

3. Key Wildlife Actions

3.1 Introduction

Habitats and species do not exist in isolation and the whole Dartmoor ecosystem is important to wildlife. The richest areas for biodiversity are usually those where two or more semi-natural habitats occur next to each other, such as unimproved grassland or scrub along a woodland edge or river; and species will often use elements of different habitats for nesting and feeding. There is therefore a need to integrate actions from the individual plans in order to maximise opportunities for biodiversity. 'Key wildlife actions' are those that occur in a number of individual action plans and/or affect the whole of Dartmoor. They are crucial for building the wildlife jigsaw and are highlighted and developed in this section.

3.2 Policy and Legislation

3.2.1 Agri-environment schemes

These are regarded as potentially the major deliverer of biodiversity targets on agricultural land (a total of 85% of the National Park, 34% covering enclosed farmland and a further 51% covering open moorland). The Dartmoor Environmentally Sensitive Area Scheme (Dartmoor ESA) was introduced in 1994 and covers virtually all of the National Park. It is currently administered by MAFF through the agency of the FRCA. The main aims are to protect and enhance the special landscape, wildlife and historical value of Dartmoor through the maintenance and adoption of environmentally beneficial livestock farming systems and other land management practices. It sets policies and prescriptions for habitat management as well as providing financial incentives to integrate

biodiversity objectives with farming on Dartmoor. There is also scope within the scheme to introduce additional requirements or amend existing ones, where this will help to protect and/or enhance habitats and species which are important in the Dartmoor context.

MAFF, FRCA and farming and landowning organisations (including the NFU, CLA, Dartmoor Commoners' Council and Duchy of Cornwall) have had considerable input into the Dartmoor Biodiversity Action Plan. They are all members of the Steering Group and/or have contributed to the workshops which drew up the individual action plans for farmland habitats (including moorland, haymeadows, Rhôs pastures and field boundaries). Targets within the plan incorporate Dartmoor ESA targets (as at the latest review in 1999) wherever possible and will provide a framework for integrating achievements through the ESA with the work of other organisations and individuals. The Dartmoor ESA is an essential mechanism for achieving many of the objectives in this Action Plan.

Countryside Stewardship is another agri-environment scheme, which delivers biodiversity targets amongst other things. However, it has a limited role on Dartmoor because the Dartmoor ESA is so comprehensive. Nevertheless, there may be situations where Countryside Stewardship offers appropriate options not available under the ESA Scheme – in particular the Cirl Bunting Special Project, with its associated arable options.

Action	Lead	Complete by
Ensure that relevant biodiversity objectives and targets are taken into account in running and reviewing the Dartmoor ESA and other relevant agri-environment schemes	MAFF	Ongoing
Promote and support take-up of the Dartmoor ESA and any other relevant agri-environment schemes	MAFF, DNPA, EN	Ongoing

3.2.2 Statutory and strategic plans

Many organisations have the potential to influence biodiversity on Dartmoor and most will have business or management plans, which govern policy and set work programmes. Where possible, these should incorporate the objectives, targets and actions set out in the Dartmoor Biodiversity Action Plan.

Appropriate targets have already been included in the *Dartmoor National Park Management Plan*, the *Dartmoor Local Plan* and in all the Environment Agency's LEAPs (Local Environment Agency Plans) for Dartmoor rivers. Conversely, targets and actions from business plans, national strategic plans and guidance notes with relevance to Dartmoor's biodiversity have already been incorporated into the Dartmoor BAP e.g. the UK Forestry Standard. There will be a need to ensure that these links continue when all these plans are reviewed and revised.

Action	Lead	Complete by
Include protection policies for key habitats and species on Dartmoor in all relevant strategic and statutory plans (DNP Management Plan, DNP Local Plan, LEAPs) and reviews of these	DNPA, EA	2001 and 2005
Ensure that relevant biodiversity measures from national strategies are incorporated and/or updated in the Dartmoor BAP at review dates	FC, EN, EA	Ongoing

3.2.3 Wildlife webs

Article 10 of the European Habitats Directive declares that member states should endeavour to encourage the management of 'linear and continuous structures' e.g. hedges and field boundaries, or stepping stones e.g. ponds and small woods.

