

# Strategic Path Review



The ASCENT Site

## Slieve Gullion Co Down, Northern Ireland

### T1.1

#### Research on the Impact of Unregulated Access to Upland Sites

By Newry Mourne & Down District Council and Mourne Heritage Trust, survey by Walking the Talk



## 1.0

# Introduction

Walking-the-Talk was commissioned to undertake a strategic path review of Slieve Gullion Forest Park as part of the ASCENT project to investigate ways of reducing the impacts of unregulated access on upland areas.

## 1.1

### Background and Context

Slieve Gullion is the highest hill in Armagh at 576m and is part of the Ring of Gullion geological feature known as a 'ring dyke'. This formed during the Tertiary Period as a 'proto volcanic complex' and is considered to be of international geological importance.

The heathland is one of the largest of its type in Northern Ireland and has been designated as a Special Area of Conservation (SAC) under the EC Habitats Directive.

## 1.2

### Methodology

A field-based survey of routes within the upland area of Slieve Gullion was undertaken to provide a full baseline audit. Data was collected using the Amber survey, which is a standardised condition assessment, and recorded electronically. Photos were recorded and geolocated to enable future monitoring to be undertaken.

## 1.3

### Terminology

There is potential for confusion about the status of different ways to access Slieve Gullion through different terms and so the following convention has been adopted for clarity:

- Route – a way between two points that may or may not be visible on the ground.
- Trod – a line between two points that is evident on the ground through trampling or erosion of vegetation. No repairs or construction have taken place.
- Path – a defined line where repairs or construction have taken place (this may be continuous or in sections) with no directional signs, way-markers or on-site interpretation features.
- Trail – a way-marked route or path, which is an agreed and promoted way between two or more points.

Public right of way – a route or path with legal status for pedestrians and, in some cases, also horse riders (bridleway) and cyclists (carriageway).



## 2.0

# Paths Summary

There are two main constructed paths within Slieve Gullion Forest Park, along with a number of forest roads and the forest drive. The public right of way follows a constructed farm track for part of the way towards the summit. The remaining routes to the summit and around Slieve Gullion are trods and some of these follow landscape features, such as fences or walls. Detailed information has been collected for each route and is presented in Appendix 1; the routes are shown in **Figure 1**.

## 2.1

### Giant's Lair trail (GL)

The Giant's Lair path is a loop at low altitude close to the main car park. It is fully constructed with an aggregate surface, and there is a variety of 'furniture' and interpretive installations along the route.

The path is generally in good condition, suitable for its intended users. There are some signs of surface water scouring on gradients, which would benefit from being addressed before they cause significant damage that would require repairs and import of replacement surfacing.

