

Origin Details

Please provide the following details on the origin of this report

Contracting Party	United Kingdom
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<i>Submission</i>	
Signature of officer responsible for submitting national report:	
Date of submission:	13 February 2002

Process Summary

Please provide summary information on the process by which this report has been prepared, including information on the types of stakeholders who have been actively involved in its preparation and on material which was used as a basis for the report

- Department for Environment, Food and Rural Affairs (Defra) requested the Joint Nature Conservation Committee (JNCC) to lead on preparation of the report.
- JNCC created 1st draft response.
- JNCC consulted key biodiversity organisations including the Upland lead-co-ordination network of the statutory conservation agencies of the UK (English Nature, Countryside Council for Wales, Scottish Natural Heritage, Environment and Heritage Service) and then edited 1st draft as necessary.
- Defra put consultation draft out to wide consultation on UK BAP and CHM websites (www.ukbap.org.uk and www.chm.org.uk) and through normal consultative channels (statutory, non-governmental and civil society).
- Defra and JNCC evaluated and integrated responses.
- Defra submitted to CBD Secretariat and put final version of report on CHM website.

Mountain Ecosystems

1. What is the relative priority your country accords to the conservation and sustainable use of biological diversity in mountain ecosystems?					
a) High		b) Medium	X	c) Low	
2. How does your country assess the resources available for conservation and sustainable use of biological diversity in mountain ecosystems, both domestic and international?					
a) Good		b) Adequate		c) Limiting	X
3. Has your country requested financial assistance from GEF for funding the activities for conservation and sustainable use of biological diversity in mountain ecosystems?					
a) no					X
b) yes, please provide details					

Assessment, Identification and Monitoring

4. Has your country undertaken any assessment of direct and underlying causes of degradation and loss of biological diversity of mountain ecosystems?	
a) no (please specify the reasons)	
b) yes, please specify major threats and their relative importance, as well as gaps	X
c) If yes, please specify the measures your country has taken to control the causes of loss of mountain biodiversity	X
5. Has your country identified taxonomic needs for conservation and sustainable use of biological diversity of mountain ecosystems?	
a) no, (please specify the reasons)	X
b) yes, please specify	
6. Has your country made any assessment of the vulnerability or fragility of the mountains in your country?	
a) no, please specify the reasons	
b) yes, please specify the results and observed impacts on mountain biodiversity	X
7. Has your country made any assessment important for conservation of biological diversity of mountain ecosystems at the genetic, species and ecosystem levels? (You may wish to use the Annex I of the Convention for categories of biodiversity important for conservation)	
a) no, please specify the reasons	
b) yes, some assessments or monitoring undertaken (please specify)	X
c) yes, comprehensive assessments or monitoring programmes undertaken (please specify where results can be found, and opportunities and obstacles, if any)	

Regulatory and Information System and Action Plan

8. Has your country developed regulations, policies and programs for conservation and sustainable use of biological diversity in mountain ecosystems?	
a) No	
b) yes, please specify sectors	X
9. Has your country applied the Ecosystem Approach (adopted at COP 5) in the conservation and sustainable use of biological diversity in mountain ecosystems?	
a) No	X
b) yes, please provide some cases or examples	
10. Does your national biodiversity strategy and action plan cover mountain biological diversity?	
a) no, please specify why	
b) yes, please give some information on the strategy and plan, in particular on mountain biodiversity	X
11. Has your country disseminated the relevant information concerning management practices, plans and programmes for conservation and sustainable use of components of biological diversity in mountain ecosystems?	
a) no	
b) yes, please provide details where information can be retrieved concerning management practices, plans and programmes	X

Cooperation

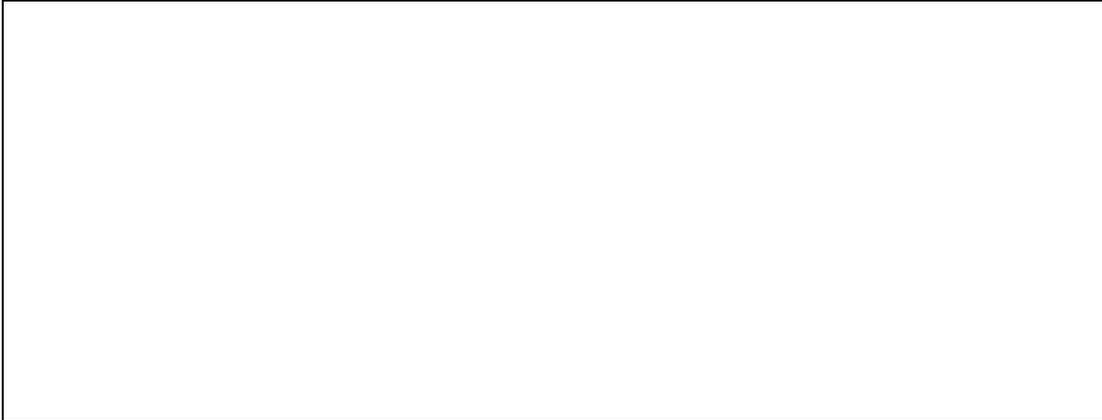
12. Has your country undertaken any collaboration with other Parties for conservation and sustainable use of biological diversity in mountain ecosystems at the regional level or within a range of mountains?	
a) no	
b) yes, please specify the objectives of this collaboration and achievements	X
13. Has your country signed or ratified any regional or international treaty concerning mountains?	
a) no	X
b) yes, please specify which treaty and provide as much as possible a report on the progress in the implementation of the treaties, including any major constraints in the implementation of the treaties	

