

HEATHLAND

Hampshire Biodiversity Partnership

1 INTRODUCTION

Hampshire supports more lowland heathland and lowland acid mires than any county in the British Isles.

Heathlands are predominantly open landscapes with a mix of habitats including dry to wet heath, mires, bare ground, open water, acid grassland, scrub and wooded areas. Lowland heathland can be described as a 'semi natural habitat' having been heavily influenced by the activities of man for centuries. The habitat is reliant upon these ongoing activities and specific climatic and geological conditions for its continued existence.

The area of lowland heathland has reduced dramatically during the twentieth century; in northeast Hampshire up to eighty percent was lost. The ecological value of many remaining heathland sites has also declined through a lack of appropriate management and fragmentation (Section 3). Most areas of lowland heathland are now protected by national and international designations (Section 2.3). Hampshire includes parts of three heathland Special Protection Areas (SPA) and five Special Areas of Conservation (SAC).

Lowland heathland has been identified as a priority habitat in the UK Biodiversity Programme and a national habitat action plan has been produced. (Section 2.2)

The New Forest encompasses the most significant area of heathland in Hampshire but substantial areas of the habitat are also located in the northeast of the county. This plan includes lowland heathland, acid grassland and acid mires within Hampshire. Acid grassland with no dwarf shrub element is an uncommon habitat in Hampshire and many of the issues are similar. Areas of acid grassland are therefore included in this plan.

Actions for The New Forest are not included in this plan as a different, very specific, range of issues are involved. A separate BAP should be produced for the New Forest. (Section 2.2)

The Hampshire Heathland Project was successful in obtaining a grant from the Heritage Lottery Fund under English Nature's Tomorrow's Heathland Heritage programme in 2001. This funding allows heathland management work in the county to go a long way towards meeting its proportion of national Biodiversity Action Plan targets.

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2.1 Description of Habitat

Lowland Heathland is a habitat below an altitude of 300 metres that is, in Hampshire, dominated by ericaceous, dwarf shrubs. Heathlands are commonly found on nutrient poor, acidic soils where the climate is suitable and conditions are such that the growth of trees is suppressed.

In Hampshire the soils on which heathlands are found formed from riparian or estuarine sand and gravel deposits or marine deposited sands. These soils are free draining causing localised drought conditions and the soil formation known as a 'podsol' in which organic matter has been leached through the upper horizons of the soil to form a nutrient poor layer over a less permeable pan of organic and mineral matter. Where drainage is impeded gleys will often form. These have a characteristic grey/blue tinge due to the presence of ferrous iron.

Heathlands require a typically 'oceanic' climate of high rainfall and temperate conditions. The British Isles are ideally placed, as they receive a temperature buffering effect from the Atlantic Ocean and warming from the Gulf Stream.

On most of Hampshire's heaths human activities have been the main agent suppressing tree growth. Although it is likely that much of the countryside was already open through natural processes, large areas of woodland were cleared by Bronze-Age man for agriculture. Since then grazing animals, the collection of timber for building and fuel, burning of vegetation and turf cutting have maintained heathlands in their open state.

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Heathlands have been a very important part of the local economy, being exploited for many natural resources. Many heathlands are designated common land with local people holding certain rights to collect resources or graze livestock on them. Although in many cases they still exist, most of these rights are no longer exercised. Heathlands are now extensively used for recreation and many have full public access.

Lowland heathlands are often categorised by the wetness of the soils on which they are found. Lowland dry heaths in the south of England are characterised by ling (*Calluna vulgaris*), bell heather (*Erica cinerea*) bristle bent (*Agrostis curtisii*) European gorse (*Ulex europaeus*) and dwarf gorse (*Ulex minor*). Wet heaths are a type of acid mire that are dominated by bog mosses (*Sphagnum spp*), cross-leaved heath (*Erica tetralix*) and purple moor-grass (*Molinia caerulea*). Valley mires are areas of heathland which are almost constantly inundated with water. They support communities characterised by cotton grasses (*Eriophorum spp*), bog mosses (*Sphagnum spp*) rushes (*Juncus spp*) and shrubs such as bog myrtle (*Myrica gale*).

Although heaths and mires are differentiated in the National Vegetation Classification (NVC) they are, in fact, a continuum. A number of heath and mire NVC communities exist on Hampshire's heathlands (Rodwell, 1991) the most frequent are listed in table 1.

Table 1

	Description	Distribution
M1	<i>Sphagnum auriculatum</i> Bog Pool Community	New Forest and local occurrences elsewhere
M16	<i>Erica tetralix</i> - <i>Sphagnum compactum</i> Wet heath	Well represented in heaths of SE England
M21	<i>Narthecium ossifragum</i> - <i>Sphagnum papillosum</i> Valley Mire	Southern lowlands of Britain

M25	<i>Molinia caerulea</i> - <i>potentilla erecta</i> Mire	<i>Erica</i> sub-community very common in New Forest
M29	<i>Hypercium elodes</i> - <i>Potamogeton polygonifolus</i> soakway	From West Surrey through the New Forest to SW Peninsula
H2	<i>Calluna vulgaris</i> - <i>Ulex minor</i> Heath	From Poole Harbour area through the New Forest (numerous and extensive stands) to Surrey
H3	<i>Ulex minor</i> - <i>Agrostis curtisii</i> Heath	Confined to South Dorset and Hampshire

2.2 Distribution and Extent

Hampshire's heathlands are almost totally confined to four of English Nature's Natural Areas¹: the New Forest, the Dorset Heaths (Ringwood Forest), the London Basin (known as the Thames Basin) and the Wealden Greensand. There are further, more fragmented heaths in the South Coast Plain and Hampshire Lowlands natural area.

The New Forest is by far the most extensive area of lowland heathland in the county. This area is a large, mostly continuous area of heathland still managed in a traditional manner by livestock grazing and burning. The Forestry Commission is responsible for the management of most of the New Forest. Two European funded LIFE projects have undertaken large scale habitat restoration work in the Forest. These projects, led by Hampshire County Council, started in 1997 and will finish in 2006. The issues facing the New Forest are very specific and therefore they should be dealt with in an additional Action Plan. Much of the New Forest is managed by public bodies, grazing is common place and the area is well protected by designations. The area is a National Park, and this plan covers all lowland heathland, acid grassland and mire outside the New Forest National Park boundary

The Dorset Heaths natural area extends into Hampshire at Ringwood Forest in the far west of the county. The free draining

¹ English Nature's 'Natural Areas' are sub-divisions of England, each with a characteristic association of wildlife and natural features. Each Natural Area has a unique identity resulting from the interaction of wildlife, landforms, geology, land use and human impact.

tertiary sands and gravels support an area which was once predominantly heathland. Ringwood Forest is now mostly conifer plantation with occasional heathy rides, clearfells and clearings. These features support important plant and animal populations. Mineral extraction and subsequent landfill has provided the opportunity to restore an area of heathland.

The **London Basin** is the most northerly natural area (English Nature, 1997) in Hampshire. The area's geology is dominated by marine and estuarine sediments which fill the chalk basin. In Hampshire, London Clay is overlain with the Tertiary plateau gravels and Bagshot and Bracklesham Beds. These provide nutrient poor, free draining soils on which heathland vegetation has formed. Species associated with dry heath in the London Basin include ling (*Calluna vulgaris*), bell heather (*Erica cinerea*), common gorse (*Ulex europaeus*) and grasses such as wavy hair-grass (*Deschampsia flexuosa*), sheep's-fescue (*Festuca ovina*) and common bent (*Agrostis capillaris*). In the London Basin these grass species are also found on more extensive areas of 'pure' acid grassland. Areas of wet and humid heath are also found in the London Basin. Wet heath is characterised by cross-leaved heath (*Erica tetralix*) and purple moor-grass (*Molinia caerulea*) with dwarf willow (*Salix repens*), grey willow (*S. cinerea*) and bog mosses (*Sphagnum spp.*) present. Humid heath includes cross-leaved heath and heath rush (*Juncus squarrosus*).

Significant areas of heathland include Yateley Common, straddling the A30 near Yateley; Castle Bottom, a National Nature Reserve, and Bourley and Long Valley, a military training area near Aldershot. Extensive areas of afforested heath are also found in the London Basin.

This natural area is very densely populated and therefore the heathlands have suffered from development and fragmentation. Because of the presence of the sand and gravel deposits, mineral extraction and landfill are frequent features. Forestry is a common land use of former heathland; the Bramshill Plateau is relatively productive for commercial conifer growth. Other heathlands suffer from succession to secondary woodland through a lack of appropriate management.

Many of the heaths in the London Basin are designated as Sites of Special Scientific Interest (SSSIs) and the Thames Basin

Heaths proposed Special Protection Area (pSPA) includes most of the significant heathland areas.

The **Wealden Greensand** natural area (English Nature, no date) includes the most easterly part of Hampshire. This natural area follows the ridge of Upper and Lower Greensand which curves around the western end of the Weald. The Greensands are marine-deposited sands which have a variety of properties. Beds such as the Folkestone and Hythe Beds form nutrient-poor, acid, sandy soils.

Significant heathland sites in this natural area include Woolmer Forest SSSI, part of which is a Ministry of Defence 'Range Danger Area' and Bramshott and Ludshott Commons, partly owned by the National Trust. Military training is the most frequent use of this suite of heaths and this has maintained them in relatively good order, although many are suffering from succession through a lack of appropriate management.

Many of the heaths in the Wealden Greensand are designated as Sites of Special Scientific Interest (SSSIs) and the Wealden Greensand Phase II Special Protection Area includes most of the significant sites. Woolmer Forest has been selected as a candidate Special Area of Conservation (cSAC).

Surveys show varying amounts of heathland in Hampshire. Phase 1 Habitat Surveys (held by the Hampshire Biodiversity Information Centre) give an area of approximately 13,000 hectares while English Nature's National Heathland Inventory includes over 23,000ha (Table 2). The Phase 1 survey data includes all mapped fragments of open heath in Hampshire, while the Heathland Inventory includes all sites on which heathland is a major component.

