

**Welcome**

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Welcome to the latest issue of our newsletter, appearing towards the end of the **'International Year of Mountains'** (IYM). Yes, 2002 is the Year of the Mountains, you will discover a lot about events to mark this under [www.iym.org.uk](http://www.iym.org.uk) or [www.mountains2002.org](http://www.mountains2002.org). But such a year is surely more than a calendar of events, and activities. It should cause us to stop and think about mountains – how they have changed, what needs to be done to help them, and ways and means of improving their enjoyment.

During 7-9 November Scottish Natural Heritage is holding an international conference at Pitlochry on **'Nature and people: conservation and management in the mountains of Northern Europe'**. We hope that this will stimulate new thinking and new connections between scientists, policy makers, advisers and practitioners. Whilst this may seem a bland aspiration, one has only to reflect on the history of afforestation and grazing in the British uplands to appreciate the awful consequences of land misuse, and non-integrated, sectoral approaches adopted by many interests in the uplands. How often have we heard "policies need to be integrated"; "policy is driven by external factors beyond our control"; or "can you agree on even the simplest of management advice?". Well, call it impatience, or even pre-winter grumpiness, or even naivety, but we feel that if IYM gives us anything, it should be the opportunity to make connections and bang heads together! Yes, this is

hard, and there is a huge difference between devising a sectoral research project and developing a team-based approach to solving a particular environmental problem, say, in a National Park. But, if we have learnt one thing over the last decade or so, it must be that communication is vital. Whether we are communicating with politicians, policy advisors, scientists, land managers or the public in its many forms, we have to be clear about the message – what needs to be done, who needs to be involved, and how best to achieve the solution.

This newsletter is one means of improving the exchange of information and ideas. You will find snippets about the **European Union Water Framework Directive** (which looms large!), **birds of prey, climate change, moorland regeneration, earth science** issues, and the many **people** working in the uplands. Please do make contact with our colleagues, or with us, for we need to hear from you to keep fresh and up to speed on the many issues.

Finally, it is with great sadness that we note the deaths of two people richly associated with the uplands – David Arnold-Foster (Chief Executive of English Nature) and Professor John Miles (Ecological Advisor in the Scottish Executive). John and David made significant contributions to our knowledge and enjoyment of the hills, not least through their distinctive and effervescent personalities.

**Des Thompson and Sally Johnson**



Cyngor Cefn Gwlad Cymru  
Countryside Council for Wales



*The Joint Nature Conservation Committee's Upland Lead Co-ordination Network was established to carry out the special functions with respect to GB nature conservation needs for upland habitats. It involves staff in the three country conservation agencies, the JNCC support unit and EHS in Northern Ireland.*

## The Water Framework Directive

### The implications of the European Union Water Framework Directive in the uplands

At first glance, readers of this newsletter might wonder why it contains a piece on a new EC Water Directive. The Water Framework Directive (WFD) will place a number of new requirements on the UK, which we expect the environment agencies to lead on.

#### **New requirements**

Amongst many other things, these include:

- assigning fresh waters to a new ecological typology, based on the range of types found in the natural, unimpacted state;
- describing ground waters according to a similar approach, but based on their natural hydrology and water chemistry;
- reviewing the pressures of human activity (**including land use**) which can modify waters away from this unimpacted state;
- dividing these water systems into management units ('water bodies') according to their types and degree of human impact;
- identifying all Natura 2000 sites where surface water or ground water is a key factor in the conservation of the species or habitat concerned;
- identifying wetlands fed by surface and ground waters, and surface or ground waters fed by wetlands!
- setting objectives for all of these water bodies according to a new 'water status' classification - and for Natura sites, stating clearly what any relevant water needs are, site by site.

#### **Specific upland elements**

That's just part of the job, which begins this year and runs until the year 2027..... For uplands staff in the conservation agencies, the most immediate questions it raises include:

- should peatlands be treated as groundwater bodies under the WFD?

- what are the hydrological interactions between peatlands and surface waters? How do these vary over space and time?
- what are the water/wetland needs of birds in upland Special Protection Areas (SPAs)? Can the WFD deliver these?
- have erosion levels in the uplands increased? What factors have contributed to any increase, and how much does any associated siltation damage features such as salmon spawning habitat?
- will WFD restoration objectives require more riparian trees to be established in the uplands, and how well-equipped is the upland land use sector (agriculture; sporting estates - muirburn, deerstalking; forestry) to deliver?
- can land use change in the uplands reduce the risk of flood damage in the lowlands, and hence increase the chance that the WFD will protect lowland habitats from damaging flood defence schemes, rather than promote such damaging schemes?
- might new, WFD-led demands to tackle freshwater acidification increase calls to lime sensitive upland habitats?
- could WFD increase our ability to deliver on certain Biodiversity Action Plan targets?

In Scottish Natural Heritage we are being asked to provide advice on issues like this over the next 12 months, as we help Scottish Environmental Protection Agency (SEPA) to start work on the early tasks in the Directive. So, give it some thought, and if you're not already doing so, speak to your aquatic colleagues!

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## MONARCH and Climate Change

### Modelling natural resource responses to climate change - the MONARCH project

In 1999, the five countries across the British Isles set up a project to assess how future scenarios of climate might affect species and habitats. This first phase only considered shifts in species distributions. It did not consider dispersal capability, barriers to migration, requirement for suitable habitat, etc. The maps of species distributions for future scenarios that MONARCH produced therefore indicate the potential that might be real-

ised. Two future scenarios of climate change were used:

- (a) the "best-case" where greenhouse gas emissions are reduced, the climate scenario indicating increases of about 0.7°C by the 2050s, and
- (b) the "worst-case" where greenhouse gas emissions are not reduced and changes proceed at a greater rate (up to 2.6°C rise by the 2050s).

Chapter 4, *Impacts on Terrestrial Environments*, outlined the factors affecting each species' current and future distributions. Montane heaths are ac-

known as being the most vulnerable habitat. The most sensitive species (of those modelled) include the mountain ringlet (*Erebia epiphron*), snow bunting (*Plectrophenax nivalis*) and capercaillie (*Tetrao urogallus*) which totally, or almost totally, loses climate space by the 2050s under the worst-case scenario. The sedge, *Carex bigelowii*, dwarf willow (*Salix herbacea*), and trailing azalea (*Loiseleuria procumbens*) may be restricted to the Scottish uplands and northern areas of Scotland by the 2050s.

Other upland habitats modelled were upland hay meadows and upland oak woodlands. Within upland hay meadows, the great burnet (*Sanguisorba officinalis*) gradually gains climate space in the uplands of England and Wales as well the Orkney and Shetland Isles. Upland oak woodland is expected to remain stable with English oak (*Quercus robur*) continuing to find suitable climate space within the British Isles, and species like the hard fern (*Blechnum spicant*) and hay-scented buckler fern (*Dryopteris aemula*) being largely unaffected by climate change.

The reference of the report is: Harrison, P.A., Berry, P.M. and Dawson, T.P. (Eds.) (2001). *Climate Change and Nature Conservation in Britain and Ireland: Modelling natural resource responses to climate change* (the MONARCH project). UKCIP Technical Report, Oxford.

For copies, contact: UKCIP, Union House, 12 St Michael's Street, Oxford OX1 2DU. Tel: 01865 432076. The Main report is also available on the web ([http://www.ukcip.org.uk/sectoral\\_pubs/sectoral.html](http://www.ukcip.org.uk/sectoral_pubs/sectoral.html)).

The second phase of MONARCH has now begun and will consider whole ecosystems, including factors such as dispersal capability and broad-scale land use changes. For specific regions, migration "debts" (the ratio of species lost to those that should arrive) will be estimated. MONARCH 2 reports in 2003.

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## The Scottish Raptor Study Groups

There is a long pedigree of monitoring raptors in the uplands of Scotland, the longest known current study (on golden eagles) having started in 1944. The Scottish Raptor Study Groups have added to this pedigree, improving co-ordination among fieldworkers already active on the ground. The Groups' origins date from around 1980, when a system was put in place for golden eagle and peregrine monitoring in Highland and North East Scotland. The 1981 and 1982 national surveys for peregrine and golden eagle respectively added impetus to the Groups which subsequently extended their coverage across all of mainland Scotland and to some of the Western Isles.

### Constitution

Under the Scottish Raptor Study Groups' constitution there are at present nine individual Groups organised on a geographical basis, for Argyll, Central Scotland, Dumfries & Galloway, Highland, Lothian & Borders, North East Scotland, South Strathclyde, Tayside & Fife and Uist. Raptor monitoring in the remainder of the Western Isles and in the Northern Isles is carried out by separate Bird Clubs. The qualification for membership of the Groups is to carry out worthwhile fieldwork on raptors. As questions of confidentiality of nest site locations arise there has to be unanimity in each Group as to its membership.

### Work on the ground

Most of the Scottish Raptor Study Groups' work takes place in the breeding season and involves checks on territory occupation and breeding suc-

cess, the latter in terms of young reared per territorial pair which is generally considered to be the best measure of productivity in a raptor population. The Scottish Raptor Study Groups' monitoring is focused to a large extent on four upland species, hen harrier, golden eagle, merlin and peregrine but raven as an "honorary raptor" is also recorded by the Groups. Goshawk and osprey are surveyed as are sparrowhawk, buzzard, kestrel and owls in certain areas. There is close liaison where appropriate with SNH and the RSPB. The Scottish Raptor Study Groups provide most of the data on raptor numbers, distribution and productivity required by SNH to enable it to fulfil certain legal duties under the Wildlife and Countryside Act 1981 and the European Community's Wild Birds Directive 79/409/EEC.

