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Strategic Path Review

The ASCENT Site

Slieve Donard Co Down, Northern Ireland

T1.1

Research on the Impact of Unregulated Access to Upland Sites

by Newry Mourne and Down District Council and Mourne Heritage Trust

ASCENT
Promoting Sustainable Access to Uplands & Natural Environments

Northern Periphery and Arctic Programme 2014–2020

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This report delivers against ASCENT activity target T1.1 Strategic Path Review

Mourne Heritage Trust
Caring for Mourne

Comhairle Ceantair an Iúir, Mhúrn agus an Dúin
Newry, Mourne and Down District Council

Introduction

This report is based on the report: The Mournes And Slieve Croob Strategic Path Review by Dafydd Davis (Trails by Dafydd Davis) 2012: a comprehensive and systematic assessment of the access routes in the study area that has informed a number of the following reports and action plans, such as the Mourne Outdoor Recreation Action Plan 2013 (Outdoor Recreation NI for Sport NI).

The specific references to Slieve Donard in the 2012 report are noted below and the actual access path or route surveys and assessments are extracted from the broader survey document, updated and included with additional routes that have come to greater prominence in the intervening years.

Extracted Sections

3.2.5

Strategic Roles and Values of Paths

The highest strategic value of Type A to E paths below were on, or linking to, Slieve Donard.

As referred to above, each part of the path network has a differing value in terms of its strategic importance to the recreational use of the study area.

Eastern Mournes

Within the eastern Mournes, the strategic functions of the path network can be divided into the following groups:

- **Type A** – Key access routes linked to access points and car parks
- **Type B** – Desire lines linking access routes to thoroughfares and routes to key summits
- **Type C** – Key thoroughfares linking important cols and access routes
- **Type D** – Key routes linking thoroughfares to summits
- **Type E** – High-level ridge routes linking summits
- **Type F** – Desire lines linking control points

Type A

Key Access Routes Linked to Access Points and Car Parks

Key access routes in the eastern Mournes in order of importance are as follows:

1. The Glen River path from Donard Park to the top bridge
2. The Trassey track from Trassey to the quarry
3. The Bloody Bridge path from Bloody Bridge to the quarry
4. The Carrick Little track from Carrick Little to the black gats
5. The Ott track from Ott car park to the end of the track
6. The Happy Valley track from Happy Valley to the end of the track
7. The Banns Road

These routes are extremely important in shaping and defining the way that the vast majority of recreational users access the eastern Mournes and their relationship to key control points have a profound effect on the impact of recreation.

Type B

Desire Lines Linking Access Routes to Thoroughfares and Routes to Key Summits

As noted already, the Type A access routes (apart from 1 above) are largely agricultural access or old quarry roads and are mostly not configured to access the places where recreational users might want to go, such as cols or summits. This has led in many cases to the development of desire lines linking the above access routes/points to key control points, which, in some cases, have become unsustainable in terms of their impact on the landscape and the environment, i.e., the line 'chosen' was not necessarily on the most durable ground.

However, many of these desire lines are now very well established and have a strategic value of their own as follows:

1. The link between the top bridge on the Glen River path and the Saddle of Donard
2. The link between Trassey quarry and Hares Gap
3. The link between the Bloody Bridge quarry and the Bog of Donard
4. The link between the top of the Ott track and the Mourne Wall
5. The link between the Happy Valley track to the Mourne Wall

Some have been upgraded and repaired over time (number 1 in the above list, for example) so that they are now much more clearly established, but this has generally been carried out in a fairly ad hoc manner. All of these routes are of great importance in enabling access into the eastern Mournes, but they are very much the "weak links" in the strategic path network in that their alignments and nature makes it inevitable that their use will lead to impacts on the landscape, erosion and degradation.

Type C

Key Thoroughfares Linking Important Cols and Access Routes

The next most important part of the strategic path network are the major "thoroughfares" that link key control points namely the major cols that allow movement through the massif and around and between major summits.

These, in descending order of importance, are as follows:

1. The Brandy Pad between Hares Gap and Bog of Donard
2. The 500m contour trail from the Slieve Loughshannagh/Carn Mountain col to Bearnagh Slabs and the Bearnagh Slabs Spellack path
3. The Annalong Valley paths linking the Black Gate to the Slieve Beg col

4 The Annalong Valley path linking the Black Gate with the Binnian/Lamagan col and the path to Ben Crom Reservoir

5 Mourne/Ulster Way from Ott car park to Trassey River

6 Ben Crom Reservoir to Hares Gap via the Shelter Stone

7 Rourke Park to the Bog of Donard

These 'thoroughfares' are the most strategically important paths within the whole of the study area since they essentially define the ways in which people move through the area and also the impact that they have. Some of these paths have underlying structures, such as old quarry tracks, but the vast majority are little more than very well-established desire lines that have developed as people link key cols and respond to other control points, such as gullies, crags, streams and loughs.

Crucially, these routes are - by their very nature - very accessible to a wide range of users and abilities since they generally involve relatively lower gradients and less height gain than other paths. They also enable both circular routes and linear routes of differing lengths to be used and crucially enable the path network to be used in a flexible way.

However, many of these paths are very heavily impacted by prolonged, intensive and heavy recreational use (evidenced by previous studies on erosion of the Mourne paths e.g., Smith BJ, Thomas M, Bloomfield C 1998 Erosion Hazard and Footpath Condition Survey of the High Mourne Mountains). The lack of underlying path structures on the majority of these paths means that they are, in many sections, unable to sustainably accommodate current levels of use. Many of the above have also had varying degrees of path repair work carried out in an ad hoc manner over recent years; the Brandy Pad in particular.

Type D

Key routes Linking Thoroughfares to Summits

The links from thoroughfares to summits are also key parts of the path network in the eastern Mournes and there is a definite hierarchy related to these as follows:

1 Col of Donard to Bog of Donard via the summit of Donard

2 Black Gate to Percy Bysshe via Binnian summit and North Tor

3 Hares Gap to the Bearnagh Slabs via summit of Slieve Bearnagh

4 Slieve Beg col to Percy Bysshe via summits of Cove Mountain and Slieve Lamagan

5 Slieve Beg col to Lower Cove via summit of Cove Mountain

6 Summit of Doan from 500m contour path

7 Silent Valley to summit of Binnian via Wee Binnian

All of these routes were – at some stage – desire lines that have become very well- established over time and which take the line of least resistance from key control points such as cols, stiles or gates – up to and over – important summits.

The above routes are all, to some extent, having an impact on the landscape and, in some cases, leading to serious erosion. Parts of the routes, such as the path to Donard Summit and the paths over Binnian, have received considerable investment in recent years in terms of footpath repair and erosion control, but most of the routes highlighted above have not. Moreover, path repair work on these paths and throughout the study area has tended to be ad hoc and has been to some extent driven by the availability of resources rather than any strategic overview. This has been typical of similar works across other protected upland areas in the UK, such as the Cairngorms and Snowdonia. All of the routes highlighted above are very important parts of the path network in that they provide access to iconic summits for large numbers of people. The fact that they are also linked to the major thoroughfares makes them doubly important since this significantly increases their accessibility and therefore strategic value.

Type E

High-level Ridge Routes Linking Summits

In addition to the paths highlighted above, a further part of the trail hierarchy in the Mournes consists of high-level ridge routes linking summits.

These are, in descending order of strategic value:

1. Spellack Ford to col of Donard via Slieve Commedagh
2. Top of Ott track to Bearnagh slabs via Slieve Loughshannagh, Slieve Meelbeg and Slieve Meelmore
3. Bog of Donard to Rourke's Park via Rocky Mountain

These routes are a very important part of the path hierarchy. They are perceived as being less accessible as they have a more extensive height gain and exposed nature and are less heavily used, and therefore provide an important integrity of mountain experience within the eastern Mournes. These routes are much less impacted upon by users than other parts of the path network and with current management and user numbers they are likely to remain so.

However, these routes have probably been impacted upon less than other routes since the Mourne Wall Walk was stopped in the early 1980s due to concerns over erosion and safety. Moreover, it has been suggested that that closure may have increased the impact on other routes such as the Brandy Pad (Ferris TMC, Lowther KA, Smith BJ 1992 Changes in Footpath Degradation 1983-1992 A Study of the Brandy Pad, Mourne Mountains), and there have been enquiries from event organisers about starting the event again.

Type F

Desire Lines Linking Control Points

The final part of the strategic path hierarchy in the Eastern Mournes can best be described as desire lines linking control points.

Key examples are:

1. Bloody Bridge ford/stepping stones to Bloody Bridge Quarry (north side of river)
2. Deer's Meadow to summit of Slieve Muck
3. Banns Road to Summit of Slieve Muck
4. Summit of Slieve Muck to top of Ott track
5. Top of Ott Track to Ben Crom Dam
6. Tollymore Forest to Pot of Legawherry

These routes in effect link control points in a very informal way and many follow linear features such as walls. The vast majority of these routes are not subject to heavy use (the exception being number 1) and do not, therefore, raise issues connected to sustainability. However, they are potentially very susceptible to impacts from increased use due to variable ground conditions and in particular wet ground.

4.1.5

Habitats, Wildlife and Geology

As above, large areas within the study area are designated SAC and ASSI and include habitats and geological features of European and national importance, and the AONB designation reflects the great value and importance of the landscape.

NIEA, The National Trust, MHT and other stakeholders have all raised the following concerns relating to the impact of recreation on habitats and landscapes within the study area:

- Localised damage and removal of ground cover vegetation within the eastern Mournes SAC in general
- Localised damage and removal of ground cover vegetation specifically within the Montane area
- Perceived localised degradation of habitats by footpaths
- Localised erosion and deposition of peat and substrate into water courses that may be caused by footpath erosion
- Increase in wildfires which is perceived by some to be associated with irresponsible recreational use in some areas
- An increase in the visual impact of recreational paths throughout the study area
- Disturbance and damage to wildlife

Some parts of the path network would seem to be having localised landscape and habitat impacts to varying degrees and these are seen as particularly acute on the following:

- The paths to the summit of Slieve Donard
- The Brandy Pad
- The link between the Trassey Track and Hares Gap
- The link between the Bog of Donard and Bloody Bridge Quarry
- The path to the summit of Slieve Binnian from the Black Gate
- The path between the summit of Slieve Binnian and the North Tor
- The paths between the Slieve Beg col and the col between Slieve Lamagan and Slieve Binnian
- Key parts of the Mourne/Ulster Way
- The 500m contour path
- The link from Ott track to the Stile/Mourne Wall
- Path to the summit of Doan
- Paths to the summit of Slieve Bearnagh

Detailed assessments of these paths are presented in Appendices E-H and each path impacts on landscapes and habitats in slightly differing ways. However, important examples which illustrate key points are as follows:

Paths to the Summit of Slieve Donard

The paths to the summit of Slieve Donard from both the Saddle of Donard and the Bog of Donard are strategically very important in that they access the most significant control point within the whole of the study area (the summit of Donard itself). However, these paths also directly impact upon the rarest, most fragile and arguably the most important habitat within the study area, namely the Montane habitat, which is only found in a few key locations within the island of Ireland. The eastern Mournes ASSI condition assessments from 2003 and 2009 state that erosion caused by human impact is causing the Montane habitat to be in unfavourable condition and requires mitigation to be carried out.