Many Dartmoor habitats are inherently linear, including the obvious ones such as rivers and hedgerows, but also meadows and woodlands in valleys. Wildlife here is often dependent on the integrity of the linear feature. For example, marsh fritillary populations in a valley system of Rhôs pasture will often fluctuate widely from field to field, depending on factors such as parasites, weather and grazing - the whole valley is important for the survival of this species. A continuous valley system will also attract bigger predators such as wintering short-eared owls, which need sufficient food and habitat over a large area. Stepping stones between habitats can be crucial for migration and dispersal of species. Warblers and swallows will migrate north-south through a string of copses or ponds; breeding curlew use a group of valley mires.

Many species use elements of different habitats, as well as linear

features and stepping stones - otters travel along river systems but may lie up in an adjacent wetland; dormice scurry along hedgerows to small woods.

This intimate mix of semi-natural habitat makes up the wildlife web of Dartmoor and its protection and enhancement is vital.

Action	Lead	Complete by
Use existing agri-environment and forestry schemes and management agreements to create links between habitats	MAFF, FC, DNPA, EN	Ongoing
Seek opportunities for enhancing wildlife webs by maintaining and extending linear features and creating stepping stones wherever possible	MAFF, DNPA, FC, EN	Ongoing

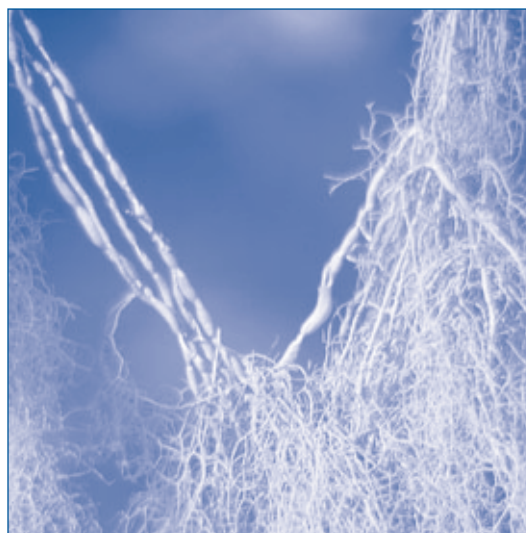
Actions for improving water quality and quantity are included in the Freshwater Action Plan. They will also have beneficial effects on Rhôs pastures, valley mires, blanket bogs and a number of key species.

Action	Lead	Complete by
Review air quality across Dartmoor and draw up Air Quality Management Plans, if necessary	DCs, (DNPA)	2001
Ensure that the objectives of the UK Air Quality Strategy are achieved on Dartmoor	DCs, EA (DNPA)	2001
Review existing consents for water abstraction and discharge, particularly in relation to candidate SACs	EA	2005

3.2.4 Air and water quality

Good air and water quality is a fundamental requirement for Dartmoor's wildlife as well as people. The UK Air Quality Strategy requires local authorities to assess and review air quality over their areas and produce an Air Quality Management Plan, if necessary. Four District Councils are undertaking this process in the Dartmoor area. Their results will influence actions to improve air quality, if necessary.

Actions for ensuring that objectives for air quality and the protection of vegetation and ecosystems set out in the UK Air Quality Strategy are achieved on Dartmoor, are set out in the Mosses, Lichens and Ferns Action Plan (p.122). These species are particularly vulnerable to pollution damage and thus act as 'early warning' indicators of air pollution levels.



String-of-sausages lichen

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3.3 Site Safeguard

3.3.1 SSSI/SAC status

Around 30,000 ha of the Dartmoor National Park (31% of the total area) is designated as a Site of Special Scientific Interest for its wildlife or geological value (for further detail see Annex 3 of *The Nature of Dartmoor*). A number of SSSIs on Dartmoor have been submitted by the UK government to the EC for inclusion within the Natura 2000 network of protected sites across the European Union. These areas will be designated as Special Areas of Conservation (SACs) under the European Habitats Directive. They cover 28% of the National Park including most of the open moorland (North and South Dartmoor), the South Dartmoor Woodlands in the Dart and Bovey Valleys and part of the South Hams candidate SAC designated for its greater horseshoe bat populations.