Relevant Thematic Areas and Cross-cutting Issues

14. Has your country taken account of mountain ecosystems while implementing thematic programmes of work on agricultural; inland waters; forest; and dry and sub-humid lands biological diversity?	
a) no	
b) yes – but in only one or two thematic programmes of work	X
c) yes, included in all programmes of work	
d) if yes, please specify details	
15. Has your country taken any measures to ensure that the tourism in mountains is sustainable?	
a) no , please specify why	
b) yes, but in early stages of development (please specify the reasons)	X
c) in advanced stages of development (please specify the reasons)	
d) relatively comprehensive measures being implemented (please specify the reasons)	
16. Has your country taken any measures to protect the traditional knowledge, innovations and practices of indigenous and local communities for conservation and sustainable use of biological diversity in mountain ecosystems?	
a) no	
b) not relevant	X
c) yes, but in early stages of policy or programme development	
d) yes, in advanced stages of development	
e) some programmes being implemented	X
f) comprehensive programmes being implemented	
17. Has your country developed any programmes for the protection of natural and cultural heritages in the mountains?	
a) no	
b) yes, please provide some information in the programmes	X
18. Has your country established protected areas in mountains?	
a) no	
b) yes, please specify the percentage of mountains under protected areas out of total mountain areas in your country	X
19. Has your country undertaken any activities to celebrate the International Year of Mountains and Eco-tourism?	
a) no	
b) yes, please specify	X

Case Studies

Please provide case studies made by your country in conservation and sustainable use of biological diversity in mountain ecosystems.

A large, empty rectangular box with a thin black border, intended for the user to provide case studies. It occupies the upper half of the page below the instruction text.

Further comments

Additional text provided below to enlarge upon the responses in the questionnaire. A number of comments can be made in summary:

1. Using a definition of 'land above the tree-line', the UK has only a small area (about 2.5% of UK land cover) which would be classified as mountain ecosystems (see question 18). However, approximately a third of the UK is upland in nature (blanket bogs, rough grassland, moorland), and clearly the two ecosystems inter-graduate. For this reason, some parts of the report also refer to uplands as well as to montane ecosystems.
2. Within the UK there is a long and distinguished pedigree of research on ecology and the enjoyment of mountain areas.
3. Substantial progress has been made over the last decade in developing understanding of ecological ecosystems and social processes, and in developing land management tools.
4. International co-operation and collaboration has increased rapidly in recent years, with the establishment of research and monitoring networks.
5. The UK mountains occupy a special climatological niche whereby the predominantly oceanic conditions render them sensitive to climate change (notably through changes in temperature, rainfall, wind and also pollution loading).
6. There remains concern about the impacts of grazing herbivores (notably sheep, and more locally deer) in mountain habitats such that many near natural habitats are suppressed or in poor condition.

Q1.	Although 2002 is the International Year of Mountains, medium priority is given as many actions are driven by other global and regional processes.
Q2.	<p>Examples where the level of available resources is limited for the conservation and sustainable-use of biodiversity in mountain ecosystems include:</p> <ul style="list-style-type: none"> • an imbalance in funding under the Common Agricultural Policy between support for sustainable grazing levels and headage payments; and • EU resources for rural development measures to support environmentally-friendly farming practices (in relation to mountains, this is more relevant to Scotland and Wales). <p>The Government conservation organisations are putting an increased proportion of their resources into the stewardship of priority conservation sites. Substantial resources are also provided by private landowners in managing montane and upland areas. Other inputs come from the NGO sector and tourism.</p>
Q4b.	<p>Much of the uplands of the UK were deforested in historic times (starting 4,000 years before present) (see: Racliffe D A, and Thompson D B A; and Birks, H J B, both in Usher, M B and Thompson D B A. (Eds) (1988) <i>Ecological Change in the Uplands</i> Special Publication No. 7 of the British Ecological Society. Blackwell Scientific Publications. Oxford.) and most are cultural landscapes maintained in arrested ecological succession due to grazing and burning practices. Natural tree-lines and transitions from forest to scrub and montane communities have been lost in almost all areas. The Forestry Commission has produced guidance to grant scheme applicants on planting or regenerating a natural tree-line zone.</p> <p>Specific reviews have been published. In particular, the following references give reviews of biodiversity and its management in montane Britain:</p> <ul style="list-style-type: none"> • Thompson, D B A, and Brown, A. (1992) <i>Biodiversity in montane Britain: habitat variation, vegetation diversity and some objectives for conservation</i>. Biodiversity and Conservation, 1: pp179-208. • Shaw, S C, Wheeler, B D, Kirby, P, Phillipson, P, and Edmunds, R. (1996)

Literature review of the historical effects of burning and grazing of blanket bog and upland wet heath. English Nature Research Reports no 172. Peterborough.

