



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.

chapter 6

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 unintensified 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.



67. Fawley power station

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*