Confirmation of this designation by the EC is scheduled for 2004 and will emphasise the international importance of these sites for biodiversity and the need for funding for their management. In addition, this Action Plan highlights the need to review the SSSI coverage of Rhôs pastures and wet woodland on Dartmoor.

Action	Lead	Complete by
Confirm Natura 2000 status for Dartmoor candidate SACs	EN	2005
Review SSSI coverage of Dartmoor for Rhôs pasture and wet woodland	EN	2001

3.3.2 Planning controls and other statutory consultations

These include planning applications, licences for water abstraction and consents to discharge, woodland grant schemes, felling licences, tree preservation orders, hedgerow removal notices and regulations relating to conservation areas and listed buildings. All these can provide a safety net for protecting key sites and species from undesirable land use change.

They can also provide an opportunity for enhancing biodiversity as in the case of provision for barn owls and bats in new barn conversions, new geological sites on roadside verges, and protection of wetlands from pollution. It is essential that such applications are evaluated in the context of the overall Dartmoor resource of key species and habitats.

Action	Lead	Complete by
Safeguard integrity of individual sites by ensuring compliance with national legislation	DNPA, EA, FC, EN	2005
Responses to planning and other consultations will seek to provide positive opportunities for wildlife whenever possible	DNPA, EA, FC	2001



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Narrow-bordered bee hawk-moth

3.3.3 Management agreements

These are a major tool in promoting positive management of virtually all habitats and species. Modern agreements allow flexibility and the sharing of skills and ideas between agencies and landowners whilst working towards a common goal.

On Dartmoor, the majority of agreements are currently between landowners and MAFF (through the Dartmoor ESA c. 30% of Dartmoor), the DNPA (c. 10% of Dartmoor), and the FC (through the woodland grant scheme c. 5% of Dartmoor). There are also agreements between owners of SSSIs and English Nature and between various conservation bodies (such as the DWT and WT) and landowners. Many of these are long term and will continue for 10 years (ESA agreements) or 21 years (DNPA and EN agreements). New management agreements will continue to be drawn up during the life of this Action Plan, particularly through the Dartmoor ESA.

Agreements, which focus on biodiversity alone, are obviously vital in delivering the biodiversity targets

set out here but biodiversity is an important consideration in many agreements for other different environmental purposes, such as landscape, access and archaeology. Management agreements should consider all environmental issues and seek to integrate them as far as possible.

Action	Lead	Complete by
Establish management agreements which contribute towards biodiversity targets, through the Dartmoor ESA scheme, woodland grant scheme and agreements with DNPA and EN	MAFF, DNPA, EN, FC	Ongoing
Identify and include biodiversity targets in other management agreements where appropriate	DNPA, MAFF, EN, FC, EH	Ongoing

3.4 Habitat Management

3.4.1 Management plans

Detailed management plans are usually (but not always) associated with management agreements and are a main mechanism for delivering practical benefits for wildlife on the ground. They include phased work programmes, which allow rational planning of labour and other resources. Examples include moorland, grassland and woodland management plans drawn up under the Dartmoor ESA, management plans relating to land owned or managed by the DNPA and EN, and management plans drawn up by landowners and managers, such as the Duchy of Cornwall and local Commoners' Associations.

Action	Lead	Complete by
Draw up and implement practical management plans including fire plans where appropriate	MAFF, DNPA, EN, DaCC	Ongoing

3.4.2 Grazing regimes

The crucial links between biodiversity and farming on Dartmoor are demonstrated strongly by the inclusion of actions to secure appropriate grazing in almost all individual action plans. The essential variables are timing and levels of grazing but the type of stock (cattle, sheep or ponies) and their husbandry are also important for most key habitats and species.

Of the 17 species covered in the action plans, 13 (76%) are heavily dependent on extensive grazing to maintain suitable habitat conditions. There may be scope for using rare and/or local breeds for 'conservation

grazing', such as Dartmoor ponies and Devon cattle, which could improve the market for these breeds, particularly in conjunction with the promotion of local and/or organic produce. Practical partnerships between conservation and agricultural agencies, farmers and landowners will enable stock management skills to be used to deliver biodiversity targets. Current initiatives under discussion include a conservation grazing project on the Dartmoor Forest and a pilot grazing scheme promoted by English Nature which aims to encourage traditional breeds of cattle in the South West (including Dartmoor).

