# Biodiversity Action Plan

## for Hampshire

VOLUME ONE

HAMPSHIRE BIODIVERSITY PARTNERSHIP

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Compiled by Jacklyn Johnston on behalf of the
Hampshire Biodiversity Partnership

# Hampshire Biodiversity Partnership

The Hampshire Biodiversity Partnership was initiated in July 1997 and consists of a range of organisations that have an influence on the conservation of biodiversity. The Partnership aims to establish a detailed program of action and engage everyone with an interest in biodiversity. Our goal is to conserve and enhance biodiversity in Hampshire for all who live in or visit the county. We would like to integrate additional organisations into the Partnership to progress the action set out in this Plan. Current membership includes:

Basingstoke and Deane Borough Council

**Country Landowners Association**

Countryside Commission

**East Hampshire District Council**

**Eastleigh Borough Council**

**English Nature**

**Environment Agency**

**Fareham Borough Council**

Farming and Rural Conservation Agency

Forest Enterprise

Forestry Authority

The Game Conservancy Trust

Gosport Borough Council

Government Office for the South East

Hampshire Association of Parish and Town Councils

**Hampshire County Council**

**Hampshire Wildlife Trust***

Hart District Council

Havant Borough Council

Ministry of Agriculture Fisheries and Food

Ministry of Defence

**National Farmers Union**

**New Forest District Council**

Portsmouth City Council

**Royal Society for the Protection of Birds**

Rushmoor Borough Council

Southampton City Council

Test Valley Borough Council

Winchester City Council

* Some of the work undertaken by the Hampshire Wildlife Trust has been supported by the World Wide Fund for Nature.

Organisations in bold type are members of the Hampshire Biodiversity Partnership Steering Group.

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The following organisations have contributed to the costs of producing this plan:

Hampshire County Council, English Nature, Environment Agency, Royal Society for the Protection of Birds, Hampshire Wildlife Trust, Eastleigh Borough Council, Basingstoke and Deane Borough Council, Rushmoor Borough Council, Gosport Borough Council, New Forest District Council, Havant District Council, National Farmers Union.

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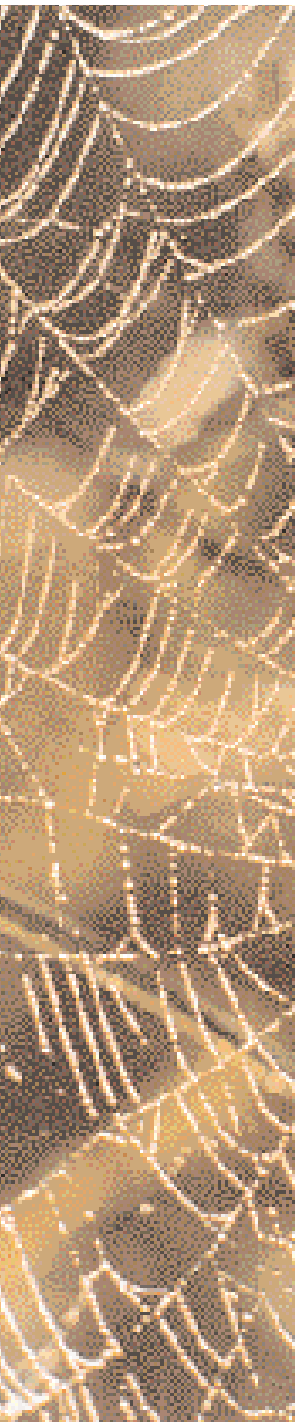
# Foreword



When 150 heads of government signed the Convention on Biological Diversity at Rio de Janeiro in June 1992, they were responding to a world-wide conviction that we must all contribute to an initiative to limit the loss of animal and plant species. Gilbert White, writing at the end of the eighteenth century, had no concept that man's development could threaten the very life systems of the earth, or that mankind could cause major extinctions. *Homo sapiens* now appropriate between 20% and 40% of the solar energy captured in organic material by land plants. The Earth Summit of 1992 marked the moment when this crisis was recognised.

We are now committed to pursuing a policy of sustainable development and the monitoring of biodiversity is an essential element. The UK Biodiversity Action Plan of 1994 proposed national targets which could be used to measure the impact of development and highlight cases where policies are unsustainable. However since then at the national and international level there has been only moderate progress in adopting sustainable policies. Much more progress has been made at the local level.

The **Biodiversity Action Plan for Hampshire** is an impressive example of how national objectives can be translated into effective action at the county level. Without the knowledge and commitment of the organisations within the Hampshire Biodiversity Partnership, there would be little prospect of effective action. There is a great need for a comprehensive statement on objectives and the means of implementation. This Plan provides a framework from which individual agencies and organisations can develop their own actions, partnership projects can be established, and progress can be monitored.

In May 1993 I chaired a seminar organised jointly by the Joint Nature Conservation Committee and the Department of the Environment, at which key issues were identified for the successful production of biodiversity action plans. We recognised then that the key to success would be the active support and participation of as many people and organisations as possible.

Conserving biodiversity is not just about conserving the rare and endangered species, but also about securing biodiversity in our everyday environment. We need to increase awareness of the biodiversity around us and we need to recognise that everyone can play a part. Those of us who are fortunate enough to live in Hampshire now have the opportunity to put into action the proposals in the **Biodiversity Action Plan for Hampshire.**

Selborne

Lord Selborne

# Summary

The **Biodiversity Action Plan for Hampshire** is produced in response to a growing concern for biodiversity in the UK and throughout the world. This has become a particularly important issue since the signing of the Convention on Biological Diversity at the Earth Summit in 1992. As a nation, we pledged to develop a strategy to halt the decline of biodiversity. Part of that strategy is the production of local biodiversity action plans to address the variety of actions required at the local level across the UK.

Local biodiversity action plans differ from previous approaches to nature conservation in two important ways: they are prepared by a wide partnership of individuals and organisations, and they follow a very disciplined approach to auditing and target setting. The plans aim to ensure that national targets are translated into effective action at the local level, and that important local features are also fully included in strategies for action.

The **Hampshire Biodiversity Partnership** has been formed to advance the conservation and enhancement of biodiversity in Hampshire, and preparation of the Biodiversity Action Plan is the first main task. The Plan will provide a strategy for action in two volumes: Volume 1, the strategic framework and main courses of action, and Volume 2, the detailed action required for priority habitats and species in the county.

The Biodiversity Action Plan provides the platform from which the Partnership will take action. Each partner organisation can review their own programmes and approaches to biodiversity against the objectives and targets outlined in the Plan. The Partnership will play a vital role in stimulating and co-ordinating action, monitoring progress and reviewing priorities.

To advance biodiversity conservation in Hampshire, the Partnership has identified the following **objectives:**

- to audit the nature conservation resource of Hampshire
- to identify from the audit habitats and species of priority nature conservation concern, including those which are locally distinct
- to prepare action plans for habitats and species of priority concern and follow through with programmes of implementation and monitoring
- to ensure that data on habitats and species is sufficient to enable effective implementation and monitoring of biodiversity objectives
- to review general issues affecting biodiversity, such as agriculture and development, and chart a course of appropriate action
- to raise awareness and involvement in biodiversity conservation across all sectors
- to encourage individuals and organisations to review their role in biodiversity conservation and the resources required, and develop their own action in response to the Biodiversity Action Plan for Hampshire
- to maintain an ongoing partnership which will co-ordinate, develop and support action for biodiversity
- to monitor and review progress towards meeting the above objectives and the targets set out in the habitat and species action plans
- to periodically update the Biodiversity Action Plan for Hampshire and its component habitat and species action plans to take account of changing circumstances

## The Biodiversity of Hampshire

Hampshire is one of the richest areas for wildlife in England. Nevertheless the county has suffered immense losses during the past 200 years. Many habitats have been lost to built development, or become degraded through changes in agricultural practice and afforestation. There is a pressing need to conserve those areas that remain and enhance or restore other areas of valuable wildlife habitat. The Hampshire Biodiversity Partnership has undertaken an audit of habitats and species to determine their extent and distribution as well as past trends and losses. The audit is an essential component of the Biodiversity Action Plan and enables the identification of priority habitats and species: these will be addressed in detailed action plans for individual habitats and species.

### Habitats

Of the UK's 37 broad habitat types, 23 are found in Hampshire. Within the broad habitat types, 'key' habitats of priority importance have been identified. In Hampshire, 18 key habitats of UK conservation concern are present, and there are an additional 3 habitats of local concern. Detailed habitat action plans will be written for these 21 priority habitats to fully review their current status and set objectives and targets for action.

### Species

The richness of habitats in Hampshire is reflected in the wide range of species found. The UK Biodiversity Programme has identified 1288 species of national conservation concern, and of these, 489 priority species require urgent conservation action. Of the 489 national priority species, 196 are found in Hampshire, and the audit has identified an additional 248 priority species which are particularly important in the local context. Action for most of the priority species in Hampshire will be covered by relevant habitat action plans. Where national species action plans exist, these will be translated into specific action in Hampshire. For those species not covered by national plans or which can not be easily accommodated by a habitat action plan, a specific species action plan will be prepared.

### Geographical Variation

The distribution and location of habitats and species of conservation concern needs to be understood so that action can be targeted appropriately. Variation in the landscape and ecological character of Hampshire has been described in three map-based classifications: Hampshire County Council's Landscape Character Areas and Landscape Types; the Countryside Commission's Character Areas; and English Nature's Natural Areas. Each of these classifications can help to identify biodiversity issues, such as hedgerow loss, which require targeted action across a wide geographical area.

Urban areas have a particular biodiversity character of their own and it is therefore particularly important for the Biodiversity Action Plan to address urban issues. An action plan for urban areas will be prepared along with those for the other key habitats of conservation concern.

## Habitat and Species Action Plans

Detailed habitat action plans for 21 key habitats are in preparation. For the 443 priority species brief statements will be prepared. These will make the link with the relevant action plan (national species action plan, Hampshire habitat plan, or Hampshire species action plan).

Volume 2 of the Biodiversity Action Plan will include all of the Hampshire habitat action plans. It will also identify the relevant action plan that has been, or will be, prepared for each priority species, and include some species action plans. More will be added as they become available.

Habitat and species action plans will have several goals:

- to provide information
- to identify conservation issues
- to establish comprehensive targets for action
- to direct conservation action
- to raise awareness
- to provide a monitoring framework

Each plan will follow a standard format. Some plans will be prepared by working groups and others by a lead partner. Each will undergo wide consultation to ensure that plans are comprehensive, accurate, forward thinking and widely supported. A lead agency will be encouraged to oversee the implementation of plans most relevant to their own area of work.

***ACTION***

- *prepare action plans for 21 habitats*
- *prepare detailed action plans for individual priority species where these are not catered for by a national species action plan or Hampshire habitat action plan*
- *establish working groups or lead partners to prepare and promote the implementation of the plans*
- *identify a lead agency to adopt each habitat and species action plan and take the lead in monitoring, co-ordinating and encouraging action*
- *involve existing fora and projects in delivering action, for example the Farming and Wildlife Advisory Group, Hampshire Woodland Forum and Hampshire Heathland Project*
- *establish partnership projects and initiatives to help implement action*
- *encourage individual partners to identify objectives and action relevant to their own activities and integrate these, with specific targeting and action, into their work programmes*

## Information and Data

The collection of data on habitats and species is fundamental to the development and implementation of the Biodiversity Action Plan and indeed to the whole biodiversity programme. A large amount of data on the biodiversity of Hampshire is already held on the Hampshire Biological Record at Hampshire County Council. However, there is still a lot of information to be obtained and a need to co-ordinate current data.

The UK Biodiversity Steering Group recommends the development of local biological record centres to serve local needs and contribute information at the national level. The existing Hampshire Biological Record could be developed into a Hampshire Biological Record Centre as part of the National Biodiversity Network. This would capitalise on data and information systems already available and ensure the full complement of services required to support the Hampshire Biodiversity Partnership and the biodiversity programme.

***ACTION***

- *continue to undertake detailed habitat survey of Hampshire in support of biodiversity conservation, using the Hampshire Habitat Survey Project*
- *encourage, support and co-ordinate a voluntary network of recorders to assist in providing data on biodiversity*
- *encourage the centralisation of data on habitats and species into the Hampshire Biological Record and use this database for monitoring progress in biodiversity action*
- *progress the development of a Hampshire Biological Record Centre to service the Hampshire Biodiversity Partnership and individual partners, and contribute to the National Biodiversity Network*
- *establish a programme to monitor land-use and habitat change using the digitised habitat and land-use mapping of the county as a baseline.*

## General Issues Affecting Biodiversity

The conservation of biodiversity is not only dependent on direct action for habitats and species. There are many wider issues that have a great influence on the welfare of wild plants and animals. Two of the key issues in Hampshire are agriculture and development: farming plays a pivotal role in determining the biodiversity of the countryside, and development has caused extensive loss of wildlife habitat during the past 50 years.

Other issues affecting biodiversity include forestry, coastal management, recreation and tourism, water management, energy, transport, air quality and climate change. For these topics there are many different levels of action required and many different vehicles for pursuing action. The Hampshire Biodiversity Partnership will support existing initiatives and encourage and support individual organisations in the formulation of their action for biodiversity. Where appropriate, the Partnership will establish topic groups to address certain issues.

***ACTION***

- *encourage organisations and individuals with a particular responsibility for land-use and land management activities such as agriculture, development, forestry and water resources, to establish their own specific objectives and action for biodiversity, taking particular account of targets and action outlined in habitat and species action plans*
- *establish groups where appropriate to review issues influencing biodiversity and prepare plans of action*
- *develop action for biodiversity through appropriate land-use fora such as SERPLAN and the Solent Forum*
- *take full account of biodiversity objectives within land-use plans and strategies such as the Hampshire County Structure Plan, local plans and Local Environment Agency Plans*
- *influence local and regional policy and national guidance, policy and legislation to support biodiversity objectives in Hampshire*

## Awareness and Involvement

One of the central aims of the Biodiversity Action Plan is to increase understanding and support for biodiversity throughout the county. This will involve many sectors of society and people in all walks of life. Messages on biodiversity need to reach everyone and focus on the benefit of biodiversity conservation to us all.

Communication and action will have to be relevant to individual sectors. Their involvement, the support provided to them, and the action requested of them needs to be sensitive to their particular concerns. An action plan will be prepared to specifically address awareness and involvement. A working group from the Hampshire Biodiversity Partnership will formulate a marketing strategy to get the key messages of biodiversity across. Successful implementation of the Biodiversity Action Plan will depend on widespread understanding.

***ACTION***

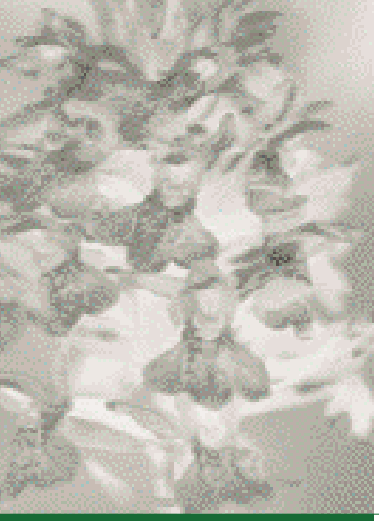
- *establish a working group to prepare an action plan to address awareness and involvement in biodiversity conservation*
- *ensure that information on biodiversity and how to get involved in conserving biodiversity is readily available to the public. Local authorities and voluntary conservation organisations in particular can promote awareness and provide opportunities for involvement through mechanisms such as grant-aid for community projects and the management of nature reserves*
- *promote the Biodiversity Action Plan for Hampshire and publicise the main objectives and programme of action*
- *develop a strategy for marketing biodiversity which targets key sectors such as farmers, business and industry, all levels of government, the public, land managers and education*
- *encourage and support organisations in developing their corporate awareness and commitment to biodiversity, for example within all departments of local government*
- *ensure that biodiversity is a central component of Local Agenda 21 programmes and that Agenda 21 is a vehicle for promoting awareness and involvement*
- *support the integration of biodiversity conservation into formal education*

## The Way Forward

The Hampshire Biodiversity Partnership has a long-term vision for the biodiversity programme which stretches well into the next Millennium. The Biodiversity Action Plan marks the beginning of a co-ordinated programme of projects, initiatives, and other courses of action: some can be progressed immediately, others will evolve over time. Each individual and organisation concerned with the conservation of Hampshire's biodiversity has a fundamental role in ensuring the success of the objectives of the Plan.

***ACTION***

- *develop and maintain a long-term Partnership to progress the conservation and enhancement of biodiversity in Hampshire through developing initiatives, exchanging information, encouraging action and monitoring and reviewing progress. This work will be assisted by the Biodiversity Action Plan Steering Group.*
- *encourage individual partners to review their own action, to help meet the objectives and targets set out in the Biodiversity Action Plan and associated habitat and species action plans*
- *monitor the development of the UK Biodiversity Programme and other policies and initiatives at the national and international level, for integration into the Biodiversity Action Plan for Hampshire*
- *review and update the Biodiversity Action Plan, including the habitat and species action plans, every five years*



chapter 1

# Biodiversity

*Biodiversity - the variety of life on earth - is being lost at an alarming rate throughout the world. The Government has established a programme for conserving biodiversity in the UK. A key element is the preparation of local biodiversity action plans.*

## What is Biodiversity? Why does it Matter?

Biodiversity includes all species of plants and animals, their habitats, and the complex ecosystems that sustain them. Biodiversity includes all living things - from sparrows on city streets to rare creatures found in remote places.

Plants and animals are essential to our lives. It is our responsibility and in our self-interest to look after biodiversity now and for future generations. There are many compelling reasons for doing this: some are moral, others are aesthetic or economic. Biodiversity provides food, medicines, water, and even the oxygen in the air that we breathe.

### *REASONS FOR CONSERVING BIODIVERSITY*

***Biodiversity supports life itself -*** *Most species have a precise role to play in the Earth's well-being. Many plants and animals are dependent upon each other in a complex web of life, with each species relying on others for survival.*

***Biodiversity provides essential goods -*** *Plants and animals provide food, medicines, clothing and some of the raw materials for building and industry. It is vital to conserve biodiversity to maintain a wide range of species for future use.*

**Biodiversity helps to maintain the environment -** *Natural processes assist with flood control, prevent soil erosion, help to filter waste water, clean pollutants from the air, and mitigate noise and the visual intrusion of development. Biodiversity also acts as an indicator of the health of the environment and is a key test of sustainability.*

***Biodiversity has aesthetic and spiritual value -*** *People benefit greatly from contact with the natural world. Quality of life is intimately linked with the health of the environment. Many people value the very existence of species and habitats even if they have no direct contact with them.*

***Biodiversity is valuable for recreation -*** *Many people enjoy recreation in the countryside and urban nature areas. Attractive landscapes and wildlife are a focus for tourism and very valuable to local economies.*

*2. Silver-washed fritillary*

The loss of biodiversity is important to everyone. During the past 50 years, there has been an unprecedented rate of loss of wild plants and animals across the UK. More than 100 species are thought to have become extinct here in this century. If the pollution of the air, land and sea, and the destruction of habitats continues, people are ultimately the losers. Action to reverse the current trends is needed now. As individuals or organisations, everyone can assist with the conservation of biodiversity.

### The Global Challenge

The Convention on Biological Diversity was signed at the Earth Summit in Rio de Janeiro in 1992. The United Kingdom was one of 150 countries that pledged to develop a national strategy for 'the conservation and sustainable use of biological diversity'. The Convention signalled global concern that habitats and natural ecosystems were being lost at an alarming rate. Each country recognised that it had a responsibility to halt the decline of biodiversity within its boundaries.

### UK Strategy

The UK Government was one of the first signatories to the Convention to produce a biodiversity strategy and action plan in January 1994 - *Biodiversity: The UK Action Plan*[1]. The report outlines the broad strategy for conserving and enhancing biodiversity in the UK for a 20 year period.

Although the Plan set broad goals and objectives, it was recognised that implementation would require detailed targets. The UK Biodiversity Steering Group was established with the task of preparing a detailed programme of action. This group had a wide membership including representatives from national agencies such as English Nature and the Environment Agency, local government, farming and land management, voluntary conservation bodies and industry.

*Biodiversity: The UK Steering Group Report*[2], published in two volumes in December 1995 and endorsed by the Government in May 1996, advocates four key elements to achieve biodiversity objectives:

- development of action plans with costed targets for key species and habitats
- improving the handling of information and data
- raising awareness and involvement
- the production of Local Biodiversity Action Plans

Each of these topic areas is now being addressed under the UK Biodiversity Programme. Central to this is the preparation of national action plans for habitats and species of particular conservation concern: 38 habitat action plans and over 400 species action plans will be produced during the next few years. Many have already been written. The plans will have clear objectives and quantified and costed targets, enabling progress to be monitored in the long-term. This is a new and much more disciplined approach to nature conservation in the UK.

The UK Biodiversity Programme is being steered by the UK Biodiversity Group which has replaced the former UK Steering Group. The various elements of the Programme are being overseen by a range of sub-groups. Also reporting to the UK Biodiversity Group are groups for England, Wales, Scotland and Northern Ireland which help provide information and support biodiversity action within each area.

*4. Ancient woodland*

chapter 1

### Local Biodiversity Action Plans

The Government has taken a lead in setting the approach for biodiversity conservation. But to succeed, action needs to be taken at all levels and in all sectors of the community. One of the essential means of achieving national objectives for biodiversity is through the preparation of Local Biodiversity Action Plans. *Biodiversity: The UK Steering Group Report* has clearly advocated the preparation of Local Biodiversity Action Plans and sees them as a fundamental contribution to Local Agenda 21 programmes. Local Biodiversity Action Plans have two broad functions:

- to ensure that national action plans are translated into effective action at the local level
- to establish targets and action for species and habitats characteristic of each local area

Local Biodiversity Action Plans differ from previous approaches to nature conservation in two important ways: they are prepared by a wide partnership of interested individuals and organisations, and they follow a very disciplined approach to auditing and target setting. The Plans form the framework from which individual members of biodiversity partnerships can develop strategies for delivering relevant parts of the Plan.

*FUNCTIONS OF LOCAL BIODIVERSITY ACTION PLANS*

*To* ***ensure that national targets for species and habitats,*** *as specified in the UK Action Plan,* ***are translated into effective action at the local level.*** *National priority species and habitats occurring in the local area must be identified; targets should be linked to national priorities.*

*To* ***identify targets for species and habitats appropriate to the local area, and reflect the values of people locally.*** *Local Biodiversity Action Plans can highlight important local features and provide an opportunity for people to express their views about what is important in their area.*

*To* ***develop effective local partnerships*** *to ensure that programmes for biodiversity conservation are maintained in the long term. The Local Biodiversity Action Plan must be built by consensus. The Plan should be owned by all parties that have a key role in delivering action.*

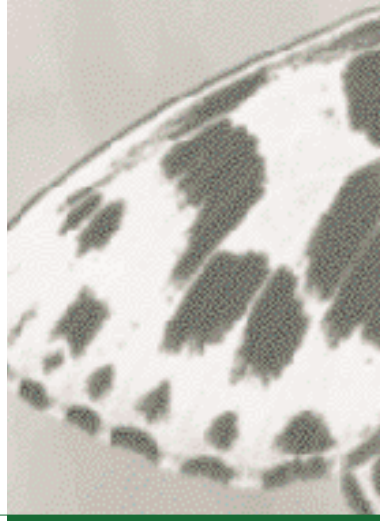
*To* ***raise awareness of the need for biodiversity conservation*** *in the local context. Increasing public awareness and involvement in biodiversity conservation is crucial for success.*

*To* ***ensure that opportunities for conservation and enhancement of the whole biodiversity resource are fully considered.*** *Plans need to consider appropriate action for different localities within the plan area. Opportunities for habitat enhancement and restoration should be pursued in addition to conservation of the existing resource.*

*To* ***identify the resources available*** *for implementing the objectives of the Plan.*

*To* ***provide a basis for monitoring progress*** *in biodiversity conservation, at both local and national level. A periodic review of whether targets have been achieved will assess the effectiveness of the plan and contribute to national monitoring.*

*(adapted from: Guidance for Local Biodiversity Action Plans: An Introduction)*[3]



chapter 2

# A Biodiversity Action Plan for Hampshire

*The Hampshire Biodiversity Partnership is co-ordinating action for biodiversity in Hampshire and has formulated a comprehensive strategy. The Biodiversity Action Plan will stimulate a growing web of conservation action and each partner will have a particular role to play.*

The Hampshire Biodiversity Partnership has been established to advance biodiversity conservation and enhancement in Hampshire. One of the first functions of the Partnership has been to prepare this Biodiversity Action Plan. The Plan will provide a focus for everyone involved and guide action on conservation for the coming years. This will mark the beginning of a process of implementation which will continue well into the next Millennium.

The Partnership embraces a wide range of organisations - local authorities, statutory conservation agencies, voluntary bodies, representatives of landowners and others - all working together with the common goal of conserving Hampshire's biodiversity. The Partnership will undoubtedly expand as the process of conserving biodiversity progresses. Additional partners from many sectors of society will be particularly valuable as each can bring their own skills to formulating and implementing the Plan.

### The Biodiversity Action Plan

The Plan consists of two parts. Volume 1 sets out the overall strategy for biodiversity action and the key objectives. Volume 1 also:

- explains the audit of habitats and species undertaken in Hampshire
- outlines how the Partnership has selected habitats and species of priority concern
- reviews geographical variation in biodiversity
- identifies data needs
- summarises the main issues influencing biodiversity
- examines the raising of awareness and involvement in biodiversity conservation

Detailed action plans will be prepared for habitats and species of priority concern.

Volume 2 will contain action plans for priority habitats and will identify the action plans that have been, or will be, prepared for priority species. Some species action plans will be included at the outset, others will be added as they become available. Together, the overall strategy of action in

*5. Otter*

chapter 2

Volume 1 plus the detailed action plans for habitats and species, will provide a programme for biodiversity conservation in Hampshire. This will be reviewed and updated every five years.

### The Process

The Biodiversity Action Plan provides the platform from which the Partnership will take action. It will also enable each organisation to develop their own ideas and approaches to biodiversity, or come together collectively to implement joint projects and address strategic issues. There will also be opportunities to implement action for biodiversity by building on existing initiatives.

Action stemming from the Plan will be very varied. Within the habitat and species plans, recommended action will cover aspects such as site protection, habitat management and restoration, data needs and policy matters. From the strategic action points set out in this document, detailed programmes of action will be developed, for example to deal with data needs or the raising of awareness and involvement in biodiversity conservation. Within each subject there will be a variety of mechanisms at many levels for delivering objectives. To assist implementation of the plan, lead agencies will be identified to co-ordinate action.

### Roles and Contributions

Implementation of the action will include a wide range of functions such as land-use planning, provision of grant-aid and land management. Each partner will have a particular role to play: for example, planning is the remit of local authorities; giving grants and incentives is one of the functions of the Ministry of Agriculture Fisheries and Food; land management is a primary responsibility of farmers; and community action can be fostered by bodies such as the Hampshire Wildlife Trust and parish councils.