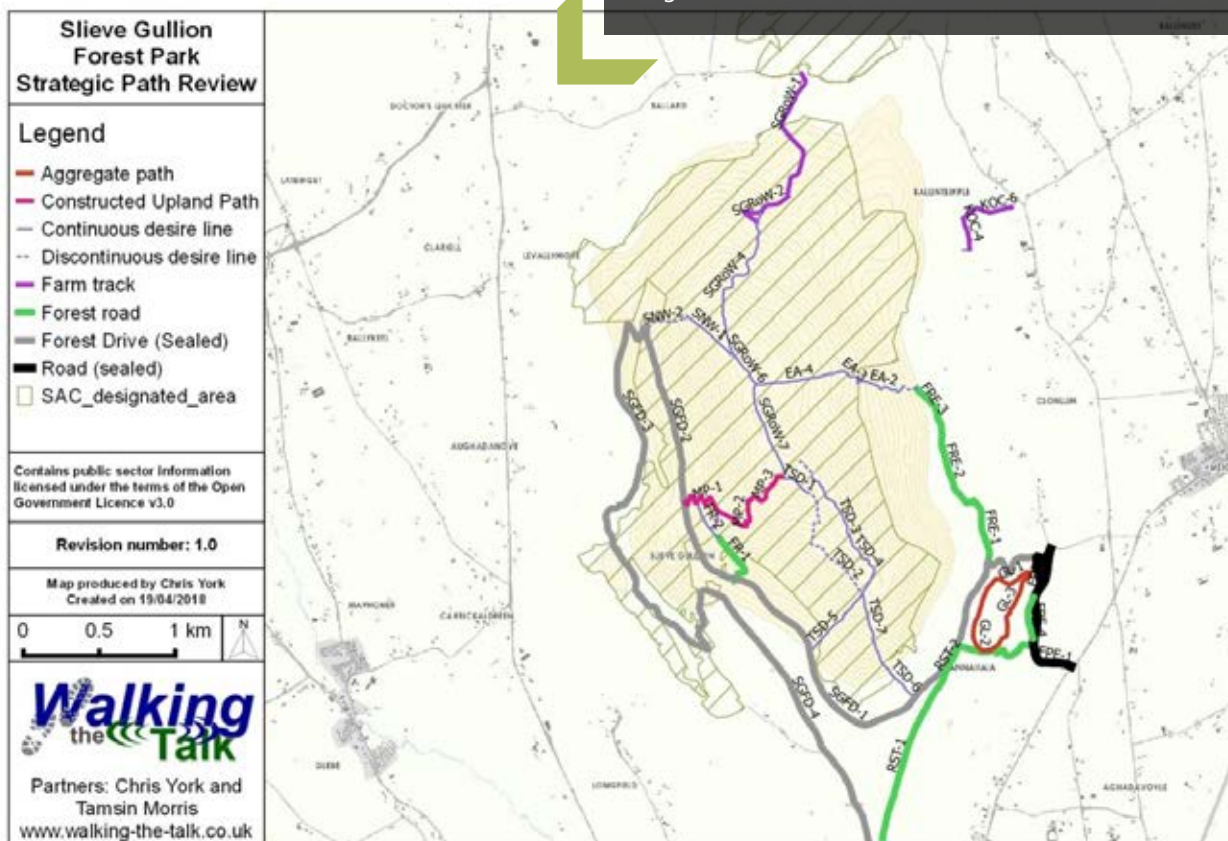
## 2.2

### Slieve Gullion Main Path (MP)

This path is the most popular route to the summit and is promoted as an upland path. It was repaired/upgraded in 2012, but is in poor condition and is deteriorating rapidly in places.

The design of the path did not sufficiently account for surface water drainage and the construction was not completed to the standards advocated by Helping the Hills guidelines or by the Upland Pathwork Manual. The lower section, below the Kissing Gate, is relatively stable. However, significant remedial work is required to prevent further deterioration of the higher sections, and a separate specification survey has been undertaken to highlight the required work.

Figure 1: overview of access within Slieve Gullion Forest Park



### 2.3

## Slieve Gullion Public Right of Way (SGRoW)

This traditional route to the summit is assumed to be for pedestrians only and traverses north-south to reach the northern cairn and connects along the plateau to the Passage Tomb. It uses old farm tracks for the lower section through open fields that are sheep grazed. Beyond this track the route is a desire line which, in places, has had some construction in the distant past (aggregate surfacing and some minor drainage);. It does not appear to be a constructed route for recreation purposes. Although there are signs of previous use by vehicles, possibly quad bikes, there is no recent evidence of use near the summit. There are yellow spray-painted way-markers in places.

The section that connects the two cairns on the summit plateau shows extensive trampling pressure through erosion of the habitats and underlying peat. A detailed survey of this route was undertaken in 2017 and it is expected that repair and restoration work will be undertaken in 2019.

### 2.4

## Eastern Approach Route (EA) via the Forest Road (FRE)

There is a reasonably strong desire line that extends from the end of the forest road on the eastern flank of Slieve Gullion that follows a fence line directly up/down the slope. The route extends to the northern end of the summit plateau near the lake, although it becomes less distinct in this area, probably indicating that people disperse more widely in this area.

