4. CURRENT ISSUES, THREATS AND OPPORTUNITIES

4.1 Water

4.1.1 Watercourses and wetlands support a rich array of plants and animals, dependent, as we are, on a reliable supply of clean water. In Nottinghamshire a major aquifer under the Sherwood Sandstone, coupled with the River Trent and its tributaries, the Rivers Soar, Erewash and Idle, provide water principally for power station cooling, agricultural irrigation and public supply. Water courses, including man-made examples such as ditches and canals, are also a major resource for navigation, drainage, recreation, fisheries, and effluent disposal. In meeting these competing demands, it is essential that our use of the County's water resource is sustainable. This means providing for our needs while ensuring that the quality of the environment, of which biodiversity is a major indicator, is maintained and enhanced in the long term.

4.1.2 The main concerns are:

- Loss of and damage to wetland habitat and species diversity due to over-abstraction of water, especially during prolonged periods of low rainfall.

- Loss of species diversity due to pollution arising from sources such as sewage works, run-off of agricultural chemicals, or industrial processes (although water quality in Nottinghamshire's watercourses is generally improving).

- The loss of wetland habitats through drainage and flood alleviation schemes and the straightening and canalisation of watercourses.

4.1.3 Opportunities for enhancing biodiversity include:

4022

Otters disappeared from the County in the 1970s, but are being encouraged to return by the restoration of their habitat.

- Preventing over-abstraction from boreholes and above ground sources where this will result in damage to wetland habitats.

- Further reducing pollution.

- Encouraging water conservation by industrial, agricultural and domestic consumers to reduce demand.

- Avoiding development in floodplains, and designing biodiversity-friendly flood alleviation schemes where these are necessary.

- Restoring flooded gravel pits to maximise their value for biodiversity.

4.1.4 Current Action in Nottinghamshire - Examples:

- The Environment Agency's Midlands Region Biodiversity Strategy[1] takes forward its duties under the UK BAP[2] by translating them to a regional level. It will be implemented through Local Environment Agency Plans (LEAPs).

- The Environment Agency is responsible for enforcing a range of pollution control and environmental protection regulations, and provides guidance to local authorities on preventing land-use activities harming water quality.

- The County Structure Plan[3] contains a range of policies aimed at reducing water pollution.

- Four areas on the Sherwood Sandstone aquifer are covered by the MAFF Nitrate Sensitive Areas Scheme. This offers payments to farmers in return for changing farming practices to reduce nitrate leaching, converting from arable and intensive grassland to extensive grassland and maintaining environmental features.

4.2 Energy

4.2.1 Most systems for producing, distributing and using energy have a direct or indirect impact on biodiversity, particularly those associated with electricity production. In some cases these impacts are global, and cannot be avoided by local action alone. Since the 1960s, Nottinghamshire's large coal-fired power stations in the Trent Valley have played a major role in generating electricity to meet national requirements. Since the 1980s, however, competition from cleaner and cheaper fuels, and the privatisation of the electricity industry have meant an accelerated decline in coal-fired power production, and widespread colliery closures in the County.

4.2.2 The main concerns are:

- The contribution made by the burning of fossil fuels to global warming. Changes in the world's climate would result in changes to the distribution and composition of plant and animal communities. New climatic conditions in Nottinghamshire would result in changes in agricultural land use, changes in the nature and location of habitats and the loss of habitats and species.

- The deposition of acids released into the atmosphere by burning fossil fuels, which can damage some ecosystems, particularly forests and lakes.

- Technologies employed in the generation and supply of electricity can have a direct impact on biodiversity through land use, particularly power stations and collieries with their related infrastructure. Generally, renewable energy resources confer great environmental benefits by displacing fossil fuels and some, such as short rotation coppice, if appropriately sited and managed, can have a beneficial effect on biodiversity.

4.2.3 Opportunities for enhancing biodiversity include:

- Promoting the efficient use of energy, and supporting renewable forms.
- Ensuring that the planning and management of power stations, collieries, and all other energy related activities minimise adverse impacts on biodiversity through the effective use of planning controls.
- Restoring disused coal tips and old colliery sites to maximise their value for biodiversity, particularly as areas for habitat creation.

4.2.4 Current Action in Nottinghamshire - Examples:

- The County Structure Plan[3] contains a number of policies relating to energy production. The Plan supports the development of renewable energy resources, the reduction of damaging emissions, the minimisation of adverse impacts of new developments, and the promotion of energy efficiency.
- RJB Mining is carrying out 124ha of heathland re-creation on land at the former Rufford, Clipstone and Thoresby Collieries.
- Designated wildlife sites are given varying degrees of protection under the planning system (see section 4.8).
- Nottinghamshire County Council and the Forestry Commission, funded by British Coal, are undertaking the restoration of 1,000ha of former colliery spoil tip to multi-purpose woodland and other habitats.