Table 2

Areas of heathland by Natural Area (ha)		
	Phase 1	Inventory
London Basin	590	3140
Wealden Greensand	700	2110
New Forest	11400	17070
Other	310	680
TOTAL	13000	23000

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2.3 Legislation and Site Designation

The conservation of heathlands is legislated for in England in two ways: protection of species and designation of sites.

2.3.1 Protection of species

The Wildlife and Countryside Act, 1981, offers protection for a variety of plants and animals including many heathland species. Part 1, Section 1 prohibits the intentional killing, injuring or taking of any wild bird and the taking, damaging or destroying of the nest or eggs. It prohibits possession of wild birds or their eggs. There are additional penalties for offences relating to birds on Schedule 1 (Table 3) which includes a number of heathland species.

Table 3

Wildlife and Countryside Act, 1981, Schedule 1 heathland birds
All species of Harrier
Woodlark
Dartford Warbler
Hobby

Part 1, Section 9 prohibits the intentional killing, injuring or taking, the possession and the trade in wild animals listed on Schedule 5 (Table 4). This includes a number of species found on heathland.

Table 4

Wildlife and Countryside Act, 1981, Schedule 5, heathland animals other than birds
Adder
Spangled diving beetle <i>Graphoderus zonatus</i>
Beetle <i>Hyperbaeus haripes</i>
Heath fritillary butterfly
New Forest cicada
Field cricket
Medicinal leech
Sand lizard
Viviparous or common lizard
Reddish buff moth
Great crested newt
All other species of newt (Only in respect of section 9(5) in that they may not be sold)
Slow worm (Only in respect of section 9(5) in that they may not be sold and 9(1) in that they may not be killed or injured)
Grass snake
Smooth snake
Common toad (Only in respect of section 9(5) in that they may not be sold)
Natterjack toad
Southern damselfly

Part 1, Section 13 prohibits the unauthorised intentional uprooting of any wild plant species and forbids any picking, uprooting or destruction of plants listed on Schedule 8 (Table 5). It prohibits the sale, or possession for the purpose of sale, of any plants on Schedule 8 or parts or derivatives of Schedule 8 plants.

Table 5

Wildlife and Countryside Act, 1981, Schedule 8, heathland plants found in Hampshire	
Deptford Pink	<i>Dianthus armeria</i>
Slender Cottongrass	<i>Eriophorum gracile</i>
Wild Gladiolus	<i>Gladiolus illyricus</i>
Broad-leaved Cudweed	<i>Filago pyramidata</i>
Pennyroyal	<i>Mentha pulegium</i>
Small Fleabane	<i>Pulicaria vulgaris</i>

2.3.2 Site designation

In addition to the protection of certain heathland species, many sites have designations that offer some safeguard against damage or loss.

The Wildlife and Countryside Act, 1981, obliges the government to designate **Sites of Special Scientific Interest (SSSI)** where important fauna or flora are present. SSSI status offers some protection against damaging operations and development. Most of the significant heathland sites in Hampshire are designated SSSIs. Some sites have multiple designations.

Special Areas of Conservation are designated under the European 'Habitats Directive'. Member states of the European Union are required to propose a national list of sites which make a significant contribution to conserving the 169 habitat types and 623 species identified in Annexes I and II of the Directive. The UK's 'Habitats Regulations' has put in place conservation measures which should protect against the deterioration of the natural habitats of species, as well as significant disturbance of species for which the site is designated. They include the requirement for undertaking 'appropriate assessments' where developments are perceived to have a significant effect on the site, either alone or in a combination with other plans or projects. In Hampshire four candidate SACs have been selected because of their heathland interest (JNCC, 2003). (Tables 6 and 7)

Table 6

Habitats Directive Annex 1 heathland habitats and Annex 2 heathland species for which cSACs have been selected in Hampshire. Brackets denote sites on which the listed habitat is not the primary reason for site selection	
Habitat or species	Site(s)
Depressions on peat substrates of the Rhynchosporion	Woolmer Forest, New Forest
European dry heaths	Woolmer Forest, New Forest, (Shortheath Common)
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	New Forest
Natural dystrophic lakes and ponds	Woolmer Forest
Northern Atlantic wet heaths with <i>Erica tetralix</i>	(Woolmer Forest), New Forest
Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea	New Forest
Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)	New Forest
Transition mires and quaking bogs	(Woolmer Forest), (New Forest), Shortheath Common, Emer Bog
Southern damselfly	New Forest

Table 7

cSACs (data from JNCC website 2004)	Natural area	Area
Emer Bog	New Forest	38ha
Shortheath Common	Wealden Greensand	59ha
Woolmer Forest	Wealden Greensand	667ha
New Forest	New Forest	29262ha

Special Protection Areas are designated under the European 'Birds Directive'. This requires member states to afford protection to migratory and certain threatened 'Annex 1' birds (Table 8). This directive is also implemented through the UK's 'Habitats Regulations'. SPAs tend to include a suite of similar sites. Three heathland SPAs are located in Hampshire (JNCC, 2003) (Table 9).

Table 8

Habitat Directive Annex 1 heathland birds for which SPAs have been designated in Hampshire
Dartford Warbler
Nightjar
Woodlark

Table 9

SPAs	Area
New Forest	28003ha (JNCC website 2004)
Thames Basin Heaths (potential)	1766ha (HCC GIS)
Wealden Heaths Phase II	3924ha (JNCC website 2004)

Sites of Importance for Nature Conservation (SINCs) are identified and recorded by Hampshire County Council.

These sites are eligible for habitat management advice and certain grants. They are included in Local Plans to alert planners and developers of their importance (HCC, no date). Nearly all heathland and relict heathlands, which are not otherwise designated, are identified as SINCs. Heathland SINCs are designated under one of four criteria (Table 10)

Table 10

Criteria for selecting heathland 'Sites of Importance for Nature Conservation' (SINCs) in Hampshire	
3A	Areas of heathland vegetation; including matrices of dwarf shrub, acid grassland, valley mires and scrub.
3B	Areas of heathland which are afforested or have succeeded to woodland if;
	(i) they retain significant remnants of heathland vegetation which would enable their recovery, or
	(ii) they are contiguous with, or form an integral part of an open area of heathland

Table 11

Number of designated sites in Hampshire	Area (ha)	Number of sites
SINCs containing heathland (from phase 1 survey HCC, 1996)	3318	131
SINCs designated because of their heathland component (3A, 3Bi, 3Bii)	3900	146
SSSIs containing heathland (from phase 1 survey HCC, 2001)	35949	73
SSSIs designated because of their heathland component (according to HCC GIS)	34881	69

Nature reserves are areas of land that are managed for the conservation of habitats and species. **Local Nature Reserves (LNRs)** are declared by local authorities with a legal interest in the site. LNRs demonstrate a commitment by the local authority to the maintenance of the site for conservation, recreation and

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education. Seven heathland LNRs have been declared in Hampshire (Table 12)

Table 12

LNRs Site Name	Area (ha)
Broxhead Common	101
Elvetham Heath	19.5
Fleet Pond	48
Hazleton Common	15
Pamber Forest	193
Sandy Point	15
Herbert Plantation	25

National Nature Reserves (NNRs) are nationally important areas for wildlife conservation, often an excellent example of their particular habitat. They are designated by English Nature (EN) and are managed by EN or another 'approved body'. There are three NNRs with heathland in Hampshire (EN, no date2) (Table 13).

Table 13

NNRs Site Name	Natural Area	Area (ha)
Kingston Great Common NNR	New Forest	54
North Solent NNR	New Forest	820
Castle Bottom NNR	London Basin	29

Ramsar Sites are wetlands of international importance. The UK has a commitment to designate such sites and offer them protection against development. A similar protection to SACs and SPAs is afforded. The New Forest is the only heathland Ramsar site in Hampshire.

National Parks are areas which are important for their landscape and other natural features. They are administered by a National Park Authority and funding is available for conservation and access. Certain types of development are restricted. Two National Parks are proposed for Hampshire. The New Forest National Park and the South Downs National Park which will include some of the heathlands in the Wealden Greensand natural area.

Areas of Outstanding Natural Beauty (AONB) are designated for their landscape and their scenic beauty. They often attract funding to conserve and enhance the landscape. Some planning restrictions apply. Some heathland lies in the East Hampshire AONB, and part of the New Forest is in the South Hampshire Coast AONB.

Because of their historic use, many heathlands are designated **Common Land**. Although owned by public or private bodies, certain local inhabitants may have 'rights of common' over the site. Commons often have public access and they are protected against development unless permission is sought from the relevant secretary of state. This protection against development does make the re-introduction of conservation grazing more difficult on heathland commons.

2.3.3 Other legislation

The Countryside and Rights of Way Act, 2000 brings the Wildlife and Countryside Act, 1981 up to date. It gives English Nature increased authority concerning the protection of SSSIs and places a duty on local authorities and government departments to conserve and enhance SSSIs in their ownership through positive management.

Environmental Impact Assessments (EIA) may be required where deforestation or afforestation are carried out and must be undertaken for projects in which uncultivated land or semi-natural areas are to be converted for use as intensive agriculture. The Environmental Impact Assessment (Forestry) (England & Wales) Regulations 1999 {SI 1999/2228} require anyone carrying out a relevant project including deforestation and afforestation, to obtain consent from the Forestry Commission (FC). The FC may determine that an EIA may be required for heathland restoration which involves the removal of trees. Thresholds determine whether an EIA is required (FC, 2001) (Table 14).

Table 14

Operation	Threshold where any part of the land is in a sensitive area	Threshold where no part of the land is in a sensitive area
Afforestation	2ha (AONB or National Park), No threshold in other sensitive areas	5ha
Deforestation	0.5ha (AONB, National Park) No threshold in other sensitive areas	1ha

The Department for Environment, Food and Rural Affairs (DEFRA) is responsible for regulating these proposals (DEFRA, 2002). Heathland is specified as a land type which is included in these regulations. EIA procedures also apply for areas where scrub is cleared to convert the land to arable or stock farming.