### 2.5

## Southern Routes from the Forest drive (TSD)

There are two routes that follow old field boundaries to meet at the corner of the old wall (J02977 19533). From the corner there are two desire lines, the most obvious of which runs north along a gully and follows high points until the chambered cairn becomes visible. The desire line becomes indistinct and disappears before reaching the summit, indicating dispersal of pressure.

### 2.6

## North-Western Route (NW)

This route runs from the northern summit cairn along the old townland boundary line. Fence posts have recently (within the past six months) been painted black and white with numbers. The reason is due to DAERA interpretation of EU agricultural rules. There is a rock outcrop part way down the route where the trampled line becomes indistinct and there are multiple minor desire lines leading to the car park at the forest drive down uneven ground with steep sections.

On Open Street Map there is an alternative route marked, which makes use of a farm track on the field boundary and continues past a forestry block to join the public right of way. The upper part is not obvious on the ground, and sheep pens have been built across the track within the field.

### 2.7

## Western Shortcut Route via Forest Road (FRW)

The old forest road on the south-western flank provides a shortcut for people who have walked from the main entrance to the forest park. There is a stone shelter at the end of the forest road and from here there are two desire lines that meet the main path. The lower desire line contours round the hill, whereas the upper line runs directly up/down the slope.

### 2.8

## Killeavy Old Churches path (KOC)

This path uses an old farm track to reach the old churches on the hillside. There are signs of more recent work but part of the track is heavily overgrown.

### 3.0

## Levels of Use and Impacts of Recreation

There are three sources of information that help to determine the absolute and relative levels of use for the paths and routes on Slieve Gullion:

### 3.1

#### Automatic People Counter

The counter installed at the Kissing Gate should record each person passing the gate. The counter has not been calibrated to estimate the actual number of people using the path, so it can only be used to estimate the total pressure on this path. For example, it is not possible to determine what proportion of users go out and back compared with those using a different ascent or descent route, although this is the most likely route on Slieve Gullion to be used for out and back visits.