4.3 Transport

4.3.1 Car travel in Britain has increased dramatically in recent decades. Between 1981 and 1991, the proportion of Nottinghamshire households with a car rose from 59% to 66%, and the number of households with more than one car increased from 13% to 21% over the same period, coinciding with a reduced demand for public transport[3]. Nationally and locally there has also been a considerable increase in both the volume and proportion of heavy goods carried by road. The increase in road traffic has important public health, social and environmental implications, and there is an increasing recognition that the current level of increase is unsustainable, and a growing emphasis on alternative forms of transport.

4.3.2 The main concerns are:

- Road construction and upgrading can cause loss of, and damage to, wildlife habitats and landscape features. These impacts occur directly through the use of land and indirectly through increasing demand for aggregates and pressures for development alongside roads. It is important to bear in mind that even the more

environmentally sound transport developments, such as railways and cycle routes, can have adverse impacts on habitats and species if not properly sited and designed.

- The construction of new roads and the widening of existing ones can fragment populations of species unable to cross, putting them at greater risk of extinction. Loss of individuals to road kills can also have a significant effect on the populations of some animals.

- The contribution made by the burning of fossil fuels to global warming. Changes in the world's climate will result in changes in the distribution and composition of plant communities. New climatic conditions in Nottinghamshire would result in changes in agricultural land use, changes in the nature and location of habitats and the loss of habitats and species.

- The deposition of acids released into the atmosphere by burning fossil fuels, which can damage some ecosystems, particularly forests and lakes.

4.3.3 Opportunities for enhancing biodiversity include:

- Encouraging the use of alternative forms of transport to the car which have less widespread impacts.

- Ensuring that biodiversity objectives are fully incorporated into the assessment of new transport infrastructure (including cycle routes, footpaths etc.), and ensuring that their planning and management minimise adverse impacts on biodiversity through the effective use of planning controls.

- Instigating traffic and tourism management schemes which aim to manage access to environmentally sensitive areas.

- Ensuring that the implications for travel demand of any proposed development are fully assessed so as to minimise the need for travel by car.

4.3.4 Current Action in Nottinghamshire -Examples:

- Designated wildlife sites are given varying degrees of protection under the planning system (see section 4.8).

- The County Structure Plan[3] contains a series of policies relating to transport. These include commitments to improve public transport facilities, to extend and improve cycle routes, and to assess and minimise the environmental impact of new and upgraded road schemes.

- Nottinghamshire County Council's Cycling Strategy contains a range of initiatives and policies which aim to double the use of bicycles by 2002, and again by 2012.

- The County Council's 'Travelwise' campaign aims to raise public awareness of the issues surrounding car use, and encourage the use of more sustainable forms of transport.

4.4 Agriculture

4.4.1 Nottinghamshire's present day diversity of habitats and species is largely a result of historical agriculture, and today's farmers and land-owners play a key part in conserving it. Despite the commitment of many land managers to nature conservation, the EU Common Agricultural Policy puts increasing pressure on them to intensify. Consequent changes in farming practices, while dramatically increasing productivity, have reduced the wildlife value of many farming areas. Maintaining biodiversity can have commercial benefits for agriculture, for example biological pest control may allow a reduction in the use of pesticides. An attractive countryside, rich in wildlife, is also a basis for farm diversification through tourism, and can benefit the wider rural economy.

4.4.2 The main concerns are:

4004

Bats are at risk from the loss of insect rich wetland habitats and linear features such as hedgerows.

- The loss and fragmentation of semi-natural habitats such as heathland, hay meadows and wetlands as a result of such factors as intensification, drainage and water abstraction.

- The decline in the wildlife value of farmland due to the loss of features such as hedgerows, field margins and ditches, combined with changes in cropping regimes and practices which have led to the severe decline of many farmland species.

- Damage to soils, water and ecosystems caused by the inappropriate use of fertilisers and pesticides.

- BSE and related health scares reducing the value of stock, and hence leading to the possible conversion of pasture to arable land, with associated loss of wildlife.

4.4.3 Opportunities for enhancing biodiversity include:

- Recognising and promoting those local farming and land management practices that enhance the County's biodiversity, landscapes, and character.

- Ensuring livestock management minimises pollution from animal wastes, and establishing stocking densities on heaths and unimproved grasslands which are related more closely to the natural carrying capacity of the land.

- Adopting integrated crop management to reduce the need for fertilisers and pesticides.

- Encouraging organic farming.