- Macdonald, A, Stevens, P, Armstrong H, Immirzi, P, and Reynolds, P. (1998) *A guide to Upland Habitats – surveying land management impacts volume 1 & 2.* Scottish Natural Heritage, Battleby, Perth.
- Moorland Working Group (1999) *Good Practice for grouse moor management.* SNH. Battleby, Perth.
- Moorland Working Group (2002) *Scotland's Moorland: The Nature of Change.* SNH, Battleby, Perth.
- McKenzie, N. (2000) *Low Alpine, subalpine and coastal scrub communities in Scotland.* Highland Birchwoods.
- Hester, A J. (1996) *Overgrazing in upland habitats: a literature review.* Countryside Council for Wales contract science report 152. CCW Bangor.

Principal pressures on mountain biodiversity arise, locally, from heavy grazing by sheep and red deer in the Scottish Highlands, and by heavy sheep grazing south of the Highlands and in Northern Ireland. This has caused loss of substantial areas of alpine and sub-alpine dwarf-shrub heath, moss heath, scrub, and herb-rich vegetation. Pollution such as acidification and global warming poses threats to moss and lichen-rich communities. Increasing recreational pressure from walkers has caused localised damage to fragile vegetation and soils. A wider problem for soils in montane ecosystems is long term degradation and loss of capacity due to agriculture or forestry which is beyond the sustainable capacity of the resource. In some upland areas moorland burning – a heathland/grassland management technique – has caused damage.

Research on the underlying causes of degradation continues. Information comparing these threats, putting them in context and ranking their priority is given in the first of the references cited. A number of decision support tools to aid the management of land are being developed, for example by the Macaulay Institute (www.macaulay.ac.uk). Impacts from renewable energy development (wind farms, hydroelectric schemes) are a potential concern with a considerable recent increase in numbers. Whilst these developments can make a positive contribution to the environment, it is important that they be located so that adverse environmental impacts are kept to a minimum.

Historically, several key land use practices in the uplands have had an important bearing on landscape, biodiversity and amenity interest. The UK uplands have been, and continue to be, subject to natural, social and economic influences. For instance, there has been a marked decline in the use of uplands for cattle and a relatively recent increase in the management of uplands for Red Grouse and hunting interests. The following reference gives a historical overview: Smout, T C. (2000) *Nature Contested: Environmental History in Scotland and Northern England since 1600.* Edinburgh University Press.

An unintended consequence of EC Common Agricultural Policy (CAP) production support is that it provides an encouragement to heavy stocking which threatens to damage semi-natural habitats, particularly in the hills and mountains. In some cases, lack of grazing or the type of grazing animal is an issue in maintaining a desired vegetation structure and species composition. On balance however, and in contrast to the problem of land abandonment in mountains encountered in many other States, in the UK the main issue is overgrazing. A new sheep quota purchase scheme in England aims to reduce stock density on areas of land which have been historically overgrazed and will be focused in the English Less Favoured Area, some of which is montane in nature.

Recent research (Battarbee and Fowler in Thompson, D B A, Price, M, and Galbraith, C A, (Eds) (in review) *Mountains of Northern Europe: conservation, management and*