### Conservation

Although the Scottish Raptor Study Groups' main role is monitoring, their constitution does include raptor conservation as an object. One does not have to be involved very long with raptor surveys in some parts of the country to realise that the law is often broken, whether by egg collectors, falcon thieves or the less acceptable side of gamekeeping. There has therefore been increasing liaison in recent years between the Scottish Raptor Study Groups and the Police through the Police Wildlife Liaison Officer network. Local initiatives, principally Operation Falcon and Operation Countrywatch in the North East Scotland and Tayside Groups' areas respectively, have provided some good results (particularly with the peregrine) in achieving better breeding success, although the scope of these

initiatives is limited. While recognising that problems of criminal persecution of raptors still remain, fortunately relationships between members of the Scottish Raptor Study Groups and people on the ground – owners, occupiers and their employees – are good in many places where such problems do not occur.

The Scottish Raptor Study Groups were invited along with representatives of seven other bodies to join the UK Raptor Working Group, whose report was described in issue number 10 of *Looking to the Hills*. As part of the input to the Working Group's report the Scottish Raptor Study Groups produced their own paper *The illegal persecution of raptors in Scotland* which was subsequently published as a Scottish Office Central Research Unit report. Two of the recommendations of the Raptor Working Group's report relate to enhanced monitoring and data collation. Following discussions with SNH, and other bodies on a proposal intended to achieve these aims, the Scottish Rap-

tor Study Groups are now parties to the recently evolved Scottish Raptor Monitoring Scheme (see below).

### The future

Looking to the future, the Scottish Raptor Study Groups are keen to maintain their central role of raptor monitoring in the uplands, as elsewhere. On the conservation front, they take the view that raptor populations should be allowed to reach their natural levels unmolested and that, quite apart from the ethical and scientific arguments, such an aim is or can be made compatible with the economics of land management. Some of the Raptor Working Group's recommendations are geared to this end.

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## New Raptor Monitoring Scheme

### Scottish Raptor Monitoring Scheme



The Scottish Raptor Monitoring Scheme (SRMS), launched in June 2002, will build on the excellent foundations laid by the Scottish Raptor Study Groups' (SRSGs), and other organisations and individuals

who have had a long-term involvement with the monitoring and conservation of birds of prey in Scotland.

### Objectives

The scheme has three objectives, to:

1. Provide robust information on Scottish raptor populations, in order to determine trends in numbers, range, survival and productivity; and to understand the causes of population changes.
2. Promote better co-operation between the various bodies responsible for gathering information on Scottish raptors.
3. Maintain high and uniform standards for the collection, collation, auditing and analysis of data and reporting of information.

These objectives are intended to fulfil, in Scotland, recommendations of UK Raptor Working Group for improved monitoring and reporting on raptors. Scotland is the first country in the UK and indeed in Europe to establish a raptor monitoring scheme. The aim is to blaze a trail that others will want to follow; so that eventually trends and

changes in Scottish raptor populations can be set in a UK and international context.

### Scottish Raptor Monitoring Group

The Scottish Raptor Monitoring Group (SRMG) will oversee the operation of the Scottish Raptor Monitoring Scheme (SRMS). This group includes representatives from SNH (who chair the group), JNCC, SRSGs, the British Trust for Ornithology (BTO) Scotland, the Rare Breeding Birds Panel (RBBP), RSPB Scotland, and the Scottish Ornithologists' Club (SOC).

### Priorities

The SRMG is currently getting down to the nitty gritty of implementing the scheme. The main tasks identified are as follows:

- Production of a *Raptor Monitoring Manual* describing the survey methods for each species. This manual, currently in preparation, will be based on the consolidated experience of the SRSGs and others with expertise in field studies of birds of prey.
- Establish and maintain an inventory of current raptor survey coverage and address any additional survey requirements which might be identified.
- Put in place systems for the collation of data.
- Identify appropriate methods for analysing data to determine trends and changes in Scottish raptor populations.
- Devise methods of clear and effective annual reporting.

A priority is to recruit a Raptor Monitoring Officer to service the work. This new part-time post is being funded by SNH and was advertised recently.

In launching the SRMS on 24 June, the Chairman of SNH, John Markland congratulated partners in the scheme on achieving consensus on the way forward. He went on to record SNH's gratitude for the commitment and tireless efforts of raptor workers who have already provided so much invaluable information to allow us to carry out our duties to monitor and protect birds of prey

Further details of the scheme are provided in the Scottish Raptor Monitoring Scheme Agreement which is published by Scottish Natural Heritage on behalf of the SRMG. Copies can be obtained SNH Publications Section 01738 444177

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## UK Raptor Working Group Report Update

### **UK Raptor Working Group report:** **Scottish Executive response**

The *Report of the UK Raptor Working Group* was published in February 2000. Following requests from Ministers for advice on the report's 25 recommendations, JNCC (with the Conservation Agencies in each country) have provided formal responses on each of the recommendations.

The Welsh Assembly responded to the report shortly after its publication. DEFRA have provided an interim response. The Scottish Executive responded formally to the report (publishing its letter to John Markland, and its detailed response to the recommendations, on the Scottish Parliament Information Centre Website). Scottish Natural Heritage (SNH) has put these two documents on its Website [www.snh.org.uk](http://www.snh.org.uk) (under Raptors), along with a schedule outlining how SNH will address the recommendations.

### **Scottish Executive response**

The Scottish Executive response is positive and encouraging. It recognises the Raptor Working Group report as "important and authoritative". The Minister for the Environment indicated that he was "satisfied that the implementation programme provided as part of SNH response forms a comprehensive work plan for Scotland and notes that action has already been taken on a number of the report's recommendations". The Minister went on to encourage SNH to progress the remaining recommendations "with vigour", and to work closely with his officials.

The Scottish Executive response deals with a wide range of issues, including:

- the development of a partnership approach to raptor monitoring in Scotland (already underway);
- licensing and legislation matters (where it notes that the Executive is working with DEFRA, the police and other agencies to establish a national wildlife crime unit);
- work to support moorland managers (where it is noted that Natural Care has been launched for the Forest of Clunie, and is planned for at least four other moorland SPA/pSPAs);
- broader work to tackle moorland management issues (where it welcomes the leading role adopted by SNH in seeking external funding for moorland conservation and management work, and where it notes SNH is chair of the UK Upland Habitat Action Plan Steering Group);
- raptor/racing-pigeon issues (where it warmly endorses the constructive approach adopted by SNH and the Scottish Homing Union in addressing interactions between raptors and racing pigeons, and notably the establishment of a collaborative research project to quantify causes of racing-pigeon losses); and
- matters relating to the impacts of raptors at lowland game release pens (where guidance will be forthcoming shortly on measures which can be taken to keep raptor predation at low levels).

Much of this work will now be taken forward by the newly established Moorland Forum (chaired by Isabel Glasgow and serviced by SNH).

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## Upland Habitat Action Plans

### **The value of Upland HAPs**

Three priority habitats were identified in the UK Biodiversity Group Tranche 2 Action Plans in 1999. These are for **Blanket Bog**, **Upland Heathland** and **Upland Calcareous Grassland** which combine to cover an estimated **3.6 million**

ha in the UK. Upland habitats also support a variety of priority species, identified by the UK Biodiversity Group, including: black grouse; and some species of moths, wasps and snails. These habitats also, support a huge variety of other important and threatened plant and animal species.

## UHAP targets – they involve everyone

The Upland Habitat Action Plans (UHAPs) have four targets for each priority habitat. These are concerned with:

- **maintaining** what is already present;
- **improving** a proportion of what is already present to **favourable condition**;
- **restoring** areas of damaged habitat; and
- **recreating/restoring** areas that have been lost.

Although the UHAPs have a 10 year life, they are in fact only the start of a much longer term plan that should be embraced by everyone involved with management and use of upland areas. The action plans are a tool to help take forward a bigger biodiversity vision, from the Earth Summit in Rio in 1992.

Much of the implementation of the UHAPs, will be done at a local level, through Local Biodiversity Actions Plans (LBAPs), which have been prepared for many of the upland areas in the UK. The 'on the ground' work will be done by landowners, NGOs, restoration projects etc. However, to be effective the UHAPs also require increase of knowledge through monitoring and research and improved communication and publicity on the value of upland habitats. This therefore requires engagement with the HAPs by government and the conservation agencies, NGOs, research institutes etc. at a national level.

## UHAP Steering Group

A Steering Group has been set up to help to coordinate and undertake actions required to meet the UHAP targets. This group is chaired by Des Thompson and involves the ULCN representatives for EN, CCW, SNH, EHS(NI) and JNCC. Other upland interests are represented by: Deer Commission for Scotland, Forestry Commission, Game Conservancy Trust, National Farmers Union, National Parks Authority, National Trust, RSPB, Scottish Landowners Federation, DEFRA - Rural Development Services, and the agriculture departments for DARD(NI), DEFRA, National Assembly for Wales and Scottish Executive. In addition the Biodiversity Units for DEFRA, NAW, DARD(NI) and Scottish Executive are corresponding members.