3 CURRENT FACTORS AFFECTING THE HABITAT

The ecological importance of lowland heathland is widely acknowledged. As a 'national priority habitat' legislation and resources have been made available to ensure that most of the significant sites in Hampshire are now protected against development and damage. Despite this, the quality and quantity of heathlands is still threatened by a number of factors, listed in approximate order of negative impact. The actions listed refer to section 6, Proposed Action.

Neglect

Open heathland is an early successional stage community which quickly reverts to scrub and secondary woodland once practical habitat management ceases. Areas of short, species rich vegetation become rank and dominated by a few grass species if unmanaged. These habitats are more common and have less ecological value than open heath. (Actions 8, 10, 11, 12, 13, 14, 15, 21, 22, 24, 30)

All heathland management requires long-term funding and commitment to ensure that succession is kept in check. Sustainable forms of management are often no longer viable because products traditionally harvested from a heathland have little market value and are expensive to gather. Grazing livestock, once a common use of heathlands, has largely ceased as modern stock rearing systems require better quality forage than that found on heathlands. Sites which are not owned by a body that has a remit for conservation are less likely to be managed, and so succession and consequent deterioration of the heathland interest is more likely.

The maintenance of Hampshire's heathlands relies on human activities which are no longer being undertaken as part of the rural economy to any great extent. Therefore, in order to make heathland management viable in the longer term, it will be important to assist with the re-initiation of relevant parts of the rural economy. If this does not occur then

conservation through state support, grants and goodwill will have to be relied upon. (Actions 21, 22, 25, 26)

Loss through land use change.

Before the ecological value of heathlands was properly understood they were regarded as wasteland and put to use in a variety of ways:

Land able to support **agriculture** has mostly been improved for pasture or arable farming. This leads to an increase in the level of nutrients in the soil making it inhospitable for heathland vegetation. Modern fertilisers and farming practises have meant that even the poorest soils can now be exploited, and further heathland can be 'improved'. Heathland restoration from agricultural land is difficult because of the enrichment and destruction of the soil profiles through ploughing. There are examples of successful heathland re-creation from agriculture (Evans, 1993) (Action 16)

Areas of heathland which have not been improved for agriculture are often still able to support **commercial forestry** operations. Conifer trees grow well in the acid soil conditions of a heathland and some areas are extremely productive. Planting a conifer crop may require ploughing which destroys the soil profile. Thicket stage trees cast shade and drop needles which inhibits heathland vegetation. Once the crop is mature and thinning takes place limited heathland vegetation may recover. Restoring heathland from forestry is often successful as the seed bank is normally intact; the removal of trees and disturbance of the litter layer is often all that is required to re-create a rudimentary open heath. (Actions 17, 27)

North east Hampshire is densely populated leading to very high levels of **development**. Proximity to London requires a dense transport network and industrial development covers large areas of land. These issues and the present demand for new housing has resulted in large areas of heathland being destroyed. Because most heathland sites are now designated SSSIs or SINCs they are afforded some protection. Neglected heathland sites are, however, still at risk from further development and once they have been built upon restoration is unlikely and impractical (Actions 5, 18, 40)

Because heathlands tend to be found on sandy or gravelly soils, **mineral extraction** is a common threat to many sites. The

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heathland can be reinstated, to some extent, if the land is capped with suitable substrate, preferably the original heathland soils. (Actions 19, 36)

The land use changes discussed above have led to **fragmentation** of most heathland sites. Smaller wildlife sites are more susceptible to external pressures and so are under greater threat. Fragmentation also means that less mobile species are unable to increase their range or re-colonise areas from where they have been lost. (Actions 20, 29)

Wet areas of lowland heath tend to be some of the most floristically rich, but also the rarest. These areas have often been **drained** to allow increased agriculture or access, damaging the fragile habitat. Increased **water abstraction** can also lower the water table (EA, 1999). Both draining and abstraction can result in any peat layer that has built up being exposed to air, allowing it to decompose and release a rush of nutrients, disrupting the normal low nutrient system. (Action 37)

The **disposal of arisings** from heathland management creates difficulties for site managers. Burning cut scrub creates large amounts of smoke, is a fire risk and is governed by Environment Agency restrictions. Chipping is expensive, but disposal to bio-fuel power stations can reduce costs. This means that the costs of maintaining and restoring heathlands are often prohibitive. (Actions 21, 22)

Heathlands are susceptible to being overgrown with acid loving, **non-native species** such as *Rhododendron ponticum* and *Gaultheria shallon*. *Crassula helmsii* is a great threat to heathland pools as it is easily spread and smothers native vegetation. These plants are able to grow vigorously; out competing native flora and not supporting as many species of native fauna. Restoration of areas dominated by non-native species requires the removal of the plant and any litter layer that has accrued.

The **deposition of atmospheric nitrogen**, mostly from vehicle emissions, and other **pollutants** have a significant effect on heathland vegetation. A low level of nitrogen is normally the limiting factor for plant growth on heathland soils. If nitrogen levels are raised, grasses become more competitive and may become dominant over more desirable species. An increase in nitrogen levels in heather can increase damage caused by heather beetles (*Lochmaea suturalis*). Pollution from

surrounding agriculture can also have a significant impact on heathland vegetation especially on wet heath. (Action 23)

Climate change may have a significant effect on heathland wildlife. The forecasted changes in average temperature and precipitation levels are likely to lead to changes in vegetation composition and fauna distribution. Some species are likely to benefit, while others will suffer. Many heathland species are at the northern limit of their range and so may be able to spread northwards if they are mobile enough. Less mobile species will suffer if habitats become increasingly fragmented. (Action 38)

Heathlands suffer from damage by **fires**. Although often used as a management tool to promote new heather growth and clear scrub, extensive fires can also be very damaging to wildlife. Hot, summer fires can devastate animal and plant populations and kill the rootstock of desirable species. Populations on small, fragmented heathlands are especially vulnerable to local extinctions. Urban fringe sites are susceptible to accidental or deliberate fires. (Action 41)

The **ownership of sites** has a bearing on their long term security. Many sites are owned by public bodies that are obliged to manage them for their wildlife interest, or their main function is to manage nature reserves. Other organisations maintain the land for reasons other than conservation and may have conflicting needs from the land. (Actions 4, 8)

Public understanding of the importance of heathlands is relatively limited. This leads to a lack of appreciation for the requirement of practical habitat management works such as tree felling. Heathlands tend to be well used by the public and so suffer from visitor related damage such as erosion and enrichment from dog faeces. Ground nesting birds are especially sensitive to an increase in visitor activity. Many heaths are located at the edge of urban areas, leading to further problems such as littering, fly tipping, illegal access and arson. The understanding of the importance of heathlands is also limited amongst professionals who may be able to influence their survival and quality. (Action 39, 40, 41)

The Countryside and Rights of Way Act, 2000 gives the Countryside Agency the responsibility to map 'Access Land' to which the public will have the **'right to roam'**.

Access Land includes all significant areas of lowland heath. While this may promote beneficial access to the countryside it may cause damage to sensitive sites and species. Land owners may be less willing to undertake heathland restoration work on their land if full public access is a likely outcome. (Action 34, 40)

Many heathlands are registered as **Common Land**. This has led to a certain amount of protection from development and sustained maintenance through the continued exercising of commoners' rights. Special approval from the relevant Secretary of State is required in order to fence a common. This has implications for the reintroduction of conservation grazing. (Actions 7, 30)

A **Felling Licence** is required from the Forestry Commission when undertaking scrub or tree removal to any great extent. This may delay work and requires extra input to ensure that all stakeholders have been properly consulted. The removal of trees for heathland restoration may also require an **Environmental Impact Assessment**, especially as most heaths will be deemed 'sensitive sites'. These are also considered by the Forestry Commission. (Action 27)

Contractors who specialise in conservation management are few in number and therefore in high demand. Specialist machinery is often required to undertake sensitive work and some understanding of ecology is needed. Insurance premiums are increasing leading to the pool of available contractors decreasing. (Action 28)

Many heathlands contain important **archaeological artefacts** because of their long history without having been ploughed or developed. Although an important, valuable feature of heathlands it can be an issue when undertaking habitat management works which will disturb the soil. (Action 43)

Heathlands attract a certain amount of **financial support** for their management. English Nature's Wildlife Enhancement Scheme, DEFRA's Countryside Stewardship Scheme (CSS), Heritage Lottery Fund grants, Landfill Tax Sustainability Fund grants and other grants are targeted at heathland restoration and recreation. These grants tend to fund capital works so long term maintenance of sites is often an issue. (Actions 8, 13, 15, 24, 26)

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4.1 Site and Species Protection

- The coverage of SINCs is under constant review by Hampshire County Council. A joint

Hampshire and Isle of Wight Wildlife Trust and Hampshire County Council project is notifying landowners of the presence of SINCs and offering and coordinating management advice.

- Further SSSIs may be notified by English Nature if a site is considered under threat or to enable European designations to be progressed.
- The designation of the Thames Basin Heaths SPA is proposed.
- English Nature are undertaking a condition assessment exercise on SSSIs to ascertain whether sites are in 'favourable condition' and whether the Public Service Agreement target of 95% of sites in 'favourable' or 'non-favourable recovering' condition by 2010 is being met.
- A number of conservation organisations have management agreements with owners of heathland sites. These offer long term protection and can attract funding. Organisations include: English Nature, the Hampshire and Isle of Wight Wildlife Trust, the Hampshire Heathland Project and the Herpetological Conservation Trust.

