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Guidance for Public Authorities on Implementing the Biodiversity Duty

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Defra wishes to thank everyone who has contributed to the preparation of this guidance, in particular the members of the NERC Duty Steering Group, made up of members representing Natural England, the Wildlife Trusts, the Association of Local Government Ecologists, Wildlife and Countryside Link, the Royal Society for the Protection of Birds, Countryside Council Wales, Welsh Assembly Government, Welsh Local Government Association, Local Government Association. Together their contributions and suggestions have been invaluable.

Front cover image: Wolverhampton – derelict ground planted with wild flowers
Credit: Natural England Photographer Peter Wakely

Guidance for Public Authorities on Implementing the Biodiversity Duty

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Introducing the Biodiversity Duty for Public Authorities

1. Biodiversity is the variety of life on earth, and includes all species of plants and animals and the natural systems that support them. Biodiversity is a core component of sustainable development, underpinning economic development and prosperity, and has an important role to play in developing locally distinctive and sustainable communities.

2. Conservation of biodiversity is vital in our response to climate change and in the delivery of key ecosystem services such as food, flood management, pollination and provision of clean air and water.

3. Public authorities have a key role to play in conserving biodiversity, through their work in: developing and implementing external and internal policies and strategies; administering the planning system; managing their land and buildings; developing infrastructure; engaging with business and the public; conducting research and managing information; making decisions about procurement; and implementing economic, environmental and social programmes.

4. Public authorities have a Duty to have regard to the conservation of biodiversity in exercising their functions. This Duty was introduced by the Natural Environment and Rural Communities Act and came into force on 1 October 2006. The Duty aims to raise the profile and visibility of biodiversity, clarify existing commitments with regard to biodiversity, and to make it a natural and integral part of policy and decision making.

5. The Duty applies to all public authorities including local authorities, central government departments, executive agencies, non departmental public bodies, regional government offices, non-ministerial departments, NHS Trusts, regional assemblies, utilities and all other bodies carrying out functions of a public character under a statutory power. Public authorities can make a significant contribution towards the 2010 target to halt biodiversity loss.

6. This guidance has been issued by Defra and the Welsh Assembly to assist public authorities in fulfilling their Duty. Separate guidance has also been produced for local authorities, in view of their specific activities and key role with regard to biodiversity conservation.

7. Biodiversity is hugely important in its own right and we have international responsibilities and national and local systems in place to protect and enhance it. It plays a key role in underpinning quality of life and giving a "sense of place". Biodiversity offers opportunities for tourism, economic development, health promotion, community development and social cohesion.

8. Conserving biodiversity includes restoring and enhancing species populations and habitats, as well as protecting them.

9. The guidance is structured around four key themes: policy and strategy; management of public land and buildings; planning and development; and education, advice and awareness.

Policies, Strategies and Biodiversity

10. Biodiversity is at the very heart of sustainable development and is a good indicator of the extent to which more sustainable communities are being achieved.

11. Public authorities should consider the range of policies and strategies affecting the work of their organisation, the linkages to biodiversity and how policies and strategies can be developed and implemented to have regard to biodiversity.

12. A useful systematic approach is to avoid any negative effects on biodiversity in the first instance, then to seek to reduce or mitigate such impacts, then to incorporate opportunities for biodiversity enhancement into public policy wherever possible.

13. It is important for public authorities to develop corporate biodiversity objectives, developing and utilising Biodiversity Action Plans as appropriate.

14. Environmental Management Systems are a useful tool for developing and implementing internal policy and strategy.

Management of Public Authority Land and Buildings

15. Public authorities are major land owners and together own or manage many thousands of hectares of urban and rural land across England and Wales, with major implications for biodiversity. Management of public authority sites is important both in providing habitats for wildlife and in reducing environmental impacts that affect biodiversity.

16. Biodiversity conservation measures need to have regard to both designated sites and priority species, and to wider species and habitats.

17. A wide variety of sites are important in this respect including designated sites and nature reserves, green infrastructure, buildings, school grounds, wetland and coastal sites, highways and rights of way, farms and tenanted land.

Planning, Infrastructure and Development

18. National planning policy on biodiversity conservation is the primary reference point for those developing or appraising development plans or projects.

19. Public authorities should engage with local authorities through the plan-making process and prior to submitting a planning application in order to avoid delays.

20. A good evidence base is essential to public authorities when planning development projects.

21. Effective monitoring is key to ensuring measures put in place to conserve biodiversity are successful.

Education, Advice and Awareness

22. Public authorities have an important role in promoting understanding and awareness of biodiversity, which underpins a wide range of biodiversity conservation activities.

23. Having regard to the conservation of biodiversity involves examining the scope to incorporate biodiversity messages into a wide variety of interactions with land managers, businesses, other organisations and the general public.

24. Relevant activities include the operation of the education system, provision of advisory services, promotion of community engagement in biodiversity, and raising awareness of biodiversity through communications with the public.

Implementing the Duty – Implications for Public Authorities and their Staff

25. In demonstrating that it has implemented its Duty to have regard to the conservation of biodiversity, a public authority is likely to be able to show that it has:

1. Identified and taken opportunities to integrate biodiversity considerations into all relevant service areas and functions, and ensured that biodiversity is protected and enhanced in line with current statutory obligations;

2. Raised awareness of staff and managers with regard to biodiversity issues;

3. Demonstrated a commitment and contribution to Biodiversity Action Plans, where appropriate;

4. Demonstrated progress against key biodiversity indicators and targets.

26. The appropriate means for measuring progress are likely to vary between authorities, depending on the extent and type of their interactions with biodiversity. However, possible indicators might cover indicators in the England Biodiversity Strategy, the condition and management of landholdings and Sites of Special Scientific Interest (where applicable), the provision of accessible green space, and/or the management of wider environmental impacts.

27. Having regard to the conservation of biodiversity in their activities has implications for the awareness, knowledge and skills of public authority staff. These needs can be met by raising general awareness, using available guidance, integrating biodiversity into staff training, seeking advice from colleagues and external bodies, and, where necessary, providing specific training.

28. Incorporating consideration of biodiversity into many public authority functions and services can be achieved without significant additional costs and a variety of opportunities exist to minimise costs. In some cases, however, there may be a need for additional expenditures, in cases where public authorities are not meeting current statutory commitments. The guidance provides suggestions of how the costs can be minimised.

1. Introducing the Biodiversity Duty for Public Authorities

Key messages

- Biodiversity is the variety of life on earth, and includes all species of plants and animals and the natural systems that support them[1].
- All public authorities in England and Wales now have a Duty to have regard to the conservation of biodiversity in exercising their functions.
- Public authorities can make a positive difference for biodiversity and this document provides guidance to help them to implement their Biodiversity Duty.
- Conserving biodiversity includes restoring and enhancing species populations and habitats, as well as protecting them.
- Conservation of biodiversity is vital in our response to climate change. Biodiversity also provides substantial economic, local and environmental benefits to communities as well as vital life support services.
- Effective conservation of biodiversity requires its integration into a wide variety of public authority activities, functions and services.

1.1 A New Duty for Public Authorities

Biodiversity is a core component of sustainable development, underpinning economic development and prosperity, and has an important role to play in developing locally distinctive and sustainable communities.

From 1 October 2006, all public authorities in England and Wales have a Duty to have regard to the conservation of biodiversity in exercising their functions. The Duty aims to raise the profile and visibility of biodiversity, clarify existing commitments with regard to biodiversity, and to make it a natural and integral part of policy and decision making.

The Duty is set out in Section 40 of the Natural Environment and Rural Communities Act (NERC) 2006, and states that:

"Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity"[2]

The Act extends to all public authorities the biodiversity duty of Section 74 of the Countryside and Rights of Way Act (CROW) 2000 which placed a duty on Government and Ministers. A similar duty was introduced in Scotland under the Nature Conservation (Scotland) Act 2004, which requires public authorities to further the conservation of biodiversity.

The Duty affects all public authorities in England and Wales, which include public bodies, government and statutory undertakers. The latter includes bodies carrying out functions of a public character under a statutory power.

[1] The Convention on Biological Diversity definition of "Biological diversity" is the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

[2] Full text available on http://www.defra.gov.uk/rural/ruraldelivery/bill/default.htm

The Duty therefore applies to a wide range of organisations[3] including:

- Local Authorities – including the 410 unitary, county and district councils in England and Wales, and approximately 10,000 community, parish and town councils;
- Central Government departments, of which 21 have responsibilities for England and Wales;
- Departmental executive agencies, of which approximately 80 operate in England and Wales;
- Government Offices in England, of which there are nine, plus a Regional Co-ordination Unit;
- Non-Ministerial Government Departments, of which there are 20;
- Non-departmental public bodies, of which approximately 750 operate in England and Wales;
- NHS Trusts, of which there are 259 in England and 14 in Wales;
- Regional assemblies, of which there are nine in England;
- Utilities – including water service companies and energy suppliers;
- All other bodies carrying out functions of a public character under a statutory power.

1.2 This Guidance

Public authorities have a key role to play in the conservation of biodiversity, and this document provides guidance to help them meet their Biodiversity Duty[4]. Because the Duty is relevant to a wide variety of public authority functions and services, the guidance aims to help all staff to have regard to biodiversity in undertaking their work, and to inform senior executives about the opportunities to take account of biodiversity at corporate level.

The guidance draws on a wide range of information sources that provide advice on different activities and functions of public sector organisations. The guidance is intended to assist public authorities in meeting the Biodiversity Duty but it does not provide a definitive interpretation of legislation or provide exhaustive recommendations for conserving biodiversity. It has been produced in consultation with representatives of a wide variety of public authorities, through a series of workshops in England and Wales in autumn 2006.

The Guidance is presented in six main sections:

- Section 1 introduces the Biodiversity Duty, defining the term biodiversity, summarising the benefits of biodiversity conservation, and explaining why having regard to biodiversity is important for all public authorities.

[3] A list of public bodies is available on the Cabinet Office website at http://www.cabinetoffice.gov.uk; details of the local government structure are available on the Local Government Association (LGA) website at http://www.lga.gov.uk/lga/the_lga/Structure2.pdf. However these sources are not comprehensive and do not include certain relevant authorities (e.g. executive agencies, and statutory undertakers).

[4] Another document provides guidance specifically tailored for local authorities and their Biodiversity Duty.

- Sections 2-5 provide guidance on key aspects of public authorities' functions and activities which relate to biodiversity. They focus on four main themes:
  2. Policy, Strategy and Procurement;
  3. Management of Public Land and Buildings;
  4. Planning, Infrastructure and Development;
  5. Education, Advice and Awareness.
- Section 6 examines the implications for public authorities of implementing the Duty, considering implications for financial resources, skills and training, and measuring progress.

Appendix 1 provides a summary of existing guidance documents. Appendix 2 summarises relevant legislation, while Appendix 3 provides a summary of key site designations relevant to biodiversity conservation.

The Guidance contains numerous case studies which illustrate efforts that different public authorities have made to have regard to biodiversity in their various activities. These case studies aim to illustrate some of the approaches taken to date and lessons learned. The case studies are not exhaustive and what works may vary so they will not be appropriate in every case. Additional case studies are given in Appendix 4.

1.3 What is Biodiversity?

Biodiversity encompasses the whole variety of life on Earth. It includes all species of plants and animals, but also their genetic variation, and the complex ecosystems of which they are a part. It covers the whole of the natural world, from the commonplace to the critically endangered.

Biodiversity describes our natural wealth. It forms the natural capital which makes up the living landscapes around us, sustains living systems and enhances our quality of life. It is an important component of the view from our window, the food we eat, the clothes we wear, the materials and medicines we use, and the functioning of the natural systems and processes on which our lives depend.

Increasing concern about the state of the world's biodiversity has led to international efforts to conserve it. The Earth Summit in Rio in 1992 developed the UN Convention on Biological Diversity[5], signed by 150 countries including the UK, who have committed themselves to making efforts to conserve and sustain the variety of life on earth.

[5] http://www.biodiv.org/default.shtml

The UK's commitment to the conservation of biodiversity is delivered through the UK Biodiversity Action Plan[6], which is made up of a series of plans to target action for particular vulnerable habitats and species (see Box 1.1). In addition, the England Biodiversity Strategy[7], *Working With the Grain of Nature*, published in 2002, brings together England's key contributions to achieving the 2010[8] target to halt biodiversity loss, and sets out a programme to ensure the integration of biodiversity into policy making and practice. On 2nd November 2006 a full report on progress under the England Biodiversity Strategy was published, including proposals for meeting the challenges of the next four years[9]. A Biodiversity Framework for Wales is also being developed[10], while biodiversity conservation is also addressed in the Environment Strategy for Wales and its Action Plan, published in May 2006.[11]

Box 1.1: Priorities for Biodiversity Conservation at the National, Regional and Local Level

The UK approach to biodiversity conservation[12] recognises the need to prioritise resources. There are two key elements to this approach:

a) Integrating biodiversity into public plans, policies and programmes, and

b) Encouraging conservation action through Biodiversity Action Plans (BAPs) for priority species and habitats at national and local levels.

Species and habitats have been assessed at a UK level against objective criteria including rarity and declining status. The species and habitats identified are therefore UK priorities for conservation action[13]. BAPs have been produced that set out clear targets and actions for the conservation of these species and habitats[14]. They provide valuable guidance on the action needed and a vital framework for monitoring progress.

In addition, Local Biodiversity Action Plans (LBAPs) have been produced to complement the UK BAPs and assist with the delivery of specific targets[15]. LBAPs are based on a partnership approach with Local Authorities often playing a key role in plan development and delivery. LBAPs should identify key local contributions to national targets as well as targets and actions for species or habitats of local distinctiveness. LBAPs have been produced at different geographic scales, e.g. parish, county or national park. In England, there are also Biodiversity Action Plans or Strategies at the Regional level. These often provide regional targets for priority habitats.

6 http://www.ukbap.org.uk

7 Working with the Grain of Nature – A Biodiversity Strategy for England. http://www.ukbap.org.uk/EBG/england_biodiversity_strategy.asp

8 http://ec.europa.eu/environment/nature_biodiversity/index_en.htm

9 http://www.defra.gov.uk/wildlife-countryside/biodiversity/biostrat/indicators/pdf/grain/grainvol1v3.pdf

10 A consultation document on the Draft Biodiversity Framework for Wales was produced in autumn 2006 - http://www.biodiversitywales.org.uk/admin/upload/docs/english/engframe.pdf

11 http://new.wales.gov.uk/topics/environmentcountryside/epq/Environment_strategy_for_wales/About_the_strategy/?lang=en

12 Biodiversity: The UK Action Plan (1994) Cm 2428, The Stationery Office , London.

13 At the time of going to press the UKBAP species and habitat priorities were under review, the results of this review are expected to be published during 2007.

14 See http://www.ukbap.org.uk/ for further details and individual BAPs.

15 See http://www.ukbap.org.uk/GenPageText.aspx?id=57

Box 1.1: Priorities for Biodiversity Conservation at the National, Regional and Local Level (continued)

UK, regional and local BAPs provide a means of prioritising action for Local and Public Authorities. Where there are opportunities to take appropriate and effective action for national priorities these should be taken. Section 74 of the Countryside and Rights of Way Act 2000 provides information on priority habitats and species. Further guidance on biodiversity priorities will be available when revised lists of species and habitats of principal importance for biodiversity are published under section 41 (England) and section 42 (Wales) of the NERC Act 2006.

Conservation efforts can involve controlling the introduction and spread of non-native invasive species which are damaging or threatening to native habitats and species. Activities which could have a negative impact on biodiversity in other countries should also be avoided wherever possible.

1.4 The Benefits of Conserving Biodiversity

The reasons for conserving biodiversity are many and varied:

- **It plays an important role in tackling climate change.** Wildlife habitats such as woodlands and peatbogs act as carbon sinks, helping to reduce the severity of climate change. Other habitats such as natural floodplains and coastal habitats can help reduce flooding and dissipate wave energy. Natural habitats are also important in providing corridors to allow mobile species to move in response to changes in climate.
- **It is an indicator of the wider health of our environment.** An environment rich in biodiversity is also likely to perform well against other measures of environmental quality (such as air and water quality), and to provide a healthy and attractive living environment for people. Biodiversity is therefore a key indicator of sustainable development.
- **It supports other vital services that sustain life on earth (Ecosystem Services).** Human life and economic activity depend on vital services provided by ecosystems, such as the provision of clean air and water, defence against floods and storms, and the management of waste and pollution. Studies have shown that the economic value of these services is immense, and that a large proportion of this value depends on the biological diversity of these systems. Box 1.2 summarises some of the evidence of the value of these services in the UK.
- **It helps to sustain local economies.** Conserving biodiversity supports jobs and incomes in conservation management, and provides additional benefits by attracting visitors to rural areas. It also provides new market opportunities to farmers and land managers. These economic impacts can be significant at the local level, particularly in nature rich areas with limited alternative employment opportunities. Some of the evidence is summarised in Box 1.2.

[16] See, for example, CJC Consulting (2005) *Economic Benefits of Accessible Green Spaces for Physical and Mental Health: Scoping Study* – report for Forestry Commission

- **It contributes to our health and wellbeing.** Studies have shown that nature helps to enhance our physical and mental health, by encouraging outdoor recreation, exercise and relaxation[16]. Biodiversity plays an important role in enhancing and encouraging outdoor recreation by increasing the variety, attractiveness and interest of the landscape. Biodiversity also plays an important role in educating us about the world around us.
- **It is an important part of our cultural heritage and identity.** Biodiversity is important in defining local character and distinctiveness. It helps to shape the environments in which public authorities operate. It is a key defining component in the upland oakwoods of Wales, the chalk grasslands of southern England, the fens of East Anglia and the moorlands of North Yorkshire. Bluebell woodlands, seabird cliffs, peatbogs and lowland heathlands are all important parts of our heritage, and we would be impoverished if we lost them.
- **It offers opportunities for community engagement and volunteering.** Biodiversity projects offer opportunities to engage local communities and promote social inclusion. Many people derive huge satisfaction as volunteers in conservation projects, giving them an opportunity to get involved in a practical way in managing the environment.
- **It provides us with essential products and materials.** Biodiversity is a source of many vital products such as food, medicines and building materials. Biodiversity conservation is important to ensure that these products continue to be available to us and to future generations. Maintaining sustainable fisheries depends on conservation of marine biodiversity. Biodiversity offers widespread opportunities to develop new medicines, foodstuffs and other products, which will be lost if we fail to conserve it.
- **We have a responsibility to conserve biodiversity.** Apart from the benefits that it provides to people, there are strong ethical reasons why mankind should conserve biodiversity. We share the planet with many other species, and many would argue that we have no right to preside over the extinction of other animals and plants. As well as the intrinsic values of biodiversity, we have a responsibility to pass on a healthy stock of natural capital to future generations.