The Steering Group has met three times and has identified priority tasks. These are to:

- Produce accurate **distribution maps** for each habitat, and an overall assessment of their condition – this information is surprisingly difficult to identify from the data sets available which were not set up for 'priority habitats'. Accurate data is essential for measuring progress against the targets;
- Draw together guidance and expertise on **good management practices** – a large amount of information is available, but this needs to be assembled, shared and accessed;

- Identify **key research needs** and means of providing the best outcomes for work already done;
- Provide guidance on **seeking funding** to help improve and enhance different parts of upland Britain;
- **Develop links** with: a) other HAP SGs (notably Native Woodland & Wetlands) to identify mutual issues and to provide guidance on integrating HAPs; b) the relevant SAP SGs to ensure HAPs and SAPs are integrated; and c) LBAP Officers;
- Provide a **common voice to government** on the sorts of policy changes needed to deliver more for wildlife and people in the uplands; and
- Work together to **raise the profile** of the richness, importance beauty and needs of the uplands.

Through these and other tasks the UHAP SG will, with the help of others, seek to improve the uplands. The UHAP SG also provides a unique forum for bringing together a distinctive range of upland land users.

## Moving forward....

Everyone involved in implementing the UHAPs has a big task ahead. At least we have made a start. The UHAP SG will welcome any feedback, comments or help.

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Below: Members of the UHAP SG studying the problem of eroded peat bog in the Peak District



## Golden Eagles in Eire

### **The Irish Golden Eagle Reintroduction Project**

#### **Background**

The Republic of Ireland has the lowest range of breeding birds of prey species of all countries in the European Union. During the 18<sup>th</sup>, 19<sup>th</sup> and early 20<sup>th</sup> century Ireland lost at least 6 breeding raptors, namely White-tailed Eagle, Osprey, Golden Eagle, Red Kite, Marsh Harrier and Goshawk. These extinctions were a result of persecution and habitat loss. There is very little chance of Golden Eagles naturally recolonising Ireland.

#### **Project objective**

The project objective is to re-establish a viable Golden Eagle breeding population in the north-west of the Republic of Ireland. The project has been part funded by EU LIFE Nature and the Irish Government through its National Millennium Committee. It is also part funded by two other statutory bodies, the Heritage Council and Údarás na Gaeltachta. The proposal was also given a very rigorous assessment by Scottish Natural Heritage, ensuring the reintroduction guidelines devised by the International Union for the Conservation of Nature (IUCN) were met, before issuing the licence for donor stock.

The plan is to import 60-75 wild young Golden Eagles from Scotland between 2001-2005, rearing and releasing them in Glenveagh National Park in County Donegal, using the best rearing techniques available with human imprinting kept to a minimum. All birds are fitted with small radio transmitters and patagial wing tags so the full time project manager can closely monitor their movements and supplementary food dumps are being provided for the first winter of each released cohort. It is hope the released birds will first attempt breeding in 2005 or 2006.

Research indicates that County Donegal could hold 7-10 pairs of Golden Eagles, the northwest of Ireland (Galway to Donegal) could hold 22-30 pairs and Ireland may eventually have 50 – 100 pairs.

The socio-economic context of this project is crucial. Four key audiences include: farmers; tourist interests; the Donegal general public; and the Gaeltacht (Irish speaking) community. Community involvement and raising awareness bird of prey will be central to the project's success. This project will undoubtedly raise the public awareness of conservation in Ireland. and the re-introduction of Golden Eagles will not only restore a magnificent species but will also help change public attitudes to large raptors in general.

#### **Success so far**

The Foot and Mouth outbreak and the associated import restrictions suddenly became a real problem for the project team during the spring and summer of 2001. Despite a poor breeding season and access restrictions in Scotland, 6 Golden Eagles (it had been hoped to release 8-10 in the first year) were imported from the Highlands of Scotland and released in Donegal on 27th June 2001. The press conference and photo opportunity, drew a large media presence. The high profile and very positive coverage, locally, nationally and further afield, was an enormous boost for the project.

By March 2002, five eagles had successfully survived, with one having died as a result of natural injuries. During the summer of 2002 a further 8 birds were collected, under licence, from Scotland and released in August. By September 2002 the 5 one year olds were to be seen soaring and foraging, and delighting hill walkers. All 8 of the 2002 cohort were successfully feeding well from the food dumps and beginning to locate natural carrion.

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## What's going on in the uplands? - Projects / Research

### **A New Moorland Forum in Scotland**

The Moorland Forum has been established by the Scottish Executive and is made up of 25 organisations who have signed up to a *Statement of Intent (Scotland's moorland: unique and important)* launched by the Moorland Working Group in March 2002.

#### **Members**

The new Forum, includes the members of the former Moorland Working Group, SNH, RSPB,

Scottish Landowners Federation, Game Conservancy Trust and the Game Conservancy Scottish Research Trustees, and 20 other organisations with a wide range of interest in Scottish moorlands: Association for Deer Management; Atlantic Salmon Trust/Association of Salmon Fishery Boards; BASC; Deer Commission for Scotland; FWAG; Heather Trust; Highland Birchwoods; Macaulay Institute; NFUS; National Trust for Scotland; NERC(CEH); RICS Scotland; Scottish Association for Country Sports; Crofters' Commis-

sion; Scottish Crofting Foundation; Scottish Gamekeeper Association; Scottish Raptor Study Groups; Scottish Wildlife Trust; VisitScotland. In addition The Scottish Executive; Forestry Commission and some other bodies are observers.

### Remit

The remit of the Forum is for the organisations to work together to implement the Birds and Habitats Directives to improve Scotland's moorland ecosystems. The Forum will:

- Take forward the actions specified in the *Statement of Intent*,
- Develop joint approaches to devising, developing and sharing good practices for the stewardship of Scotland's moorland; and,
- Provide a means of discussing research, advice and policy issues relating to the uplands, in order to raise the public profile and appreciation of the natural heritage as a whole. Included within this is a role to implement the UK Raptor Working Group recommendations (see Looking to the Hills No. 10 and this issue) and to promote moorland projects.

To date, the Forum has met twice, its last meeting taking place in Perth on the 19 August 2002. The Forum has charged its three Working Groups (Research, Public Awareness, and Policy) to identify key tasks and deadlines which can be used to effectively plan moorland research and management, as well as to improve public awareness of the moorland resource.

It is hoped that the Forum will create an effective working relationship between a wide range of organisations in order to champion and co-ordinate sustainable moorland management throughout Scotland.

For further information, and copies if the MWGs *Statement of Intent*:

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### Memorandum of Understanding between English Nature and The Moorland Association



On 25 June 2002 a Memorandum of Understanding between English Nature and The Moorland Association was signed by Sir Martin Doughty (Chair of English Nature) and Simon Bostock (Chairman of The Moorland Association).

This memorandum gives recognition to the part played by grouse moor owners in maintaining moorland habitats in the uplands of England. It forms the basis for closer working between Eng-

lish Nature and The Moorland Association to enhance the conservation value of moorland whilst retaining the sporting interest of grouse moors. It is split into sections covering the Agreed Joint Statements and Areas for further Discussion. An Action Plan for joint working for the period 2002 - 2005 is also included within the document.

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Copies of the Memorandum of Understanding can be obtained through:

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### Lessons learned - The northern uplands moorland regeneration project (NUMRP)

The overall aim of NUMRP is to protect and improve the heather moorland of northern England for the benefit of grouse, sheep and wildlife. This will increase financial returns for farming and sporting businesses and thus create and protect jobs. It is done by implementing management systems to secure the future of hill farming and grouse shooting and thus to maintain nature conservation interest. All this is achieved on habitats with national and international designations. The project started in 1998 and finished on 31 December 2001, it was financed by EU objective 5b funds.

#### Project team

The key feature in making the project work was having people in the project team who understand farming, sporting and wildlife conservation but are seen as independent but have credibility with farmers and land owners. These people can bring all interests together to identify common ground and how to work together. The project officer produces an integrated management plan and all the parties involved who then carry out the work programme own it. This process of bringing everyone together can be very time consuming but is essential for success. This process tends to generate confidence in all the people involved.

#### Integrated management

It is especially important to bring people together and build confidence when many individuals are involved such as graziers on a common. Developing an integrated land management plan for a common can be very time consuming. The owner of the sporting rights or suggestions about over-grazing often triggers it. The essential information is an accurate register of who is grazing what and when, this may or may not affect the registered rights. The commoners must be visited individually and as a group and agree to a possible reduction in numbers of grazing sheep. The reduction is achieved by using Countryside Stewardship

money. It is best and easiest if there is a commoners association with a chairman or secretary who can receive the CSS payment and divide it up amongst the graziers. It is very important to have a legal agreement which all the graziers sign agreeing to enter CSS. The Moorland Association solicitor has advised the project on this and it has been very successful.

When a management plan is agreed and successfully implemented on a common there are great benefits for the graziers sporting interests and biodiversity. These benefits can apply to any moor.

The project found it essential to carry out its own vegetation survey and to highlight areas and practices most beneficial and detrimental to nature conservation. This is an essential part of preparing the management plan. Ideally a more detailed base line survey would be done and subsequent monitoring carried out for 10 years, the duration of CSS agreements. The Game Conservancy Trust is monitoring breeding grouse and waders and vegetation condition on project and non-project control moors for 3 years. This should go on for longer but there is no funding.