Action	Lead	Complete by
Implement appropriate grazing regimes using management agreements, ESA prescriptions, tenancy agreements and other mechanisms	DNPA, (EN, DaCC, DoC, MoD)	Ongoing
Explore the use of rare and local breeds to deliver biodiversity targets	DNPA, EN, MAFF, DaCC, DoC	2005

3.4.3 Habitat restoration and creation and re-introduction of species

There is considerable potential for both restoring and enhancing existing habitats and creating new ones. Opportunities for habitat restoration are identified in the Plan, focussing on sites where wildlife benefit is likely to be greatest for the effort involved e.g., prioritising sites which retain a good seed bank of original species and/or reversing fragmentation of habitats. Individual habitat action plans outline the actions required to identify and

implement these priorities. Creation of new habitats is not considered to be of such high priority, simply because it is of greater benefit to existing biodiversity to maintain or restore what we have before it is too late. However, there are opportunities, such as the creation of new native woodland, and these should increase as targets for existing habitats are reached. There will also always be one-off opportunities to acquire land or assist enthusiastic owners and these should be grasped where they do not jeopardise other priorities, or conflict with other conservation interests such as landscape. Future creation of 'wilder areas' may also bring opportunities for new habitats although of course this should not be at the expense of existing valued habitats and species.

There is less practical scope for the re-introduction of species. This is because their numbers have often declined due to habitat change and therefore the priority is for habitat restoration, or because we do not know enough about the ecological requirements of the species to ensure a successful re-introduction. The targets in this Action Plan are mostly to consider re-introducing key species in the future (with research and survey actions as necessary). The IUCN criteria for re-introductions (see References p 62) will be strictly adhered to i.e. the species was historically present, the reasons for decline are well understood and have been addressed, etc.

Action	Lead	Complete by
Encourage restoration of key habitats	DNPA, FC, MAFF	Ongoing
Support creation of new habitats where this does not jeopardise existing priorities	DNPA, FC, MAFF	Ongoing
Support measures to re-introduce species, where a need has been identified	EN, DNPA	Ongoing

3.4.4 Invasive and non-native species

Invasive species and non-native species are rather like weeds - they are identified as pests only when unwanted. There is a long list of species which have been considered a threat to biodiversity on Dartmoor over the years - *Rhododendron*, sycamore, beech, Japanese knotweed, Himalayan balsam, Australian stonecrop, giant hogweed, bracken, deer, squirrels, rabbits, heather beetle, looper moth caterpillars, etc. Action to control these species is highlighted in this plan only when they are thought to be currently threatening the biodiversity value of a key habitat or a key species and, importantly, when control is likely to be cost-effective. Actions are included in individual plans for prioritising control of both native and non-native species in such situations. With native species (such as bracken on moorland, or willow scrub on Rhôs pastures) the objective is normally to control the invader, whereas with non-native species (such as *Rhododendron* or sycamore in woodland) eradication is usually desired, at least in priority areas. For some species, particularly those which regenerate or breed freely over a wide area, such as Japanese knotweed along watercourses or grey squirrels in woodlands, there are opportunities for increasing effectiveness by co-ordinating programmes across ownerships and areas.

Action	Lead	Complete by
Control invasive species in priority sites where key habitats and species are threatened	EN, FC, DNPA, EA, MAFF	Ongoing
Co-ordinate eradication and control programmes for undesirable widespread species, where appropriate	DNPA, EA, EN, FC, MAFF	Ongoing

3.5 Advisory

3.5.1 Advice on management and grants

Many landowners know about and appreciate the wildlife on their land but they are not always aware of its national importance or management needs. Loss of biodiversity can take place through lack of knowledge rather than intent. There are often opportunities for combining legitimate economic management of land with management for wildlife. There is a plethora of grant schemes which can be used to fund biodiversity action, although this in itself can be off-putting to landowners.