- Encouraging the use of locally adapted livestock breeds and crop varieties.

- Introducing greater diversity on the farm, for example through the encouragement of reversion of arable land to pastoral use, and the wider use of rotations and conservation headlands in arable farming.

- Promoting the appropriate management of important features such as hedges, ditches and farm woodlands.

- Withdrawing from productive agriculture altogether in selected areas, and allowing natural succession to take its course.

4.4.4 Current Action in Nottinghamshire - Examples:

- A range of government schemes attempt to integrate agricultural and environmental objectives. In Nottinghamshire, these include the Countryside Stewardship Scheme and the Nitrate Sensitive Areas Scheme. These have had some success in reducing the loss of habitats and species and creating new areas for wildlife. However, environmental incentives remain a small part of agricultural support, and a policy change at European level is required before this will change.

- The farmer-led Farming and Wildlife Advisory Group is increasingly active in the County, and is attracting considerable support from landowners.

- The Rushcliffe Barn Owl Project is a good example of a local scheme working with farmers to achieve biodiversity benefits.

- The British Trust for Conservation Volunteers produces guidance on hedgerow management and brings sponsorship to bear as part of its Hedgerow Campaign.

- Within the Greenwood Community Forest area, a programme of tree planting, habitat creation and restoration is under way, in co-operation with land-owners and managers.

- Sherwood Forest is one of four trial areas for English Nature's Habitat Restoration Project. English Nature and the Sherwood Forest Trust are working with land-owners and managers in the area to restore wildlife habitats, particularly where these can link existing sites.

- The British Trust for Conservation Volunteers (BTCV) produces guidance on hedgerow management and brings sponsorship to bear as part of its Hedgerow Campaign.

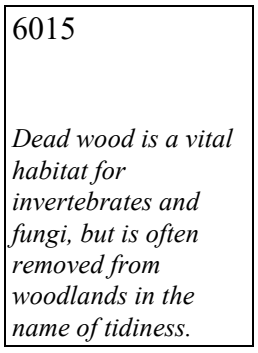
- SSSIs and certain species have a degree of statutory protection from destruction and damage (section 4.9).

- Designated wildlife sites are given varying degrees of protection under the planning system (section 4.8).

4.5 Forestry and Woodland Management

4.5.1 In common with many other parts of the country, Nottinghamshire underwent a huge programme of woodland planting for more than fifty years following the First World War. The increase in woodland area, however, has been achieved mainly through the planting of conifers, and the area of ancient broadleaved woodland has declined during the same period. All woodlands have some value for wildlife, but the remnants of the original natural forest are the most valuable and diverse. Our native tree species can support a much greater variety of animals than introduced ones, and are therefore more valuable for biodiversity. Plantation woodlands can, however, be valuable when planted on areas with low existing wildlife interest. Government forestry policy is now based firmly on multiple objectives, balancing biodiversity, landscape, recreation and commercial interests.

4.5.2 The main concerns are:



Dead wood is a vital habitat for invertebrates and fungi, but is often removed from woodlands in the name of tidiness.

- The further loss of ancient and semi-natural woodland, which already comprises only 14% of the total and is greatly fragmented[4].

- The loss of biodiversity through inappropriate woodland management, or lack of management.

- The failure of regeneration due to overgrazing by sheep, deer and cattle.

4.5.3 Opportunities for enhancing biodiversity include:

- The conservation, restoration and appropriate management of the remaining areas of ancient and semi-natural woodland.

- The sensitive management of other existing woodlands. This might include the restructuring of even-age plantations, the incorporation of open space supporting

complementary habitats such as heathland or grassland, the retention of old trees and dead wood and the removal of invasive species.

- Creating new woodlands, especially in areas of low wildlife value.
- Withdrawing from plantation forestry altogether in certain areas, particularly those which were formerly heathland, and restoring the original habitat.
- Encouraging the use of native species of local provenance, and, where possible, establishment through natural regeneration.
- Promoting the use of good quality, local genetic stock where native broadleaves are being planted. Careful selection of seed sources will help ensure that local genotypes are preserved and that trees are well suited to their environments.