NT managers have, for a number of years, endeavoured to minimise the impact of walkers' feet on this habitat by carrying out path repairs and other works. However, the vegetation is short and ground hugging, and slopes are very open and steep. These factors, coupled with the presence of the Mourne Wall, greatly facilitate access by a broad range of users. Essentially, the Mourne Wall serves as a guide or "handrail" that walkers can follow in

all weather conditions and the open slopes allow them to move around the slopes at will.

This has, in turn, led to very significant pressures on this habitat and path repairs have not fully succeeded in minimising or managing impacts. This is due, for the most part, to the open slopes and short vegetation, which mean that walkers are not confined to a single narrow corridor; they are able to move across a wide area, particularly when descending.

This open landscape may initially have dissipated impacts but, as pressures have increased, the vegetation cover is becoming increasingly impacted upon. This is likely - over a relatively short time - to lead to the breaking and ultimately the removal of the ground cover as evidenced in isolated patches already, and at similar open slopes in the Cairngorms (Scottish Natural Heritage, 2003, Upland Footpath Repair Techniques in the Cairngorm Mountains), which would negatively impact upon a very important habitat and significantly affect the quality of the landscape.

Given the importance of the paths to the summit of Donard, it is likely that the pressures and impacts on this precious habitat will increase, and that prescriptive site specific measures should be developed to mitigate such impacts.

The Brandy Pad

This is one of the most important paths in the study area since it links key access points to key control points such as Hares Gap, the Bog of Donard and the Saddle of Donard. It also links into several other important paths, leading to key summits and ridges. For this reason it is under extremely heavy user pressure which is leading to significant impacts on the landscape and habitats. Surveys have shown the increasing impact of recreational use (e.g., Lowther KA 1987, and Ferris TMC, Lowther KA, Smith BJ 1992).

Path erosion is leading to extensive braiding over a sometimes very wide area, which is further increasing impacts on vegetation, ground cover and soils. In addition, the process of erosion and braiding would appear to be accelerating (according to discussions with user groups, stakeholders and MHT staff) and this is causing concern in relation to impacts on habitats and the landscape.

The physical impacts of this path are considerable and include the removal of vegetation, the erosion of soils and substrate and, in some places, the destabilisation of areas of slopes. Given the length of this path and the width of the areas affected, this is a significant impact on the habitat of the SAC.

In addition, the visual impact of this path is very considerable and can be seen from afar as a prominent horizontal line running across the landscape. This in itself is an important impact in that it affects the "wild" quality of the landscape, which is much valued by many users since it is a clear and obvious human intervention. This in turn can affect the integrity of recreational users' experience of the landscape.

The value of this path in strategic terms means that it will always be subject to considerable user pressure and this is very likely to increase over time. The impact that it has on both landscape and habitats should be reduced and managed and this will require prescriptive measures to ensure that this is done in appropriate ways.

Bog of Donard to Crannoge Quarry

This path is again a very important part of the strategic path network in that it links a high- profile access point (Bloody Bridge) into Slieve Donard and the wider path network. As a result, it is extremely popular with a wide range of users and this is leading to considerable impacts on the landscape, habitats and land use.

This path has a physical impact on the ground over an area which is up to 20m wide and up to 800m long. The physical impacts include: the trampling and removal of vegetation and ground cover, the erosion of soil and substrate and, in some isolated areas, the destabilisation of areas of slope.

The physical impacts have initially been caused by recreational users' feet and then exacerbated and accelerated by ground and surface water. The lack of a clearly-defined path structure or a single obvious line has led to the area being impacted upon increasing over time and this is showing little sign of stopping.

This has a clear and obvious impact on the habitat of the SAC and has a negative impact on the landscape over a considerable area. However, another significant impact is noted in terms of agriculture. Grazing above is the extent of the damage to vegetation i.e., the removal of heather

vegetation has removed grazing resources for which Single Farm Payment is being claimed. There is growing concern in the farming industry of the risk of ineligibility of land for Single Farm Payment, and there is a perceived concern among farmers in this location that the impact in question will make the land ineligible and will therefore compromise payments.

Whilst this is an extreme example, such cases are likely to increase in number if impacts on vegetation increase. It is therefore extremely important to manage such impacts and many trustees and farmers expressed a preference for providing better-defined paths through vulnerable areas. In this case, a site-specific prescribed solution which reduces the impact of recreational use and reverses the damage already done, is urgently required.

5.2

Specific route recommendations

The following routes were identified in Section 4 as having significant issues, and management proposals are summarised below.

Top Bridge to the Saddle of Donard

Ongoing works to reduce braiding and minimise visual and physical impacts should be extended to link into previously stone-pitched section. More effective demarcation and landscaping are required on the previously stone-pitched section.

Saddle of Donard to the summit and Bog of Donard to the summit

Formal path works are unlikely to resolve impacts on fragile vegetation cover since the very open slopes facilitate braiding etc. However, the integrity of the vegetation cover should be maintained by careful management using appropriate seeding techniques and minor repairs on an ongoing basis.

The Brandy Pad

Where the gradient of this trail is less than 50% of the gradient of the slope, or where it is effectively demarcated by steep side slopes, it is generally in good condition, with only minor braiding and erosion. It is also extremely robust. However, erosion and braiding are extensive in key areas and the visual impact of this path is quite significant where this is the case. Any path works should focus on reducing visual and physical impacts whilst retaining the integrity of the "mountain experience" and not increasing the accessibility of the path.

This may require minor realignments at key locations and also considerable remediation/reinstatement of vegetation where erosion has been significant. However, it is also very important to ensure that the path is not made more accessible by reducing its visual and physical impact. This will require careful design work as well as the development of very prescriptive plans which are centred on working in low-impact sustainable ways.

The link between the Trassey Track and Hares Gap

This route is severely damaged, with considerable visual impact over a wide area. The lack of a clearly-defined line, coupled with heavy traffic, steep slopes and powerful control points, is leading to significant landscape, environmental and visual impacts. A much more clearly-defined and robust route is required here and its alignment, nature and accessibility need to be carefully considered. In addition, minimising the visual and physical impact of walkers on this area should be of the highest priority.

The link between the Bog of Donard and the quarry

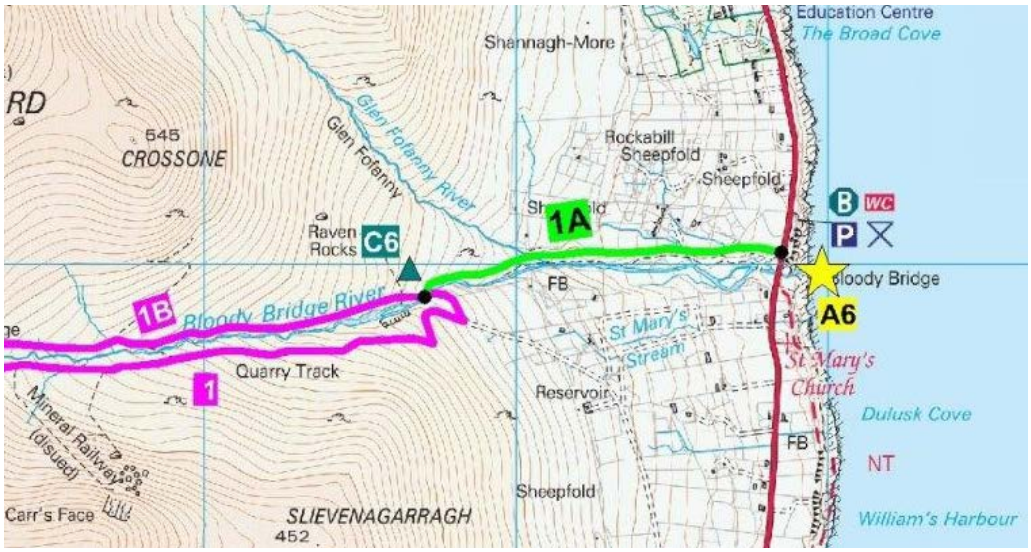
This section is very badly eroded and its visual impact is considerable. It is likely to worsen over time and the impact on vegetation, soils and substrate is likely to accelerate. A much more clearly-defined and robust path is required along this route, particularly given its popularity and importance. Any path works should centre on creating a more clearly-defined path and on significantly reducing its visual impact. Work should also include the reinstatement of the whole area that has been affected by the path. Any path works should ensure that the classification/grading of the path remains at Category 4 or above and its visual qualities should be appropriate given the location and the landscape.

Appendix 1

Mourne & Slieve Croob Strategic Path Review Dafydd Davis 2012

SECTION 1A

Bloody Bridge to Glen Fofanny Footbridge



This picture shows the nature of this path near its start – note the width and very even compacted surface.

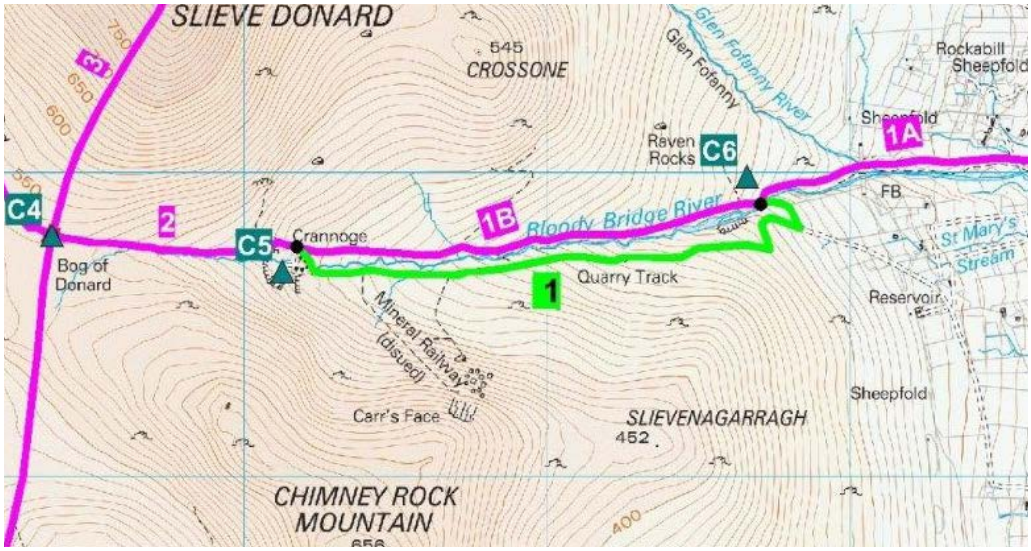
This picture shows a section which is typical of this path – note how the vegetation is effectively demarcating the path – also note the slightly uneven surface.