4.2 Habitat Management and Programmes of Action

- The UK BAP recognises Lowland heathland as a priority habitat and lists the following objectives and targets:
 - Maintain the extent of all existing lowland heathland (58,000 ha)
 - Improve by management all existing lowland heathland currently in unfavourable condition
 - Encourage the re-establishment by 2005 of a further 6,000 ha of heathland nationally.
- The Department for Environment, Food and Rural Affairs (DEFRA) has a Public Service Agreement target that 95% of SSSI land should be in favourable or unfavourable recovering condition by 2010. To this end English Nature are able to enter into management agreements with landowners to promote management. The Wildlife Enhancement Scheme provides grant aid for habitat management works on SSSIs.
- The Hampshire Heathland Project, led by Hampshire County Council, has been in operation for 14 years. The Project is currently being supported by the Heritage Lottery Fund and a number of other partners as part of 'Tomorrow's Heathland Heritage'

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- (THH), a national programme led by English Nature. The programme aims to go a long way towards meeting the national Lowland Heathland Biodiversity Action Plan targets of restoring 58,000 hectares and re-creating a further 6,000 hectares. The Hampshire Heathland Project is funded by HLF, Hampshire County Council and English Nature through Wildlife Enhancement Schemes. It aims to restore 75% of the degenerate heathland in north east Hampshire within the Project area and recreate 200 hectares of heathland that has been lost. The HLF funded Project started in 2001 and will be completed in 2006. The Project works with a number of landowners to promote heathland management.
- Landowners are undertaking heathland restoration work in addition to that funded by THH:
 - The Forestry Commission have a programme of works to restore parts of Warren Heath, funded by the 'Landfill Tax Credit Scheme' and are in the process of applying for an 'Aggregates Levy Sustainability Fund' grant for heathland restoration on Bramshill Common.
 - Defence Estates, the agency responsible for the management of the Ministry of Defence's estate, are able to apply for 'Rural Elements of the Estate Strategy' funding to carry out conservation management work on their estate.
 - The Hampshire and Isle of Wight Wildlife Trust have made a special appeal to raise funds for the restoration of three heathland sites, one of which is in north east Hampshire.
 - The National Trust continues to manage sites in East Hampshire where it has done so for 30 years, promoting conservation and education.
 - DEFRA is amending the way in which rural payments are made. Single Farm Payments will be based on the area of land mapped on the Rural Land Register. The Countryside Stewardship Scheme will be replaced with a two-tiered Environmental Stewardship in which land managed to a standard will attract further payments in the Entry Level while land owners who deliver a higher level of positive management on their land will receive Higher Level payments.
 - The use of bio-fuel 'heat and power' generators is being explored across Hampshire. This may be a suitable method for disposal of arisings, the products created by heathland management.
 - A number of mineral and landfill sites are being restored to heathland where appropriate. Heathland is the proposed land use for a number of sites yet to be restored.
 - A large area of conifer plantation in the Thames Basin is being restored to heathland as a consequence of extending the safety area for Farnborough Airfield.
 - The 'Monarch' study, led by the Environmental Change Institute, is investigating the effect of climate change on biodiversity. One of the habitats chosen for scrutiny was wet heath; found to be relatively robust.
 - The Ministry of Defence are producing 'Integrated Land Management Plans' for their rural training estate, including large tracts of heathland. Ministry of Defence 'Conservation Groups' meet on a regular basis to help steer the management of the estate.
 - Hampshire County Council and Hampshire and Isle of Wight Wildlife Trust host the 'Forest of Bere Project' and the "Loddon/Eversley Project". The Forest of Eversley is in the London Basin and is dominated by heathland, while the Forest of Bere is in the Hampshire Lowlands and contains small areas of heath.
 - A few commoners still exercise their rights on heathland commons. This includes grazing and collecting of firewood. Some landowners also have conservation grazing on their sites.
 - The Herpetological Conservation Trust (HCT) manage a number of heathland sites for the conservation of reptiles, amphibians and other species.
 - The Hampshire Grazing Project organises conservation grazing on heathland, and other sites. It locates appropriate livestock and offers advice and grants to implement suitable grazing regimes.

- English Nature have commissioned a project to collate and digitise information that will be used to define management priorities and regimes for the proposed Thames Basin Heaths Special Protection Area (pSPA).

4.3 Action for Species

Table 2 (Appendix 2) gives details of priority species in Hampshire found primarily on heathland, acid grassland and mire. Action proposed in this Plan will be the principal means of conserving most of these species. In some cases additional action plans and programmes will also contribute to conserving priority species.

Table 3 (Appendix 2) lists those Hampshire priority species that occur on heathland, acid grassland and mire but whose main habitat is **not** one of these. Although action in this habitat action plan (HAP) may contribute to the conservation of these species, other HAPs have key responsibility for their conservation.

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4.4 Survey, Research and Monitoring

- English Nature (EN) is currently carrying out regular condition assessment of all SSSIs.
- British Trust for Ornithology (BTO) and Hampshire Ornithological Society (HOS) are carrying out a number of bird surveys of specific species, focussing on the Thames Basin Heaths SPA. This includes the national nightjar survey 2004.
- EN and the Ministry of Defence (MOD) have funded a number of National Vegetation Classification surveys on Sites of Special Scientific Interest throughout Hampshire.
- The Hampshire Heathland Project carry out annual monitoring of sites within the Project to assess the effect that restoration work is having on wildlife.
- English nature fund monitoring of Annex 1 bird populations in the Thames Basin Heaths pSPA
- The National Trust undertake regular biological survey on their sites.

5 OBJECTIVES

The overall aim of this Plan is to protect and enhance the biodiversity of lowland heathland, mires and acid grassland in Hampshire. This broad aim translates into the specific objectives set out below. Where feasible, objectives have been allocated targets against which achievement can be measured: for example total area of heathland re-created or restored with dates for completion. The 'Proposed Action' table in section 6 identifies the action to be taken to meet these objectives.

	OBJECTIVE	National objectives from UK BAP	PROPOSED ACTIONS
A	Protect and maintain the characteristic habitats and associated species of lowland heathland, mires and acid grassland in Hampshire (13,000ha)	Maintain the extent of all existing lowland heathland (58,000 ha).	1,2,3,4,5,6,7,8,9, 10,11,12,13,14,15, 16,17,18,19,21,22, 23,24,25,26,27,28, 37,39,40,41,43
B	Increase the extent of lowland heathland, mire and acid grassland: <ul style="list-style-type: none"> Expand the area of lowland heathland of wildlife value by at least 200ha by 2010 Develop and/or create links between fragmented sites	Encourage the re-establishment by 2005 of a further 6,000 ha of heathland	1,13,14,15,17,19, 20,21,22,27,28
C	Enhance the quality of lowland heathland, mire and acid grassland – achieve favourable management on existing sites: Seek to restore to favourable condition 100% of all lowland heath, mire and acid grassland by 2010	Improve by management all existing lowland heathland currently in unfavourable condition.	1,2,3,4,7,8,10,13, 14,15,17,19,21,22, 23,24,25,26,27,28, 37,39,40
D	Ensure that the needs of the Hampshire priority species occurring on lowland heathland, mire and acid grassland are met		1,2,3,4,5,6,8,9,10, 12,13,14,15,16,17, 18,20,21,22,23,24, 25,26,27,28,31,32, 33,34,37,39,40,41
E	Improve knowledge of distribution, extent and status of lowland heathland, mire and acid grassland in Hampshire through survey, research and monitoring.		1,35,36,38,39
F	Communication, Awareness and Promotion: <ul style="list-style-type: none"> Promote the importance of lowland heathland, mire and acid grassland, their associated species and threats to them. Communicate with and provide information to key sectors including statutory agencies, NGOs, landowners and managers, schools, community groups and members of the public. 		1,8,14,18,19,27, 39,40,41,42,43

6 PROPOSED ACTION

The following table lists the actions required to achieve the objectives set out in section 5 of this Plan. Each action has been assigned to one or more 'Key Partners'. Key Partners are those organisations that are expected to take responsibility for the delivery of the actions assigned to them, according to the targets set in this Plan. Other organisations may also be involved in the delivery of action, and they are indicated in the 'Others' column of the table.

Key to symbols in Action Table:

- ◆ To be completed by the indicated year. Work can commence at any time before the due date, at the discretion of the Key Partner.
- ◆⇒ Design or production of a plan/strategy to be completed by this year and then followed by its implementation.
- ➔ To start by the indicated year and usually followed by ongoing work. A start arrow in year 2005 can indicate a new action or a new impetus to existing work.
- ⇨ Work that has already begun and is ongoing.

HABITAT ACTION PLAN

	ACTION	DELIVERY BY		YEAR						MEETS OBJ.
		Key Partner	Others	2005	2006	2007	2010	2012	2015	
				◆ = complete by ◆⇒ = design by and implement ➔ = start by ⇨ = ongoing						
Habitat Protection										
1	Produce a New Forest BAP	NFNPA			◆					All
2	Ensure that heathland sites which are under threat are considered for notification as SSSIs	EN	HCC ¹ , HWT		◆					A, C, D
3	Ensure that all suitable sites that meet SINC criteria are identified	HBIC	HCC ¹ , HWT,	⇨	⇨	⇨	⇨	⇨	⇨	A, C, D
4	Review and/or develop site acquisition policies and purchase sites where appropriate	EN, FC, HWT, HCC ³ , LAs		⇨	⇨	⇨	⇨	⇨	⇨	A, C, D
5	Ensure that lowland heathland, mire, acid grassland and associated priority species are safeguarded from development through forward planning and development control including those areas where restoration is possible	LAs	HCC ³ , EN	⇨	⇨	⇨	⇨	⇨	⇨	A, D
6	Review the selection of SPAs and ensure that all relevant sites are designated	DEFRA	EN, HCC ³		◆					A, D
7	Ensure that the recommendations of the Agricultural Use and Management of Common Land Stakeholders Working Group are implemented	DEFRA	HCC ³	◆⇒						A, C
8	Enter into management agreements with landowners where appropriate	EN, HCC ¹ , HWT, DEFRA		⇨	⇨	⇨	⇨	⇨	⇨	A, C, D, F

