

Northern Ireland Habitat Action Plan
Montane Heath
Final Draft – April 2003

1. Current status

1.1 Biological status

- 1.1.1 Heathland vegetation occurs widely on mineral soils and thin peats (<0.5 m deep) throughout the uplands and moorlands of the UK and the Republic of Ireland. Characterised by the presence of dwarf shrubs, heathland communities range from the lowest altitudes right through to the highest mountain summits. Dwarf shrub heaths are recognised as being of international importance because they are largely confined within Europe to the British Isles and the western seaboard of mainland Europe. Northern Ireland has a range of heathland communities which have developed under an oceanic climate. For the purposes of the Habitat Action Plans, these are divided into three main habitats:- Lowland Heathland, generally found below 300 m in altitude; Upland Heathland, lying above the upper edge of agricultural land (generally around 300 m) and below the alpine or montane zone (at about 600 m); and Montane Heath, generally above 600m. Separate Plans have been produced for each of the three habitat types.
- 1.1.2 Montane heath is found in areas that lie above the natural level of tree development, generally above 600 m. In the UK, these alpine and subalpine areas (approximately 600,000 ha), represent some of the most natural and undisturbed habitats with over 90% of the resource occurring in Scotland. Although most of this habitat occurs above 600 m, in the exposed areas of the northwest highlands and islands of Scotland the characteristic montane plant communities can occur almost down to sea level. In the Republic of Ireland, montane heath is restricted to the highest mountain summits, predominantly in the western counties (Conaghan, 2001).
- 1.1.3 The distribution of montane communities is influenced by a number of environmental factors including climate, altitude, aspect, slope and maritime influences, in addition to management practices such as grazing and recreation. Unlike the uplands of Scotland which are largely natural and undisturbed, the montane habitats within Northern Ireland, especially the Mourne Mountains, are highly impacted by sheep grazing and hill walking.
- 1.1.4 In the UK, montane heaths include a wide range of different habitats, but in Northern Ireland, which is towards the southern edge of the natural range for this habitat, the communities are restricted to dwarf-shrub heaths, moss heaths and a montane grassland with a high sedge component. These three montane heath communities are similar to those identified in the National Vegetation Classification (NVC) of Great Britain (Rodwell, 1991). NVC descriptions and codes are given to associations of plants that are characteristic of particular environmental and management conditions. The NVC community *Calluna vulgaris*–*Erica tetralix* heath (H10), may also be categorised as montane heath above 600m where it is wind-pruned, and

occurs on several summits in the Mourne Mountains, most notably Slieve Binnian. *Calluna vulgaris* – *Racomitrium lanuginosum* heath (H14) describes the moss heaths, and occurs on the summit of Cuilcagh Mountain and a number of summits and ridges in the Mourne Mountains. The grass and sedge swards equate to *Carex bigelowii* – *Racomitrium lanuginosum* moss-heath (U10), which also occurs on some summits in the Mourne Mountains (notably Slieve Donard and Slieve Commedagh) and on Dart and Sawel Mountains in the Sperrins.