4.5.4 Current Action in Nottinghamshire - Examples:

- Several Community Tree Nurseries have been set up to grow trees from locally collected seeds. A database of individual growers and stock is kept by the British Trust for Conservation Volunteers for the Greenwood Community Forest.
- A growing network of voluntary tree wardens in the County is supported by Local Authorities, the Greenwood Community Forest and BTCV.
- The Forestry Authority's Woodland Grant Scheme provides grants to land managers for creating new woodlands and managing existing ones sustainably.
- Within the Greenwood Community Forest area, a programme of tree planting and habitat restoration is under way, in conjunction with the provision of countryside recreational facilities, and the support of traditional arts and crafts. The aim is to increase woodland cover in the area from 10% to 30% over a 20 year period.
- Sherwood Forest is one of four trial areas for English Nature's Habitat Restoration Project. English Nature and the Sherwood Forest Trust are working with land-owners and managers in the area to restore wildlife habitats, particularly where these can link existing sites.
- SSSIs and certain species have a degree of statutory protection from destruction and damage (section 4.9). Woodlands may also be protected by Tree Preservation Orders.
- Birklands and Bilhaugh SSSI is to be designated a Special Area of Conservation under the EC Habitats Directive (section 4.9) in recognition of the value of its ancient oak-birch woodland for rare invertebrates.

- Designated wildlife sites are given varying degrees of protection under the planning system (section 4.8).

4.6 The Urban Environment

4.6.1 Many urban areas contain relicts of natural habitats such as ancient woodlands, wetland and unimproved grassland. The extent of habitat loss in the countryside means that these areas are often vital refuges for threatened species. Post industrial sites, or areas left 'derelict' for many years are often valuable for urban biodiversity, and even walls, bridges and viaducts provide habitats which plants and animals can exploit.

4.6.2 71% of the population of Nottinghamshire live in urban areas[5] (1992 figure). This means that for the majority of people urban nature reserves and green spaces provide the only opportunity for contact with wildlife. Parks and gardens not only contribute greatly to biodiversity conservation if managed appropriately, but also play a major role in encouraging public interest and participation in conservation. Used as outdoor classrooms, green urban areas can facilitate a greater understanding and appreciation of biodiversity. Furthermore, attractive green areas can improve the appearance of the built environment, drawing business and investment to the area, encouraging tourists, and improving the quality of life for local people.

4.6.3 The main concerns are:

1150

Many garden birds, like the blue tit, are at risk from the increasing use of chemical pesticides such as slug pellets.

- Loss of, and damage to, urban wildlife sites through development.
- The loss of wildlife sites and agricultural land to development as rural areas become increasingly urbanised.
- The decline in the wildlife value of green space, including parks and gardens, due to inappropriate management (particularly excessive tidiness) and the increasing use of chemicals.

4.6.4 Opportunities for enhancing biodiversity include:

- Safeguarding existing wildlife sites from development, and maximising the benefit for biodiversity of any change in land use.
- Developing and maintaining a network of open green space, wildlife corridors and reservoirs throughout urban areas, linking them to the wider countryside.
- Introducing a more imaginative, conservation based approach to the management of parks, road verges, and other public open spaces.

- Designating and managing urban nature reserves.

- Encouraging householders to take action in their own gardens to encourage wildlife.

- Promoting the educational and local community use of wildlife sites in order to increase understanding of biodiversity issues.

4.6.5 Current Action in Nottinghamshire - Examples:

- Nottingham City Council and Mansfield District Council have produced their own Nature Conservation Strategies[6-7] . The aims of these include the establishment of new wildlife sites, the protection and management of existing ones, species protection, and the promotion of public awareness and participation. The City Council has also produced an Open Space Strategy and a Tree Strategy.

- The Nottingham Urban Wildlife Scheme (NUWS), the urban wing of the Nottinghamshire Wildlife Trust, was established specifically to promote, protect and where appropriate enhance the wildlife resource of the County's urban areas. The Scheme manages a number of urban nature reserves, and provides technical advice on urban wildlife matters throughout the County.

- A partnership of organisations is involved in the 'Corridors to the Countryside' scheme, designed to promote, protect and enhance the main river corridors through the Nottingham area.

- A number of other organisations are involved in urban biodiversity conservation projects in the County, including BTCV, Groundwork, the Environment Agency, District Councils and the County Council's Countryside Management Service. These projects will be discussed in greater detail in the appropriate Habitat and Species Action Plans.

- Designated wildlife sites are given varying degrees of protection under the planning system (see section 4.8).

4.7 Recreation and Tourism

4.7.1 Much of Nottinghamshire's countryside, particularly in the Sherwood Forest area, is a focus for recreation and tourism. In 1994, the value of tourism in the County was estimated at £234m, representing nearly 1.9m visitor trips, and the number of visitors continues to grow[3]. The provision of opportunities for recreation is also important in determining the quality of life in a community, particularly on the urban fringe. Woodlands and heaths are especially attractive to visitors, while some derive great pleasure from seeing wildflowers in profusion, or unusual species. For

many people biodiversity has strong aesthetic, spiritual and cultural meanings, and can be a source of great enjoyment. Well-managed recreation and tourism should therefore be seen as a positive force for conservation, and both industries have a

responsibility to ensure that visitors to environmentally sensitive areas do not destroy what they have come to see.