*6. Barn owl*

*7. Cowslip*

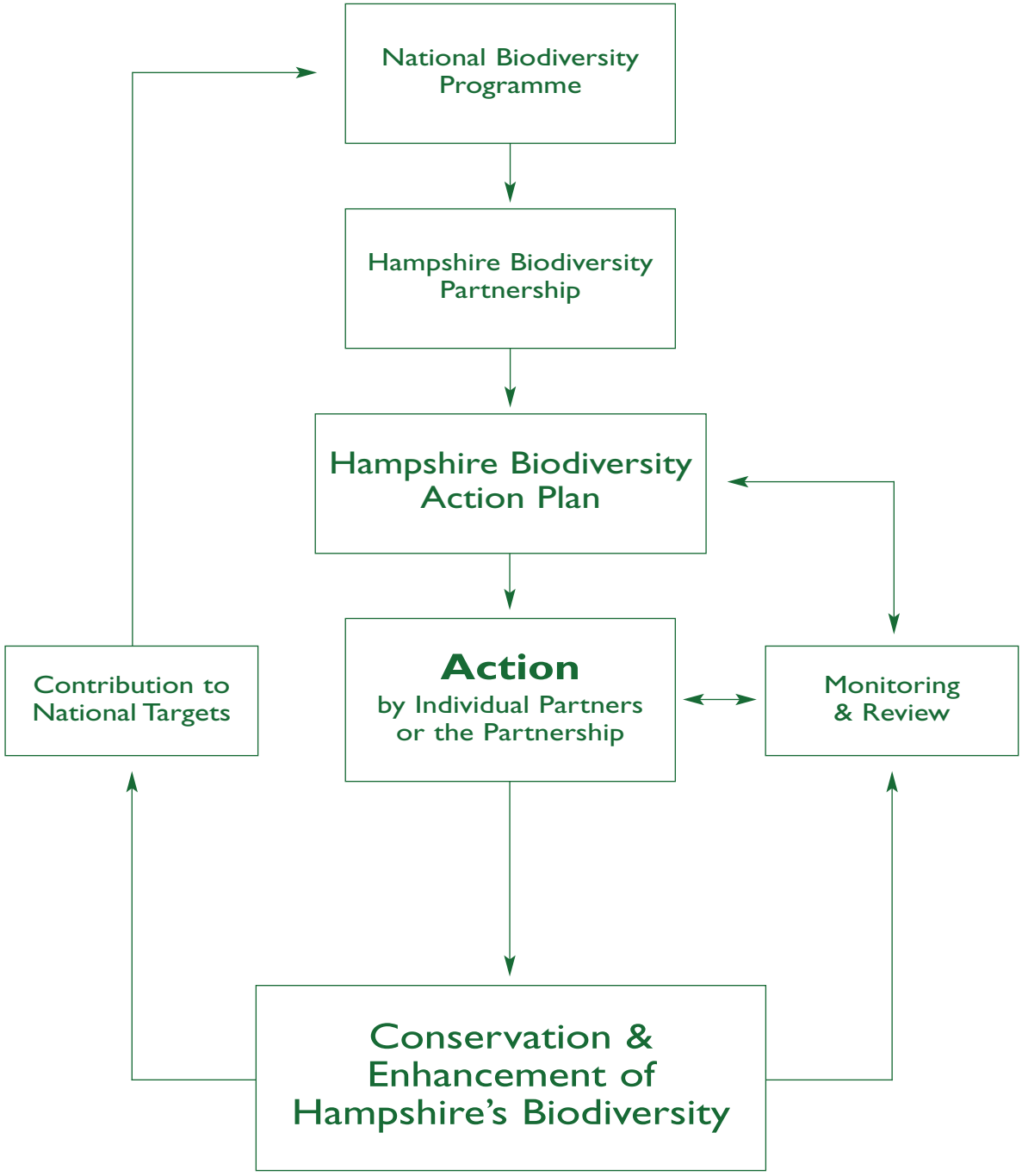
The Plan will stimulate a growing web of action. Success will largely rest on the commitment and enthusiasm of individual partners. However, the Partnership will play a vital role in stimulating and co-ordinating action. Through effective networking and information exchange, the Partnership will help to minimize duplication and instead build co-operation so that best use is made of the expertise and resources available. The Partnership will also undertake the fundamental role of monitoring progress and reviewing priorities.

### What's New?

Much is already being done for biodiversity conservation in Hampshire. There is a great range of existing projects and initiatives and a variety of mechanisms. Nevertheless, the Biodiversity Action Plan process brings a new discipline to this work. It provides the opportunity to review current activities, identify priorities and set specific targets. It also provides a clear framework for reviewing and monitoring progress. Each organisation can analyse its own programme of work against the agreed priorities of the Hampshire Biodiversity Partnership, and the national targets laid down in the UK Biodiversity Action Plan.

Although organisations with an interest in biodiversity conservation have worked together before, the scale of the Hampshire Partnership is unique. Partners from a diverse spectrum of organisations and agencies have agreed to joint responsibility. This is the first time that there has been such a co-ordinated approach to biodiversity both nationally and in the county. This should translate into an unprecedented degree and range of action for biodiversity.

## PREPARATION AND IMPLEMENTATION OF THE PLAN



### Links with Other Plans

The UK Biodiversity Action Plan sets the priorities for all other biodiversity plans in Britain. In some areas, regional plans are being formulated to fit into the hierarchy between national and local programmes. The South-east Regional Biodiversity Audit, essentially an audit of the habitats and species of conservation concern within the region, will assist counties in matching their priorities with each other, and with those in the national guidance. In turn, the Biodiversity Action Plan for Hampshire will guide any further plans in the county, for example at district level or within organisations.

A range of other plans and processes will help to deliver biodiversity objectives. Objectives and targets should be included in Local Agenda 21 programmes, structure and local development plans, transport plans and many others. There are many plans and strategies in existence or in preparation which address biodiversity issues: for example Local Environment Agency Plans, coastal management plans and management plans for specific areas such as the New Forest Special Area of Concern.

Each of these have a distinct role and are contributing to biodiversity conservation within Hampshire. The biodiversity programme relies on a network of such plans. In turn, the Biodiversity Action Plan will help to identify the need for further plans, help guide them, and support the review of existing plans.

The habitat and species action plans will identify relevant current action and existing plans and put these in the context of the overall action required. Individual organisations and agencies such as the Environment Agency, district councils, Ministry of Defence and Forestry Authority will be encouraged and supported in the preparation of biodiversity action plans to cover their own areas of activity. In many cases, individuals responsible for the management of land may find it useful to prepare a plan which relates specifically to their own landholding, and which forms part of their overall business plan.

*8. Sword-leaved helleborine*

***STRATEGY FOR ACTION ON BIODIVERSITY***

*The Hampshire Biodiversity Partnership has identified the following broad objectives:*

- *to audit the nature conservation resource of Hampshire (chapter 3)*
- *to identify from the audit habitats and species of priority nature conservation concern, including those which are locally distinct (chapter 3)*
- *to prepare action plans for habitats and species of priority conservation concern and follow through with programmes of implementation and monitoring (chapter 4)*
- *to ensure that data on habitats and species in Hampshire is sufficient to enable effective implementation and monitoring of biodiversity objectives (chapter 5)*
- *to review general issues affecting biodiversity, such as agriculture and development, and chart a course of appropriate action (chapter 6)*
- *to raise awareness and involvement in biodiversity conservation across all sectors (chapter 7)*
- *to encourage individuals and organisations to review their role in biodiversity conservation and the resources required, and develop their own action in response to the Biodiversity Action Plan for Hampshire (chapter 8)*
- *to maintain an ongoing partnership which will co-ordinate, develop and support action for biodiversity (chapter 8)*
- *to monitor and review progress towards meeting the above objectives and the targets set out in the habitat and species action plans (chapter 8)*
- *to periodically update the Biodiversity Action Plan for Hampshire and its component habitat and species action plans to take account of changing circumstances (chapter 8)*

chapter 3

# The Biodiversity of Hampshire

*Hampshire is exceptionally rich in wildlife and diverse landscapes. But many habitats have been lost or damaged, and there is a pressing need to conserve and enhance those which remain. The audit has enabled the identification of habitats and species of priority concern.*

Hampshire is one of the richest areas for wildlife in England. The county contains a landscape of remarkable contrasts and a diversity of habitats unparalleled in other parts of south-east England. Although Hampshire is largely a rural county, there are also large urban areas. The Biodiversity Action Plan aims to conserve all aspects of the county's biodiversity: it is just as critical to keep the commonplace common, as keeping the rare from extinction.

An audit is an essential first step to identifying the quality and range of habitats and species in the county. This has been carried out by the Partnership and has enabled the identification of habitats and species of national concern and Hampshire concern requiring priority attention. The audit has identified the extent, quality and distribution of wildlife habitats as well as past trends and losses.

## HABITATS

### Diversity and Importance

Hampshire's mosaic of habitats includes ancient woods, wildflower meadows, heathlands, chalk downland, river valleys, coastal habitats, and the New Forest - the greatest area of 'semi-wilderness' left in lowland England. Together these habitats support an exceptionally varied flora and fauna.

Sites of Special Scientific Interest (SSSIs) are designated to protect examples of Britain's most valuable wildlife habitats. In Hampshire, SSSIs cover 48,000 ha - some 13% of the land area. This is about twice the national average of 6.8%. Many of the SSSIs have been recognised for their international importance too: 41,700 ha (about 11 % of Hampshire) have been designated (or are proposed) as Special Areas of Conservation (SACs) or Special Protection Areas (SPAs) under EC Directives, and/or as Ramsar Sites under the Convention on Wetlands of International Importance.

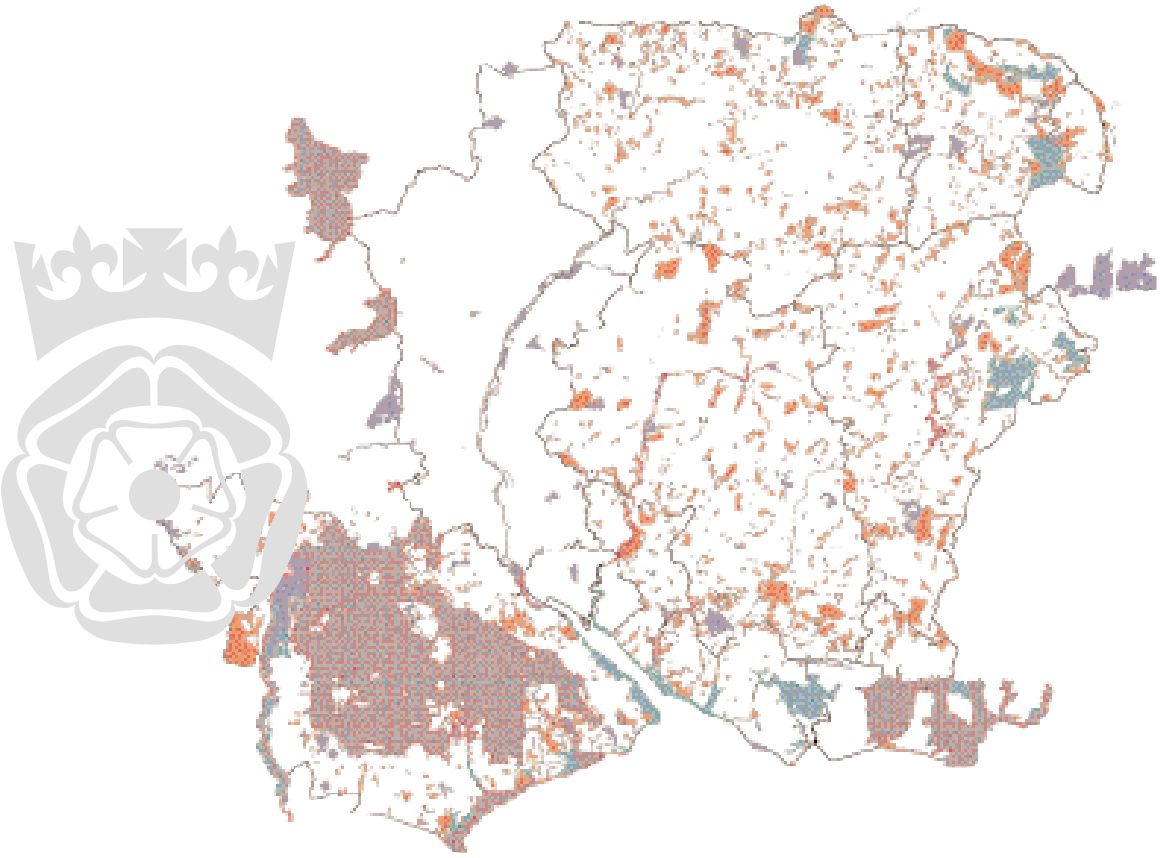
But this is only part of the picture. Statutorily designated sites protect only some of the best examples of Hampshire's habitats. Sites of Importance for Nature Conservation (SINCs) are also being identified within Hampshire, jointly by Hampshire County Council, district councils, English Nature and Hampshire Wildlife Trust. The purpose of these is to help conserve, and direct resources to, additional areas of important wildlife habitat. This network of locally designated sites currently covers a further 6% of Hampshire.

Even outside the specially recognised sites, the rest of the county is exceptionally rich. Scrub, field margins, hedgerows, ponds, mature trees and urban greenspaces all contribute to Hampshire's biodiversity and are of particular value to people in their everyday lives.

*9. The New Forest*

*10. Beacon Hill National Nature Reserve*

# NATURE CONSERVATION DESIGNATIONS IN HAMPSHIRE



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- Candidate Special Areas for Conservation (cSACs)
- Special Protection Areas (SPAs)
- Sites of Special Scientific Interest (SSSIs)
- Sites of Importance for Nature Conservation (SINCs)*
- District Boundaries

*SINCs have not yet been identified for Test Valley Borough Council, Gosport Borough Council, Southampton City Council or Portsmouth City Council

## Designated Nature Conservation Sites in Hampshire

| DESIGNATION | NO. OF SITES | AREA (HA) | % HAMPSHIRE |
|---|---|---|---|
| Candidate Special Areas of Conservation (cSACs) | 7 | 34,400 | 9.0 |
| Special Protection Areas (SPAs) proposed/designated | 10 | 41,124 | 10.8 |
| Ramsar Sites | 6 | 37,250 | 9.8 |
| National Nature Reserves (NNRs) | 10 | 1,500 | 0.4 |
| Local Nature Reserves (LNRs) | 18 | 1.034 | 0.3 |
| Sites of Special Scientific Interest (SSSIs) | 124 | 48,600 | 12.7 |
| Sites of Importance for Nature Conservation (SINCs) | 2285 | 25,909 | 6.8 |

*Note: There is overlap in the area covered by the various designations.*

| A BREAKDOWN OF SSSIs BY HABITAT | NO. OF SSSIs | AREA (HA) | % HAMPSHIRE |
|---|---|---|---|
| Ancient woodland/wood pasture/ other woodland | 28 | 15,300 | 4.0 |
| Unimproved grassland/fen/ New Forest lawns | 32 | 3,100 | 0.8 |
| Calcareous grassland/scrub | 25 | 1,800 | 0.4 |
| Heathland and associated habitat | 16 | 18,600 | 4.9 |
| Coastal habitats | 16 | 8,150 | 2.1 |
| Freshwater habitats | 12 | 680 | 0.2 |
| Geological/geomorphological features | 10 | 230 | 0.1 |

*Note: Many SSSIs have more than one habitat type.*

### Losses and Threats

Despite the richness and extent of valuable habitat in Hampshire, the county has suffered immense losses during the past 200 years. Some habitats have declined drastically in extent and have become very fragmented. Many areas have been lost to built development - houses, industry, roads and marinas - or become degraded through changes in agricultural practice and afforestation. For example:

- 50% of ancient semi-natural woodland has been lost in the past 50 years
- over 90% of heathland has been lost in north-east Hampshire in the past 200 years
- 98% of chalk downland has been lost in the past 150 years

These statistics highlight the pressing need to conserve those areas that remain and enhance or restore other areas of valuable wildlife habitat.

Built development results both in outright loss and in degradation due to secondary impacts such as increased water abstraction, loss of buffer zones and increased pressure from people. Changes in agricultural practice have caused the loss or impoverishment of wildlife habitats through alteration of drainage patterns, spraying with pesticides and herbicides, nutrient enrichment, or removal of farm features such as hedges.

*11. Fragmentation of woodland*

These changes were largely supported and encouraged by successive governments striving to ensure that Britain become more self-sufficient in food production. Afforestation has also resulted in loss or degradation of habitats, particularly heathland and ancient woodland.

The dramatic rate of loss in the past has declined and land-use practices such as agriculture and forestry are now much more sensitive to nature conservation. However, significant pressures remain: for example space must be found for a considerable number of new homes between 2001 and 2011. Many valuable sites are also suffering from lack of appropriate management.

### An Audit of Hampshire's Habitats

At the UK level, the whole land surface and surrounding sea has been divided into 37 broad habitat types. Hampshire contains 23 of the UK's 37 broad habitat types, and together these cover the entire land area within the county. At the UK level, key habitats have also been identified and these are habitats of particular national concern.

Some key habitats match the broad habitat type - for example 'calcareous grassland' is both a broad and key habitat - whereas others are subdivisions of broad habitat types - 'arable farmland' is a broad habitat type and 'arable field margins' is the corresponding key habitat. Within the 37 broad habitat types found in the UK, 38 key habitats of particular UK conservation concern have been identified. Key habitats were selected using one or more of the following criteria:

- habitats for which the UK has international obligations
- habitats at risk, such as those which are rare or have a high rate of recent decline
- habitats which are functionally important for species inhabiting wider environments, for example spawning grounds for fish
- habitats important for species of particular conservation concern

For each key habitat, a UK action plan has been, or will be, prepared under the UK Biodiversity Programme. From the list of 38 key habitats of conservation concern in the UK, 18 occur in Hampshire. An additional 3 habitats have been identified by the Hampshire Biodiversity Partnership as being of local concern within the county: road verges, canals, and urban habitats.

For each of these priority habitats a detailed action plan will be prepared and included in Volume 2 of the Biodiversity Action Plan. The purpose of the 21 habitat action plans is to both reflect UK objectives and targets for habitats of particular conservation concern, and to set appropriate local targets. Action plans will fully review the status and current action for key habitats, and set detailed objectives and targets, identifying particular areas for urgent action.

*BROAD AND KEY HABITATS*

| UK | HAMPSHIRE |
|---|---|
| 37 broad habitat types found in UK | 23 broad habitat types present in Hampshire |
| 38 key habitats of UK conservation concern | 18 key habitats of UK conservation concern present in Hampshire and 3 habitats of local concern |

### Marine Habitats

The national biodiversity programme is reviewing marine broad habitat types and the selection of key marine habitats. The Hampshire Biodiversity Programme will incorporate marine habitats and the preparation of relevant action plans when the national review has been completed.

## Broad Habitat Types in Hampshire

| | AREA (HA) LENGTH (KM) | % HAMPSHIRE |
|---|---|---|
| Broadleaved/yew woodland/scrub | 45,000 | 11.8 |
| Coniferous woodland | 20,000 | 5.2 |
| Lowland pasture woodland/parkland* | 6,000 | 1.6 |
| Hedgerows | 14,995km | - |
| Arable farmland | 141,000 | 36.9 |
| Improved grassland | 65,800 | 17.2 |
| Unimproved neutral grassland/fen | 3,000 | 0.8 |
| Calcareous grassland | 2,800 | 0.7 |
| Floodplain grazing marsh | 2,000 | 0.5 |
| Lowland heath/bog/acid grassland | 16,900 | 4.4 |
| Fen/carr/marsh/swamp/reedbeds | 400 | 0.1 |
| Standing open water | 1,300 | 0.3 |
| Rivers & streams | 540km | - |
| Canals | 28km | - |
| Maritime cliffs | 7km | - |
| Shingle | 250 | 0.1 |
| Saltmarsh | 2,660 | 0.7 |
| Coastal grazing marsh | 750 | 0.2 |
| Sand dunes | 110 | <0.1 |
| Mudflats/eelgrass beds | 4,000 | 1.1 |
| Saline lagoons | 95 | <0.1 |
| Road verges | 10,000km | - |
| Urban | 72,000 | 18.9 |
| **Total area of Hampshire** | **382,000** | |

**much of this habitat area is also included in the 'Broadleaved Woodland' figure*

## Key Habitats of Nature Conservation Concern in Hampshire

| | AREA (HA) LENGTH (KM) | % OF UK HABITAT |
|---|---|---|
| Ancient semi-natural woodland | 16,500 | 5.1 |
| Lowland pasture woodland/parkland | 6,000 | 25.0 |
| Ancient hedgerows | u | u |
| Arable field margins | u | u |
| Unimproved neutral grassland/fen | 3,000 | 20.0 |
| Calcareous grassland | 2,800 | 5.0 |
| Floodplain grazing marsh | 2,000 | u |
| Lowland heath/bog/acid grassland | 16,900 | 28.0 |
| Fen/carr/marsh/swamp/reedbeds | 400 | u |
| Standing open water | 1,300 | u |
| Chalk rivers | 187km | u |
| Canals | 28km | 0.5 |
| Maritime cliffs | 7km | 2.7 |
| Shingle | 250 | 6.0 |
| Saltmarsh | 2,660 | 5.9 |
| Coastal grazing marsh | 750 | u |
| Sand dunes | 110 | 0.2 |
| Mudflats/eelgrass beds | 4,000 | 2.0 |
| Saline lagoons | 95 | 7.3 |
| Road verges | 20km | u |
| Urban | u | u |
| **Total area identified so far** | **56,765** | |

*u = unavailable*

## *BROAD HABITAT TYPES FOUND IN HAMPSHIRE*

The following summaries of the 23 broad habitat types define what the habitat is, its extent in Hampshire and its relative importance in the UK. Main factors affecting the status of each habitat are also given. Fuller details of distribution and extent, factors affecting the habitat, and the broad conservation direction required will be given in Volume 2.

### Broadleaved/Yew Woodland/Scrub

Hampshire contains approximately 42,000 ha of broadleaved woodland - about 11% of the county - and a further 3,000 ha of scrub. About half of this woodland is ancient and has been in existence since the Middle Ages.

Ancient semi-natural woodlands - those with stands of native trees not obviously planted - are particularly rich and diverse in wild plants and animals. A characteristic feature of many of these woods is spring carpets of bluebells - a feature which is quite particular to Britain.

Although Hampshire is of national importance for this habitat, holding about 5% of the UK resource of ancient semi-natural woodland, 50% has been lost to agriculture, mineral extraction, urbanisation and plantations in the past 50 years. Today the major threat is lack of traditional management practices such as coppicing.

*12. Pasture woodland*

*13. Coniferous woodland*

*14. Broadleaved woodland*

### Coniferous Woodland

Coniferous woodland accounts for about 20,000 ha or 30% of Hampshire's woodland resource. Almost half of this type of woodland occurs within ancient woodlands. Other major complexes include large plantations over former heathland.

Conifer plantations on chalk are generally biologically impoverished, although the rides, glades and woodland edges often support an interesting downland flora and fauna. Plantations over heathland, however, can retain valuable relic heathland communities, although this is generally more by luck than design. Some of these areas are of international importance for their populations of bird species such as nightjar and woodlark.

### Lowland Pasture Woodland/Parkland

Pasture woodlands are landscapes composed of a mosaic of extensively grazed, or once grazed, wooded and open habitat. Hampshire is of national importance for this habitat because of the large amount of pasture woodland located in the New Forest. Medieval deer parks also contain important vestiges of wood pasture in more open communities of pasture and ancient pollard trees. Although there is some 600 ha of relic pasture woodland and parkland recorded in Hampshire, the total amount in the county is unknown as it often occurs as unmanaged ancient woodland, wooded common, or as scattered trees in farmland.

Pasture woodlands such as those in the New Forest contain very old trees with tree-hole nesting birds and bats, lichens, fungi and deadwood invertebrates. This rich assemblage of species can be of international importance and is one of the reasons for recommending the New Forest as a Special Area of Conservation.

Major threats to this habitat are cessation of grazing and removal of dead wood and old trees. In many areas there is also a large 'generation gap' between the very old and young trees which leads to loss of habitat continuity, usually caused by overgrazing in the past.

*15. Hedgerow*

### Hedgerows

Hedgerows are linear features composed of woody species, sometimes raised on grassy banks. Hampshire retains a traditional patchwork of small fields, woods and hedgerows, particularly in the north and south of the county. Winding parish boundaries and ancient lanes are often defined by hedgerows, many in existence since medieval times. Hedgerows are very important ecologically, resembling woodland edge and scrub habitats. Ancient hedgerows possess a particularly rich variety of trees, shrubs and ground flora, and in some landscapes, hedgerows are one of the few refuges left for wildlife.

Factors affecting this habitat include destruction, lack of management and mismanagement. Continued agricultural intensification to create bigger fields, urban expansion, new roads and other development all contribute to hedgerow destruction, although in recent years net loss has slowed considerably. Lack of management leads to overgrown, gappy hedgerows which are less valuable to wildlife. Some hedges are poorly managed and cut at the wrong time of the year, cut too short, or cut too frequently. All of these factors reduce the value of hedgerows for biodiversity.

*16. Improved grassland*

### Arable Farmland

Arable land is either that which is under cultivation, or temporary grassland of less than five years. Approximately 37% or 141,000 ha of farmland in Hampshire is arable: just below the national average of 41%. The county provides about 3% of the total UK resource. It is Hampshire's largest single type of land-use.

Despite the effects of agricultural intensification, Hampshire still possesses what is probably the richest and most diverse arable weed flora of any county in Britain. Nevertheless, much of the wildlife interest is confined to field margins where herbicides and competition from the crop can be avoided.

A large number of insects spend part of their life cycle in cereal fields and they are a source of food for many birds and mammals including grey partridge, skylark, lapwing and corn bunting. The use of herbicides and insecticides has led to a decline in many of these species.

*17. Arable farmland*

### Improved Grassland

Improved grassland is intensively managed, species-poor, and dominated by a few species of grass. There are about 66,000 ha of this habitat in Hampshire, 90% of the county's grassland. This represents 31% of all farmland or 17% of the county land area.

Improved grassland is sown for agriculture or amenity, or created by modification of unimproved grassland by fertilisers and selective herbicides. Biodiversity is low. Few plants other than competitive grasses survive, and there is also a very impoverished fauna. The change over the past two decades from hay to silage has further degraded this habitat. These grasslands may support a range of ground nesting birds such as lapwing and skylark if machinery is used infrequently and stocking densities are low.

### Unimproved Neutral Grassland/Fen

Unimproved neutral grasslands vary in their pH and wetness and include marshy 'fen' meadows associated with river floodplains, peaty 'fen' meadows associated with springs and flushes, wet and dry loamy/sandy meadows, and clay meadows. Surveys in the 1980s show about 3,000 ha of these meadows in Hampshire. The total UK resource is now thought to be less than 15,000 ha.

In Hampshire many of these areas comprise a mixture of wet and dry grassland. They are often associated with the flushes, streams and ditches of water meadows and many are SSSIs. Most are managed as grazed pasture, with few still managed as traditional hay meadows.

Herb-rich meadows are particularly important due to a high proportion of herbaceous plants, including many now regarded as nationally uncommon: green-winged orchid, marsh helleborine and flat-sedge. Across the UK, 97% of this habitat has been lost between 1930 and 1984, making it one of the most endangered in Britain today.