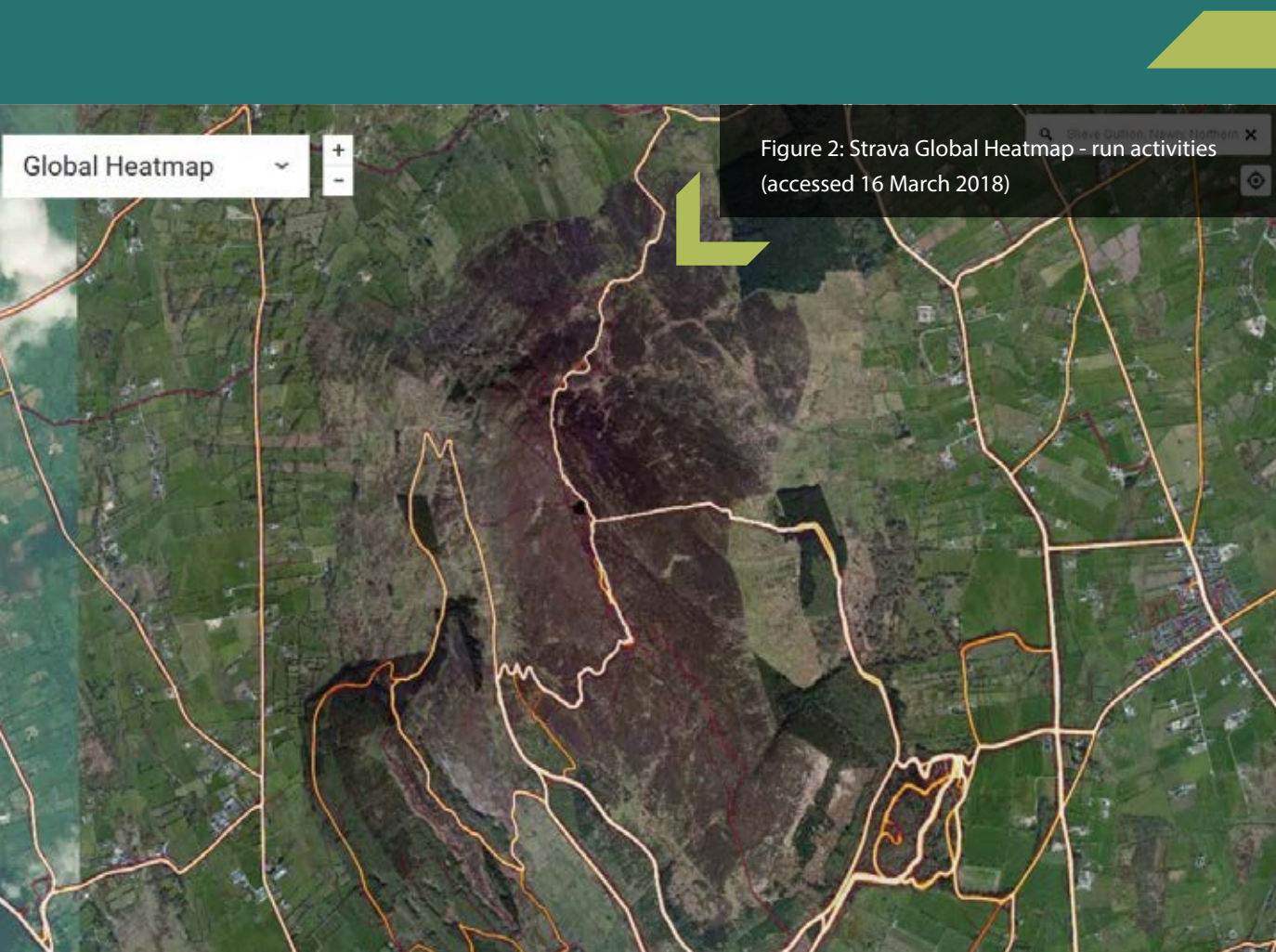
### 3.2

#### Strava

The publicly-available heatmap shows the recorded tracks of some Strava.com users, amalgamated to show 'density of use' from the past two years (it is now updated monthly). This highlights routes used by these individuals and their relative popularity.

Strava tends to be popular with athletes and it is uncertain how many hill walkers use the service for recording their activities. **Figure 2** shows the routes used by runners (and possibly walkers) with the 'brighter' colours indicating more intensive use.

There are also routes on Strava that have timed 'results' – Slieve Gullion Race (with sub-categories for ascent and descent), which uses the public right of way, and the King of Gullion route (with sub-categories for ascent and descent) starting from the main forest park car park, using the forest drive and the main path as far as the passage tomb. The Slieve Gullion Race lists 80 'participants', but it is not clear how frequently people use this route from the listing. The eastern approach route does not appear as a recognised section on Strava.com, although the heat map indicates equivalent levels of use compared with the main path and public right of way. There is no recorded use of the route at the north-west of the hill marked on Open Street Map on Strava heat map.





### 3.3

## Trampling and Erosion

An indirect measure of the level of use is the existence of desire lines, which develop through repeated trampling of a route. There is no linear relationship between the number of people using a route and the response of the vegetation and underlying soil, and this qualitative assessment is best done by looking at changes over time. The amount of damage also depends on the gradient and surface water conditions, so some routes can continue to deteriorate even if the trampling pressure is removed.

However, it is clear from the site survey that some of the routes are under greater pressure of trampling than others, and some sections are showing more obvious signs of damage than others, indicating that the levels of use are higher than can be sustained on these routes in the long term. The trampling causes loss of vegetation and exposes the underlying peat. Once heather dies back, there is nothing to hold peat in place and water softens the surface. This leads walkers or runners to avoid the “mucky ground”, beginning the cycle of widening the desire line. Where routes are at low gradients, the long-term implications may not be serious, but on steeper ground (above 10° or 20%) there is a danger of “positive feedback loop” beginning, where natural processes become more significant than the visitor pressure and erosional forces remove the peat leading to gullying.