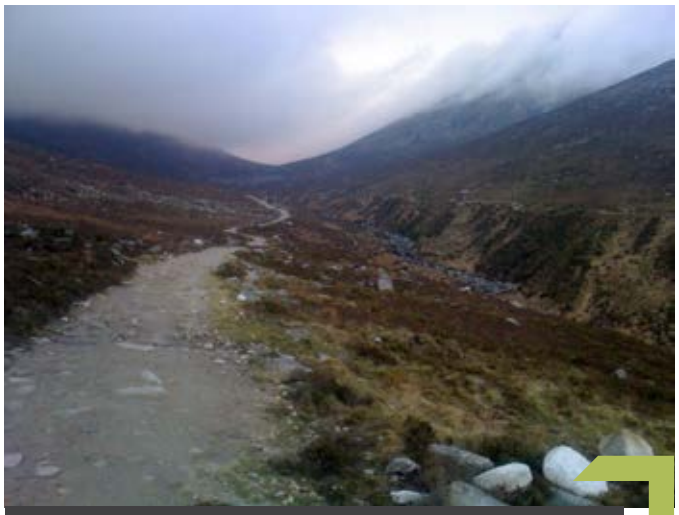
SECTION 1A

Section	Section 1a
Description	Bloody Bridge to Glen Fofanny Footbridge. A very important and popular path giving direct access to Slieve Donard.
Type of Path	TYPE A – Key access route
Strategic Value	Very high – this path has a profound effect on the way in which the Eastern Mournes are accessed, its location adjacent to a main road and the quality of the path make it a key access route of great value.
Start Point	Bloody Bridge Car Park
End Point	Stepping stones/ford Bloody Bridge River
Purpose	This is a main access route for walkers and outdoor activity groups into the Mournes and to access the Bloody Bridge River. This section is entirely on National Trust land and provides a vital access corridor through an area of largely privately owned land with very limited or no access opportunities.
Key Control Points	Footbridge crossing of Glen Fofanny River – new bridge recently installed to encourage use of quarry track (section 1) C6 – ford/stepping stones on Bloody Bridge River
Length	1,200m
Counter data	–––
Path surface	Stone pitching, exposed bedrock, compacted earth, mud and gravel
Width	1m – 2m
Evidence of erosion	Some evidence of erosion at isolated locations, includes some gullying and wash out
Braiding	Heavy vegetation, including gorse and bracken, prevent extensive braiding though there is some in isolated areas
Evidence of path repair	Extensive stone pitching which has been largely successful. Some minor works above pipeline.
Associated features	Footbridge over Glen Fofanny River
Trail Classification /Grading	Category 5 (due to width, steep exposed bedrock section, large level changes and uneven surfaces)
General Observations and Recommendations	This section is very heavily used by outdoor centre groups accessing the adjacent gorge. This is leading to the development of numerous desire lines at key locations which are having a significant visual impact. The remainder of this path is in a relatively good condition though minor erosion and braiding should be addressed by effective trail demarcation. It is important to address the desire lines caused by gorge walking groups since these have the potential to become damaging to sensitive habitats, particularly around the banks of the river. This could be achieved by developing agreed access and egress points and developing robust paths at these locations.

SECTION 1

Glen Fofanny Footbridge to Crannoge Quarry





This picture shows Section 1 looking uphill towards the quarry - note the width of the track and the compacted and even surface. The path is somewhat visually intrusive in terms of its width and the pale colour of the surface, but this may reduce over time and weathering.

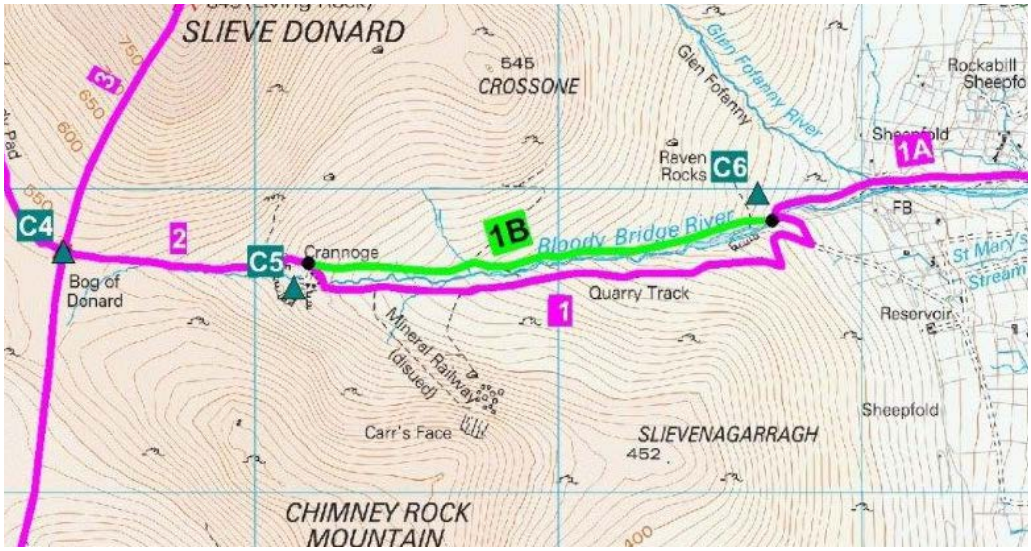
This picture shows the path looking east down from the Crannoge Quarry itself. As indicated above the path was established to access this quarry and has in the past been surfaced with bitmac & concrete in places. Damage to the surface of the track, a lack of maintenance and pressure to reduce impact on the surrounding land and to sustain vehicular access led to key upgrading works. Anecdotal evidence is that more people are keeping to this track than before the works.

SECTION 1

Section	Section 1
Description	Glen Fofanny Footbridge to Crannoge Quarry. A quarry access track which is also a vehicle access for farmers.
Type of Path	TYPE A - Key access route
Strategic Value	Very high – this path is of the utmost importance and directly influences the way in which people access the Mournes and the wider path network.
Start Point	Stepping stone/ord in Bloody Bridge River
End Point	Crannoge Quarry
Purpose	This track provides access to the quarry for those on foot and is also an important access for farmers, mountain rescue and fire service. It also provides an alternative to the path on the other side of the river (Section 1b).
Key Control Points	Stepping stones and quarry
Length	2km
Counter data	12,483 p.a. Bog of Donard/Mourne Wall stile
Path surface	Compacted crushed stone, gravel, rocks
Width	2.5m – 4m
Evidence of erosion	Some isolated areas of minor wash out
Braiding	None
Evidence of path repair	This track has recently been upgraded and resurfaced to encourage users to keep to the track to mitigate impact on the SAC/farmed landscape.
Associated features	None
Trail Classification /Grading	Category 3
General Observations and Recommendations	This once heavily engineered and well maintained track had become derelict and users, including vehicles (farmers, NIFRS etc.) and walkers, were increasingly using adjacent land causing impact on the SAC and farmed landscape. The track itself is somewhat visually intrusive, but recent work has attempted to utilise sustainable techniques. It is a very important alternative to the path on the other side of the river (Section 1b), which is becoming increasingly eroded. It is essential that unauthorised vehicles are excluded from this section, since this could lead to greater impact on the surrounding area. The landowners worked with MHT/NT/NIEA to manage this site.

SECTION 1B

North Side of Bloody Bridge River from the Ford/Stepping Stones to the Crannoge Quarry



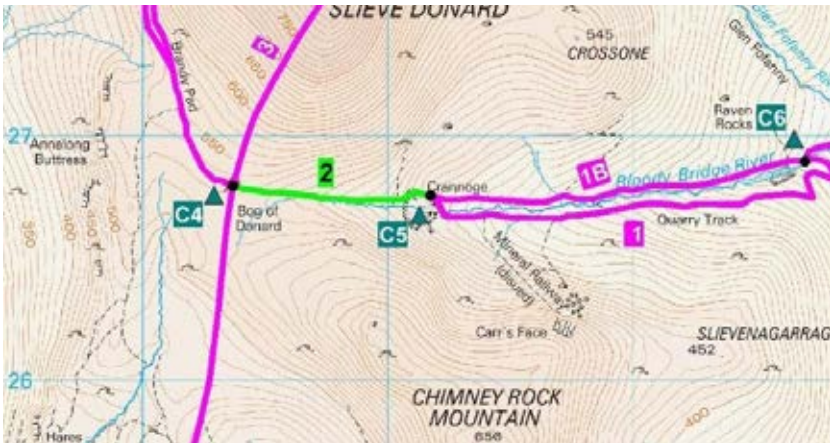
These pictures show some of the erosion on the path on the north side of Bloody Bridge River

SECTION 1B

Section	Section 1B
Description	North side of Bloody Bridge River from the ford/stepping stones to the Crannoge Quarry. A very eroded desire line through steep and, in places, very wet ground, which links Section 1A into the quarry and then on to section 2
Type of Path	TYPE B – desire line linking a key access route and an important control point
Strategic Value	Very high – whilst the use of this section is being discouraged it remains an important route of high value
Start Point	Footbridge
End Point	Crannoge Quarry
Purpose	This is a more direct route from the footbridge to the quarry and avoids using the track (Section 1)
Key Control Points	Foot bridge on Section 1A (this is intended to direct users away from this section) Quarry
Length	2km
Counter data	12,483 p.a. Bog of Donard/Mourne Wall Stile
Path surface	Peat, mud, loose gravel and stones, boulders – very wet in places with running and standing water
Width	1m – 5m
Evidence of erosion	Very extensive erosion, particularly at the start where slopes are steepest. There is some potential for slopes to become unstable.
Braiding	Very extensive braiding throughout with no single clearly defined line. Extensive impact on surrounding vegetation.
Evidence of path repair	None
Associated features	None
Trail Classification /Grading	Category 6
General Observations and Recommendations	This section is quite heavily eroded in key areas but particularly at the end nearest the footbridge. Extensive repair/construction works as well as significant realignment would be required to address this and this seems inappropriate given the adjacent quarry track. It may be more appropriate to block this section off entirely with hard landscaping and to reinstate the area with landscaping and planting.

SECTION 2

Crannoge Quarry to Bog of Donard



This picture shows the path looking west towards the Mourne Wall – note that vegetation and peat has been removed over a wide area and that the substrate would appear to be being eroded by water on the left of the picture.

This picture shows the path a few meters further on – here again the vegetation and peat would appear to have been removed but the substrate is significantly more eroded.

This picture shows a steeper section of the path where water has been having an effect on the vegetation, peat and substrate. Where the water has been flowing can be seen below the figure.