These grasslands contain an exceptional diversity of plant species, many now scarce in Britain. Many butterflies such as the adonis blue, duke of Burgundy and chalk hill blue are also in serious decline due to the small, fragmented nature of the remaining areas of chalk grassland.

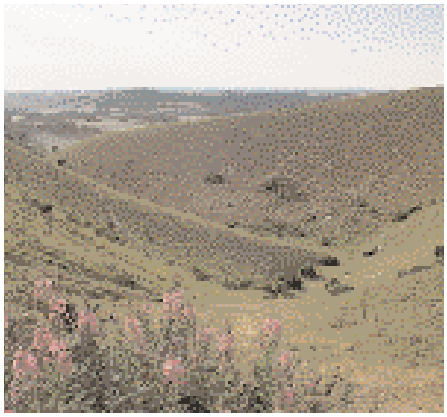
Major threats to this habitat include lack of management, overgrazing, and agricultural improvements through application of fertilisers and herbicides.

### Floodplain Grazing Marsh

Floodplain grazing marsh is grassland which is periodically inundated. The grassland itself is generally improved, but ditches can be rich in plants and invertebrates. Most sites are grazed, although some are cut for hay or silage. Species-rich fen meadows found in the floodplain are included in the unimproved neutral grassland/fen habitat type above.

Grazing marsh is very important for breeding waders such as snipe, lapwing and curlew, and internationally important for populations of wintering wildfowl such as Bewick's and whooper swans.

*18. Unimproved neutral grassland*



*19. Calcareous grassland - Butser Hill*

*20. Floodplain grazing marsh - Itchen Valley*

### Calcareous Grassland

Calcareous grassland is species-rich and occurs on chalk or limestone. This habitat in Hampshire is very fragmented and mostly confined to the steep slopes of the central downs and the chalk escarpment in the north. Less than 2,800 ha - 5% of the UK resource - now remains. Nationally, an overwhelming 95% of this rich habitat has been lost during the past 50 years.

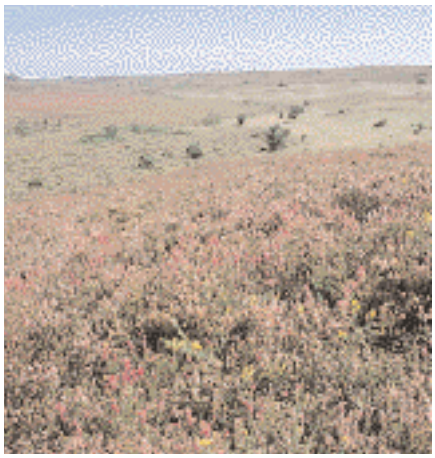
The main threats to this habitat include agricultural intensification and associated drainage, inappropriate ditch management, ground water abstraction, encroaching development and climate change which is causing increased evaporation and lower rainfall.

### Lowland Heath/Bog/Acid Grassland

Lowland heathland is characterised by open expanses of heather, gorse and cross-leaved heath on acidic soils, and generally found below 300m. Hampshire's lowland heaths are of international importance. The county contains 16,000 to 17,000 ha - about 13% of the heathland left in Europe and 30% of the UK total. Much of the heathland is located in the New Forest, with the rest scattered across the Thames Basin, Western Weald, and a few fragments in south Hampshire.

Hampshire's heathlands are particularly important for birds, insects and spiders. They are also vital habitats for reptiles and amphibians: all 12 British species - including sand lizard, smooth snake and natterjack toad - are found here.

One of the greatest threats facing heathland is lack of management. Fragmentation and disturbance from development also threaten these very valuable areas.



*21. Heathland - The New Forest*

### Fen/Carr/Marsh/Swamp/Reedbeds

Fen, carr, marsh, swamp and reedbeds often occur together and are scattered throughout Hampshire principally along the river valleys and coast.

Species-rich fen tends to be inextricably associated with 'fen-meadows' and dry unimproved grassland, and so is largely included in the broad habitat 'unimproved neutral grassland/fen'. Species-poor fen is often associated with reedbeds and swamp vegetation found along watercourses and around pools of water. It commonly grades into fen-carr dominated by alder and willow.

*22. Reedbed - Titchfield Haven*

A mixture of open fen and carr can support an exceptional range of plants, insects and birds, and at one time the river valleys must have been a continuous mosaic of these habitats. Today they tend to be isolated, separated by improved pasture and arable land. The amount of this resource in Hampshire has been conservatively estimated at 400 ha.

Fens are dynamic ecosystems and require management to maintain their open character, otherwise they develop naturally to scrub and woodland. Generally, the factors affecting these habitats include lack of, or inappropriate, management, and fragmentation and loss caused by water abstraction, drainage, encroaching development, and climate change. Future sea level rise may lead to loss of reedbeds along the coast through coastal 'squeeze'.

### Standing Open Water

Hampshire has a large number of lakes, ponds and gravel pits - as many as 500 lakes (> 0.5 ha) and over 1000 ponds (< 0.5 ha) scattered across the landscape. This resource has declined nationally by an estimated 75% over the past 100 years.

*23. Open water - Alresford Pond*

Virtually all of Hampshire's lakes are man-made and have been created to provide a head of water for mills, fish for a nearby settlement, or as part of the landscape setting of country houses. More recently, lakes have been created in the river valleys of the Avon, Test and Blackwater as a result of gravel extraction. Many are important for overwintering and breeding birds.

The majority of ponds are also man-made. Originally they were created to provide water for a village or for farm livestock, as decoys for wildlife, or as a result of abandoned clay pits. Today they tend to be created for fishing purposes. Only a few ponds result from a naturally high water table, but these tend to disappear during hot, dry summers. Nevertheless, they provide ideal conditions for some rare invertebrate species such as the fairy shrimp.

Neglect, infilling and eutrophication from fertiliser run-off are major causes of decline in standing open water.

The chalk rivers of Hampshire are also important for fish: notable species include brown trout, salmon, bullhead, brook lamprey and sea lamprey. The Avon, Test and Itchen are all notified as SSSIs, and the Avon and Itchen are also candidate Special Areas of Conservation (cSACs) for their floating vegetation of water crowfoot. The Avon is also a candidate SAC because of its fish populations.

Other rivers are important for other groups of animals and plants according to their nutrient status. For example, the more acid rivers of the New Forest and the River Enbourne along the northern county boundary support a much richer dragonfly fauna than the chalk streams. In addition to the chalk rivers mentioned above, the Lymington is also an SSSI.

Current factors affecting rivers and streams in Hampshire include: ground and surface water abstraction; pollution from sewage, fish farms and fertiliser and soil run-off; inappropriate bank management and engineering works; and climate change.

*24. Chalk river - Avon*

*25. Basingstoke canal*

**Rivers and Streams**

Hampshire has some of the finest chalk rivers in Britain: the Test, Avon, Itchen and Meon, and a number of other rivers such as the Lymington, Beaulieu, Loddon, Whitewater, Wey, Rother and Blackwater.

Chalk rivers are particularly important for their assemblages of plant species: the clarity of the water provides the light needed to stimulate luxuriant growth. Beds of river water crowfoot, lesser water parsnip and water starwort are host to a variety of invertebrates such as flatworms, snails, water bugs and beetles and are of national and international importance.

**Canals**

Hampshire once had several canals and river navigations: the Itchen Navigation, the Basingstoke Canal, the Southampton and Salisbury Canal (with a branch to Andover), the Titchfield Canal and the Portsea Island Canal.

The Itchen Navigation was not a true canal but a linked series of 'cuts'. These have been replaced by weirs and the distinctive slow-moving waters typical of canals have been lost. Very little of the Southampton and Salisbury Canal remains except for a small stretch of the Andover section near Romsey.

The 4 km Titchfield Canal, constructed in the 1600s between the sealock at Titchfield Haven and the then 'Port' of Titchfield, was one of the first recorded canals in England. It became redundant within 100 years, but has recently undergone some restoration work. Part of it lies within the Titchfield Haven National Nature Reserve.

The only sizeable canal remaining is the Basingstoke Canal. The 24 km in Hampshire (0.4% of the total UK resource of 6,400 km) has become one of the most important wetland habitats in the UK since it was restored between 1976 and 1991. This is due to the unusual transition from calcareous spring water in the west to more acidic conditions in the east, resulting in an extremely diverse aquatic flora and fauna, including 24 species of dragonfly.

Potential threats to canals include increased recreational pressure, decreasing water levels, pollution and the presence of invasive species.

### Maritime Cliffs

In Hampshire, maritime cliffs are soft and erodable and liable to cliff falls and slumping. They are nationally important for plant and animal fossils and for their invertebrate fauna.

Open unstabilised areas of cliff are particularly important for invertebrates. The main threat to this habitat is coastal defence works: these isolate the cliff faces from the intertidal zone and encourage growth of stabilised slopes with scrub. Whilst erosion at the foot of the cliff is beneficial to biodiversity, it is not so at the cliff top where valuable maritime vegetation needs to be allowed to retreat landwards. The encroachment of urban development and cultivated land towards the sea squeezes and erodes this valuable resource.

### Shingle

Much of the coastline of Hampshire is covered by shingle beaches. This is sometimes mixed with sand or silt, and forms transitions to other habitats such as saltmarsh and grassland. Many shingle spits or beaches are mobile and therefore unvegetated: vegetation will only establish where there is a matrix of finer material such as sand or silt, and the structure is stable. Vegetated shingle is a nationally rare habitat.

Pioneer species on undisturbed shingle in Hampshire include sea kale, the yellow horned poppy and 'little robin' - a nationally rare plant. Important fauna on shingle include breeding colonies of terns and a number of nationally rare invertebrates.

Shingle is mostly threatened by recreational pressure and sea defence works.

### Saltmarsh

The Hampshire coast supports extensive areas of saltmarsh: 2,660 ha or 6% of the UK total. Saltmarsh develops along sheltered coasts and estuaries and represents a transition from mudflats which are completely inundated by tides, to upper saltmarsh which is infrequently inundated. Saltmarsh often grades into freshwater marsh, shingle, heath, scrub and oak woodland. These transitional habitats are particularly valuable for invertebrates.

Over half of the saltmarsh in Hampshire is dominated by the hybrid cord-grass *Spartina anglica*. The cord-grass marshes of the Solent are of international importance as the original site for the introduction and development of this hybrid species now found worldwide. Other saltmarshes in the region are more typical mixed communities which support species such as glasswort, sea aster, sea purslane and a variety of saltmarsh grasses. Nationally important colonies of black-headed gulls and breeding terns are found on areas of saltmarsh, and the majority are notified as SSSIs.

The main threats to saltmarsh include land reclamation for urban, port, transport and industrial infrastructure, coastal defence works, waste disposal and recreational pressures. The biggest threat in future is likely to be sea level rise and consequent coastal squeeze.

*27. Shingle*

*26. Maritime cliffs - Barton on Sea*

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28. Sand dunes - Gunner Point - Hayling Island

29. Mudflats

### Coastal Grazing Marsh

Coastal grazing marsh is low-lying, periodically inundated grassland, with ditches that contain standing brackish water and may grade into saltmarsh. Although most former grazing marsh has been converted to intensive agriculture or urban and industrial use, extensive areas still remain in Hampshire. These are some of the largest remaining areas of this habitat on the south coast. They are of national nature conservation importance because they are species-rich and support internationally important populations of wintering and breeding birds, especially Brent geese.

This habitat grades into other important habitats such as reedbed, freshwater marsh and ancient woodland. The total UK extent is unknown, but it is estimated that there are approximately 750 ha in Hampshire.

Main threats to this habitat include improved drainage and management, pollution from sewage discharge and agricultural run-off, and cessation of grazing. Loss of habitat due to sea level rise will also be a problem if equivalent areas are not created elsewhere.

30. Coastal grazing marsh - Farlington

### Sand Dunes

Sand dunes are windblown sand formations with associated grassland and scrub. There are only two vegetated dune systems in Hampshire, both on the south coast of Hayling Island, amounting to 110 ha. This is a tiny but valuable proportion of the UK total of 47,000 ha.

The sand dune systems are quite varied. One system has a rich fixed-dune flora supporting species such as dune fescue, sand cat's tail and various unusual clovers, alongside mobile sand dunes which also support many species local to Hampshire. The other system consists of a transition from mobile sand dunes and stable shingle ridges through to low-lying wet dune slacks and extensive dune-heath. Here large sandy areas support carpets of heather and lichens, with many nationally rare plants and invertebrates.

The major threat to sand dunes is erosion from trampling: the south Hayling coastline has long been used for leisure and recreation

### Mudflats and Eelgrass Beds

These are areas of subtidal and intertidal soft sediments, consisting of mixtures of mud, sand and gravel. Often they support eelgrass species in extensive beds which help to stabilise the mudflats and allow interesting marine communities to develop. They typically support a rich burrowing fauna of molluscs and worms and provide an important nursery and feeding ground for many fish species. They also provide a valuable food source for internationally important populations of wintering waders, waterfowl and other coastal birds, particularly in the large sheltered harbours and estuaries of the Solent. There are around 4,000 ha of this resource - about 2% of the UK total.

Coastal defence work can interrupt movement of material along the coast and lead to depletion of mudflats. Sea level rises will also reduce the extent of these areas if they cannot retreat landwards. Mudflats are also particularly vulnerable to pollution incidents such as oil spills or sewage discharges.

At least 1,000 ha of mudflats have been lost to development since 1930, reducing the biological capacity of the Solent for fisheries and wildlife. Losses have slowed greatly since the majority of mudflats are now designated as SSSIs, SPAs, Ramsar Sites and candidate SACs.

*31. Saline lagoon - Lymington*

### Saline Lagoons

Saline lagoons are open, shallow, brackish or saline bodies of water which are completely or partially separated from the sea by a beach, spit or seawall. Natural lagoons are very rare: most are modified or created by man but still provide a similar habitat with a comparable range of specialised species. Saline lagoons are considered a priority habitat under the EC Habitats Directive because of their high nature conservation importance .

The Solent area and adjoining harbours have the greatest concentration of saline lagoons in Britain. Some 33 lagoons (95 ha) are found along the Hampshire coastline - 7.3% of the UK total. At least 13 of these are of national or international importance for their communities of specialised plants and invertebrates, including the lagoon shrimp, the starlet sea anemone and the foxtail stonewort.

Saline lagoons are fragile habitats which are susceptible to changes in salinity and pollution yet have only a limited ability to buffer themselves from such changes. They are particularly threatened by any alterations to their retaining barriers such as those brought about by coastal defence works or a rise in sea level.

### Road Verges

Road verges are ribbons of grass and scrub of varying width which may also contain other habitats such as heath and woodland. Hampshire has about 10,000 km of motorway, trunk and minor roads, giving nearly 13,000 ha of road verge - approximately 3% of the county land area.

Road verges form a potentially important and extensive habitat. Many pre-date modern farming and provide an unbroken link with a former, more species-rich countryside. Others are more recent, but with sympathetic management can support a wide range of plants and animals.

Several factors currently affect this habitat: the lack of mowing beyond a one metre strip which results in rank grassland and scrub replacing more important species-rich grassland, road widening, fertiliser run-off and spray drift from adjacent farmland, and the laying of pipes and cables. All contribute to a decline in biodiversity.

### Urban

Urban areas have an important biodiversity character of their own. They contain remnants of countryside and river corridors as well as habitats that have taken hold in industrial landscapes and those created within parks, open spaces and gardens. The largest urban areas in Hampshire are Southampton, Portsmouth, Basingstoke, Andover, Farnborough and Aldershot.

Remnants of former countryside include Southampton Common, a very rich area of grassland most of which is an SSSI, and ancient woodland found within built-up areas. Most urban areas also contain habitats that have developed alongside industrial landscapes such as railway embankments or vacant lots. Other green areas such as urban parks, greenways and nature parks, have been specifically created to provide open space, and each urban area has significant numbers of private gardens too. All of these types of greenspace provide habitats for wildlife and access to nature for thousands of people who live in Hampshire's towns and cities.

Development should be carefully planned to protect and provide urban greenspace. Managers of these areas need to balance the conservation and enhancement of biodiversity and the provision of attractive places for recreation and enjoyment.

*32. Road verge*

*33. Urban habitat - Basingstoke*

chapter 3

# SPECIES

## Diversity and Importance

Hampshire is very rich in a wide range of species. This is due to a number of factors:

- the merging of two climatic zones
- the county's situation on the coast
- the broad extent and stability of a considerable range of habitats
- the New Forest

Hampshire lies at the junction of two climatic zones and is fortunate to have species that are typical of both. Some western or oceanic species reach the eastern edge of their range - for instance western gorse and the marsh fritillary butterfly. Similarly, some eastern or continental species reach the western edge of their range - ground pine, wall bedstraw, and small cord-grass. The county is also the first landing point for some species from continental Europe.

Hampshire has a variety of coastal habitats, including extensive saltmarshes and coastal lagoons, which have their own distinctive wildlife. These habitats support a number of species absent from inland counties.

Compared to the rest of south-east England, Hampshire has a wide range of habitats, and many large areas valuable to wildlife have remained comparatively unchanged for long periods. This stable environment has allowed many species with very specific habitat requirements to persist. For example, species characteristic of old grasslands and ancient woodlands are widespread. Such habitats are increasingly rare in the UK and this makes a very large number of the species they support of international or national conservation concern.

*34. Kingfisher*

The New Forest is a special case. It is the largest expanse of semi-natural habitat in the lowlands of north-west Europe and is extremely rich in fungi, lichens, bryophytes, vascular plants, invertebrates and vertebrates, many of which are found nowhere else in Britain.

## Losses and Threats

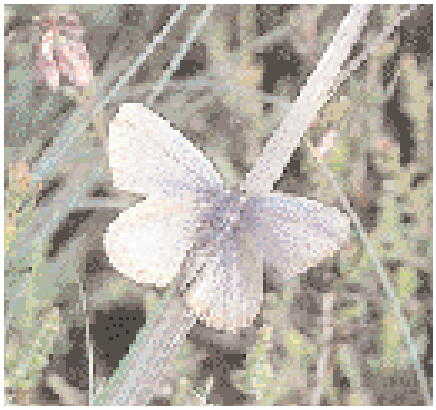
Species can be threatened by a range of factors which can affect individual organisms or their habitat. They can be grouped under the following headings:

- changes in habitat
- pollution
- species effects
- direct human impacts
- genetic effects

Species can be affected by a reduction in the overall extent of their habitat, fragmentation of the habitat, or changes in habitat quality. For example, the marsh fritillary butterfly has been driven close to extinction as traditionally managed damp pastures and meadows have been reduced in extent by development, agricultural improvement and abandonment. These grasslands now often occur in patches too small to support a viable population of the butterfly.

*35. Water vole*

*36. Stone Curlew*



*37. Silver-studded blue*

Some species are particularly sensitive to the direct effects of pollution. Lichens are well known as sensitive indicators of air pollution, and similarly, freshwater molluscs can be used as bio-indicators in aquatic environments.

Some species may be adversely affected by other species, through competition, disease or predation. For example, the native white-clawed crayfish has undergone a very marked decline since the introduction of several species of North American crayfish into Britain's open waters. The American species have been aggressive competitors and carry a fungal disease lethal to the native species.

The populations of some species may be directly reduced by the collecting or hunting activities of people. Several species of orchid and fern have had their populations drastically reduced or even brought close to extinction by enthusiastic collectors in the past. Human disturbance can have similar consequences. Disturbance is a particularly important factor in the reduced breeding success of several species of bird, particularly waders nesting in open habitats such as wet grasslands in river valleys and shingle on the coast.

Some species may also be threatened by changes in their genetic make-up. Though the genetics of wild species are generally poorly understood, issues include the introduction of alien varieties of native species, such as the Spanish bluebell, and the release of genetically modified organisms into the environment.

*38. Man orchid*

**An Audit of Hampshire's Species**

The UK Biodiversity Programme has identified 1288 species of national conservation concern.

***CRITERIA FOR SELECTING SPECIES OF NATIONAL CONSERVATION CONCERN***

- *threatened endemic and other globally threatened species*
- *species where the UK has more than 25% of the world or appropriate biogeographical population*
- *species where numbers or range have declined by more than 25% in the last 25 years*
- *in some instances, where the species is found in fewer than 15 ten-km squares in the UK*
- *species which are listed under international conventions or legislation (e.g. EC Habitats Directive, EC Birds Directive, Bern Convention, Bonn Convention, CITES, Wildlife & Countryside Act 1981)*

Of these, 489 species of particular concern (rapidly declining or globally threatened) have been selected as priority species. National action plans have been or will be prepared for the majority of the priority species. These plans set targets and a broad framework for action, but to be effective they must be translated into local contexts throughout the UK.

The audit in Hampshire follows the national approach by identifying species of concern and priority species within the county. The audit has taken account of all the national species of conservation concern and national priority species which occur in Hampshire, as well as identifying additional species within the county.

*39. Stag beetle*

*40. Grey partidge*

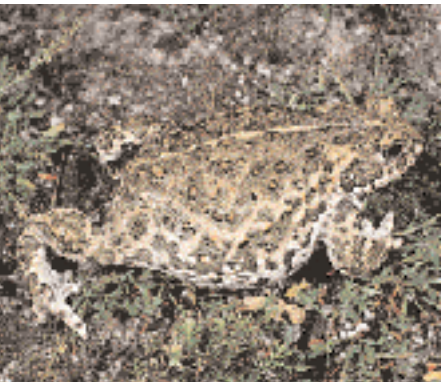
### Species of Concern

Species of concern in Hampshire include all the species of national conservation concern which occur in the county, species identified from *Biodiversity Challenge*[4] (an audit of nationally important species undertaken by a consortium of voluntary organisations) and other species of local concern. These additional species of local concern were nominated by various experts and specialist groups and are generally regarded as rare, declining, threatened or found in significant numbers in the county. In Hampshire, 776 species of concern have been identified.

*41. Wild gladiolis*

*SPECIES OF CONCERN IN HAMPSHIRE*

| | | UK | | HAMPSHIRE | |
|---|---|---|---|---|---|
| **1288 species of national conservation concern** | , | 489 national priority species | , | 196 national priority species | 40% |
| | , | 799 other species of national conservation concern | , | 342 other species of national conservation concern | 43% |
| | | | | 40 Biodiversity Challenge species | |
| | | | | 198 additional species of local concern | |
| | | | , | **776 species of concern in Hampshire** | |



*42. Natterjack toad*

*43. Harvest mouse*

*44. Corn bunting*

## *EXAMPLES OF SPECIES OF NATIONAL CONSERVATION CONCERN OCCURRING IN HAMPSHIRE*

### *Endemic Species*

*There are dozens of species which occur in the UK and nowhere else on Earth. Many are severely threatened and the UK has an international responsibility to ensure that they do not become extinct.*

- *Early gentian - a nationally scarce species of chalk grasslands which occurs in a few scattered populations in Hampshire.*

### *Globally Threatened Species*

*Many species occurring in Britain are threatened with world-wide extinction. Action in Hampshire is an important part of the international effort to maintain these species on Earth.*

- *White-clawed crayfish - declining across Europe and now occurring in only six small populations in the county.*

### *Internationally Important Numbers of Species*

*There are many species in the UK which occur in internationally significant numbers. Where the UK has a large proportion of the world or European population, it is important to safeguard them in Hampshire, even if they may seem common in the county.*

- *Bluebell - the UK has approximately 25% of the world's population of bluebell. Britain's bluebell woods are unparalleled on the continent and Hampshire is particularly well-endowed with these woods.*

### *Rapidly Declining Species*

*Large numbers of species have declined dramatically in numbers or range this century. Some changes may be natural, but most have been brought about by human activities. Many farmland birds which were once common, widespread and familiar, have suffered drastic reductions in the UK.*

- *All of the following bird species are found in Hampshire and have declined by more than 50% in the UK between 1969 and 1994: tree sparrow, grey partridge, corn bunting, turtle dove, bullfinch, spotted flycatcher, song thrush, lapwing, reed bunting, skylark, linnet.*

### *Nationally Rare Species*

*Many species occur at very low population levels in the UK and this puts them at an increased threat of extinction. Some are naturally rare, whereas others have become rare due to human activities. In general, the former require surveillance to ensure that they do not become any rarer, and the latter require conservation measures to prevent their extinction.*

- *Slender cotton grass - confined to moderately acid valley bogs in the New Forest and believed to be extinct in the rest of Hampshire. This plant has always been rare in the UK, but is now particularly threatened by scrub encroachment through lack of grazing.*

### *Legally Protected Species*

*These species are protected under the Wildlife and Countryside Act 1981, the EC Birds Directive, or the EC Habitats Directive. They are given greater legal protection against killing, taking, disturbance, destruction or damage to their habitat than species which are not legally protected.*

- *Great-crested newt - protected under both the Habitats Directive and Wildlife and Countryside Act. It can still be found in many of Hampshire's ponds and lakes.*

chapter 3

*EXAMPLES OF SPECIES OF LOCAL CONCERN IN HAMPSHIRE*

*Rare*

- *Rough horsetail - only ever recorded at two sites in Hampshire, but persisting in both.*

*Declining*

- *Scarce blue-tailed damselfly - declined drastically in the New Forest in the past 10 years, from occurring in 28 to 1 km square.*

*Threatened*

- *Bulbous foxtail - a grass of damp hollows in traditionally managed coastal grazing marshes. Threatened by changes in grassland management, lack of tidal flooding, loss of habitat as sea defences are retreated, and development pressures.*

*Significant Populations*

- *White-letter hairstreak - a little known butterfly which breeds on elm trees. South-east England is a stronghold for the species and Hampshire has a thriving population.*
- *Hampshire purslane - a prostrate willowherb of muddy places and ponds still locally common in the New Forest. This plant is not reliably recorded anywhere else in the UK.*

*45. Noctule bat*

### Priority Species

Priority species are those species of concern which are in most need of conservation action. They include all national priority species which occur in the county - 40% of the national total occur in Hampshire. In addition, other priority species have been selected from the species of concern in Hampshire using information on the following:

- significance of local population in regional and national context
- local decline
- local rarity
- local threat

The full information gathered for each species and the detailed method of selecting priority species is given in Annex 1. In total 444 priority species have been identified, and these are listed in Annex 2.

Several of the priority species identified in Hampshire are extinct in the county or possibly extinct. It is important that the Hampshire Biodiversity Programme takes account of those species once occurring in Hampshire that have disappeared. Where these species persist elsewhere they may return of their own accord if conditions are suitable.

### Action for Priority Species

Conservation action for most priority species can be dealt with through habitat action plans. The majority of species will benefit from positive habitat management and will be well catered for in these action plans. However, there remains a number of species with very special requirements. Species action plans will be needed where one of the following criteria applies:

- the species is so highly threatened, or rapidly declining, that urgent action must be taken to prevent local extinctions
- the species is widespread and found in a range of different habitats and will be very difficult to conserve through general habitat work without specific action
- the species, although restricted to a particular habitat type, has such peculiar ecological requirements that normal habitat management will not cater for it

Relatively few species action plans will be needed in Hampshire. Most species will be catered for in Hampshire habitat action plans or national species action plans.

Brief statements will be prepared for each of the 444 priority species. These statements will make the link with the relevant action plan. For example, where a national species action plan exists, the statement will translate the national plan into specific action and targets for Hampshire.

### Monitoring

A database has been established which includes information on all the 776 species of concern in Hampshire. This will be updated as additional information on the status of species becomes available, and may lead to species being added to, or taken off the priority list. The database will also keep track of relevant conservation projects and current action on each species.