Many agencies on Dartmoor give excellent free advice on both management and grants. These include DNPA, EN, EA, MAFF, FC, DWT and RSPB (see Table 5, page 55 for a list of contacts). There is a need to co-ordinate this advice and focus it on biodiversity targets. Management information sheets will be produced where a need has been identified in the Action Plan e.g. where no information exists at present (moorland and Rhôs pasture), or where there is a need for information which relates specifically to Dartmoor (haymeadows and wildlife in buildings).

Action	Lead	Complete by
Provide information to landowners on the wildlife conservation value of their land and the management required to maintain and enhance it	DNPA, EN, RSPB, MAFF	Ongoing
Produce and publicise management information sheets starting with wildlife in buildings, moorland, and Rhôs pastures	MAFF, DNPA	2001 and after

3.5.2 Promotion of good practice

This action, which is included in a number of individual action plans, embraces the sharing of skills and experience amongst land managers and the creation and promotion of demonstration sites. There should be at least one site on Dartmoor for each key habitat, which can provide an example of best practice and where different methods of management can be explored. Such sites should have a willing landowner, be reasonably accessible, illustrate a particular management opportunity or challenge and be fairly typical of that habitat. Management for a number of key species will be included in these sites. The demonstration and promotion of best practice will be primarily aimed at exchanging experiences and information between small groups of practitioners but could also occasionally include wider interest groups such as local communities and the public. Opportunities exist on land owned or managed by the DNPA (which covers most habitats), EN (woodland and moorland) and other conservation organisations.

Action	Lead	Complete by
Establish demonstration sites for all key habitats, prioritising Rhôs pasture and moorland	DNPA, MAFF, FC, TGA, DWT	2002 priority 2005 others
Promote use of demonstration sites by practitioners through skill-sharing days, farm walks, etc.	DNPA, MAFF, FC, TGA, EN	Ongoing
Produce and publicise management information sheets	DNPA, MAFF, FC, TGA, EN	Ongoing

3.6 Research and Monitoring

3.6.1 Research priorities for biodiversity on Dartmoor

Although research and monitoring actions are specific to particular key species and habitats, there is a need to draw these together and prioritise areas of research. This will allow projects to be matched with academic interests, interdisciplinary aspects to be explored and funding to be co-ordinated. A priority list of research topics identified in this BAP will be produced and publicised on the Internet and through academic and research institutions. Funding will be sought for major research projects, usually on a partnership basis.

Action	Lead	Complete by
Produce a priority list of Dartmoor BAP research projects and publicise on DNPA, Plymouth University and DBRG web pages	DNPA	2001
Seek funding opportunities for major research projects on Dartmoor	DNPA, EN, EA	Ongoing

3.6.2 The Dartmoor Biodiversity Research Group

The Dartmoor Biodiversity Research Group (DBRG) has recently been established by the DNPA, EN, EA, the Universities of Plymouth and Exeter and various other partners. It has developed from the former Moorland Research Group with the main aim of facilitating and stimulating practical ecological research on Dartmoor.

It does this by linking researchers with land managers, by providing a forum for information exchange and by promoting multi-disciplinary approaches to ecological issues. Annual meetings are held on biodiversity topics organised on a rota by various partners, and an interactive web page is being created. This will hopefully encourage contact and co-operation with other universities and research institutes that visit Dartmoor in order to conduct research. The priorities for biodiversity research outlined above will provide a useful focus for the group.

It is important that the results of biodiversity research are freely available to those people who may be interested. These range from land managers seeking new ways of working, to students and academics seeking background information for new research projects. A register of current research with updated results should be available in paper form and on the Internet.

Action	Lead	Complete by
Continue to encourage the exchange of information and relevant practical research through the Dartmoor Biodiversity Research Group	Universities, DBRG members	Ongoing
Establish an interactive web page for biodiversity research on Dartmoor, including a research register and current results	DNPA, Plymouth University	2001



© DNPA

Traditional hedgelaying

3.6.3 Biodiversity monitoring on Dartmoor

Actions for survey and monitoring of key species and habitats are highlighted in almost all individual action plans. Environmental monitoring is already being carried out on Dartmoor by a number of organisations and for a variety of purposes, for example monitoring of moorland by MAFF for the Dartmoor ESA Scheme¹, monitoring of management agreement areas by the DNPA, monitoring of water quality by the EA, monitoring of lichens by EN, and monitoring of particular groups of species by natural history societies e.g. birds.