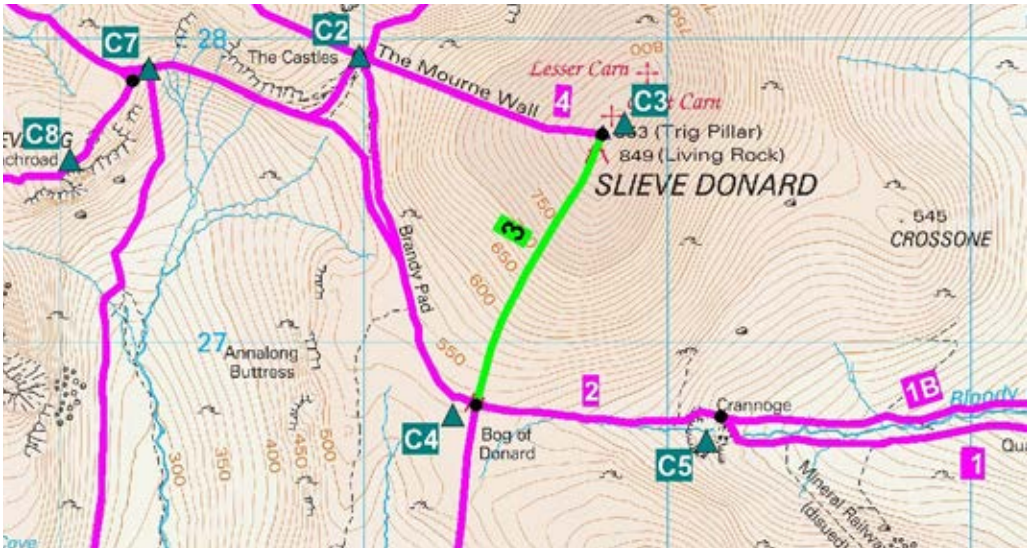
This picture shows the width of the impact of this path – in the left background can be seen an area of path which has been eroded down to the substrate and underlying boulders and glacial till, whilst in the foreground can be seen where braiding would appear to have resulted in the removal of ground cover vegetation and is also impacting upon the peat.

SECTION 2

Section	Section 2
Description	Crannoge Quarry to Bog of Donard. A very heavily eroded and braided desire line through an area of very wet ground.
Type of Path	TYPE B – desire line linking a key access route and a key control point
Strategic Value	Very High – this section is a very important link between the access point at Bloody Bridge and the wider path network.
Start Point	Crannoge Quarry
End Point	Bog of Donard (stile in wall)
Purpose	This path is the crucial link between the quarry track and the stile at the Bog of Donard, creating a link into the summit of Donard, the Brandy Pad and the wider path network.
Key Control Points	End of quarry track Stile in wall
Length	900m
Counter data	12,483 p.a. Bog of Donard/Mourne wall stile
Path surface	Loose stones and gravel, mud and peat up to 300mm deep, trampled vegetation
Width	2m – 10m
Evidence of erosion	Extremely extensive erosion across a wide area, extensive impact on ground cover vegetation, peat and substrate, areas of standing water
Braiding	Essentially this whole section is a heavily braided path across an area of up to 10m wide. There is essentially no single, clearly defined line.
Evidence of path repair	None
Associated features	Stile in wall
Trail Classification /Grading	Category 6 – due to variable surfaces, wet ground and level changes
General Observations and Recommendations	This section is very badly eroded and its visual impact is considerable. It is likely to worsen over time and impact on vegetation, soils and substrate is likely to accelerate. A much more clearly defined and robust path is required along this route, particularly given its popularity and importance. Any path works should centre on creating a more clearly defined path and significantly reducing its visual impact. Work should also include the reinstatement of the whole area that has been affected by the path. Any path works should ensure that the classification/grading of the path remains at Category 4 or above and its visual qualities should be appropriate given the location and the landscape.

SECTION 3

Bog of Donard to summit of Slieve Donard



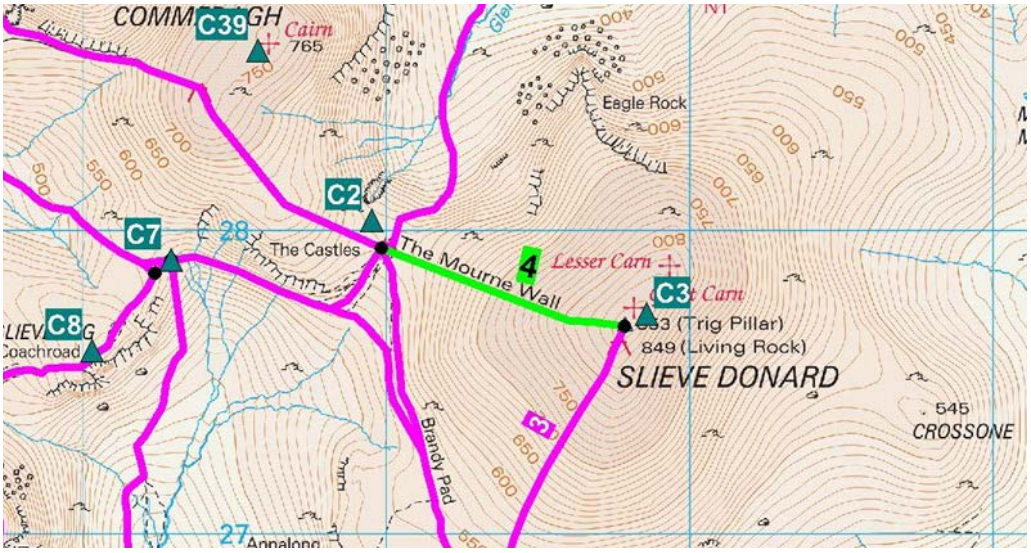
This picture is typical of the kind of impact that this path has – note the ground cover vegetation which is potentially quite fragile

SECTION 3

Section	Section 3
Description	Bog of Donard to summit of Slieve Donard. Along the side of the Mourne Wall, down to bog of Donard – more of a desire line
Type of Path	TYPE B – path linking a key access route to a major thoroughfare or an important summit
Strategic Value	Very High – this path is a key route to the summit of Slieve Donard and is linked to both the Bloody Bridge access route and the Brandy Pad
Start Point	Summit of Donard
End Point	Bog of Donard , stile in wall
Purpose	To link the summit of Donard into the end of the Brandy Pad and the Bloody Bridge path
Key Control Points	Mourne Wall Summit of Donard. Water tower at summit of Donard. Stile in wall
Length	1.2km
Counter data	12,483 p.a. Bog of Donard/Mourne wall stile
Path surface	Stone pitching, short cropped grass, mud and gravel, peat
Width	Up to 5m
Evidence of erosion	Some localised minor erosion of substrate. More widespread impact on ground cover vegetation and peat
Braiding	Very heavily braided
Evidence of path repair	None
Associated features	This section follows the Mourne Wall throughout, which essentially defines the whole route
Trail Classification /Grading	Category 5/6
General Observations and Recommendations	This section is potentially vulnerable to impacts because of steep side slopes and fragile vegetation cover. On both sides of the wall, walkers are using wide lines across potentially fragile ground. The presence of the wall forces people to walk on the fall line and the open slopes make it virtually impossible to contain walkers on one line. Braiding and erosion over an ever widening area is therefore likely to take place and possibly accelerate over time. However, it is felt that it would be inappropriate to carry out very extensive path construction in this case due to the visual and physical impacts this might have. Measures to reinstate and reinforce the integrity of the ground cover vegetation and therefore the stability of the slope should be investigated. These may include the seeding of affected areas with appropriate vegetation mixes and careful monitoring of impacts. However, these are likely to require ongoing inputs over a considerable period of time if they are to be successful.

SECTION 4

Col of Donard to the Summit of Donard



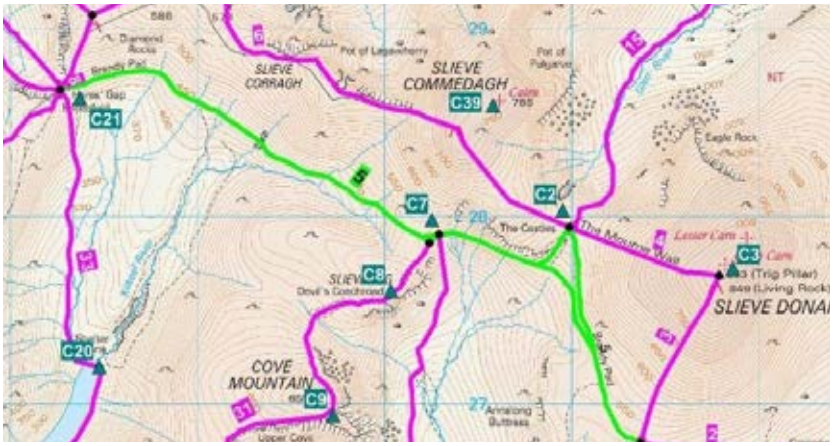
This picture shows the path in question when viewed from Slieve Commedagh – note the path on both sides of the wall and the relatively wide footprint of the path on the ground. However erosion is currently confined to relatively small, isolated areas on particularly steep slopes.

SECTION 4

Section	Section 4
Description	Col of Donard to the summit of Donard. A very steep path which follows the wall on both sides to the summit through open grassy slopes.
Type of Path	TYPE B - a path linking a key access route to a major thoroughfare or an important summit
Strategic Value	Very High – one of the most heavily used paths in the Mournes
Start Point	Stile in wall at Col of Donard
End Point	Summit of Donard
Purpose	To link the Brandy Pad and the Glen River path into the summit of Slieve Donard
Key Control Points	Mourne Wall. Summit of Donard.
Length	1km
Counter data	18,902 p.a. Stile at Donard/Commedagh col
Path surface	Stone pitching, short cropped grass, mud and gravel
Width	1m – 5m
Evidence of erosion	Ground cover vegetation is showing signs of wear, some gullying up to 1m wide x 300mm deep. Numerous 'steps' forming in organic layers.
Braiding	Very heavily braided over a width of 6m
Evidence of path repair	Very high quality stone pitching adjacent to wall up to 1m wide
Associated features	This section follows the Mourne Wall throughout which essentially defines the whole route
Trail Classification /Grading	Category 5/6 (due to steep gradients)
General Observations and Recommendations	On both sides of the wall walkers would appear to be using a seemingly widening line across what is potentially fragile ground. The presence of the wall forces people to walk on the fall line and the open slopes make it virtually impossible to contain walkers on one line, particularly when they are descending. Braiding and erosion over a widening area may therefore accelerate over time. However, it is felt that it would be inappropriate to carry out very extensive path construction in this case due to the visual and physical impacts this might have. Measures to reinstate and reinforce the integrity of the ground cover vegetation and therefore the stability of the slope should be investigated. These may include the seeding of affected areas with appropriate vegetation mixes and careful monitoring of impacts. However these are likely to require ongoing inputs over a considerable period of time if they are to be successful.

SECTION 5

The Brandy Pad



The picture above show parts of this path where it is confined to one clearly defined and narrow line. In these areas the visual impact of the path is minimal and it would seem to be able to withstand the volume of use it receives.

This picture illustrates the low level of impact that this path has where it is on the contour and in effect demarcated by steep slopes.