In summary, conserving biodiversity is not only the right thing to do – it is vital for our future existence on this planet. We are improving our understanding of the importance of natural systems and processes in sustaining life, and the role that biodiversity plays in maintaining these. We are aware that biodiversity continues to be lost at an alarming rate as a result of human activities, but we do not yet know whether and how long this can continue before we undermine the life support functions on which we depend[17].

[17] The Millennium Ecosystem Assessment provides a global assessment of the state of the world's ecosystems and the services they provide, and also evidences the role of biodiversity in the provision of these services. http://www.millenniumassessment.org/en/index.aspx

Box 1.2: Economic Significance of Nature Conservation and Wildlife Tourism

A study for Defra estimated that activities that contribute to the management of the natural environment, or are dependent on a high quality environment, support 299,000 full time equivalent (FTE) jobs and Gross Value Added of £7.6 billion in England annually. This includes activities in the nature conservation, agriculture, forestry, fisheries, food and tourism sectors[18]. The management, use and appreciation of the natural environment in Wales has been estimated to support 117,000 FTE jobs directly, around 12% of total employment nationally[19].

Wildlife tourism has been shown to provide significant benefits to local economies. For example:

- **National Nature Reserves (NNRs).** Over 200 NNRs attract an estimated 13 million visits each year. Three NNRs in Wales were estimated to bring additional visitor spending to local economies of £7 million in 1998, supporting local incomes of £2.2 million and more than 400 FTE jobs[20].
- **Norfolk Coast.** A study of visitors in 1999 estimated that visitors to six sites spent £21 million per year in the local economy, of which £6 million could be attributed to birds and wildlife (supporting 135 FTE jobs).
- **Osprey nest sites** in the UK attracted 290,000 visits in 2005, as a result of public viewing schemes at nine sites in Scotland, England and Wales. The sites were estimated to bring additional visitor spending of £3.5 million to local economies[21].

Examples of the Value of Services provided by Woodlands[22]:

- **Reducing air pollution.** The benefits of trees in reducing air pollution in Britain have been valued at between £222k and £11.2 million per year.
- **Storage of carbon**, helping to reduce climate change. The net present value of carbon storage of broadleaved woodlands has been estimated to vary from £601 million in the North West to £2,684 million in the South East.
- **Providing opportunities for recreation.** Total annual recreational benefits have been estimated at £290,000 for Derwent Walk, Gateshead and £110,000 for Whippendell Wood, Hertfordshire, equivalent to £1600 to £1800 per hectare.

[18] GHK Consulting and GFA-Race (2004) Revealing the Value of the Natural Environment in England. Report for Defra.
[19] Bilsborough and Hill (2003) Valuing our Environment: The Economic Impact of the Environment of Wales. Technical Summary. Countryside Council for Wales.
[20] Christie, M., Keirle I. and Scott A (1998) Welsh National Nature Reserves: Effectiveness of Interpretation, its Economic Impact and Recreational Use. Report for CCW.
[21] Dickie, Hughes and Esteban (2006) Watched Like Never Before – the Local Economic Benefits of Spectacular Bird Species. RSPB
[22] EFTEC (2005) The Economic, Social and Ecological value of Ecosystem Services', A Report for Defra;

Case study: Royal Society for the Protection of Birds (RSPB) – Working with Public Authority Volunteers

Providing volunteering time for staff to carry out specific conservation management is one way that any public authority can help biodiversity conservation. This type of activity can provide excellent team building opportunities and can act as a rejuvenating break from normal activities. It provides a connection with the natural world and gives staff a good feeling that they have made a positive contribution to conservation. For example, a group from the Environment Agency's Bedford office helped heathland and woodland restoration at the RSPB's nature reserve at the Lodge near Sandy, Bedfordshire. The team cleared bracken and removed invasive sycamore as part of a project to extend the area of lowland heathland, a BAP priority habitat and one that is very scarce in Bedfordshire. A case study of a member of Inland Revenue staff seconded to the RSPB in 2004 to be their Employee Volunteering Project (EVP) development officer can be found at: http://www.rspb.org.uk/volunteering/type/teamchallenges/sharonnightingale.asp

1.5 The Role of Public Authorities in Conserving Biodiversity

Effective conservation of biodiversity requires its integration into a wide variety of activities, sectors and organisations. This is a key theme of the England Biodiversity Strategy. Similarly, in Wales, the terms of reference of the Wales Biodiversity Partnership include to *"seek to raise government, business and public awareness of biodiversity conservation and the part they can play and the action they can take"*.

While Defra, the Welsh Assembly, Natural England, the Countryside Council for Wales (CCW) and other organisations such as the Forestry Commission, Environment Agency and national park authorities already play a central role in biodiversity conservation, the activities of a much wider range of organisations impact upon biodiversity and have the potential to contribute to its conservation.

Some organisations, such as the Forestry Commission and Ministry of Defence (MOD), are major owners and managers of land and the way that they manage their estates has a huge and very direct influence on biodiversity. Local authorities and other organisations concerned with the planning process also have profound impacts on biodiversity by influencing decisions about development and land use change. The activities of other authorities may be linked to biodiversity more indirectly or on a smaller scale. All organisations can play a positive role in conserving biodiversity by having regard to it in their purchasing decisions, daily operations and policy functions.

Key functions and services of relevance to biodiversity include:

- **Development and delivery of key policies and strategies**, with effects on land use, development and the environment. Many authorities will influence biodiversity conservation through their policy work (e.g. HM Treasury through the tax system, local authorities through local strategies and plans, and various advisory bodies involved in developing thinking in different policy areas).

- **Ownership and management of land and buildings**, including public open space, nature reserves, civic buildings, offices and infrastructure. Management of these sites is important in directly providing habitats for wildlife, and in generating environmental impacts that impact on other wildlife sites. Some bodies manage large areas of land (e.g. MOD, Highways Agency, Forestry Commission), while many more manage land on a small scale, including gardens, buildings and public spaces. Authorities may manage land directly or through incentives or tenancy agreements (e.g. National Parks).
- **Development of new infrastructure**, including buildings, roads, and flood defences, may impact on habitats and species. Any public authority with its own buildings may potentially have an impact, but these will be greater for authorities with a particular infrastructure role (such as the Highways and Environment Agencies).
- **Generating environmental impacts**, through use of energy and water and generation of waste and pollution. Public authorities' internal environmental policy and performance have impacts on biodiversity. Some organisations (Defra; Department of Trade and Industry (DTI) – energy and business productivity; Department for Transport (DfT) – transport; Environment Agency – water and waste) have a policy role in influencing impacts more widely.
- **Administering the planning system and licensing schemes**, which have profound influences on biodiversity conservation. Local authorities have a key planning role, with Department for Communities and Local Government (DCLG) and the Welsh Assembly Government providing central guidance. A variety of other licensing and permitting schemes (e.g. water abstraction, waste management and forestry licenses) are also important in conserving biodiversity. Authorities with a regulatory function such as Ofwat also have an important role to play in taking account of biodiversity.
- **Influencing the awareness and attitudes** of people, businesses and land managers, through education, advisory and awareness raising activities. This includes the management of the education system (by Department for Education and Skills (DfES) and related bodies and local education authorities), advisory services operated by organisations such as Business Link and Defra, and the role of the media.
- **Science, information and research**, which have a key role in supporting biodiversity conservation. This embraces the activities of a wide range of organisations from universities and research bodies to Local and/or Regional Records Centres, museums and libraries.
- **Making decisions about procurement**, including decisions about sourcing of wood products (which impact on forest management) and sourcing of plants and planting media (with impacts on peatbogs).
- **Incorporating biodiversity into development strategies**, by recognising the variety of tourism, development and cultural opportunities that biodiversity can provide, and ensuring that these are reflected in relevant strategies and programmes. Relevant organisations include Department for Culture Media and Sport (DCMS), Visit Britain, regional Tourist Boards, Regional Development Agencies (RDAs) and regional cultural organisations.
- **Delivery of biodiversity conservation policies**, which is a core activity of environmental organisations such as Natural England, Defra, CCW and the Environment Agency.

Biodiversity can also play a key part in the delivery of a variety of public services such as education, health, social care and economic development.

2. Policies, Strategies and Biodiversity

Key messages

- Biodiversity is at the very heart of sustainable development and is a good indicator of the extent to which more sustainable communities are being achieved.
- Public authorities should consider the range of policies and strategies affecting the work of their organisation, the linkages to biodiversity and how policies and strategies can be developed and implemented to have regard to the need to conserve biodiversity.
- A useful systematic approach is to avoid any negative effects on biodiversity in the first instance, then to seek to reduce or mitigate such impacts, then to incorporate opportunities for biodiversity enhancement into public policy wherever possible.
- A number of regional and local public authorities have developed sustainable development toolkits to assist the development of policy and strategy.
- It is important for public authorities to develop corporate biodiversity objectives, developing and utilising Biodiversity Action Plans as appropriate.
- Environmental Management Systems are a useful tool for developing and implementing internal policy and strategy.

2.1 Introduction

The development of policy and strategy provides an early opportunity to integrate biodiversity conservation into programmes and activities. Proactive consideration of biodiversity within external and internal policy and strategy can help to ensure that it is given sufficient weight and funding, by being fully integrated throughout public authority functions and activities.

2.2 The Current Policy Environment

Public policy influences the conservation of biodiversity in many different ways, and the interactions are complex, not always obvious, and often long term in nature. It is clear that there are some major drivers at the national and regional level having profound effects on biodiversity such as the UK Biodiversity Action Plan, national transport policy and Regional Spatial and Economic Strategies. It is equally apparent that unresolved conflicts between economic growth and protection of the environment give the potential for a range of mixed or uncertain effects on biodiversity resulting from individual policies, strategies and funding programmes.

While not all public authorities exist to develop policy and strategy as their primary function, public authority functions are often guided by overarching strategy documents, whether developed with partners for external use or developed internally to underpin day-to-day activities.

In assessing how the Biodiversity Duty affects them, it is important for public authorities to consider:

- The range of policies and strategies influenced by their organisation;
- Linkages between these policies and strategies and biodiversity, whether direct or indirect;
- How these policies and strategies can be developed and implemented to take account of the need to conserve biodiversity.

2.3 Types of Policies and Strategies

Policy and strategy development affects public authorities in at least one of the following ways:

- It might represent a primary function of a public authority e.g. Government Departments, statutory agencies and advisory bodies.
- It could provide an overarching strategy for the carrying out of a public authority's activities e.g. infrastructure development plans, the production of guidance and advisory documents.
- All public authorities will be guided by internal policies and strategies, e.g. Corporate Business Plans.

2.4 Linkages between Policy and Strategy and Biodiversity

For public authorities whose primary purpose is related to the environment, the linkages will be more obvious and it is likely that much will already be happening for the benefit of biodiversity. Examples of this type of public authority include Natural England, the Environment Agency, the Forestry Commission and CCW. It is important for this type of organisation to make the links through policy and strategy development to those organisations whose primary function does not directly relate to the environment, but whose activities have the potential to affect biodiversity in some way.

Case Study: The Evolution of UK Forestry Policy and the Work of the Forestry Commission

UK forestry policy has evolved throughout the twentieth century and continues to change in response to greater political and public awareness of environmental and sustainability issues.

By the 1990s, the Forestry Commission's remit had evolved to promoting and maintaining multipurpose forestry, with incentives for landowners provided in the way of awards, grant schemes and Forest Design Plans to balance commercial demands with recreation and conservation.

Current forestry policy is contained within the England Forestry Strategy *'A New Focus for England's Woodlands'* (Forestry Commission, 1998) http://www.forestry.gov.uk/efs

The Government's vision for England's native and ancient woodlands is set out in the Defra and Forestry Commission policy statement 'Keepers of Time'

http://www.forestry.gov.uk/website/pdf.nsf/pdf/anw-policy.pdf/$FILE/anw-policy.pdf

Welsh forestry policy is set out in the Wales Forestry Strategy *'Woodlands for Wales'* (Welsh Assembly Government, 2001) http://www.forestry.gov.uk/forestry/infd-5nlkt7

In May 2006, Defra launched a consultation on producing a new strategy for England's trees, woods and forests. The consultation closed in August 2006.

Case Study: The Evolution of UK Forestry Policy and the Work of the Forestry Commission (continued)

http://www.defra.gov.uk/corporate/consult/forestry-strategy/index.htm

The consultation stated that there is a need to bring forestry policy together within the wider sustainable development agenda. This involves giving greater recognition to the contribution trees, woods and forests can make to the environment (e.g. through mitigating and adapting to climate change), to social wellbeing (e.g. through maximising health benefits) and economic sustainability (e.g. by aligning grant aid with the delivery of public benefits). Biodiversity is now seen as one of the key environmental priorities. The new Strategy is expected to be published in summer 2007.

Many public authorities are involved in the development or implementation of a range of policy areas which could have some effect on biodiversity. It is important for these bodies to make the linkages to biodiversity and incorporate appropriate policy measures to maximise the potential for biodiversity conservation. Examples include:

- Environmentally sensitive farming practices through Farming and Food Strategies;
- Opportunities for biodiversity restoration or improvements to be pursued through Regional Economic Strategies or Regeneration Strategies;
- Consideration of conservation and enhancement opportunities within Sports and Recreation Strategies;
- Improving efficiency of water use and improvements to existing infrastructure within water resource plans;
- Seeking opportunities for environmental awareness through education and advisory policies.

All public authorities have internal policies and procedures that have the potential to affect biodiversity directly or indirectly. For example:

- **Transport:** Reducing the need to travel and reducing car use will help to reduce climate change impacts (which can have harmful effects on species and habitats), and cut pollution and noise (which can damage habitats and disturb sensitive species).
- **Energy and Water Use:** Energy efficiency measures help to reduce climate change, while water efficiency reduces potential negative effects of water abstraction on sensitive habitats.
- **Waste:** Reducing, followed by re-using and recycling waste will help to reduce the air pollution from waste transport and landfill, which have adverse impacts on biodiversity and climate change.
- **Procurement:** Procuring materials that can be sourced via sustainable modes of transport will help to reduce pollution and carbon dioxide emissions and associated effects of climate change; Procuring materials that have been produced through sustainable production methods will help to reduce demands on natural resources. Wider global impacts are also

an important consideration. Advice on green labels and buying green products can be found at:

http://www.direct.gov.uk/en/Environmentandgreenerliving/Greenerlivingaquickguide/index.htm

- **Management of Public Authority Land and Buildings:** See section 3.

2.5 Policies and Strategy Development and Implementation

2.5.1 Introduction

Having regard to biodiversity requires a systematic approach to developing and implementing policy. In the first instance, this should involve consideration of what can be done to **avoid** any negative effects on biodiversity, for example, by incorporating demand-reducing measures to avoid the need for extensive infrastructure development. Where negative effects are still likely, policies to **reduce or mitigate** these effects should be put in place – for example, by creating wildlife corridors. Opportunities for biodiversity **enhancement** should be incorporated into public policy wherever possible – for example, by establishing long-term habitat management agreements. The following sections summarise some of the tools available to public authorities to help them achieve this.

2.5.2 Sustainable Development Toolkits

A number of regional and local public authorities have developed toolkits to assist those developing strategies and policies to incorporate sustainable development principles, including objectives for biodiversity.

Case Study: East Of England Sustainable Development Toolkit

East of England Regional Assembly and the East of England Sustainable Development Round Table

Weblink: http://www.toolkit-east.org.uk/

The East of England Toolkit was developed by the UK Centre for Economic and Environmental Development (UK CEED) on behalf of Regional Assembly, the East of England Development Agency (EEDA) and Government Office for the East of England (GO-East).

Its purpose is to highlight the economic, environmental and social impacts of policies, development proposals and other new initiatives within the Region and provide information which can help to improve them. The Toolkit has a central role in helping partners to advance the Integrated Regional Strategy.

The Toolkit provides an on-line checklist against objectives of the Regional Sustainable Development Framework. For each objective, the assessor must decide whether a policy or initiative will have a very positive, slightly positive, neutral or mixed, slightly negative or very negative impact.

Case Study: East Of England Sustainable Development Toolkit (continued)

The Toolkit includes a section on Biodiversity and Landscape Enhancement, which poses a series of questions:

- Will it encourage greater biodiversity?
- Will it create any new habitats/wildlife sites?
- Will it protect and enhance existing habitats and wildlife sites?
- Will it help to protect any species at risk?
- Will it help to protect any SSSIs and other designated sites?

Biodiversity is also considered within other sections of the toolkit, for example, in the consideration of the impact of the initiative on agriculture. The series of questions under each objective act as a checklist and help to inform the development of policies which will maximise positive effects on biodiversity and minimise negative effects. The Toolkit links to a range of information on habitats and wildlife, including key policy requirements and good practice examples and the need to conserve priority species and habitats set out in Biodiversity Action Plans.

2.5.3 Biodiversity Action Plans and Corporate Policy

It is important for biodiversity to be integrated within public authority corporate priorities, for example, by incorporating appropriate policies into Corporate Environment Strategies or Sustainable Development Strategies or adopting a Biodiversity Action Plan as a Corporate Strategy in itself.

The UK Biodiversity Action Plan contains detailed information on species and habitats and Local Biodiversity Action Plans (LBAPs) (See box 1.1 in Section 1 for further information).

LBAP Partnerships have access to a wealth of useful information and local expertise through their role in developing LBAPs and through links to Local and/or Regional Record Centres which hold valuable data on local wildlife. It will be important for public authorities to communicate effectively with data providers so that this information can be used to fully inform decision making.

At the regional level, Regional Biodiversity Forums have helped to pool this resource and facilitate cross-boundary working, to the benefit of the varied spatial and migratory nature of habitats and species. Regional biodiversity co-ordinators employed by Natural England on behalf of regional partnerships give further impetus to partnership working which will be essential to delivery of the Biodiversity Duty.

In developing corporate priorities, public bodies also need to consider how existing legal duties applying to the conservation and enhancement of statutory designated sites will be complied with through policy implementation and decision making (see Section 3 for further information on designated sites).

Case Study: Highways Agency Biodiversity Action Plan

Highways Agency

Weblink: http://www.highways.gov.uk/aboutus/1153.aspx

The area of land owned by the Highways Agency between highway fences but not occupied by the road, known as the soft estate, represents a considerable habitat resource and network for biodiversity. Currently, the area of the soft estate stands at 30,000 hectares. It consists of a wide variety of habitats, particularly grassland, scrub and woodland close to roads, but also larger areas of other habitats such as heathland, rock faces and wetlands.

The main aim of the Highways Agency Biodiversity Action Plan is to support the Agency's goal of conserving and, where possible, enhancing biodiversity. This is supported by specific objectives to:

- Provide habitat and species action plans which are relevant and appropriate to the network and to the work of the Agency, including some requested by national and regional conservation organisations;
- Set practical and realistic actions and targets so that the Agency's contribution to biodiversity can be maximised;
- Raise awareness and understanding of the importance of biodiversity work among the Agency's staff and contractors, its environmental partners, and the general public.