The availability of capital grants for a variety of items including livestock housing, heather seeding, bracken spraying and sheep health plans and labour for management work has encouraged much private investment (£1.57 million). This has either enabled completely new investment or accelerated existing plans for some investment. It improves the infrastructure for farming sporting and access and provides much work for local contractors in remote rural areas. In one case a large area is under some form of conservation management-CSS, ESA, WES or NUMRP, sheep housing has kept sheep off the moor in winter resulting in better growth of heather, with more grouse and benefits for biodiversity. This has made life easier for farmers, resulted in 4 more keepers employed and increasing numbers of sportsmen visiting and thus the local hotel has built an extension. This is true sustainable rural development and its pattern should and could be repeated elsewhere.

### **The future**

The co-operation of many individuals and organisations such as the Moorland Association, GCT, RSPB, EN DEFRA MLC and not least the farmers and landowners has contributed to the success of the project. However, it is a short-term project and needs funds to keep the team together and maintain the networks to continue the work for which there is proven demand.

Contact: **Philip Bull**  
01434 672190 [Philip.Bull@adas.co.uk](mailto:Philip.Bull@adas.co.uk)

## **Cairngorms Moorland Project**

The Cairngorms Moorland Forum, a group of organisations with an interest in moorland management, has received a Heritage Lottery Fund grant for the first Stage of a moorland project. Over the next four years, the project will help conserve, enhance and raise awareness of the Cairngorms impressive moorlands.

### **Objectives**

The agreed objectives of the project are to:

- Undertake and demonstrate good moorland management techniques on three representative moors in the Cairngorms Partnership area;
- Encourage and assist land managers to manage their moorlands in a sustainable and effective way to preserve and enhance the integrity and conservation value of existing moorlands in the area, increase the abundance and diversity of characteristic moorland species, improve the economic status of grouse moors, and reinstate moorland where appropriate; and
- Raise awareness of the environmental, social and economic importance of moorlands, and provide recreational and educational opportunities to help people enjoy and appreciate the Cairngorms moorlands.

### **Management**

The project will be managed initially by the Cairngorms Partnership on behalf of a number of partners represented on the Cairngorm Moorland Forum. The Cairngorm area is likely to be designated as a National Park sometime in 2003, and the project management role will then pass to the Park Authority, who may use the project findings to develop a moorland management scheme for the area as a whole.

### **Delivery**

Because of its size, the project is being delivered in two stages. Stage One is underway and is supporting project development, baseline survey work and the co-ordination of an ongoing funding package. Stage Two will provide for the physical works, ongoing monitoring and activities associated with the programme.

Contact: **Miranda Whitcomb** at the Cairngorms Partnership offices, 14 The Square, Grantown-on-Spey, Morayshire PH26 3HG  
01479 8735355

[miranda@cairngorms.prestel.co.uk](mailto:miranda@cairngorms.prestel.co.uk)

## **Plant Interactions and Environmental Severity (PinES) - a new research project in the Cairngorms**

High altitude environments are difficult places for ecologists to work. Perhaps this is why we have historically concentrated on less severe environments where we can more easily study the

ecosystems and run experiments. However, with climate change predicted to have severe impacts in mountain regions, it is important that we fully understand the ecology of alpine and mountain environments in order to help conserve them.

### **The theory**

Although plant ecology has been dominated by the idea of competition for resources such as food and space, positive interactions between plants have recently received increasing attention. Positive interactions seem to be important in severe environments. For example, in desert communities mature cacti or shrubs can act as "nurse plants" to developing seedlings by shading them from the sun and preventing them from drying out or over-heating. In arctic and alpine plant communities particularly robust plant species can bind frost-heaved soils together and act as windbreaks producing a sheltered, stable area for the growth of less-hardy species.

In order to understand how alpine and mountain plant communities function (and to predict and hopefully deal with the consequences of climate change) it is becoming clear that we need to understand the role of these positive plant interactions and their relationship to gradients of environmental severity.

### **New study**

To this end a new study has been started in the Cairngorm mountain area. In this study young Scots pine saplings have been planted in heather-dominated communities at a wide range of altitudes and at a number of sites. Heather has a range of effects on young Scots pine, including competing with it for light, soil moisture and soil nutrients, and sheltering it from low temperatures, wind damage and winter-time ice-crystal abrasion of foliage. At or above the natural tree line one can find small, stunted Scots pine whose foliage grows mainly within the shelter of the heather canopy (see photo) indicating possible positive effects of heather on pine at high altitude.



The heather canopy surrounding the planted pine saplings in the study has either been removed or left intact. We will monitor the survival and growth of the planted pines until the end of the 2003 growing season. If our current theories are correct, as we move from low to high altitude sites, and from less to more severe environmental con-

ditions, the impact of the heather on the Scots pine (as indicated by comparing the growth of pines both with and without a canopy) will change from being negative to positive.

Using this simple model system we will be able to test and develop our theories of how plant communities develop and survive in severe alpine environments, thereby helping to conserve these ecosystems and deal with the problems of environmental change.

We would like to thank the RSPB Abernethy Estate, NTS Mar Lodge Estate, Dinnet Estate and Scottish Natural Heritage for their help with this study. This work is funded by the Natural Environment Research Council.

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### **Terrain sensitivity on high plateaux in the Scottish Highlands - A new PhD study**

High plateaux in the Scottish highlands exhibit a wide range of responses to both natural stress and human impact. Assessment of terrain sensitivity has, however, remained highly qualitative, limiting the effectiveness of managerial and remedial strategies for high plateau environments. In collaboration with the University of St Andrews, Scottish Natural Heritage is jointly funding a PhD studentship that will be devoted to classifying and quantifying the sensitivity of plateau environments to natural stress and human disturbance, with a view to defining measures of sensitivity that will inform future management strategies. Stefan Morrocco, a graduate in geography at the Universities of Aberdeen and Durham, was appointed to this studentship in September 2001.

### **Aims**

The main aim of the project is to develop a classification of terrain sensitivity that is widely-applicable and can be extrapolated to all areas of high plateau in the Scottish Highlands. The classification will encompass the fields of geomorphology, ecology and pedology, providing a holistic classification of terrain sensitivity. Plateaux will be divided into units based on regolith type, then further sub-divided on the basis of vegetation communities. Various field and laboratory tests will be applied to the regolith and vegetation of the sub-units to measure terrain performance under stress, thus providing a quantitative assessment of terrain sensitivity. A combination of remote sensing and GIS will be employed to extend the terrain sensitivity classification to plateau areas that have not been directly investigated.

### **The work**

The sensitivity classification will be validated by studying past episodes of terrain disturbance. Understanding past disturbance events, the antecedent environment of the plateaux, the effects of the human activities and the climatic conditions at the time of disturbance, could also lead to identifying plateaux that are close to the threshold of extensive disturbance. Disturbance thresholds are crossed when relatively localised stresses (such as overgrazing or trampling) trigger a disproportionate and irreversible terrain response affecting wide areas of plateau. Understanding the conditions that determine disturbance thresholds is vital if the "natural" integrity of high plateaux is to be maintained.

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### **Soil structure and relationship to vegetation in the English uplands – A new PhD study**

Subject to a suitable student being found, Reading University will be supervising a PhD studying aspects of soil structure/relationships to vegetation in the English Uplands. This studentship will be funded by JNCC with some additional support in kind provided by CEH. The location of the study sites have not been finalised but it is intended to build upon work carried out in the past. To this end, a database project is currently under way which is compiling previous work and the locations of study sites/plots. This database should be completed in early summer and will be available for interrogation by those interested in this area of work. It is likely that at least part of the research will be based in some way upon Moor House NNR in the North Pennines.

Contact: **Tony Weighell** JNCC or **Alistair Crowle**  
[Tony.Weighell@jncc.gov.uk](mailto:Tony.Weighell@jncc.gov.uk)  
[alistair.crowle@english-nature.org.uk](mailto:alistair.crowle@english-nature.org.uk)

### **Orkney Hen Harrier Project**

The Orkney Hen Harrier population has undergone a marked decline since the 1980s, and scientific evidence to date suggests that this is due to a lack of food, most notable the Orkney Vole, during the prelaying period (see Orkney Focus – Looking to the Hills No 10). Agricultural intensification has reduced large areas of rough grassland and as a result Vole populations have also declined during the last 40 years.

A new Scottish Natural Heritage voluntary management scheme (Natural Care – Orkney Mainland), due to be launched in Jan 03 could enable 90 farmers and other land managers to improve the habitat for Hen harriers by helping to

create and maintain areas of rough grassland. This will allow Vole populations to recover, and thus improve the food supply for the Harriers. The Scheme is currently in consultation, and it is hoped that the best possible outcome for both farmers and Harriers will be achieved.

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### **The Hen Harrier Recovery Project in England**

The hen harrier, one of our most spectacular and beautiful birds of prey, so evocative of the wind-swept uplands, is in real danger of becoming extinct as a breeding bird in England – for the second time in a century and at the hands of man. They now breed regularly on only two sites in the north of England (Bowland Fells in Lancashire and Geltsdale on the Cumbria/Northumberland border), with just a handful attempting to nest each year.

#### **Poor breeding in the past**

In 2000 just five pairs bred successfully. Foot and Mouth prevented full surveys of the favoured breeding areas in 2001, but we know of only two successful nests, both at Bowland, with just six fledged young being reared. There were no other records of nesting attempts in 2001 in the whole of England.