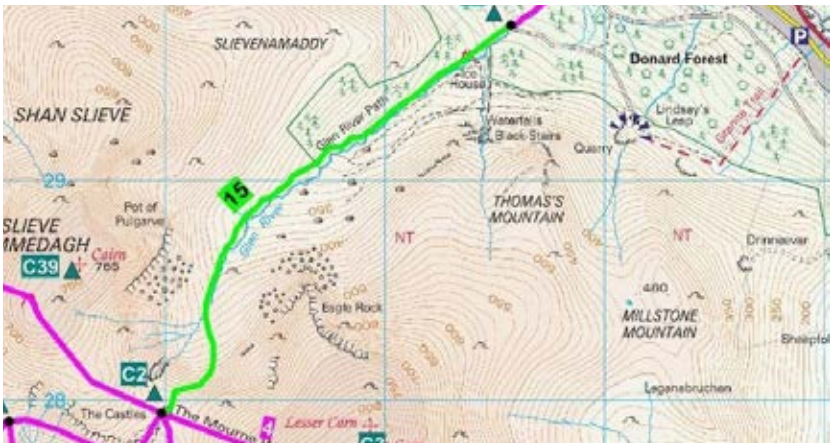
This picture shows a section of the brandy pad where visual and physical impacts are considerably greater than those that are shown above. Note the removal of ground cover vegetation exposing the underlying substrate. This is also beginning to show signs of erosion.

SECTION 5

Section	Section 5
Description	The Brandy Pad. A very long and well established path which is one of the most popular and important in the whole of the Mournes
Type of Path	TYPE C - a key thoroughfare linking important cols and access routes
Strategic Value	Very High – a very heavily used path which links some very important access points and cols. This path would seem to have a significant effect on the way in which the wider path network is used.
Start Point	Hare's Gap – stile
End Point	Bog of Donard - stile
Purpose	This path provides a key linear route between two very important cols. It is a very important thoroughfare through the heart of the High Mournes which is used by a very wide range of users.
Key Control Points	The Slieve Beg/Commedagh col, The Castles, gully below Slieve Corragh
Length	4km
Counter data	12,483 p.a. stile at Bog of Donard/Mourne Wall 18,902 p.a. stile at Donard/Commedagh col 44,014 p.a. stile/gate at Hare's Gap
Path surface	Extremely variable, including compacted gravel and earth, mud, scree, stone pitching, rocks and boulders
Width	600mm – 3m
Evidence of erosion	Very extensive erosion at key locations, particularly on sections of over 30% gradient
Braiding	Extensive braiding at key locations, particularly on slopes of more than 30% or where there is erosion
Evidence of path repair	Extensive repair works including revetments, stone pitching and benching
Associated features	None
Trail Classification /Grading	Category 4/5
General Observations and Recommendations	Where the gradient of this trail is less than 50% of the gradient of the slope, or where it is effectively demarcated by steep side slopes, it is generally in good condition with only minor braiding and erosion and is also extremely robust. However, erosion and braiding is extensive in key areas and the visual impact of this path is quite significant where this is the case. Any path works should focus on reducing visual and physical impacts whilst retaining the integrity of the "mountain experience" and not increasing the accessibility of the path. This may require minor realignments at key locations and also considerable remediation/ reinstatement of vegetation where erosion has been significant. However, it is also very important to ensure that the path is not made more accessible by reducing its visual and physical impact. This will require careful design work as well as the development of very prescriptive plans which are centred on working in low impact sustainable ways.

SECTION 15

Glen River Path (Third Bridge) to Col of Donard



This picture shows a section of very high quality stone pitching on this path which has been very successful in addressing the visual and physical impacts of the path overall. However, some critical maintenance is required to ensure that the stone pitching continues to manage the impacts of walkers.

The above picture shows braiding taking place adjacent to a stone pitched section. This should be addressed by effective landscaped demarcation

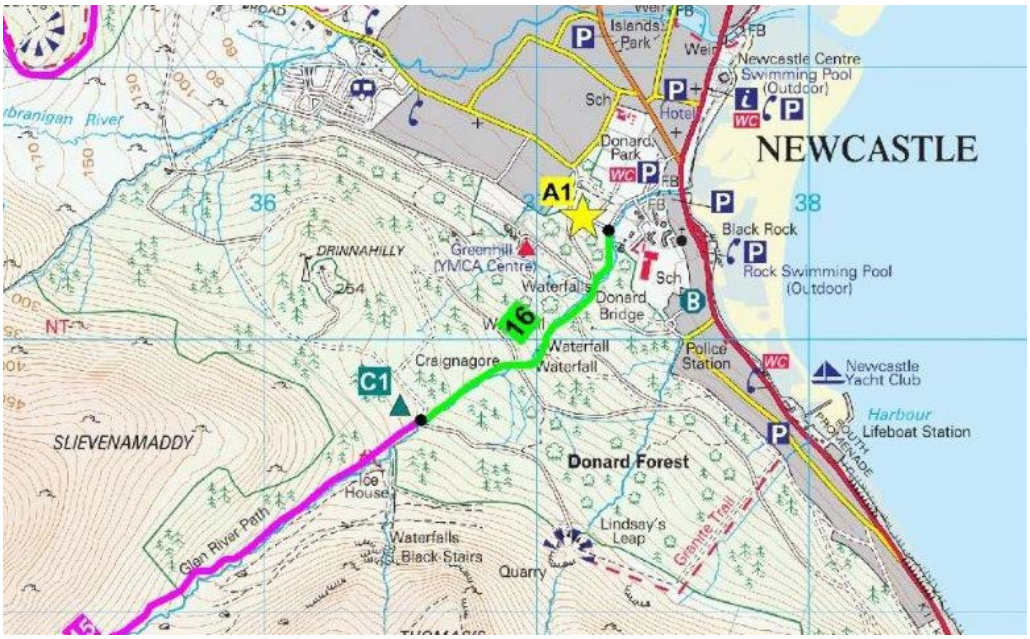
The above picture shows ongoing works to reduce visual and physical impacts of this path by establishing a more clearly defined and robust single line and blocking off other routes. The braiding of the path can clearly be seen in this picture with at least three lines in evidence.

SECTION 15

Section	Section 15
Description	Glen River path (third bridge) to col of Donard. A path linking Donard Forest into the Brandy Pad and also the summit of Slieve Donard
Type of Path	TYPE A – access route linked to access point and car park (Public Right of Way)
Strategic Value	Very High
Start Point	Top bridge in Donard Forest
End Point	Saddle of Donard – stile in wall
Purpose	Part of the most popular way up Slieve Donard, which is also the most popular summit in the Mournes
Key Control Points	Top bridge, Ice House, start of existing stone pitching, stream crossing, stile
Length	3.2km
Counter data	18,902 p.a. stile at Donard/Commedagh col
Path surface	Initially very uneven with large level changes and steps, mud, loose gravel, boulders and stone then stone pitching, boulders and scree
Width	600mm – 2.5m
Evidence of erosion	Evidence of erosion in the bottom half, gullies up to 1m deep x 2m wide
Braiding	Extensive braiding in lower half with up to five different lines. Minor braiding on stone pitched sections and some desire lines to avoid pitching
Evidence of path repair	Very extensive and high quality stone pitching in upper half. Ongoing works to lower section.
Associated features	Stile in wall at col of Donard
Trail Classification /Grading	Category 5 due to gradient and large level changes
General Observations and Recommendations	The stone pitching in the upper half of this section has been largely successful but additional demarcation is required to prevent braiding. Works are ongoing to reduce the visual and physical impacts of the lower section. This path is one of the most important in the Mournes and as such is likely to be under constant and increasing pressure from users. Path repair works should centre on reducing the path's visual and physical impact and not to make it more accessible.

SECTION 16

Glen River - Donard Park to the Third Bridge



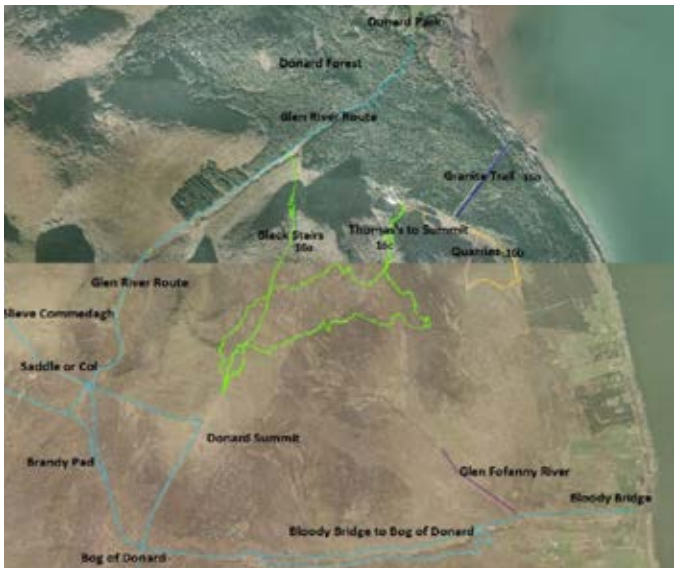
The above picture shows typical conditions found on this path i.e., exposed roots and compacted gravel. The impact of this path would appear to be acceptable, however, the quality of the surface is one of the factors leading to the development of numerous desire lines.

SECTION 16

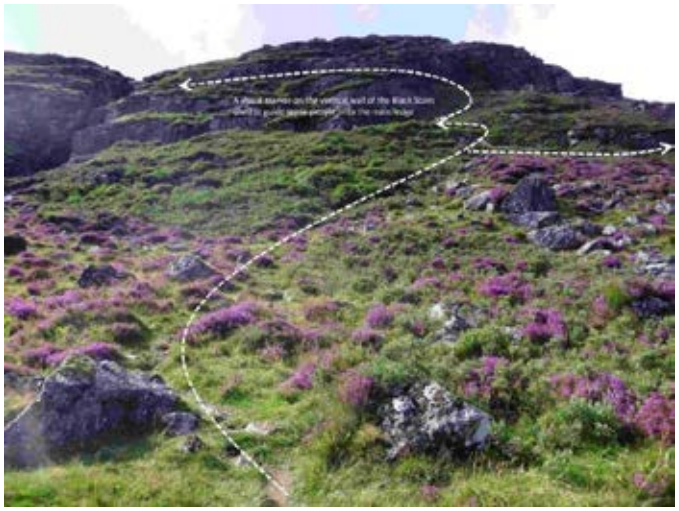
Section	Section 16
Description	Glen River - Donard Park to the third bridge. A woodland path including purpose built steps and stone pitching with numerous desire lines.
Type of Path	TYPE A – access route linked to access point and car park (Public Right of Way)
Strategic Value	Very High – this is the key link from one of the most important access points into the Mournes
Start Point	Donard Park
End Point	Top Bridge
Purpose	To link Donard Park with Slieve Donard and the High Mournes
Key Control Points	Fence at entrance to Donard Wood from fields, 3 x Bridges over Glen River
Length	1,200m
Counter data	18,902 p.a. stile at Donard/Commedagh col
Path surface	Existing rock outcrops, exposed roots, man-made gravel path, stone pitching, compacted earth and gravel, mud
Width	1m – 5m
Evidence of erosion	Some evidence of erosion throughout with gullying, exposed roots of trees, exposed outcrops which would appear to be very polished from continued use
Braiding	Quite extensive throughout with numerous lines at key locations. Braiding would appear to occur mostly where path is not constricted by vegetation.
Evidence of path repair	Some historical water bars and path construction Current repairs underway from third bridge
Associated features	Stone steps in poor condition
Trail Classification /Grading	Category 4/5
General Observations and Recommendations	This path is extremely heavily used by a wide range of users and its condition is, in places, leading to the development of desire lines to avoid difficult, slippery or uneven surfaces. Desire lines should be addressed by appropriate demarcation techniques and eroding areas should be addressed. However the overall classification/grading of this path should remain at around Category 4/5 and access to it should not be made easier.