The Highways Agency Biodiversity Action Plan was developed by a Partnership of stakeholders from a variety of organisations, including English Nature, RSPB, Environment Agency, Defra, Countryside Agency, National Trust, the National Air Quality Forum as well as the Highways Agency themselves. This involved a process of review of UK, regional and local Biodiversity Action Plans for references to roads, to find which species and habitats could occur within the Highways Agency's soft estate, and which are likely to be most threatened by the development of new roads.

Action plans and targets have been developed for individual habitat and species, progress towards which will be measured using Key Progress Indicators. Implementation will be via three mechanisms:

- Local verge management practices, including the use of Route Management Strategies and Environmental Management Plans;
- Environmental works associated with road construction, maintenance and improvement schemes; and
- Specific biodiversity conservation projects at selected locations.

2.5.4 Environmental Management Systems

To meet their Biodiversity Duty, it will be important for all public authorities to incorporate and implement appropriate policies within their Asset Management Plans and Procurement Strategies and through the adoption of Environmental Management Systems. Improving environmental performance also offers opportunities to demonstrate cost savings and improved efficiency.

Environmental Management Systems can help public authorities systematically to deliver positive environmental outcomes at a strategic level on resource efficiency, energy efficiency, planning, environmental health, education, waste management and pollution control. In addition, an Environmental Management System can:

- Help a public authority to demonstrate that it is serious about its environmental obligations;
- Increase environmental awareness and wider engagement of staff in environmental schemes;
- Mainstream environmental improvement and systematic measurement of progress against targets.

Further information can be found at: http://www.emas.org.uk/ or http://www.iso14000-iso14001-environmental-management.com. Green Dragon is a five stage Environmental Management System based in Wales which provides a framework around which an organisation can structure its environmental management: http://www.greendragonems.com/

Case Study: Sustainable Procurement at North Wales Police

Weblink: http://www.north-wales.police.uk

North Wales Police is continuing to develop environmental and sustainable development policies and strategies as part of its efforts to reduce operational impacts on the local community and as a commitment to the future. As a part of these policies and procedures the Procurement Department has been tasked with a primary objective to consider the whole life cost, energy efficiency and disposal implications of all the goods and services it procures.

An internal document, the *Environmental Purchasing Guide*, has been produced with the aim of promoting staff awareness of current legislation and offering advice in areas such as:

- Whole Life Cycle costs – including maintenance, energy consumption and disposal.
- Eco-Labels – a logo awarded to manufacturers who can prove their products have less impact on the environment, therefore influencing the consumer market.
- Energy Efficiency – All electrical and white goods should be rated A+ to ensure maximum efficiency in its working environment.

Practical efforts are being made to influence change by implementing trials of recycled products, discussing delivery schedules and packaging reduction with suppliers and looking to source furniture from managed forests. The department is also trialling both an e-Tendering system and Procurement Cards in an attempt to reduce paper and streamline processes.

Case Study: Sustainable Procurement at North Wales Police (continued)

Tender documentation now has a clause relating to sustainability and ethics that will be weighted and evaluated as suppliers return their tender submissions. The department has also worked closely with the Facilities Management Department and contributed to the requirements of the Environmental Management System that was instrumental in allowing North Wales Police to be the first Force in Wales to achieve Green Dragon Level 5.

The Chartered Institute of Purchasing and Supply recently awarded the Procurement Department accreditation for its documentation and procedures. This award will support the department in further raising awareness internally and promoting good practice in relation to sustainability.

3. Management of Public Land and Buildings

Key messages

- Public authorities are major land owners and together own or manage many thousands of hectares of urban and rural land across England and Wales, with major implications for biodiversity.
- Management of public authority sites is important both in providing habitats for wildlife and in reducing environmental impacts that affect biodiversity.
- Biodiversity conservation measures need to have regard both to designated sites and priority species, and to wider species and habitats.
- A wide variety of sites are important in this respect including designated sites and nature reserves, green infrastructure, buildings, school grounds, wetland and coastal sites, highways and rights of way, farms and tenanted land.

3.1 Introduction

One of the most direct impacts that public authorities have on biodiversity is through the management of their own land and buildings. Leading landowners include:

- The Forestry Commission, which manages a total of 312,000 hectares of woodland and adjoining habitats in England and Wales, out of a total area of 830,000 hectares in the UK.
- The MOD, which has an estate spanning 240,000 hectares across the UK, including important upland, heathland, grassland and coastal habitats.
- The Crown Estate, which covers some 160,000 hectares in the UK, including 110,000 hectares of agricultural land as well as extensive areas of forest, parkland, rural estates, commercial and retail sites. The Crown Estate also owns 55% of the UK's foreshore and the entire seabed out to the 12 nautical mile limit (spanning some 50,000 square miles).
- Local authorities are important landowners and collectively manage significant areas of land. Further information on this is provided in the guidance for local authorities.

At the other end of the scale, many public authorities may occupy a single building, perhaps with a garden, while some (such as certain advisory committees) have no premises of their own.

Management of these sites and buildings affects biodiversity in two main ways:

- Firstly, much of the land owned or managed by public authorities provides – or has the potential to provide – important habitats for wildlife. Buildings can provide important nesting and roosting sites.
- Secondly, the management of these sites and buildings can affect biodiversity indirectly by impacting on the environment. Use of energy, water, chemicals and peat; air, noise and light pollution; land take and introduction of invasive non-native species can all have significant impacts on biodiversity and the environment (Figure 3.1).

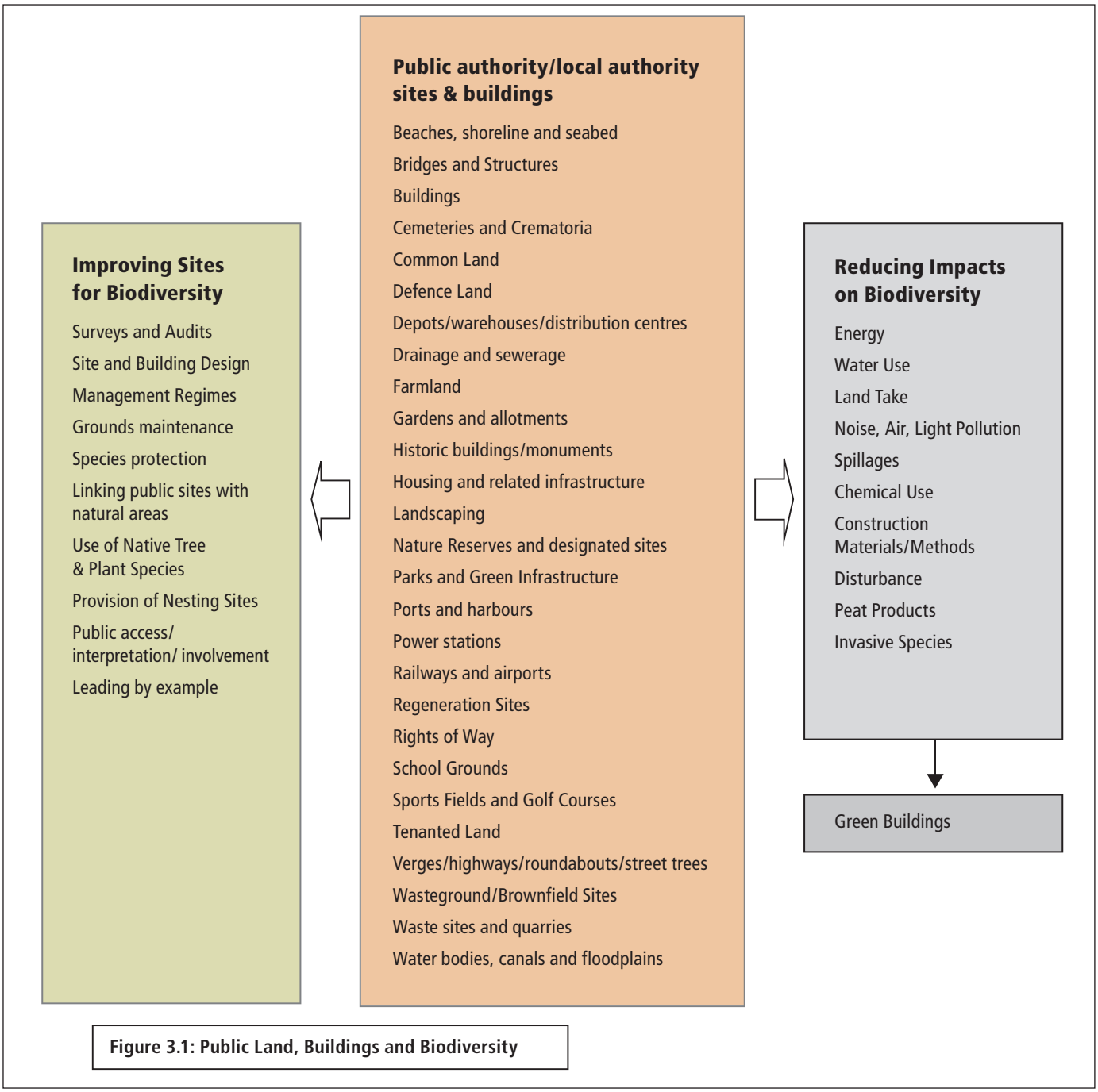


Figure 3.1: Public Land, Buildings and Biodiversity

Improvements to the management of public authority sites and buildings can bring environmental, health, economic and regeneration benefits to local communities. Public authorities own and manage a wide variety of sites, buildings and structures. As well as managing their building stock, public authorities are also involved in the development of new buildings and structures, either for their own use or as part of a wider regeneration, economic development, housing or transport project.

Positive steps that public authorities can take to improve their sites and buildings for biodiversity include:

- **Surveys and audits.** A first step to maintaining and enhancing the biodiversity value of a public authority's estate is to assess the potential biodiversity resource. This will depend on the type and extent of landholdings but may include undertaking surveys, seeking expert advice in house or from external sources on existing knowledge and surveys and using Local and/or Regional Record Centres. This should draw on previous survey work and existing data, and may identify the need for further survey work to fill data gaps. Survey evidence will help to identify important species and habitats, including those prioritised by national and local BAPs. Depending on the number of sites and area of land involved, this may require a process of prioritisation and focus first on sites considered most likely to be of high importance. Some public authorities have successfully worked with environmental groups and volunteers to conduct surveys of their sites.
- **Location of development away from important sites.** Incorporating site surveys to ensure that sensitive species and habitats are not adversely affected and that enhancement measures are taken where appropriate. While there is a presumption in favour of development on brownfield sites, it is important to note that these may be important for biodiversity.
- **Site and building design.** If carefully designed, new sites and buildings can provide benefits for biodiversity through the conservation and integration of existing habitats, the provision of nesting and roosting sites for birds, bats and other animals, and the provision of habitats for wildlife in their grounds. For example, provision of nest boxes and green walls and brown and green roofs where appropriate, to minimise visual and landscape impacts, reduce energy consumption and provide small scale habitats for wildlife.

Natural England Northminster House wildlife garden
Credit: Natural England Photographer Paul Lacey

- **Management plans and practices.** Biodiversity will benefit from appropriate management of public land, including beneficial practices with regard to cutting and removal of vegetation, application of chemicals, management of access, timing of maintenance work etc. Specification of grounds maintenance contracts has an important role to play in this respect[23].
- **Use of native tree and plant species.** Public authorities often plant trees and plants on their land, and, by using native species, can maximise the benefits of planting for biodiversity and minimise the risk of introducing invasive non-native species.
- **Linking public sites with natural areas.** Public sites can play an important strategic role in linking natural areas in the wider countryside, which are often becoming increasingly fragmented.
- **Public access, interpretation and involvement.** Many publicly owned sites are used as a recreational and educational resource by the public, and have an important role to play in raising public awareness of biodiversity issues. This role can be enhanced through appropriate interpretation and access. It is often possible to involve local communities in biodiversity projects on public land, helping to raise public awareness, promote community engagement and enhance social inclusion.
- **Leading by example.** Public authorities have an important role to play in leading by example in managing their sites. Well managed sites can demonstrate the positive role of site management to businesses, other organisations and the general public.

Site biodiversity action plans are a means of bringing these different activities together to form a coherent plan for the conservation of biodiversity on particular sites[24].

Certification schemes such as Building Research Establishment's Environmental Assessment Method (BREEAM) enable public authorities to demonstrate that their buildings meet recognised environmental standards. Many public authorities have achieved BREEAM certification, particularly for new developments. For example, West Sussex County Council requires all new developments over £2m and school extensions over £0.5m to achieve BREEAM very good status. The DfES has recently issued a challenge that all new schools and substantially refurbished school buildings should achieve 'Very Good' status: http://www.breeam.org/index.html

On 13 December 2006, the Code for Sustainable Homes – a new national standard for sustainable design and construction of new homes was launched. One of the categories is "Ecology" and sets out a number of standards relevant to biodiversity conservation: http://www.planningportal.gov.uk/uploads/code_for_sust_homes.pdf

[23] See, for example, http://www.cabe.org.uk/AssetLibrary/8068.pdf
[24] See, for example, http://www.businessandbiodiversity.org/pdf/B&B%20SITE%20BAP%20(181)%20V10.pdf

Case Study: Management of the Defence Estate for Biodiversity

Ministry of Defence (MOD)

The MOD is one of the largest landowners in the UK and the largest public owner of designated sites for nature conservation. The need to provide realistic training across challenging and demanding terrain in a variety of environments means that the MOD has responsibility for some of the most unspoilt and remote areas in Britain. MOD establishments range in size from individual buildings to vast tracts of land, the largest of which is Defence Training Estate Salisbury Plain, extending over 38,000 hectares. Of the UK BAP priority habitats and species, 37 habitats and 139 species occur on the Defence Estate. MOD has management responsibility for 175 SSSIs, including over 130 with international and European nature conservation designations, as well as many locally important sites. In support of these designations and statutory commitments, the MoD has several initiatives and management mechanisms. For example:

- A MOD Biodiversity Strategic Statement has recently been published outlining strategic objectives for biodiversity with associated targets and performance indicators. The Statement was primarily produced in response to Government biodiversity targets under the Sustainable Development on the Government Estate agenda, and presented an opportunity to outline MoD's wider biodiversity conservation obligations[25].
- MOD has published internal policy and guidance on biodiversity conservation in the Joint Services Publication 362.
- A SSSI Favourable Condition Project was established to support the Government's PSA target on SSSI condition. Approximately £5 million has been invested in improving the 175 SSSIs on the MOD estate.
- MOD is undertaking an audit of the estate to improve understanding of the biodiversity interest and where it can support conservation obligations, including UK BAP targets.
- A hierarchy of appraisal tools and guidance on their use has been developed to ensure that obligations towards biodiversity and wider sustainable development objectives are considered at an early stage in the planning of policies and projects.
- Biodiversity is considered as part of a site's Environmental Management System. Where there is significant biodiversity interest an integrated management plan is developed.
- Internal advice is available through a specialist Environmental Support Team within Defence Estates.
- MOD has more than 120 voluntary Conservation Groups around the UK, comprising MOD personnel, other local experts and volunteers, which undertake regular work to monitor and improve the wildlife value of the estate.
- MOD has several non Departmental Public Bodies which have been informed of the new NERC Duty and the need to integrate biodiversity into their management and review mechanisms, and that support is available within MOD and Defra if needed.
- Examples of recent projects are given in the MOD Conservation Magazine *Sanctuary*[26] and include restoration of SSSI coastal heath in Cornwall, integrating conservation management of heather moorland with military operations in North Yorkshire, contributing to improvement of the Rivers Usk and Wye.

[25] http://www.mod.uk/NR/rdonlyres/562E434A-ABBA-4FB2-8986-2ADC82EEB789/0/BiodiversityStratgicStatement.pdf
[26] http://www.defence-estates.mod.uk/publications/sanctuary/sanctuary2006.pdf

Case Study: Grounds Maintenance for Biodiversity

The Patent Office

The Patent Office was in contact with Community Action for Wildlife in Newport and the Biodiversity Officer at Newport City Council to seek advice on how grounds maintenance at its site could benefit biodiversity. As a result, various initiatives have been implemented including:

- Provision of bat and bird boxes;
- Use of native plants in courtyard areas and borders;
- Leaving some grass areas uncut to encourage development of small meadow areas;
- Sowing wildflower seeds alongside roadside fencing;
- Maintenance and protection of trees along the site perimeter, with advice from the Council's Tree Preservation Officer.

The grounds maintenance contract now stipulates:

- The replacement of slow renewables such as peat with soil improvers derived from processing or re-use of organic wastes such as coir, manure, leaf mould and bark chippings;
- The contractor makes full use of the composting area, by composting wherever possible and using the compost produced;
- Artificial fertilisers should be avoided and manure and green manure used instead; and
- Pesticides, herbicides and fungicides should be avoided.

3.2 Designated Sites

Many sites owned or managed by public authorities are protected by conservation designations. Natura 2000 sites (Special Areas of Conservation and Special Protection Areas) receive the highest levels of protection under EU law. Sites of Special Scientific Interest (SSSIs) are nationally important and protected under national legislation. Other important sites include Local Sites and Local Nature Reserves. A summary of key designations is given in Appendix 3. For more information about designated sites see Planning Policy Statement 9 (Section 3).

EU designated sites are protected by the Conservation (Natural Habitats &c.) Regulations 1994[27], under which competent authorities i.e. any Minister, government department, public body, or person holding public office, have a general duty to have regard to the Habitats Directive. The Regulations also provide for the control of potentially damaging operations, whereby consent from the competent authority may only be granted once it has been shown through appropriate assessment that the proposed plan or project will not adversely affect the integrity of the site.

In England, the Government has a Public Service Agreement target to ensure that 95% of SSSIs are in favourable condition by 2010. As significant owners and managers of SSSI land, public authorities have a key role in contributing to the achievement of this target, and some, such as the Defence Estates, are working with the conservation organisations to contribute to this target.

[27] http://www.jncc.gov.uk/page-1379

Section 28G of the Wildlife and Countryside Act (as amended by the Countryside and Rights of Way Act) imposed a new duty on public authorities to take reasonable steps, consistent with the proper exercise of their functions, to further the conservation and enhancement of SSSIs. Public authorities are expected to apply strict tests when carrying out functions within or affecting SSSIs, to ensure that they minimise adverse effects, and to adopt the highest standards of management in relation to SSSIs which they own. Where a public authority proposes carrying out operations likely to damage the special features on an SSSI, it must notify Natural England. It is an offence not to comply with these requirements. This requirement relates not only to the authority's own land but to the planning system and all spheres of decision making. In England, a code of guidance has been provided by Defra to inform the management of SSSIs[28].

Public authorities manage significant areas of nature reserves, designated according to their national or local importance for biodiversity.