### 3.3.1

## Eastern Approach

Although on sections of the route at lower gradients the levels of use have not penetrated the vegetation layer, the direct nature of the route along the ‘fall line’ means that pressure of trampling results in more significant damage on sections that have steep gradients. Because the route uses an old fence line as a ‘handrail’ for navigation, there is little likelihood that the route will migrate significantly. Increased or even sustained use of this route is likely to be detrimental to the habitat in this area.

### 3.3.2

## North-West Route

The upper section of the route (nearest the summit) is showing some signs of degradation because trampling is focussed on a single line. Beyond the rock outcrop the dispersal of users has reduced the trampling pressure and the level of damage is less defined. The recent painting of the fence posts as highly visible markers has the potential to increase use and concentrate it on a single line, as the posts have the appearance of being part of a way-marked trail. The terrain, vegetation and underlying peat cannot sustain increased use such as, for example, becoming a de facto loop return to the car park next to the start of the main path.



### 3.3.3

## Southern Routes from the Forest Drive

The two routes that follow old field boundaries show signs of trampling, but the lower sections (as far as the corner of the dyke) are on more robust vegetation that appears to be coping with the levels of current use. There are also signs that sheep are causing some of the trampling pressure in this area.

Sections 3 and 4 of these routes are well defined and do not show signs of migration; this appears to be partly because the peat is reasonably well consolidated where it is exposed. There are a few short segments on steep ground where 'pigeon holing' (development of steps) is occurring and this may result in migration of the route over time.

Although these routes appear to have minimal damage at present, they will be unable to cope with significant increases in use due to the terrain, vegetation and underlying peat.

### 3.3.4

## Public right of way

There are stretches of exposed peat near the summit, but their width suggests that they were caused or expanded by motorised vehicles – images from 2012 show signs of quad bike use in this area. The rest of the route does not show significant pressure by trampling. There is one area where surface water is beginning to interact with the desire line and this is likely to deteriorate (see Appendix) – minor intervention to divert the water would prevent larger scale damage if left unchecked.

### 3.3.5

## Main path

Despite the investment in 2012 to repair previous trampling damage, this path is showing significant impacts on certain sections. Part of the problem relates to the design and implementation which doesn't sufficiently constrain walkers, but the promotion and level of use recorded by the counter are too high for a path with this design and the people choosing to use it. The design was based on low usage, approximately 4-5,000 pa, expecting people to walk or run in single file, with no space to allow people to pass in opposite directions. The path is too narrow to cope with over 30,000 users (in either direction) per annum.



## 4.0

## Managing Demand for Access on Slieve Gullion

It is clear that there is strong and sustained demand to visit the summit of Slieve Gullion, but the current options are unable to cope with the pressure in the long term. The designation of the hill as a Special Area of Conservation (SAC) means that there is a duty to protect the integrity of the site and its designated features (dry heath habitats), including from recreational pressure. The Passage Tomb is a protected archaeological feature and recent advice indicates that the whole of the summit area is considered to have archaeological value. Additional promotion of the summit area as a “destination” would be very likely to have a detrimental impact on the habitats and archaeology unless sensitively, sustainably, and correctly managed.

The existing trods follow features on the ground and do not account for topography (i.e., they take the most direct route), which means that any form of route management on these trods would be challenging. The deep peat and steep terrain on Slieve Gullion add to the challenge, in that there are very limited opportunities for light touch or minimal intervention work to arrest or reverse damage to habitats. Any attempt to repair sections of these routes would lead to problems at the end of each repair as the trampling pressure would be concentrated on soft ground. Their direct line on steep ground would require stone pitching for extended distances and the open nature of the slopes mean that it would be challenging to constrain visitors and prevent them from straying from the path in areas of mature/rank heather. The length of the vegetation may be of some benefit in containing people to a defined path, but this is not a simple guarantee of success – any heather management done to protect or enhance the habitat would increase the risk of walkers leaving the path.