*PRIORITY SPECIES IN HAMPSHIRE*

| | Species of concern in Hampshire | **Priority species in Hampshire** |
|---|---|---|
| National priority species | 196 | **196** |
| Other species of national conservation concern | 342 | **124** |
| Biodiversity Challenge species | 40 | **10** |
| Additional species of local concern | 198 | **114** |
| **Total** | 776 | **444** |

| | Species of concern in Hampshire | **Priority species in Hampshire** |
|---|---|---|
| Algae | 3 | **3** |
| Lichens | 31 | **15** |
| Fungi | 16 | **14** |
| Mosses & Liverworts | 26 | **14** |
| Ferns | 11 | **5** |
| Flowering Plants | 183 | **114** |
| Insects | 230 | **165** |
| Other Invertebrates | 45 | **26** |
| Fish | 13 | **8** |
| Amphibians | 6 | **2** |
| Reptiles | 5 | **2** |
| Birds | 173 | **62** |
| Mammals | 34 | **14** |
| **Total** | 776 | **444** |

*46. Dartford Warbler*

*47. Sand lizard*

*48. Fungi*

chapter 3

# GEOGRAPHICAL VARIATION OF BIODIVERSITY

*49. Landscape Character Area - New Forest Lowland and Heath*

Knowledge of the distribution and location of habitats and species of conservation concern is important. Understanding this geographical variation helps to target action to appropriate areas.

### Landscape Character Areas and Natural Areas

Variation in the landscape and ecological character of Hampshire has been defined by three map-based classifications, and these can be used to support the biodiversity programme:

- At the most detailed level, Hampshire County Council has divided the county into 11 'Landscape Character Areas' and these have been further subdivided into 20 'Landscape Types'. The classification is described in *The Hampshire Landscape*[5] and is being used and refined by district councils for district landscape assessments.
- The Countryside Commission has divided the whole of England into 'Countryside Character Areas', 10 of which occur in Hampshire. The boundaries of these Countryside Character Areas were influenced by the Hampshire County Council classification, and the two classifications are virtually synonymous. The main difference is that the Countryside Commission map excludes the river valley character area.
- English Nature have classified England into 'Natural Areas', 8 of which occur in Hampshire. This classification is very similar to the Countryside Commission's, except that within Hampshire four of the Countryside Commission Character Areas have been combined into two Natural Areas. The Countryside Commission and English Nature classifications are illustrated and described in *The Character of England*[6].

All three classifications are being used to identify issues that are influencing or impacting on the landscape and ecological character of the county. For example, some landscape areas have suffered considerable hedgerow loss and would benefit from hedgerow planting and management. Others would benefit from heathland or downland restoration.

Both the Countryside Commission and English Nature have published profiles for each Character Area and Natural Area, which describe each area and the issues involved in conserving or enhancing their character. At a more detailed level the County Council, together with other partners, is preparing a comprehensive Landscape Strategy for Hampshire: this will identify issues and courses of action required across a whole range of topics that influence landscape and ecological character, and relate these to each of the County Council's Character Areas and Landscape Types. The Hampshire Landscape Strategy will help guide the plans, policies and action of a whole variety of organisations and greatly assist the biodiversity programme.

*50. Landscape Character Area - Cranborne Chase*

Key habitats of concern identified by the biodiversity audit, can be ascribed to each of the landscape character/natural areas. Programmes to conserve the biodiversity of these areas of Hampshire will need to take full account of the detailed action and targets set out in relevant habitat and species action plans.

*URBAN - AN ADDITIONAL 'CHARACTER AREA'*

*The three main landscape character/natural area classifications do not identify urban areas as a specific category. Yet in terms of biodiversity the character of these areas is quite distinct. Strategies and policies for urban areas are also often distinct from those for the countryside. It is therefore very important for the Biodiversity Action Plan to address issues that are specific to urban areas.*

*An action plan for urban areas will be prepared along with those for other key habitats of conservation concern. This will cater for habitats particular to urban areas, and those also found within the countryside but with specific requirements because of their urban location. A special emphasis of the action plan will be to ensure sufficient access to biodiversity for all who live in urban areas.*

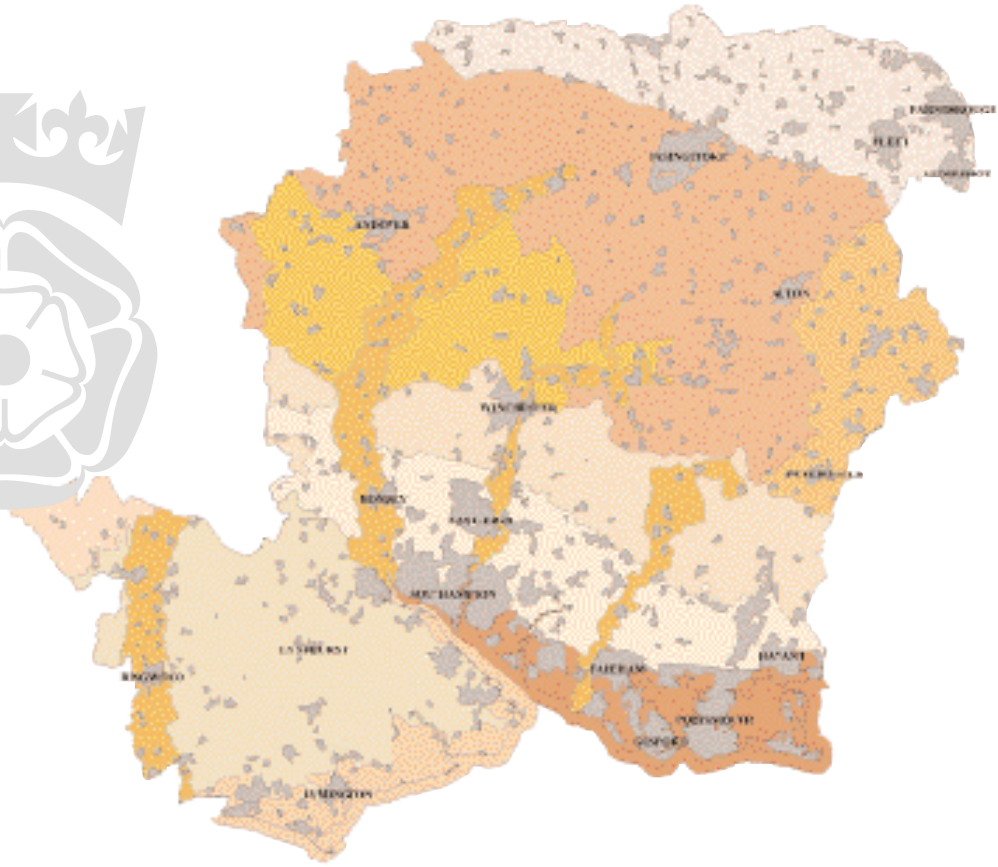
**Land-use and Habitat Maps**

Two other sources of information are particularly useful for defining the extent and distribution of habitats. A comprehensive map of land-use and habitats in Hampshire has been produced from the interpretation of aerial photographs. The project, undertaken on behalf of Hampshire County Council during 1996-97, has classified the entire land surface of the county on a 'field-by-field' basis using 81 land-use/habitat categories. The mapping is held in digital form for use on Geographical Information Systems (GIS). This provides a particularly powerful analytical tool for identifying the location and area of specific habitats, and for monitoring land-use change over time. The mapping will be an invaluable information resource for the biodiversity programme.

In addition, Hampshire County Council holds many detailed site records collected by ground survey which are stored on the Hampshire Biological Record. This information is useful for illustrating the distribution of habitats and providing detailed biological information.

*51. Urban gardens*

## HAMPSHIRE LANDSCAPE CHARACTER AREAS



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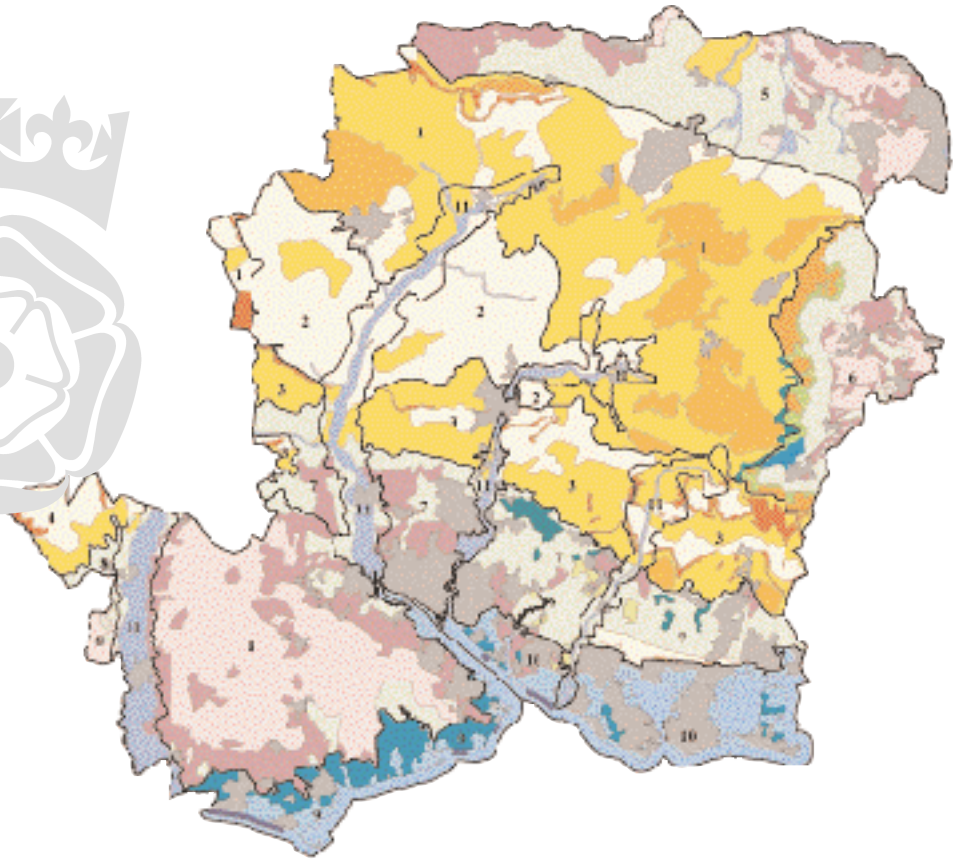
- Hampshire Downs
- Mid Hampshire Downs
- South Hampshire Downs
- Cranborne Chase
- North Hampshire Lowland and Heath
- Western Weald Lowland and Heath
- South Hampshire Lowland and Heath
- New Forest Lowland and Heath
- New Forest Coast
- South Hampshire Coast
- Avon, Test, Itchen and Meon River Valleys
- Urban areas and settlement boundaries

## HAMPSHIRE LANDSCAPE CHARACTER AREAS AND LANDSCAPE TYPES



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### Landscape Types

- Chalk and Clay
- Clay Plateau
- Cliff Coastline
- Open Coastal Plain
- Pasture on Clay
- Enclosed Coastal Plain
- Pasture: Hangers Associated
- Scarps: Hangers
- Pasture and Woodland: Heath Associated
- Heathland and Forest
- Mixed Farmland and Woodland
- Scarps: Downland
- Horticulture and Smallholdings
- Open Arable on Clay
- Open Arable
- River Valley
- Coastline
- Urban Area
- Open Arable on Greensand
- Hangers on Greensand

### Landscape Character Areas

1. Hampshire Downs
2. Mid Hampshire Downs
3. South Hampshire Downs
4. Cranborne Chase
5. North Hampshire Lowland and Heath
6. Western Weald Lowland and Heath
7. South Hampshire Lowland and Heath
8. New Forest Lowland and Heath
9. New Forest Coast
10. South Hampshire Coast
11. Avon, Test, Itchen and Meon River Valleys

## Key Habitats within the Landscape Character Areas of Hampshire

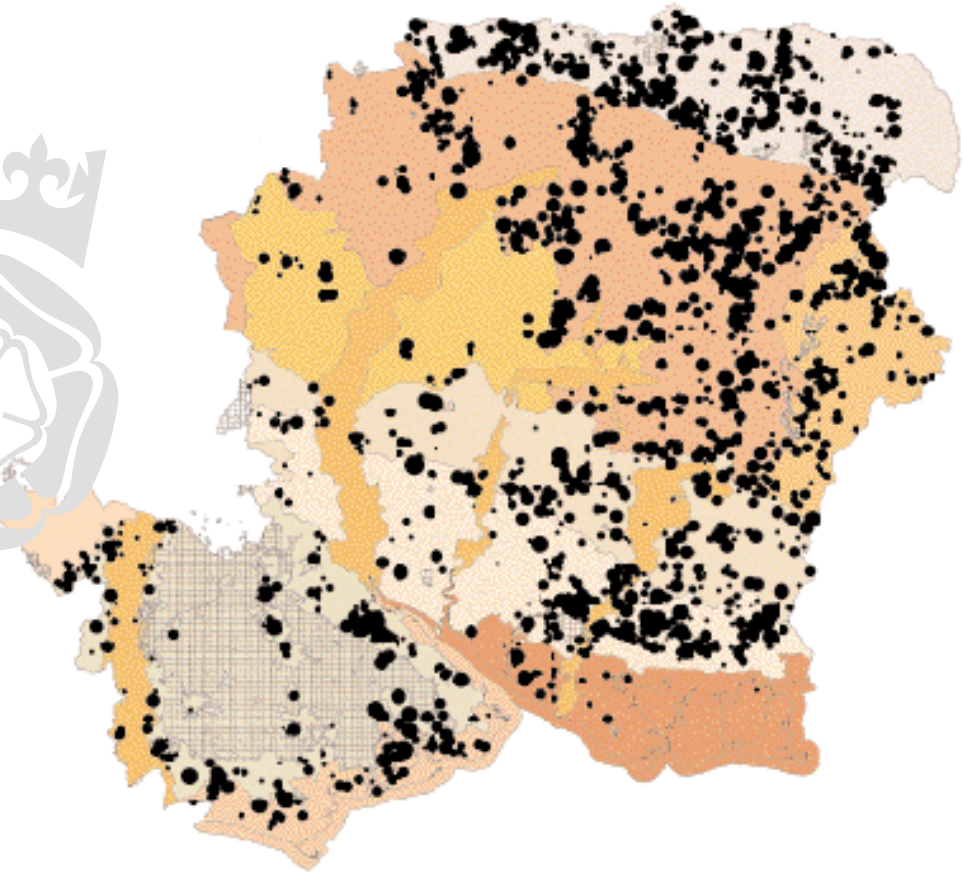
| | LANDSCAPE CHARACTER AREAS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| KEY HABITATS | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Ancient semi-natural woodland | x | | x | | x | x | x | x | x | | |
| Lowland pasture woodland | x | | x | | x | x | x | x | | | |
| Ancient hedgerows | x | x | x | x | x | x | x | x | x | x | x |
| Arable field margins | x | x | x | x | x | x | | | | | |
| Unimproved neutral grassland/fen | | | | | x | x | x | x | | | x |
| Calcareous grassland | x | x | x | x | | | | | | | |
| Floodplain Grazing Marsh | | | | | | | | | | | x |
| Lowland heath/bog/acid grassland | | | | | x | x | x | x | | | |
| Fen/carr/marsh/swamp/reedbed | | | | | x | | | | x | x | x |
| Standing open water | x | | x | | x | x | x | x | | | x |
| Chalk rivers | | | | | | | | | | | x |
| Canals | | | | | x | | | | | | |
| Maritime cliffs | | | | | | | | | x | | |
| Shingle | | | | | | | | | x | x | |
| Saltmarsh | | | | | | | | | x | x | |
| Coastal grazing marsh | | | | | | | | | x | x | |
| Sand dunes | | | | | | | | | | x | |
| Mudflats/eelgrass beds | | | | | | | | | x | x | |
| Saline lagoons | | | | | | | | | x | x | |
| Road verges | x | | x | | x | | x | | | x | |
| Urban | | | x | | | x | | x | | | |

Key to Landscape Character Areas

1. Hampshire Downs
2. Mid Hampshire Downs
3. South Hampshire Downs
4. Cranborne Chase
5. North Hampshire Lowland and Heath
6. Western Weald Lowland and Heath
7. South Hampshire Lowland and Heath
8. New Forest Lowland and Heath
9. New Forest Coast
10. South Hampshire Coast
11. Avon, Test, Itchen and Meon River Valleys

*This table shows only those habitats which are particularly characteristic of each Landscape Character Area.*

# DISTRIBUTION OF ANCIENT SEMI-NATURAL WOODLAND IN HAMPSHIRE



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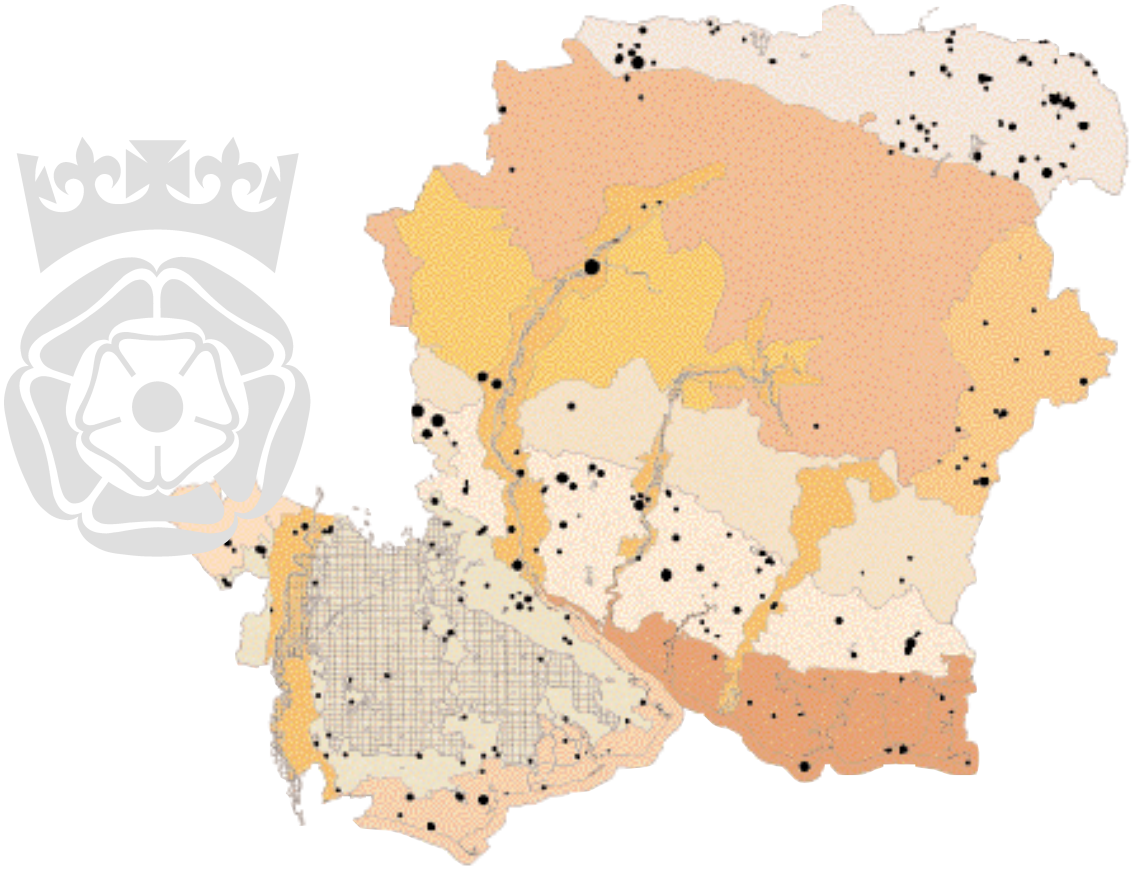
Ancient semi-natural woodland SSSIs

**Other ancient semi-natural woodland sites* (area in hectares)**

- 0 - 2
- 2 - 5
- 5 - 10
- 10 - 25
- 25 - 100
- 100 - 400

* Details of other sites are extracted from the Hampshire Biological Record

## DISTRIBUTION OF UNIMPROVED NEUTRAL GRASSLAND/FEN IN HAMPSHIRE



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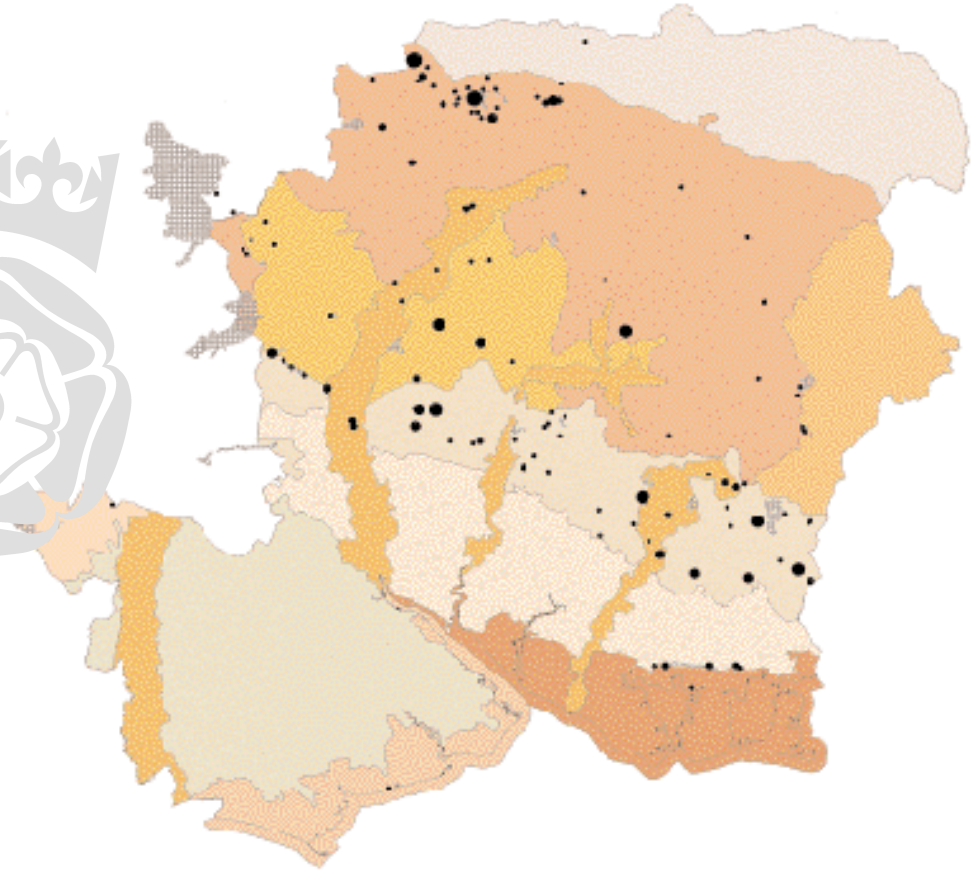
Unimproved neutral grassland/fen SSSIs

**Other unimproved neutral grassland/fen sites* (area in hectares)**

- 0 - 2
- 2 - 5
- 5 - 10
- 10 - 25
- 25 - 65

* Details of other sites are extracted from the Hampshire Biological Record

## DISTRIBUTION OF CALCAREOUS GRASSLAND IN HAMPSHIRE



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**Landscape Character Areas**

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- South Hampshire Lowland and Heath
- New Forest Lowland and Heath
- New Forest Coast
- South Hampshire Coast
- Avon, Test, Itchen and Meon River Valleys

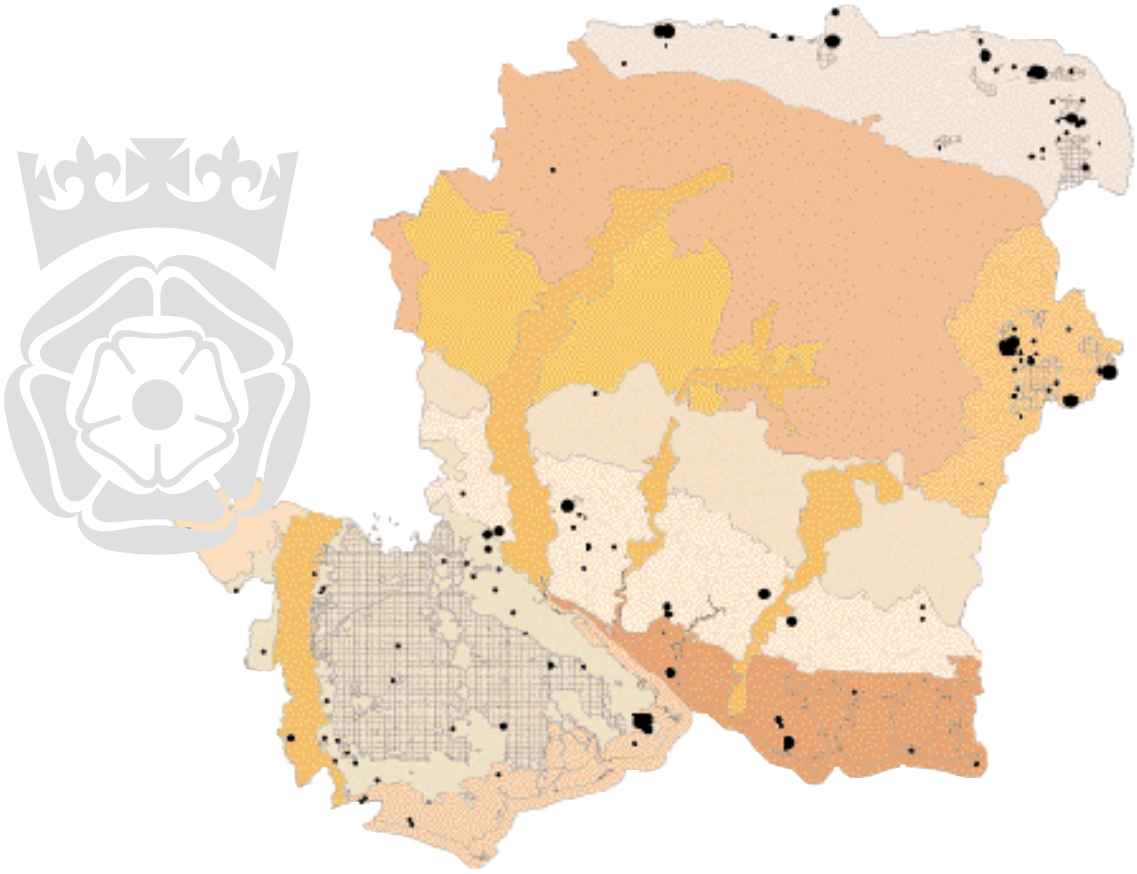
Calcareous grassland SSSIs

**Other calcareous grassland sites* (area in hectares)**

- 0 - 2
- 2 - 5
- 5 - 10
- 10 - 25
- 25 - 87

* Details of other sites are extracted from the Hampshire Biological Record

## DISTRIBUTION OF LOWLAND HEATH / BOG / ACID GRASSLAND IN HAMPSHIRE



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Hampshire County Council LA076651/98/01

**Landscape Character Areas**

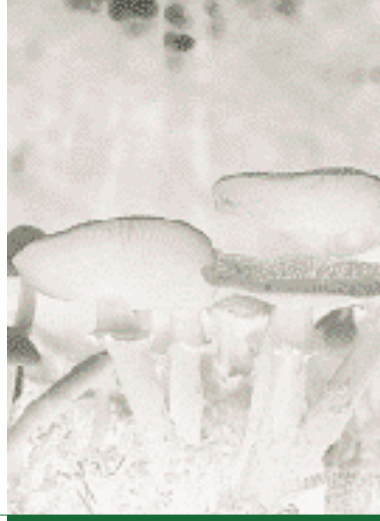
- Hampshire Downs
- Mid Hampshire Downs
- South Hampshire Downs
- Cranborne Chase
- North Hampshire Lowland and Heath
- Western Weald Lowland and Heath
- South Hampshire Lowland and Heath
- New Forest Lowland and Heath
- New Forest Coast
- South Hampshire Coast
- Avon, Test, Itchen and Meon River Valleys

Lowland heath/bog/acid grassland SSSIs

**Other lowland heath/bog/acid grassland sites* (area in hectares)**

- 0 - 2
- 2 - 5
- 5 - 10
- 10 - 25
- 25 - 42

* Details of other sites are extracted from the Hampshire Biological Record



chapter 4

# Habitat and Species Action Plans

*Action plans for priority habitats and species in Hampshire will greatly assist conservation aims. Plans will set out detailed objectives and measurable targets. Implementation of each plan will be closely monitored.*

The audit of biodiversity described in the previous section has enabled the selection of habitats and species of priority concern. For each of the 21 key habitats identified, a detailed action plan is being prepared.