National Nature Reserves (NNRs) are nationally important sites, established to protect the most important areas of wildlife habitat and geological formations in Britain, and as places for scientific research. They are either owned or controlled by Natural England/CCW or held by approved bodies such as Wildlife Trusts. There are 215 NNRs in England and 76 in Wales, covering 88,000 hectares and 24,000 hectares respectively, and encompassing nearly every vegetation type from coastal salt-marshes, dunes and cliffs to downlands, meadows and native woodlands.

Local Nature Reserves (LNRs) are places with wildlife or geological features that are of special interest locally. They are designated for both wildlife and people and offer opportunities to study, learn about or simply enjoy nature. There are now 1260 LNRs in England. They range from windswept coastal headlands and ancient woodlands to brownfield sites in urban areas. In total they cover almost 40,000 ha. Guidance on the declaration and management of LNRs is available from Natural England and CCW[29]. The Audit Commission's Library of Local Indicators for England and Wales[30] suggests that there should be 1 hectare of LNR per 1000 head of population in a local authority's area.

Local Sites are selected by local partnerships for their substantive nature conservation value. There are over 35,000 Local Sites in England, many of which are owned or controlled by local authorities.

Bovey Valley Woodlands, East Dartmoor Woods And Heaths National Nature Reserve
Credit: Natural England Photographer Peter Wakely

[28] Defra (2003) SSSIs – Encouraging Positive Partnerships. http://www.defra.gov.uk/wildlife-countryside/ewd/sssi/sssi-code.pdf
[29] See http://www.english-nature.org.uk/special/lnr/office.htm and http://www.ccw.gov.uk/generalinfo/index.cfm?Action=ResourceMore&ResourceID=34&Subject=ProtectedSites&lang=en
[30] http://www.local-pi-library.gov.uk/LIBRARY_ALL_PIS.ASP?MENUID=609

Case Study: Calderdale Wildspace! Project – Improving LNRs for Biodiversity

Calderdale Metropolitan Borough Council, West Yorkshire

The Calderdale Wildspace! was a 3 year project funded by English Nature. The aims included:

- To increase Calderdale's LNR provision from no LNRs to one hectare of LNR for every 760 people in Calderdale and to ensure 80% of Calderdale's residents have a LNR within 2km of their home through the declaration of 10 LNRs, totalling 250 ha. This has been achieved and Calderdale is one of the first local authorities to exceed Natural England's target of one hectare of LNR per 1000 population.
- To actively involve local communities, especially disadvantaged groups, in the sustainable use and management of LNRs. Each site has a local community group which is working with the Council to deliver biodiversity improvements. In some cases, they are Friends groups, in others user groups.
- To maintain and enhance the biodiversity of LNRs, with special attention to habitats and species identified as priorities in the Calderdale Biodiversity Action Plan, through the production and implementation of management plans. Each site now has a management plan, which includes prescriptions for priority habitats and species.

3.3 Protected and Priority Species on Public Land

Many of Britain's wild plants and animals are legally protected. The main law dealing with this is the Wildlife and Countryside Act, 1981, amended in England and Wales by the Countryside and Rights of Way Act 2000. Badgers, deer and seals have Acts of Parliament dedicated especially to them. Species also receive protection under the Habitats Regulations. A summary of legislation is given in Appendix 2.

Furthermore, the UK Biodiversity Action Plan identifies particular species as priorities for conservation, while other species are prioritised locally under LBAPs.[31]

Public authorities have a role to play in ensuring the protection of these species on their land, and identifying positive action that can be taken for species conservation in accordance with national and local biodiversity action plans through appropriate site management. Site surveys and audits can be used to identify the presence of protected or BAP priority species and also the presence of threatening invasive non-native species, while information may also be available from Local Records Centres. Identifying the presence of protected species is especially important where major development works or management changes are proposed on particular sites.

Further details of protected species legislation is given on the Joint Nature Conservation Committee (JNCC) website at http://www.jncc.gov.uk/page-1747.

[31] See Box 1.1 for further information on priority habitats and species.

Case Study: Species Protection on Police Sites

North Wales Police

Great Crested Newts (GCN)

North Wales Police (NWP) occupies four premises in St Asaph Business Park, the largest being the Central Division HQ and 32 cell custody suite, covering 9500 m^2. The land at St Asaph Business Park was originally farmland. Great Crested Newts were discovered on the site when the land was being developed. To protect these animals, NWP relocated them to an adjacent field and ensured that they did not move back during the construction phase, by erecting a newt fence around the site boundary, which was checked daily for integrity. The civil engineering works were designed to enable the amphibians to continue to reside on the site, and included the provision of a freshwater pond on site. Regular monitoring and assessment of the GCN population is undertaken, and the pond appears to be a promising habitat. NWP always considers potential impacts on the GCN population when planning development and grounds maintenance work on any of its sites on the Business Park, seeking advice from ecological consultants where necessary.

Badgers

At the North Wales Police Force Headquarters in Colwyn Bay there is a building in the grounds called Llety'r Dryw, which is surrounded by woodland (with Tree Protection Orders). Within this woodland there is a Badger sett, which has been there since 1969. In 2002 works were required in the car park area of Llety'r Dryw. The work entailed using machinery within 30m of the sett entrance. The Clwyd Badger Group was consulted and visited the site and provided guidance. NWP applied to the Countryside Council for Wales for a licence to work near a Badger sett, with the works being supervised. As part of the works a 'badger protection fence' was erected to prevent future parking on the grass slope leading to the sett. Now, when any grounds maintenance works are required at the site, the presence of the badger sett is brought to the attention of the contractors and the works supervised.

Peregrine Falcons

North Wales Police has successfully provided nest boxes for peregrine falcons at its Wrexham Divisional Police Headquarters.

3.4 Countryside, Waterside, Coastal and Marine Habitats

The public estate covers large areas of terrestrial, freshwater, coastal and marine habitats. It therefore plays a key role in biodiversity conservation and in the delivery of national and local BAP targets. For example:

- The Forestry Commission's estate covers important native woodland habitats as well as offering opportunities for re-creation of heathland and upland habitats on afforested land.
- The Crown Estate owns large areas of coastal and seabed habitats and is a key player in the delivery of coastal and marine Habitat Action Plans.

- The Environment Agency manages important wetland and coastal habitats, and is involved in managed realignment schemes to re-create habitats such as saltmarsh, mudflat and saline lagoons. It has an important role to play in the restoration of floodplain wetlands, which play an important flood storage role, reducing the need for engineered flood defences, particularly in response to climate change.
- British Waterways is responsible for the canal network, which can provide important habitats for wildlife, as both green corridors and as wetland habitats, particularly where there are soft and natural edges. British Waterways provides guidance on the management of waterways for biodiversity and on the development and implementation of biodiversity action plans. See http://www.britishwaterways.co.uk
- National Parks have important rural estates which together cover a wide variety of upland, grassland, woodland, heathland, wetland and coastal habitats and play a key role in the conservation of biodiversity.
- Local authorities have a key role in relation to a variety of habitats including beaches and coastal land, floodplains, waterways and wetlands.
- Water companies are major landowners, whose estates cover a wide variety of habitats in water catchments, as well as reservoirs, wetlands, watercourses and land adjacent to water and wastewater treatment works.

Public authorities are often key partners in the delivery of species and habitat action plans which require action on their land. They may also take the lead in developing and implementing biodiversity action plans for their estates.

Case Study: Management of Water Companies' Land for Biodiversity

Water Companies

The privatised water companies are major landowners, whose estates cover a wide variety of habitats in water catchments, as well as reservoirs, wetlands, watercourses and land adjacent to water and wastewater treatment works. There are numerous examples of actions being taken by water companies to benefit biodiversity on their land, a few examples of which include:

Northumbrian Water and Essex & Suffolk Water:

- Re-use of spoil at Howdon Wastewater Treatment Works to create a wetland;
- Targeted habitat creation for water voles at Wear Valley Water Treatment Works;
- Using locally sourced composted green waste as an alternative to topsoil to create wildflower grassland at Whittle Dene Water Treatment Works;
- Designing treatment reedbeds to incorporate biodiversity at Lamesley Reedbed near Birtley;
- Working with local Wildlife Trusts to improve land for biodiversity, with an annual focus on a particular species or habitat (including, in recent years, grassland, bats and woodland);
- Just an Hour scheme allowing staff to complete the equivalent of an hour of voluntary work per month, including conservation work to build otter rafts, clear scrub and ponds, plant trees;
- Designing landscaping for new offices to benefit biodiversity.

Case Study: Management of Water Companies' Land for Biodiversity (continued)

Severn Trent Water:

- Habitat creation and floodplain restoration at Aston Hall Farm;
- Wetland creation in Trent Vale;
- Habitat improvements at Knobbs Farm and Stoke Bardolph Farm;
- Creation and management of wildflower meadows at Severn Trent Water sites;
- Restoration and management of reedbed, wetland, lake and woodland at Witches Oak Waters;
- Re-introduction of black grouse to the Upper Derwent Valley;
- Introduction of water voles to Netheridge Sewage Treatment Works;
- Tree Sparrow Project.

Thames Water:

- Auditing larger land holdings for their biodiversity interest and using this data to inform the business in protecting biodiversity interest through Geographic Information Systems (GIS) and grounds maintenance;
- Development of the London Wetland Centre at Barnes, in partnership with Wildfowl and Wetlands Trust;
- Conservation management at many sites including: Crossness Marshes; Kempton Nature Reserve; the meadows at Farmoor Reservoir; Bracknell Millpond; Bicester, Godalming and Swindon Wetlands; Rye Meads; Kings Mead and the River Kennet;
- Sponsoring projects on water voles, bitterns, terns, tree sparrows, barn owls, peregrines, stone curlews and research on waterfowl using the SW London Special Protection Area.

There are opportunities to integrate biodiversity into plans and strategies affecting these habitats, such as Integrated Coastal Zone Management Plans, river basin management plans, beach management plans and waterways management plans. This is an area where there is often a need for a partnership approach involving different public authorities (e.g. local authorities, the Environment Agency, British Waterways, Natural England, the Countryside Council for Wales) as well as private and voluntary sector organisations.

There may be additional training needs for staff involved in the management of particular sites (e.g. beach management case study below).

Case Study: Beach Management for Biodiversity

Pembrokeshire Coast National Park Authority and Pembrokeshire County Council

For many years the Pembrokeshire Coast National Park Authority has recognised the importance of beaches and beach heads both for biodiversity and as an important component of the landscape. The Park Authority owns several beach head sites and has undertaken major dune restoration projects using local community groups and volunteers to fence and plant dunes, moving car parking off sandy areas and establishing boardwalks.

Since the formation of the Pembrokeshire County Council (PCC) in 1996 the Park Authority has been part of a PCC led liaison group involving organisations responsible for beach management. This group comprises several teams from PCC, including Environmental Health, Dog Wardens and team leaders from teams responsible for beach and toilet cleaning. They meet several times per year with staff from the Countryside Council for Wales, Environment Agency, National Trust and the National Park Authority to discuss beach awards, beach management, water quality and safety. In order to conserve biodiversity, beaches in Pembrokeshire are cleaned by hand rather than by machine, helping to protect the strand line so that seaweed and driftwood are left in place. Even where large concentrations of seaweed are found they are left on site unless there are overriding health or amenity considerations. An annual multi-agency briefing for all beach staff ensures that those involved on the ground in the management of the beach have information on any special characteristics of beaches and considerations with regard to biodiversity conservation.

3.5 Farms and Tenanted Land

Many public authorities, local authorities and utilities own farmland and other sites which are let to farmers and other tenants. For example, the Crown Estate owns some 110,000 hectares of agricultural land, which is let to tenant farmers. Cambridgeshire County Council believes it owns the largest local authority farm estate which covers 14,000 hectares and is farmed by 270 tenants. The Council estimates that the local authority farm estate covers 120,000 hectares nationally. As well as providing financial benefits, this land can be used to promote public access to the countryside and protect and enhance landscape, biodiversity and archaeology of farmland and woodland.

Many UK BAP and LBAP priority habitats and species depend on the sympathetic management of farmland and woodland habitats[32]. Public authorities can play a key role in encouraging tenants to enhance the management of land for biodiversity, through their tenancy agreements.

Kilby – Foxton Canal Site of Special Scientific Interest Leicestershire.
Credit: Natural England Photographer Peter Wakely

[32] See, for example, http://www.rspb.org.uk/countryside/advice/index.asp

Case Study: Prescoed Prison Farm

HMP YOI Prescoed

HMP YOI Prescoed is the only prison farm in Wales. It includes a Special Site of Archaeological Interest (SSAI), a woodland certified by the Forest Stewardship Council and a Special Site of Scientific Interest (SSSI). It supports a variety of important species, including great crested newts, badgers, barn owls, dormice and 5 different bat species.

The prison farm is within the Tir Gofal agri-environment scheme, allowing it to be managed with wildlife in mind. The recent introduction of the Prison Service Biodiversity Action Plan (PSBAP) at Prescoed highlighted the operations around the fieldwork on the farm and its potential to encourage farmland birds such as lapwing, barn owl and bullfinch. Action plans for all of these species were drawn up incorporating the change from arable cropping within the farm modernisation programme to animal feed and fodder to support its dairy herd. A monitoring programme has been established and the farm has now recorded at least 5 breeding pairs of lapwing, a species not previously recorded on the site.

Barn owl boxes have now been erected on the farm, and, with the help of the Hawk and Owl Trust, areas of long rank grass have been left to encourage small mammals such as voles, shrews and mice, the staple diet of the barn owl. Barn owls are increasingly recorded in the vicinity and are expected to breed on the site in the near future. A recent project focusing on the restoration of wetland habitats on the edge of the woodlands is benefiting the local population of great crested newts.

3.6 Management of Green Infrastructure

Public authorities own and manage a variety of green areas, which, if managed sympathetically, can provide important habitats for wildlife as well as offering opportunities for people to get close to nature, with resulting benefits for health and well-being.

This green infrastructure includes: parks; gardens; cemeteries; sports fields; commons; school grounds; allotments; green areas around historic monuments; and woodlands.

The management of green infrastructure needs to take account of a variety of objectives and meet the needs of people as well as wildlife. In some cases, these objectives may appear to be conflicting. For example, close mowing of grass may be necessary for sporting activities, whereas wildlife may benefit from different management regimes involving less frequent cutting and the creation of a more varied vegetation structure including wild areas. By examining the opportunities for biodiversity conservation across the authority's green infrastructure as a whole, many of these conflicts can be resolved. It is important to recognise that some sites are more suitable for enhancing biodiversity than others, but that many sites will offer opportunities for biodiversity conservation in particular areas.

Management of green infrastructure for biodiversity often requires a different approach to the management of vegetation, which considers and seeks to enhance its value as a habitat. The value of green areas as habitats depends on the species involved, the structure of the vegetation, and the type and frequency of management operations.

The most common maintenance operation in many green spaces involves close mowing of amenity grassland. Management regimes that favour biodiversity are likely to vary these mainstream practices. They may include:

- Letting grass grow longer at certain times of year and in certain places, before cutting it, to provide a more varied structure, encourage wild flowers, and enhance wildlife habitats;
- Allowing some weedy areas to provide food for birds and animals;
- Using sustainably sourced native tree and plant species in new planting, wherever possible and avoiding the use of non-native invasive species in planting;
- Reducing the use of herbicides, pesticides and water and avoiding the use of peat;
- Beneficial woodland management practices, including (where consistent with health and safety considerations) leaving dead wood on site;
- Providing a mosaic of habitats;
- Development and implementation of management plans that seek to enhance the biodiversity value of the site over a specified time period.

Improving the management of green infrastructure in this way may often reduce the level of intervention required, with potential cost savings. However, it often requires more flexibility, thought and planning than more routine forms of management, and may require a wide range of skills and increased managerial input. This creates challenges for the specification of site maintenance contracts. The Commission for Architecture and the Built Environment (CABE) Space (2006) provides guidance on how urban parks can be improved for biodiversity (Box 3.1).

Box 3.1: Making Contracts Work for Wildlife

The guidance summarises different types of ground maintenance contract as:

- **Input-based** – where the operations are specified, with frequencies and standards.
- **Output-based** – where specific results are specified, such as the maximum height of grass allowed.
- **Outcome-based** – where the general results are described, leaving the contractors to specify their approach to achieving them. This is usually supported by method statements provided by the contractor, agreed by the client, and forming practical instructions for those undertaking the work.

CABE Space recommends an outcome based approach as the most appropriate for achieving the goal of increasing biodiversity, while still providing a useful way of specifying grounds maintenance work. This type of specification has the added advantage that it is not restricted to an annual cycle of work, allowing progression towards outcomes through more than one season. Self monitoring can be undertaken if measurement methods are clear, and this can include progressive targets.

Making Contracts work for Wildlife – How to Encourage Biodiversity in Urban Parks.
http://www.cabe.org.uk/AssetLibrary/8068.pdf

The Green Flag Award is the national standard for parks and green spaces in England and Wales, and recognises and rewards the best green spaces in the country. The Award is open to any freely accessible green space, including parks, gardens, nature reserves, cemeteries and crematoria, open spaces, woodlands and allotments. There are eight judgement criteria, which include conservation and heritage and sustainability. Community involvement should be promoted and each site is required to have a management plan. http://www.greenflagaward.org.uk

Improving the management of green infrastructure for biodiversity offers significant opportunities for community involvement. Engaging communities in biodiversity projects has a variety of benefits, helping to raise awareness of biodiversity conservation, promote appreciation of the management objectives of the site, provide valuable labour and managerial inputs, and promote community capacity and social inclusion.

3.7 Highways, Rights of Way and Transport Infrastructure

Road and railway verges provide some of the last remaining areas of unimproved grassland in England and Wales, as well as other habitats such as woodland, heathland and hedgerow. If managed with regard to biodiversity, they can provide an important resource and act as corridors linking other habitats. Many Rights of Way are also valuable for biodiversity by providing green corridors and linear grassland and hedgerow habitats. Other parts of our transport infrastructure, such as ports, stations and airports can also provide important habitats if managed sympathetically.

Traditionally, grass road verges have often been managed through a regime of regular, short cutting, which is consistent with safety considerations and can be undertaken conveniently through standardised management contracts. However, the biodiversity value of road verges is increasingly recognised, and changes in management practices adopted to involve less frequent cutting and removal of cuttings, to encourage the development of floristic diversity. Some LBAPs have identified road verges as local priority habitats and established action plans for their protection and management. The visual benefits of wildflowers on verges and roundabouts are now widely recognised in many areas.

Threats to road verge habitats may include:

- Inappropriate management e.g. cutting regime and inappropriate landscaping e.g. planting garden flowers in inappropriate areas;
- Erosion of verge by car parking or road widening;
- Disturbance through laying services, use as storage, or use by pedestrians and horses;
- Re-seeding with rye grass;
- Litter[33].