However, there is a recognised need to share this information amongst both agencies and land managers, in order to avoid duplication of effort and to make monitoring more effective and accessible. This Action Plan provides a focus for the co-ordination of monitoring across Dartmoor and for reporting the results. Existing monitoring programmes have been incorporated into the individual plans where relevant, and new or extended monitoring is also proposed.

The results of monitoring programmes should be shared freely amongst agencies and organisations, landowners, specialist natural history groups and the public, where appropriate (see also Section 3.7.3 - Provision of information, page 41). There may be possibilities for increasing the usefulness of monitoring data (for instance by collecting information in a standard way, which would allow direct comparisons and/or GIS storage) or sharing the cost of basic resources such as air-photos.

Articles in the Dartmoor Biodiversity Newsletter (see 3.7.4, page 42) should include results where appropriate.

¹ MAFF is currently (2001) revising its strategy for agri-environment scheme monitoring. This is likely to result in a change of emphasis towards evaluation of the impact of schemes nationally (rather than individual ESAs). As the implications for future monitoring of the Dartmoor ESA are at present unclear, MAFF monitoring actions in this plan may need to be revised.

Action	Lead	Complete by
Share programmes and results of biodiversity monitoring on Dartmoor and seek opportunities for increasing effectiveness and efficiency through the Dartmoor Biodiversity Partnership	Dartmoor Biodiversity Partnership	Ongoing
Publicise results of monitoring, where appropriate, through the Dartmoor Biodiversity Newsletter	Dartmoor Biodiversity Partnership	Ongoing
Publicise opportunities for specialist groups and local people to become involved in monitoring schemes on Dartmoor	DNPA, DBRC, DWT, EN	Ongoing

3.6.4 Research on historical land management and vegetation change

Few of Dartmoor's habitats can be considered to be completely 'natural' and most, if not all, have been subject to centuries of management by humans. The result is the rich biodiversity that we appreciate today. However, in order to keep these habitats in good heart we need to understand the management that has influenced them in the past, learning lessons about past techniques and adapting them where necessary to present day circumstances. Equally, historical information about the rate and scale of changes to habitats and species can inform us about future trends and allow us to plan our present day management to cope with these.

Opportunities will be sought to explore the huge body of experience, knowledge and wisdom that rests

with Dartmoor farmers and local residents relating to the management of the natural environment. Examples include management skills such as swaling and coppicing; recollections of changes in moorland vegetation such as heather and bracken cover; changes in agricultural practices over the last century; and memories of traditional customs such as bilberry picking.

Recent work carried out by the Duchy of Cornwall with the tenant farmers of the Dartmoor newtakes has proved very useful in drawing up integrated moorland management plans. Such research can be time consuming but is invaluable to the proper understanding of Dartmoor and there is some urgency - memories do not last for ever.

Action	Lead	Complete by
Seek opportunities for gathering information on vegetation change and past management techniques through encouraging relevant research	DNPA	Ongoing
Include historical land management aspects in proposed oral history research project	DNPA	2001

3.7 Communication and Publicity

3.7.1 Public enjoyment and interpretation

Public support is essential if the biodiversity targets in this Action Plan are to be achieved. Whilst not everyone wants to or is able to become actively involved with wildlife conservation, there is considerable interest amongst both local people and visitors in the natural environment of Dartmoor - indeed it is often a major reason for choosing to live and work here or to visit.

Although individual plans concentrate on prioritising action on the ground, there are many opportunities to promote public enjoyment and understanding of Dartmoor's wildlife. Equally, there are opportunities to inform people of the work that is being done to protect and enhance Dartmoor's wildlife, often with the use of public money.

There are different ways of doing this and in a fast changing technological world, we need to grasp new opportunities whilst still providing a popular, more traditional approach. A strategic overview of ways of interpreting Dartmoor's wildlife and geology would identify potential audiences, define the information that is needed and design an appropriate medium for providing it e.g. the Internet, interactive activities, and materials (including the possible use of web cams, CDs and videos).

New, permanent National Park Information Centres are planned for Newbridge and Haytor which will increase opportunities for the interpretation of Dartmoor's natural heritage, particularly open moorland and river valley habitats and geomorphology, to a wide audience. EN's visitor facilities at Yarnor Wood provide another opportunity to explore woodland ecology.