SECTION 16A

Black Stairs



Strava Heat Map showing Black Stairs route



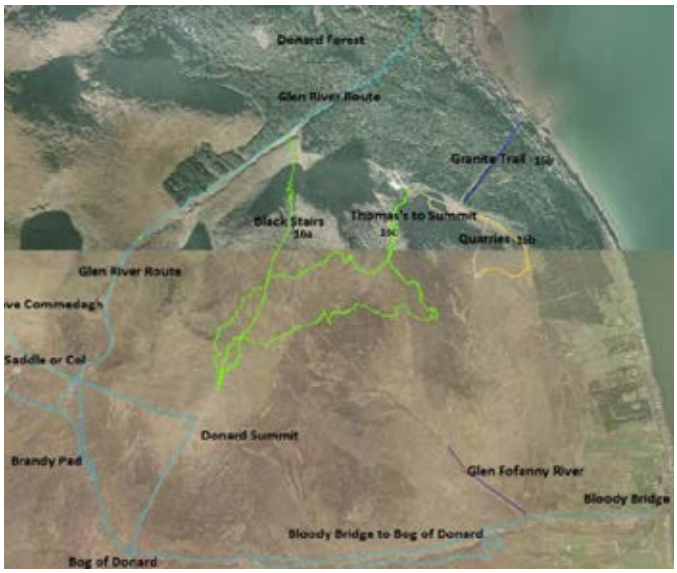
The Black stairs is a popular route with Hill and Dale events but has to navigate a steep outcrop. Erosion is localised and there are some signs of recovery in places, but the route could be vulnerable to increased use.

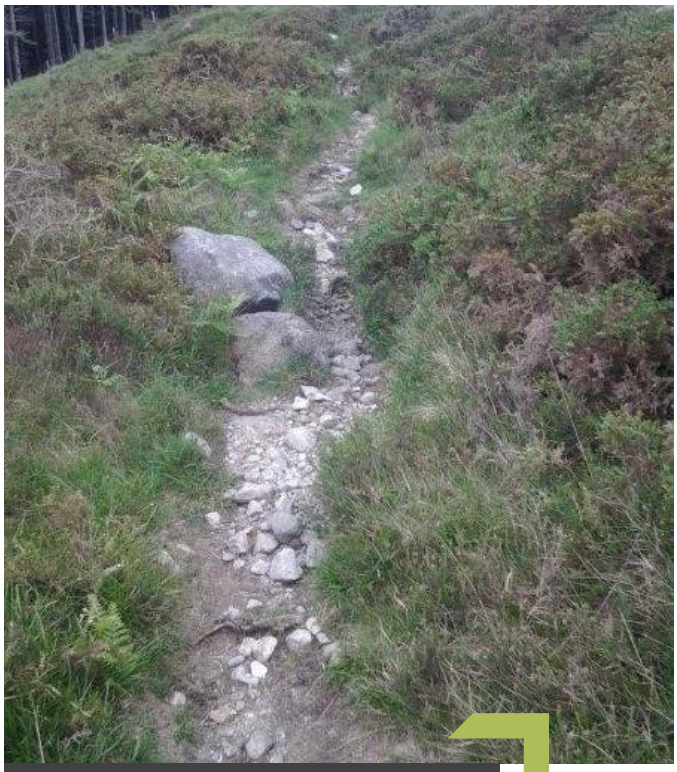
SECTION 16A

Section	16a
Description	Mainly an offshoot from the Glen River trail, crossing the river and taking users to the summit of Donard. Can also take traffic from third bridge, through the forest and from Thomas's quarry. Named after the steep challenging early section (see photo below)
Type of Path	Type B – well used but informal trail branching off from Glen River trail (type A)
Strategic Value	Moderately high - an important route to the summit of Donard, especially for runners and race events and hikers wanting alternative summit route.
Start Point	On the Glen River trail opposite the Ice House
End Point	Summit of Donard
Purpose	Mainly used by experienced walkers and runners
Key Control Points	Ice house; black stairs; lesser cairn; great cairn (summit)
Length	2.2 km (to lesser cairn)
Counter data	–––
Path surface	Informal trail lines through moorland and montane heath; crossing scree near summit
Width	500mm – 3m
Evidence of erosion	Erosion apparent at bottleneck area of black stairs. Occasional but not frequent above that. Although there is observational evidence of a recovery from erosion on the wider sections of trail line above the black stairs – the profile of the trail line is sunk into the landscape suggesting a loss of vegetation and peat.
Braiding	Not a feature
Evidence of path repair	No
Associated features	Black stairs tricky to navigate through during winter as it's a seepage area that gets iced up
Trail Classification /Grading	Category 6 – for the actual black stairs; the rest is category 5
General Observations and Recommendations	Used mainly by users going up Donard (up-traffic) Erosion and accessibility should be monitored, especially before and after events, which have a greater negative impact than casual users There may be a knock-on effect from the Mourne Gateway proposal in terms of future use and the impacts of that

SECTION 16B

Granite Trail and the Three Quarries





Link from Granite trail bogey line to Drineevar

Three Quarries looking down from Millstone

Additional Routes to Consider Assessment in Due Course:

- Thomas's Quarry to Donard and via Millstone
- Glen Fofanny River to Crossone

SECTION 16B

Section	16b
Description	A path that links the three quarries (Thomas's, Millstone and Drinneevar) and also ties into the Granite trail.
Type of Path	TYPE C – Key access route linking into Millstone Mountain, Leganbruchan and Donard. Mixed path type: old quarry track; informal narrow trail; built narrow trail.
Strategic Value	Presently high strategic value, and higher if Mourne Gateway Project goes forward. Important conduit both in low level path network, and informal trails linking into upland terrain (Millstone Mountain; Leganbruchan). Potentially important link to Bloody Bridge via Millstone Mtn and down alongside the Glen Fofanny river; or contouring from Drinneevar quarry along the side of Leganbruchan
Start Point	Thomas's quarry
End Point	Drinneevar
Purpose	Developed as a low level heritage trail with looped walks back to Donard Park – also via the harbour area. Taking traffic from Glen River path (north); the Granite trail (east)
Key Control Points	Quarries - Thomas's; Millstone and Drinneevar
Length	2.48km
Counter data	–––
Path surface	**1** 790m of old quarry track (360m from Thomas's; 430m to Drinneevar) **2** 120m through quarry (Millstone) **3** 920m mix of built and improved trail. Narrow (300mm) – from top of granite trail to the start of old quarry track (Drinneevar side - south) **4** The granite trail - 680m following the old quarry bogey line
Width	300mm – 2m
Evidence of erosion	Drainage issues. Water on trail 920m section - several locations. Water saturating grass on old quarry track, Drinneeva. Water on the Granite trail. A lot of the gravel which tied into the hard built features (paved steps) has been washed away. Also washing stone on to paving.
Braiding	Not a feature
Evidence of path repair	MHT work
Associated features	Millstone mountain; Leganbruchan
Trail Classification /Grading	Category 5
General Observations and Recommendations	Wet weather survey (WWS) and subsequent drainage work needed on southern half of trail – 920m section and 430m section. Will be impacted heavily if Mourne Gateway Project is realised. The priority work needed on the Granite trail has been identified and discussed with the council.

Appendix A

User Groups and Cohorts

Trail user groups within the study area can be divided into the following broad groups:

- Pedestrians
- Off road cyclists
- Equestrian users

Equestrian and off road cycling within the study area is largely at a low level and this work has not taken into account the way that these user groups are divided into cohorts. The most significant user group in the context of the study area is:

Pedestrians

This user group can be divided into the following cohorts:

- The less able
- Casual trail users
- Leisure and/or occasional walkers
- Ramblers
- Trail runners
- Hill walkers and fell runners

All of the above cohorts use trails in differing ways and require differing kinds of trails in turn.

The Less Able

This cohort consists of trail users whose access to trails is limited or constrained by physical or mental issues. It also consists of those users who do not necessarily want to access trails other than those that are accessible to all. This cohort therefore consists of the following groups:

- People with limited or no navigational or map reading skills
- People with limited levels of confidence in terms of accessing the countryside
- People with limited physical mobility
- People with impaired vision
- People with learning difficulties
- Elderly people
- Very young children

This cohort requires trails that are genuinely accessible to all users including people using wheelchairs and children in buggies. Such trails should have even, stable and consistent surfaces and should be not less than 1,500mm wide to enable users to move along the trail side by side. This may be essential in enabling certain users to use the trail, for example where a trail user needs a carer to walk alongside them or they need a guide dog. Trails aimed at this cohort also have gradients of not more than 5% throughout and the trail should not include any features such as steps, level changes, dips or mounds.

This cohort generally require trails that fit within Category 1 (see trail classification and grading – APPENDIX I) and the most suitable trail model is a prescribed route of some kind (preferably circular) with supporting facilities such as toilets and easy access parking. They also require trails with little or no elevation change or that are largely flat and which are obvious and easy to follow throughout. In addition, this cohort often requires specialist purpose-built trails to meet their needs.

Casual Trail Users

This is a very diverse group and is most likely the single largest cohort in the pedestrian user group. It consists of people of all ages and physical abilities and essentially encompasses anyone that uses trails in a casual way for low key informal recreation in settings such as urban parks, country parks, forests and woodlands. The key characteristics of this group are:

- Limited or no navigational skills
- Low levels of confidence in terms of accessing trails and the countryside
- If using social trail networks they are most likely to use trails that are known to them and close to home

- Most likely to use prescribed trails in other settings
- Low levels of fitness

Users that fall within this cohort are as follows:

- Dog walkers
- Joggers
- Families with young children
- People of all ages including young children and the elderly

This cohort use a range of trail types including forest roads and tracks, farm tracks, public rights of way and prescribed trails. They require trails of between Category 1 and 3 and generally do routes of between 30 minutes and 1 hour duration and are very likely to do the same routes on a regular basis (particularly dog walkers). This cohort are most likely to do routes that do not involve significant elevation change and will use social trail networks that they are familiar with close to home, and prescribed routes in areas that they are not familiar with. As outlined above, this group is characterised as having low levels of confidence and skill in the outdoors and are therefore most likely to use routes that are either well known to them or routes that are prescribed and waymarked in some way. Crucially, this cohort requires trails that are obvious on the ground and easy to follow and by and large require trails with some formal built structure.

Leisure Walkers and/or Occasional Walkers

This is a very large cohort and is essentially those people that are not committed or hardened walkers but who occasionally walk a range of routes in a variety of settings ranging from woodlands and forests to coastal areas, mountains and moorlands. This cohort can broadly be characterised as follows:

- Some, but generally low levels of navigational skill
- Some, but limited confidence levels in relation to the outdoors
- A very wide range of fitness levels, but generally quite low
- Will use both prescribed routes and social trail networks

This cohort are not committed or regular walkers, but do occasionally walk on routes that are quite challenging such as key or iconic mountain walks, but for the most part they walk at low levels for between one and four hours.