Action for most of the 444 priority species will be covered by relevant habitat action plans. In some cases national species plans will guide action for priority species in Hampshire. Where species cannot be easily accommodated by these plans, a specific species action plan will be prepared. Brief statements will be prepared for each of the 444 priority species, making the link with the relevant action plan.

Volume 2 of the Biodiversity Action Plan will include all of the habitat action plans. It will also identify the relevant action plan that has been, or will be, prepared for each priority species, and include some species action plans. More will be added as they become available.

### Purpose and Scope of the Plans

The overall aim of each action plan is to enable successful conservation or restoration of priority habitats and species. Each plan will provide an up-to-date and comprehensive review of the current status of these habitats and species, enabling effective and well-directed action.

Each plan will have several goals:

- to provide information
- to establish comprehensive targets for action
- to direct conservation action
- to raise awareness
- to provide a monitoring framework

Action plans will set the conservation direction, outline priorities, and present challenges to the many organisations and sectors involved. Each will help individual organisations to identify their role: for example, site management, provision of grant-aid, site protection, or perhaps influencing national policy. Plans will give a clear picture of the extent and type of action required and the funds needed for implementation.

The focus of each plan will be the action required at a variety of levels, from the local neighbourhood to national policies and programmes. A complementary goal will be to ensure that action in Hampshire contributes effectively to national objectives and targets.

Each plan should be seen as a working document. The plans will provide a reference point to monitor progress at regular intervals and will be updated over time. Additional species may have plans prepared if the UK Action Plan recommends them or if dictated by local circumstances.

*52. Biodiversity at the field edge*

### Content

Each habitat or species action plan will have three main elements:

- Assessment - a summary of status, threats and action to date
- Objectives and Targets - detailed objectives with measurable targets
- Action Points - actions required to meet objectives and targets

Action plans will integrate all relevant previous work, and provide a comprehensive assessment of conservation needs. They will set out detailed objectives, and specific, measurable targets such as area of habitat to be re-created or restored. Targets will be based on funding that might be reasonably available, and indeed action plans may stimulate new resources. Action will be focused to reach targets at realistic yet ambitious timescales. Lack of comprehensive data will not be a barrier to setting targets, and indeed a target may be the improvement of data quality. Targets will be audited and reviewed as further information and resources become available.

Each plan will follow a standard format, ensuring a consistent approach and level of detail. Action plans for Hampshire will also be compatible with plans written for the same habitats and species nationally, and liaison will be undertaken with any neighbouring county preparing an action plan.

In striving to assimilate all pertinent information, action plans will integrate relevant proposals and approaches adopted in other plans and strategies: examples are forestry strategies, Local Environment Agency Plans, coastal management plans, local plans, regional planning guidance, landscape strategies, and projects such as the Hampshire Heathland Project and Wessex Coppice Group. In turn, the action plans will help to refine, develop and implement these other initiatives.

*53. Grazing heathland*

*54. Using hazel coppice*

*55. Pond restoration*

*FORMAT FOR HABITAT ACTION PLANS*

*1 Introduction*

*Reasons for including the habitat in the Biodiversity Action Plan for Hampshire - international conservation concern; key habitat within the National Biodiversity Action Plan; habitat of particular Hampshire concern*

*2 Current Status*

*2.1* ***Description of habitat*** *- including its variation and associated species*

*2.2* ***Distribution and extent*** *- regional, national and international context; distribution and extent in Hampshire*

*2.3* ***Legislation and site designation***

*2.4* ***Summary of important sites***

*3 Current Factors Affecting the Habitat*

*Summary of the current factors causing loss, damage or reduction in quality of the habitat*

*4 Current Action*

*4.1* ***Site and species protection*** *- legislation and site designation*

*4.2* ***Habitat management and programmes of action*** *- incentive schemes, habitat management projects, plans, strategies and policies*

*4.3* ***Survey, research and monitoring*** *- audits, research into impacts, research into techniques for management/restoration etc.*

*4.4* ***Action for species*** *- current action on priority species*

*5 Objectives and Targets*

*Objectives and targets (timescales and areas) for habitat safeguard, management, restoration and expansion; objectives and targets for species conservation; taking into account national objectives and targets*

*6 Proposed Action with Lead Agencies*

*How the objectives and targets will be delivered, and by whom*

*6.1* ***Habitat protection and management*** *- site designation; policy changes; programmes for management, restoration and re-creation; special projects and the involvement of existing projects and initiatives*

*6.2* ***Incentive schemes and other resources*** *- targeting and strengthening of incentive schemes; identifying and increasing other resources*

*6.3* ***Species action*** *- action required for priority species*

*6.4* ***Advice*** *- liaison with landowners and land managers; provision of support and information to relevant organisations*

*6.5* ***Survey, research and monitoring*** *- to support local and national action plan objectives*

*6.6* ***Communication and publicity*** *- raising awareness and providing information to all relevant sectors*

*7 Sources of Information*

*Lists of projects, schemes, publications and contacts*

*FORMAT FOR SPECIES ACTION PLANS*

*1 Introduction*

*Reasons for including the species in the Biodiversity Action Plan for Hampshire - species of international conservation concern; priority species within the National Biodiversity Action Plan; species of particular Hampshire concern*

*2 Current Status*

*2.1 Ecology and habitat requirements*

*2.2 Population and distribution - international, national and Hampshire*

*2.3 Legislation and site designation*

*2.4 Summary of important sites*

*3 Current Factors Affecting the Species*

*Summary of the current factors causing decline in populations and distribution*

*4 Current Action*

*4.1 Protection - legislation and site designation*

*4.2 Site management and programmes of action - habitat management, special projects e.g. recovery programmes; incentive schemes*

*4.3 Survey, research and monitoring - audits; research into impacts; research into habitat requirements and habitat restoration techniques etc.*

*5 Objectives and Targets*

*Objectives and targets for maintaining and increasing species populations and distribution, taking into account national objectives and targets*

*6 Proposed Action with Lead Agencies*

*How the objectives and targets will be delivered, and by whom*

*6.1 Species protection and management - site designation; policy changes; habitat management, restoration and re-creation; special projects*

*6.2 Incentive schemes and other resources - targeting and strengthening of incentive schemes; identifying other resources*

*6.3 Advice - liaison with landowners and land managers; provision of support and information to relevant organisations*

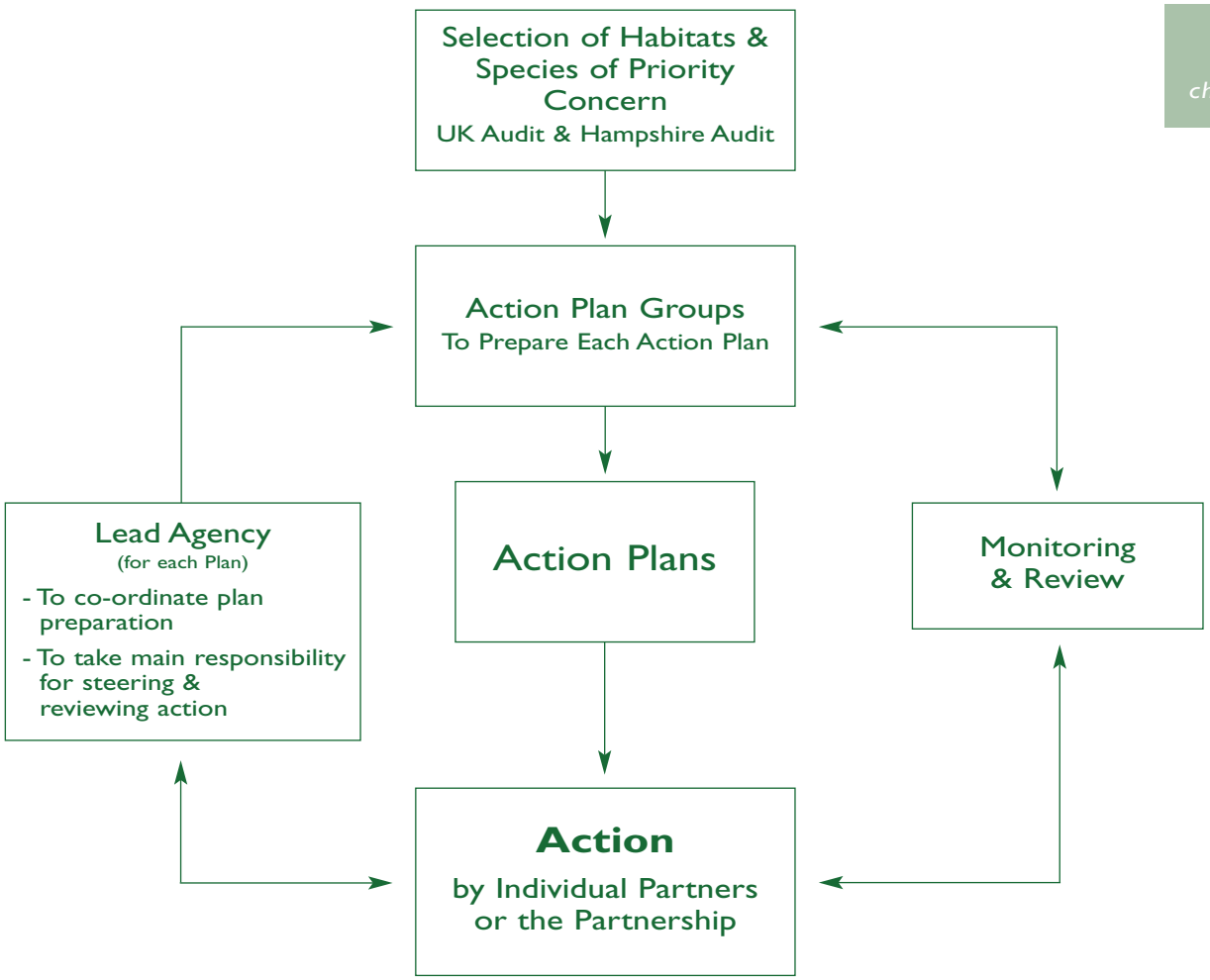
*6.4 Survey, research and monitoring - to support local and national action plan objectives*

*6.5 Communication and publicity - raising awareness and providing information to all relevant sectors*

*7 Sources of Information*

*Lists of projects, schemes, publications and contacts*

# HABITAT AND SPECIES ACTION PLANS



chapter 4

### Preparation of Action Plans

Each habitat or species action plan will be prepared by a working group or lead partner. The opportunity is open to all partners to be involved in the preparation of any plan. All plans will undergo wide consultation to ensure that plans are comprehensive, accurate, forward thinking and widely supported.

Each group or lead partner preparing a plan will involve those with specialist knowledge and those with a particular remit or ability to influence implementation. Preparation will also be guided by relevant national action plans and the South-east Regional Audit.

### Implementation

Implementation of each action plan will be achieved through the Hampshire Biodiversity Partnership acting collectively, individual partners taking action, or through the actions of others not yet involved. The issues and types of action required will vary widely between plans. On the whole, success will be best achieved through each partner identifying the way in which they can contribute. For example, the Ministry of Agriculture Fisheries and Food may wish to review the targeting of the Countryside Stewardship Scheme; a district council or AONB management committee may wish to identify land-use and management issues within a specific geographical area; or landowners may wish to review management objectives for their landholdings.

*56. Clearing scrub on heathland*

*57. Coastal vegetation*

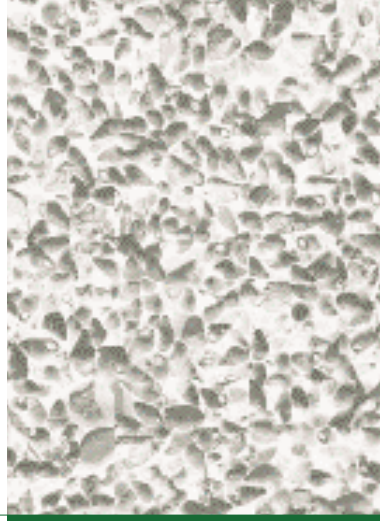
Nevertheless, encouragement or support will be needed to help some partners take action, or to focus efforts. Groups from within the Partnership will be established to oversee and monitor plans. A lead agency will be encouraged to oversee implementation of each plan. This key agency may be the organisation with the most direct influence on the particular habitat or species, but not necessarily so.

Some issues and action may be common across plans. Awareness of common objectives and action will be needed to ensure that action for one habitat or species is also targeted at other relevant habitats or species. For example, several different habitats would benefit from initiatives which encourage grazing. Also, there may be cases where action for one habitat or species works to the detriment of another habitat or species. Such cases will need careful review.

Monitoring progress will be essential. Plans will be continually monitored, with a full review every five years. Plans will also need to be reviewed as circumstances and issues change over time.

***HABITAT AND SPECIES ACTION PLANS: ACTION***

- *prepare action plans for 21 habitats*
- *prepare detailed action plans for individual priority species where these are not catered for by a national species action plan or Hampshire habitat action plan*
- *establish working groups or lead partners to prepare and promote the implementation of the plans*
- *identify a lead agency to adopt each habitat and species action plan and take the lead in monitoring, co-ordinating and encouraging action*
- *involve existing fora and projects in delivering action, for example the Farming and Wildlife Advisory Group, Hampshire Woodland Forum and Hampshire Heathland Project*
- *establish partnership projects and initiatives to help implement action*
- *encourage individual partners to identify objectives and action relevant to their own activities and integrate these, with specific targeting and action, into their own work programmes*



chapter 5

# Information and Data

***Data underpins the entire biodiversity programme. A large amount of data is already available on the Hampshire Biological Record, but this could be improved. The development of a Hampshire Biological Record Centre is a priority concern.***

The collection of data on habitats and species is fundamental to the development and implementation of a local biodiversity action plan. No single organisation has a statutory duty to collect biological information, yet the need to record and monitor this is vital.

A large amount of data on the biodiversity of Hampshire is already available and much of this is held on the Hampshire Biological Record, housed at Hampshire County Council. However, there is still much information to be obtained. There is also a need to co-ordinate the various sets of data held by different organisations, to ensure that the information is used most effectively to support the biodiversity programme.

The UK Biodiversity Steering Group Report stresses the fundamental importance of good data and a co-ordinated approach to both national data provision and local data management. The Report recommends a twofold approach:

- development of a national biodiversity database and information system
- development of a network of local record centres funded by local consortiums, to service data needs at the local level and support and exchange information with the national system

*58. Biological survey*

### *LOCAL RECORD CENTRES: A CHALLENGE SET BY THE UK STEERING GROUP*

*The UK Biodiversity Steering Group Report suggests that local data management is best carried out by local biological record centres. Local centres are needed to both serve local needs and contribute information at the national level. The Report recommends that each centre should be developed and managed by a consortium of local organisations, and have the following functions:*

- *to act as a focus for biological record management in the area*
- *to manage the collection, validation and maintenance of key data sets on behalf of partners*
- *to act as a contact point for access to data by local and national users*
- *to provide support and guidance to recorders, local societies and recording schemes*
- *to provide support for the local planning process*
- *to promote and steer future survey*
- *to provide data and an information service to a range of organisations and individuals*

*The consortium-led approach has many benefits: managing partners will have a sense of ownership of the centre; costs of the data service are shared between a number of organisations; there is less duplication of records; and it is easier to standardise and quality control the collection, validation and management of the data.*

A group of national organisations is developing a 'National Biodiversity Network', a project which includes both establishing the national data system and network of local centres. Centres are likely to operate at the county scale and will be developed where there is a local partnership committed to their development.

### The Hampshire Biological Record

Hampshire County Council has, for many years, acted as a central repository for much habitat and species data, and has a computer database and staff dedicated to the collection, maintenance and supply of biological data.

There are almost 5,000 detailed site records and 300,000 species records on the Biological Record database. This covers about 34,000 ha or 9% of Hampshire and currently excludes the 8% of the county contained within the New Forest. Best estimates are that detailed habitat records of another 3 to 8% of Hampshire are required to cover most sites likely to prove of particular nature conservation significance. Although large amounts of data on habitats is standardised and accessible on the Biological Record, much of the information on species other than plants is not. The collection of additional information on both habitat and species is a high priority for refining the audit for the Biodiversity Action Plan.

Although the Biological Record is incomplete, lack of data should not delay the Action Plan process. The best available data will be used, and at the same time, improving the information base will be given high priority. Upgrading the collection, organisation and co-ordination of all biological information will enable the establishment of a solid baseline for all Hampshire's habitats and species of conservation concern. Regular and systematic recording will also be needed to detect change and measure progress in achieving biodiversity targets.

Data collection through ground survey is largely undertaken by the Hampshire Habitat Survey Project. Approximately 250 sites, or an area of about 3,500 ha, are covered each year. The two person survey team is based with the Hampshire Wildlife Trust and is funded by the County Council, English Nature, the Environment Agency and several district councils.

### Habitat Map for Hampshire

Hampshire County Council recently commissioned a new set of aerial photographs of the county. From this, a map which shows the distribution of habitats and land-use has been produced in digital form for display on computer. The mapping is very comprehensive. Every land parcel has been assigned one of 81 habitat/land-use classes, and all hedgerows longer than 100m are also mapped. This mapping will be invaluable for identifying the distribution and extent of habitats.

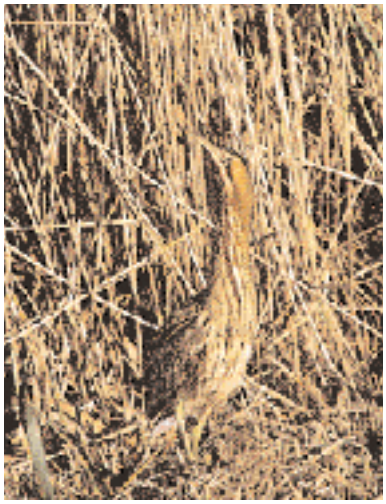
The full nature conservation quality of some land cannot be determined by interpretation of aerial photographs. For example it is difficult to differentiate between grassland that is herb-rich and that which has been agriculturally improved. In these cases, the mapping will assist the focusing of ground survey which, in turn, will be used to refine the mapping. This comprehensive mapping provides for the first time the opportunity to accurately monitor land-use and habitat change.

### Towards a Record Centre

The existing Hampshire Biological Record, the Hampshire Biodiversity Partnership, and the Habitat Survey Project, together with potential assistance from the National Biodiversity Network project, provide the ingredients for the development of a county record centre. This would become part of the National Biodiversity Network. A record centre would capitalise on the data and information systems already available and ensure the full complement of services required to support the Partnership and the biodiversity programme.

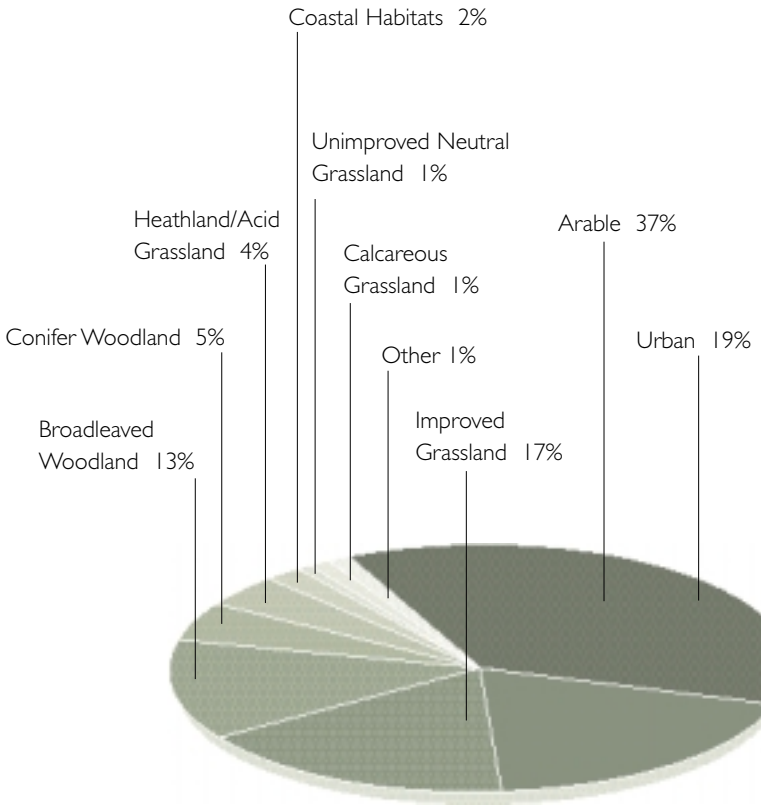
### *INFORMATION AND DATA: ACTION*

- *continue to undertake detailed habitat survey of Hampshire in support of biodiversity conservation, using the Hampshire Habitat Survey Project*
- *encourage, support and co-ordinate a voluntary network of recorders to assist in providing data on biodiversity*
- *encourage the centralisation of data on habitats and species into the Hampshire Biological Record and use this database for monitoring progress in biodiversity action*
- *progress the development of a Hampshire Biological Record Centre to service the information needs of the Hampshire Biodiversity Partnership and individual partners and contribute to the National Biodiversity Network*
- *establish a programme to monitor land-use and habitat change using the digitised habitat and land-use mapping of the county as a baseline*



*59. Bittern*

Habitats and Land Use in Hampshire



chapter 6

# General Issues Affecting Biodiversity

*Many land-uses and land management activities have a considerable effect on biodiversity. Agriculture and development have a particularly strong influence, but others are also significant in Hampshire. Strategies and courses of action are required to address the major issues affecting biodiversity.*

The conservation of biodiversity is not only dependent on direct action for habitats and species. There are many wider issues that have a great influence on the welfare of wild plants and animals. Two of the key issues in Hampshire are agriculture and development. Many other human activities, such as various uses of the land, patterns of resource consumption, energy use and transport, also have very considerable impact. Each of these issues is briefly reviewed. It is not intended to include detailed proposals for action here, but rather to make the connection between biodiversity conservation and other activities.

The principal organisations and agencies that have a particular remit for land-use and land management activities are involved in the Hampshire Biodiversity Partnership. Each organisation should develop their own awareness and understanding of how the various issues affect biodiversity, and chart a course of appropriate action.

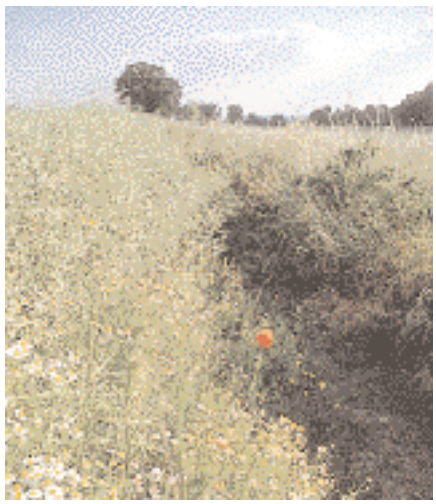
There are many different levels of action required and many different vehicles for pursuing action, for example the integration of biodiversity objectives into plans and strategies such as Local Environment Agency Plans, or capitalising on existing studies or programmes such as *The Hampshire Farming Study*[7]. The Hampshire Biodiversity Partnership will encourage and support organisations in the formulation of their action for biodiversity. Where considered appropriate, the Partnership will establish topic groups to consider individual issues. These will develop proposals and agree the action needed to achieve biodiversity goals.

## AGRICULTURE

Approximately 60% of Hampshire is used for agriculture. Farming plays a pivotal role in determining the biodiversity of the countryside and traditional unintensive farming practices are particularly important in maintaining wildlife habitats.

Many different types of habitat occur on farmland, including wildflower meadows, ponds, and hedges. Stubble, field margins and fallow are also valuable for wintering, feeding and breeding birds. Less directly associated with the agricultural enterprise are the many woodlands within the farmed landscape.

*60. Arable farming*



*61. Species -rich field margin*

### Habitat Loss and Change

Many habitats have suffered enormous losses, particularly over the last 50 years. Changes in farming practices since the Second World War - towards greater intensification and specialisation away from mixed farming systems - have resulted in major losses and fragmentation of habitat.

These changes have resulted from a national and European policy framework initially developed to meet the urgent need to produce more home-grown food. The policies have encouraged food production without commensurate support for the conservation of biodiversity and protection of the landscape. They were drawn up when Europe faced the serious risk of food shortage. Although not wrong at the time, the policies have remained unchecked for too long and have only recently begun to be reformed. Food production remains very important, but needs to be balanced with environmental objectives.

Many of the habitats which remain have suffered degradation through drainage, nutrient enrichment, heavy grazing, re-seeding, the application of pesticides or herbicides and the lack of traditional management. Many farmers are aware of the effects of these practices on biodiversity. Some are turning to alternative approaches such as integrated crop management.

### Incentives for Land Management

In recent years, the balance between agricultural production and conservation of biodiversity has been encouraged by the introduction of environmental land management schemes. These use financial incentives to encourage farming practices more sympathetic to wildlife and include the Countryside Stewardship and Environmentally Sensitive Area schemes administered by MAFF, and the Wildlife Enhancement scheme administered by English Nature.

Some aspects of environmental or other land management schemes such as set-aside, have been too inflexible. Current policy directives tend to allow greater discretion in the implementation of these schemes, maximising the benefits to wildlife. All of these schemes are vital to support the Biodiversity Action Plan.

Funding is of course limited, and much good environmental management is reliant on the willingness and financial resources of land managers.

Green consumerism could prove an incentive for environmental land management. Encouraging local markets to buy produce from environmentally-managed land-holdings could bring benefits to both farmers and biodiversity.

### Advice on Land Management

Advice to landowners on land management for biodiversity is very important. While the Country Landowners Association (CLA) and National Farmers Union (NFU) are active in promoting environmentally sensitive farming, the availability of on-the-ground advice from advisors with a strong agricultural and environmental background is essential.