Less frequent cutting of verges can result in cost savings, providing certain technical barriers can be overcome. Improving the management of verges for biodiversity requires close working with the highways and grounds maintenance staff, and the development of awareness of biodiversity issues among relevant officers and contractors.

[33] Source: Selsey LBAP (http://www.geocities.com/mecyclops2002/RoadVerges.htm)

Case Study: The Living Highways Project

Powys County Council, Countryside Council for Wales and Partners

In the UK, road verges contain some of the last remaining examples of species-rich habitats that were once common in the wider countryside and that have declined at an alarming rate over the past few decades. They may also help to provide physical links between otherwise isolated pockets of remaining habitats, assisting in the expansion and dispersal of less mobile species.

The Living Highways Project is an established partnership, started in 2001, between the Montgomeryshire, Radnorshire and Brecknock Wildlife Trusts, Powys County Council, the Countryside Council for Wales and the Powys Verges and Hedgerows Concern Group. The project aims to safeguard and encourage valuable wildlife habitats and species associated with road verge areas in Powys, Mid Wales. The project is working on a number of different initiatives to achieve this, including setting up systems to protect known sites of high ecological value and improving verge management practices.

The removal of cuttings is an important management consideration when aiming to maintain or increase the biodiversity of grassland areas, helping to reduce nutrient levels to the benefit of native flora. In 2005, trials conducted by Montgomeryshire Wildlife Trust on behalf of the partnership investigated the feasibility of using cuttings in compost and biogas production. They demonstrated that it is physically possible to collect cuttings from Powys road verges on a relatively large scale and that the material is suitable for compost and biogas production, producing potentially valuable end products. As well as the environmental benefits of diverting material from landfill, biogas production also has the potential to provide a source of sustainable energy, with advantages in reducing carbon emissions. The trial has been followed by further development and evaluation work, with a view to wide-scale harvesting in future.

The technical and operational challenges relating to optimising biodiversity management of road verges mean that authorities often need to prioritise particular sites. By surveying roadside sites and/or working with partners (see the Living Highways Project), they are able to identify those that are priorities for protection, management and enhancement, and develop and implement management plans for these sites. The Highways Agency Biodiversity Action Plan (see Section 2.5) establishes actions and targets for management of its estate for biodiversity.

Case Study: Management of Estate Grassland

North Wales Police and Conwy County Borough Council

In 2002, North Wales Police (NWP) and Conwy County Borough Council (CCBC) embarked on a joint project to adopt a more 'biodiversity friendly' management regime for the area of grassland in front of the Police Force Headquarters, some of which is owned by the Council and some by the Police. The grassland management had previously consisted of weekly cuts for the last 30 years.

The site was split into 3 different sections, which are managed differently to increase variety; a wildlife pond and marsh area, a wildflower meadow and a seasonal flower planted area – a combined area of approx 18,000m^2. The site was designated under the Conwy Local Biodiversity Action Plan – Habitat Action Plan – Urban Green Space section. Signs were erected around the perimeter of the site to explain to the public what was happening.

Following a cessation of mowing in spring and summer 2003, a 'baseline' survey recorded 79 species of plants. All were common and widespread with the exception of the hybrid rush Juncus x kern-reichgeltii and Field Madder Sherardia arvensis, an arable plant which has undergone serious decline nationally and is not common in North Wales. A small colony of Common Blue butterflies was apparently newly established in the area of its food plant (Bird's-foot Trefoil) – a plant species which had not been allowed to grow during the previous weekly cutting regime. Many more plant and invertebrate species were also observed across the site.

A formal Management Plan was agreed between NWP and CCBC in 2004 with a 'meadow cutting regime' in place, whereby, the grass is now cut every March and August. The grass cuttings are taken to CCBC compost depot.

The expense of weekly mowing of the site has been reduced considerably, and the cost savings used to fund site survey and management work. Three species of orchid – pyramidal, common spotted and bee – were recorded in 2006.

The project faced significant problems initially, provoking public controversy on the grounds that it the site was under-managed and untidy, with one local councillor quoted in the local press as referring to the site as a "jungle." This led to significant efforts to raise public awareness of the aims of the project and to address public perceptions of the site. It is now widely accepted that the new management regime has increased the attractiveness and interest of the site, and the project was a major factor in the site being accredited as a Green Dragon Environmental Standard Level 5 site, and also formed part of the Old Colwyn Town in Bloom 2006 submission.

Case Study: Nant yr Arian Visitor Centre

Forestry Commission Wales

The Forestry Commission recently replaced its visitor centre at Nant yr Arian with a new, green building. The centre incorporates a variety of sustainable features, including a "living green roof", collection of rainwater which is re-used for flushing the toilets and for the bike wash, the use of recycled newspaper as insulation, a composting toilet system and a wood fuel heating system. Forestry Commission Wales also has a daily routine of collecting refuse from the bins around the site and then sorting out any materials that can be recycled, such as paper, tins, plastic bottles and cardboard, before taking them to the recycling centre. This considerably reduces waste collection costs and keeps a large volume of useful materials out of landfill.

The centre's new facilities include showers, a large terrace overlooking the lake, a woodburning stove in the café/restaurant, more seating for customers, a new adventure playground and toddlers' playground and better interpretation and information on the forest's features of interest.

The old visitor centre has been incorporated into the new centre to be used as an environmental classroom with plans to increase the focus on educational tourism. There is also a new and unusual triangular red kite viewing hide.

3.8 School Grounds

All school grounds have the potential to contribute to the conservation of biodiversity in some way, and many offer opportunities for the creation of wildlife areas. As well as offering benefits for biodiversity itself, projects in school grounds offer opportunities to introduce children to the natural environment and to biodiversity in a practical way. Projects that may benefit biodiversity include:

- Planting of native hedgerows, trees, shrubs and other plants;
- Creation of wildlife features such as gardens, meadows and ponds;
- Sympathetic management of grass areas;
- Construction and siting of nest boxes.

Biodiversity projects in school grounds are encouraged under the Eco-schools programme, which seeks to provide a simple framework to enable schools to analyse their operations and

Shortwood LNR – Low level bird box
Credit: Natural England Photographer Peter Wakely

become more sustainable. An awards scheme aims to acknowledge progress and raise the profile of participating schools in the wider community. See http://www.eco-schools.org.uk

Learning through Landscapes (LTL), the national school grounds charity, offers schools advice and support to help them develop and manage their outdoor spaces effectively for teaching and learning across the curriculum. Further details are available at: http://www.ltl.org.uk/

Case Study: School Grounds Wildlife Project

Norfolk County Council

This scheme has been running since 1989. It has evolved over this time from being solely concerned with improving the nature conservation value of school grounds through tree-planting and pond and meadow creation to a broader remit in which school communities are encouraged to look at how they use their grounds and what might be done to improve them, emphasising biodiversity. Over three quarters of Norfolk's schools have taken measures to improve their grounds with support from the scheme.

All local authority schools in Norfolk are offered a free advice and design service to support them in grounds improvement projects. In addition to this, a 100% grant is available for native trees and shrubs. Fruit trees have also been offered to schools, to tie in with the 'five-a-day' fruit initiative, encouraging them to plant local varieties where possible.

There is a strong network of support for schools who wish to improve their grounds in Norfolk. This is co-ordinated through the Norfolk School Grounds Co-ordination Group; a forum for those practitioners from local authorities, companies and non-governmental organisations whose work involves them in advising schools about improving their grounds.

The Council evaluated the scheme in 2005 to test its effectiveness in increasing the biodiversity of school grounds. A questionnaire was sent out to twenty-one schools which had created a pond and carried out native tree-planting within the past five years. The responses identified significant increases in the numbers of frogs, toads, newts and song thrushes present in school grounds, demonstrating that the work is making a real difference to their biodiversity as well as creating an important educational resource.

4. Planning, Infrastructure and Development

Key messages

- National planning policy on biodiversity conservation is the primary reference point for those developing or appraising development plans or projects.
- Public authorities should engage with local authorities through the plan-making process and prior to submitting a planning application in order to avoid delays.
- A good evidence base is essential to public authorities when planning development projects.
- Biodiversity conservation involves taking opportunities to enhance biodiversity, as well as to protect it.
- Effective monitoring is key to ensuring measures put in place to conserve biodiversity are successful.

4.1 Introduction

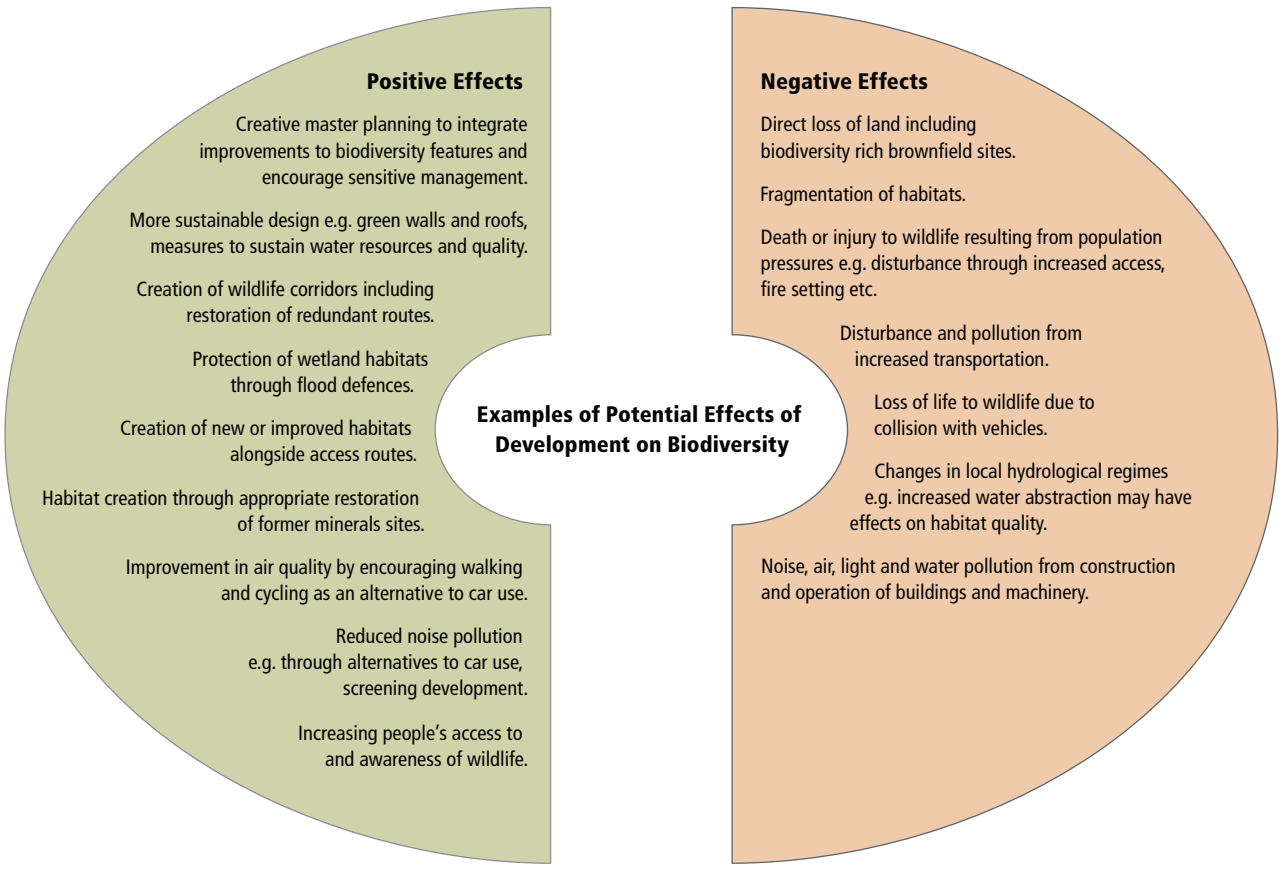
Infrastructure and development projects promoted by public authorities have the potential profoundly to affect biodiversity conservation. The planning system is the key mechanism to determine the location, scale and nature of development and for ensuring that biodiversity considerations are fully taken into account in development proposals. Public authorities should therefore engage actively and early with planning authorities to determine how biodiversity objectives can best be achieved when putting forward development projects. Some public authorities will also carry out projects which could have an impact on biodiversity but which do not fall within the scope of the planning system, for example projects carried out under the legislative framework of the Highways Act. In these cases opportunities to take positive action for biodiversity should also be considered.

This section of the guidance sets out examples of how development proposed by public authorities has the potential to affect biodiversity both positively and negatively. It highlights the national planning policy context for England and Wales and describes some of the key principles that will be important for public authorities in implementing the Biodiversity Duty.

4.2 Effects of Development on Biodiversity

Figure 4.1 sets out a range of examples of potential positive and negative effects of different types of development on biodiversity.

Figure 4.1: Examples of Potential Effects of Development on Biodiversity



4.3 National Planning Policy

There is a range of robust International, European and National legislation on biodiversity conservation in relation to planning, infrastructure and development. Further information on legislation and guidance can be found in Appendix 2.

Requirements of the national planning policy framework for England and Wales should be the first port of call for those involved in planning, infrastructure and development, when considering what needs to be done to conserve biodiversity.

4.3.1 England

Planning Policy Statement 9 (PPS9): Biodiversity and Geological Conservation (ODPM 2005) is the key national planning policy for biodiversity in England. It sets out the principles that regional planning bodies and local planning authorities should follow to ensure that biodiversity is considered fully in the development of planning policy and determining planning applications. PPS 9 can be found at:

http://www.communities.gov.uk/index.asp?id=1501970

PPS 9 is accompanied by a good practice guide which can be found at:

http://www.communities.gov.uk/index.asp?id=1164839

Further information on these documents can be found in Appendix 2.

4.3.2 Wales

Planning Policy Wales, (Welsh Assembly Government 2002) sets the land use planning policies for Wales and should be taken into account by all local planning authorities in Wales. Planning Policy Wales can be found at:
http://new.wales.gov.uk/docrepos/40382/4038231121/403821/403821/403828/planning policy-e.pdf?lang=en

Chapter 5 of Planning Policy Wales highlights the requirements for local planning authorities to address natural heritage at an early stage of Unitary Development Plan (UDP) preparation and in the development control process.

Planning Guidance (Wales) Technical Advice Note (Wales) 5: Nature Conservation and Planning (Welsh Office 1996) should be read in conjunction with Planning Policy Wales and provides detailed advice to local planning authorities on development plans and development control in relation to internationally, nationally and locally designated sites and areas outside statutory designations. Technical Advice Note 5 can be found at:

http://new.wales.gov.uk/about/departments/depc/epcpublications/PlanPubs/TAN/TAN5?lang=en

4.4 Legal Requirements for Strategic Environmental Assessment and Environmental Impact Assessment

Depending on the nature of the plan or proposal, a Strategic Environmental Assessment or Environmental Impact Assessment may be required. Key requirements and associated guidance documents are listed below and a summary of legislative requirements can be found in Appendix 2.

Strategic Environmental Assessment

Guidance on Strategic Environmental Assessment of plans and programmes can be found at:

http://www.communities.gov.uk/index.asp?id=1501988

Environmental Impact Assessment

A wide variety of projects require Environmental Impact Assessment. These can be found in the Environmental Impact Assessment Guidance at:

http://www.communities.gov.uk/index.asp?id=1143250

Appropriate Assessment (Conservation (Natural Habitats, &c. Regulations 1994).

Guidance on Appropriate Assessment can be found at:

http://www.communities.gov.uk/index.asp?id=1502244

4.5 Engaging With the Local Planning Authority

Public authorities wishing to submit a planning application should have full regard to planning policies relating to biodiversity in the Local Development Framework (England) or Local Development Plan (Wales).

The planning system places great emphasis on 'front-loading' which means ensuring that development proposals are considered early in the plan-making process. Public authorities will therefore wish to influence the spatial strategy and put forward specific development proposals to be included in the development plan. This will help to ensure local authorities are made aware of particular development needs early enough to consider options to address biodiversity objectives, and to provide relevant information and guidance.

Guidance on the development plan process in England is set out in Planning Policy Statement 12: Local Development Frameworks, and the accompanying companion guide:

http://www.communities.gov.uk/index.asp?id=1143846

In Wales, public authorities should refer to the Welsh Assembly Government Development Plan Manual:

http://new.wales.gov.uk/docrepos/40382/4038231121/403821/403821/403829/520887/LDP_Manual_Eng_with_binders.pdf?lang=en

In order to avoid delays upon submission of planning applications, public authorities are encouraged to consult local authorities to ensure that adequate information on biodiversity is submitted with planning applications and all legal requirements are met. This may involve a requirement for ecological surveys to be undertaken. Public authorities should ensure that they are aware of any relevant information or requirements, such as biodiversity checklists, held by the local authority before submitting an application.

Case study: Inspired at the Science Museum Swindon

The Science Museum

Inspired shows how built development can be designed to incorporate biodiversity to help to obtain outline planning permission. The Science Museum's philosophy is that environmental requirements are not a burden, but can result in benefits that reduce risk and add value.

The site is the large object store for the Science Museum's collections and houses over 18,000 objects. It also stores another 200,000 smaller objects, since only 5% of the collections are on show at any time. The site comprises 220 hectares of farmland, woodland and tarmac. Inspired is designed to enhance the landscape and create new opportunities to excite people about science.

Inspired will house the collections in a purpose built facility, itself an exemplar of sustainable development that sits comfortably within its surrounding environment. Examples of biodiversity improvements include:

- 160-acre woodland mimicking adjoining Clouts Wood SSSI;
- 100-acre chalk meadow with dewponds;
- Planting of 6 kilometres of hedgerows;
- Removal of runways and hardstanding;
- 80 hectare organic farm supplying cafés;
- 20 hectares of fields propagating seeds and short rotation coppice;
- Habitat enhancements;
- Green Roof and other building orientated habitats;
- Surveying and monitoring before, during and after construction phase.

The achievements so far have been varied, ranging from the installation of bat and owl-boxes to working with young offenders to create woodlands. There are extensive benefits of improving the natural environment, including helping to attain outline planning permission and funding.

www.sciencemuseumswindon.org.uk

4.6 Providing Supporting Evidence

The importance of developing a good evidence base is emphasised throughout national planning policy documents for England and Wales. Good information on baseline conditions and trends in biodiversity provides a good basis for planning applications to be appraised in a considered way, maximising opportunities for enhancement and avoiding potential adverse effects on biodiversity. It can also help to monitor trends in the condition of habitats and species over time, which in itself is a good indicator of the quality of the local environment.

In putting together development proposals, public authorities should seek the best available information on biodiversity which is available from a range of sources, as illustrated in Box 4.1. In particular, Local Biodiversity Action Plan (LBAP) partnerships can help in pooling local expertise, sharing information and developing a comprehensive evidence base, through their work in producing LBAPs.