- 1.1.5 This plan recognises the importance of montane heath within Northern Ireland where it is restricted in distribution. It is known to occur on the highest summits of the Mourne Mountains in County Down, Dart and Sawel Mountains in the Sperrin Mountains and the summit of Cuilcagh Mountain in County Fermanagh. However, there is a possibility that small fragments of montane heath may occur locally on additional summits in other uplands. The area of montane habitat is estimated to be approximately 150 ha (Armstrong *et al*, 1930; Wilson, 1992; EHS, various). However, this figure is probably an overestimate. Heavy grazing pressure in recent years on summit heaths (Wilson, 1992; EHS, various), has tended to reduce the distinctive features of this vegetation, favouring an increase in fine-leaved grasses and resistant herbs like Heath Bedstraw *Galium saxatile* at the expense of *Racomitrium lanuginosum*. These degraded montane communities, which are particularly apparent on Slieve Commedagh in the Mourne Mountains, are more akin to NVC classification U4 *Festuca ovina*-*Agrostis capillaris*-*Galium saxatile* grassland (Rodwell, 1991). Nevertheless, these grassy montane swards have been included within the estimated area of 150 ha of montane heath and should be targeted for restoration, particularly where they link montane heath fragments together.
- 1.1.6 The presence and numbers of characteristic vascular plants, mosses and lichens and alpine fungi assemblage are important indicators of habitat quality. Montane heath in good condition is typically dominated by a range of dwarf shrubs such as Heather *Calluna vulgaris*, Bell Heather *Erica cinerea*, Cross-leaved Heath *E. tetralix*, Bilberry *Vaccinium myrtillus* and Crowberry *Empetrum nigrum*. Average dwarf-shrub height is generally short, typically between 5 and 10 cm, being wind-pruned by the montane climatic conditions. Other characteristic species are restricted to the very highest summits and are consequently rare in the context of Northern Ireland. These include Stiff Sedge *Carex bigelowii*, the shrubs Cowberry *Vaccinium vitis-idaea* and Dwarf Willow *Salix herbacea* and the Clubmosses Alpine Clubmoss *Diphasiastrum alpinum* and Stag's-horn Clubmoss *Lycopodium clavatum*. Alpine fungi are also restricted to the highest peaks with species from the genera *Cortinarius*, *Inocybe*, *Russula* and *Lactarius* recorded for the summit of Slieve Donard and Slieve Commedagh. These are ectomycorrhizal on Dwarf Willow. In addition, there are a range of species in several other saprophytic genera restricted in their distribution to montane habitats in Northern Ireland.
- 1.1.7 Favourable condition is defined by setting targets or target ranges for a series of different attributes. These are components or characteristics of the vegetation that are relatively easy to measure, but which are reliable

indicators of the 'health' of the habitat. For montane heath, these include the cover of dwarf-shrubs, the vegetation structure, the presence of certain key indicator species, and the absence of vegetation, species or factors associated with disturbance such as overgrazing. The standards for assessing favourable condition of montane heath, taking cognisance of the variability of the habitat across Northern Ireland, have still to be finalised.

- 1.1.8 There have been locally significant losses of montane heath in recent years (Armstrong *et al*, 1930; Wilson, 1992), particularly on the summit of Slieve Donard, Slieve Commedagh and Slieve Bernagh in the Mourne mountains and Dart and Sawel Mountains in the Sperrins. Much of this habitat loss is attributed to continuous, long-term overgrazing by sheep and, in the Mournes, compounded by recreational pressure from hill walkers, fell runners etc.

1.2 Links with other action plans

- 1.2.1 Montane heath is an important component of the mountain summits and ridges of Northern Ireland, where below around 600m, it grades into upland heathland habitats. Upland heathland is subject to its own Northern Ireland Habitat Action Plan and the requirements of this habitat should be taken into account during the implementation of this plan.
- 1.2.2 To date, no UK priority species or priority species in the context of Northern Ireland have been identified in association with montane heath. This is due to the limited extent of the habitat, its inaccessibility, and the harsh climatic conditions of the mountain summits.

2. Current factors affecting the habitat

- 2.1 Montane heaths are exposed to extreme weather conditions typical of such high elevations. The combination of exposure to cold with high humidity is of great importance for the development of this kind of vegetation. In the Scottish Highlands, where the majority of montane heath is concentrated, harsh climatic conditions make this a climax community which is seldom grazed (Rodwell, 1991). However, in Northern Ireland, heavy grazing pressure on mountain summits, particularly in recent years has resulted in degradation and loss of montane communities to grassland (Wilson, 1992; EHS, various). All of the montane heath resource in Northern Ireland falls within Less Favoured Areas (LFAs). Livestock subsidies have led to a substantial increase in stocking rates (especially of sheep) in many of these areas where financial assistance is available to farmers in addition to the market support and structural incentives of the Common Agricultural Policy (CAP). In 1981, there were 1.3 million sheep in Northern Ireland and by 1993 the number of sheep had increased dramatically to almost 3 million (DARD, 2002). In response, livestock quotas were introduced in 1993 and environmental conditions were attached to all the main livestock subsidy schemes. As a consequence the sheep flock has decreased by over 20% since the early 1990's with total sheep numbers falling to 2.32 million in 2002 (DARD, 2003). Despite these measures, there are still twice as many sheep

today as in the early 1980s and over-stocking remains a problem in many areas (Cooper *et al*, 2002). Current grazing pressures in addition to a perceived increase in recreational pressure continues to result in future loss and degradation of this habitat.