The Economic Appraisal of Slieve Gullion (Deloitte, 2017) highlights a number of development opportunities relating to the forest park, but there is some ambiguity about the status of the upland area (i.e., the area within the SAC). The report does not clearly separate recreational development within the forest park, but does highlight a number of “opportunities” and proposals that would potentially impact on the upland area, which therefore intersect with this Strategic Path Review. The ‘do something’ options that are recommended by the appraisal include creating “a new mountain trail” from the north cairn on the west side of Slieve Gullion with the objective of producing a circular route. Restoration of the Passage Tomb is also recommended, presumably with the objective of increasing visitor numbers and interpreting the heritage value of Slieve Gullion and the Ring of Gullion.

The Economic Appraisal estimates the existing visitor numbers of 267,000 in 2015 (based on counter data from the playground), with an objective of increasing footfall within the forest park by up to 30%. It is difficult to estimate the likely increased use of the upland areas if visitors to the playground increased by 30%. 2015 was anomalous in that main path numbers were only c19,000 and represented 7% of playground counts, compared to 12-14% in 2016 and 2017, when there were c31,000 path counts but 227,000 and 243,000 visitors to the park respectively. It is unlikely that there would be a direct correlation, as playground users should be quite different to those intending to climb to the Passage Tomb, for example. However, it is possible that enhanced facilities within the forest park would change the level of use in the upland area – this could be through attracting more people who come specifically to climb Slieve Gullion; additional ‘casual’ visits (people who climb Slieve Gullion as a consequence of their visit to the forest park, rather than as an objective) or a combination of both.



## 4.1

### Implications of a 'New Mountain Trail'

There is an important distinction to be made with managing unregulated access to upland areas between responding to pressure from visitors and stimulating demand by installing new infrastructure. The former approach is based around protection of the user experience and heritage value, as well as minimising the potential for conflict with land management operations. The latter relies on construction and ongoing management of facilities that would be adequate to cope with a projected number of visitors. There are no reliable measures or projections of "outdoor enthusiast" visitors within the Economic Appraisal and the objectives of the appraisal are clearly, and understandably, biased toward stimulating demand within the forest park. Unfortunately, the foreseeable consequences could be significant if promotion of Slieve Gullion as a whole results in major increases in visitor numbers in the upland areas. Coupled with the proposal to construct a 'new mountain trail', there are some important considerations to be addressed.

Creating a loop may be seen as desirable and a means of meeting the perceived expectations of visitors. Surveys of visitors to the countryside repeatedly highlight the preference for circular walks over out-and-back opportunities. This aspiration was expressed in the previous footpath condition survey of Slieve Gullion. However, creating a mountain experience based on easy access/family group-type expectations is not considered to be sufficient justification for the impact that it would likely have. There are also valid management reasons for introducing one-way circuits in some circumstances, although it is usually a means of coping with large numbers or very difficult terrain (i.e., for safety reasons). This is not the case for Slieve Gullion.

## 4.1.1

### Passage Tomb

There are already signs of pressure around the Passage Tomb and problems with minor degrees of graffiti. This anti-social behaviour is difficult to avoid or repress, so additional promotion for a wider "market" carries the known risk of increasing potential for damage to the Passage Tomb. The viewpoint indicator and trig point are an obvious focal point for visitors, and increased footfall is likely to cause migration of stone on the cairn, potentially having a negative impact on the passage tomb. Relocating the viewpoint indicator and the trig point would potentially help reduce the pressure on the Passage Tomb, but a surfaced area would need to be constructed in order for this to be a long-lasting solution. On-site interpretation of the tomb or the Ring of Gullion is not considered appropriate to the location, but this falls outside the scope of this review.

## 4.1.2

### Calliagh Berra's Lough

The current condition of the right of way between the summit cairns provides an element of 'protection' for the lough in that some visitors turn back to avoid getting wet/muddy feet. The proposed repairs to this section of path are likely to increase the proportion of summit visitors who also visit the lake, although the works have been designed to gradually diminish in formality rather than lead visitors to the lake as a "destination". Although it is an attractive location, its inherent characteristics would be significantly degraded by large numbers of people "milling around". The likely consequence of higher visitor numbers in this area is increased trampling on very sensitive habitats around the shoreline and probably an increase in litter (through picnicking), without any means to actively manage litter. There are no appropriate measures that can be taken to prevent people from leaving a "designated path" and although a small, discreet resting place has been incorporated within the proposed repairs for the summit plateau, this would not be adequate for large volumes of visitors. The creation of a managed loop trail would be likely to significantly increase visitors in this area, compared with an out-and-back path (where there is usually a drop-off of people along the way).