Both of the regular breeding sites lie within large Special Protection Areas, designated under European legislation to protect hen harriers and other rare upland breeding birds.

Habitat loss resulting from enclosure, drainage and cultivation was one of the factors that lead to a decline in hen harriers in earlier centuries, but the major threat now is illegal persecution. Whilst the interest in grouse shooting as a sport has contributed to the retention of a large area of moorland in England, there have been long standing tensions between grouse moor managers and hen harriers. Hen harriers prey on red grouse, as well as a range of other prey, and it is claimed that they disrupt shoots by scaring grouse away from the drives. As a consequence, some game managers deter hen harriers from using grouse moors in a variety of ways, including illegal persecution. This can involve deliberate disturbance and the destruction of nests, eggs, adults and young, and the removal of mature heather used for nesting. Illegal persecution of hen harriers has been recorded regularly at the two regular northern England breeding areas since 1990.

English Nature's Council regards the parlous state of the breeding hen harrier population as totally unacceptable, and is determined that we should act to ensure it does not become extinct. In 2002

a hen harrier recovery project was set up to address the situation, led by our project officer Richard Saunders. The project involves developing stronger links with moorland managers with the aim of achieving greater biodiversity benefits from grouse moor management. It will also be necessary to work closely with landowners, farmers, keepers, volunteer raptor groups, the police and other authorities in areas supporting hen harriers.

### **2002 and beyond**

Four fieldworkers were employed to monitor hen harriers during the 2002 breeding season. They helped to ensure that there was comprehensive coverage of the known breeding areas in northern England as well as scope for following up reports of possible breeding attempts in other areas. A total of 11 nesting attempts were recorded of which seven were successful. On a positive note there was a welcome increase in the breeding range with a successful pair in the Yorkshire Dales National Park and, amazingly, a pair reared young at a lowland site in western Cornwall. Less encouraging was the fact that only a single successful pair bred at Geltsdale where a second breeding attempt failed as a result of illegal persecution.

For the first time in England project staff have fitted some of this year's nestling hen harriers with radio-transmitters and fieldworkers are already gathering useful information on movements and habitat use in the post-fledging period. Plastic coloured wing-tags are routinely fitted to nestlings in England and Scotland and any sightings of birds where the colour of the tag on each wing can be determined would be welcome. Sightings should be reported to David Sowter 01772 749 220 [davidsowter@freenet.co.uk](mailto:davidsowter@freenet.co.uk).

Contact: **Ian Carter** EN  
[ian.carter@english-nature.org.uk](mailto:ian.carter@english-nature.org.uk)

### **Moorland Restoration – a best practice manual**

English Nature have started work on a new publication that will attempt to collate current best practice knowledge and techniques into a useful and informative manual.

In recent years there has been an increasing amount of experimentation with new methods and large-scale restoration projects. However, the information gleaned from these projects is not necessarily well communicated or presented in a form that will allow its application to another scenario. It is hoped that the manual will address this problem. The manual will be geared towards achieving vegetation condition that would qualify as favourable according to the JNCC common standards monitoring (and using the English Nature criteria for conservation objectives).

### **What it will cover**

To cover every application of restoration would be an enormous task and require information on some aspects which are poorly understood. But, it is intended that the manual will assist in a number of ways:

Set out the main issues that give rise to unfavourable condition of moorland

Present common scenarios that would constitute unfavourable condition

Detail recommended techniques for the restoration of each moorland habitat and give case studies of noteworthy examples. A list of contacts will be supplied per chapter and references relating to the restoration of that habitat type.

The manual is designed to complement and link in with English Nature's Upland Management Handbook and other key documents which should be consulted for details of best management practices.

The manual will also give information on machinery and tools that have been proven to be of use as well as advice where relevant on their application.

### **Identifying information**

Since much restoration work has been poorly documented, much of the research for the manual will be undertaken through interviews and site visits. The manual will be prepared by English Nature's Moorland Restoration officer, Valerie Hack. Although this will be an English Nature publication, experience and case studies will be canvassed **from across the UK** and where relevant, internationally.

To keep those involved with moorland restoration updated as to the progress of the manual, it is intended that regular updates on the manual will be submitted to Looking to the Hills.

This will be a very valuable resource, and provides an opportunity to share information. So if you have **any** experiences that you feel would be relevant and would contribute toward the manual, please contact Valerie.

Contact: **Valerie Hack** EN Moorland Restoration officer  
01539 792800  
[valerie.hack@English-Nature.Org.UK](mailto:valerie.hack@English-Nature.Org.UK)

### **Outline of some English projects**

There are some relatively ambitious upland restoration projects currently underway in England with English Nature either leading or acting as a main partner. Sites include:

**Border Mires Blanket Bog Restoration**, Cumbria and Northumberland.

This is a programme of restoration of 4555 Ha of blanket mire funded by the EU LIFE programme. The focus is on the removal of conifer plantation and blocking of ditches. Some removal of self-seed conifers and wader pool creation on the highest elevation bogs. Partner organisations include The Forestry Commission, The Northumberland Wildlife Trust and English Nature. A wide range of techniques were tested (and costed) for tree felling and brash disposal on very wet sites which will provide valuable information to assist future projects.

Contact: **Simon Webb** 015395 792800

#### **Hexhamshire Common, Northumberland.**

Grip blocking and grazing reduction on blanket bog habitat. This site is being monitored by Durham University to assist research into the occurrence of water discolouration from oxidised peat.

Contact: **John Barrett** 01661 845500.

#### **North Pennines and Lake District Commons.**

English Nature is exploring with commoners the purchase of exercised grazing rights on a number of commons to secure a permanent solution to overgrazing on blanket bog and montane heath sites on over 4000ha.

Contact: **Jean Johnson** and **Kath Milnes** 01539 7892800. See also the autumn issue of *ENACT* for a more detailed article.

#### **Caldbeck Common, Cumbria.**

A major FMD recovery project funded by English Nature and the ESA. The aims are to reduce grazing pressure and to put a framework in place to provide for the future fine tuning of the SSSI management.

Contact: **Jean Johnson** 01539 7892800

#### **South Pennine Moors.**

English Nature will be funding various works aimed at revegetating large areas of bare peat in remote high altitude sites by using surface stabilisation methods and seeding. This work will run in parallel and complement ESA agreements and the HLF project entitled 'Moors for the Future' led by the Peak Park National Park Authority of which English Nature is a partner.

Contact: **Jon Stewart** 01629 816640.

#### **Geltsdale, Cumbria.**

A substantial grip blocking project is underway using a pioneering technique of filling the grips with heather bales along the entire length of the grip. The intention is to solve the problem of 'death trap' pools of water for sheep and grouse.

Contact: **Val Hack** 01539 792800.

### **Recovery from erosion following reduction in grazing in the Peak District**

The following note was sparked by reading 'Red deer management and vegetation on the Isle of Rum' by Virtanen, Edwards and Crawley in the *Journal of Applied Ecology* 39 (2002), 572-583. They noted that after twenty years the effects of reducing deer grazing pressure had not led to tree regeneration.

#### **A Peak District catchment study**

In a small catchment in the Peak District the reduction of grazing pressure has led not only to the disappearance of all the large areas of rapidly eroding bare soil, the reason for the monitoring (publication in preparation), but to changes in vegetation too. Sheep numbers have been maintained at levels c.70% of those of the period 1966-68.

#### **Some results**

On a very steep east facing slope at least 7 rowan saplings are now growing through the heather which by 1990 had reached a sufficient height to inhibit sheep from penetrating the cover. The saplings show signs of earlier grazing. They are now growing at a rate of c.0.3m year<sup>-1</sup>. The nearest rowan trees are within c.200m.

Down the valley, just above the confluence with the larger valley, a number of birch saplings (c.10) have also become obvious since 1998. They are on the very steep western valley side slope with its acid grasses and bilberry cover. Here the parent trees are within metres of the saplings.

By a rocky outcrop, again on the very steep west side of the valley, by 1990 there was not only a birch sapling but a rhododendron shrub too. Although a birch tree is within a short distance, tens of metres, the nearest rhododendron shrub is probably nearer a kilometre away. In all instances, reduced grazing pressures have led to regeneration of low shrubs that, it appears, have protected the saplings.

It will be interesting to see if tree regeneration occurs in a valley in the north west of the Lake District that is also recovering from overgrazing. Here, though, the nearest trees to the recovering heather moor are c.1.75km away. The common was put into an Environmentally Sensitive Area scheme in 1995 and on the north facing slopes the formerly eroding scars of bare soil and their margins are becoming stabilised by vegetation and the number of scars has declined markedly. As in the Peak District, flowering heads of grasses are now much more prominent and heather and bilberry are growing more vigorously. Sheep counts suggest numbers have been reduced dramatically. In late May 1998 and mid-September 2002 the numbers of sheep counted were very similar but were only about one-fifth of those counted in August 1989.

### Final thoughts...

The other noteworthy finding from the Virtanen *et al.* paper, for those of us interested in runoff and soil erosion, was the thickness of the moss carpet in the enclosure plot compared to the grazed area (Table 3). Thus, in the enclosure in the productive grassland there was a 12.1cm depth of moss, but in the grazed localities only 0.8cm. Elsewhere in more productive vegetative types (Herb-rich *Calluna* heath and *Agrostis-Festuca* grassland,

Contrast D, Table 4) the moss carpet was only 1cm deep at the most. It is this moss carpet which absorbs rainfall and inhibits runoff. Hence on grazed slopes there will be more runoff than ungrazed slopes.