- 2.1.1 Grazing - high stocking levels of sheep currently have the most significant impact on dwarf shrub heaths and montane grassland swards. High levels of grazing have affected the montane heaths and grasslands in the Mourne and the Sperrins (Wilson, 1992; DOE, 1995, 1996, 2000). High sheep densities are a consequence of a number of factors that are extremely difficult to control. These include the complexities of ownership and graziers, unrestricted grazing (especially autumn and winter grazing which is particularly damaging to Heather) and the difficulties of monitoring sheep numbers over extensive areas of upland. In addition, the absence or minimal use of shepherding, also contributes to the problems associated with heavy grazing. In some instances, sheep selectively graze the relatively flat and grassy mountain summits, and this is particularly apparent on Slieve Donard and Slieve Commedagh (DOE, 1995, 2000). Heavy grazing pressure may also initiate or exacerbate natural erosion of the friable rocks and shallow peats on the mountain summits. The montane heath on Cuilcagh Mountain, which is dominated by Heather, the moss *Racomitrium lanuginosum* and robust lichens on very shallow peats and rock is especially sensitive to trampling by sheep. As well as grazing and poaching pressure, high density of sheep dung may lead to nutrient enrichment of the naturally poor soils resulting in changes to species composition.
- 2.1.2 Recreation – many popular walking routes traverse areas of upland habitats to the mountain summits. The effects of recreational pressure therefore tend to be concentrated on montane heaths which occupy such a small area on the mountain tops and are especially sensitive to disturbance. The annual ‘Mourne Wall Walk’ was stopped in the 1983 due to erosion and the effect it was having on plant communities (Smith, Thomas & Bloomfield, 1998). Since 1990, a perceived upsurge in recreational use initiated a number of studies on path erosion in the High Mourne (the area enclosed within the Mourne Wall) (Allinson, 1994; Ferris 1994; Smith *et al*, 1998). However, no reliable data exists on current use in the High Mourne, either in terms of overall numbers of walkers and other recreational users or the pattern of use in space and time (Smith *et al*, 1998). It is therefore difficult to forecast the future, but based on the trends in other upland areas in Great Britain, there is a prediction that recreational use of upland areas in Northern Ireland, especially the High Mourne is likely to increase significantly. In County Fermanagh, the Ulster Way runs directly through the Cuilcagh Mountain Park to the summit of the mountain. Any increase in tourism and recreational activities may have similar implications for Cuilcagh Mountain. The increased use of all-terrain vehicles for recreational, agricultural and sporting activities can result in local disturbance.
- 2.1.3 Erosion – although some loss of habitat may be due to natural processes, montane heath on steep slopes, especially those in the Mourne Mountains, are being lost through erosion of the shallow peat soils due to overgrazing and

recreational activities (Allinson, 1994; Ferris, 1994; Smith *et al*, 1998). Path erosion of montane heath is most apparent from Slieve Binnian North Tor to Slieve Lamagan. If recreational use of the upland environment increases significantly in the coming years as predicted, erosion processes will be accelerated.

- 2.1.4 Climate change - summary predictions for temperature and sea level rise as a result of global warming have been modelled by the 'MONARCH project' (Harrison *et al*, 2001). Many heathland communities may benefit from the prediction of increased rainfall, especially in winter, in northern regions of the UK, which together with milder winters, will result in extended growth periods. However, although suitable climatic conditions are likely to persist for the maintenance and restoration of some heathlands in Northern Ireland, the effect on montane heaths is more uncertain. Any climatic change will be exacerbated on the mountain summits and particularly on habitats currently at the edge of their natural range. The composition and structure of montane communities may well change, with the more sensitive species, especially mosses and lichens, being lost completely. The future position is still unclear but one of the dominant heathland species, Heather, does have a relatively wide tolerance of temperature and rainfall, providing the overall climate remains oceanic.
- 2.1.5 Nutrient enrichment - acidification and nitrogen enrichment caused by atmospheric deposition could potentially lead to vegetation changes, including loss of the moss *Racomitrium lanuginosum* and a reduction in other bryophyte and lichen interest. In Northern Ireland, atmospheric nitrogen deposition increases from west to east, and in areas of high relief (the Mourne mountains and Antrim Plateau) levels of ammonia (NH₄) are notably high (Jordan, 1997; Sutton, *et al*, 1998). Elevated levels of ammonia can enhance the competitiveness of nutrient favourable plant species, especially grasses, at the expense of dwarf-shrub habitats (Sutton *et al*, 1997).
- 2.1.6 Invasive species - although fine-leaved grasses such as Wavy Hair-grass *Deschampsia flexuosa* and Sheep's-fescue *Festuca ovina/vivipara* and the herbs Heath Bedstraw *Galium saxatile* and Tormentil *Potentilla erecta* are natural components of montane heaths, these species can become dominant as a consequence of heavy grazing. This leads to a loss of the more notable characteristic species of montane communities and reduces biodiversity. The development of fine-leaved grass and herb swards is an increasing problem on Slieve Donard, Slieve Commedagh and Dart and Sawel Mountains.