4.7.2 The main concerns are:

- That excessive visitor pressure in localised areas such as the Sherwood Forest Visitor Centre and Clumber Park could potentially cause significant problems for biodiversity. Examples of impact include wear and tear on habitats from trampling, disturbance to heathland birds resulting in the reduction of breeding success, and disturbance to wildfowl in areas used for water sports.

- Direct loss of wildlife sites to leisure and tourism developments and associated infrastructure.

- The fact that most recreational journeys are undertaken by car, which leads to increasing traffic levels and associated problems (see section 4.3).

4.7.3 Opportunities for enhancing biodiversity include:

- Recognising that wildlife and natural areas are a valuable recreational resource and conserving and managing them accordingly.

- Making use of the educational resource provided by public areas such as country parks, to enable visitors to learn about Nottinghamshire's biodiversity and the need for conservation. In particular small-scale 'green' tourism initiatives should be encouraged.

- Balancing the need for public access and recreational activities with the need to minimise adverse impacts on landscape and biodiversity.

- Protecting the most important wildlife sites from development associated with leisure and tourism and minimising adverse impacts on biodiversity wherever development occurs.

4.7.4 Current Action in Nottinghamshire - Examples:

- One of the aims of the Greenwood Community Forest project is to encourage sustainable countryside tourism and leisure activities in the area.

- The County Structure Plan[3] contains a number of policies featuring commitments to avoid 'major adverse environmental impacts' of tourism and leisure.

- Tourists on BTCV's 'Natural Break' programme actively improve the environment by carrying out practical conservation projects.

- Designated wildlife sites are given varying degrees of statutory protection, and are protected under the planning system (sections 4.8 and 4.9).

4.8 The Land Use Planning System

4.8.1 The UK's land use planning system regulates the development and use of land in the public interest. Planning permission is required to carry out development, and applications are normally considered by the Local Authority, and decided in accordance with their development plans. Local planning authorities have a key role in conserving the diversity of wildlife, and are required to take full account of nature conservation in preparing their development plans, in accordance with domestic and international law. The relationship between statutory development plans, other local authority plans and Biodiversity Action Plans is discussed in section 6.

4.8.2 The Government has produced several guidance notes for Local Authorities relating to biodiversity conservation. Of these the most directly relevant to biodiversity is Planning Policy Guidance Note 9: Nature Conservation[8] (PPG9), which outlines the procedures for dealing with statutory and non-statutory wildlife sites and protected species, according to the relevant legislation. The PPG states that nature conservation objectives should be taken into account in all planning activities which affect rural and coastal land use, and in urban areas where there is wildlife of local importance. Nature conservation should be an important material consideration in many planning applications, especially in or near SSSIs, where there are statutory requirements to consult English Nature. Most importantly, planning permission should only be granted if 'other material factors' are sufficient to override nature conservation considerations, or if conditions can be imposed to prevent damage. The PPG also states that the Precautionary Principle (section 2.4) should guide all land use decisions.

4.8.3 Planning authorities have traditionally focused on avoiding damage to important sites, but Government guidance makes it clear that they are now expected to take a wider view of nature conservation. PPG9[8] states that planners should be concerned not only with designated areas but also with other land of conservation value and the possible provision of new habitat. It goes on to say that:

'Statutory and non-statutory sites, together with countryside features which provide wildlife corridors, links or stepping stones from one habitat to another, all help form a network necessary to ensure the maintenance of the current range and diversity of our flora, fauna, geological and land-form features and the survival of important species.'

4.8.4 The main concerns are:

- The continuing loss of designated wildlife sites and other areas of high value for biodiversity to development, including built development, mineral extraction and waste disposal.

- That the environmental consequences of development may not be accurately assessed. Natural systems are incredibly complex, and our knowledge of how they function is limited, making it difficult to predict the long-term effects of any impact on them. Unless the possible effects of a proposed development are systematically assessed, the consequences for biodiversity may be underestimated. The cumulative effect of the gradual erosion of the County's biodiversity must also be considered.

- Because natural features such as biodiversity are difficult to value in economic terms, they are often not given an appropriate weight in land use decisions.

- The pressure placed on urban and rural open space by the large housing and employment land allocation in the 1996 Structure Plan Review. Of particular concern is the intention to place much of this allocation on Green Belt land and other greenfield sites.

- The failure to take up opportunities for habitat creation arising from development schemes.

- The increase in transport infrastructure and traffic as urban areas spread and car-based out-of-town developments continue to proliferate.