They will make special journeys to go and walk certain routes or trails and are likely to use some social trail networks as well as prescribed routes. This group will make use of guidebooks and other material to plan routes on social trail networks and often in groups. This group will use trails of between Category 1 and 4 including forest tracks and roads, farm tracks, desire lines and informal paths and routes which may involve significant elevation change. However, this cohort requires trails that are clear on the ground and easy to follow, but this does not necessarily mean that they have any formal built structure.

In addition, this cohort are very likely to use prescribed routes of the appropriate length and nature and may very occasionally undertake day-long walks on iconic routes or trails, for instance to the summit of a particular mountain (such as Slieve Donard).

Ramblers

This is a moderately large, but very significant cohort who use trails in a very wide variety of ways. They are significant in that they are often members of walking or rambling clubs who are also involved in access advocacy and in organising walking events.

- This cohort can be characterised as follows:
- Good levels of map reading and navigational skills
- Good levels of outdoor skills and competence
- Good levels of fitness
- Will walk virtually any route or trail in a wide range of settings
- They are very regular walkers, who use trails at least once a week

Whilst this group are hardened walkers with high skill and confidence levels, they are most likely to use lower level routes in forests, coastal or lowland settings of between two and six hours duration. Whilst this cohort will use prescribed routes, they are much more likely to

use social trail networks and trails of between Category 1 and 5 including public rights of way, forest roads and tracks, farm tracks, purpose built trails, desire lines and traditional access routes. Crucially, this cohort does not necessarily require trails that are clearly visible or obvious on the ground or trails that have a formal built structure. In addition, routes used by this cohort are very likely to include very significant elevation changes.

This cohort are very likely to make special journeys to access particular trails, such as routes to particular mountain summits etc., and are also very likely to walk in groups. In addition, this cohort may occasionally do multi-day walks, particularly iconic trails.

Trail Runners

This is a small but fast growing cohort of trail users that is centred on those who run on relatively low level trails in a variety of settings, including forest roads and tracks, urban parks and country parks and on rights of way. They mostly use well made trails, often on a very regular basis several times a week. This cohort can be characterised as follows:

- Relatively high levels of fitness
- Limited outdoor skills
- Limited navigation skills
- Most likely to use trails close to home

This cohort will use social trail networks close to home but are more likely to use prescribed routes. The routes tend to take between 30 minutes and one hour to complete and typically the trails used by this cohort range from Category 1 to Category 4. However, they are more likely to use trails of between Category 2 and 4 which have obvious lines on the ground and some kind of formal built structure. Routes used by the cohort will generally not include significant elevation change.

Hill Walkers and Fell Runners

This is the 'hard core' cohort of this user group and consists of hardened walkers and runners who primarily walk in mountain or moorland settings on challenging routes with difficult trails and considerable elevation change. In relative terms, it is a very small cohort but it is very significant in that they are accessing some of the most sensitive and fragile landscapes and habitats and this group's impact can therefore be quite significant relative to its size.

This group can be characterised as follows:

- High levels of outdoor skill and expertise
- High levels of map reading and navigation skill
- Want challenging routes in remote and wild settings
- Walk or run and least once a week
- Will make special journeys to access particular routes or trails
- Specifically want to access high ground

This group are primarily looking for a 'wilderness' or 'adventure' experience in a wild upland setting and are looking for routes that access high ground and specifically summits, high ridges and cols and do not necessarily need trails with any obvious line on the ground or formal structure, indeed many hill walkers and fell runners are able to move around wild places without using any trail at all. However, the reality is that the majority of this group do use a variety of trails such as forest roads, farm tracks and quarry tracks to access high ground and then mostly follow well established informal paths and desire lines to access key control points.

This group therefore use trails ranging from Category 1 to Category 6 but with an emphasis on trails of Category 4 and above. Routes can be anything from two to 10 hours duration, with very considerable elevation changes. In addition, this group will occasionally do multi-day routes and will also compete in competitive events of between 30 minutes and twodays duration.

Whilst this group is small in terms of numbers, there is mounting anecdotal evidence that it is growing significantly.

Appendix B

Classification and Grading for Upland Paths

The trail classification and grading system outlined below defines key trail elements in addition to other specific trail components which define the category of any upland trail. Upland trails in the context of this document are only for pedestrian use within the following user cohorts – occasional walkers and hill walkers/fell runners as outlined in 'Trail User Groups and User Cohorts' document.

The trail elements and components outlined below must be adhered to if any trail is to comply with the required or given trail category.

Trail Definitions

The trail definitions are split into key components as follows.

- Trail width
- Trail gradient
- Trail surface
- Trail features
- Trail Width

This refers to the width of the running surface of the trail i.e., that part of the trail that is travelled over by trail users. This can include purpose built structures and surfaces such as compacted stone and gravel, flagstones and stone pitching. It can also include surfaces that are not purpose built including compacted earth and gravel, scree, boulders, mud, exposed roots and vegetation/ ground cover.

The trail width also takes into account the extent of any clearance either side of the trail and the extent to which this may be affected or restricted relative to the trail category.

Trail widths can vary according to trail category and widths should comply with minimum widths as defined in the trail classification and grading if they are to meet the appropriate category or grade.

Minimum widths are clearly defined in relation to each trail category.

Trail Gradient

Trail gradient is divided into the maximum average gradient and the absolute maximum gradient.

The average gradient of the trail is defined as the mean gradient throughout its length taking into account both maximum and minimum gradients.

Absolute maximum trail gradients refer to the steepest part of the trails and the trail classification and grading system also defines the maximum distance that the absolute trail gradient can be maintained at.

Both average and absolute trail gradients must not be exceeded if trails are to meet the required classification and grading criteria.

Trail Surface

The trail classification and grading system defines the nature of the surface that may be appropriate in relation to each category and the trail surface is defined as that part of the trail which is travelled over by users.

The trail classification and grading system defines the minimum standard of surface required in relation to each category and outlines the nature, evenness, variability and stability of surface required and trail surface criteria must be consistently applied across the stated width of any trail relative to its category.

Trail Features

The trail classification and grading system defines the types and dimensions of any features that may be appropriate relative to the trail category.

In the case of upland trails, features consist of level changes and steps.

Level Changes

Level changes are defined as where the level of the surface of the trail changes or shifts to either a higher or lower level. The height and frequency of level changes has a very significant effect on the classification of any trail, i.e., the higher the level changes and the greater the frequency, the higher the classification.

Such changes can be caused by features in the trail surface, such as gullies, steps, rocks, roots or potholes, and must not exceed the dimensions specified in the trail classification and grading system if trails are to meet the required trail category.

The above picture shows a formally built Category 4 upland trail with numerous level changes of up to 400mm high

Steps

These are in effect artificial level changes that have been constructed to gain height on steep ground. Such features are only found in formally built trails. They can be built of stone (stone pitching) or from timber with stone fill and they consist of risers and treads.

The riser is the front face of the step and the height of these must comply with that which is stated in the trail classification and grading. The height of the riser has a very significant effect on who can and cannot use the trails as does the frequency of the step.

The tread is the flat upper part of the step and the width and length of this must comply with the dimensions that are stated in the trail classification and grading. In addition, the percentage of steps to be found in any trail has a significant effect on its overall classification and grading i.e., the higher the percentage of steps the higher the classification.

This picture shows stone steps on a Category 6 trail. Note the steep gradient, high frequency of the steps and the short length of the treads, also note the unprotected edge or drop of more than 2.5m

Category One Trails

In the context of upland trails, these trails can be described as the most easily accessible type to be found in an upland setting. However, they are not accessible to all users, primarily because of their upland setting.

Category 1 upland trails are most likely to be formally built tracks, such as vehicle access routes or informal routes across easy, low angled terrain.

Category 1 trails can broadly be classified as follows:

- Widths – Minimum 2m.
- Surfaces – Even surfaces such as compacted gravel and stones (on formally built trails), compacted earth and soil and short ground cover vegetation.
- Trail Gradients - Average trail gradients should not exceed 5%, whilst maximum gradients should not exceed 8% for not more than 30m in length.
- Trail Features – Small level changes of not more than 100mm high at intervals of not less than 10m. Category 1 trails should not include steps. These trails should not feature any unprotected, exposed edges or drops that are greater than 1.5m high.

Category 1 upland trails should be accessible to occasional walkers or even leisure walkers. Low trail gradients should allow access for a range of physical abilities, but they are not accessible to 'all abilities'.

Category 1 upland trails must have a clearly defined and obvious trail line, and must be easy to follow.

The above picture shows a Category 1 trail which is also a vehicle access track – note the largely compacted and even surface, width (2.5m) and low gradient (around 6%)

The above shows a Category 1 trail with a surface of short ground cover vegetation – note the low gradient and 2m width

The above picture shows a Category 1 trail which is also a hardened and compacted vehicle track – note the width, small level changes and low gradient

The above picture shows a Category 1 trail with no formal built structure. It is in fact little more than a well established livestock or animal track – note the low gradient and surface of close cropped compacted vegetation. It should also be noted that the surface is both dry and stable.

Category Two Trails

Category 2 trails are relatively easy access trails and are more likely to be formally built structures than informal routes.

Category 2 trails can be vehicle access tracks or easily accessible desire lines across easy open terrain.

- Widths – Minimum width 1.5m
- Surfaces – Even surfaces such as compacted gravel and stones (on formally built trails), compacted earth and soil and short ground cover vegetation, can include some loose material up to 100mm deep and loose stones up to 100mm diameter. Surfaces may also include areas of standing water, not more than 80mm deep and mud/peat not more than 80mm deep.
- Trail Gradients – Average gradients should not exceed 8% whilst maximum gradients should not exceed 12% for more than 50m
- Trail Features – Steps – risers not more than 150mm high, treads not less than 500mm long, level changes up to 150mm at intervals of not less than 2m. These trails should not include unprotected, exposed edges or drops greater than 1.5m high.

Category 2 trails should be accessible to a range of users including leisure walkers and occasional walkers and should have clearly defined lines that are easy to follow throughout.

The above picture shows a Category 2 upland trail which has no formal built structure, but has become established over time – note the 2m width, loose surface and small level changes

The above picture shows a Category 2 trail with only a partly constructed underlying structure – note the variable surface which includes some loose material, mud and vegetation.

Category Three Trails

Category 3 upland trails can be either formally built tracks and trails or informal desire lines with no built structures. In the case of formally built tracks and trails Category 3 trails have more variable surfaces and widths than Category 1 and 2 trails, larger and more frequent trail features and are less accessible to a range of users. In the case of informal trails with no built structure, Category 3 trails will have a well defined line through variable but generally open terrain.