3. Current action

3.1 Legal Status

- 3.1.1 Statutory site designation plays an important part in the conservation of this habitat. Many of Northern Ireland's montane habitats are given legal protection as Areas of Special Scientific Interest (ASSIs), and internationally as candidate Special Areas of Conservation (cSACs).

- 3.1.2 Under the *Nature Conservation and Amenity Lands (Northern Ireland) Order 1985*, two ASSIs, Eastern Mourne and Cuilcagh Mountain include montane heath as a selection feature. ASSIs are identified and declared by the Department of the Environment (DOE) through Environment and Heritage Service (EHS). Although the Eastern Mourne was declared primarily for its upland heathland interest and Cuilcagh Mountain for its blanket bog, both sites include important montane heath communities on the mountain summits. It is estimated that the area of montane heath protected within the ASSI network covers around 85 ha. Further declarations are planned within the next five years. A large portion of the Eastern Mourne is in public ownership, with the majority of the summit heaths incorporated within the Mourne Wall, which demarcates Water Service ownership. A small portion of summit heath on Cuilcagh Mountain is also publicly owned by Forest Service and is leased to Fermanagh District Council and managed in partnership with the Royal Society for the Protection of Birds (RSPB) as part of the Cuilcagh Mountain Park. Other areas of montane heath, both in the Eastern Mourne and on Cuilcagh Mountain, are in private ownership. EHS has recently launched a new Management of Special Sites (MOSS) Scheme for landowners and occupiers aimed at establishing the favourable management of designated sites to arrest, and if possible reverse, any negative trends in montane heath condition.
- 3.1.3 A small area of montane heath on Slieve Donard is managed by the National Trust (NT) as a Nature Reserve.
- 3.1.4 Most international designations are underpinned by ASSI declaration. In 1992, the EC adopted the *Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora*, known as the 'Habitats Directive'. The Habitats Directive requires member states to designate and manage SACs for habitats (listed in Annex 1 of the Directive) and species (listed in Annex 2). A small proportion of these habitats and species, which are considered to be most in need of conservation at a European level, are given priority status. Annex 1 contains two montane heath habitats that occur in Northern Ireland; 'alpine and boreal heaths' and 'siliceous alpine and boreal grasslands'.
- 3.1.5 The original UK list of cSACs was submitted in July 1999 and included 21 cSACs from Northern Ireland. Although present in the Eastern Mourne and Cuilcagh Mountain, neither site was listed for the two montane habitats. In 1999, the list was then assessed within the context of the relevant bio-geographical region and the EC as a whole - a process known as moderation. As a consequence of moderation, alpine and boreal heaths and siliceous alpine and boreal grasslands were listed as additional SAC selection features for the Eastern Mourne and alpine and boreal heaths was listed as an additional selection feature for Cuilcagh. In the UK, the revised list submitted to the EC includes 31 cSACs (1,207.69 ha) listed for alpine and boreal heaths and 27 cSACs (31,281 ha) listed for alpine and boreal grasslands. In the Republic of Ireland, 30 cSACs (12,123 ha) have been submitted for alpine and boreal heaths (Caitriona Douglas, personal communication, 2003). Sites designated under the Habitats Directive will eventually be part of an EC wide network of nature conservation sites known as the *Natura 2000* network.