Bob Evans has been studying this small catchment area in the Peak District regularly since doing his PhD there in the 60s on erosion processes.

Contact: **Bob Evans** [R.Evans@apu.ac.uk](mailto:R.Evans@apu.ac.uk)

## Obituaries

### **Professor John Miles (1941-2001)**

John Miles was one of Scotland's foremost thinking applied ecologists, having effectively had two very influential careers. First, immediately after graduation with a PhD from Reading University John joined the Research Branch of the Nature Conservancy Council (later Institute of Terrestrial Ecology) and joined the staff at the Hill of Braithens Research Station. There, he developed an international reputation in vegetation dynamics, with a particular interest in soil biology and ecology. However, his clear thinking and all round skills were much in demand, especially in the post-Rothschild era of contract work, with forays into assessing contamination on Gruinard Island and environmental impact assessment in the Falklands. During this period he wrote the seminal short textbook on *Vegetation Dynamics*, a classic, and one that I still have on the reading list for my undergraduates, even though it is out of print. The writing of this book convinced him that too many scientists do not read enough literature, especially the classic older material, with subsequent much re-inventing of wheels! This led into a very influential period as editor of *Journal of Applied Ecology*, where his helpful comments and no-nonsense approach to humbug, was much in evidence. He was the first scientist I came across who routinely signed his referees reports as a matter of policy.

John's second career started as a secondment to the Scottish Office as ecological adviser, which eventually became a fulltime position. From this post he played a crucial role in getting environmental issues to the forefront of policy maker's agendas. He played a significant role in the drafting and implementation of much European legislation, and his ability to explain complex concepts in simple terms was much appreciated by colleagues. During his tenure in this position the Scottish Ecological Advisors Unit was formed along with the Geographic Information Service. In 1994 he was awarded an honorary chair in Environmental Sciences at the University of Stirling and was made an OBE in 1999 for his services to the Scottish Office. His interests expanded as a result encompassing involvement with the UK

raptor group, Scottish Natural Heritage's Moorland Heritage group, Historic Scotland, the National Trust for Scotland and the Society of Antiquaries of Scotland.

John's influence was considerable in everything he did and he was generous with help for younger colleagues. His vision in setting up long-term experiments to study the reciprocal effect of heather and birch on woodland and moorland soils was masterly, and supposedly a 20-year study. Such a study was unusual in its vision even then, but would be impossible to even contemplate in the present cut-throat world of "quick results – short contract" science. When he showed me around this experiment in the mid 1980s, enthusiastic as ever, but stating bluntly that his real vision for the experiment was on the hundred years scale, and he did not expect to see any significant results from the study in his lifetime. His book was similar, he took me aside one day and offered me joint authorship of the second edition, a project, which I am sorry to say never got beyond the pipe dream stage never mind completion. Another part of his generosity was in discussion with others where his all round knowledge was freely passed out to anyone who would listen, and preferably argue back. The characteristically loud laugh, which pierced many conference meetings, indicated that he had found something in conversation that was either ridiculous or important. Irrespective, a forthright opinion was always provided.

Over the last few years John had been contemplating a busy retirement, and it is dreadful that this wish has not been fulfilled. All those who knew him professionally have had their work enriched in some way. We extend our condolences to his life Ann, and his sons, Gavin and Alan, of whom he was immensely proud.

Rob Marrs  
University of Liverpool

### **David Arnold-Forster (1956-2002)**

One of England's most energetic, dynamic and effective champions of countryside conservation died on Sunday 29<sup>th</sup> September. David was only 46, yet had been Chief Executive of English Na-

ture for two years, which speaks volumes for the tragedy of the loss of such a young life.

As chair of the Hills Task Force of the Ministry of Agriculture and Fisheries, DAF, as he was known to many of us, delivered significant recommendations to government on the future of the uplands. He urged Ministers to prevent the large-scale abandonment of the uplands by hill farmers, and instead to support subsidies for the care and management of upland landscapes and wildlife (rather than for too many livestock and ensuing heavy grazing pressure). This was radical, reinforced by clear and incisive pointers to the importance of improving the livelihoods of people in a more sustainable way within their environment.

Before joining English Nature, David was Chief Executive of the North York Moors National Park (1994-2000), where he was hugely popular and impressive in engaging the wide range of local, statutory and visiting interests there. At a large national conference on the uplands in 1999, at Durham University, David stood out as a vibrant personality wholly at ease with his responsibilities and willing to challenge and tease others in authority. None of us were surprised that only months later, David was working closely with Baroness Young, then chair of English Nature, running the nature conservation show in England.

David was not one of those chiefs who operated through line management chains. Not a bit of it, DAF revealed his military background (he had active service in the Territorial Army, and later

was Civil Secretary to the British Forces in Bosnia) by thrusting his way into problem areas to root out solutions. Various expressions were ascribed to his working style which sought results rather than activity - "Do it, don't talk about it!" was one of his more polite steers to colleagues! He championed significant improvements in relations between English Nature and the many countryside bodies; paved the way for more effective working relationships in the uplands of the north of England; and led the successful bid to government for £17m to buy Thorne and Hatfield Moors, one of the largest and finest raised bogs in Britain.

A year ago, at the FACT conference for upland land managers at Lancaster University, David was ebullient. He chaired the final day's proceedings with flair, focusing on the issues (not least the aftermath of foot-and-mouth disease), but also the broader context for developing more effective means of improving the state of the uplands.

David will be remembered with affection and respect. We can only guess at the work he might have gone on to tackle, consoled by the fact that in half a life he achieved so much. His Hills Task Force report has still to be fully acted upon, and will probably remain his most enduring legacy. Nature and people in the rural parts, which should benefit from rather than conflict with each other, deserve the support that David argued for so compellingly.

Des Thompson, Bill Heal & Tim Burt  
SNH, JNCC & Durham University

## Other news of interest

### *The State of Scotland's Air: Environmental and Natural Heritage Trends – whisky, ground-level ozone and the uplands*

In September 2001, Scottish Natural Heritage and Scottish Environmental Protection Agency (SEPA) held a conference entitled *The State of Scotland's Environment and Natural Heritage* near Edinburgh. A talk on The State of Scotland's Air indicated that there may be reductions in both sulphur and nitrogen oxide emissions over the next decade and, therefore, in acid and eutrophying depositions. The extent of semi-natural areas in exceedance of critical loads are consequently expected to diminish.

However, current concentrations of ozone exceed critical levels for crops and ecosystems in upland areas of Scotland. Whilst exceedances of peak ozone concentrations are expected to decline over the coming decade, global background levels are predicted to increase. This may represent a long-term, as yet unquantified, threat to vegetation across the country.

Ground-level ozone is formed from Volatile Organic Compounds (VOCs) through reactions with nitrogen oxides in the presence of sunlight. Major sources of Scottish VOCs include industrial solvents (around 35% of emissions), and oil and gas refining. Approximately 30% of Scottish emissions of VOCs originate from road transport. Very sadly, whisky distillation accounts for 17% of emissions.

Reference: D Fowler, G G MaFadyen, N E Ellis, and W G MacGregor (2002) Air Pollution and atmospheric deposition in Scotland: environmental and natural heritage trends. In Eds M B Usher, E C Mackey and J C Curran. *The State of Scotland's Environment and Natural Heritage* pp 83-111. The Stationary Office. Edinburgh. (see below).

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## **NERC**

Natural Environment Research Council (NERC) has just undertaken a fundamental review of its activities and has produced a key document *Science for a sustainable future, 2002-2007* setting out its forward agenda. This document and supporting papers are available on the NERC website ([www.nerc.ac.uk](http://www.nerc.ac.uk)).

The NERC funding model is changing. NERC's scientific work will be developed under three broad headings:

- Earth's Life Support Systems: water, biogeochemical cycles and biodiversity.
- Climate change: predicting and mitigating the impacts.
- Sustainable economies: energy, landuse and hazard mitigation.

## **Book reviews/ Recent Publications/ Resources**

### ***Earth Science and the Natural Heritage: Interactions and Integrated Management***

Edited by John E Gordon and Katherine F Leys (2000) The Stationary Office, Edinburgh

Five hundred words is far too restrictive to review a volume of such interest. The important point is that this book provides a timely, stimulating and integrated review of Earth heritage conservation that will be of considerable interest to a wide range of people. Although the focus is Scotland, there is much here of general application and interest. That Scottish Natural Heritage (SNH) is in a position to produce this book is something to reflect upon for a start.

This book derives from a conference held appropriately at Our Dynamic Earth in Edinburgh in 1999, and complemented a conference on *Landscape Sensitivity* held earlier in the same year in Stirling (See *Catena*, Vol 42, Nos 2-4). The rationale for the second conference was that Earth heritage conservation is about much more than site protection. 'Earth heritage' comprises a complexity of links between geology, geomorphology and landscape, and is now recognised as a crucial element in recreation and tourism, and a valuable resource for education, as well as being important in its own right for scientific study.