	<p><i>initiatives</i>. The Stationary Office, Edinburgh) points to mountains being amongst the land masses subject to most pollution in the UK. The dynamism of ecological systems and the difficulty in maintaining the status quo in sensitive montane habitats is demonstrated by the study Modelling Natural Resource Responses to Climate Change (MONARCH) commissioned by a consortium of nature conservation organisations in Britain and Ireland. The modelling exercise identifies the potential implications for species and habitats with regard to how their distribution patterns may change in the event of climate change, within four environments: terrestrial; freshwater; coastal and marine. For example, using models to predict future impacts, montane heath - the most sensitive of habitats studied, would potentially see a loss. The potential 'losers' would include mountain ringlet <i>Erebia epiphron</i>, stiff sedge <i>Carex bigelowii</i>, dwarf willow <i>Salix herbacea</i>, and trailing azalea <i>Loiseleuria procumbens</i>.</p> <p>In a UK Overseas Territories context, changes in botanical biodiversity on Montserrat have been surveyed in 2000/01 following the recent volcanic activity.</p>
Q4c.	<p>The EC Birds Directive and the EC Habitats Directive recognise internationally important sites for montane birds and habitats, respectively. Montane bird species protected within Special Protection Areas (SPA) include dotterel <i>Charadrius morinellus</i>, golden plover <i>Pluvialis apricaria</i>, and some of the wide-ranging birds of prey species. Montane habitats included within candidate Special Areas for Conservation (SACs) include alpine and sub-alpine heaths, siliceous alpine and boreal grasslands, blanket bog, and several rocky/scree habitats. Many of the most important montane areas are already protected as Sites of Special Scientific Interest (SSSI) (in Northern Ireland as Areas of Special Scientific Interest (ASSI)) or National Nature Reserves (NNR). In England and Wales some important sites are included within National Parks, and this approach is now being developed in Scotland. Information on the area of mountain habitats in the UK is given in Q18.</p> <p>The UK Biodiversity Action Plan addresses the issues identified above – see Q10b for more detail.</p> <p>Deer, notably red deer <i>Cervus elaphus</i>, have heavy impacts in some upland habitats in parts of Scotland. The Deer Commission for Scotland (DCS) (http://www.dcs.gov.uk/) is the statutory body responsible for furthering the conservation, control and sustainable management of deer in Scotland (Under the Deer (Scotland) Act 1996).</p> <p>To help counteract the effects of high livestock levels, cross-compliance regimes have been developed. Under these, stocking and management prescriptions can be imposed upon claimants for subsidy who are found to be causing damage. In the UK, the main livestock support schemes offered to upland producers have reduced the maximum stocking densities, and the rules for the extensification scheme have been improved to take into account all livestock holdings.</p> <p>Within the UK, the application of the over-grazing rules to make them more effective is being reviewed. The same regime for the setting of prescriptions has also been introduced into measures adopted under the EC Rural Development Regulation so that those who do damage by overgrazing or unsuitable supplementary feeding practices can have their Rural Development Programme payments reduced or withheld. On the enhancement side, the UK operates agri-environment schemes with specific management tiers aimed at maintaining and enhancing upland vegetation communities, including those in the montane zone. These schemes also address culture heritage interests mainly by maintaining and improving cultural landscapes and encouraging the management practices and labour skills that produced them.</p>
Q5.	<p>The need for better taxonomic coverage in all ecosystems, including montane, has been recognised. Many plant and animal mountain specialist species are particularly good indicators of global climate/atmospheric change. The UK is committed to producing a National Taxonomic Needs Assessment under the Programme of Work of the Global Taxonomy Initiative. This assessment will address taxonomic capacity and priority</p>

	needs for the conservation and sustainable use of biological diversity of mountain ecosystems. A number of species which require conservation action have been identified through the UK Biodiversity Action Plan process.
Q6.	<p>An overview of the state of montane habitats in different parts of Britain is provided in:</p> <ul style="list-style-type: none"> • Thompson, D B A, and Brown, A. (1992) <i>Biodiversity in montane Britain: habitat variation, vegetation diversity and some objectives for conservation</i>. Biodiversity and Conservation 1: pp179-208. <p>Several recent studies have examined the vulnerability/fragility of mountain landscapes. In particular, the following papers provide an overview:</p> <ul style="list-style-type: none"> • Burt, T P, Thompson, D B A and Warburton, J. (Eds) (2002) <i>The British Uplands: Dynamics of Change. JNCC Report No. 319</i>. JNCC, Peterborough. • Price, M F, Dixon, B J, Warren, C R and Macpherson A R. (2002) <i>Scotland's Mountains: Key Issues for their Future Management</i>. SNH, Battleby, Perth. • Thompson, D B A, Gordon, J E, and Horsfield, D. (2001) <i>Montane landscapes in Scotland: are these natural, artefacts, or complex relicts?</i> In, Gordon, J E, and Leys, K F. (Eds.) <i>Earth Science and the Natural Heritage: Interactions and Integrated Management</i>. The Stationery Office, Edinburgh, pp.105-119. • Thompson, D B A, Price, M and Galbraith, C A. (Eds) (in review) <i>Mountains of Northern Europe: conservation, management and initiatives</i>. The Stationary Office, Edinburgh. <p>At the site specific level there have been detailed studies of fragility of soils and habitats in: the Cairngorms, Carneddau in Snowdonia, and in parts of other mountains throughout the UK, for example:</p> <ul style="list-style-type: none"> • Turner, A J. (1993) <i>Assessment of vegetation changes on the Carneddau mountain group (Snowdonia) over the period 1953 – 1993</i>. University of Wales, Bangor. • Chambers, F M, Mauquoy, D, Pearson, F, Daniell, J R G, Gent, A and Cook, C. (2001) <i>Recent vegetational change in Welsh Blanket Mires: a palaeoecological appraisal</i>. Countryside Commission for Wales contract science report 420. CCW Bangor. • Gimingham, C H. (Ed) (2002) <i>The ecology, land-use and conservation of the Cairngorms</i>. Packard Publishing, Chichester. • A jointly funded PhD in the School of Geography and Geoscience at St Andrews University (2001-2004) titled <i>Terrain sensitivity on high plateaux in the Scottish Highlands</i> supported by Scottish Natural Heritage (SNH) is currently working to assess the geomorphological factors which influence the fragility of alpine plateaux, and hence alpine habitats. • Haynes, V M, Grieve, I C, Price-Thomas, P, and Salt, K. (1998). <i>The geomorphological sensitivity of the Cairngorm high plateaux</i>. Scottish Natural Heritage Research, Survey and Monitoring Report No. 66. SNH, Battleby, Perth. • Lilly, A, Hudson, G, Birnie R V, and Horne P L. (2002). <i>The inherent geomorphological risk of soil erosion by overland flow in Scotland</i>. Scottish Natural Heritage Research, Survey and Monitoring Report No. 183. SNH, Battleby, Perth. • Grieve, I C, Hipkin J A, and Davidson, D A. (1994). <i>Soil erosion sensitivity in upland Scotland</i>. Scottish Natural Heritage Research, Survey and Monitoring Report No. 24. SNH, Battleby, Perth. • Gilbert, D, Horsfield, D and Thompson D B A. (Eds) (1997) <i>The ecology and restoration of montane and sub-alpine scrub habitats in Scotland</i>. Scottish Natural