- 3.1.6 In 2000, the Northern Ireland Biodiversity Group (NIBG) made its Recommendations to Government (NIBG, 2000). These were largely accepted by the Northern Ireland Executive in 2002, with the publication of the *Northern Ireland Biodiversity Strategy* (DOE, 2002). *The Regional Development Strategy 2025* (DRD, 2001), provides a framework for sustainable development in Northern Ireland which includes the full integration of the conservation of biological diversity and the Northern Ireland Biodiversity Strategy. At a local planning level, policies to protect and enhance biodiversity are being included as part of new Development Plans. These include the identification of Sites of Local Nature Conservation Importance (SLNCIs) for Planning Service. Planning Service is currently considering which SLNCIs will be formally identified in Development Plans. Where such sites are confirmed in adopted plans, specific planning policies will be applied to development proposals on those sites. The SLNCI network will include remaining undesignated areas of montane heath of significant local nature conservation interest, which have not been designated as ASSI or NNR.
- 3.1.7 The development of Local Biodiversity Action Plans (LBAPs), probably based on District Council Areas and/or discrete landscape areas, will help to build on the SLNCI network by co-ordinating and informing local biodiversity action.

3.2 Management, research and guidance

- 3.2.1 EHS, as part of the requirements of the Habitats Directive, has prepared conservation objectives for those sites submitted as cSACs. Common standards monitoring protocols are also being established across the UK to assess the condition of montane heath. A monitoring programme to assess the condition of cSACs in Northern Ireland is now in place and the first cycle of assessment for montane heath is almost complete. This programme will be extended to include additional ASSIs that contain montane heath as a selection feature when they are declared.
- 3.2.2 Management/rehabilitation of montane heaths is difficult because of the unenclosed nature of the upland environment. The management of montane communities cannot be separated from the management of the remainder of the upland landscape, except by fencing, which would not only be unsightly, but would also inhibit access. The NT is currently developing an active programme of conservation management for the areas of heathland within their ownership in the Mourne Mountains. In addition, Water Service is currently reviewing the grazing levels within their lands in the Mourne Mountains due to potential health risks. However, large upland areas often have highly fragmented ownership and complex grazing rights. Any proposals for changes in management, management schemes etc. must take this into account.
- 3.2.3 The Department of Agriculture and Rural Development (DARD), through its Countryside Management Division (CMD), has developed a series of agri-environmentschemes including the Environmentally Sensitive Area (ESA) Scheme, the New Environmentally Sensitive Area (NESA) Scheme and the Countryside Management Scheme (CMS). These schemes are potentially the

most successful mechanism of contributing to delivery of targets listed under action plans for many species and habitats. Their objective is to protect and enhance semi-natural habitats such as 'heather moorland' (which includes upland heathland, blanket bog and to a lesser extent montane heath) by encouraging more sensitive management, with an emphasis on reducing fragmentation to create and maintain larger blocks of heathland. All three schemes are voluntary and apply to the whole farm.

- 3.2.4 The Countryside Management Scheme, launched in 1999 was developed with the primary aim to maintain and enhance biodiversity and is a competitive scheme open to all farmers and landowners outside ESAs. Where funding is limited, entry into the scheme is competitive, being based on who can offer the greatest environmental benefits. DARD can provide area-based payments on blocks of 'heather moorland' >1 ha within the farm unit where it meets clearly defined criteria. Heather moorland is land with more than 25% heather cover and comprises five main habitats including dry and wet heath. Where more than 1 ha of lowland heathland is identified on a participating farm, the heath must be brought under agreement and managed according to the specific objectives and prescriptions of the agri-environment scheme. In recognition of the value of small habitat areas, CMD are proposing that that from April 2003, the minimum eligible area for management and payment will be reduced to 0.1 ha. Within agri-environment schemes, c 27,000 ha of moorland with a heather component of >25% cover is currently managed under ESA agreement with 7,315 ha managed under CMS. Although the majority of heather moorland within both schemes is mainly blanket bog and upland heathland, because montane heaths are intimately linked to other upland communities, these schemes may also be beneficial for their management. The management of habitat mosaics incorporating upland heathland, blanket bog, woodland and scrub, marginal hill pasture and other farmed land is also incorporated into agri-environment schemes. Future reviews of agri-environment schemes may permit 'fine-tuning' of habitat definitions to correspond with delivering targets listed in habitat and species action plans where appropriate.
- 3.2.5 The introduction of Good Farming Practice (GFP), which is applicable to farmers receiving Less Favoured Area (LFA) compensatory payments and those who enter any of the agri-environment schemes, provides protection for montane heath and heathland mosaics. Farmers must comply with a list of verifiable standards in relation to GFP and adhere to the Codes of Good Agricultural Practice (COGAP). These standards and codes apply to the whole farm and are compatible with the need to safeguard the environment and maintain the countryside by sustainable farming. Over 70% of Northern Ireland, incorporating all montane heaths, is classified as LFA. However, because the montane heath resource is so small and is intimately linked to other upland communities, it is difficult to ensure that appropriate grazing levels are achieved for this habitat. Additional measures may be needed to maintain and/or improve the condition of montane heath across Northern Ireland.