	ACTION	DELIVERY BY		YEAR						MEETS OBJ.
		Key Partner	Others	2005	2006	2007	2010	2012	2015	
				◆ = complete by	◆⇒ = design by and implement	⇒ = start by	⇔ = ongoing			
9	Enforce the Wildlife and Countryside Act 1981 (as amended) to prevent damage to SSSIs	EN		⇔	⇔	⇔	⇔	⇔	⇔	A, D
Habitat Management, Incentive Schemes and Other Resources (cont'd)										
10	Produce and implement a strategy for introducing grazing to extensive areas of heath, especially the Western Weald and Thames Basin	HCC ¹	HCC ²		◆⇒					A, C, D
11	Review SSSIs to ensure they are all under suitable management	EN	HCC ¹ , HWT			◆				A, C
12	Ensure that restoration work undertaken by THH is maintained	HCC ¹	FC, MoD, LAs, HCC ³		◆⇒					A, D
13	Attempt to obtain further funding for large-scale restoration works post THH	HCC ¹	EN, FC, MoD, LAs, HCC ³	⇒	◆					A, B, C, D
14	Promote positive management on all heathland sites	HCC ¹	EN, HWT, NT	⇔	⇔	⇔	⇔	⇔	⇔	A, B, C, D, F
15	Complete ILMPs for MOD estate. Ensure that these give conservation a priority and that funding is made available	MoD	HCC ¹ , EN	◆						A, B, C, D
16	Ensure that the destruction of non SSSI sites is policed using EIA regulations	DEFRA	HBIC, EN, HCC ¹	⇔	⇔	⇔	⇔	⇔	⇔	A, D
17	Review the "GB Plan for Lowland Heath on FC Land 1997 – 2002" and adhere to its recommendations	FC	HCC ¹	◆⇒						A, B, C, D
18	Ensure that Local Planning Authorities comply with relevant legislation when determining planning applications affecting heathland (proposed) SPAs and candidate SACs	LAs	EN, HCC ³	⇔	⇔	⇔	⇔	⇔	⇔	A, D, F
19	Promote the reinstatement of mineral workings and closed landfill sites to heathland where appropriate	HCC ³	HCC ¹	⇔	⇔	⇔	⇔	⇔	⇔	A, B, C, D, F
20	Target heathland restoration and re-creation towards areas that will join existing sites and reduce fragmentation.	HCC ¹	DEFRA		◆⇒					B, D
21	Pursue the sustainable disposal of arisings from heathland management	HCC ¹ , FC, HCC ³ , MoD, LAs		⇔	⇔	⇔	⇔	⇔	⇔	A, B, C, D
22	Ensure that links with bio-fuel generator operators are created and maintained.	HCC ¹ , FC, HCC ³ , MoD, LAs		⇔	⇔	⇔	⇔	⇔	⇔	A, B, C, D

	ACTION	DELIVERY BY		YEAR						MEETS OBJ.
		Key Partner	Others	2005	2006	2007	2010	2012	2015	
				◆ = complete by ◆⇒ = design by and implement ⇒ = start by ⇔ = ongoing						
23	Reduce the amount of atmospheric nitrogen deposition on heathlands	HCC ¹ , FC, HCC ³ , MoD, LAs, EN, DEFRA		⇔	⇔	⇔	⇔	⇔	⇔	A, C, D
24	Ensure the continued support of heathland management through WES	EN	HCC ¹	⇔	⇔	⇔	⇔	⇔	⇔	A, C, D
25	Ensure that all eligible areas of heathland are on DEFRA's Rural Land Register	DEFRA	HCC ¹	◆						A, C, D
26	Promote the entry of heathland sites into Environmental Stewardship Higher Level	DEFRA	HCC ¹	◆⇒						A, C, D
27	Ensure that heathland restoration and re-creation are given priority when awarding felling licences	FC		⇔	⇔	⇔	⇔	⇔	⇔	A, B, C, D, F
28	Support local contractors and demand appropriate insurance levels for conservation work	FC, HCC ³ , HWT, HCC ¹ , LAs, MoD		⇔	⇔	⇔	⇔	⇔	⇔	A, B, C, D
29	Work with partners to create physical links between sites in east Hampshire and Surrey	MoD, FC, HCC ³		⇔	⇔	⇔	⇔	⇔	⇔	
30	Encourage sustainable management through the continuation or re-instatement of commoning	HCC ¹ , NT, MoD, HCC ³								
Species Action										
31	Identify gaps in SAPs (appendix 2) and target priority groups of species for SAPs	HCC ¹			◆					D
32	Maintenance of Woolmer herpetofauna	HCT	MoD	⇔	⇔	⇔	⇔	⇔	⇔	D
33	Ensure that invertebrate populations are not damaged by inappropriate grazing regimes	FC, HCC ³ , HWT, HCC ¹ , LAs, MoD		⇔	⇔	⇔	⇔	⇔	⇔	D
34	Maintenance of heathland avifauna by management of habitat and visitors	FC, HCC ³ , HWT, HCC ¹ , LAs, MoD, EN		⇔	⇔	⇔	⇔	⇔	⇔	D
Survey, Research and Monitoring										
35	Ensure that the National Heathland Inventory is maintained	EN	HCC ¹	⇔	⇔	⇔	⇔	⇔	⇔	E
36	Audit the existence of mineral extraction licences on heathland sites.	HCC ³	HCC ¹	◆						E
37	Audit the possible effect on heathland sites by water abstraction. Remediate where possible.	EA		◆⇒						A, C, D
38	Investigate impacts of climate change on lowland heathland, mire and acid grassland, through MONARCH	EN			◆					E

	ACTION	DELIVERY BY		YEAR						MEETS OBJ.
		Key Partner	Others	2005	2006	2007	2010	2012	2015	
◆ = complete by ◆⇒ = design by and implement ➔ = start by ⇔ = ongoing										
Communication and Publicity										
39	Set up local volunteer groups where appropriate	FC, HCC ³ , HWT, LAs	HCC ¹ , BTCV	⇔	⇔	⇔	⇔	⇔	⇔	A, C, D, E, F
40	Further the understanding of the importance of Hampshire's heathlands to the public and planners	FC, HCC ³ , HWT, HCC ¹ , LAs, MoD, EN	HCC ¹	⇔	⇔	⇔	⇔	⇔	⇔	A, C, D, F
41	Raise awareness of the damage that heathland wildlife suffers through fire	FC, HCC ³ , HWT, HCC ¹ , LAs, MoD, EN	HCC ¹	⇔	⇔	⇔	⇔	⇔	⇔	A, D, F
42	Strengthen links with heathland managers from neighbouring counties	HCC ¹		⇔	⇔	⇔	⇔	⇔	⇔	F
43	Ensure that archaeology is considered when undertaking heathland management	FC, HCC ³ , HWT, HCC ¹ , LAs, MoD, EN		⇔	⇔	⇔	⇔	⇔	⇔	A, F

**HABITAT
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ACTION**

KEY TO ORGANISATIONS

BTCV British Trust for Conservation Volunteers
 DEFRA Department for Environment, Food and Rural Affairs
 EA Environment Agency
 EN English Nature
 FC Forestry Commission
 HBIC Hampshire Biodiversity Information Centre
 HCC¹ Hampshire County Council, Heathland Project
 HCC² Hampshire County Council, Grazing Project

HCC³ Hampshire County Council, including Environment Dept & Recreation and Heritage Dept
 HWT Hampshire Wildlife Trust
 LAs Local Authorities (Parish and District Councils)
 MoD Ministry of Defence
 NFNPA New Forest National Park Authority – to be established
 NT National Trust

APPENDIX 1

Key to abbreviations in Tables 1 and 2 – see columns 'Action in addition to HAP' and 'Status/Protection'

Abbreviation	Definition
ACTION IN ADDITION TO HAP (Other Plans Relevant to Priority Species)	
UK SAP	Species Action Plan prepared under UK Biodiversity programme
UK Grouped SAP	Species catered for by a grouped Species Action Plan prepared under UK Biodiversity programme
UK Species Statement	Conservation of species generally achieved through HAPs. Statement prepared under UK Biodiversity programme to link the relevant Plans.
No Plan	Species removed from revised UK priority list. No Action Plan / Species Statement produced
BC RAP	Butterfly Conservation Regional Action Plan
BC NAP	Butterfly Conservation National Action Plan
PROTECTION: European (EC Habitats Directive)	
Annex II	Designation of protected areas for animals and plants listed
Annex IV	Special protection for animals and plants listed
Annex V	Control of exploitation of animals and plants listed
PROTECTION: British (Wildlife and Countryside Act 1981)	
Sch. 1	Special protection for birds listed
Sch. 5	Special protection for animals listed
Sch. 5 (sale)	Protection against sale for animals listed (Schedule 5 section 9 (5))
Sch. 8	Special protection for plants listed
STATUS: International (International Union for the Conservation of Nature)	
IUCN VU	Vulnerable – Species facing high risk of extinction
IUCN LR/cd	Lower Risk / conservation dependent species – Species that do not satisfy the criteria for 'Critically Endangered', 'Endangered' or 'Vulnerable'. They are 'conservation dependent' if they are the focus of specific conservation programmes, which if stopped, would result in the taxon qualifying for one of the threatened categories within a period of five years.
IUCN LR/nt	Lower Risk / near threatened species – Species that do not qualify for 'conservation dependent' but are close to 'Vulnerable' status
IUCN DD	Data Deficient – Insufficient data to make a direct or indirect assessment of a species status, based on its distribution and/or population status.
STATUS: British – Mammals (Red Data Book)	
RDB	Mammal species listed in the British Red Data Book
STATUS: British – Plant and Fungi (Red Data Book and associated)	
RDB Cr	Critically Endangered – Extremely high risk of extinction in the near future
RDB En	Endangered – Very high risk of extinction in the near future
RDB V	Vulnerable – High risk of extinction in the medium-term future
RDB K	Insufficient data to assess status
NS	Nationally Scarce – Plants not on red list but occurring in 16 to 100 10x10 km squares
NT	Near Threatened – Plants not on red list but occurring in 15 or fewer 10x10 km squares
STATUS: British – Invertebrates (Red Data Book and associated)	
RDB En	Endangered – In danger of extinction
RDB V	Vulnerable – Declining or occurring in a vulnerable habitat. Usually occurs in less than 16 10x10 km squares
RDB R	Rare – Not declining but occurring in less than 16 10x10 km squares
RDB K	Insufficiently known – Suspected, but not definitely, Endangered, Vulnerable or Rare
NS (a)	Nationally Scarce – Occurring in 16 to 30 10x10 km squares (for well recorded species)
NS (b)	Nationally Scarce – Occurring in 31 to 100 10x10 km squares (for well recorded species)
STATUS: Royal Society for the Protection of Birds (Birds of Conservation Concern)	
Red List	Various criteria, including a 50% decline in breeding population or range over last 25 years
Amber List	Various criteria, including a 25-49% decline in breeding population or range over last 25 years

APPENDIX 2

Table 1 - Hampshire priority species found primarily in heathland habitats

These are taken from Volume 2 of the Biodiversity Action Plan for Hampshire (HCC, 2000) More information about the species listed can be found there. This appendix relates to Section 4.3 - 'Action for Species'.