Heritage Review Series No. 83. SNH, Battleby, Perth.	
Q7b.	<p>Adequate information on habitats and species is available at a broad scale. Some research has been undertaken on the genetic status and the ecology of mountain species, most notably those in small populations or at the edge of their range, where information has been required to guide management and possible rescue/reintroduction attempts. Examples of plant species included in this research are oblong woodsia <i>Woodsia ilvensis</i>, eyebrights <i>Euphrasia</i> spp., Snowdon lily <i>Lloydia serotina</i> and tufted saxifrage <i>Saxifraga caespitosa</i>. Additionally, the National Trust for Scotland have undertaken pioneering work in the reintroduction of willow scrub to the southern slopes of the Lawers range and at its property at Ben Lawers in Perthshire.</p> <p>The UK Biodiversity Action Plan process has led to a review of status and identified the need for further development of monitoring of key species. A useful reference for this is: Leaper, G. (1999) <i>Biodiversity of the Cairngorms: an assessment of priority habitats and species</i>. Cairngorms Partnership.</p> <p>At the ecosystem level, recent assessments have been made by the Joint Nature Conservation Committee (JNCC) while preparing the submission of candidate Special Areas of Conservation to government (see www.jncc.gov.uk/SACselection).</p> <p>The Millennium seed bank project, run by the Royal Botanic Gardens Kew, is an international collaborative plant conservation initiative to safeguard 24,000 plant species from around the globe against extinction, including many from mountains. It has already successfully stored virtually all of the UK's flowering plant species. For more details see www.rbgekew.org.uk/msbp/index.html</p> <p>Some site-specific assessment has been undertaken (e.g. <i>Biodiversity and conservation. I: 179-208</i> (1992)). However, this is not specific to the Convention. The country conservation agencies of the UK have developed a Condition Standards Monitoring programme which will in time allow assessment of the state of montane (and other) habitats and species across the UK.</p>
Q8b.	<p>Generic protection for all habitats and species (including mountain ecosystems) within Great Britain is provided by the Wildlife and Countryside Act 1981 and the Conservation (Natural Habitats, &c) Regulations 1994. In Northern Ireland equivalent protection is provided by the Wildlife (Northern Ireland) Order 1985 and the Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995. The legislation was recently extended for England and Wales by the Countryside and Rights of Way Act 2000. Equivalent new legislation for Scotland and Northern Ireland is in the process of development by the Scottish Parliament and Northern Ireland Assembly respectively. Other policies and practices are implemented through the planning system and other regulatory means.</p> <p>At the country level within the UK, several policy documents have been produced. For instance, in Scotland, Scottish Natural Heritage (2001) <i>Natural Heritage Futures: Hills and Moorlands</i>, provides a policy outline for the mountains and moorlands of Scotland. In England, English Nature has produced several upland strategy papers, notably:</p> <ul style="list-style-type: none"> • Backshall, J, Manley, J and Rebane, M. (2001) <i>The Upland Management Handbook</i>. English Nature, Peterborough. Chapter 5 assesses the habitats and species present in the montane areas of England, identifies their nature conservation status and distribution, and prescribes management required to maintain their interest. • English Nature. (2001) <i>State of Nature: The Upland Challenge</i>. English Nature, Peterborough. identifies the interest of montane habitats of England including some key species, and highlights the condition of these habitats along with key threats and pressures, with suggestions for the way forward to resolve these issues. <p>As indicated in 4 (b) and (c) above, the Common Agricultural Policy payments available to farmers in the hills and mountains of England, Scotland, Wales and</p>