- 3.2.6 In addition to agri-environment schemes and other statutory requirements, semi-natural areas which are likely to be of particular environmental importance, are further protected through the *Environmental Impact Assessment (Uncultivated Land and Semi-Natural Areas) Regulations (Northern Ireland) 2001*. These regulations, which came into operation in Northern Ireland in February 2002, are administered by DARD and seek to ensure that agricultural development of uncultivated land or semi-natural areas must first be assessed for environmental significance. This would include cases where there is currently a direct involvement of public bodies and also landuse changes aimed at restoring or enhancing montane heath.
- 3.2.7 Within Northern Ireland, planning control is administered by Planning Service (DOE). *Planning Policy Statement 2 (PPS2) - Planning and Nature Conservation*, contains policy for the protection of habitats worthy of conservation against development. This policy is currently under review.
- 3.2.8 Many of the current projects to develop and improve the management of upland heathland incorporate montane heaths. Projects in the UK include the Scottish Natural Heritage (SNH) *Guide to Upland Habitats* (1998), and the English Nature (EN) *Upland Management Handbook* (1999) which describes best practice. The latter is a major publication covering moorland and all other associated habitats and will form the basis for delivering management advice and guidance in England. However, much of its content, such as addressing path erosion associated with access, will also be appropriate to Northern Ireland. In Northern Ireland, research into heathland productivity and stocking densities was investigated in the Eastern Mourne (Warnock, 2000). Although based on grazing of the lowland and upland heathland communities, this research will also have implications to the montane heaths. Such research is essential to begin to establish management regimes that are appropriate to climatic and habitat conditions.
- 3.2.9 Although there is a significant amount of survey information currently available for the montane heath resource across Northern Ireland, a comprehensive survey and evaluation is required. Historically, most of the work has been undertaken in the Mourne Mountains. For example, in 1930, *The ecology of the Mountains of Mourne with special reference to Slieve Donard* was published by Armstrong *et al.* The research involved mapping the extent and species composition of the montane communities on Donard. The *Vegetation Survey of the Mourne Uplands* (Wilson, 1992) mapped all heathland communities in both the Western and Eastern Mourne, including the summit heaths and grasslands. The results of this later study clearly display considerable loss of montane habitats on the summit of Slieve Donard from 1930 in addition to significant changes in species composition. Survey information on flora and invertebrates of Cuilcagh Mountain has been collected by DARD (under The Queen's University of Belfast Agri-Environment Monitoring Unit). Future research projects could be extended to include topics not thoroughly studied to date, such as vegetation dynamics, vertebrate and invertebrate populations.

3.2.10 Biological records are currently stored by the Museum and Galleries of Northern Ireland (MAGNI) at the Centre for Environmental Data and Recording (CEDaR). CEDaR was established in 1995 in partnership with EHS, MAGNI and the biological recording community. There are currently over 1.4 million records held by CEDaR and there are developments underway to make these records more accessible through the Internet. This will be achieved through the National Biodiversity Network, a union of organisations throughout the UK working together to create an information network of biological data providing an accessible data source for biodiversity information.

4. Action plan objectives and proposed targets

- 4.1 Maintain the extent of all existing montane heath.
- 4.2 Achieve appropriate management on all montane habitat (150 ha) so that it is in or approaching favourable condition by 2015.
- 4.3 Encourage the restoration by 2010 of 25 ha of degraded montane heath in the Mourne Mountains.