- The increased demand for minerals for new development, and the increased production of waste and use of energy and water as the number of dwellings and workplaces increases.

- The loss of opportunities for less intensive agriculture as farmland is lost.

4.8.5 Opportunities for enhancing biodiversity include:

- Ensuring that the impacts on biodiversity of all proposed developments (not just those on designated sites) are accurately assessed as early as possible in the planning process, so that adverse effects can be avoided or minimised. The Precautionary Principle must be central to this process.

- Weighing the international, national and local importance of species and habitats carefully against the need for a particular development.

- Maintaining and developing biological recording and site designation systems in the County to enable land use decisions to be based on the best possible information.

- Creating wildlife habitat and/or public open space as a requirement of planning permissions. (Habitat creation should never be seen as an adequate substitute for the loss of important habitats and species.)

- Concentrating on the renewal of urban areas, the re-use of existing buildings and the creation of desirable high density developments which promote sustainable living by reducing transport needs.

- Incorporating energy and water saving technology into all new development.

4.8.6 Current Action in Nottinghamshire -Examples:

- The County Structure Plan[3] contains a number of policies aiming to minimise adverse environmental effects of housing, transport, shopping, tourism, minerals, energy and waste disposal developments.

- The Nottinghamshire Waste Local Plan has become one of the first in the country to include policies specifically relating to biodiversity conservation.

- Designated wildlife sites and certain species are given varying degrees of protection by law, and under the land use planning system (section 4.9).

- A number of positive gains for biodiversity have been achieved in the County through the effective use of planning obligations.

- Many organisations, including the RSPB, Nottinghamshire Wildlife Trust and the Council for the Protection of Rural England (CPRE) campaign against the adverse impacts of development on the countryside, reflecting growing public concern.

4.9 Site Based Protection and Wildlife Legislation

4.9.1 Historically, nature conservation in the UK has concentrated on protecting important areas of habitat. The view was that if key sites were protected, the species would look after themselves. In recent years, however, it has been recognised that additional measures are needed for many species, resulting in legislation to protect them. It has also become apparent that small, often isolated, protected areas are inadequate to maintain healthy populations of most species. The basic importance of the protected area system remains, however, and will continue as the foundation of policies to restore biodiversity to the wider countryside. The protection of our most important wildlife sites is an absolute minimum requirement of this Biodiversity Action Plan.

4.9.2 Site Protection

5208



Stag beetle: The ancient oaks of Birklands and Bilhaugh SSSI are internationally important for invertebrates.

- The ancient oak woodland of the Birklands and Bilhaugh SSSI in Sherwood Forest is a candidate Special Area of Conservation (SAC). SACs are designated under the EU Habitats and Species Directive as part of a network of sites of European importance known as Natura 2000. The selection of sites is based on the presence of habitats and species listed in Annexes to the Directive as endangered vulnerable, rare or endemic. Sites enjoy a high level of statutory protection.

- National Nature Reserves (NNRs) are areas of national importance for nature conservation which are owned or leased by English Nature or other approved bodies, or managed by agreement with other land-owners and occupiers. All NNRs are also SSSIs. Nottinghamshire is the only Shire County without an NNR.

- The key designation used in the UK is Sites of Special Scientific Interest (SSSIs), designated under the Wildlife and Countryside Act 1981 (see below). SSSIs are selected by English Nature with the aim of safeguarding the best examples of habitat types, sites with notable species, and sites of geological importance. There are 64 SSSIs in Nottinghamshire, covering just 1.2% of the County. This is one of the lowest figures of all UK counties, indicating the extent to which Nottinghamshire's biodiversity has been degraded. SSSIs are given a high (although not absolute) level of protection in the planning system, and are administered by English Nature through a system of statutory consultation and management agreements.

- The most important sites for biodiversity and geology in Nottinghamshire are identified as Sites of Importance for Nature Conservation (SINC) by the Nottinghamshire Biological and Geological Records Centre, and afforded a degree of protection under the Structure and Local Plans. The importance of SINCs is emphasised by the Government in Planning Policy Guidance Note 9[8] (see section 4.8). A resurvey and review of the SINC system is currently under way in Nottinghamshire.

- Nottinghamshire currently has 12 Local Nature Reserves, which are designated by Local Authorities in conjunction with English Nature under the National Parks and Access to the Countryside Act 1949 (see below*).* These are generally close to centres of population, and provide visitor facilities and nature trails. They are usually owned and/or managed by the Local Authority or a local conservation organisation.

4.9.3 The main legislatory instruments covering nature conservation in the UK are listed below. In addition to these, certain habitats and species (hedgerows and badgers, for example) have specific legislation to protect them.