The book is divided into five sections. The titles of Parts One, Two and Three are all prefixed by 'Earth Science and the Natural Heritage' with the respective subtitles being 'Exploring the Continuum', 'Foundation and Interactions' and 'Pressures and Sustainable Management'. Part Four deals with 'Earth Heritage Awareness, Involvement and Education' while part five assesses 'Key Issues for a Sustainable Future'. Throughout, there is an overriding sense of integration. These authors may indeed 'know best' but there is no sense of them seeking to protect their knowledge or impose outcomes, indeed quite the converse: the need to promote wider public awareness is clearly welcomed here. The editors' opening chapter provides a helpful summary of these various themes, emphasising the need for a holistic approach if natural heritage is to be managed in a sustainable manner. The opportunities and chal-

lenges created by this new outlook provide the basis for the book.

The various chapters provide an interesting mix of general review (particularly in Parts One, Two and Five) and more specific case studies (mainly in Parts Three and Four). I particularly enjoyed Geoff Boulton's chapter on the theme of change in Earth systems, a welcome blend of 'hard' and 'soft'. Indeed, he says much less about the ancient rocks of Scotland than about erosion and deposition during the Quaternary and Holocene, and the progression from natural change to human impact is nicely handled. This sets the scene for a varied selection of geomorphological case studies, illustrating both a richness of location and high-quality research. Too often, there is a needless (and sometime acrimonious) division between geologist and geomorphologist, but gladly not here. The result is a solid foundation on which the later material can build. I also enjoyed the chapter by Des Thompson and colleagues discussing whether montane landscapes in Scotland are natural, artefacts or complex relicts. Here and elsewhere the question of change, both natural and human-induced, was discussed, but I did wonder whether there could have been more reflection on the question of landscape sensitivity and change (this criticism applies to a number of chapters). It may be that the influence of the earlier conference was to constrain discussion of this theme. What makes some landscapes more sensitive than others is still a big, unanswered question, it seems to me, and the issue would have benefited from more coverage here. Another theme that might have been explored a bit more is how to convey improved scientific understanding of change to the general public. Roger Crofts begins to tackle this issue, but we need to do more than simply provide interesting tourist attractions. Part Four starts to consider formal education but it is clear that there are no quick fixes if the school curriculum is to develop a good level of understanding for the coming generations.

The need to raise public awareness through both formal and informal education pervades Part Five too, where challenges for the future are identified. These come down to two important points: the need for an integrated approach to Earth science

(for example, in river basin studies) and the need to ensure that this knowledge and understanding benefits society as landscape management proceeds over the coming century and beyond. In his Foreword, the Scottish Environment Minister, Alasdair Morrison MSP, notes that: 'Public interest in the Earth heritage and the increased awareness of its wider importance lead me to suggest that geology and geomorphology have finally come of age ... they are achieving just recognition as subjects which are important and relevant today.' This book will disseminate the conference's themes to a wide audience and its review chapters will be particularly useful in this regard. It deserves to be read, both for its own sake and to show how the benefits of integrated science and management seem to follow inevitably from integrated administration: Scottish Natural Heritage is to be congratulated – and envied!

Professor Tim Burt  
University of Durham

### **Mountains**

By Martin Price (2002). World Life Library. Colin Baxter Photography, Grantown-on-Spey, Scotland.

This is a wonderful celebration of the mountains of the world for the International Year of Mountains. The book beautifully illustrates the splendour, variety and importance of mountains in 70 short

pages and 40 stunning photographs. The author shares his worldwide experience and love of mountains to clearly set out why mountains matter. It is surprising that, considering mountains cover a quarter of the Earth's land surface and provides water for half the world's people, they have only recently begun to be recognised for their global importance by policy-makers. The text is packed full of facts presented as easy reading. The book covers what and where mountains are and how they come to be there. It then looks at: the importance of mountains as 'water towers'; the altitudinal zonation of vegetation types; centres of diversity (both biological and cultural); the importance of mountains spiritually and for recreation and tourism; and finally how we safeguard our mountain heritage.

Sally Johnson JNCC(SNH)

#### **\*\*\*SPECIAL OFFER\*\*\***

Colin Baxter Photography is offering *Mountains* by Martin Price to *Looking to the Hills* readers at the special price of £7 including P&P in the UK (the normal retail price is £9). Send a cheque for £7 (saying where the offer was seen) payable to 'Colin Baxter Photography' Colin Baxter Photography, FREEPOST, PO Box 1, Grantown-on-Spey, PH26 3YA. The offer closes **31 December 2002.**

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### **The State of Scotland's Environment and Natural Heritage**

Edited by Michael B Usher, Edward C Mackey and James C Curran (2002). The Stationary Office, Edinburgh.

This is the 11<sup>th</sup> book in the Natural Heritage of Scotland series and provides the conference proceedings for the Scottish Natural Heritage and Scottish Environmental Protection Agency (SEPA) conference in 2001 on The State of Scotland's Environment and Natural Heritage. The 22 conference papers and poster papers have been allocated to one of four sections on: Scotland in context; Scotland's land, air and water; Issues influencing sustainability; and Towards a sustainable Scotland.

### **The Habitats Directive: Selection of Special Areas of Conservation in the UK – electronic report**

Edited by C R McLeod, M Yeo, A E Brown, A J Burn, J J Hopkins & S F Way (2002) *The Habitats Directive: selection of Special Areas of Conservation in the UK*. 2nd edn. Joint Nature Conservation Committee, Peterborough.

The Joint Nature Conservation Committee (JNCC) has launched this new electronic information resource, which describes sites in the United Kingdom recognised as internationally important for habitat and species conservation at European level. It replaces a JNCC report published in 1997, since when the number and extent of Special Areas of Conservation (SACs) has increased substantially.

This resource can be found on JNCC's website at [www.jncc.gov.uk/SACselection](http://www.jncc.gov.uk/SACselection). It will be updated whenever the UK submits new data about candidate SACs to the European Commission. As well as up-to-date details of the selected sites throughout the UK, users will be able to find out about the SAC selection process, and the habitats and species represented by SACs. It is now possible to search for information in various ways, for example by name or geographically. This will become a central reference point for any SAC information.

**Integrated Upland Management for Wildlife, Field Sports, Agriculture and Public Enjoyment**

Edited by J Phillips, D B A Thompson and W Grulich. (2001) SNH, Battleby

This report contains the proceedings of a conference held in Battleby, Scotland in September 1999 organised by the Heather Trust. The report pulls together presentations from 16 speakers from many backgrounds on a theme that will grow in importance in years to come given the increasing demands on land in the uplands for multi-functional use.

**National Vegetation Classification: field guide to mires and heaths**

By T Elkington, N Drayton, D L Jackson and I M Strachan (2001). JNCC, Peterborough.

This is part of a new series of interpretative publications intended to support users of the National Vegetation Classification, providing guidance on practical aspects of the NVC. The guide provides dendrogram keys for mires and heaths, and summary descriptions of each mire and heath NVC vegetation type.

For information go to:

[www.jncc.gov.uk/communications/pubcat/heathland.htm](http://www.jncc.gov.uk/communications/pubcat/heathland.htm); and the complete book is available online at:

[www.jncc.gov.uk/communications/pubcat/publications/mires/Mires\\_Heaths.pdf](http://www.jncc.gov.uk/communications/pubcat/publications/mires/Mires_Heaths.pdf)

**The British Uplands: the dynamics of change.**

Edited by T P Burt, D B A Thompson and J Warburton (2002). JNCC Report 319. Peterborough.

This significant report contains 41 papers on aspects of environmental change in the uplands. It is the product of a conference and a more recent workshop, and has a visionary foreword by Professor Charles Gimingham.

**Nature Conservation: a review of the conservation of wildlife in Britain**

By Peter Marren (2002), New Naturalist No.91. HaperCollins, London.

A superbly written book full of insight into the workings of nature conservation in government, its agencies and the NGOs. A must for anyone interested in nature conservation.

**Scotland's mountains: key issues for their future mangement**

Edited by: M F Price, B J Dixon, C Warren and A R Macpherson (2002). SNH. Battleby.

This report presents an overview of management and policy issues affecting Scotland's mountains. Much of the information has been gleaned by questionnaire survey and through detailed interviews of stakeholders. "A comprehensive analysis of information and experience" from Forward by Des Thompson and John Mackay.

**Mountains: Scotland's Living Landscapes**

By Mark Wrightham (2002) Living Landscape series. SNH, Battleby.

A beatifully illustrated and written booklet to mark the International Year of Mountains in Scotland.

From the dust cover - "I love the series title (*Scotland's Living Landscapes*) because for me, mountains are intensely living and intensely alive; and not only alive, but life-giving, too. Mountains harbour vivid life and growth in unexpected, rugged and hidden places; mountains revive the ailing soul with the power and purity of their beauty, while hugging to themselves some of the deepest secrets of the evolution of our planet. This book captures so much of the essential spirit of Scotland's mountains, and highlights the importance of their nature - in every sense." Magnus Magnusson KBE: Founder-chairman, Scottish Natural Heritage

**Lakeland**

By Derek Ratcliffe (2002). New Naturalist No. 92. HarperCollins, London

A masterly and evocative update on New Naturalist No. 53 on *The Lake District*, by Pearsall and Pennington. This book offers fresh and new observations on wildlife and human influences in this special part of Britain. A delight to read, with over a hundred photos.