Scientific name	Common name	Group	Status/ Protection	Habitat/Ecology	Hants Distribution	Specific management requirements	Action in addition to HAP	SAP status
<i>Bufo calamita</i>	Natterjack Toad	Amphibians	Sch. 5, Annex IVa	Salt marshes, Sandy heathland and coastal sanddunes.	Woolmer Forest	Maintenance of short turf by grazing or mowing	UK BAP,	Not yet published
<i>Anergates atratulus</i>	Dark Guest Ant	Ants	IUCN, LR/nt	Woodland, scrubby or coniferised heathland	Widespread Hants including New Forest, East Hants, Pamber Forest	UK species Statement		Not proposed
<i>Formica candida</i>	black bog ant	Ants	RDB En	Bogs, wet heaths and mossy stream sides	New Forest only		UK BAP	Not proposed
<i>Anisodactylus nemorivagus</i>	A Ground Beetle	Beetles	NS	Open, sandy heathland	Heathlands in and around the New Forest		UK BAP	Not proposed
<i>Cicindela sylvatica</i>	Heath Tiger Beetle	Beetles	NS	Open, dry and sandy soils with heathers, sometimes among open coniferous woodland.	Thames Basin, Wealden Greensand and New Forest heaths.	Creation of bare ground	UK BAP	Not proposed
<i>Paedurus caligatus</i>	A Rove Beetle	Beetles	RDB R	Bogs, marshes, stream margins and peatland.	Occasionally plentiful in bogs in the New Forest.			Not proposed
<i>Pterostichus kugelanni</i>	A Ground Beetle	Beetles	RDB En	Found on heathland with sandy or gravelly soil, but with wet areas present	Three sites in the New Forest.			Not proposed
<i>Caprimulgus europaeus</i>	Nightjar	Birds	Sch. 1, Annex 1 of EC Birds Directive, Red List	Dry and Wet heaths, in open broadleaved woodland, young conifer plantations and clear felled areas, and in downland scrub.	Mainly on the sandy soils of north-east and south-west. Summer visitor		UK BAP	Not proposed
<i>Circus cyaneus</i>	Hen Harrier	Birds	Red List & Amber List	Nests on open bogs and moors, roosts communally in groups in reedbeds, tall-grass meadows.	Heaths of the New Forest, and East Hampshire. Roosts on heaths in winter			Not proposed
<i>Falco columbarius</i>	Merlin	Birds	Amber List	Nests beside open terrain with plenty of small birds such as upland moors, bogs, swamp and grouse moors	Heaths of the New Forest, and East Hampshire. Roosts on heaths in winter			Not proposed
<i>Falco subbuteo</i>	Hobby	Birds		Lowland heaths and in a variety of farmland habitats	New Forest and northeast and east Hampshire. Summer visitor.			Not proposed
<i>Lullula arborea</i>	Woodlark	Birds	Sch. 1, Annex 1 of EC Birds Directive,	Grazed heathland, recently cleared forestry plantations & open woodland with areas of bare ground.	Southern Hampshire, including the New Forest and on the Surrey/Hampshire border. Breeds on heaths, overwinters on other habitats.	Creation of bare ground	UK BAP	Not proposed
<i>Sylvia undata</i>	Dartford warbler	Birds	Amber List	Lowland heathland with gorse and heather.	New Forest Heathlands. Breeds and overwinters on heaths			Not proposed

Heathland

Scientific name	Common name	Group	Status/ Protection	Habitat/Ecology	Hants Distribution	Specific management requirements	Action in addition to HAP	SAP status
<i>Lopozia herzogiana</i>	A Liverwort	Bryophytes			last seen in small quantity in Callunetum by Woolmer Forest, and may now be deemed provisionally to be extinct.			Not proposed
<i>Boloria selene</i>	small pearl-bordered fritillary	Butterflies	none	Found in clearings and rides in woodland, especially woodland that has a continuous history of coppice or underwood management	Pamber Forest and Bentley Wood.		BC RAP	Part of 'Butterflies and Moths' plan Apr 2003
<i>plebejus argus</i>	Silver Studded Blue	Butterflies	Sch. 5	Variety of habitats from acid grassland (dry and wet) to calcareous grassland, sand-dunes and lowland mosses.	Larger colonies recorded at Pig Bush, Fair Cross Heath, Rowbarrow in the New Forest, Broxhead Common in the east and Yateley Common in the north-east	Creation of stands of early growth-stage heather by mowing or other means	BC RAP	Part of 'Butterflies and Moths' plan Apr 2003
<i>Chorthippus vagans</i>	Heath Grasshopper	Crickets	RDB R	Dry, heather dominated heath	Local in New Forest			Not proposed
<i>Stethophyma grossum</i>	Large Marsh Grasshopper	Crickets	RDB V	Restricted to very wet, marshy areas, commonly quaking acidic bogs, although historically the species also occupied fenland and riverside habitat.	There are a number of populations in the New Forest.		UK BAP	Not proposed
<i>Ceriatrigon tenellum</i>	Small Red Damselfly	Dragonflies		Typically breeds in shallow bog pools fringed with Sphagnum moss on lowland heaths.	Heathlands of the Surrey/Hampshire border. New Forest.	Clearance of scrub around ponds where present		Not proposed
<i>Ischnura pumilio</i>	Scarce Blue-tailed damselfly	Dragonflies		Favours enriched water to breed often in heathland areas.	New Forest			Not proposed
<i>Orthetrum coerulescens</i>	Keeled skimmer	Dragonflies		Breeds in flushes, boggy margins, bog pools in valley mires in areas of heath & moorland.				Not proposed
<i>Lycopodiella inundata</i>	Marsh Clubmoss	Ferns	NS	Acid, wet heath and the fringes of bogs, on bare peaty soil, where liable to flooding in winter.	Frequent in the New Forest, rare on Avon Valley heaths, very local in Woolmer Forest and the NE tertiary heaths.	Periodic disturbance of ground where present		Part of 'Rare Plants' plan. Not yet published
<i>Lycopodium clavatum</i>	Stags-horn Clubmoss	Ferns		Dry heathland, on bare sand or gravel, old sand-pits and especially along newly made plantation rides.	Very rare, found in few sites in South and North Hampshire			Part of 'Rare Plants' plan. Not yet published
<i>Bombylius minor</i>	A Beefly	Flies	NS, RDB V	Heathland and probably associated sand dunes. Also chalk downland.	Southern Hampshire only (on eastern edge of range); Porton Down.		No	Not proposed
<i>Chrysops sepulcralis</i>	A Horsefly	Flies	RDB En	Usually near ponds and boggy areas on heaths. Larvae develop in the wet peat of bogs.	Single reports from Holmhill the New Forest only.			Not proposed

Scientific name	Common name	Group	Status/Protection	Habitat/Ecology	Hants Distribution	Specific management requirements	Action in addition to HAP	SAP status
<i>Chrysotoxum octomaculatum</i>	A Hoverfly	Flies	RDB V	Dry heaths. Larvae are predators of aphids living in ant nests.	New Forest and western Weald		UK BAP	Not proposed
<i>Chrysotoxum octomaculatum</i>	A Hoverfly	Flies	RDB V	Dry heaths. Larvae are predators of aphids living in ant nests.	New Forest and western Weald		UK BAP	Not proposed
<i>Pelecocera tricincta</i>	Hoverfly	Flies	RDB Rif	Heathland and in particular the margins of bogs and wet heaths.	New Forest	Maintain a mosaic of conditions within the heath particularly ensuring the presence of boggy pools.		Not proposed
<i>Physocephala nigra</i>	Conpid fly	Flies	RDB R	Heathland and moorland. Parasitoid of adults of the bumble bee.	New Forest.			Not proposed
<i>Thyridanthrax fenestratus</i>	a bee fly	Flies	RDB R	Open heather dominated heathland where it is often found along sandy paths and other sparsely vegetated sandy areas.	Confined to the New Forest and the Weald.		UK BAP	Not proposed
<i>Arabis glabra</i>	Tower Mustard	Flowering Plants	General protection under WCA, RDB V	In hedgebanks or in open woodland, on dry sandy soils.	Areas of Woolmer Forest with open, sandy ground	Periodic disturbance of ground	UK BAP	Not proposed
<i>Carex montana</i>	Soft-leaved sedge	Flowering Plants		On flat on gently-sloping heaths, woodland rides and adjacent ditch-banks, and in old marl-pits	Confined to, but widespread and fairly frequent in, the New Forest.			Not proposed
<i>Cicendia filiformis</i>	Yellow Centaury	Flowering Plants		Heaths, on bare tracks, flood hollows, edge of ponds, ditches and on damp, sandy or gravelly soil, mud and clay.	In the New Forest only, where it is widespread and sometimes abundant.			Not proposed
<i>Crassula tillaea</i>	Mossy Stonecrop	Flowering Plants		Heathland, along paths and in open sandy or gravelly turf where moist in winter but drying out in early summer.	Recorded all over New Forest, the Avon Valley and on Shedfield Common. Locally common in Woolmer Forest			Not proposed
<i>Deschampsia setacea</i>	Bog Hair Grass	Flowering Plants		In turfy flood-hollows on wet heaths, margins of bogs and pools.	Virtually confined to the New Forest where most populations are of restricted extent.			Not proposed
<i>Dianthus armeria</i>	Deptford Pink	Flowering Plants	RDB V, Sch. 8	Dry pastures, Disturbed ground, roadsides, field borders, and hedgerows. Occurs on light sandy soils often of high pH.	There are many old records but only one or two sites remain, including Woolmer Forest.		UK BAP	Not proposed
<i>Eriophorum gracile</i>	Slender Cottongrass	Flowering Plants	RDB V	Very wet, moderately acid valley-bogs in the reed-zone bordering on alder carr.	Few recent records in South Hampshire. Believed extinct in North Hants.			Not proposed
<i>Gentiana pneumonanthe</i>	Marsh Gentian	Flowering Plants		Wet heaths	New Forest and Bartley Heath	Periodic mowing, burning or grazing		Not proposed
<i>Gnaphalium sylvaticum</i>	Heath Cudweed	Flowering Plants		On dry, bare sand or gravel or on clay-with-flints over chalk. In sparse turf over heaths, mainly along tracks and in bare rides in woods.	Rare in the SW and NW but locally frequent in the NE			Not proposed