## 4.2

## Options and Implications for Increasing the Availability of Robust Paths within the SAC

Given that the existing trods would be extremely challenging to repair, it would be necessary to investigate other options to make these routes more sustainable. Any alternative management on existing routes, such as realignment to reduce the path gradient, would be likely to be viewed as path development rather than minimising the impact on the SAC (the level of damage is not yet significant to the habitat), and would therefore be subject to an appropriate assessment. Development of a new mountain trail would also need an appropriate assessment, as it would lead to a loss of approximately 0.15 to 0.2Ha of designated habitat (assuming a 1m-wide path development corridor). Path development in the upland area of Slieve Gullion would require the import of significant quantities of materials (aggregate and boulder stone) as there is no evidence of suitable aggregate, in particular, on site. Almost all of the material would need to be flown to site by helicopter and between 1,500 and 2,000 tonnes of material would need to be airlifted, depending on the choice of route on the western flank of Slieve Gullion.

The shortest route from the North Summit cairn to the forest drive is approximately 1,100m, but this is too steep to provide a sustainable path. Introducing a lower gradient and better route selection would be likely to increase the length to around 1,500m, but this would still need some sections of pitching. The current (discontinuous) trod ends at the most northern viewpoint car park on the forest drive – constructing a new path to this point would be likely to encourage two-way traffic on the route and therefore potentially put pressure on path margins where people pass each other. An alternative would be to create a new path that traverses the western flank of Slieve Gullion to meet the main path by the roadside. This would require approximately 2.2km of new path construction. However, no “prospecting” for a route was done as part of the field survey and it is uncertain whether a route could be achieved on the cross slope. In the context of developing a new mountain trail, this would be the most logical choice of route from a visitor management perspective and would have the best chance of retaining people on the route.

## 4.3

## Adaptations to the Main Path

The issues for the main path relate to the choice of route and proximity to a car park. It has proven difficult to keep people on the very narrow line that was constructed where the terrain does not fully constrain people. The main path could, however, be repaired and adapted to account for the existing levels of demand. This would involve minor changes to the alignment and replacement of stone pitching, as well as providing space for people to pass more easily without stepping off the path. It is also probably unreasonable to expect people to walk in single file for the whole of their visit, especially if they have just left their car. Pitched sections do not have to be increased in width, but some aggregate sections should be increased to approximately 1.2m wide (although this should be varied to avoid a formal path edge). These aspects will be addressed in the specification survey that has been undertaken.

The advantage of using only the main path to access Slieve Gullion is that it better matches the mountain experience in other parts of Ireland and other countries. There are few mountains that have a loop path, except where a trip takes in multiple summits; this helps to retain more of a mountain character, rather than becoming a visitor resource with ever-increasing expectations of comfort and facility provision in a hostile environment. In addition, this approach also provides for the natural “drop-off”, where people turn back, especially if key points become potential turning points – i.e., the concrete shelter and the Passage Tomb. This means that there is decreasing pressure on the path away from the start point. There is an opportunity to provide visual signals to visitors that the terrain is changing in order to help them decide whether to continue, which is an important part of visitor management. This would, for example, involve changing the ‘paved’ area outside the shelter to an aggregate area and rerouting the path away from the shelter using boulder pitching to increase the sense of ruggedness of the coming section. The interpretation within the shelter could also be removed – this is currently an encouragement to push people to the summit.