Box 4.1: Useful sources of baseline information

- National species records including site reports – http://www.searchnbn.net
- Detailed information on internationally and nationally designated sites, including information sheets containing information on location, qualifying features, physical features and ecological features:
  - Joint Nature Conservation Committee – http://www.jncc.gov.uk/
  - Natural England's' Nature on the Map' – http://www.natureonthemap.org.uk/
- Local and/or Regional Record Centres provide information on local biodiversity. The National Federation for Biological Recording provides is a useful UK wide organisation for those involved in biological recording – http://www.nfbr.org.uk/
- Biodiversity Action Plan information – http://www.ukbap.org.uk/
- National Biodiversity Network – Information of over 20 million species records in the UK – http://www.nbn.org.uk
- Mapped information on designated sites – http://www.magic.gov.uk/
- Information on Natural Areas and Joint Character Areas – http://www.english-nature.org.uk/science/natural/na_search.asp
- Inventory on ancient woodlands – http://www.english-nature.org.uk/pubs/gis/tech_aw.htm
- Information on local authority ecologists and on integrating biodiversity into local authority work – http://alge.org.uk

4.7 Seeking Biodiversity Enhancement

It is important that public authorities seek not only to protect important habitats and species, but actively seek opportunities to enhance biodiversity through development proposals, where appropriate. Incorporating enhancement opportunities into projects may help applicants to achieve planning permission.

The Town and Country Planning Association has produced a useful guide on how to integrate biodiversity objectives through master planning, detailed design and management: http://www.tcpa.org.uk/downloads/TCPA_biodiversity_guide_lowres.pdf

Planning conditions and obligations, to be agreed with the local planning authority, can incorporate appropriate measures to securing conservation opportunities both on and off development sites.

4.8 Monitoring

Where conservation measures have been put in place, it will be useful for public authorities to include indicators and targets and monitor these. This will enable them to monitor their success, and make adjustments to such measures where required, in order to maximise their benefits.

5. Education, Advice and Awareness

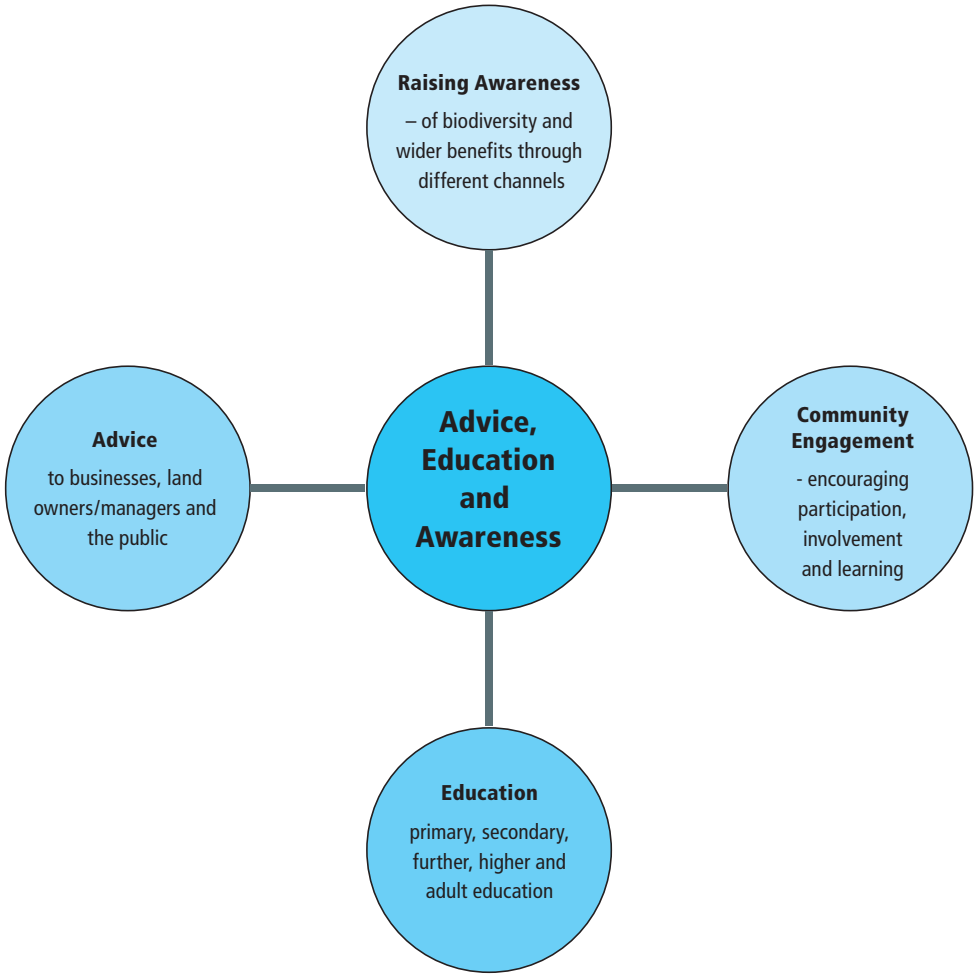
Key messages

- Public authorities have an important role in promoting understanding and awareness of biodiversity, which underpins a wide range of biodiversity conservation activities.
- Having regard to the conservation of biodiversity involves incorporating biodiversity messages into a wide variety of interactions with land managers, businesses, other organisations and the general public.
- Methods include the operation of the education system, provision of advisory services, promotion of community engagement in biodiversity, and raising awareness of biodiversity through communications with the public.

5.1 Introduction

By promoting understanding and awareness of biodiversity public authorities can help to encourage land managers, businesses and the general public to act in ways that benefit biodiversity conservation. This section focuses on external advice, education and awareness raising activities, and can be split into four core areas (Figure 5.1).

Figure 5.1: Education, Advice and Awareness and Biodiversity



Raising awareness of biodiversity is a cross cutting theme that relates to all public authority functions, and is of significant importance in facilitating the implementation of the Biodiversity Duty. The core functions included in the above diagram also have close links and are inter-related. For instance, many activities aimed at engaging the community are also likely to raise awareness of biodiversity, and may provide opportunities to link with local schools or public advisory services.

5.2 Education

The education system is a key vehicle for increasing public knowledge and understanding of the importance of conserving biodiversity. This is true for all age groups and the whole education system from primary and secondary schools, to further and higher education, adult education and lifelong learning. If biodiversity is to survive in the future, we need a fundamental change in the way we think and act, and must accept that we are part of a finely balanced system and regulate our activities accordingly. For this reason, biodiversity is identified as a cross-cutting theme in the Sustainable Schools framework and in the DfES action plan to support sustainable schools.

Education of school children not only raises awareness of biodiversity conservation issues among the next generation, but also provides an effective, indirect means of targeting a much wider audience, through their families and friends.

Some positive steps that authorities can take to improve biodiversity education include:

- **Encouraging the inclusion of biodiversity in education.** Some statutory requirements for biodiversity already exist within the national curriculum, such as:
  - The science curriculum including "Life processes and living things" and "global citizenship".
  - The inclusion of sustainable development as an integral part of a wide range of subject areas.

There are also opportunities to incorporate biodiversity projects in other subjects from maths, geography, art, science and English to design and technology. Many schools undertake work in the community, which could include environmental projects where biodiversity is an important element. Biodiversity has a key role to play in the recently launched *Learning Outside the Classroom Manifesto*, which aims to ensure that all young people have a variety of high quality learning experiences outside the classroom environment[34]. Biodiversity can be included in community education through lectures, events, nature trips and evening and recreational classes in biodiversity-related topics for adult/lifelong learners.

- **Enhancing biodiversity in the school grounds.** The inclusion of biodiversity in education can be supported through projects to enhance biodiversity on school grounds (see Section 3.9 for further information).

[34] http://www.teachernet.gov.uk/teachingandlearning/resourcematerials/outsideclassroom/

- **The Eco-Schools Programme.** This international programme has already been adopted by many schools and local authorities in England and Wales, and aims to promote education as a basis for a more sustainable society while integrating sustainable development into the education system at all levels. The Eco-Schools programme facilitates the promotion of biodiversity and environmental awareness in a way that involves a range of curriculum subjects, as well as extra-curricular activities, and seeks to implement Local Agenda 21 in the school community. Students learn about biodiversity and participate in its conservation, while schools benefit from efficiency gains through energy efficiency, reduced litter and waste, an improved environment and positive publicity. The Eco schools programme can provide a route for schools wanting to become sustainable schools.

Learning about pond life
Credit: Natural England Photographer Peter Wakely

Case Study: Durham Biodiversity Partnership – Biodiversity Education and Eco-schools

Durham County Council, Darlington Borough Council, Gateshead Council, South Tyneside District Council and Sunderland City Council

Durham Biodiversity Partnership provides web based biodiversity education materials, including information about biodiversity in the curriculum, local biodiversity projects, practical examples of how biodiversity can be incorporated into learning opportunities, and examples of potential efficiency and cost savings to schools from environmental projects.
http://www.ecoeducation.org.uk/

The Partnership also encourages the enhancement of wildlife on the school grounds for educational and wildlife purposes and links this to the more general inclusion of biodiversity in education. The document *'Enhancing Wildlife in the School Ground: Everything you need to know to attract wildlife into the school environment!'* outlines methods that can attract and enhance biodiversity on the school grounds, providing:

Case Study: Durham Biodiversity Partnership – Biodiversity Education and Eco-schools (continued)

- Practical information on habitat management and the different types of species that can be attracted to particular habitats, their feeding habits, etc.
- Instruction sheets for the construction bird tables and bird and bat boxes.
- Suggested study opportunities.
- Contact information for further information.

This approach has successfully encouraged the teaching of biodiversity in local schools and the development of a number of eco-schools in Durham. One eco-school example is Harrowgate Hill Junior School, which has recently been awarded the prestigious Green Flag following an evaluation of the success of the initiatives and methodology undertaken. The Green Flag accreditation means the scheme is being run in such a way that the children feel they have ownership. In this case, the children have their own budget, funded by recycling printer cartridges, selling old clothing for recycling to developing countries and other fund-raising initiatives.

5.3 Advice

In the course of their functions, many public authorities provide advice to businesses, land owners and managers, developers, and the public. In many cases it will be appropriate for them to have regard to biodiversity in the provision of this advice. This advice may help to:

- Support businesses in reducing the impact of their activities on the environment;
- Help developers to be more sensitive to biodiversity;
- Advise land managers and the general public on the various ways in which they can protect and enhance biodiversity.

There are a number of ways in which public authorities can address biodiversity issues and provide biodiversity advice to these organisations, including:

- **Incorporating biodiversity in the advice provided to business.** There is a key role for public authorities to provide advice and raise awareness of biodiversity through their interaction with the business community, including business advisory services and economic development activities. Biodiversity forms a key component of advice about sustainable development. There is also scope for public authorities to provide incentives for businesses to take greater consideration for biodiversity, through local "green" business awards. An example is the 'Green Business Award", funded by the Economic Development Department of Chichester District Council and organised by the Environmental Strategy Unit. The Award rewards businesses for making an effort to reduce their impact on the environment, and was set up to show how improving environmental performance can improve profitability. Award winners receive a cash prize as further incentive to the prestige of the award itself. Recent winners were chosen for investing in new environmentally-friendly and energy efficient systems, and developing a comprehensive waste recycling project.

- **Providing advice on biodiversity issues to other organisations.** Some public authorities have an environmental focus and possess considerable staff and information resources relating to biodiversity issues. There is clearly a role for these authorities to use this resource to provide information and advice on biodiversity issues to other organisations. This will raise awareness and understanding of biodiversity and encourage conservation of biodiversity.
- **Providing biodiversity advice to land owners and managers.** It is important for public authorities to have regard to biodiversity issues when providing land management advice, and in any contact with, land owners and managers. This includes providing for the protection and enhancement of designated wildlife sites.
- **Providing biodiversity advice to the general public.** Public authorities can also promote biodiversity through the provision of advice to the public. This can cover a wide range of simple ideas to enhance biodiversity by attracting wildlife into gardens and promoting more sustainable living.
- **Having regard to biodiversity in delivery of pest control services and the provision of pest control advice to other organisations and the public.** Pest control activities can have a significant impact on biodiversity (e.g. by affecting non-target species), as well as having a positive role to play in controlling pest species (e.g. control of grey squirrels in red squirrel and mink in water vole conservation programmes)[35].

Case Study: Cumbria Business Environment Network – Environmental Awards

Cumbria Waste Management Environment Trust, Cumbria Rural Enterprise Agency, Environment Agency, Cumbria County Council, Carlisle City Council, Eden District Council

The Cumbria Business Environment Network (CBEN) has a contract with Natural England to deliver practical biodiversity advice to businesses throughout Cumbria. The project aims to deliver tailored biodiversity advice to businesses, whilst taking account of the Cumbria biodiversity action plan to help focus on priority habitats and species. The advice can be as simple as advising businesses to cut the grass around their buildings less frequently to enable wild flowers to bloom and seed, providing a source of food for insects and birds.

Another initiative involves the use of an award scheme for local businesses. Participating businesses are offered a free audit by an environmental expert, who will advise and guide the business through the process. There are three levels of award – bronze, silver and gold – and each level has an associated set of criteria, guidance handbook and checklist for assessment purposes. The bronze award requires businesses to demonstrate awareness and commitment to environmentally sound operations. Businesses are then encouraged to progress through the system, following the guidance to reach the silver level, where they are expected to have made progress towards assessing and controlling environmental risks. Finally the gold level award is achieved by businesses which have achieved a level of excellence in identifying risks, have implemented procedures to manage their potential impacts, and plan for a continued improvement in performance.

[35] See for example: http://www.gateshead.gov.uk/DocumentLibrary/Environment/Strategies/makingadifference.pdf

Case Study: Cumbria Business Environment Network – Environmental Awards (continued)

The environmental benefits of the scheme are to:

- Improve environmental management, skills and practices;
- Increase recycling;
- Cut costs by reducing waste going to landfill;
- Reduce the risk of pollution;
- Ensure businesses are aware of relevant environmental legislation;
- Minimise energy consumption;
- Develop best practice by reducing, reusing and recycling waste, and cutting energy costs.

Businesses are attracted by the opportunity for cost savings, advice and support to meet environmental legislation, and by the reputational benefits provided by the three levels of award.

5.4 Community Engagement

Engaging communities in biodiversity conservation can provide direct benefits for biodiversity through the delivery of specific projects and activities, and also offers substantial opportunities for local community regeneration and neighbourhood empowerment initiatives. Integrating biodiversity into these initiatives offers opportunities to:

- Raise public awareness of biodiversity;
- Provide informal education opportunities for people of all ages to learn about their natural environment;
- Provide opportunities for volunteers to collect information relating to biodiversity and feed it into Local and/or Regional Record Centres;
- Provide publicity opportunities in local media;
- Provide socio-economic benefits, by working with excluded groups and promoting community engagement and social inclusion.

The following case studies provide a variety of examples of community engagement projects relating to biodiversity.

Redgrave and Lopham Fens site of special scientific interest
Credit: Natural England Photographer Peter Wakely

Case Study: 'Just an Hour' Project

Northumbrian Water and Essex & Suffolk Water

'Just an Hour' is a project run by Northumbrian Water and Essex & Suffolk Water in which all staff are encouraged to take up to an hour a month (or two days per year) to get involved in community or conservation work. This enables these two organisations to work towards achieving their biodiversity targets, whilst raising awareness of biodiversity issues amongst staff and the local community.

The biodiversity related projects include:

- Pond clearance;
- Dormouse survey;
- Invasive species control such as ragwort & pennywort clearance;
- Making & erecting bird nest boxes;
- Tree planting;
- Scrub clearance & coppicing – on nature reserves & SSSIs;
- Developing wildlife areas and vegetable plots with local schools;
- Dry garden creation with a local shopping precinct;
- Building an otter holt;
- Building a stag beetle pyramid;
- Juniper planting;
- Rush cutting.

'Just an Hour' offers staff an opportunity to see and learn more about the sites the water companies own and the broader areas that they work in and provides opportunities to engage the local community in biodiversity conservation.

Case Study: Staff, Prisoner and Community Engagement in Biodiversity Projects

HM Prison Service

The Prison Service recognises that the actions and targets it has set for biodiversity can only be achieved through active support from its staff, its central partnership and local partners. By encouraging staff and prisoner involvement in all aspects of biodiversity within its estate, and through local community projects, the Service can broaden its sustainable development social impacts agenda.

The Prison Service believes that all members of society should have access to green space and the natural world for enjoyment, education and wellbeing. Nature's biological diversity remains a source of constant enjoyment in people's lives. The Prison Service aims to build upon its past successes in this field to help form and bond closer links with offenders and those that work in the local community promoting and protecting biodiversity. Forming new partnerships and locally driven initiatives will aid the delivery of the Prison Service Biodiversity Action Plan (PSBAP) and addressing of other important social issues, such as providing transferable job skills to prisoners. Furthermore, encouraging local groups and communities to work with prisons and prisoners not only supports those communities and community projects, but encourages work towards Restorative Justice.

The Prison Service is working towards:

- Creating opportunities for individual offenders and community engagement with nature and wildlife both in rural, urban and inner city environments;
- Making access to its estate available to a wide audience (where practicable and subject to operational needs);
- Expanding the opportunities for nature conservation and wildlife protection by developing activities that are enjoyable and inclusive for both staff and prisoners alike;
- Maximising opportunities for volunteers to develop personal skills and expertise;
- Enabling staff and prisoners to explore and improve the sustainability of their everyday life choices and how they impact on biodiversity and the outside community;
- Endeavouring to keep rights of way managed and maintained with regard to biodiversity, where they pass through the Prison Service estate.

5.5 Raising Awareness

Measures to raise public awareness have a key role to play in biodiversity conservation, both in support of other initiatives (such as grounds maintenance) and to foster positive public attitudes and actions towards biodiversity. They are also important to enhance understanding and enjoyment of nature and promote the social, health, and economic benefits that this delivers. There are a number of different channels available to public authorities to raise public awareness, from providing direct experiences of visiting local nature reserves and appropriate interpretation of these sites, to the use of events, media, and through libraries, the arts and museums.

Raising awareness of successes with regard to conservation of biodiversity also provides public authorities with opportunities to enhance their own reputations.

Key activities of public authorities that contribute to raising general awareness of biodiversity include:

- **Providing places and organising events where people can experience and learn informally about biodiversity.** Potential sites include nature reserves and other public sites such as parks, commons, woodlands, other green infrastructure and public rights of way. There are significant opportunities to promote learning and awareness among recreational users of these sites, and this can be facilitated through the provision of interpretation boards and visitor centres, events such as guided walks, and the development of eco-tourism initiatives.
- **Using appropriate media to communicate information and raise awareness of biodiversity.** Key channels include the authority's website and external communications through television, newspapers, newsletters and the internet. Media bodies such as the BBC have a particularly strong role to play in promoting awareness of biodiversity. For example, news, documentary and education programmes have a profound influence of our understanding of conservation issues.
- **Utilising the resource provided by local libraries, arts and museums to raise awareness of biodiversity.** Libraries, the arts and museums offer a significant resource to raise awareness of biodiversity, as well as providing advice and educational activities.