Publications about Dartmoor's wildlife continue to sell very well (particularly *The Nature of Dartmoor: A Biodiversity Profile* and the laminated Dartmoor natural history cards). These will need updating, and although there is no immediate need for new wildlife publications, an attractive, illustrated, medium-priced book would undoubtedly be popular and raise awareness.

There is little readily available information on Dartmoor's geology. The recently completed Dartmoor RIGS survey provides information on accessible and interesting sites, which will be publicised, where appropriate. Guided walks with a wildlife theme are always popular and will continue. As well as promoting interest in and enjoyment of wildlife, they can allow safe, controlled access to otherwise inaccessible sites. Geological information should be included in guided walks either through themed walks or as an additional component to general Dartmoor walks.

Enjoyment and understanding of Dartmoor's earth heritage will be promoted through an exhibition and associated publications at the High Moorland Visitor Centre and opportunities will be sought to include geological information on general information boards in appropriate locations.

Action	Lead	Complete by
Draw up and implement a strategy for interpreting Dartmoor's wildlife and earth heritage, including identifying audiences, messages and media	DNPA, EN, Devon RIGS	2002
Incorporate information on biodiversity in new information centres	DNPA	2005
Continue with guided wildlife walks, talks and events; include geological sites and examples of conservation management	DNPA, NT, DWT	Ongoing
Use temporary explanatory signs for management works in public places	DNPA, NT, DWT, EN	Ongoing
Produce a leaflet on Dartmoor's geology, plus material for celebratory exhibition on Dartmoor's earth heritage	DNPA, Devon RIGS, EN	2001
Create access for the public to selected sites, where this doesn't conflict with biodiversity	DNPA, EN, NT, DWT	2001
Explore the options for producing an attractive, illustrated, medium-priced book on Dartmoor's wildlife	DNPA and partners	2002
Promote media interest in biodiversity issues on Dartmoor	DNPA, EN, DWT, NT, WT	Ongoing

3.7.2 Education

There is significant interest in Dartmoor as an educational resource and Dartmoor's flora and fauna feature in most educational visits. Recent projects with local schools that have focused on Dartmoor's wildlife have been extremely successful in providing good educational material and raising awareness. Examples are the 'Nature Map of Dartmoor' project for European Nature Conservation Year, which involved all Dartmoor primary schools and the 'Living with Wildlife' Millennium project supported by the Dart Biodiversity Project. Both of these were tailored to National Curriculum requirements and were heavily reliant on the DNPA's Educational Service and enthusiastic local teachers. Opportunities should be sought to continue this work and expand it into secondary education.

The DNPA produces a number of educational fact sheets, which include Habitats, and Geology and Landforms. These are available in paper form and on the Internet and should be updated to include references to this Biodiversity Action Plan and other biodiversity messages. A new fact sheet is currently being produced on Dartmoor mires and in the near future another will be produced outlining the nature conservation work of the Authority, which will refer to partnership projects including this Action Plan. The Biodiversity Action Plan itself will be available on the Internet through the DNPA's web page.

Educational establishments (including colleges and universities) often visit Dartmoor as part of environmental field courses. Whilst this is welcome for many reasons, there have been unwitting conflicts in the past at particular sites: for example, 'kick' sampling for invertebrates on salmon spawning beds, and erosion and disturbance of wildlife at geological sites. Increased effort is needed to

find and publicise suitable sites whilst discouraging the use of sensitive areas.

Many students carry out individual research projects on Dartmoor and are keen that their research is 'useful' and applied. Whilst the priority is to provide training in research techniques, there is scope for students to carry out meaningful biodiversity research projects, particularly if a sequence of students is directed by one supervisor or different aspects of one issue are explored. The research and survey priorities identified in this Action Plan will enable such projects to be focused where they are most needed to mutual benefit (see also 3.6.2, page 36).