- *The National Parks and Access to the Countryside Act 1949* introduced protection for wildlife habitats and landscapes for the first time. It gave statutory powers to the Nature Conservancy (now English Nature), which is the official government agency devoted to wildlife conservation in the UK, and also introduced the concept of SSSIs (section 4.9.2).

- *The Countryside Act 1968* strengthened many of the powers given under the1949 Act and imposed on every public body a duty to have regard to the desirability of conserving the natural beauty of the countryside.

- *The Wildlife and Countryside Act 1981,* amended by a further Act of 1985, established a statutory framework for the conservation of land important for wildlife and natural features, and the protection of endangered wild plants and animals. All birds, bats, reptiles and amphibians, along with many other species of animal and plant, are given specific protection. Most species may not be killed or taken from the wild. The Act also contains measures to control the unauthorised release into the wild of certain non-native animal and plant species, and the importation of biological material which is a potential host to pests and diseases.

2013

Great crested newts are given specific protection under the Wildlife and Countryside Act.

- *The Environmental Protection Act 1990* divided the Nature Conservancy Council into three country agencies, including English Nature, and provided further protection for SSSIs.

- *The Planning and Compensation Act 1991* improved local planning authorities' abilities to safeguard conservation areas by strengthening their planning enforcement and development control powers. It also required structure, local and unitary development plans to include policies in respect of the natural beauty and amenity of the land.

- *The Wildlife; Countryside: The Conservation (Natural Habitats etc.) Regulations 1994 (SI 1994 no.2716)* transpose the requirements of the *EC Habitats Directive*[9] into UK law. They build on the existing legislation for the protection of habitats and species listed in the Directive, and apply its considerations in respect of development and pollution control legislation.

4.9.4 The above legislation, plus regulations governing air and water quality, and the land use planning system, are designed to enable the UK to address a number of international obligations. The *'Bern' Convention on the Conservation of European Wildlife and Natural Habitats*[10] imposes obligations to conserve endangered habitats and species, while the *Birds Directive*[11] protects all birds, their eggs, nests and habitats. The latter also requires the designation of Special Protection Areas (SPAs) to safeguard internationally important sites for birds. The *'Bonn' Convention*[12] gives specific protection to migratory animals.

4.9.5 Despite the amount of legislation that exists, however, there is widespread concern that laws are out of date, inadequately enforced, and therefore ineffective in maintaining biodiversity. The fact that the most important sites for wildlife in the UK, and in Nottinghamshire, are still being lost and damaged, and that so many of our species continue to decline, indicates that tougher measures are needed. In November 1997, twenty-two conservation organisations outlined the changes they believed were needed to wildlife law in order to create an effective system[13]. Ultimately, however, any statutory framework can only achieve so much. It must be bolstered by appropriate incentives, policies and actions.

4.10 Education and Awareness

4.10.1 Biodiversity conservation ultimately depends on the actions of individuals. Raising awareness of the issues and encouraging everyone in the County to take action for wildlife is therefore an important function of this Local Biodiversity Action Plan. Everyone can do something for local biodiversity, whether it is joining a conservation group, gardening in a wildlife friendly way, or becoming a conservation volunteer. A significant proportion of the conservation work carried out in Nottinghamshire is done by volunteers. In addition to this, the benefits to global biodiversity of conserving water and energy, recycling, reducing car use, and generally adopting a more sustainable lifestyle are considerable.

4.10.2 People care about their environment. Recent surveys show that 82% of the British population is 'very' or 'quite' worried about the loss of UK plants and animals[14]. 40% also felt that the 'countryside' was one of the top three aspects of British quality of life (second only to freedom of speech)[15]. This concern is reflected in the continually growing membership of national conservation groups, which currently exceeds 5.5 million adults, about 12% of the UK population[16]. Many people are also members of local groups such as the Friends of Vicar Water, the Nottinghamshire Badger Group or the Leen Valley Conservation Volunteers.

4.10.3 Environmental education seeks to give individuals the opportunity to develop awareness, skills, knowledge, understanding and values, in order to make informed decisions about their lifestyles and the impacts they have on the environment. Education can be both formal (in schools and colleges) and informal (through conservation groups, the media etc.).

4.10.4 Formal Education

The National Curriculum Council suggests that formal environmental education can be thought of as comprising three linked components:

- education *about* the environment (knowledge);
- education *for* the environment (values, attitudes, positive action);
- education *in* or *through* the environment (a resource).

4.10.5 The environment is a cross-curricular theme in schools. Nottinghamshire County Council has an Environmental Education Service which aims to develop in pupils a strong interest in, an understanding of, and a caring attitude towards the environment. To achieve these aims, the Service provides a range of support for schools, including two residential centres, in-service training for teachers, and a range of curriculum materials.