- Width – Minimum width 1m
- Surface – Variable surfaces including gravel and stones, compacted earth and soil and short ground cover vegetation. Can also include exposed bedrock, stone paving and stone pitching and there may be loose material up to 150mm deep and loose stones up to 150mm diameter. Surfaces may also include areas of standing water, not more than 100mm deep and mud/peat not more than 100mm deep.
- Trail Gradients – Average trail gradients 10%, whilst maximum gradients should not exceed 15% for not more than 100m
- Trail Features – Steps – risers not more than 300mm high, treads not less than 500mm long, level changes up to 300mm at intervals of not less than 2m. May also include stream crossings up to 2m wide – stepping stones up to 300mm high x 400mm wide at intervals of not more than 150mm. These trails can also include encroaching vegetation such as bracken, heather and tussock grass. These trails should not include unprotected, exposed edges or drops of greater than 2m high.

Category 3 trails should be accessible to leisure walkers and occasional walkers and should have clearly defined lines that are easy to follow throughout.

The above picture shows a Category 3 vehicle track – note the width (2m), gradient (6%) and variable surface.

The above picture shows a purpose built Category 3 trail – note the width (1.5m) and the uneven surface

The above picture shows a Category 3 trail with little or no underlying structure – note the width, slightly uneven and variable surface which includes stones, soil, mud and grass. Also note the low gradient which qualifies this trail as Category 3 even when taking into account the nature of the surface.

Category Four Trails

Category 4 upland trails can be both formally built structures and informal desire lines.

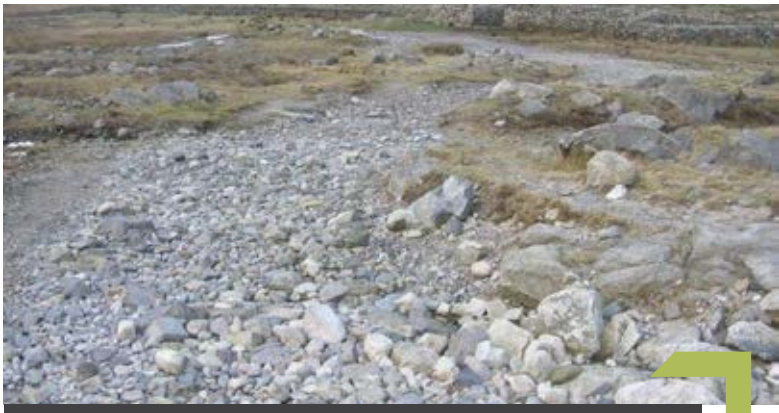
In the case of formally built trails they are likely to be steep vehicle tracks with variable and inconsistent surfaces and larger and more frequent features than Category 3 trails. Where they are formally built, these trails can also be purpose built trails with narrow trail widths, frequent features and structures including stone pitching and paving.

Informal Category 4 upland trails can be desire lines, livestock and animal trails through varied, difficult and rugged terrain including areas of scree, boulders, bog and rank vegetation, such as heather and bracken.

- Width – Minimum width 600mm
- Surface – Variable surfaces including gravel and stone, earth and soil and short ground cover vegetation. Can also include exposed bedrock, stone paving and stone pitching and there may be loose material up to 200mm deep and loose stones up to 300mm diameter. Surfaces may also include areas of standing water, not more than 100mm deep and mud/peat not more than 100mm deep.
- Trail Gradients – Average trail gradients 15%, whilst maximum gradients should not exceed 20% for not more than 200m
- Trail Features – Steps – risers not more than 500mm high, treads not less than 400mm long, level changes up to 500mm at intervals of not less than 2m. May also include stream crossings up to 3m wide - stepping stones up to 300mm high x 400mm wide at intervals of not more than 150mm. These trails can also include encroaching vegetation such as bracken, heather and tussock grass. These trails should not include unprotected, exposed edges of more than 3m high.

Category 4 trails are accessible to occasional walkers and hill walkers/fell runners. Formally built Category 4 upland trails should have clearly defined lines on the ground. Informal Category 4 upland trails with no built structure may have ill defined and discontinuous lines on the ground, and may also feature trail braiding and a choice of lines.

The above picture shows a Category 4 trail – note the uneven surface, level changes but low gradient. Whilst the gradient is low (5%) the uneven surface and size of the level changes qualifies this trail as Category 4.



The above picture shows a Category 4 trail that is also a vehicle track – note the unstable surface made up of large loose material and steep gradient (18%)

The above picture shows a Category 4 trail with no formal built structure – note the very narrow tread (600mm) and level change (200mm)

The above picture shows a purpose built Category 4 trail featuring extensive stone pitching – note the width (1.2m maximum), uneven surface with small level changes. Also note the average gradient (around 15%)

Category Five Trails

Category 5 upland trails can be both formally built structures and informal desire lines.

In the case of formally built trails they are likely to be steep stone pitched or paved trails whilst informal trails may include livestock and animal paths and desire lines through difficult, rocky and rugged terrain including scree, boulders, bog and rank vegetation such as bracken and heather.

- Width – Minimum width 500mm
- Surface – Variable loose and unstable surfaces including gravel and stone, scree, boulders, earth and soil and ground cover vegetation. Can also include exposed bedrock, stone paving and stone pitching and there may be loose material up to 200mm deep and loose stones up to 300mm diameter. Surfaces may also include areas of standing water, not more than 300mm deep and mud/peat not more than 300mm deep.
- Trail Gradients – Average trail gradients 25%, whilst maximum gradients should not exceed 40% for not more than 200m
- Trail Features – Steps – risers not more than 600mm high, treads not less than 400mm long, level changes up to 600mm at intervals of not less than 2m. May also include stream crossings up to 3m wide – stepping stones up to 300mm high x 400mm wide at intervals of not more than 150mm. These trails can also include encroaching vegetation such as bracken, heather and tussock grass. These trails can include exposed edges and drops of more than 3m high.

Category 5 trails are accessible to occasional walkers and hill walkers/fell runners. Formally built Category 5 upland trails should have clearly defined lines on the ground. Informal Category 5 upland trails with no built structure may have ill defined and discontinuous lines on the ground, and may also feature trail braiding and a choice of lines.

The above picture shows a Category 5 trail – note very uneven surface, numerous and very frequent levels changes

The above picture shows a Category 5 trail which has no formally built underlying structure and is essentially a desire line – note the steep gradient (20%), numerous level changes, gullies and large loose material

The above picture shows a Category 5 trail – note the steep gradient, very uneven surface, numerous level changes and narrow width

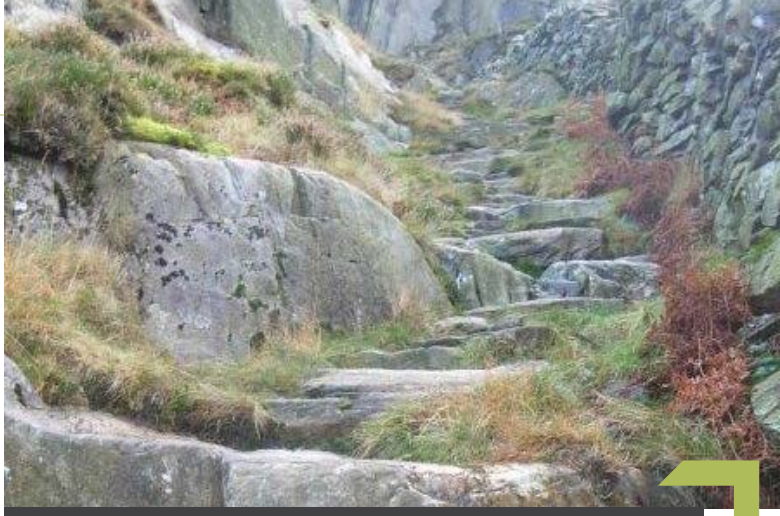
Category Six Trails

Category 6 upland trails can be formally built structures but are much more likely to be desire lines with no formal built structure.

In the case of formally built trails they are likely to be steep stone pitched or paved trails whilst informal trails may include livestock and animal paths and desire lines through steep, difficult, rocky and rugged terrain including scree, boulders, rock outcrops, bog and rank vegetation, such as bracken and heather.

- Width – Minimum width 300mm
- Surface – Very variable loose and unstable surfaces including gravel and stone, scree, boulders, earth and soil and ground cover vegetation. Can also include large areas of exposed bedrock, stone paving and stone pitching and there may be loose material up to 200mm deep and loose stones up to 300mm diameter. Surfaces may also include areas of standing water more than 300mm deep and mud/ peat more than 300mm deep.
- Trail Gradients – Average trail gradients 30%, whilst maximum gradients should not exceed 100% for not more than 50m
- Trail Features – Steps – risers of more than 600mm high, treads of less than 400mm long, level changes up to 1m at intervals of less than 2m. May also include gullies up to 1.5m deep x 3m wide and stream crossings of any width. These trails can also include encroaching vegetation such as bracken, heather and tussock grass. These trails can include unprotected exposed edges and drops of more than 9m.

Category 6 trails are only accessible to hill walkers and fell runners and are difficult and challenging trails in remote settings. These trails may also feature numerous lines on the ground which are not obvious and may be difficult to follow.



The above picture shows a formally built Category 6 trail – note the steep trail gradient (35%) and large level changes (up to 800mm)

The above picture shows a Category 6 trail with no underlying formal structure and which is essentiallya desire line – note the steep gradient (35%), very uneven, loose and slippery surfaces, including boulders and mud and the numerous lines on the ground.

The above picture shows a Category 6 trail with no formal underlying built structure. This is essentially a desire line through scree and the surface of the trail is unstable, uneven and loose. The line of the trail is not immediately apparent.

Appendix 3

How The Path Network Was Assessed

Section Number	› Section numbers have been given to each section and these relate to a comprehensive map of the study area › Path to be surveyed were identified in consultation with MHT, user groups and other stakeholders
Type of Path	› This relates to the trail types related to their function
Strategic Value	› This relates to the strategic value of the path in relation to the path network as a whole
Start Point	› These have been given as location rather than grid reference to ease identification
End Point	› These have been given as location rather than grid reference to ease identification
Purpose	› This relates to path type and the function that the path performs as part of the wider network
Description	› Describes the character of the path › Wether or not it has any underlying built structure › Wether it is desire line
Key Control Points	› Which landscape feature influence the route and alignment of the path
Length	› Calculated from the 1:25,000 map using a scale rule
Counter data	› Only included where available
Path surface	› This includes the walking surface across the whole of the path corridor including areas of braiding
Width	› Estimated on site and including maximum and minimum widths of walking surface within corridor
Evidence of erosion	Includes on site visual assessments of the following › The extent of impacts on ground cover vegetation › The extent of impacts soils and substrates
Braiding	› This looks at evidence of path braiding within the path corridor as a whole
Evidence of path repair	Includes the following › Stone pitching › Revetments › Drainage works › Surfacing

Associated features	Includes the following › Gates › Stiles › Walls › Fences
Path Classification/Grading	This is assigned following a visual on site assessment of the following › The maximum gradient of the path › The nature of the path surface overall › The minimum width of the path › The size, frequency and nature of path features such as level changes etc
General Observations and Recommendations	This includes the following: › A comment on the sustainability of the path › A comment relating to the levels of use of the path › Observations relating to key issues affecting the path › Outline recommendations if appropriate

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