5. Proposed action with lead agencies

5.1 Policy and legislation

- 5.1.1 By 2004, initiate discussions between government departments to ensure appropriate consultation mechanisms exist for proposed changes in land-use. (ACTION: DARD, EHS, Planning Service, Department of Enterprise Trade and Investment (DETI), DRD)
- 5.1.2 By 2004, review *Planning Policy Statement 2 (PPS2) – Planning and Nature Conservation*, taking cognisance of the experiences gained in the rest of the UK, the Republic of Ireland and where appropriate, best practice in environmentally sensitive planning in other countries. (ACTION: Planning Service, EHS)
- 5.1.3 By 2005, produce a Planning Policy Statement (PPS) on the countryside to incorporate the conservation of montane heath. (ACTION: DRD)
- 5.1.4 By 2006, ensure that important montane heaths not already identified are recognised and, where appropriate, site protection policies are included in Development Plans and other strategic plans including Local Biodiversity Action Plans (LBAPs). (ACTION: Planning Service, EHS, DARD, District Councils, DRD)

5.1.5 By 2006, produce Northern Ireland guidelines, through a cross-sectoral steering group, on the requirements of montane heath conservation, including issues of land use in a wider landscape context.
(ACTION: EHS)

5.1.6 By 2007, monitor and review the effectiveness of agri-environment schemes and GFP initiatives to ensure that montane heaths are being maintained and enhanced across Northern Ireland.
(ACTION: DARD, EHS)

5.1.7 Continue to establish appropriate stocking levels in upland areas by promoting agri-environment schemes and implementing the environmental cross-compliance conditions including GFP.
(ACTION: DARD, EHS)

5.2 Site safeguard and management

5.2.1 By 2004, produce conservation objectives for all statutory designated montane heaths including SACs and ASSIs.
(ACTION: EHS)

5.2.2 By 2004, develop agreed methods for describing and assessing favourable condition for montane heaths.
(ACTION: EHS)

5.2.3 By 2004, promote the uptake of long-term management agreements with landowners and occupiers on statutory designated sites aimed at creating or maintaining favourable condition.
(ACTION: EHS, DARD)

5.2.4 By 2006, seek to identify further examples of montane heath as SLNCs in Development Plans.
(ACTION: Planning Service, EHS)

5.2.5 By 2006, prioritise areas, timescales and targets, based on designation status and restoration potential, for the conservation, improvement and expansion of montane heath.
(ACTION: EHS)

5.2.6 By 2007, begin measures to secure favourable management on sites prioritised in 5.2.5 according to agreed timescales.
(ACTION: EHS, DARD, Water Service)

5.2.7 By 2008, initiate the development of a long-term strategy on public access in the uplands, especially the Mourne Mountains, aimed at reducing the damage to upland habitats including montane heath.
(ACTION, EHS, District Councils, DETI, DRD)

- 5.2.8 By 2008, identify locally important montane heaths (including SLNCIs) to target positive management through the LBAP process, agri-environment schemes, grant aid for biodiversity and restoration management.
(ACTION: EHS, DARD)
- 5.2.9 By 2010, review the coverage of montane heath within the ASSI series, and notify further sites to ensure that all occurrences of this habitat are protected as ASSIs.
(ACTION: EHS)
- 5.2.10 By 2010, designate as SACs, those areas of montane heath approved by the EC under the Habitats Directive.
(ACTION: EHS)

5.3 Advisory

- 5.3.1 By 2006, provide information to landowners and occupiers on the conservation importance of montane heath through the production, promotion and dissemination of literature.
(ACTION: EHS, DARD)
- 5.3.2 By 2006, develop guidelines which identify those circumstances under which montane heath restoration should be actively encouraged.
(ACTION: EHS)
- 5.3.3 By 2006, develop guidance on restoration practices for montane heath.
(ACTION: EHS)
- 5.3.4 By 2006, develop and promote awareness and training programmes on the conservation, management and rehabilitation of montane heath through organisations/individuals involved in the delivery of advice to farmers and land managers.
(ACTION: DARD, EHS)
- 5.3.5 By 2008, encourage applications from potential partners to obtain funding to bring areas of montane heath into favourable management.
(ACTION: EHS, DARD, Water Service, District Councils)
- 5.3.6 By 2010, further develop demonstration sites including the Mourne Mountains and Cuilcagh Mountain, to reflect the range of ecological variation and applied management techniques throughout Northern Ireland.
(ACTION: EHS, DARD, District Councils, Water Service)

5.4 International

- 5.4.1 Further develop links with Great Britain, the Republic of Ireland and other European and international organisations and programmes to promote the exchange of information and experience in research, management techniques, education and conservation strategies.
(ACTION: EHS)