	<p>Northern Ireland are subject to the avoidance of overgrazing and unsuitable supplementary feeding practices. Production support payments and payments under agri-environment schemes may be reduced and withheld from those who persist in damaging practices.</p> <p>From an agricultural perspective, hills and mountains in the UK are classified as Less Favoured Areas and support is available under the country specific Rural Development Plans to those who provide the social and environmental benefits of extensive grazing (see www.scotland.gov.uk/forms/serad/lfass/; www.defra.gov.uk/; and www.wales.gov.uk/subiagriculture/content/ruraldevplan/ruraldevplan-e.htm).</p> <p>Another mechanism to reduce overgrazing and unsuitable supplementary feeding practices are the Codes of Good Farming Practice (see www.defra.gov.uk/environ/cogap/cogap.htm for more information). The water, air and soil codes are designed to provide practical guidance to help farmers and growers avoid causing pollution and to protect soil as their most valuable resource. The Codes describe the main risks of causing pollution from agricultural and horticultural sources. Good agricultural practice means a practice that minimises the risk of causing pollution while protecting natural resources and allowing economic agriculture to continue. By supporting extensive grazing the government is helping to maintain the landscape and biodiversity that extensive grazing has created. In addition, recent regulation changes require farmers to comply with Environmental Impact Assessment (EIA) regulations over intensification of management/ploughing etc of land (for more information see www.defra.gov.uk/environ/eia/default.htm; in Scotland, see www.scotland.gov.uk/agri/eia/default.asp).</p>
Q9.	<p>Whilst the CBD Ecosystem Approach has not been implemented, steps to adopt a more strategic approach have been taken in the Cairngorms and Snowdonia, and large scale issues have been considered in the evaluation of woodland establishment proposals in upland areas.</p>
Q10b.	<p>The UK Biodiversity Action Plan (Department of Environment, (1994) <i>Biodiversity - The UK Action Plan</i>. Cm 2428. HMSO, London) recognised the role of upland habitats including montane and sub montane habitats like blanket bogs, and detailed the threats to these habitats (see pages 36 and 37). The importance of mountain habitats has been recognised by the publication of a habitat statement (<i>Biodiversity: the UK Steering Group Report, Vol. 2: Action Plans</i> (London: HMSO, 1995). Montane Habitat Statement, page 294) which detailed the current threats and actions and set out proposals for the conservation direction for the habitat. Parts of mountain ecosystems are also covered by habitat action plans for blanket bogs, upland heathlands and upland calcareous grasslands. In addition, there are a number of action plans for mountain plant species (e.g. Norwegian mugwort <i>Artemisia norvegica</i>, mountain scurvy grass-<i>Cochlearia micacea</i>, lichen <i>Halecania rhypodiza</i>, woolly willow <i>Salix lanata</i>, Northern prongwort <i>Herbertus borealis</i>, icy rock moss <i>Andreaea frigida</i>, Scottish beard-moss <i>Bryoerythrophyllum caledonicum</i>, Perthshire beard moss <i>Didymodon mamillosus</i> - see UK Biodiversity Group (1999) <i>Tranche 2 Action Plans</i>. Volume VI: terrestrial and freshwater species and habitats. English Nature, Peterborough).</p> <p><i>Action for Scotland's Biodiversity</i> published by the Scottish Biodiversity Group in 2000 gives further information on the Biodiversity Action plans covering the mountains, heaths and bogs of Scotland.</p> <p>The Northern Ireland Biodiversity Strategy was officially launched on September 7th 2002. 12 Northern Ireland habitat action plans will be published by the end of March 2003; the list includes blanket bog, montane heath, upland heath, and upland calcareous grassland.</p> <p>In addition, at the local level, local biodiversity action plans (LBAPs) take forward national and local priorities for biodiversity. For example, the Cairngorms LBAP contains action plans for montane habitats. For more details on the UK Biodiversity</p>

	<p>Action Plan and specifically the Cairngorms LBAP please use the following link: www.ukbap.org.uk/plans/lbap/lbap360.htm</p> <p>The UK Overseas Territories are committed to formulating a detailed strategy for the implementation of the Environmental Charter. For more details see www.fco.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1013618138335. This includes implementing the multi-lateral environmental treaties such as the CBD which have been extended to the territory. A priority for the Foreign and Commonwealth Office Environment Project Fund in 2002/03 is the development of environmental strategies and action plans. Mountain ecosystems will be given appropriate emphasis within such work.</p>
Q11b.	<p>Several overviews, scientific papers and book chapters on specific management practices have been published such as:</p> <ul style="list-style-type: none"> • Backshall, J, Manley, J and Rebane, M. (2001) <i>The Upland Management Handbook</i>. English Nature, Peterborough. • MacDonald, A, Stevens, P, Armstrong, H, Immirzi, P, and Reynolds, P. (1998) <i>A guide to upland habitats: surveying land management impacts</i>. SNH, Battleby. • CCW (2002) <i>Priority habitats of Wales: a technical guide for local biodiversity action</i>. Countryside Council for Wales, Bangor. • Thompson, D B A, MacDonald, A J, and Hudson, P J. (1995) <i>Upland moors and heaths</i>. In: Sutherland, W J, and Hill, D A. (Eds.) <i>Managing habitats for conservation</i>. Cambridge University Press, Cambridge, pp. 292-326. • Philips, J D P, Thompson, D B A, and Gruellich, W H. (Ed) (2001) <i>Integrated upland management for wildlife, fieldsports, agriculture and public enjoyment</i>. Scottish Natural Heritage, Battleby. • Davies, P, and Loxham, J. (1996) <i>Repairing Upland Path Erosion: A best practice guide</i>. Lake District National Park, National Trust and English Nature. • Stewart F E and Eno S G (1998) <i>Grazing Management Planning for Upland Natura 2000 Sites: A practical manual</i>. National Trust for Scotland. Aberdeen • The documents referenced in Q6 and Q8b are also relevant here. <p>Positive management is directly encouraged by a variety of incentive schemes and by codes of good practice. Management plans for protected sites are used to integrate the advice available into phased plans of action tailored to the specific interests and circumstances of the individual area. Population models such as HILLDEER, developed by the Macaulay Institute to aid management of deer populations on the open hill, are widely used by land managers.</p>
Q12b.	<p>The UK collaborates widely with other CBD parties. Some specific examples are given below to demonstrate inventories or further understanding of mountain ecosystem processes:</p> <ul style="list-style-type: none"> • JNCC is a member of the Alpine Biodiversity Network (ALPNET). This has provided a major synthesis of biodiversity in the mountains of Europe. Nagy, N, Grabher, G, Koerner, C, and Thompson, D B A. (Eds, in press). <i>Alpine Biodiversity in Europe</i>. Springer Verlag, Berlin. • SNH is currently collaborating with colleagues in Sweden and the Czech Republic to develop a better understanding of geomorphological sensitivity in the uplands. • The Macaulay Institute is participating in the EC research project entitled: Human Interactions in the Mountain Birch Ecosystem (HIBECO) which addresses sustainable land use of the birch dominated environments (see www.hibeco.org). • The Natural History Museum is undertaking research investigating optimal summer