English Nature have an advisory role on SSSIs, and advice is also available from those administering MAFF incentive schemes. However, advice should be more widely available. The recent appointment of a Farming and Wildlife Advisory Group officer for Hampshire will greatly assist. Organisations in Hampshire are also exploring ways to improve support and advice for the owners of the locally designated Sites of Importance for Nature Conservation.

### Common Agricultural Policy (CAP)

Incentive schemes and advice, and the goodwill and sense of stewardship towards the environment by landowners, are all important. However, the primary determinant of the future of biodiversity within agriculture is the Common Agricultural Policy (CAP). Related aspects are consumer demand, social trends and employment within the countryside, policies promoting diversification of enterprise within the countryside, and development in technology.

The original aims of the CAP were to increase agricultural productivity, ensure a fair standard of living for the agricultural community, stabilise agricultural markets, guarantee regular supplies of food and ensure reasonable prices to consumers. The Policy has been very successful in these aims but is now due for review. The CAP supports farming which is insensitive to biodiversity, and this is at odds with the national rise in awareness, demand and policy for conservation.

The CAP and national policy on biodiversity give conflicting messages, and this is a source of frustration for many landowners.

In 1997 the European Commission published Agenda 2000, a blueprint for the development of certain European Union policies including the CAP. The Commission suggest that CAP reform should be accompanied by measures to diversify rural economies, maintain social stability and conserve and enhance the environment. Reform of the CAP may result in removal of support for farm product prices over time. The issues involved are complex, but one goal will be to integrate environmental objectives into the CAP. Hopefully reform will result in a re-invigorated agri-environmental policy, with new and extended agri-environment instruments.

The *Hampshire Farming Study* has helped initiate strong representation to national and European government on the subject of CAP reform and integrated rural development. Much of the future for agriculture and the environment lies with reform of the CAP, and in Hampshire it is important to make the best of any opportunities arising from this.

### A Range of Activity

Conserving biodiversity within the agricultural sector is a particular challenge and one that involves a wide partnership, from delivery of national and local incentive schemes and advice, to forecasting change and influencing policy. Particularly influential in the latter will be the NFU and CLA.

The aim of the Biodiversity Action Plan for Hampshire will be to influence this range of activity. Action stemming from the Plan will have to be clearly relevant to the landowners who manage a large proportion of our countryside.

*62. Housing development*

## DEVELOPMENT

Development has caused extensive loss of wildlife habitat, particularly within the last 50 years. Housing, industrial and business development, roads, coastal development, waste disposal and mineral extraction have been especially significant. This has resulted not only in direct loss of habitats, but also a whole variety of indirect impacts on nature conservation such as pollution, modification of water quality and flow, disturbance to sites in proximity to development, and isolation and fragmentation of habitat. The demand for new development continues and this should be accommodated while maintaining the quality of the environment.

### Sustainable Development

The Government published both *Sustainable Development: The UK Strategy*[8] and *Biodiversity: The UK Action Plan in 1994.* These strategies for development and biodiversity are intimately linked.

Sustainable development 'seeks to improve the quality of human life without undermining the quality of the environment'. In carrying out sustainable development, habitats and features that are effectively irreplaceable should not be destroyed, since once lost they are lost forever. The concept of sustainable development embodies the principles of not only preventing destruction or damage, but also taking the opportunity to enhance biodiversity. Also important is the adoption of the precautionary principle: if in doubt about the environmental effects of the development, avoid the development.

The European Directive on Environmental Assessment (85/337) has greatly influenced Environmental Impact Assessment in the UK. However, some aspects of the Directive have not yet been translated into UK legislation. Changes in legislation and procedures within the UK will be required to fully achieve the aim of sustainable development.

### Land-use Planning

For development to be sustainable in terms of biodiversity, it should be well-planned and controlled. Several pieces of national and European legislation and national government guidance support biodiversity objectives, including the *Wildlife and Countryside Act 1981 and amendments 1985, the Habitat Regulations 1994,* and *Planning Policy Guidance Note 9: Nature Conservation 1995 (PPG9).*

To maintain and enhance biodiversity at the local level, the Hampshire County Structure Plan and local plans should be based on detailed audits of the nature conservation resource, and the capacity of the area concerned to accommodate development. Policies within these plans need to address the protection of designated sites of nature conservation importance, conservation of biodiversity in the wider countryside, and the enhancement of biodiversity within development. Planning Policy Guidance Note 12: Development Plans and Regional Policy Guidance 1992 (PPG 12) requires planning authorities to conduct environmental appraisals of their development plans to make clear the implications of various strategy and policy alternatives. These approaches need to fully include implications for biodiversity.

Levels of development expected by Government to be accommodated in Hampshire are set out in Regional Planning Guidance. Regional Guidance needs to be sensitive to the biodiversity resource of Hampshire and the other counties in the south-east.

A disciplined approach is required to assess the effects of development proposals. Decision makers should be sufficiently well advised as to what makes a good environmental assessment and what the opportunities are for conserving or enhancing biodiversity. Factors to consider include avoiding damage, mitigation of impacts, compensatory measures, enhancement, restoration, landscaping and management. Conditions and agreements attached to planning permissions will help to secure these measures.

## FORESTRY

Forestry is a major land use which has a great effect on biodiversity. Broadleaved woodlands throughout England have suffered from lack of management for decades due to changing markets and the reduced economic viability of woodland products. Replacement of native broadleaved woodland with conifers, and the cessation of traditional forms of management such as coppicing and pollarding, have all led to a reduction in biodiversity.

Circumstances are changing, particularly with the provision of grant-aid, though sustainable management of ancient semi-natural woodland is still an issue.

The Government has set out its approach to sustainable forestry in the UK Forestry Standard 1998. This provides a framework for protecting and managing woodland in the future and gives specific attention to biodiversity issues.

In 1996 the Forestry Authority introduced Woodland Improvement Grants, under its Woodland Grant Scheme, specifically targeting biodiversity conservation. Grants are available for undermanaged woods, including funding for the restoration of coppice and for woodland biodiversity, and also under a special project 'Coppice for Butterflies'. This new targeted approach to grants by the Forestry Authority will greatly assist biodiversity conservation.

For many years Hampshire County Council has been providing grant-aid for the restoration of derelict hazel coppice, giving a new lease of life to many ancient semi-natural woodlands. A healthy coppice industry is dependent upon the availability of workable coppice, the demand for coppice products, and a skilled coppice workforce. Grant-aid has been complemented by the establishment of the Wessex Coppice Group - an innovative project which is encouraging economic growth in the hazel coppice industry, mainly through marketing of coppice products and the training of coppice craftsmen.

*63. Forestry*

*64. Coastal development*

## COASTAL ISSUES

The coastline of Hampshire supports a rich assemblage of plants and animals. Intertidal mudflats and marshes are particularly valuable: they provide feeding grounds for large numbers of birds and many areas are of international importance. Other habitats include grazing marsh, lagoons, shingle spit and beaches. Nevertheless, the coast is suffering from pressures that threaten this wildlife interest, including port and leisure development and channel dredging.

*65. Countryside recreation*

Sea level rise due to global warming also puts pressure on the coast. Within the Solent, a significant loss of intertidal habitats is predicted as they are 'squeezed' between rising sea levels and coastal defences. A sea level rise of 6mm per year along the coast of Hampshire is predicted, giving a 32cm increase by 2050. The amenity value of the coast introduces further pressures from recreation and tourism. Pollution is also a problem, and includes organic enrichment from sewage and agricultural run-off.

Estuary and shoreline management strategies should fully embrace biodiversity objectives. Many of the issues and action required are set out in *Strategic Guidance for the Solent*[9], and these will be included in coastal habitat action plans.

## RECREATION AND TOURISM

Countryside recreation is an increasingly important trend. Most visits to the countryside are less than a five mile round-trip from home, so access to recreation near to where people live is particularly significant. Appropriate access to nature reserves and other wildlife areas is consistent with conservation of biodiversity. Access helps to increase public understanding of nature, thus making a contribution to biodiversity protection.

Nevertheless visitor pressures can be detrimental, especially at heavily used sites. Sensitive species and habitats may be damaged, and noisy, disruptive and damaging activities should be prevented or very carefully controlled. Ancient woodlands, fens, heathlands and coastal habitats are particularly vulnerable. Appropriate measures will be included in habitat action plans.

Visiting the countryside is one of Britain's most popular leisure activities. Concern for biodiversity could be promoted as a central theme in all countryside recreation and tourism initiatives. If people are more aware of the needs of the plants and animals that they enjoy seeing in the countryside, this will help to achieve biodiversity objectives.

## WATER MANAGEMENT

The use of water affects biodiversity in a number of ways. Problems of climate change, inappropriate site management and abstraction can all lead to rivers, lakes and wetlands being severely depleted. Wetland habitats and the wildlife which depends upon them can be seriously affected by lack of water and the reduction in quality of remaining supplies. Inappropriate water course management and surface drainage can reduce the naturalness, variety and extent of wildlife habitat along water courses.

The other main concern for wetland biodiversity is pollution. Effluent from sewage treatment works and industrial processes and run-off from farmland, may go directly into water courses or seep into groundwater. High nitrate and pesticide concentrations and low dissolved oxygen levels are some of the resulting problems. Many animals and plants which depend on clean water cannot tolerate these conditions.

Continual provision of new water resources is unsustainable and the demand for water needs to be managed. The requirement to build many more homes in Hampshire by 2011 will have major water resource implications.

## ENERGY

The production, transmission and use of energy have wide-ranging effects on biodiversity. The generation of energy requires large installations such as power stations, transmission lines, or pipelines which affect biodiversity directly through land-take. It is important that these installations are sited sensitively, away from vulnerable wildlife habitats.

The burning of fossil fuels results in both acid deposition and the release of pollutants such as carbon dioxide into the atmosphere. Acid rain affects a variety of habitats, particularly forests and lakes. However the release of carbon dioxide is having a more widespread effect. Emissions of greenhouse gases by burning fossil fuels has now been positively linked with global warming.

This will result in very significant implications for biodiversity. A sustainable energy policy, which reduces energy demand and increases the use of renewable resources such as solar power and biomass fuels, should be promoted.

## TRANSPORT

Transport has both a direct and indirect impact on biodiversity. The growth of road transport is particularly significant: road construction can damage, fragment or result in the complete loss of habitats, and also create barriers to species movement. Extraction from gravel pits and quarries for aggregates and development adjacent to roads also affects wildlife.

Car travel has increased dramatically in recent decades and is forecast to continue growing at an alarming rate. Upgrading of the road network will significantly affect wildlife and it is important to ensure that each project does not affect important habitats. Public transport needs to become a more attractive alternative to private car use, alongside walking and cycling for short distance travel. The maintenance and improvement of the existing transport infrastructure should take priority over the development of new routes.

*66. Road construction - Twyford Down*

## AIR QUALITY

Transport and energy production release pollutants into the air, and many industries also contribute to low air quality. Air pollution has well documented effects on people's health, but less well known are the implications for biodiversity.

Air pollution has both local and widespread effects. Acid deposition can result in acidification of soils and water bodies, and release of chemicals such as sulphurs and nitrates can also affect organisms. Biodiversity particularly at risk from poor air quality includes sensitive species such as lichens, habitats naturally low in nutrients, and habitats on acid soils or in acid waters.

## CLIMATE CHANGE

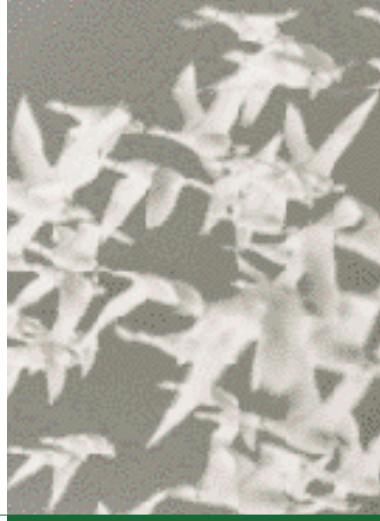
Emissions of greenhouse gases worldwide are contributing significantly to global warming. Small changes in the earth's temperature will have great effects on biodiversity. Some of the predicted changes include a rise in sea levels and a general warming of temperate regions. These changes will result in shifts in the composition of aquatic and terrestrial communities, and changes in wildlife behaviour and habitats.

Local strategies for biodiversity need to take serious account of this issue. Sea level rise is a considerable threat in Hampshire. The problems and opportunities that this poses need to be anticipated and planned for. Coastal habitats will be lost and species on the edge of their range may disappear. Climate change illustrates that a long-term perspective for biodiversity needs to be taken in the preparation of action plans.

### *GENERAL ISSUES: ACTION*

- *encourage organisations and individuals with a particular responsibility for land-use and land management activities such as agriculture, development, forestry and water resources, to establish their own objectives and action for biodiversity, taking particular account of targets and action outlined in habitat and species action plans*
- *establish groups where appropriate to review issues influencing biodiversity and prepare plans of action*
- *develop action for biodiversity through appropriate land-use fora and initiatives such as SERPLAN and the Solent Forum*
- *take full account of biodiversity objectives within land-use plans and strategies such as the Hampshire County Structure Plan, local plans and Local Environment Agency Plans*
- *influence local and regional policy and national guidance, policy and legislation to support biodiversity objectives in Hampshire*

*67. Fawley power station*



chapter 7

# Awareness and Involvement

*People in all sectors of society should play their part in conserving biodiversity. Ultimately, successful implementation of the Biodiversity Action Plan will depend on this widespread understanding. The Hampshire Biodiversity Partnership will develop a programme to increase awareness and involvement in biodiversity conservation.*

Biodiversity conservation cannot just be left to people involved in land management and nature conservation. It involves many sectors of society and people in all walks of life. Although many people are aware of the need to conserve biodiversity, they do not always appreciate that it concerns them directly: their actions can make a difference.

An action plan will be prepared to specifically address awareness and involvement issues. A working group will assess current initiatives and their effectiveness, identify gaps, and agree objectives, targets and appropriate action. The group will fully consider methods of spreading the biodiversity message. Some initial ideas are sketched out here.

### Key Sectors

One of the central aims of the Biodiversity Action Plan is to increase understanding and support for biodiversity throughout the county. This will involve key sectors of society: farmers and land managers, all levels of government, business and industry, media and education, youth and community groups and the professions. Successful implementation of the action plan will depend on widespread understanding.

Biodiversity messages and initiatives can be geared to the particular interests of each sector. For instance, the success of the biodiversity programme is very dependent upon action by farmers. Farm managers and industry will be keen to know how to promote biodiversity without losing long-term profitability. Youth leaders may wish to know how to interest young people in the natural world, and in education, schools need to be aware of all the opportunities for integrating biodiversity into the curriculum.

Getting the biodiversity message across will involve guidance from the Hampshire Biodiversity Partnership and the support of people in each sector who can communicate in terms that are both relevant and understandable to the sector concerned. Leaders in each sector should be invited to take an active role.

### The Public's Role

Messages on biodiversity should reach everyone as individuals too. Here, messages should focus on the benefit of biodiversity conservation to us all: the enjoyment of contact with nature; the need to protect wildlife for our children; and our moral duty to protect wild species. Action for biodiversity will improve the quality of everyone's life in their own neighbourhoods and communities.

Building awareness can be done in many ways. Information can be distributed through a variety of media and materials such as publications, illustrated talks, displays in shopping centres and libraries, guided nature walks, adverts or programmes on radio and television, the internet and marketing of biodiversity alongside popular products. Messages need to be simple, relevant and easily accessible.

People can also be given opportunities to play a more active part: improving their own gardens for wildlife; helping to clear the village pond of debris; setting up a wildlife corner in their local park; and celebrating local plants and animals in festivals and other events. These types of initiatives give people a greater understanding and a stake in the well-being of their local biodiversity. Direct experience builds appreciation of biodiversity conservation.

chapter 7

*69. Environmental education*

*70. School grounds*

### Education and Training

Integrating biodiversity conservation into formal education is one of the most important vehicles for raising awareness. Young people form their attitudes to the environment at a very early age, and if children understand and respect nature they are more likely to grow into environmentally-aware adults. Education of school children can also have an important knock-on effect to parents and the wider community.

Several national initiatives are examining how biodiversity can be better integrated into the National Curriculum and teacher training. On a practical level, biodiversity education can be promoted through ensuring that all schools have access to nature areas, preferably within their own school grounds. Hampshire County Council's Schools Landscape Project and the national organisation Learning Through Landscapes are two of the many groups that advise on ways to enrich school grounds.

Other initiatives could help to spread awareness. Visitor centres provide a focus for practical activities and field studies, offer equipment and teaching materials, house exhibitions and libraries of information. Nature reserves in the community give people access to wildlife at first hand. Projects which promote a rich biodiversity in the neighbourhood are vitally important in every community, rural or urban.

### Co-ordinated Programme

Widespread understanding is crucial for successful implementation of the Biodiversity Action Plan. Action must be underpinned by greater public awareness and support, and a heightened awareness within those sectors that can have an influence on biodiversity conservation. Many excellent initiatives already exist: for example, the Hampshire Wildlife Trust's Parish Tree Wardens Scheme, Local Environment Initiative and WATCH project for children; district council initiatives such as Eastleigh Borough Council's Pond Rescue Campaign and Southampton City Council's Hawthorn Urban Wildlife Centre; and Hampshire County Council's Community Action Fund and Country Parks. However a strategy is needed to co-ordinate efforts, identify gaps, and greatly increase popular support.

A marketing strategy should aim to get the key messages of biodiversity conservation across to both the general public and to key sectors. Leaders in society will be needed to champion the cause, and more examples of good practice will be needed to illustrate what can be accomplished. Biodiversity should become a household word and an issue that transcends all levels of society.

***AWARENESS AND INVOLVEMENT: ACTION***

- *establish a working group to prepare an action plan to address awareness and involvement in biodiversity conservation*
- *ensure that information on biodiversity and how to get involved in conserving biodiversity is readily available to the public. Local authorities and voluntary conservation organisations in particular can promote awareness and provide opportunities for involvement through mechanisms such as grant-aid for community projects and the management of nature reserves*
- *promote the Biodiversity Action Plan for Hampshire and publicise the main objectives and programme of action*
- *develop a strategy for marketing biodiversity which targets key sectors such as business and industry, all levels of government, the public, land managers and education*
- *encourage and support organisations in developing their corporate awareness and commitment to biodiversity, for example within all departments of local government*
- *ensure that biodiversity is a central component of Local Agenda 21 programmes and that Agenda 21 initiatives help to generate awareness and involvement in biodiversity*
- *support the integration of biodiversity conservation into formal education*

chapter 8

# The Way Forward

*The Biodiversity Action Plan marks the beginning of a co-ordinated programme of action. Each individual and organisation concerned with the conservation of Hampshire's biodiversity has a fundamental role to ensure the success of the objectives of the Plan.*

The Hampshire Biodiversity Partnership is committed to working together to progress biodiversity conservation. The Partnership would like to integrate all interested parties to progress the action set out in this Plan.

The Partnership has a long-term vision for the biodiversity programme. Progressing action will involve a great variety of projects, initiatives, courses of action and levels of activity. Some can be progressed immediately, others will evolve over time. The process needs to be adaptable to changing circumstances. The Partnership is committed to a long-term association, one that will monitor and review progress well into the next Millennium. This will require considerable co-ordination to ensure that we remain focused and stay on course to deliver action and meet the targets which we set for ourselves.

***WAY FORWARD: ACTION***

- *develop and maintain a long-term Partnership to progress the conservation and enhancement of biodiversity in Hampshire through developing initiatives, exchanging information, encouraging action, and monitoring and reviewing progress. This work will be assisted by the Steering Group of the Hampshire Biodiversity Partnership.*
- *encourage individual partners to review their own action, to help meet the objectives and targets set out in the Biodiversity Action Plan and associated habitat and species action plans*
- *monitor the development of the UK Biodiversity Programme and other policies and initiatives at the national and international level, for integration into the Biodiversity Action Plan for Hampshire*
- *review and update the Biodiversity Action Plan, including the habitat and species action plans, every five years*

## *ANNEX 1 - IDENTIFICATION OF PRIORITY SPECIES IN HAMPSHIRE*

The following criteria have been used for selecting priority species from the list of 776 species of concern in Hampshire:

- **national priority species** occurring in Hampshire

  other species if:
- the UK distribution is **restricted to Hampshire,** or Hampshire has the **national stronghold,** or Hampshire has a **regionally important population,** or
- they are suffering a **rapid decline,** or
- all of the following 4 criteria can be met: **isolated, decline, rare, high degree of threat**

### Definition of terms:

**Significance**

| | |
|---|---|
| Restricted to Hampshire | Hampshire holds 100% of the UK population |
| National stronghold | Hampshire holds over 10% of the UK population, or one of 3 counties or fewer with the species |
| Regionally important | SE England a stronghold for the species; Hampshire has a strong population in the region |
| Widespread | Species has widespread distribution in UK and in Hampshire |
| Isolated | Local population is isolated from other populations; likely to contribute to genetic diversity of species |

**Decline ***

| | |
|---|---|
| Rapid decline | 50-100% decline over last 25 years |
| Decline | 6-49% decline over last 25 years |
| Stable | no more than 5% decline over last 25 years |
| Increasing | generally considered to be increasing |

** Decline figures reflect the local situation if known, but often the national figures are taken. It is thus assumed that national declines are also occurring in Hampshire.*

**Local Rarity**

| | |
|---|---|
| Rare | currently occurs in 1% or fewer tetrads ** |
| Scarce | currently occurs in 5% or fewer tetrads |
| Uncommon | currently occurs in 6-20% of tetrads |
| Common | currently occurs in more than 20% of tetrads |

*** a tetrad consists of 4 square kilometres - i.e. 2 km x 2 km*

**Local Threat**

| | |
|---|---|
| high | high degree of threat |
| medium | medium degree of threat |
| low | low degree of threat |

## *ANNEX 2 - PRIORITY SPECIES IN HAMPSHIRE*

### Key to table on page 66-78

**National/local status**

| | |
|---|---|
| P | National priority species |
| C | Other species of national conservation concern |
| BC | Biodiversity Challenge species |
| L | Additional species of local concern |

**Significance of population in region/UK** - see Annex1

**Decline** - see Annex1

**Local rarity** - see Annex1

**Threat** - see Annex1

**Habitats**

| | |
|---|---|
| 1 | Ancient semi-natural woodland |
| 2 | Lowland pasture woodland/parkland |
| 3 | Ancient hedgerows |
| 4 | Arable field margins |
| 5 | Unimproved neutral grassland/fen |
| 6 | Calcareous grassland |
| 7 | Floodplain grazing marsh |
| 8 | Lowland heath/bog/acid grassland |
| 9 | Fen/carr/marsh/swamp/reedbed |
| 10 | Standing open water |
| 11 | Chalk rivers |
| 12 | Canals |
| 13 | Maritime cliffs |
| 14 | Shingle |
| 15 | Saltmarsh |
| 16 | Coastal grazing marsh |
| 17 | Sand dunes |
| 18 | Mudflats and eelgrass beds |
| 19 | Saline lagoons |
| 20 | Road verges |
| 21 | Urban |
| 22 | Marine |
| 23 | General/all habitats |

| Scientific name | Common name | Group | National/ Local Status | Significance of population in region/UK | Decline | Local Rarity | Threat | Habitat(s) |
|---|---|---|---|---|---|---|---|---|
| *Chara baltica* | Baltic stonewort | Algae | P | - | - | - | - | 19 |
| *Lamprothamnium papulosum* | foxtail stonewort | Algae | P | National Stronghold | Stable | Rare | High | 19 |
| *Nitellopsis obtusa* | starry stonewort | Algae | P | - | - | - | - | 19 |
| *Bufo calamita* | natterjack toad | Amphibians | P | National Stronghold | Stable | Rare | Low | 8,10 |
| *Triturus cristatus* | great crested newt | Amphibians | P | Widespread | Decline | Uncommon | Low | 10 |
| *Alkmaria romijni* | tentacled lagoon-worm | Annelids | C | National Stronghold | Stable | Rare | High | 19 |
| *Armandia cirrhosa* | lagoon sandworm | Annelids | P | Restricted to Hants | Rapid Decline | Rare | High | 19 |
| *Hirudo medicinalis* | medicinal leech | Annelids | P | National Stronghold | Stable | Rare | Low | 8,10 |
| *Anergates atratulus* | dark guest ant | Ants | P | National Stronghold | - | - | - | 8,14 |
| *Formica candida* | a black bog ant | Ants | P | National Stronghold | Stable | Rare | Low | 8 |
| *Formica exsecta* | narrow-headed ant | Ants | P | Isolated | Rapid Decline | Rare | High | 8 |
| *Formica rufa* | southern wood ant | Ants | P | Widespread | Stable | Uncommon | Low | 8 |
| *Andrena ferox* | a mining bee | Bees | P | Isolated | - | - | High | 1,5 |
| *Anthophora retusa* | potter flower bee | Bees | C | National Stronghold | Rapid Decline | Rare | High | 13 |
| *Bombus ruderatus* | large garden bumble bee | Bees | P | Widespread | Decline | Scarce | High | 5,6 |
| *Bombus sylvarum* | shrill carder bee | Bees | P | Widespread | Decline | Scarce | High | 5,6 |
| *Lasioglossum angusticeps* | a mining bee | Bees | P | Isolated | Decline | Rare | High | 13 |
| *Melecta luctosa* | a solitary bee | Bees | BC | National Stronghold | Rapid Decline | Rare | High | 8,13 |
| *Nomada armata* | a cuckoo bee | Bees | P | - | - | - | - | 6,20 |
| *Nomada xanthosticta* | a cuckoo bee | Bees | P | - | Rapid Decline | - | - | 1 |
| *Osmia xanthomelana* | a mason bee | Bees | P | Isolated | Decline | Rare | High | 13 |
| *Psithyrus rupestris* | hill cuckoo bee | Bees | C | Isolated | Rapid Decline | Rare | High | 5,14,17 |
| *Agabus brunneus* | a water beetle | Beetles | P | National Stronghold | Stable | Rare | Medium | 8 |
| *Amara famelica* | a ground beetle | Beetles | P | - | Decline | - | - | 8 |
| *Ampedus quercicola* | a click beetle | Beetles | L | National Stronghold | Decline | Scarce | Low | 1,2 |
| *Anisodactylus nemorivagus* | a ground beetle | Beetles | P | National Stronghold | Decline | Scarce | Low | 8 |
| *Anisodactylus poeciloides* | a ground beetle | Beetles | P | - | Decline | - | - | 15,16 |
| *Aphodius niger* | a scarab beetle | Beetles | P | Restricted to Hants | Stable | Rare | Low | 8 |
| *Bidessus unistriatus* | a water beetle | Beetles | P | - | Decline | - | - | 7,10,16 |
| *Cicindela germanica* | a tiger beetle | Beetles | P | - | Decline | - | - | 13 |
| *Cicindela sylvatica* | wood tiger beetle | Beetles | P | National Stronghold | - | - | - | 8 |
| *Cryptocephalus nitidulus* | a leaf beetle | Beetles | P | - | - | - | - | 1 |
| *Cryptocephalus sexpunctatus* | a leaf beetle | Beetles | P | - | - | - | - | 1 |
| *Donacia aquatica* | a reed beetle | Beetles | P | - | - | - | - | 9,10 |
| *Donacia bicolora* | a reed beetle | Beetles | P | - | - | - | - | 9,10 |
| *Dromius quadrisignatus* | a ground beetle | Beetles | P | - | Decline | - | - | 1,2 |