Action	Lead	Complete by
Continue project work with local schools and expand into secondary education	DNPA, DBP, Education Authorities	Ongoing
Update existing educational fact sheets to include references to this Action Plan and biodiversity messages	DNPA	2001
Produce new educational fact sheet on tor formation on Dartmoor	DNPA	2001
Produce new educational fact sheet on Dartmoor mires	DNPA	2001
Produce new educational fact sheet on nature conservation work on Dartmoor	DNPA	2001
Publicise suitable sites for field trips and discourage potentially damaging use elsewhere	DNPA, Education Authorities	Ongoing
Direct students towards research projects identified as biodiversity priorities	DNPA, DBRG	Ongoing

3.7.3 Provision of information

Comprehensive, reliable and easily available ecological information is essential in order to achieve the targets in this BAP. Information is needed for the protection and management of key species and habitats; to help landowners and managers to incorporate biodiversity measures in day to day activities; to raise awareness and encourage appreciation and enjoyment of Dartmoor's wildlife; and to monitor targets in the Dartmoor BAP (and thereby the county and UK Biodiversity Action Plans). The Action Plan will be placed on the DNPA's web page, where it will be regularly updated and accompanied by reports on progress towards achieving targets.

Existing information on Dartmoor's wildlife is rather dispersed. Records of key species and habitats are held by the DNPA (maps and paper records plus a GIS); the Environment Agency (aquatic species and water quality data); voluntary natural history societies and groups e.g. DWT, DBWPS, Dartmoor Study Group, British Lichen Society, BSBI; local museums (Plymouth City and Royal Albert Memorial Museum); and individual experts. Various bodies also carry out survey and monitoring work on Dartmoor e.g. MAFF, EN. Each organisation tends to keep records for their own purposes and the information is generally not easily accessible to others.

The process of drawing up this Action Plan has revealed just how much vital information is in people's heads and not recorded at all! Although it may sometimes be necessary to keep records confidential, this situation potentially leads to duplication of effort and to decisions being taken in ignorance that can damage biodiversity. This Action Plan highlights areas where there is a need to update and co-ordinate information and fill in gaps, for example for lichens and insects generally, as well as key species.

A Devon Biodiversity Records Centre has recently been established through the Devon Wildlife Trust. This is permanently staffed and the data will be well maintained and easily accessible (with sufficient safeguards for confidentiality, where necessary). There are significant benefits to incorporating Dartmoor records into this system and *vice versa*. However there will still be a need to keep Dartmoor records readily available to people who make daily decisions which could affect Dartmoor's biodiversity, and to incorporate biodiversity data with other land-use information.

Action	Lead	Complete by
Identify and co-ordinate biodiversity information needs on Dartmoor	Dartmoor Biodiversity Partnership	Ongoing
Share information on ecology and distribution of key species and habitats	All	Ongoing
Explore ways of incorporating Dartmoor records into the Devon Biodiversity Records Centre and Devon records into the DNPA's GIS	DNPA, DBRC	2001
Collect and maintain information in a publicly accessible form (possibly incorporating some elements of the DNPA's GIS)	DNPA	2002
Place this Action Plan on DNPA web site and regularly update	DNPA	2001 and after

The DNPA is developing a GIS data base, which includes all current survey information as well as a range of other environmental data, statutory designations, etc. Much of this can be made available to the general public in the future and it can be used as a tool for collecting and collating information from a wide variety of sources. Developments in technology and computer accessibility should create opportunities in the next two years. Discussions will continue about how this can link in with the Devon Biodiversity Records Centre. The emphasis should be on presenting data in an accessible and user-friendly way so that local communities and visitors can find out more and contribute to a wider network of information.

3.7.4 Dartmoor Biodiversity Newsletter

Almost all the individual action plans propose a *Dartmoor Biodiversity Newsletter* as a medium for communicating information on Dartmoor's wildlife and its management, and for involving people in the process of implementing and reviewing the Action Plan. It can also be an important monitoring tool, providing an annual opportunity to report on progress. It should be lively, illustrated and clearly expressed. Funding will be necessary. The first edition will publicise this plan and update people on current and planned initiatives for Dartmoor's wildlife. The newsletter will be available on the Internet and in paper form and will be targeted at a wide variety of audiences.

Action	Lead	Complete by
Produce a <i>Dartmoor Biodiversity Newsletter</i> aimed at sharing information on action taken for biodiversity on Dartmoor	DNPA	2001 and at least annually thereafter