	<p>air temperatures for chironomid midges, and analysing midge larvae preserved in lake sediments, to reconstruct past temperatures in areas of Norway, Argentina and Chile, including montane ecosystems.</p> <ul style="list-style-type: none"> An international Hindu Kush Expedition was undertaken by Glasgow University in 1999. The expedition focused on the effects of rivers on past and present rural communities and land use - including irrigation, river function and environmental degradation, natural resources and biodiversity, and natural hazards in the Chitral region of the Hindu Kush in the most north-westerly part of Pakistan (see: www.gla.ac.uk/ibls/Biosed/pak99exp2.htm). <p>The Darwin Initiative is a small grants programme that seeks to help safeguard the world's biodiversity by drawing on UK expertise to promote the conservation and sustainable use of biodiversity in less developed countries. Projects funded under the Initiative are collaborative, involving either local institutions or communities in the host country to focus on a particular aspect of implementation of the CBD. A number of Darwin Initiative projects have focussed on mountain ecosystems, including the following current projects:</p> <ul style="list-style-type: none"> Cross-border conservation strategies in the Altai Mountains of Russia, Mongolia, and Kazakhstan. This project is training scientists, students and local administration staff, and developing cross-border approaches and tools for the conservation of biodiversity (eg through identification of biodiversity hotspots, preparation of species action plans, habitat management plans and species distribution maps). Community based conservation of Hoang Lien Mountain ecosystem of Vietnam, which is developing a community-based protected area system of management. This includes the development of non-timber forest products to generate an alternative source of income and reduce pressure on the forests and endangered species. Preservation, rehabilitation and utilisation of Vietnamese montane forests. This project aims to provide Vietnamese researchers and field staff with the capacity to undertake the sustainable management of the remaining montane forests. <p>Past projects include quantifying the effects of an invasive tree species on the biodiversity in primary montane rainforests in Jamaica and investigating the fish and aquatic ecosystems in the Rwenzori Mountains, Uganda to provide data for ecosystem management and national policies.</p> <p>For more information see www.darwin.gov.uk or contact the UK's CBD focal point.</p>
Q14b.	<p>The Cairngorms Partnership's Management Strategy and the Catchment Management Plans for the Rivers Spey and Dee are examples of programmes within the UK that have incorporated mountain ecosystems into their operations. For more information on the work of the Cairngorms Partnership please see the following website: www.cairngorms.co.uk</p>
Q15b.	<p>The UK wishes to encourage the sustainable development of all forms of tourism. An effective policy framework, addressing social, economic and environmental concerns, has to be developed and actioned at national and local level, and must include the perspectives of the tourism industry and host communities. Such a framework has to include tourism strategies, environmental protection measures, spatial planning, transport, building partnerships between public, private and voluntary sectors and managing visitor flows.</p> <p>Recreation issues in mountains have been problematic, in part because many of the techniques needed to assess if tourism in the mountains is sustainable do not currently exist. There are 5 ski centres in Scotland, and some of these have caused local damage to fragile habitats. There are several upland footpath and motor vehicle management projects aiming to find a balance between tourism and conservation of protected sites.</p>