- 5.4.2 Seek to encourage change in the European policy framework through reform of the Common Agricultural Policy (CAP), for example, by reviewing the livestock support mechanisms and promoting sustainable agricultural management of montane heath.
(ACTION: DARD, EHS)

5.5 Monitoring and research

- 5.5.1 By 2004, set standards for assessing favourable condition of montane heath throughout Northern Ireland.
(ACTION: EHS)
- 5.5.2 By 2004, initiate research to establish the current recreational use of upland environments, especially in the Mourne Mountains and continue to monitor their effects on montane heath.
(ACTION, EHS, District Councils, DETI, DRD)
- 5.5.3 By 2004, encourage access throughout the UK to the records held at CEDaR, by contributing to the National Biodiversity Network www-based catalogue of survey information.
(ACTION: EHS)
- 5.5.4 By 2006, establish surveillance and monitoring programmes to assess the condition of the montane heath habitats within designated sites to aid site management.
(ACTION: EHS)
- 5.5.5 By 2006, initiate a programme to monitor the total extent and condition of montane heath in Northern Ireland.
(ACTION: EHS)
- 5.5.6 By 2006, encourage the dissemination and the use of existing research in Northern Ireland, Great Britain and the rest of Europe and commission new research where necessary, to improve the understanding of montane heath diversity.
(ACTION: EHS, Academic Partners)
- 5.5.7 By 2006, continue to commission applied research to develop beneficial and practical management techniques (including appropriate stocking levels) for the enhancement, restoration and re-creation of montane heath and populations of associated characteristic species.
(ACTION: DARD, EHS)
- 5.5.8 By 2008, commission and undertake cross-disciplinary research into the impact of major land uses on the condition of the montane heath resource.
(ACTION: EHS)

- 5.5.9 By 2010, review the requirements for further research on the effects of pollution and climate change on montane heath, and promote research needs accordingly.
(ACTION: EHS)

5.6 Communications and publicity

- 5.6.1 Promote the conservation of montane heath through the scientific press and popular media.
(ACTION: EHS)

- 5.6.2 Encourage appropriate access as well as interpretative and educational provisions on montane heath such as the Mourne Mountains, to increase enjoyment and public awareness of this sensitive habitat.
(ACTION: EHS, DARD, Water Service, District Councils, DCAL, DETI, DRD)

6. Costings

- 6.1 A table showing the global costs for this and other HAPs is available on the EHS/Biodiversity web page.

6.2

7. References

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List of useful Acronyms

ASSI	Area of Special Scientific Interest
BTO	British Trust for Ornithology
CAP	Common Agricultural Policy
CEDaR	Centre for Environmental Data and Recording
CMD	Countryside Management Division
CMS	Countryside Management Scheme
DANI	Department of Agriculture for Northern Ireland
DARD	Department of Agriculture and Rural Development
DCAL	Department of Culture, Arts and Leisure
DETI	Department of Enterprise, Trade and Industry
DOE	Department of the Environment
DRD	Department of Rural Development
EC	European Commission
EHS	Environment and Heritage Service
EN	English Nature
ESA	Environmentally Sensitive Area
GFP	Good Farming Practice
JNCC	Joint Nature Conservation Committee
LBAP	Local Biodiversity Action Plan
LFA	Less Favoured Area
MAGNI	Museums and Galleries of Northern Ireland
MARPOL	International Convention for the Prevention of Marine Pollution from Ships
MOSS	Management of Sensitive Sites
NESA	New Environmentally Sensitive Area Scheme
NIBG	Northern Ireland Biodiversity Group
NICS	Northern Ireland Countryside Survey
NNR	National Nature Reserves
NT	National Trust
NVC	National Vegetation Classification
OSPAR	Convention for the Protection of the Marine Environment of the North East Atlantic
RSPB	Royal Society for the Protection of Birds
cSAC	candidate Special Area of Conservation
SAC	Special Area of Conservation
SLNCI	Site of Local Nature Conservation Interest
SNH	Scottish Natural Heritage
SoCC	Species of Conservation Concern
SPA	Special Protection Area
UWT	Ulster Wildlife Trust
WFD	Water Framework Directive
WWT	Wildfowl and Wetlands Trust