**Scotland's moorland: the nature of change**

By Moorland Working Group (2002). SNH, Battleby. (P Shaw, D B A Thompson, A Smith, C A Galbraith and D Orr-Ewing).

A fully referenced and illustrated overview of trends in land-cover, land-use and nature of Scotland's moorland. This is a valuable educational publication, which at 15 pages (free) offers excellent value!

**The ecology, land use and conservation of the Cairngorms**

Edited by Charles Gimingham (2002). Packard, Chichester.

This 17 chapter, 224 page tome, provides a huge amount of new data and information on the Cairngorms. Gimingham has written four of the chapters, the last of which nicely sets the scene for the imminent Cairngorms National Park. An important and timely book.

**Montane Scrub: the challenge above the treeline**

Edited by D Gilbert (2002) Highland Birchwood, Munloch.

Superbly produced, this is an important and timely overview of the prospects for montane scrub in Scotland. The review papers by Des Thompson and colleagues, Neil MacKenzie, and Dave Mardon, and the exploration of policy issues by Andrew Raven, all contain significant new information. This is a product from Highland Birchwoods, supported by the Millennium Commission.

**Biodiversity assessment; the state and changes in Scotland's biodiversity**

By M O Hill, C E Davies, M P Harris, M Marquiss, P T Harding, C D Peston, D B Roy, M G Telfer and D Welch (2002). SNH, Battleby.

This large report is a remarkable listing of the biodiversity of Scotland. There is important information on extinct, new, native and priority species. Threats and actions are listed for all species in Scotland for which there are Biodiversity Action Plans.

**Managing Scotland's environment**

By Charles Warren (2002). Edinburgh University Press, Edinburgh.

"Those who actually wish to help solve Scotland's environmental problems will find this an invaluable survey and an inspiration. And those who simply want to be better informed could not do better than read it." We agree wholeheartedly with this comment by Chris Smout on the book's dust jacket. This 410 page book is an excellent read, divided into five parts: The nature and control of land; The pieces of the jigsaw; Interactions and controversies; Thinking and deciding about the environment; and, Conclusion. Why is it so good? Read it to find out!

**Stock feeding on moorlands in England - environmentally sustainable grazing in the uplands**

A new leaflet from English Nature.

This leaflet is intended to provide advice for those people who manage or own livestock in the English uplands and others who have an interest in the management of the uplands. Guidance is given on what issues need to be considered to reduce or prevent damage occurring to upland habitats as a result of supplementary feeding of livestock.

Requests for additional copies should be addressed to: English Nature, PO Box 1995, Wetherby, West Yorkshire LS23 7XX  
0870 1214 177

**Conferences/Workshops/Lectures/Events**

**People and nature: the mountains of Northern Europe: conservation and management in the Mountains of Northern Europe**

Nov 6-9<sup>th</sup> 2002 Pitlochry, Scotland  
Organised by Scottish Natural Heritage with the Centre of Mountain Studies at Perth College UHI Millennium Institute.

You can find information can be found at <http://www.snh.org.uk/news/nw-frame.htm>  
Or contact: **Helen Forster** SNH 0131 44 2420  
[helen.forster@snh.gov.uk](mailto:helen.forster@snh.gov.uk)

**Roots to the Summit: a conference to review the future for Cairngorms Mountain woodlands**

Nov 16<sup>th</sup> 2002 Battleby, Perthshire  
Organised by The Cairngorms Campaign.  
Information and a booking form can be found at

[http://www.cairngorms.demon.co.uk/cairngorm\\_fo\\_rests.htm](http://www.cairngorms.demon.co.uk/cairngorm_fo_rests.htm)

or Tel 01350 727807

**Sustainable Futures for the British Uplands**

Nov 20<sup>th</sup> 2002 London  
Organised by the Royal Geographical Society Mountain Research Group

The programme and booking form can be found at <http://www.cms.uhi.ac.uk/rgsleaflet.pdf>  
Or Tel 020 7591 3007

**The Balance of Nature: Land Management and Conservation**

Nov 26<sup>th</sup> 2002 London  
Organised by RSA

As part of a broader programme, looking at countryside management and asking how we can restore a 'natural' equilibrium to environments

where wildlife has been compressed by human occupation into an ever-diminishing habitat, The Earl Peel, moor owner and former chair of GCT, will be talking about 'Moorlands and Uplands'. Further information Tel 020 7930 5115 [simon.fordham@rsa.org.uk](mailto:simon.fordham@rsa.org.uk)

**Summit to Sea: The Values of Scotland's Mountains and Water in the 21<sup>st</sup> Century**

Conference: Perth College, 2-3 December 2002  
Follow-up Workshop: Battleby, 21 January 2003  
Organised by: CMS, SEPA, SNH

A conference and workshop, linking the International Year of Mountains 2002 with International Year of Freshwater 2003, which aims to promote awareness of the issues and players associated with Scotland's mountains and water, and to sketch out a framework for future action. Further information from:

**Andy Macpherson**

Tel 01738 877 885

[Andrew.macpherson@perth.uhi.ac.uk](mailto:Andrew.macpherson@perth.uhi.ac.uk)

[www.iym.org.uk](http://www.iym.org.uk)

## Uplands Staff across the Country Conservation Agencies



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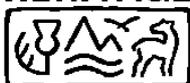
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**SCOTTISH  
NATURAL  
HERITAGE**



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This new project involves collating all data and information held throughout SNH on upland protected sites. This includes checking digitised records on the SNH data and Library Catalogues, against the paper holdings in all SNH Area Offices. This information is initially being made available to staff within SNH through our local intranet facility via easily accessed web pages.

**Mike Thornton** – Moorland Project Officer, provides support to the Moorland Forum and provides technical support to developing moorland projects.

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Cyngor Cefn Gwlad Cymru  
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### Countryside Council for Wales (CCW)

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**Peter Jones** - Peatland Ecologist, covering upland and lowland habitats- blanket bog, fens and lowland raised bogs.

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**English Nature (EN)**

**David Townshend** - Manager of Habitats and Communications Branch, co-ordinating the uplands, woodland, grassland, heathland and communication specialist services. Lead officer for the Upland Focus Group, which provides a focus across teams for co-ordinating work in the English uplands, promoting best practice and addressing upland issues. Also leads on upland game management issues.

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**Mick Rebane** - Senior Uplands Officer; Manager of Uplands Unit, responsible for the specialist service provided by the unit and national overview of all upland matters including ecological, land management and agricultural policy issues. Particular responsibilities for overgrazing and the development of working relations with other government agencies and non-governmental organisations.

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**Alistair Crowle** – Uplands Ecologist, responsible for the provision of specialist technical service on habitat condition, species requirements, and sustainable land management practices needed to deliver 'favourable condition' on upland SSSIs and in the wider countryside. Upland advice on ecological issues relating to the Habitats Directive; SSSIs; the Biodiversity Action Plan programme; Natural Areas; upland management, monitoring and research; agri-environment schemes; and overgrazing assessments.

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**Valerie Hack**, Moorland Restoration Officer; lead on the restoration and recreation of degraded moorland habitats throughout the English Uplands. Currently collating technical information regarding restoration to contribute to the production of a best practice manual as well as actively involved in supporting practical restoration projects.

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**ENVIRONMENT  
AND HERITAGE  
SERVICE**

**Environment and Heritage Service (EHS)**  
(Department of the Environment for Northern Ireland (DoENI))

**Paul Corbett** - Habitat Survey Team Leader; responsible for co-ordinating the survey and assessment of terrestrial habitats in NI, with the main aim of completing the declaration of Areas of Special Scientific Interest. (These are the NI equivalents of SSSIs; the NI programme of site designation lags well behind the rest of the UK); representing EHS on the Uplands Lead Co-ordination Network.

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**Martin Bradley** - Biodiversity Unit. Responsible for the preparation, co-ordination and delivery of Northern Ireland biodiversity habitat and species action plans. So far 40 priority habitats have been identified for Northern Ireland. The list of species of conservation concern for Northern Ireland is currently under review. Represents EHS on the UK UHAP group. Northern Ireland HAPs for blanket bog, upland heathland, montane heath, and upland calcareous grassland will be published in Spring 2003.

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## Next Issue

*Looking to the Hills* now goes out to over 200 people. We therefore hope it provides a useful means of sharing information and linking together people in different parts of the UK and abroad.

We want inputs from everyone. Please let us know if you are involved in anything which may be of interest so that we can include it in the next issue.

Issue 12 of *Looking to the Hills* will appear in April 2003. It will have a focus on some projects in England.

We shall have articles on:

- Development of common standards for monitoring
- Upland erosion processes
- Burning issues (including what is happening in Australia)
- HLF projects in the Cairngorms and the Peak District
- LIFE Borders mires active blanket bog rehabilitation project (Kielder)
- Report on the Pitlochry Mountain conference and IYM

**We welcome any comments or views on this issue or contributions for future issues. Please contact our editor: Sally Johnson JNCC Upland Network Officer, ULCN, Advisory Services, SNH, 2 Anderson Place, Edinburgh, EH6 5NP. Tel: 0131 446 2475. Email [Sally.Johnson@snh.gov.uk](mailto:Sally.Johnson@snh.gov.uk)**

Members of the ULCN, (Andrew Coupar, Angus MacDonald and Barbara Jones) and Dave Glaves (DEFRA) (left) and Dave Horsfield (right) happily field testing new monitoring methods!