Heathland

Scientific name	Common name	Group	Status/ Protection	Habitat/Ecology	Hants Distribution	Specific management requirements	Action in addition to HAP	SAP status
<i>Hammarbya paludosa</i>	Bog Orchid	Flowering Plants		In flushed parts of open, sphagnum bogs, often with <i>Pinguicula lusitanica</i> , <i>Rhynchospora alba</i> , <i>Sphagnum auriculatum</i> .	Local in the South of New Forest and rare in the North. Unknown elsewhere in Hampshire, except for one specimen of Silchester Common			Not proposed
<i>Hypochaeris glabra</i>	Smooth Cats ear	Flowering Plants		On exposed, acid, sandy or gravelly soil on heaths, dunes, verges and arable.	In South Hampshire, including Black Common, Sandy Point, Browndown. North Hampshire sites include Woolmer Forest, Longmoor camp and Fleet Pond.			Not proposed
<i>Illecebrum verticillatum</i>	coral necklace	Flowering Plants		Sandy ground by ephemeral ponds	New Forest			Not proposed
<i>Lobelia urens</i>	Heath lobelia	Flowering Plants	RDB V	On damp, sandy soil, in grass heath with bracken or among planted conifers.	First reported in South Hampshire. Now very rare.			Part of 'Rare Plants' plan. Not yet published
<i>Rhynchospora fusca</i>	Brown-beak Sedge	Flowering Plants		Wet heaths on open peat fringing valley bog, especially along wet cattle and pony tracks, and on flushed peat; just penetrating into open vegetation of bogs.	Present in South Hampshire. Frequent in S and C New Forest, extending to the lower Avon Valley where it is rare.			Not proposed
<i>Utricularia intermedia</i>	Intermediate bladderwort	Flowering Plants		Choked streams and pools in valley bogs, in very acid water; very seldom flowering in Hants.	Now confined to Shatterford Bottom and Denny Bog in the New Forest.			Not proposed
<i>Viola lactea</i>	pale Dog Violet	Flowering Plants		Dry grassy heathland, often amongst gorse.	Very rare except in the New Forest where widespread and locally frequent.			Not proposed
<i>Vulpia ciliata ssp. ambigua</i>	Bearded fescue	Flowering Plants		Native on coastal sands, a colonist along bare heathland roadsides	In the New Forest and Woolmer Forest.			Not proposed
<i>Microglossum olivaceum</i>	an earth tongue	Fungi		Heavily grazed grassland	New Forest Only		UK BAP	Not proposed
<i>Poronia punctata</i>	Nail fungus	Fungi	RDB En, IUCN Intermediate	Occurs in the dung of horses and ponies which have fed on unimproved pasture or hay.	Confined to the New Forest		UK BAP	Not proposed
<i>Acosmetia caliginosa</i>	reddish buff	Moths	RDB En	Open, grassy often heathy swards rich in saw-wort, but neither strongly acidic nor strongly alkaline. Feeds solely on the leaves of saw-wort <i>Serratula tinctoria</i> .	Only remaining population found in the Isle of Wight	All known sites are currently managed for the species.	UK BAP (Priority spp), BC RAP, Sch. 5 (protected spp)	Part of 'Butterflies and Moths' plan Apr 2003
<i>Agrochola haematidea</i>	Southern Chestnut	Moths	RDB V	Dry, acid heathland. Larvae feed on the flowers of the heather <i>Erica cinerea</i> and crossed leaved <i>Erica tetralix</i> .	Linford, Sopley Common, Picket Hill, Dur Hill, Whitemoor and Picket post of the New Forest.	Maintain mosaic of heathland successional stages	UK BAP (Spp of Conservation Concern), BC RAP	Part of 'Butterflies and Moths' plan Apr 2003

Heathland

Scientific name	Common name	Group	Status/Protection	Habitat/Ecology	Hants Distribution	Specific management requirements	Action in addition to HAP	SAP to be prepared
<i>Chlorissa viridata</i>	Small grass emerald	Moths	NS (a)	Boggy areas and heathy ground	fairly common in boggy areas of New Forest.		BC RAP	Not proposed
<i>Cyclophora pendularia</i>	dingy mocha	Moths	RDB R	Open boggy heathland where the larvae feed on the foliage of small-leaved <i>Salix</i> species such as eared Willow <i>S. aurita</i> and Grey Sallow <i>S. cinerea</i>	Ringwood-Brockenhurst area of the New Forest remains the only known location in Hampshire		UK BAP (Priority spp), BC RAP	Part of 'Butterflies and Moths' plan Apr 2003
<i>Cleora cinctaria</i>	Ringed carpet	Moths	Nationally scarce Grade A	Damp heathland with stands of scubby birch, often with small self-set pines. Moorland with bog-myrtle.	Heathlands of the New Forest.		BC RAP	Not proposed
<i>Coscinia cribaria bivittata</i>	Speckled footman moth	Moths	RDB En	Humid heathland. Larvae will feed on dandelion <i>Taraxacum officinale</i> agg. And a variety of other low-growing herbaceous plants.	May occur in New Forest.	Not known	UK BAP (Priority spp), BC RAP	Part of 'Butterflies and Moths' plan Apr 2003
<i>Dyscia fagaria</i>	Grey scalloped bar	Moths	NS (a)	Heathland, moorland bogs, and raised mosses, probably favouring the shorter swards. Often seen at rest in burnt areas.	Locally frequent on New Forest heaths, very occasional elsewhere with one record on the Isle of Wight.			Not proposed
<i>Heliothis maritima warneckei</i>	Shouder striped clover	Moths	RDB R	Areas of damp heathland. Larvae feed on flowers of heather and heaths <i>Calluna</i> and <i>Erica</i> spp., and sometimes the seedheads of bog-asphodel <i>Narthecium ossifragrum</i> .	Some New Forest Heaths	Requires further investigation.	UK BAP (Spp of Conservation Concern), BC RAP	Part of 'Butterflies and Moths' plan Apr 2003
<i>Mythimna turca</i>	Double line	Moths	NS (b)	Wet grasslands and in woodland clearings and rides.	Last record in Emer Bog near Chandlers Ford	Not known	UK BAP (Priority spp), BC RAP	Not proposed
<i>Coronella austriaca</i>	Smooth Snake	Reptile	Annex IV, Sch. 5,	Mostly confined to heathland habitats within coniferous forests,	Mainly on the mature dry heaths of south-west Hampshire with only a few populations remaining in the heathlands of north-east Hampshire		UK BAP	Not yet published
<i>Lacerta agilis</i>	Sand Lizard	Reptile	Annex IV, Sch. 5	Coastal dunes and heathland habitats with coniferous forests,	wealden Heaths and reintroduced into sites in the New Forest	Creation of areas of loose, bare sand for egg laying	UK BAP	Not proposed
<i>Uloborus walckenaerius</i>	A spider	Spiders	RDB R	Lowland heathlands.	New Forest and Crookham Common in the North		UK BAP	Not proposed
<i>Cicadetta montana</i>	New Forest Cicada	True Bugs	RDB R, Sch. 5	Warm, south-facing open scrub and woodland edge sites.	Recorded in two areas of the New Forest Only		UK BAP	Not proposed
<i>Chrysis fulgida</i>	A Ruby-tailed wasp	Wasps	RDB En	Variety of habitat sites including fens but show a preference for heathland	Most recently recorded in North Hampshire.		UK BAP	Not proposed
<i>Homonotus sanguinolentus</i>	A Spider Wasp	Wasps	RDB En	Lowland heathland. Construct conspicuous retreats in a number of aerial locations, including grass flower heads and heather inflorescences.	Last recorded from Cranes moor in the New Forest		UK BAP	Not proposed

Table 2 - Priority species, thought to be extinct in Hampshire, which are primarily associated with heathland habitat