Dash (-) indicates information unknown or unavailable

| Scientific name | Common name | Group | National/ Local Status | Significance of population in region/UK | Decline | Local Rarity | Threat | Habitat(s) |
|---|---|---|---|---|---|---|---|---|
| *Dyschirius angustatus* | a ground beetle | Beetles | P | - | Decline | - | - | 17 |
| *Gnorimus nobilis* | a chafer | Beetles | P | - | - | - | - | 1,2 |
| *Graphoderus zonatus* | water beetle | Beetles | P | Restricted to Hants | Stable | Rare | High | 8 |
| *Helophorus laticollis* | a water beetle | Beetles | P | Restricted to Hants | Decline | Rare | High | 8 |
| *Hydroporus rufifrons* | a water beetle | Beetles | P | - | Decline | - | - | 9,10 |
| *Hylis olexai* | a click beetle | Beetles | L | Regionally Important | Decline | Rare | - | 1 |
| *Lionychus quadrillum* | a ground beetle | Beetles | P | - | Decline | - | - | 14,15 |
| *Lucanus cervus* | stag beetle | Beetles | P | National Stronghold | Rapid Decline | Scarce | - | 1,2 |
| *Malachius aeneus* | scarlet malachite beetle | Beetles | P | National Stronghold | - | - | - | 3,5 |
| *Meotica anglica* | a rove beetle | Beetles | P | Isolated | Decline | Scarce | | 11 |
| *Pachytychius haematocephalus* | a weevil | Beetles | P | Restricted to Hants | - | Rare | High | 5,16 |
| *Paedurus caligatus* | a rove beetle | Beetles | L | National Stronghold | Decline | Rare | - | 1 |
| *Paracymus aeneus* | water beetle | Beetles | P | National Stronghold | Decline | Rare | High | 15 |
| *Prionus coriarius* | a sawyer beetle | Beetles | L | Regionally Important | Stable | Rare | - | 1 |
| *Pterostichus aterrimus* | a ground beetle | Beetles | P | National Stronghold | Decline | Rare | - | 8 |
| *Pterostichus kugelanni* | a ground beetle | Beetles | P | National Stronghold | Decline | Rare | - | 8 |
| *Rhynchaenus testaceus* | a jumping weevil | Beetles | P | - | - | - | - | 9 |
| *Sphinginus lobatus* | a false soldier beetle | Beetles | L | Restricted to Hants | - | Scarce | - | 1 |
| *Tachys edmondsi* | a ground beetle | Beetles | P | Restricted to Hants | - | Rare | - | 8 |
| *Tachys micros* | a ground beetle | Beetles | P | Regionally Important | Decline | Scarce | - | 13 |
| *Tomoxia bucephala* | a tumbling flower beetle | Beetles | L | Regionally Important | Stable | Scarce | - | 1 |
| *Acrocephalus paludicola* | aquatic warbler | Birds | P | Isolated | Decline | Rare | Low | 9,16 |
| *Acrocephalus palustris* | marsh warbler | Birds | P | - | - | - | - | 9 |
| *Acrocephalus scirpaceus* | reed warbler | Birds | C | Regionally Important | Stable | - | Low | 9 |
| *Alauda arvensis* | skylark | Birds | P | Widespread | Decline | Rare | High | 4,5,6,7,8,16 |
| *Anas strepera* | gadwall | Birds | C | Regionally Important | Increasing | Uncommon | Low | 7,10,11 |
| *Anser albifrons* | white-fronted goose | Birds | C | Regionally Important | Rapid Decline | Rare | High | 7,10,16 |
| *Arenarea interpres* | turnstone | Birds | C | Regionally Important | Stable | Scarce | Medium | 15,18 |
| *Aythya ferina* | pochard | Birds | C | National Stronghold | Decline | Scarce | Low | 10,11 |
| *Botaurus stellaris* | bittern | Birds | P | Regionally Important | Stable | Rare | High | 9 |
| *Branta bernicla bernicla* | dark-bellied brent goose | Birds | C | National Stronghold | Stable | Uncommon | Medium | 15,16,18 |
| *Burhinus oedicnemus* | stone curlew | Birds | P | National Stronghold | Rapid Decline | Scarce | High | 4,6,8 |
| *Calidris alba* | sanderling | Birds | C | Regionally Important | Stable | Scarce | Medium | 15,18 |
| *Calidris alpina* | dunlin | Birds | C | National Stronghold | Stable | Uncommon | Medium | 15,18,19 |
| *Calidris canutus* | knot | Birds | C | Regionally Important | Stable | Scarce | Medium | 15,18 |

| Scientific name | Common name | Group | National/ Local Status | Significance of population in region/UK | Decline | Local Rarity | Threat | Habitat(s) |
|---|---|---|---|---|---|---|---|---|
| *Caprimulgus europaeus* | nightjar | Birds | P | National Stronghold | Stable | Uncommon | High | 1,8 |
| *Carduelis cannabina* | linnet | Birds | P | Widespread | Decline | - | High | 4,6,8,23 |
| *Cettia cetti* | Cetti's warbler | Birds | C | National Stronghold | Increasing | Uncommon | Low | 9 |
| *Circus cyaneus* | hen harrier | Birds | C | Regionally Important | Decline | Scarce | Medium | 8 |
| *Circus pygargus* | Montagu's harrier | Birds | C | National Stronghold | Stable | Rare | High | 4,8,16 |
| *Coccothraustes coccothraustes* | hawfinch | Birds | C | National Stronghold | Stable | Uncommon | Low | 1,2 |
| *Coturnix coturnix* | quail | Birds | C | Regionally Important | Stable | Scarce | Low | 4,6,16 |
| *Crex crex* | corncrake | Birds | P | - | - | - | - | 5,7 |
| *Cygnus columbianus* | Bewick's swan | Birds | C | Regionally Important | Decline | Rare | High | 7,10 |
| *Dendrocops minor* | lesser spotted woodpecker | Birds | C | National Stronghold | Stable | - | Low | 1,2 |
| *Egretta garzetta* | little egret | Birds | L | National Stronghold | Increasing | Scarce | Low | 9,15,16,18,19 |
| *Emberiza cirlus* | cirl bunting | Birds | P | - | - | - | - | 3,4 |
| *Emberiza schoeniclus* | reed bunting | Birds | P | Widespread | Decline | - | High | 4,8,9 |
| *Falco columbarius* | merlin | Birds | C | Regionally Important | Stable | Scarce | Medium | 8,16 |
| *Falco subbuteo* | hobby | Birds | C | National Stronghold | Increasing | Uncommon | Low | 2,8 |
| *Gallinago gallinago* | snipe | Birds | C | Regionally Important | Rapid Decline | Uncommon | High | 7,8,9,15,16 |
| *Jynx torquila* | wryneck | Birds | P | - | - | - | - | 2 |
| *Lanius collurio* | red-backed shrike | Birds | P | - | Rapid Decline | Rare | High | 5,6,8 |
| *Larus melanocephalus* | Mediterranean gull | Birds | C | National Stronghold | Increasing | Rare | Medium | 15 |
| *Limosa lapponica* | bar-tailed godwit | Birds | C | Regionally Important | Decline | Scarce | Medium | 15,18 |
| *Limosa limosa* | black-tailed godwit | Birds | C | National Stronghold | Stable | Scarce | Medium | 7,15,18,19 |
| *Locustella naevia* | grasshopper warbler | Birds | C | - | Rapid Decline | Rare | Low | 8,9 |
| *Lullula arborea* | woodlark | Birds | P | National Stronghold | Increasing | Uncommon | High | 8 |
| *Luscinia megarhynchos* | nightingale | Birds | C | Regionally Important | Decline | Uncommon | Medium | 1,2,8,9 |
| *Melanitta nigra* | common scoter | Birds | P | - | - | - | - | 22 |
| *Mergus merganser* | goosander | Birds | C | Regionally Important | Increasing | Scarce | Low | 10,11 |
| *Mergus serrator* | red-breasted merganser | Birds | C | Regionally Important | Stable | Scarce | Medium | 22 |
| *Milaria calandra* | corn bunting | Birds | P | Widespread | Rapid Decline | Uncommon | High | 4,6,7,16 |
| *Milvus milvus* | red kite | Birds | C | Regionally Important | Increasing | Rare | - | 1,5,23 |
| *Motacilla flava* | yellow wagtail | Birds | C | - | Rapid Decline | Rare | High | 7,16 |
| *Muscicapa striata* | spotted flycatcher | Birds | P | Widespread | Rapid Decline | - | High | 1,2,21,23 |
| *Panurus biarmicus* | bearded tit | Birds | C | Regionally Important | Stable | Scarce | Low | 9 |
| *Passer montanus* | tree sparrow | Birds | P | - | Rapid Decline | Rare | High | 3,4 |
| *Perdix perdix* | grey partridge | Birds | P | Widespread | Rapid Decline | - | High | 3,4 |
| *Pernis apivorus* | honey buzzard | Birds | C | National Stronghold | Decline | Rare | High | 8,12 |
| *Pluvialis apricaria* | golden plover | Birds | C | Regionally Important | Stable | Uncommon | Medium | 7,15,16,18 |

| Scientific name | Common name | Group | National/ Local Status | Significance of population in region/UK | Decline | Local Rarity | Threat | Habitat(s) |
|---|---|---|---|---|---|---|---|---|
| *Pluvialis squatarola* | grey plover | Birds | C | National Stronghold | Stable | Uncommon | Medium | 15,18 |
| *Podiceps auritus* | Slavonian grebe | Birds | C | Regionally Important | Increasing | Scarce | Medium | 22 |
| *Podiceps nigricollis* | black-necked grebe | Birds | C | National Stronghold | Decline | Rare | Medium | 10,22 |
| *Pyrrhula pyrrhula* | bullfinch | Birds | P | Widespread | Decline | - | High | 1,2,3,21,23 |
| *Regulus ignicapillus* | firecrest | Birds | C | National Stronghold | Stable | Scarce | Low | 1,2 |
| *Saxicola rubetra* | whinchat | Birds | C | - | Rapid Decline | Rare | High | 8 |
| *Sterna albifrons* | little tern | Birds | C | National Stronghold | Decline | Rare | Medium | 14,15 |
| *Sterna dougallii* | roseate tern | Birds | P | - | - | - | - | 14,15,22 |
| *Streptopelia turtur* | turtle dove | Birds | P | Widespread | Rapid Decline | Uncommon | High | 1,2,3,4 |
| *Sylvia undata* | Dartford warbler | Birds | C | National Stronghold | Stable | Uncommon | Medium | 8 |
| *Tetrao tetrix* | black grouse | Birds | P | - | - | - | - | 8 |
| *Turdus philomelos* | song thrush | Birds | P | Widespread | Decline | - | High | 1,2,4,21,23 |
| *Apatura iris* | purple emperor | Butterflies | C | National Stronghold | Decline | Scarce | Low | 1 |
| *Argynnis adippe* | high brown fritillary | Butterflies | P | - | Rapid Decline | - | - | 1 |
| *Argynnis paphia* | silver-washed fritillary | Butterflies | C | Regionally Important | Stable | - | - | 1,2 |
| *Boloria euphrosyne* | pearl-bordered fritillary | Butterflies | P | Regionally Important | Rapid Decline | Rare | High | 1,8 |
| *Boloria selene* | small pearl-bordered fritillary | Butterflies | C | Isolated | Rapid Decline | Rare | High | 1,5,8 |
| *Cupido minimus* | small blue | Butterflies | C | Isolated | Rapid Decline | Scarce | High | 6 |
| *Eurodryas aurinia* | marsh fritillary | Butterflies | P | Isolated | Rapid Decline | Rare | High | 6,8,9 |
| *Hamearis lucina* | Duke of Burgundy | Butterflies | C | National Stronghold | Decline | Scarce | High | 1,6 |
| *Hesperia comma* | silver-spotted skipper | Butterflies | P | Regionally Important | Stable | Rare | Low | 6 |
| *Lysandra bellargus* | adonis blue | Butterflies | P | Regionally Important | Decline | Scarce | Low | 6 |
| *Lysandra coridon* | chalkhill blue | Butterflies | C | Regionally Important | Decline | Uncommon | - | 6 |
| *Plebejus argus* | silver-studded blue | Butterflies | P | National Stronghold | Decline | Uncommon | Low | 8 |
| *Strymonidia w-album* | white-letter hairstreak | Butterflies | L | National Stronghold | Stable | Scarce | Low | 1,2,3 |
| *Thecla betulae* | brown hairstreak | Butterflies | C | Isolated | Decline | Rare | High | 3 |
| *Austropotamobius pallipes* | white-clawed crayfish | Crustaceans | P | Isolated | Rapid Decline | Scarce | High | 10,11 |
| *Chirocephalus diaphanus* | fairy shrimp | Crustaceans | C | National Stronghold | Stable | Rare | - | 8,10 |
| *Gammarus insensibilis* | lagoon sand shrimp | Crustaceans | P | National Stronghold | Decline | Scarce | High | 16,19 |
| *Triops cancriformis* | tadpole shrimp | Crustaceans | P | National Stronghold | - | - | - | 8,10 |
| *Ceriagrion tenellum* | small red damselfly | Dragonflies | L | National Stronghold | Stable | Scarce | Low | 8 |
| *Coenagrion mercuriale* | southern damselfly | Dragonflies | P | National Stronghold | Stable | Rare | High | 8,11 |
| *Cordulia aenea* | Downy emerald | Dragonflies | L | Regionally Important | Stable | Scarce | Low | 8,10,12 |
| *Ischnura pumilio* | scarce blue-tailed damselfly | Dragonflies | L | National Stronghold | Stable | Scarce | High | 11 |
| *Orthetrum coerulscens* | keeled skimmer | Dragonflies | L | National Stronghold | Stable | Scarce | Low | 8 |
| *Platycnemis pennipes* | white-legged damselfly | Dragonflies | L | Isolated | Decline | Rare | High | 11 |

| Scientific name | Common name | Group | National/ Local Status | Significance of population in region/UK | Decline | Local Rarity | Threat | Habitat(s) |
|---|---|---|---|---|---|---|---|---|
| *Somatochlora metaliica* | brilliant emerald | Dragonflies | L | Regionally Important | Stable | Rare | High | 8,12 |
| *Dryopteris aemula* | hay-scented buckler-fern | Ferns | C | Isolated | Decline | Rare | High | 1 |
| *Equisetum hyemale* | Rough horsetail | Ferns | L | Isolated | Decline | Rare | High | 1 |
| *Lycopodiella inundata* | marsh clubmoss | Ferns | P | National Stronghold | Stable | Scarce | High | 8 |
| *Lycopodium clavatum* | stags-horn clubmoss | Ferns | L | Isolated | Decline | Rare | High | 8 |
| *Pilularia globulifera* | pillwort | Ferns | P | National Stronghold | Decline | Rare | High | 8,10 |
| *Alosa alsoa* | allis shad | Fishes | P | - | - | - | - | 11,22 |
| *Alosa fallax* | Twaite shad | Fishes | P | - | - | - | - | 11,22 |
| *Cottus gobio* | bullhead | Fishes | C | Regionally important | - | - | Low | 11 |
| *Galeorhinus galeus* | tope | Fishes | BC | Regionally important | Decline | Scarce | - | 22 |
| *Lampetra planeri* | brook lamprey | Fishes | C | Regionally important | - | Scarce | - | 11 |
| *Petromyzon marinus* | sea lamprey | Fishes | C | Regionally important | - | Scarce | - | 11,22 |
| *Salmo salar* | Atlantic salmon | Fishes | C | Regionally important | Rapid decline | Scarce | High | 11,22 |
| *Thymallus thymallus* | grayling | Fishes | C | Regionally important | Increasing | Common | Low | 11,22 |
| *Asilus crabroniformis* | hornet robberfly | Flies | P | National Stronghold | Decline | Rare | Low | 6,8 |
| *Atylotus latistriatus* | a horsefly | Flies | L | National Stronghold | Decline | Rare | High | 15 |
| *Bombylius discolor* | a beefly | Flies | P | Isolated | Decline | Rare | - | 1 |
| *Bombylius minor* | a beefly | Flies | P | Isolated | Decline | Rare | - | 6,8,17 |
| *Brachyopa bicolor* | a hoverfly | Flies | L | National Stronghold | Decline | Rare | Low | 1 |
| *Caliprobola speciosa* | a hoverfly | Flies | L | National Stronghold | Decline | Rare | Low | 2 |
| *Cheilosia nigripes* | a hoverfly | Flies | L | Isolated | Decline | Rare | High | 6 |
| *Cheilosia semifasciata* | a hoverfly | Flies | L | Isolated | Rapid Decline | Rare | High | 1 |
| *Chrysops sepulchralis* | a horsefly | Flies | C | Isolated | Rapid Decline | Rare | High | 8,10 |
| *Chrysotoxum octomaculatum* | a hoverfly | Flies | P | Isolated | Rapid Decline | Rare | High | 8 |
| *Chrysotoxum vernale* | a hoverfly | Flies | L | Isolated | Rapid Decline | Rare | High | 8 |
| *Ctenophora flaveolata* | a cranefly | Flies | C | National Stronghold | Decline | Rare | Low | 1,2 |
| *Dioctria cothurnata* | a robber fly | Flies | L | National Stronghold | Decline | Rare | High | 1,3,8 |
| *Doros conopseus* | a hoverfly | Flies | P | Isolated | Decline | Rare | High | 6 |
| *Dorycera graminum* | a large otitid | Flies | P | - | - | - | - | 5 |
| *Eristalis cryptarum* | a hoverfly | Flies | P | Isolated | Rapid Decline | Rare | High | 9 |
| *Haematopota grandis* | a horsefly | Flies | L | Regionally Important | Decline | Rare | High | 15 |
| *Hybomitra expollicata* | a horse fly | Flies | L | Isolated | Decline | Rare | High | 15,16 |
| *Lipsothrix nervosa* | a cranefly | Flies | P | - | - | - | - | 9 |
| *Machimus rusticus* | a robber fly | Flies | L | National Stronghold | Stable | Rare | Low | 6 |
| *Microdon devius* | a hoverfly | Flies | C | Regionally Important | Decline | Rare | Low | 6 |
| *Odontomyia argentata* | a soldier fly | Flies | C | Isolated | Decline | Rare | High | 9 |
| *Oxycera analis* | a soldier fly | Flies | C | Isolated | Decline | Rare | High | 9,10,11 |
| *Paragus albifrons* | a hoverfly | Flies | L | Isolated | Decline | Rare | High | 16 |

| Scientific name | Common name | Group | National/ Local Status | Significance of population in region/UK | Decline | Local Rarity | Threat | Habitat(s) |
|---|---|---|---|---|---|---|---|---|
| *Pelecocera tricincta* | a hoverfly | Flies | L | National Stronghold | Decline | Scarce | Low | 8 |
| *Physocephala nigra* | a conopid fly | Flies | L | Regionally Important | Decline | Rare | - | 8 |
| *Pocota personata* | a hoverfly | Flies | C | National Stronghold | Stable | Scarce | Low | 1,2 |
| *Psilota anthracina* | a hoverfly | Flies | L | National Stronghold | Stable | Scarce | Low | 1,2 |
| *Stratiomys longicornis* | a soldier fly | Flies | L | Isolated | Decline | Rare | High | 15,16 |
| *Tabanus glaucopis* | a horse fly | Flies | L | Regionally Important | Decline | Rare | High | 6 |
| *Thyridanthrax fenestratus* | a bee fly | Flies | P | National Stronghold | Stable | Scarce | Low | 8 |
| *Xylomyia maculata* | a fly | Flies | C | National Stronghold | - | - | - | 1,2 |
| *Zodion notatum* | a conopid fly | Flies | L | Regionally Important | Decline | Rare | High | 6,8 |
| *Aceras anthropophorum* | man orchid | Flowering Plants | L | Isolated | Decline | Rare | High | 6 |
| *Adonis annua* | pheasant's eye | Flowering Plants | C | National Stronghold | Decline | Rare | High | 4 |
| *Ajuga chamaepitys* | ground pine | Flowering Plants | C | National Stronghold | Decline | Rare | High | 4 |
| *Alopecurus bulbosus* | bulbous foxtail | Flowering Plants | L | National Stronghold | - | Scarce | High | 16 |
| *Althaea hirsuta* | rough marsh mallow | Flowering Plants | C | Isolated | Rapid Decline | Rare | High | 4 |
| *Althaea officinalis* | marsh-mallow | Flowering Plants | L | National Stronghold | Stable | Rare | High | 15 |
| *Arabis glabra* | tower mustard | Flowering Plants | P | Widespread | Decline | Rare | High | 8,20 |
| *Arum italicum spp.neglectum* | Italian Lords and Ladies | Flowering Plants | L | National Stronghold | Stable | Scarce | Low | 1,20 |
| *Briza minor* | lesser quaking grass | Flowering Plants | L | National Stronghold | Decline | Rare | High | 4 |
| *Bromus interruptus* | interrupted brome | Flowering Plants | P | - | - | - | - | 5 |
| *Bupleurum tenuissimum* | slender hare's ear | Flowering Plants | L | National Stronghold | Decline | Scarce | High | 16 |
| *Carex divisa* | divided sedge | Flowering Plants | L | National Stronghold | Stable | Scarce | High | 16 |
| *Carex humilis* | dwarf sedge | Flowering Plants | C | National Stronghold | Stable | Rare | Low | 6 |
| *Carex montana* | soft-leaved sedge | Flowering Plants | L | National Stronghold | Stable | Scarce | Low | 1,2,8 |
| *Carex punctata* | dotted sedge | Flowering Plants | L | National Stronghold | Decline | Rare | High | 8,14,15,16 |
| *Carum verticillatum* | whorled caraway | Flowering Plants | C | Isolated | Rapid Decline | Rare | High | 5 |
| *Centaurea cyanus* | cornflower | Flowering Plants | P | Isolated | Rapid Decline | Rare | High | 4 |
| *Cephalanthera longifolia* | sword-leaved helleborine | Flowering Plants | C | National Stronghold | Decline | Rare | Low | 1 |
| *Cephalanthera rubra* | red helleborine | Flowering Plants | C | National Stronghold | Stable | Rare | Low | 1 |
| *Cerastium pumilum* | dwarf mouse-ear | Flowering Plants | L | Isolated | Decline | Rare | High | 6,20 |
| *Chamaemelum nobile* | chamomile | Flowering Plants | C | National Stronghold | Decline | Uncommon | Low | 5,8 |
| *Cicendia filiformis* | yellow centaury | Flowering Plants | L | National Stronghold | Stable | Scarce | Low | 8,10 |
| *Crassula tillaea* | mossy stonecrop | Flowering Plants | L | National Stronghold | Decline | Scarce | Low | 8,14 |
| *Cyperus fuscus* | brown galingale | Flowering Plants | C | National Stronghold | Stable | Rare | Low | 8,10 |
| *Dactylorhiza traunsteineri* | narrow-leaved marsh-orchid | Flowering Plants | L | National Stronghold | Decline | Rare | High | 9 |
| *Damasonium alisma* | starfruit | Flowering Plants | P | - | - | - | - | 10 |
| *Deschampsia setacea* | bog hair grass | Flowering Plants | C | National Stronghold | Stable | Scarce | Low | 8 |
| *Dianthus armeria* | Deptford pink | Flowering Plants | P | Isolated | Rapid Decline | Rare | High | 8,23 |

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|---|---|---|---|---|---|---|---|---|
| *Elatine hexandra* | six-stamened waterwort | Flowering Plants | L | National Stronghold | Stable | Scarce | High | 10 |
| *Eleocharis parvula* | dwarf spike-rush | Flowering Plants | C | National Stronghold | Stable | Rare | High | 18 |
| *Epipactis leptochila* | narrow-lipped helleborine | Flowering Plants | L | Isolated | Decline | Rare | High | 1 |
| *Epipactis phyllanthes* | green flowered helleborine | Flowering Plants | L | Isolated | Decline | Rare | High | 1,20 |
| *Eriophorum gracile* | slender cottongrass | Flowering Plants | C | National Stronghold | Decline | Rare | High | 8 |
| *Euphorbia platyphyllos* | broad-leaved spurge | Flowering Plants | C | National Stronghold | Rapid Decline | Scarce | High | 4 |
| *Euphorbia portlandica* | portland spurge | Flowering Plants | L | Isolated | Rapid Decline | Rare | High | 14 |
| *Euphrasia pseudokernei* | chalk eyebright | Flowering Plants | L | National Stronghold | Decline | Scarce | Low | 6,20 |
| *Festuca arenaria* | rush-leaved fescue | Flowering Plants | L | Isolated | Decline | Rare | High | 16 |
| *Filago lutescens* | red-tipped cudweed | Flowering Plants | P | National Stronghold | Stable | Rare | High | 4,8,20 |
| *Filago pyramidata* | broad-leaved cudweed | Flowering Plants | P | - | - | - | - | 6 |
| *Galeopsis angustifolia* | red hemp-nettle | Flowering Plants | P | National Stronghold | Decline | Scarce | High | 4,20 |
| *Galium constrictum* | slender marsh bedstraw | Flowering Plants | L | Restricted to Hants | Stable | Scarce | Low | 9,10 |
| *Galium parisiense* | wall bedstraw | Flowering Plants | L | National Stronghold | Decline | Rare | High | 6,20 |
| *Galium pumilum* | slender bedstraw | Flowering Plants | L | National Stronghold | Decline | Rare | High | 6 |
| *Galium tricornutum* | corn cleavers | Flowering Plants | P | - | - | - | - | 6 |
| *Gentiana pneumonanthe* | marsh gentian | Flowering Plants | L | National Stronghold | Stable | Scarce | Low | 8 |
| *Gentianella anglica* | early gentian | Flowering Plants | P | Isolated | Decline | Rare | High | 6 |
| *Gentianella germanica* | chiltern gentian | Flowering Plants | L | Regionally Important | Decline | Rare | High | 6,20 |
| *Geranium purpureum spp. forsteri* | little robin | Flowering Plants | L | National Stronghold | Stable | Rare | High | 14 |
| *Gladiolus illyricus* | wild gladiolus | Flowering Plants | C | Restricted to Hants | Decline | Scarce | High | 8 |
| *Gnaphalium sylvaticum* | heath cudweed | Flowering Plants | C | National Stronghold | Decline | Rare | High | 8 |
| *Hammarbya paludosa* | bog orchid | Flowering Plants | C | National Stronghold | Stable | Rare | Low | 8 |
| *Helleborus foetidus* | stinking hellebore | Flowering Plants | L | Regionally Important | Decline | Scarce | Low | 1 |
| *Herminium monorchis* | musk orchid | Flowering Plants | L | National Stronghold | Decline | Rare | Low | 6 |
| *Hordelymus europaeus* | wood barley | Flowering Plants | L | Isolated | Rapid Decline | Rare | High | 1 |
| *Hordeum marinum* | sea barley | Flowering Plants | L | Regionally Important | Decline | Rare | High | 16 |
| *Hypochaeris glabra* | smooth cat's-ear | Flowering Plants | C | Isolated | Decline | Rare | High | 4,8,17,20 |
| *Iberis amara* | wild candytuft | Flowering Plants | L | Isolated | Decline | Rare | High | 6 |
| *Illecebrum verticillatum* | coral necklace | Flowering Plants | L | National Stronghold | Stable | Rare | Low | 8,10,20 |
| *Inula crithmoides* | golden samphire | Flowering Plants | L | National Stronghold | Stable | Scarce | High | 14,15 |
| *Juniperus communis* | juniper | Flowering Plants | P | - | Decline | Uncommon | - | 6,8 |
| *Lathryrus aphaca* | yellow vetchling | Flowering Plants | L | Isolated | Decline | Rare | High | 4,6,16 |
| *Lathyrus japonicus* | sea pea | Flowering Plants | BC | Isolated | Decline | Rare | High | 14 |
| *Leersia oryzoides* | cut-grass | Flowering Plants | P | Isolated | Decline | Rare | High | 9 |
| *Leucojum aestivum* | summer snowflake | Flowering Plants | L | National Stronghold | Decline | Rare | Low | 9,11 |

