger proportional decrease."3

This is not to say we will not still have significant snow events, but they could well be followed very quickly by significant warm events. The reduction in the number of days of snow cover at all elevation levels underscores the challenges presented by inconsistent and variable snow cover. This trend has long posed a challenge for running Winter Mountain Leader courses, and the current season has reinforced the need for a dynamic and flexible approach to our course programmes. Adapting course programmes and activities to account for the increasingly dynamic winter conditions is crucial. Moreover, it emphasises the necessity to redefine our mental model of what constitutes 'proper winter' and embrace a model that encompasses a wider range of conditions more commonly experienced in recent, and future, winters. In short, we need to ensure that we are training future Winter

[3] Snow Cover and Climate Change in the Cairngorms National Park: Summary Assessment
Mike Rivington, Mike Spencer, Alessandro Gimona, Rebekka Artz, Douglas Wardell-Johnson and Jonathan Ball.
James Hutton Institute, November 2019 – Executive Summary page 1

Mountain Leaders not to operate in how winter used to be, but what it currently is and will be in the future.

This was the first season in which no courses spent a night in a snowhole; while one group could have done so, other factors required a change of plan and the overnight element was abandoned. It is important to emphasise that the syllabus does not require candidates to snowhole, and the technique has always been regarded as an emergency measure. Whether a course undertakes an overnight snowhole remains entirely at the discretion of the course director, who must weigh safety considerations and prevailing conditions. It is equally vital to be clear that the Winter Mountain Leader qualification does not permit candidates to lead snowhole-based expeditions.

The ability to snowhole has historically depended on the snowpack and weather conditions. Looking at recent data, fewer courses are managing an overnight in a snowhole, with culmination being this season when no course overnighted in a snow hole. It is anticipated this is a trend likely to persist given the dynamic winter weather patterns and the observed decline in snow cover and depth of the snowpack.

There is anecdotal evidence that omitting the snowhole element can improve accessibility for those who may struggle with the physically demanding task of excavating several tons of snow, or who question the relevance of doing so to the role of a Winter Mountain Leader. It may also benefit those who find the psychological challenge of living in a very confined space with relative strangers particularly difficult.

On the other hand, staying out overnight in well-built snow holes in wild, remote areas offers a unique and challenging experience and allows demanding mountain terrain to be accessed. Yet equally walking into the night, making a brief stop for food, then navigating off a mountain in the dark is a more realistic experience that a Winter Mountain Leader will end up undertaking - either through planned or unexpected events.

Looking ahead, Mountain Training Scotland intends to continue monitoring snowhole use, support adaptive delivery models, strengthen information sharing, and reassess how the scheme best prepares leaders for the evolving realities of Scottish winters.

In the meantime, we look ahead at the prospect of another winter on the mountains of the Scottish Highlands. One thing that characterises all those who undertake any winter sport that is dependent on snow, is unbridled optimism. Against a background of climate change, we need optimism in heaps as we approach the 59th season of the Winter Mountain Leader scheme being run.

George McEwan

Executive Officer

Mountain Training Scotland

Mountain Training Scotland

Appendix 1: Overview of Winter ML training and assessment course places completed by candidates