#### 4.4

### Alternative Access Provision within the Forest Park

Promotion of the upland part of Slieve Gullion for “general tourism” could be considered as inappropriate from a number of perspectives, of which the two most important are:

- encouraging unprepared people into a mountain environment has inherent risks that are hard to mitigate;
- the designated habitats within the SAC are likely to be under increased pressure and may impact on the condition of the site.

Therefore any promotion of the upland area needs to be clearly within the context of a mountain experience.

From the evidence available, it is not apparent whether the pressure on the upland area could be relieved by alternative access provision elsewhere within the forest park ;not enough is known about the people who visit the summit area. If, for example, people are visiting the Passage Tomb as a form of exercise, they could be encouraged to use alternative routes provided that these options shared some of the same characteristics. However, people wanting a panoramic view of the area and a sense of open space may be harder to persuade onto paths within plantation woodlands.

On the eastern side of Slieve Gullion, recent forestry harvesting has been undertaken and this could potentially provide opportunities for development of new access facilities. There are a number of “forwarder tracks” that remain from where timber was extracted and these could be adapted or converted for recreational use once restocking or remediation of the coups has taken place. An integrated plan that considers the production of timber, habitat restoration or conversion, and public access could attract new visitors without increasing the pressure on the sensitive areas of Slieve Gullion. These could give excellent views of the surrounding area and provide an experience away from the more formally-managed areas around the Giant’s Lair.

As part of the management of Slieve Gullion Forest Park and protection of the designated features of the SAC, it is necessary to consider visitor management options to discourage the proliferation of unmanaged routes on the high ground and reduce the pressure on desire lines that have limited capacity to cope with trampling pressure. Development of new paths to the summit to, for example, create alternative ways to access the mountain, would be difficult to justify from a number of perspectives. Additional promotion of the main path and repairs to the summit plateau section of the public right of way would be inappropriate without changing the objectives for managing the SAC.



## 5.0

## Recommendations

There are some actions that would be beneficial to the visitor experience of Slieve Gullion and have a positive impact on the environment, and there are potential actions that could have a detrimental impact on Slieve Gullion.

The following actions would be considered overall, to have a negative impact on Slieve Gullion, or would not provide sustainable management opportunities for the forest park, and are therefore not recommended:

- Upgrade of the existing trods on the west, east and south approaches to the summit, which are too steep and cross sensitive ground.
  - Additional promotion of the summit, Passage Tomb or lough, prior to substantive repairs of the main path and plateau section of the public right of way.
  - Promotion of the lough as a location for picnics.
  - Promotion of the upland area of Slieve Gullion as a destination for “family fun” visitors.
- The following action is not recommended unless increasing visitor numbers is considered an overriding priority, as it would have the least impact on the special characteristics of Slieve Gullion:
- Creation of a new mountain trail traversing between the north cairn and the start of the main path, with a preferred one-way circulation of visitors.
  - The following actions are recommended to improve the visitor experience and protect the special character of Slieve Gullion:
    - remediation of the main path to allow it to withstand current pressure more adequately, including widening sections and improving the drainage;
    - repair and restoration of the upland sections of the public right of way (the plateau section has remedial works planned for 20198 [it's now 2019, does this need updated?] ), which would reduce damage to the habitats;
    - attempt to displace demand in the upland area by improving the outdoor recreation facilities and their promotion in less sensitive areas of the forest park;
    - monitor changes to habitats on the desire lines and define a limit of acceptable change (point of intervention);
    - undertake a programme of engagement to help people to understand the sensitivities of Slieve Gullion to unregulated access and encourage them to use the main path as a way to climb the hill.

**For Further Information on the ASCENT Project, contact:**

**Rosita Mahony**

**ASCENT Project Manager**

Donegal County Council

Station Island

Lifford

Co Donegal

F93 X7PK

Ireland

**Telephone:** (074) 9172261

**Email:** [rosita.mahony@donegalcoco.ie](mailto:rosita.mahony@donegalcoco.ie)

**Web:** [www.ascent-project.eu](http://www.ascent-project.eu)

**Facebook:** ASCENTProjectNPA

**Twitter:** ASCENTProjectEU