	<p>Following on from the outbreak of Foot and Mouth Disease in the UK in 2001, the importance of tourism to the rural economy has been brought into sharp focus, for example in the Lake District National Park, whose role includes promotion of sustainable economic and social development (linked to promotion of understanding and enjoyment). National Park Authorities, and conservation and voluntary bodies, such as the National Trust National Trust for Scotland and the John Muir Trust, as well as several private estates, are paying increasing attention to devising and monitoring methods of managing large numbers of visitors in ways which help them to have a rewarding experience while minimising adverse effects on the mountain ecosystems. For example, the National Trust for Scotland has been carrying out upland path management and restoration, in particular the restoration of the high altitude Beinn a Bhuird, in the Cairngorms, track and its subsequent monitoring.</p> <p>Within the UK Overseas Territories, the Environmental Charter includes a commitment to integrate environmental considerations into economic and social planning. The Sustainable Tourism Initiative is a partnership of over forty organisations concerned with outbound tourism from the UK. The initiative is sponsoring the following three programmes:</p> <ul style="list-style-type: none"> • Developing imaginative communication programmes for tourists for each stage of their holiday experience, encouraging them to preserve the local environment and visit local communities – and in turn providing a boost to local economies; • Identifying and buying food and other supplies locally rather than importing them and employing local people wherever possible, so as to contribute to more secure livelihoods; • Working with the tourism industry to preserve the environment for the benefit of both the local community and the visitors.
Q16b. and e	<p>This is probably not relevant although conservation bodies (both governmental and non-governmental) are currently putting much effort into involving local communities and residents in the management of designated sites. However, much of the upland landscape is sustained by traditional land management practices – some of which have origins in Victorian times in the 19th century. Some of these traditional activities have been handed down from one generation to another, and are now taught through courses with Government approved National Occupational Standards (e.g. www.lantra.co.uk).</p> <p>It should, be noted that the place names in mountains often derive from traditional, local community languages. In addition, within management agreements for protected areas, encouragement is given, and often incentives paid, for the inclusion of traditional breeds of animals for site management, e.g. Welsh black cattle. Incentives are similarly given to encourage expertise and the use of skills such as dry stone walling and shepherding.</p>
Q17b.	<p>The implementation of the EC Birds and Habitats Directives provide for the protection of natural heritage interests in the mountains. The National Parks programme in England and Wales, and the newly formed National Park in Loch Lomond and the Trossachs in Scotland, through programmes which implement their enabling legislation, seek to provide for both natural and cultural heritage interests (see the following links for more information about National Parks: www.lochlomond-trossachs.org/html/home.htm http://www.cnp.org.uk/national_parks.htm www.cnp.org.uk/national_park_authority_web_sites.htm). This will be extended to the Cairngorms National Park when it is designated (expected in spring 2003). A recent review of National Park activities in England and Wales (www.defra.gov.uk/wildlife-countryside/consult/natpark/index.htm) recommends more than 50 actions to improve the stewardship of some of the UK’s finest landscapes.</p> <p>Cultural heritage issues are addressed through scheduled monument protection (by English Heritage, Historic Scotland and other bodies), through the planning system, listed building protection for vernacular buildings, and through heritage landscape</p>

	<p>character assessments. A specific example of such work is the Royal Commission on the Ancient and Historical Monuments of Wales upland initiative: a programme of archaeological survey designed to promote a deeper understanding of Welsh upland heritage through survey, research and publication.</p> <p>The agri-environment programme in the UK makes available payments to landowners, tenant farmers, occupiers and crofters for the protection, maintenance and enhancement of natural and cultural interests, some of which are targeted specifically to mountain areas.</p>
Q18b.	<p>Approximately 600,000 hectares of mountain habitat occurs in the UK, with over 90% of this in Scotland. Approximately 15% of all mountain habitat in the UK is designated as Sites of Special Scientific Interest / Areas of Special Scientific Interest, and about 3% of the UK component of the Natura 2000 site series consists of montane habitats (see www.jncc.gov.uk/ProtectedSites/SACselection/default.htm for more details). For some montane habitats, up to 40% of the UK resource is contained within protected areas.</p>
Q19b.	<p>The UK has supported a number of activities to mark the International Year of the Mountains. These include:</p> <ul style="list-style-type: none"> • The third European Mountain Convention, held in Inverness 16-18 May 2002 (see (www.iym.uhi.ac.uk/Euromontana.htm for details) with the theme <i>Our mountains – a future strength of European rural development</i>. • A conference on ‘Sustainable Futures for the British Uplands’ held at the Royal Geographical Society in London on 20th November 2002. This aims to present current thinking and stimulate debate and ‘joined up action’ towards clear visions for the future of the people and environments of the British uplands. • An international conference entitled <i>Nature and People: the conservation and management of mountains in north Europe</i>, held in Pitlochry, Perth during 7-9 November 2002. See www.iym.uhi.ac.uk/pitlochry.htm for details of the programme. This event involved Ministers, IUCN, UN, government agencies and non-governmental organisations. Important consideration was given to the EU Water Framework Directive in addressing conservation and management of mountain wetlands in the round. • A further event: <i>Summit to Sea: The values of Scotland’s mountains and water in the 21st century</i> will be held in December 2002 and January 2003 linking between the International Year of the Mountains 2002 and the International Year of Freshwater 2003. See www.iym.org.uk for more details. This will focus on interactions between upland catchment management and the quality of water resources.