Scientific name	Common name	Group	Status/ Protection	Habitat/Ecology	Hants Distribution	Specific management requirements	Action in addition to HAP	SAP to be prepared
<i>Formica exsecta</i>	Narrow headed ant	Ants	RDB En	Lowland heathland in Southern England and Native pine forests in Scottish Highlands.	Historical records suggest that there were small populations in the New Forest		UK BAP	Not proposed
<i>Andrena gravida</i>	A Mining Bee	Bees	NT	Nests in sandy situations exposed to the sun. Forage in flower-rich, sandy grassland.	Unconfirmed records from Hampshire		UK BAP	Not proposed
<i>Anthophora retusa</i>	Potter Flower Bee	Bees	RDB R	Open, sandy soils and coastal landslips	Formerly New Forest			Not proposed
<i>Lasioglossum pauperatum</i>	A Mining Bee	Bees	RDB V					Not proposed
<i>Lasioglossum sexnotatum</i>	A Mining Bee	Bees						Not proposed
<i>Melecta luctosa</i>	A Solitary Bee	Bees	RDB En	Parasite of the bee, <i>Anthophora retusa</i> , Present on banks, sandy cliffs & cuttings where host nests	New Forest			Not proposed
<i>Amara famelica</i>	A Ground Beetle	Beetles	RDB R	Open sandy or gravelly heaths. It usually lives near water in such habitats, on open, flat, partly vegetated sites.	Has not been recorded in Hampshire since 1970.		UK BAP	Not proposed
<i>Pterostichus aterrimus</i>	A Ground Beetle	Beetles	RDB En	Muddy or peaty soils at the edges of permanent, standing water bodies and in very wet ungrazed fen/bog habitats. Areas of bare, wet but sun exposed ground among the littoral vegetation may also be needed.	From 1969 to 1973 it occurred in Sphagnum in the Bishops Dyke/ Denny wood/ Matleybog area of the New Forest. Not found in Britain since 1973.		UK BAP	Not proposed
<i>Tachys edmondsi</i>	A Ground Beetle	Beetles	RDB R, but this is under review.	Endemic to the UK. Only ever been found in bogs in the New Forest, living among the Sphagnum moss.	Has not been seen in the New Forest in the last 20 years and may be extinct.		UK BAP	Not proposed
<i>Lanius collurio</i>	Red-backed Shrike	Birds	Sch. 1, Annex 1 in EC Birds Directive	Farmland, scrub and heathland.	No longer a regular breeder in the UK. Extinct in Hampshire by 1980.		UK BAP	Not proposed
<i>Tetrao tetrix</i>	Black Grouse	Birds	Annex II, Games Acts (close season 11 Dec:19 Aug)	Utilises young conifer plantations and clear-felled areas with well developed field and shrub layers that include rushes, cotton-grass, heather and bilberry.	Extinct in Hampshire		UK BAP	Not proposed
<i>Chrysotoxum vernale</i>	A Hoverfly	Flies	RDB En	Heathland and possibly associated heath woodland.	Considered to be extinct in Hampshire			Not proposed
<i>Eristalis cryptarum</i>	A Hoverfly	Flies	RDB V	Valley mire of heathland and moorland, and possibly with other wetland.	Lost strong populations in the New Forest in the post war period.		UK BAP	Not proposed
<i>Chesias rufata</i>	Broom-tip	Moths	NS b	Heathland, breckland, heathly commons, open woodland, scrub, moorland and rocky stream-sides	Occurs locally in the New Forest			Not proposed
<i>Pelosia muscerda</i>	Dotted Footman	Moths	RDB	Fens, preferring wetter areas with scattered willow and alder carr.	Last reported in New Forest in early 20th Century, now thought to be extinct from Hampshire.			Not proposed
<i>Dipoena melanogaster</i>	A Spider	Spiders	RDB V	Occurs on gorse and other bushes.	One specimen recorded in Lyndhurst in 1858.			Not proposed

Scientific name	Common name	Group	Status/Protection	Habitat/Ecology	Hants Distribution	Specific management requirements	Action in addition to HAP	SAP status
<i>Oxyopes heterophthalmus</i>	A Spider	Spiders	RDB V	Mature dry heathland, usually near the top of heather and seemingly with a preference for south-facing slopes.	Old records(1858) from the New forest near Lyndhurst and Brockenhurst.			Not proposed
<i>Xysticus luctator</i>	A Crab Spider	Spiders	RDB V	Mature dry heathland and under dead wood among heather and beech litter.	Beaulieu Road Heath in the New Forest last recorded in 1958			Not proposed
<i>Cerceris quinquefasciata</i>	A Ruby-tailed wasp	Wasps	Classified as Rare in the GB Red List	Nests gregariously in areas of bare sand in places exposed to the sun.	Considered extinct in Hampshire		UK BAP	Not proposed

Table 3 - Priority species, found primarily in other habitats, but which occur in heathland habitats

Scientific name	Common name	Group	Primary HAP	SAP Status
<i>Hirudo medicinalis</i>	Medicinal leech	Annelids	Open Standing Water	April 2003
<i>Formica rufa</i>	Southern wood ant	Ants	Ancient semi-natural woodland	Not proposed
<i>Psithyrus rupestris</i>	Hill cuckoo bee	Bee	Dependant on many habitats, mosaic/landscape species	Not proposed
<i>Agabus brunneus</i>	A Water Beetle	Beetles	Chalk streams	Not proposed
<i>Aphodius niger</i>	A Scarab Beetle	Beetles	Ephemeral ponds	Not proposed
<i>Graphoderus zonatus</i>	A water Beetle	Beetles	Ephemeral ponds	Not proposed
<i>Helophorus laticollis</i>	A Water Beetle	Beetles	Ephemeral ponds	Not proposed
<i>Prionus coriarius</i>	A Sawyer Beetle	Beetles	Ancient semi-natural woodland	Not proposed
<i>Tomoxia bucephala</i>	Tumbling flower beetle	Beetles	Ancient semi-natural woodland	Not proposed
<i>Alauda arvensis</i>	Skylark	Birds	Arable Land	Not proposed
<i>Burhinus oedicephalus</i>	Stone curlew	Birds	Arable Land	Not proposed
<i>Locustella naevia</i>	Grasshopper warbler	Birds	Does not fit into habitats. Damp rough grassland	Not proposed
<i>Pernis apivorus</i>	Honey Buzzard	Birds	Ancient semi-natural woodland	Not proposed
<i>Saxicola rubetra</i>	Whinchat	Birds	Does not fit into habitats. Moorland edges, bracken, young plantation	Not proposed
<i>Emberiza schoeniclus</i>	Reed Bunting	Birds	Fen, carr, marsh, swamp, reedbed	Not proposed
<i>Circus pygargus</i>	Montagu's Harrier	Birds	Dependant on many habitats, mosaic/landscape species	Not proposed
<i>Gallinago gallinago</i>	Snipe	Birds	Lowland Wet Grassland	Part of 'birds of wet grassland' plan Apr 2003
<i>Hamatocaulis (Drepanocladus) vernicosus</i>	Slender green feather moss	Bryophytes	Fen, carr, marsh, swamp, reedbed	Not proposed
<i>Boloria euphrosyne</i>	Pearl bordered fritillary	Butterflies	Ancient semi-natural woodland	Part of 'Butterflies and Moths' plan Apr 2003
<i>Eurodryas aurinia</i>	Marsh fritillary	Butterflies	Lowland calcareous grassland	Part of 'Butterflies and Moths' plan Apr 2003
<i>Gryllotalpa gryllotalpa</i>	Mole Cricket	Crickets	Fen, carr, marsh, swamp, reedbed	Not proposed
<i>Chirocephalus diaphanus</i>	Fairy shrimp	Crustaceans	Ephemeral ponds	Not proposed
<i>Triops cancriformis</i>	Tadpole shrimp	Crustaceans	Ephemeral ponds	Not proposed
<i>Coenagrion mercuriale</i>	Southern Damselfly	Dragonflies	Lowland Wet Grassland	July 2000
<i>Somatochlora metallica</i>	Brilliant emerald	Dragonflies	Open Standing Water	Not proposed
<i>Pilularia globulifera</i>	Pillwort	Ferns	Ephemeral ponds	Not proposed
<i>Zodion notatum</i>	A Conopid fly	Flies	Lowland calcareous grassland	Not proposed
<i>Asilus crabroniformis</i>	Hornet robberfly	Flies	Lowland calcareous grassland	Not proposed
<i>Bombylius discolor</i>	A Beefly	Flies	Maritime cliffs	Not proposed
<i>Dioctria cothurnata</i>	A Robberfly	Flies	Pasture woodland, parkland	Not proposed
<i>Carex punctata</i>	Dotted Sedge	Flowering plants	Coastal grazing marsh	Not proposed
<i>Chamaemelum nobile</i>	Chanomile	Flowering plants	Ephemeral ponds	Not proposed
<i>Cyperus fuscus</i>	brown galingale	Flowering plants	Ephemeral ponds	Not proposed
<i>Elatine hexandra</i>	Six-stamened waterwort	Flowering plants	Ephemeral ponds	Not proposed
<i>Epipactis phyllanthes</i>	Green flowered helleborine	Flowering plants	Ancient semi-natural woodland	Not proposed
<i>Filago lutescens</i>	Red-tipped cudweed	Flowering plants	Arable Land	Not proposed
<i>Galium constrictum</i>	Slender marsh bedstraw	Flowering plants	Ephemeral ponds	Not proposed

Scientific name	Common name	Group	Primary HAP	SAP status
<i>Juniperus communis</i>	Juniper	Flowering plants	Lowland calcareous grassland	Not proposed
<i>Mentha pulegium</i>	Pennyroyal	Flowering plants	Ephemeral ponds	No
<i>Orobancha rapum-genistae</i>	Greater broomrape	Flowering plants	Unimproved neutral dry grassland, hay meadows	Not proposed
<i>Persicaria mitis</i>	tasteless water-pepper	Flowering plants	Open Standing Water	Not proposed
<i>Pulicaria vulgaris</i>	small fleabane	Flowering plants	Ephemeral ponds	Not proposed
<i>Pulmonaria longifolia</i>	Narrow leaved lungwort	Flowering Plants	Ancient semi-natural woodland (NF)	Not proposed
<i>Ranunculus tripartitus</i>	Three lobed crowfoot	Flowering plants	Ephemeral ponds	Not proposed
<i>Rhinolophus ferrumequinum</i>	Greater horseshoe bat	Mammals	Dependant on many habitats, mosaic/landscape species	Feb 2001
<i>Lymnaea glabra</i>	Glutinous snail	Molluscs	Ephemeral ponds	Not proposed
<i>Adscita statices</i>	forester moth	Moths	Unimproved neutral dry grassland, hay meadows	Not proposed
<i>Cossus cossus</i>	Goat Moth	Moths	Ancient semi-natural woodland	Not proposed
<i>Hemaris tityus</i>	Narrow bordered bee hawk	Moths	Unimproved neutral dry grassland, hay meadows	Part of 'Butterflies and Moths' plan Apr 2003
<i>Lasiocampa trifolii</i>	Grass eggar	Moths	Sand dunes	Not proposed
<i>Rheumaptera hastata</i>	Argent and Sable	Moths	Ancient semi-natural woodland	Not proposed

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This is one of many Habitat, Species and Topic Action Plans being prepared by the Hampshire Biodiversity Partnership.

This Habitat Action Plan has been prepared by Alex Cruickshank, Heathland Project Officer on behalf of the Hampshire Biodiversity Partnership.

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