Case Study: BBC 'Breathing Places' Campaign

In June 2006, the BBC launched a national three-year campaign to protect biodiversity, in partnership with Natural England, the Wales Biodiversity Partnership, Scottish Natural Heritage, and the Environment and Heritage Service Northern Ireland. The 'Breathing Places' campaign is being supported by the Big Lottery Fund and aims to inspire the public to create and care for green places across the UK.

The campaign aims to involve more than one million volunteers to transform more than 50,000 sites for the benefit of wildlife and for people to enjoy. The BBC has created a 'Breathing Places' booklet, available from their website www.bbc.co.uk/breathingplaces, to provide advice and guidance to any individual, group or organisation interested in getting involved. The booklet provides a step-by-step guide to creating a Breathing Place and then registering it on the BBC website. It also introduces the £5 million grants programme funded by the Big Lottery Fund and suggests other potential sources of funding.

There are significant opportunities for public authorities to promote and support the 'Breathing Places' campaign, thereby encouraging community involvement and projects to conserve and enhance biodiversity.

Case Study: Education and Raising Awareness at Kew

Royal Botanic Gardens, Kew

The Royal Botanic Gardens, Kew is the world's leading plant science organisation. Education is at the core of the work at Kew, which works with partners and local communities around the world and communicates with its 1.9 million annual visitors and users of its website that plants are vitally important to all of us and to the planet.

Kew aims to inspire an appetite for understanding and knowledge about plants and plant sciences to promote education and awareness about plant diversity. The on-site collections of living and preserved plants, combined with staff knowledge of plant science, provide inspirational learning for people of all ages. Kew's two-fold aim is to share scientific knowledge and skills with science conservation and horticultural colleagues and to share with the public an appreciation of the variety and importance of plants.

This is achieved through books, papers, contributions to conferences and research opportunities, experience in the field, specialist professional training and access to collections and expertise. Educational visits, open days, events and the internet are just some of the ways Kew engages with its visitors.

Kew has a team of education and interpretation staff, a lecture theatre seating 200 people, specialist lecture rooms with computer facilities, 40 teachers and 60 trained volunteer guides. Kew also provides continuous professional development for teachers and web resources such as www.plantcultures.com and vital plant databases.

Some examples of the educational and awareness raising work undertaken at Kew include:

- Over 100,000 children a year use Climbers and Creepers, an interactive plant play zone. Another 100,000 students participate in educational visits to the gardens at Kew and Wakehurst where they experience global biodiversity in the tropical Palm House, Temperate House and Princess of Wales Conservatory at Kew. All children visit Kew free of charge.
- With guidance from the Millennium Seed Bank (MSB) Project and the Learning Programme at Kew, a trial is underway to train schools to carry out a seed longevity study of native British flora. School students will be involved in making a genuine contribution to maintaining plant biodiversity. In 2006/7 nearly 70 schools around the country will be helping Kew in its cutting edge research on behalf of the MSB. This will involve 150 teachers and 2,000 students in hands-on experiments to provide information for scientists in the MSB.
- Midnight Ramblers. Young people get close up experience of the secret parts of Kew during sleep-overs. Expert guides bring the night to life, encouraging children to develop their interest in the life of plants and animals by exploring and learning through hands-on activities and environmental games.
- The Cactus Trail is one of the trails to help young families explore and learn about cacti and the conservation work of Kew.
- Kew is a leading figure in training others to protect threatened plants from illegal trade. In the last 5 years Kew has trained 500 students, 300 UK and overseas enforcement officers and distributed 5,000 training manuals and CD-ROMs free of charge to workers in over 160 countries.
- Approximately 100 visiting researchers use the on-site facilities at Kew every day, with many more accessing online. Kew is also supervising 85 PhD students.

6. Implementing the Biodiversity Duty – Implications for Public Authorities and their Staff

Key messages

- The Biodiversity Duty requires public authorities to have regard to biodiversity in carrying out their existing duties and functions. It should not represent a significant financial burden.
- A variety of opportunities exist to minimise any additional costs involved and for public authorities to realise the social, economic and environmental benefits that healthy biodiversity brings.
- There may be a need for additional expenditures in cases where authorities are not meeting current statutory commitments.
- Having regard to the conservation of biodiversity in their activities has implications for the awareness, knowledge and skills of public authority staff. These needs can be met in a variety of ways.
- The diverse nature of public authorities means that flexible and innovative approaches will be needed to monitor progress. There are, however, some key activities which many public authorities will be able to demonstrate.

6.1 Financial Resources

Conservation of biodiversity is an important consideration for public authorities, but it is only one of many priorities. Incorporating consideration of biodiversity into many public authority functions and services can be achieved without significant additional costs. However, there may be a need for additional expenditures in cases where public authorities are not meeting current statutory commitments.

Public authorities can minimise the cost of fulfilling their Duty and realise the benefits of conserving biodiversity by:

- **Looking for opportunities for cost savings.** Some of the examples in this guidance demonstrate that public authorities can both save money and benefit biodiversity, particularly where biodiversity benefits from less intensive land management regimes. Key examples are opportunities for reduced cutting in maintenance of grounds, parks and open spaces, road verges and hedges. It is important to note that, while real opportunities exist, these are not always easy to exploit, and there may be significant technical, managerial and knowledge-related constraints to overcome. However, advice is available from partner organisations, and examples and case studies have been provided throughout this document. Money saved in operational costs may be spent on other biodiversity priorities, or meet the costs of additional requirements such as completing surveys, audits and management plans.
- **Looking for opportunities to link biodiversity with other agendas.** As this document makes clear, there are strong links between biodiversity conservation and many other public authority objectives and activities, including promotion of health and outdoor recreation, education, community engagement and social inclusion. This offers opportunities to promote the conservation of biodiversity by using biodiversity to help deliver wider social programmes.

- **Making the most of external funding.** Local authorities, in particular, are able to access external funding sources to help them to meet biodiversity commitments, including agri-environment and woodland grant schemes, landfill and aggregates tax schemes, the Heritage Lottery and Big Lottery Funds, Environment Agency schemes and EU LIFE Fund. Funding is available for stand-alone biodiversity projects as well as for projects where biodiversity is one of a number of elements of wider community work.
- **Encouraging all staff to "think biodiversity" across duties and functions.** In many of the examples in this document, improvements in biodiversity performance have been secured by doing things differently, rather than by implementing significant additional projects. Significant progress can be made by promoting cultural change and by encouraging all staff to think about the biodiversity implications of public authority activities and services. Appointing biodiversity champions – individuals with a role to promote biodiversity within the organisation – can be an effective way of promoting biodiversity conservation.
- **Making the most of existing resources.** Some public authorities have environmental specialists who are able to assist them in the integration of biodiversity conservation into their activities and functions.
- **Harnessing the energy of volunteers and local communities.** Much can be achieved for biodiversity by volunteers and local communities. Many of the case studies in this guidance demonstrate the significant contribution that local people have to play in the conservation of biodiversity in their area.
- **Working in partnership with other organisations.** Key partners are likely to include Natural England, the Countryside Council for Wales, Forestry Commission, Environment Agency, the voluntary sector, LBAP partnerships and other public authorities.

Bluebell, Thorpe Wood, Peterborough
Credit: Natural England Photographer Peter Wakely

6.2 Skills and Training

Having regard to the conservation of biodiversity in their activities has implications for the awareness, knowledge and skills of public authority staff. These needs can be met in a variety of ways, including:

- **Raising general awareness.** In many cases there is a general need for awareness about biodiversity issues and their relationship to public authority functions and services. This guidance, and its promotion within public authorities, has a key role to play.
- **Using available guidance.** A variety of detailed guidance documents and handbooks have been produced by different organisations, referring to different public authority activities

and functions, and provide a valuable source of more detailed information on specific biodiversity issues. Available guidance is signposted throughout this document and summarised in Appendix 1.

- **Integrating biodiversity into staff training.** It is important that, wherever appropriate, the provision of training in relevant functions and activities has regard to biodiversity issues, for example by incorporating biodiversity considerations into training given to staff and contractors involved in grounds, highways and buildings maintenance.
- **Seeking advice.** Many public authorities have in-house specialists capable of advising staff on how they can have regard to biodiversity in their activities and functions. Other environmental organisations can also advise on biodiversity issues. As well as Defra, Welsh Assembly Government, Natural England and the Countryside Council for Wales, these may include voluntary sector organisations such as the Wildlife Trusts and a variety of organisations dealing with particular species groups.
- **Providing specific training.** In some cases, it may be appropriate to provide specialist training in incorporating biodiversity considerations in particular activities or service areas (e.g. planning or grounds maintenance).

6.3 Measuring Progress

The Duty does not introduce additional monitoring. However the impact of the Duty will be reviewed in 2009. Using existing mechanisms and those already in development to monitor biodiversity will enable public authorities to demonstrate how they have met their Duty and will also help to show the contribution they are making towards sustainable development and 'quality of life issues'.

The diverse nature of public authorities means that flexible and innovative approaches will be needed. There are, however, some key activities which many public authorities will be able to demonstrate:

1. Examining opportunities to integrate biodiversity considerations into all relevant service areas and functions, and taking steps to implement the opportunities identified.
2. Management of public authority land holdings. A compliant authority will manage its own sites in a way that is sensitive to biodiversity.
3. Making efforts to raise awareness of all staff and managers with regard to biodiversity issues.
4. Demonstrating a commitment and contribution to Biodiversity Action Plans, where appropriate.
5. Demonstrating progress against key biodiversity indicators and targets, for BAP listed priority habitats and species and LBAP listed species and habitats, where appropriate. For example where a public authority owns or manages SSSIs in England, it should be able to demonstrate a contribution to Defra's PSA target of ensuring that 95% of sites are in favourable or recovering condition by 2010.

The appropriate means for measuring progress are likely to vary between authorities, depending on the extent and type of their interactions with biodiversity. However, possible indicators might include:

1. The management of public authority landholdings (e.g. % of landholdings managed to a plan which seeks to maximise the sites' biodiversity potential).

2. The condition of public authority managed SSSIs (if applicable, e.g. % of SSSI in 'favourable' or 'unfavourable recovering' condition).

3. The provision of accessible greenspace.

4. The management of wider environmental impacts (e.g. carbon emissions, water and energy use, waste and pollution).

Where public authorities have a substantial impact on or interaction with biodiversity, it may be appropriate for them to develop their own corporate biodiversity action plan, establishing their own targets for biodiversity conservation through their activities, as the Highways Agency has done.

Appendix 1: Summary of Existing Guidance on Biodiversity Related Issues

NB: These guidance documents do not necessarily reflect Defra and partner views.

General

Best Value and Biodiversity in Scotland: A Handbook of Good Practice for Public Bodies

Scottish Executive

September 2004

74 page A4 book

Audience: Local authorities and other public authorities

Link: **http://www.scotland.gov.uk/Resource/Doc/25725/0014475.pdf**

The guidance aims to help local authorities and other public authorities by providing practical recommendations and examples which will ensure that awareness and understanding of biodiversity and best value cuts across all service delivery areas. It explains why public authorities should be concerned with biodiversity conservation, and provides practical guidance on how they can engage in biodiversity issues. The publication also offers a series of case studies on biodiversity conservation action already taken by local authorities in relation to best value, and a summary of existing publications that offer advice and guidance for biodiversity conservation.

A Review of Biodiversity Conservation Performance Measures

Earthwatch, Rio Tinto

March 2006

63 page A4 book

Audience: Performance Management Departments of Local Authorities and other Organisations Involved in Conservation

Link: **http://www.businessandbiodiversity.org/pdf/Biodiversity%20report%20(2).pdf**

The booklet acknowledges the growing awareness that conservation organisations need to become more accountable for their conservation outcomes to funding bodies, other stakeholders and society in general. It summarises and reviews the key considerations in biodiversity conservation performance measurement, focusing on direct and indirect measures of biodiversity status and on project related actions. It also describes the principal monitoring systems that have been proposed, the advantages and disadvantages of these and identifies further actions that could be taken by businesses and conservation organisations to develop biodiversity conservation performance monitoring systems.

Biodiversity – Making the Links

English Nature

1999

48 page report

Audience: All Public Authorities

Link: Report can be sourced free of charge from the English Nature website

http://www.english-nature.org.uk/pubs/publication/pub_search.asp, or by contacting

english-nature@twoten.press.net (0870 1214 177)

English Nature Report Code: IN3.2

ISBN: 1 85716 469 5

This publication describes the extent to which Biodiversity Action Plan priority species and habitats are inter-related. It uses a matrix to identify associations between species and habitats and provides examples of how species and habitat programmes can operate together and how these links can be instrumental in developing an integrated strategy of biodiversity conservation nationally and locally. It suggests methods of liaison between species and habitat groups and provides examples of how the matrix can be used.

Sustainable Development and Environment Manual

Ministry of Defence (MOD)

April 2005

602 page report

Audience: MOD employees, contractors and partners

Link:

http://www.mod.uk/NR/rdonlyres/F32B94CE-6620-40E8-A1D2-230EA43AEDD0/0/jsp418_whole.pdf

This manual is one of a number of different documents within the MOD that offer guidance on compliance with specific aspects of environmental policy and legislation. It supports a framework for the protection of the environment in the MOD, having regard for the globally accepted general principles of environmental protection and sustainable development. It sets out MOD policy and provides some practical guidance for specific functions and departments within the MOD to drive forward this agenda of environmental protection and sustainable development.

Environmental Information Regulations 2004 – Detailed Guidance

Defra

March 2005

92 page report

Audience: All Public Authorities

Link: **http://www.defra.gov.uk/corporate/opengov/eir/guidance/full-guidance/index.htm**

This guidance is intended to help organisations to comply with their legal obligations under the Environmental Information Regulations (EIR). It is a statement on the approach public authorities will be expected to follow when applying the EIR regime. It is also intended to help clarify the relationship of the EIR with the Freedom of Information Act 2000 (FOIA) more generally, and with other information regimes.

National Biodiversity Network Trust: Position Statement on Local Records Centres

National Biodiversity Network

April 2004

7 page statement

Audience: Those seeking to establish or further develop Local Record Centres (E.g. Local authorities, Wildlife Trusts, statutory conservation agencies, other conservation bodies)

Link:
http://www.nbn.org.uk/information/info.asp?level1id=1&level2id=10&level3id=45&level4id=&cat_id=101

This statement provides a working definition of a Local Records Centre (LRC), describes its functions and role in terms of essential and enhanced functions, and describes its relationship with the National Biodiversity Network (NBN) Trust. It has been developed with contributions from a wide range of partners and, in particular, draws on the work of the Linking LRCs Project, 1998-2001, led by the Wildlife Trusts for the NBN.

Developing a Local Record Centre

National Biodiversity Network

1999

150 page manual

Audience: Those seeking to establish or further develop Local Record Centres (E.g. Local authorities, Wildlife Trusts, statutory conservation agencies, other conservation bodies)

Link:
http://www.nbn.org.uk/information/info.asp?level1id=1&level2id=10&level3id=45&level4id=&cat_id=101

The guidance identifies key issues to be addressed in establishing or developing a LRC and provides information on how to construct a Development Plan, what it should contain and how it should be used as a reference document. It also provides a framework to assist with more long-term monitoring of an LRC's effectiveness.

Running a Local Record Centre

National Biodiversity Network

1999

150 page manual

Audience: Those involved in running Local Record Centres

Link: Available for purchase from the National Biodiversity Network –

http://www.nbn.org.uk/information/info.asp?level1id=1&level2id=10&level3id=45&level4id=&cat_id=101

This guidance manual builds on the model described in 'Developing a Local Record Centre' and provides practical information on many of the operations involved in running an LRC. The manual is contained in two volumes. Volume 1 covers 'Business Management' and provides information on how to run an LRC as a small business. Volume 2 covers 'Biodiversity Information Management Systems' and contains practical guidance for LRCs on how to develop policies and procedures for a range of data management tasks, illustrated using a number of case studies.

The Wildlife Trusts' Biodiversity Benchmark

The Wildlife Trusts

2003

4 page A4 leaflet/Website

Audience: Any organisation that owns land or is responsible for land management

Link: **http://www.biodiversitybenchmark.org/index.html**

This leaflet introduces the Wildlife Trusts' "Biodiversity Benchmark", explains how it can benefit organisations and explains the processes involved in achieving the "Biodiversity Benchmark" award. The "Biodiversity Benchmark" is a flexible, adaptable and recognised scheme to award organisations for continual biodiversity improvement. It enables any organisation to assess its impact on the natural world and improve its contribution to the environment, whilst demonstrating commitment to biodiversity.

Local Authorities – General

Making a Difference: A Guide to Incorporating Biodiversity into Local Authority Services

Durham Biodiversity Partnership (Sponsored by Gateshead MBC)

2000

17 page A4 booklet

Audience: Local Authorities

Link:
http://www.gateshead.gov.uk/DocumentLibrary/Environment/Strategies/makingadifference.pdf

This is a working guide for the local authority officer or operations supervisor to help them incorporate the Durham LBAP into their jobs. A wide range of service areas are highlighted, and for each of these a number of suggestions are given to enable changes to current working practice to effect improvements for biodiversity. The suggestions for working practices have been grouped under service provision headings rather than departmental headings. As key partners in the biodiversity process, local authorities can be major deliverers of action for biodiversity, and can become examples of best practice to other partners working for biodiversity conservation.

Increasing the Momentum: A Vision Statement for Biodiversity in Local Government 2004-2010

The Association of Local Government Ecologists (ALGE)

2004

24 page A4 booklet

Audience: Local Authority Ecologists and all functions of Local Authorities

English Link:
http://www.alge.org.uk/publications/files/download.php?filepath=Alge_Report_English.pdf

Welsh Link:
http://www.alge.org.uk/publications/files/download.php?filepath=Alge_Report_Welsh.pdf

This booklet presents a vision of what a local authority should be capable of achieving, when its performance is good or excellent, across a wide range of activities on all matters relating to biodiversity and nature conservation. This is intended to provide strategic direction to local authorities and ensure that biodiversity needs are recognised and addressed as part of their core service provision and built into the everyday decisions and actions of all functions of local authorities. It provides a series of biodiversity characteristics or 'hallmarks' of a well performing authority, which provide benchmarks against which individual authorities can be judged.

Local Authorities, Nature Conservation and Biodiversity

The Association of Local Government Ecologists (ALGE)

2005

13 page A5 booklet

Audience: Local Authorities and National Parks

Link:
http://www.alge.org.uk/publications/files/download.php?filepath=Alge_Book_pages1_6.pdf

This booklet highlights the importance of local authorities and National Parks in delivering nature conservation, safeguarding and enhancing biodiversity in the UK. It provides guidance on the role of local authorities to enhance and promote biodiversity within: sustainable development and community strategies; planning and development control; data collection and use; local authority land; land management; co-ordination and partnership; and community participation, involvement and education.