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|---|---|---|---|---|---|---|---|---|
| *Lithospermum arvense* | corn gromwell | Flowering Plants | C | National Stronghold | Rapid Decline | Rare | High | 4 |
| *Lobelia urens* | heath lobelia | Flowering Plants | C | National Stronghold | Stable | Rare | High | 5,8 |
| *Lotus angustissimus* | slender bird's-foot trefoil | Flowering Plants | C | National Stronghold | Stable | Scarce | Low | 5 |
| *Ludwigia palustris* | Hampshire purslane | Flowering Plants | C | Restricted to Hants | Stable | Rare | Low | 5,10 |
| *Melittis melissophyllum* | bastard balm | Flowering Plants | L | National Stronghold | Decline | Rare | High | 1 |
| *Mentha pulegium* | pennyroyal | Flowering Plants | P | National Stronghold | Stable | Rare | Low | 20 |
| *Minuartia hybrida* | fine-leaved sandwort | Flowering Plants | L | Isolated | Decline | Rare | High | 4,20,21 |
| *Oenanthe fluviatilis* | river water-dropwort | Flowering Plants | C | Isolated | Rapid Decline | Rare | High | 11 |
| *Orchis morio* | green-winged orchid | Flowering Plants | BC | Widespread | Rapid Decline | Uncommon | High | 5,6 |
| *Orobanche purpurera* | yarrow broomrape | Flowering Plants | L | Isolated | Decline | Rare | High | 5 |
| *Orobanche rapum-genistae* | greater broomrape | Flowering Plants | C | Isolated | Decline | Rare | High | 5,8 |
| *Parapholis incurva* | curved hard grass | Flowering Plants | L | Regionally Important | Decline | Scarce | High | 13,14 |
| *Persicaria mitis* | tasteless water-pepper | Flowering Plants | L | National Stronghold | Decline | Rare | High | 9,10 |
| *Petroraghia nanteulii* | Childing pink | Flowering Plants | C | National Stronghold | | Rare | High | 14 |
| *Poa bulbosa* | bulbous meadow grass | Flowering Plants | L | Regionally Important | Decline | Rare | High | 5,13,14,17 |
| *Polygonatum odoratum* | angular solomon's seal | Flowering Plants | L | Isolated | Decline | Rare | High | 8 |
| *Polypogon monspeliensis* | annual beard grass | Flowering Plants | L | National Stronghold | Stable | Rare | High | 16 |
| *Potamogeton trichoides* | hair-like pondweed | Flowering Plants | L | Isolated | Decline | Rare | High | 10 |
| *Puccinellia fasciculata* | borrer's saltmarsh grass | Flowering Plants | L | Regionally Important | Decline | Rare | High | 15 |
| *Puccinellia rupestris* | stiff saltmarsh grass | Flowering Plants | L | Regionally Important | Decline | Rare | High | 15 |
| *Pulicaria vulgaris* | small fleabane | Flowering Plants | C | National Stronghold | Stable | Scarce | Low | 5 |
| *Pulmonaria longifolia* | narrow leaved lungwort | Flowering Plants | L | National Stronghold | Decline | Scarce | Low | 1,8,20 |
| *Ranunculus arvensis* | corn buttercup | Flowering Plants | C | Isolated | Rapid Decline | Rare | High | 4 |
| *Ranunculus penicillatus* | stream water-crowfoot | Flowering Plants | C | National Stronghold | Stable | Uncommon | Low | 11,12 |
| *Ranunculus tripartitus* | three-lobed crowfoot | Flowering Plants | P | - | - | Rare | High | 10 |
| *Rhinanthus serotinus* | greater yellow-rattle | Flowering Plants | C | National Stronghold | Stable | Rare | High | 14 |
| *Rhynchospora fusca* | brown-beak sedge | Flowering Plants | L | National Stronghold | Stable | Scarce | Low | 8 |
| *Ruppia cirrhosa* | spiral tasselweed | Flowering Plants | L | Regionally Important | Decline | Rare | High | 19 |
| *Salicornia pusilla* | one-flowered glasswort | Flowering Plants | L | Regionally Important | Stable | Scarce | Low | 15 |
| *Scandix pecten-veneris* | shepherd's-needle | Flowering Plants | P | National Stronghold | Rapid Decline | Rare | High | 4 |
| *Silene gallica* | small-flowered catchfly | Flowering Plants | P | National Stronghold | Rapid Decline | Rare | High | 4,16 |
| *Silene nutans* | Nottingham catchfly | Flowering Plants | BC | National Stronghold | Decline | Scarce | High | 14,17 |
| *Sium latifolium* | greater water-parsnip | Flowering Plants | P | - | - | - | - | 9,10 |
| *Sonchus palustris* | marsh sow thistle | Flowering Plants | L | Regionally Important | Decline | Rare | High | 15 |
| *Sparganium angustifolium* | floating bur-reed | Flowering Plants | L | Regionally Important | Decline | Rare | High | 10 |
| *Teucrium botrys* | cut-leaved germander | Flowering Plants | C | National Stronghold | Decline | Rare | High | 6 |
| *Thesium humifusum* | bastard toadflax | Flowering Plants | L | Regionally Important | Decline | Scarce | High | 6 |

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|---|---|---|---|---|---|---|---|---|
| *Torilis arvensis* | spreading hedge-parsley | Flowering Plants | P | National Stronghold | Decline | Rare | High | 4 |
| *Trifolium squamosum* | sea clover | Flowering Plants | L | National Stronghold | Decline | Rare | High | 16 |
| *Trifolium suffocatum* | suffocated clover | Flowering Plants | L | Regionally Important | Decline | Scarce | High | 14 |
| *Ulmus minor ssp. angustifolia* | Goodyer's elm | Flowering Plants | L | National Stronghold | Rapid Decline | Scarce | High | 3 |
| *Utricularia intermedia* | intermediate bladderwort | Flowering Plants | L | Isolated | Decline | Rare | High | 8 |
| *Valerianella rimosa* | broad-fruited corn salad | Flowering Plants | P | Isolated | Rapid Decline | Rare | High | 4 |
| *Viola lactea* | pale dog violet | Flowering Plants | L | National Stronghold | Decline | Scarce | Low | 5,8 |
| *Vulpia ciliata spp.ambigua* | bearded fescue | Flowering Plants | L | National Stronghold | Stable | Scarce | Low | 8,17 |
| *Vulpia fasciculata* | dune fescue | Flowering Plants | L | Isolated | Decline | Rare | High | 14,17 |
| *Vulpia unilateralis* | mat-grass fescue | Flowering Plants | L | National Stronghold | Stable | Rare | High | 6 |
| *Zostera angustifolia* | narrow leaved eelgrass | Flowering Plants | BC | Regionally Important | Decline | Scarce | High | 18 |
| *Zostera marina* | eelgrass | Flowering Plants | C | Regionally Important | Decline | Scarce | High | 18 |
| *Zostera noltii* | dwarf eelgrass | Flowering Plants | BC | Regionally Important | Decline | Scarce | High | 18 |
| *Boletus regius* | royal bolete | Fungi | P | - | Decline | Rare | - | 2 |
| *Boletus satanas* | Devil's bolete | Fungi | P | National Stronghold | Decline | Rare | - | 1,2,6 |
| *Hericium coralloides* | coral fungus | Fungi | L | National Stronghold | Decline | Rare | High | 1 |
| *Hericium erinaceus* | hedgehog fungus | Fungi | P | National Stronghold | Decline | Rare | High | 1 |
| *Hydnellum concrescens* | a fungus | Fungi | P | - | - | - | - | 1,2 |
| *Hydnellum ferrugineum* | a fungus | Fungi | P | - | - | - | - | 1,2,8 |
| *Hydnellum scrobiculatum* | a fungus | Fungi | P | - | - | - | - | 1,2,8 |
| *Hydnellum spongiosipes* | a fungus | Fungi | P | - | - | - | - | 1,2 |
| *Hygrocybe calyptraeformis* | a fungus | Fungi | P | - | - | - | - | 2,5,6,7 |
| *Microglossum olivaceum* | an earth tongue | Fungi | P | - | Decline | Rare | High | 6 |
| *Phellodon confluens* | a fungus | Fungi | P | - | - | - | - | 1,2 |
| *Phellodon tomentosus* | a fungus | Fungi | P | - | - | - | - | 1,2,8 |
| *Poronia punctata* | nail fungus | Fungi | P | National Stronghold | Stable | Scarce | Low | 2,8 |
| *Sarcodon imbricatus* | a fungus | Fungi | P | - | - | - | - | 1,2,8 |
| *Chorthippus vagans* | heath grasshopper | Grasshoppers & Crickets | C | National Stronghold | - | Rare | High | 8 |
| *Decticus verrucivorus* | wart-biter | Grasshoppers & Crickets | P | - | - | - | - | 6,8 |
| *Gomphocerripus rufus* | a grasshopper | Grasshoppers & Crickets | C | Regionally Important | Stable | Scarce | Low | 6 |
| *Gryllotalpa gryllotalpa* | mole cricket | Grasshoppers & Crickets | P | National Stronghold | Rapid Decline | Rare | High | 7,8 |
| *Gryllus campestris* | field cricket | Grasshoppers & Crickets | P | Regionally Important | - | - | - | 6,8 |

| Scientific name | Common name | Group | National/ Local Status | Significance of population in region/UK | Decline | Local Rarity | Threat | Habitat(s) |
|---|---|---|---|---|---|---|---|---|
| *Stethophyma grossum* | large marsh grasshopper | Grasshoppers & Crickets | P | National Stronghold | Stable | Scarce | Low | 1,8 |
| *Agonimia allobata* | a lichen | Lichens | L | National Stronghold | Decline | Rare | - | 2 |
| *Agonimia octospora* | a lichen | Lichens | L | National Stronghold | Stable | Scarce | - | 2 |
| *Bacidia incompta* | a lichen | Lichens | P | - | Decline | Rare | - | 1 |
| *Bactrospora corticola* | a lichen | Lichens | L | Isolated | Rapid Decline | Rare | High | 2 |
| *Caloplaca luteoalba* | orange-fruited elm-lichen | Lichens | P | - | - | - | - | 1,3 |
| *Catillaria laureri* | Laurer's catillaria | Lichens | C | Restricted to Hants | Stable | Rare | Low | 2 |
| *Enterographa elaborata* | New Forest beech lichen | Lichens | P | Restricted to Hants | Stable | Rare | High | 2 |
| *Enterographa sorediata* | a lichen | Lichens | P | - | - | Scarce | - | 1 |
| *Lobaria virens* | a lichen | Lichens | C | National Stronghold | - | Scarce | - | 2 |
| *Opegrapha fumosa* | a lichen | Lichens | P | National Stronghold | - | Scarce | - | 2 |
| *Parmelia minarum* | New Forest parmelia | Lichens | C | National Stronghold | Stable | Scarce | Low | 2 |
| *Phyllopsora rosei* | a lichen | Lichens | L | National Stronghold | - | Scarce | - | 2 |
| *Rinodina isidioides* | a lichen | Lichens | L | Regionally Important | - | Scarce | - | 2 |
| *Strigula stigmatella* | a lichen | Lichens | BC | Restricted to Hants | - | Rare | - | 2 |
| *Zamenhofia rosei* | Francis' blue-green lichen | Lichens | P | National Stronghold | Stable | Scarce | Low | 2 |
| *Phocena phocoena* | harbour porpoise | Mammals, marine | P | - | - | - | - | 22 |
| *Apodemus flavicollis* | yellow-necked mouse | Mammals, terrestrial | L | Regionally Important | Decline | Scarce | Low | 1 |
| *Arvicola terrestris* | water vole | Mammals, terrestrial | P | National Stronghold | Rapid Decline | Uncommon | High | 9,10,11 |
| *Barbastellus barbastellus* | barbastelle bat | Mammals, terrestrial | P | Isolated | - | Rare | High | 1,5,10,11 |
| *Eptesicus serotinus* | Serotine bat | Mammals, terrestrial | C | Regionally Important | Stable | Scarce | Low | 1,2,21 |
| *Lepus europaeus* | brown hare | Mammals, terrestrial | P | Widespread | Decline | Uncommon | High | 4,5,6,7 |
| *Lutra lutra* | otter | Mammals, terrestrial | P | Isolated | Increasing | Scarce | High | 10,11 |
| *Micromys minutus* | harvest mouse | Mammals, terrestrial | L | Regionally Important | Decline | Scarce | High | 3 |
| *Muscardinus avellanarius* | dormouse | Mammals, terrestrial | P | National Stronghold | Decline | Scarce | High | 1,3 |
| *Myotis bechsteinii* | Bechstein's bat | Mammals, terrestrial | P | National Stronghold | - | Rare | High | 1 |
| *Neomys fodiens* | water shrew | Mammals, terrestrial | C | Regionally Important | Decline | Uncommon | High | 10,11 |
| *Pipistrellus pipistrellus* | pipistrelle bat | Mammals, terrestrial | P | Widespread | Rapid Decline | Scarce | High | 23 |
| *Plecotus austriacus* | grey long-eared bat | Mammals, terrestrial | C | National Stronghold | - | Rare | High | 1,21 |
| *Rhinolophus ferrumequinum* | greater horseshoe bat | Mammals, terrestrial | P | Isolated | Decline | Rare | High | 8,21 |
| *Hydrobia ventrosa* | a snail | Molluscs, marine | C | National Stronghold | Decline | Scarce | High | 16,19 |
| *Ostrea edulis* | European oyster | Molluscs, marine | P | National Stronghold | Stable | Uncommon | High | 22 |
| *Paludinella littorina* | a lagoon snail | Molluscs, marine | C | National Stronghold | Stable | Scarce | High | 15,19,22 |
| *Truncatella subcylindrica* | looping snail | Molluscs, marine | C | National Stronghold | Decline | Rare | High | 15,19,22 |
| *Ena montana* | mountain bulin snail | Molluscs, terrestrial | C | Regionally Important | Stable | Rare | Low | 1 |

| Scientific name | Common name | Group | National/ Local Status | Significance of population in region/UK | Decline | Local Rarity | Threat | Habitat(s) |
|---|---|---|---|---|---|---|---|---|
| *Helicella itala* | heath snail | Molluscs, terrestrial | BC | Isolated | Decline | Rare | High | 6,17 |
| *Helicodonta obvoluta* | cheese snail | Molluscs, terrestrial | C | National Stronghold | Stable | Rare | Low | 1 |
| *Limax tenellus* | slender slug | Molluscs, terrestrial | C | - | Decline | Rare | High | 1 |
| *Lymnaea glabra* | glutinous snail | Molluscs, terrestrial | C | - | Decline | Rare | High | 10 |
| *Monacha carthusiana* | carthusian snail | Molluscs, terrestrial | C | Isolated | Decline | Rare | High | 6,17 |
| *Pisidium tenuilineatum* | a freshwater bivalve mollusc | Molluscs, terrestrial | P | National Stronghold | Decline | Rare | High | 10,11 |
| *Pseudanodonta complanata* | depressed river mussel | Molluscs, terrestrial | P | - | Decline | Rare | High | 11 |
| *Segmentina nitida* | shining ram's-horn snail | Molluscs, terrestrial | P | - | Rapid Decline | Rare | High | 7,9,10 |
| *Valvata macrostoma* | a freshwater snail | Molluscs, terrestrial | C | - | Decline | Rare | High | 7,10 |
| *Vertigo moulinsiana* | Desmoulin's whorl snail | Molluscs, terrestrial | P | Isolated | Decline | Scarce | Low | 9 |
| *Campylostelium saxicola* | a moss | Mosses & Liverworts | C | National Stronghold | Stable | Scarce | - | 1 |
| *Ctenidium molluscum* | woodland taxon | Mosses & Liverworts | L | National Stronghold | Stable | Uncommon | Low | 1 |
| *Ephemerum stellatum* | a moss | Mosses & Liverworts | P | Isolated | Decline | Rare | - | 4 |
| *Hamatocaulis vernicosus* | slender green feather-moss | Mosses & Liverworts | P | National Stronghold | Stable | Rare | Low | 8,9 |
| *Lejeunea lamacerina* | a liverwort | Mosses & Liverworts | C | National Stronghold | Stable | Scarce | - | 1 |
| *Leptodontium gemmascens* | thatch moss | Mosses & Liverworts | P | - | - | - | - | 7,9 |
| *Lophozia herzogiana* | a liverwort | Mosses & Liverworts | L | Isolated | Rapid Decline | Rare | High | 8 |
| *Orthotrichum sprucei* | a moss | Mosses & Liverworts | P | National Stronghold | Stable | Rare | - | 11 |
| *Pallavicinia lyellii* | veilwort | Mosses & Liverworts | P | National Stronghold | Stable | Rare | - | 8 |
| *Seligera paucifolia* | a moss | Mosses & Liverworts | P | National Stronghold | Stable | Rare | - | 1,6 |
| *STargiona hypophylla* | a liverwort | Mosses & Liverworts | L | Isolated | Decline | Rare | High | 23 |
| *Weissia sterilis* | a moss | Mosses & Liverworts | P | National Stronghold | Decline | Rare | - | 6 |
| *Weissia tortilis* | a moss | Mosses & Liverworts | L | National Stronghold | Decline | Rare | - | 6 |
| *Zygodon forsteri* | knothole moss | Mosses & Liverworts | P | National Stronghold | Stable | Scarce | Low | 2 |
| *Acosmetia caliginosa* | reddish buff | Moths | P | National Stronghold | Stable | Rare | High | 1,8 |
| *Adscita geryon* | cistus forester | Moths | L | Widespread | Rapid Decline | Rare | High | 6 |
| *Adscita statices* | forester moth | Moths | C | Widespread | Rapid Decline | Rare | High | 1,5,6,8,17 |
| *Apoda limacodes* | festoon | Moths | C | National Stronghold | Decline | Rare | Low | 1 |
| *Archanara algae* | rush wainscot | Moths | C | National Stronghold | - | Rare | High | 9 |
| *Athetis palustris* | marsh moth | Moths | P | - | - | - | - | 9 |
| *Calophasia lunula* | toadflax brocade moth | Moths | P | - | Increasing | Rare | Low | 14,20 |
| *Catocala promisa* | light crimson underwing | Moths | P | National Stronghold | Stable | Rare | Low | 1 |
| *Catocala sponsa* | dark crimson underwing | Moths | P | National Stronghold | Stable | Rare | Low | 1 |
| *Chlorissa viridiata* | small grass emerald | Moths | L | National Stronghold | Decline | Rare | Low | 8 |
| *Cleora cinctaria* | ringed carpet | Moths | L | National Stronghold | Rapid Decline | Rare | Low | 8 |
| *Coscinia cribaria* | speckled footman moth | Moths | P | - | Decline | Rare | High | 8 |

| Scientific name | Common name | Group | National/ Local Status | Significance of population in region/UK | Decline | Local Rarity | Threat | Habitat(s) |
|---|---|---|---|---|---|---|---|---|
| *Cosmia diffinis* | white spotted pinion | Moths | P | Widespread | Rapid Decline | Rare | High | 1,3 |
| *Cossus cossus* | goat moth | Moths | C | Widespread | Rapid Decline | Rare | High | 1 |
| *Cuculia asteris* | starwort | Moths | C | National Stronghold | Decline | Rare | Low | 1,15 |
| *Cucullia lychnitis* | striped lychnis | Moths | P | National Stronghold | Stable | Scarce | Low | 6,20 |
| *Cyclophora pendularia* | dingy mocha | Moths | P | National Stronghold | Rapid Decline | Rare | High | 8 |
| *Dicycla oo* | heart moth | Moths | P | Regionally Important | Decline | Rare | Low | 1 |
| *Dyscia fagaria* | Grey scalloped bar | Moths | C | Widespread | Rapid Decline | Rare | Low | 8 |
| *Eriogaster lanestris* | small eggar moth | Moths | BC | Widespread | Rapid Decline | Rare | High | 3 |
| *Hadena albimacula* | white spot moth | Moths | P | National Stronghold | Decline | Rare | Low | 13,14 |
| *Heliophobus reticulata* | bordered gothic | Moths | P | - | Rapid Decline | Rare | High | 13 |
| *Heliothis maritima warneckei* | shouder-striped clover | Moths | C | National Stronghold | Decline | Rare | Low | 8 |
| *Hemaris tityus* | narrow-bordered bee hawkmoth | Moths | P | Widespread | Rapid Decline | Rare | Low | 1,9 |
| *Heterogenea asella* | triangle moth | Moths | C | National Stronghold | Stable | Rare | Low | 1 |
| *Hydrelia sylvata* | waved carpet | Moths | P | Widespread | Stable | Rare | Low | 1 |
| *Hypena rostralis* | buttoned snout | Moths | P | Widespread | Decline | Scarce | Low | 3,21 |
| *Jodia croceago* | orange upperwing moth | Moths | P | Regionally Important | Decline | Rare | High | 1 |
| *Lasiocampa trifolii* | grass eggar | Moths | L | Regionally Important | Stable | Scarce | Low | 17,23 |
| *Mecyna flavalis* | a pyralid moth | Moths | L | Regionally Important | Stable | Rare | Low | 6 |
| *Meganola strigula* | small black arches | Moths | C | Regionally Important | Decline | Rare | - | 1 |
| *Microthrix similella* | a pyralid moth | Moths | L | Regionally Important | Stable | Scarce | Low | 1 |
| *Minoa murinata* | drab looper | Moths | P | Widespread | Decline | Rare | Low | 1 |
| *Moma alpium* | scarce merveille du jour | Moths | P | National Stronghold | Decline | Scarce | Low | 1 |
| *Myelois cirrigeralla* | a pyralid moth | Moths | L | National Stronghold | - | - | - | 6 |
| *Mythimna favicolor* | Matthew's wainscot | Moths | C | Regionally Important | Decline | Rare | Low | 15 |
| *Mythimna turca* | double line | Moths | P | - | Rapid Decline | - | - | 1 |
| *Noctua orbona* | lunar yellow underwing | Moths | P | National Stronghold | Stable | Rare | Low | 6,23 |
| *Oncocera genistella* | a pyralid moth | Moths | L | Regionally Important | Stable | Rare | Low | 14 |
| *Oria musculosa* | Brighton wainscot moth | Moths | P | - | Rapid Decline | Rare | High | 4 |
| *Paracolax derivalis* | clay fan foot | Moths | P | Isolated | - | Rare | Low | 1 |
| *Pareulype berberata* | barberry carpet | Moths | P | National Stronghold | Rapid Decline | Rare | High | 3,6 |
| *Pechipogo strigilata* | common fan foot | Moths | P | Widespread | Rapid Decline | Rare | High | 1 |
| *Polia bombycina* | pale shining brown | Moths | P | - | Rapid Decline | Rare | High | 1 |
| *Rheumaptera hastata* | argent and sable | Moths | P | Widespread | Decline | Rare | High | 1,2 |
| *Schrankia taenialis* | white-line snout | Moths | P | Widespread | Rapid Decline | Rare | High | 1 |
| *Scotopteryx bipunctaria* | chalk carpet | Moths | P | Widespread | Decline | Rare | High | 6 |

| Scientific name | Common name | Group | National/ Local Status | Significance of population in region/UK | Decline | Local Rarity | Threat | Habitat(s) |
|---|---|---|---|---|---|---|---|---|
| *Trichopteryx polycommata* | barred tooth-striped | Moths | P | Widespread | Rapid Decline | Rare | High | 1 |
| *Tyta luctuosa* | four-spotted | Moths | P | - | Rapid Decline | Rare | High | 6 |
| *Xanthorhoe biriviata* | balsam carpet | Moths | L | Regionally Important | Increasing | Rare | Low | 11 |
| *Xestia rhomboidea* | square-spotted clay | Moths | P | - | Decline | - | - | 1,6 |
| *Coronella austriaca* | smooth snake | Reptiles | C | National Stronghold | Decline | Rare | High | 8 |
| *Lacerta agilis* | sand lizard | Reptiles | P | National Stronghold | Decline | Rare | High | 8 |
| *Nematostella vectensis* | starlet sea-anemone | Sea-anemones | P | National Stronghold | Decline | Scarce | High | 19 |
| *Centromerus albidus* | a spider | Spiders | P | National Stronghold | - | Rare | Low | 1 |
| *Hyptiotes paradoxus* | a spider | Spiders | C | National Stronghold | - | Rare | Low | 1 |
| *Uloborus walckenaerius* | a spider | Spiders | C | National Stronghold | Decline | Rare | Low | 1 |
| *Cicadetta montana* | New Forest cicada | True Bugs | P | Restricted to Hants | Rapid Decline | Rare | Low | 8 |
| *Hydrometra gracilenta* | lesser water measurer | True Bugs | P | Isolated | Decline | Rare | - | 10 |
| *Orthotylus rubidus* | a capsid bug | True Bugs | P | Isolated | Decline | Rare | High | 15 |
| *Cerceris quinquefasciata* | a ruby-tailed wasp | Wasps | P | - | - | - | - | 8,13 |
| *Chrysis fulgida* | a ruby-tailed wasp | Wasps | P | Restricted to Hants | - | - | - | 8 |

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2 *Biodiversity: The UK Steering Group Report, Volume 1 and 2,* HMSO, 1995

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- 1 An Introduction
- 2 Developing Partnerships
- 3 How Local Biodiversity Action Plans Relate to Other Plans
- 4 Evaluating Priorities and Setting Targets
- 5 Incentives and Advice for Biodiversity

4 *Biodiversity Challenge, 2nd ed.,* RSPB, the Wildlife Trusts, WWF, Friends of the Earth, Plantlife, Butterfly Conservation Society, 1995

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HAMPSHIRE BIODIVERSITY PARTNERSHIP

Hampshire is one of the richest areas for wildlife in England. The Biodiversity Action Plan for Hampshire is an exciting new approach to maintaining and enhancing the county's natural assets.

The Hampshire Biodiversity Partnership embraces a wide range of organisations all working together for nature conservation. The Partnership has written the Biodiversity Action Plan to review the status of all habitats and species in Hampshire and set out a framework for action. For the first time, detailed targets will be set and conservation action will be co-ordinated and monitored.

The Biodiversity Action Plan for Hampshire:

- describes Hampshire's biodiversity
- identifies habitats and species of priority concern
- explains how detailed action plans will be prepared
- reviews important issues that affect biodiversity in Hampshire
- promotes a strategy for managing information and data
- sets out action for raising awareness of biodiversity

It is essential reading for anyone concerned about nature in the countryside or urban areas, and all those involved in planning and managing the future of Hampshire's biodiversity.

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