4.10.6 A major environmental education initiative in Nottinghamshire schools is 'Trailblazer'. This is a record of achievement for pupils of all ages and abilities, which enables them to set targets for themselves and review experiences, while working towards a Trailblazer Award. To earn an award, pupils must build up time within the Field Studies, Outdoor Pursuits, Safety and Survival or Service to the Environment categories.

4.10.7 Further and higher education in Nottinghamshire encompasses two universities, as well as a large number of colleges of various types. These institutions have a major role to play in environmental education, particularly because they are increasingly involved in activities such as community education, outreach and distance learning programmes and industrial training schemes in addition to their main course programmes. The environment in further and higher education was recently the subject of the Toyne Report[17], in which a series of recommendations were made which were subsequently endorsed by the UK Biodiversity Action Plan[2]. To achieve these recommendations, the report concluded that every institution should adopt and publicise:

- a comprehensive environmental policy statement;
- a policy and strategy for the development of environmental education;
- action plans for their implementation.

4.10.8 There is growing trend towards non-college-based routes to training and education in environmental subjects. Organisations such as BTCV undertake programmes in local communities based on practical work in the environment. Many qualified but unemployed people are trained in the practical side of conservation through volunteer work, and then go on to find employment.

4.10.9 Informal Education

2010



The common lizard will be a good 'flagship' species for promoting heathland conservation.

The traditional approach to environmental education is to provide the facts and assume that those in receipt of them will become concerned. However, this is likely to be successful only if the recipients already have some concern and feel that they are able to do something about the problem. A more constructive approach involves informing people about the problem, explaining how their action is vital to solving it, and emphasising the benefits of a change in behaviour. We should be encouraging people to think of their environment as a system of many interacting factors, to realise the value of the natural habitats, species and processes inherent in it, and to consider their own impact on the environment in the light of these values.

4.10.10 Informal environmental education can take many forms, from newspaper articles and radio programmes to community projects and volunteer schemes. The activities of volunteers are a major way of influencing people - both those taking part and those observing the volunteers' commitment. Many of the activities which have the biggest impact involve doing something and learning through the experience, and education through involvement in this way can work on anyone. The fact that over 1,000 people in the County are conservation volunteers is a clear illustration of the importance of the natural environment to those living in Nottinghamshire.

4.10.11 Although the ultimate goal should be to make environmental education available to everyone, there are some sectors of society that should perhaps be targeted initially. These include those who have the greatest direct effect on biodiversity, such as planners and politicians. In order for these individuals to make informed, balanced decisions, they must be fully aware of the environmental consequences of their actions.

References

1. Heaton, A. (1996). *Environment Agency Midlands Region Biodiversity Strategy*. Environment Agency

2. Department of the Environment. (1994). *Biodiversity: The UK Action Plan*. Cm2428 HMSO, London

3. Nottinghamshire County Council. (1996). *Nottinghamshire Structure Plan Review: Explanatory Memorandum*. Nottinghamshire County Council

4. Nature Conservancy Council (now English Nature). (1990). *Nottinghamshire Inventory of Ancient Woodland.* Nature Conservancy Council

5. Nottinghamshire County Council. (1992). *State of the Environment Report*. Nottinghamshire County Council

6. Nottingham City Council. (1992). *A Nature Conservation Strategy for the City of Nottingham*. Nottingham City Council

7. Mansfield District Council. (1997). *A Nature Conservation Strategy for the District of Mansfield*. Mansfield District Council

8. Department of the Environment. (1994). *Planning Policy Guidance Note 9: Nature Conservation.* HMSO, London

9. European Community Council. (1992). *Directive on the Conservation of Natural Habitats of Wild Fauna and Flora ('The Habitats and Species Directive')*. 92/43/EEC

10. *The 'Bern' Convention on the Conservation of European Wildlife and Natural Habitats*

11. European Community Council. (1979). *Council Directive on the Conservation of Wild Birds ('The Birds Directive').* 79/409/EEC

12. *The 'Bonn' Convention on the Conservation of Migratory Species of Wild Animals*

13. Wildlife and Countryside Link. (1997). *Wildlife Law: Time for Reform*. Wildlife and Countryside Link

14. Department of the Environment. (1993). *Survey of Public Attitudes to the Environment*. Department of the Environment

15. Gallup. (1993). *Gallup Survey: Political and Economic Index*. Gallup

16. MORI. (1995). *MORI Business and the Environment*. MORI

17. UK Government. (1993). *Environmental Responsibility: An Agenda for Further and Higher Education (The Toyne Report)*. HMSO, London