Best Value for Biodiversity: Helping to Achieve Continuous Improvement for Biodiversity Conservation Within Local Government

The Association of Local Government Ecologists (ALGE)

2001

A4 book on ALGE website

Audience: All Local Authorities

Link: **http://www.alge.org.uk/publications/bvb/contents.php**

This book demonstrates how local authorities can make a positive contribution to biodiversity conservation and is aimed at all local authorities in England and Wales, including County Councils, County Borough Councils, District Councils, Metropolitan Borough Councils, Unitary Authorities and National Park Authorities. It provides guidance for local authorities to carry out a Best Value Review on the delivery of their services where they relate to Biodiversity Conservation. It also provides assistance in identifying potential areas for improvement, selecting local performance indicators, and integrating biodiversity into other areas of work.

Biodiversity Strategy: A Vision for the Conservation of the District's Biodiversity 2006-2009

South Cambridgeshire District Council

August 2006

97 page A4 book

Audience: Local Authorities

Link: **http://www.scambs.gov.uk/admin/documents/retrieve.asp?pk_document=904818**

This strategy aims to outline how South Cambridgeshire District Council will promote biodiversity, conservation and enhancement across all council functions in order to produce an ecologically diverse and sustainable local environment. It highlights how biodiversity issues are cross-cutting between different local authority functions and suggests areas of potential biodiversity gain. The value of working in partnership with the development industry and the wider community is recognised in order to achieve effective biodiversity conservation.

Biodiversity in Community Strategies

Durham Biodiversity Partnership

July 2002

28 page A4 booklet

Audience: Members of Local Strategic Partnerships (LSPs) and local authority officers responsible for drafting Community Strategies

Link: **http://www.durhambiodiversity.org.uk/pdfs/Biodiversity&CommunityStratgeies2002.pdf**

This booklet provides guidance for those involved in preparing Community Strategies to help them to meet their obligations under the Local Government Act 2000 and assist them in incorporating the relevant biodiversity information into their Community Strategy. The guidance introduces biodiversity and its relevance to Community Strategies and the Community Planning Process, discusses policy convergence, key issues, reporting and monitoring, and suggests a range of biodiversity targets and performance indicators.

Life Support: Incorporating Biodiversity into Community Strategies

English Nature

February 2004

16 page A5 booklet

Audience: Local Authorities and those involved in developing and delivering community strategies

Link: **http://www.ukbap.org.uk/ebg/library/lrsig/DefraLifeSupport.pdf**

This booklet was produced to explain how Local Strategic Partnership (LSP) objectives can benefit from local biodiversity. It is an information document that challenges the partnership to ask questions and to find people who have the answers regarding community support of biodiversity.

Biodiversity and Community Strategies Project – Chester-le-Street District: Final Report

Durham Biodiversity Partnership

January 2005

36 page A4 report

Audience: Members of Local Strategic Partnerships (LSPs) and local authority officers responsible for drafting Community Strategies

Link: **http://www.durhambiodiversity.org.uk/pdfs/Final%20Report%20Chester-le-Street.pdf**

This report describes and evaluates the activities of the Biodiversity and Community Strategies pilot study in Chester-le-Street, which ran from 2002 to 2004. The aim of the project was to illustrate how, through the development of a partnership-sustained community development programme, biodiversity and wider environmental issues might support Chester-le-Street's Local Strategic Partnership (LSP) and the development of the District's Community Strategy. The final report describes the activities undertaken, presents a SWOT analysis, and provides lessons learnt and best practice recommendations.

Local Area Agreement – Defra Support Pack

Defra

August 2006

43 page document

Audience: Local Authorities and Government Offices

Link:

http://www.oursouthwest.com/climate/archive/LAA-Defra-support-pack-1-august%202006.doc

This document aims to support local areas and Government Offices in making each Local Area Agreement (LAA) a vehicle for harnessing the energy and innovation of local communities and citizens. It sets out all the Defra outcomes in DCLG's overarching framework and suggests potential additional outcomes and backs these up with extra information where necessary.

Biodiversity Data Needs for Local Authorities and National Park Authorities

Association of Local Government Ecologists (ALGE)

2006

60 page report

Audience: Local Authorities and National Park Authorities

Link: **http://www.alge.org.uk/publications/files/index.php**

The report covers work carried out by ALGE to identify biodiversity data needs for local authorities and national park authorities in England and Wales as part of a larger project, 'Biodiversity and Good Practice in Local Authorities' to support and facilitate action by local authorities for nature conservation. The report analyses nine areas of biodiversity information needs which are linked to statutes and accompanying guidance from government bodies in England and Wales, identifies 17 recommended data products suitable for meeting those needs, and provides recommendations for further action.

Biodiversity Action Plan for Hampshire: Volume One

Hampshire Biodiversity Partnership

1998

80 page strategy

Audience: Local Authorities

Link: **http://www.hampshirebiodiversity.org.uk/pdf/vol1/Biodiversitypages01-09.pdf**

Volume one of the Biodiversity Action Plan for Hampshire is a strategic 10 year plan of action for biodiversity across the county. It sets out the objectives of the Hampshire Biodiversity Partnership, describes Hampshire's biodiversity, and identifies habitats and species of priority concern. It also promotes a strategy for information, data and raising awareness of biodiversity.

Biodiversity Action Plan for Hampshire: Volume Two

Hampshire Biodiversity Partnership

2000

31 pages for part one of the report

Audience: Local Authorities

Link: **http://www.hampshirebiodiversity.org.uk/pdf/vol2/Vol2ActionPlansp1-13.pdf**

Volume two concentrates on detailed action plans for individual habitats and species of priority concern, and covers specific topics such as water management and education and awareness that have a considerable influence on biodiversity conservation.

Parks and Green Spaces

Making Contracts Work for Wildlife: How to Encourage Biodiversity in Urban Parks

Commission for Architecture and the Built Environment (CABE)

2006

62 page A4 book

Audience: Park and Green Space Management within Local Authorities and Public Authorities

Link: **http://www.cabe.org.uk/AssetLibrary/8068.pdf**

This booklet advises park and green space professionals on how to make the most of the potential for biodiversity in our urban parks, and how to integrate biodiversity into traditional forms of green space management. If focuses on practical aspects and includes case studies to show how the recommendations can benefit biodiversity and local people, as well as increase staff satisfaction, and explains how the commitment of individuals and employers can make the difference between failure and success.

A Space for Nature

English Nature

1996

8 page A5 leaflet

Audience: All public authorities

Link: **http://www.english-nature.org.uk/pubs/publication/PDF/spacefornature.pdf**

This leaflet outlines the values to people of accessible natural green spaces in urban areas and the conservation significance of them, giving English Nature's views and suggested standards for their provision.

Accessible Natural Greenspace in Towns and Cities: A Review of Appropriate Size and Distance Criteria – Research Report No. 153

English Nature

1995

49 page report

Audience: Local Authorities

Link: Report split into three sections –

http://www.english-nature.org.uk/pubs/publication/PDF/153_1.pdf

http://www.english-nature.org.uk/pubs/publication/PDF/153_2.pdf

http://www.english-nature.org.uk/pubs/publication/PDF/153_3.pdf

This report aims to help Local Authorities develop policies which acknowledge, protect and enhance the contribution natural spaces make to local sustainability. Three aspects of natural space in cities and towns are discussed: their biodiversity; their ability to cope with urban pollution; ensuring natural spaces are accessible to everyone. The report aims to show how size and distance criteria can be used to identify the natural spaces which contribute most to local sustainability.

Accessible Natural Green Space Standards in Towns and Cities: A Review and Toolkit for their Implementation – Research Report No. 526

English Nature

2003

98 page report

Audience: Local Authorities

Link: **http://www.english-nature.org.uk/pubs/publication/PDF/526.pdf**

This report presents the findings of a project which looked at English Nature's natural greenspace standards model in order to determine whether its validity could still be supported, how local authorities were managing greenspace policy and how the standards might be promoted effectively in the new and changing policy environment. The project builds on work published in English Nature Research Report No. 153, Accessible Natural Greenspace in towns and cities – a review of appropriate size and distance criteria (1995).

Providing Accessible Natural Greenspace in Towns and Cities: A Practical Guide to Assessing the Resource and Implementing Local Standards for Provision

English Nature

2003

36 page guide

Audience: Local Authorities

Link: **http://www.english-nature.org.uk/pubs/publication/PDF/Accessgreenspace.pdf**

This guide provides a suggested methodology and advice on applying English Nature's Accessible Natural Greenspace Standards – as detailed in English Nature Research Report 526, 'Accessible Natural Green Space Standards in Towns and Cities: A Review and Toolkit for their Implementation'.

Planning and Development

Planning Policy Statement (PPS) 9: Biodiversity and Geological Conservation

ODPM

2005

13 page A4 leaflet

Audience: Planning and Development Representatives of Regional Public Authorities and Local Authorities.

Link:
http://www.communities.gov.uk/pub/833/PlanningPolicyStatement9BiodiversityandGeologicalConservation_id1143833.pdf

PPS 9 sets out planning policies on the protection of biodiversity and geological conservation through the planning system. These policies do not replace or override existing or other national planning policies, but should complement these policies and operate alongside other relevant statements of national planning policy. The policies set out in this document will need to be taken into account by regional planning bodies in the preparation of regional spatial strategies, by local planning authorities in the preparation of local development documents, and may be material to decisions on individual planning applications.

Planning for Biodiversity and Geological Conservation: A Guide to Good Practice

ODPM, Defra, English Nature

March 2006

63 page A4 book

Audience: Planning and Development Representatives of Regional Public Authorities and Local Authorities.

Link:
http://www.communities.gov.uk/pub/843/PlanningforBiodiversityandGeologicalConservationAGuidetoGoodPractice_id1164843.pdf

This booklet provides good practice guidance on the ways in which regional planning bodies and local planning authorities can help deliver the national policies in PPS9 (summarised above) and comply with the legal requirements set out in the Government Circular, "Biodiversity and Geological Conservation – statutory obligations and their impact within the planning system". This guidance suggests ways in which planning policies and decisions can successfully enhance and restore biodiversity and geology, whilst avoiding, mitigating or compensating for harm.

Planning Guidance (Wales): Technical Advice Note (Wales) 5 – Nature Conservation and Planning

Welsh Office

1996

19 page technical advice note

Audience: Local Planning Authorities in Wales

Link:
http://new.wales.gov.uk/docrepos/40382/4038231121/403821/403821/40382/403822/TAN_5_Nature_Conservation_a1.pdf?lang=en

This Technical Advice Note (TAN) gives advice on development control issues for Special Protection Areas (SPAs), Special Areas of Conservation (SACs), and Sites of Special Scientific Interest (SSSIs).It also covers the selection and designation of non-statutory nature conservation sites, such as local nature reserves, and the protection of species, commons and greens.

Framework for Biodiversity: Integrating Biodiversity into Local Development Frameworks

The Association of Local Government Ecologists (ALGE)

2005

40 page A4 booklet

Audience: Local Authority Ecologists and Local Authorities Planning Departments

Link:
http://www.alge.org.uk/publications/files/download.php?filepath=Biodiversity_Framework.pdf

This booklet provides advice on the scope and integration of biodiversity into Local Development Frameworks. It aims to assist local authorities in the preparation of the required key documents in their Local Development Frameworks and with their subsequent development control functions, and assist in the preparation of supplementary planning documents on biodiversity, and encourage good practice by developers. It provides guidance on ensuring that development avoids or enhances areas subject to environmental and heritage designations, promotes recycled building materials, avoids or reduces pollution, reduces waste, remedies the effects of derelict and contaminated land, reduces water and energy consumption, uses renewable energy, reduces the need to travel, increases density and uses less land.

Biodiversity Guidance for Land Use Planners in Cambridgeshire and Peterborough

Cambridgeshire County Council

2001

32 page A4 booklet

Audience: Local Authority Planning Departments

Link:

http://www.cambridgeshire.gov.uk/NR/rdonlyres/E2DF93F7-ADD4-42E3-B8A4-22704BD6A163/0/bplanchecklist.pdf

The Regional Planning Guidance for the East of England and the Countryside and Rights of Way Act in England and Wales have identified the responsibility that local planning authorities have to help achieve the targets set in UK and local biodiversity action plans. This document provides guidance on how the planning system should address biodiversity. It has been produced by the Biodiversity Partnership for Cambridgeshire and Peterborough in consultation with, and for, planners to help them deal more effectively with biodiversity issues. The checklist aids strategic and development control planners when considering biodiversity, both in policy development and when dealing with planning proposals. Five case studies are included to provide examples of good practice, which look at: a small residential development; increased residential density; an industrial estate; road development; and a proposed new settlement.

Planning Sustainable Communities: A Green Infrastructure Guide for Milton Keynes and the South Midlands

The Milton Keynes and South Midlands Environment and Quality of Life (EQOL) Sub-Group

April 2005

36 page A4 booklet

Audience: Local Authorities Planning, Land Management, Park Management Departments

Link: **http://publications.environment-agency.gov.uk/pdf/GeAN0305BIWY-e-e.pdf**

This booklet provides guidance to assist local delivery vehicles and local authorities in addressing the planning and delivery needs of 'green infrastructure' and the benefits of doing so. It presents a checklist of the planning and delivery principles of green infrastructure relating to a range of public and private assets, with and without public access, in urban and rural locations. The planning and delivery principles of each green infrastructure asset are illustrated using relevant, best practice case studies, and further resources and information are signposted.

Strategic Environmental Assessment and Biodiversity: Guidance for Practitioners

Countryside Council for Wales, English Nature, Environment Agency, RSPB

June 2004

93 page report

Audience: Practitioners Involved in Strategic Environmental Assessments

Link: **http://www.english-nature.org.uk/pubs/publication/PDF/SEAbiodiversityGuide.pdf**

This book provides guidance to ensure that biodiversity considerations are appropriately addressed at each stage in strategic environmental assessments (SEAs). It aims to assist people and organisations in the preparation of plans and programmes in a wide range of sectors, in carrying out and preparing SEAs, and in commenting on biodiversity issues in those SEAs. The booklet introduces SEA and its legal requirements, explains how biodiversity implications can be considered in SEA, and introduces a 'toolkit' of more specific techniques for promoting biodiversity through SEA.

Living Roofs

English Nature

2006

28 page A5 leaflet

Audience:

Link: **http://www.english-nature.org.uk/pubs/publication/PDF/LivingRoofs.pdf**

This leaflet provides guidance on making living roofs, and outlines the advantages and disadvantages of different types of living (or green) roof. It makes recommendations for different types of buildings and roofs and provides details and guidance relating to different construction materials and plants to provide the dry habitats and the wildlife species that can be expected to inhabit living roofs.

Design for Biodiversity: A Guidance Document for Development in London

London Development Agency

2006

21 page A5 booklet

Audience: Local Authority Planning Departments and Developers

Link: **http://www.lda.gov.uk/upload/pdf/Design_for__Biodiversity.pdf**

This booklet provides general guidance on designing developments to benefit biodiversity. It outlines the critical drivers and principle processes which promote best practice and explains that developments should be sustainable, focused on previously developed land, while protecting and enhancing open space and environmental assets. It also provides three case studies which demonstrate how nature conservation priorities have been achieved in developments at Gillespie Park in Islington, Deptford Creek and BICC Cables in Belvedere.

Developing Naturally: A Handbook for Incorporating the Natural Environment into Planning and Development

Oxford, M

2000

194 page A4 book

Audience: Local Authority Planning Departments

Link: Available for purchase from NHBS Environment Bookstore –
http://www.nhbs.com/developing_naturally_tefno_109816.html

This booklet is aimed at those involved in the planning and development process and provides guidance with comprehensive information on everything from assessing the value of a site for wildlife to landscaping and the creation of habitats.

Biodiversity Impact – Biodiversity and Environmental Impact Assessment: A Good Practice Guide for Road Schemes

Byron, H. (RSPB)

2000

119 page A4 booklet

Audience: Public authorities involved in preparing Environmental Impact Assessments

Link: Available for purchase from NHBS Environment Bookstore –
http://www.nhbs.com/biodiversity_impact_tefno_108236.html

This booklet aims to help Environmental Impact Assessments (EIAs) to achieve their potential by providing best practice guidance on the treatment of biodiversity in EIAs for road schemes. It provides a detailed approach that is applicable not just to road schemes, but to EIAs of other development types, and will complement existing guidance and should help all participants in the road EIA process from government, local authorities, planners and ecologists, statutory and nature conservation bodies, developers and promoters, to environmental and ecological consultants involved in the preparation of road Environmental Impact Statements.

PAS 2010: Planning to Halt the Loss of Biodiversity – Biodiversity Conservation Standards for Planning in the United Kingdom – Code of Practice

BSI

August 2006

36 page A4 booklet

Audience: Local Authority Planning Departments and Other Public Authorities with an Interest in Biodiversity and Planning

Link: Available for purchase from BSI eShop –

http://eshop.bsi-global.com/ProductDetails.aspx?p=30154979&cat=Environment

This booklet is aimed at all competent authorities involved in the planning process in the UK. It also provides a key source of information for others with an interest in biodiversity and planning, such as statutory nature conservation bodies, environmental non-government organisations, planning consultees, planning applicants and their agents and consultants, along with local community groups. The PAS specifies a procedure by which a competent authority can implement biodiversity statute, policy and good practice.

Planning for Biodiversity: Good Practice Guide

Royal Town Planning Institute

1999 (Reprinted July 2001)

62 page A4 book

Audience: Local Authority Planning Departments and Other Public Authorities with an Interest in Biodiversity and Planning

Link: **http://www.rtpi.org.uk/resources/publications/environment/biodiversity/**

This book aims to help raise awareness and improve understanding of biodiversity conservation in the planning system, as well as resolving conflicts and problems, and creating and recognising opportunities. It provides practical guidance on planning instruments that may contribute to biodiversity conservation. The document explains what biodiversity is, gives policy and legislative context, and outlines the local biodiversity action plan process. It gives advice on good practice in Development Plans, Development Control, and in other planning initiatives that may contribute to biodiversity conservation.

Working With Wildlife: A Resource and Training Pack for the Construction Industry

Newton, J., Williams, C., Nicholson, C., Venables, R., et al

2004

400 page training resource

Audience: Training for Individuals Involved in Construction, Planning and Development

Link: Available for purchase from CIRIA Books –

http://www.ciria.org/acatalog/C587TP.html

Sample: **http://www.ciria.org/acatalog/c587.pdf**

This training pack provides information and guidance to enable a wide range of people involved in construction to stay within the law relating to wildlife, and to implement good practice in protecting wildlife on development and construction projects. The pack is intended to be used for training purposes and includes a presentation and training materials on an accompanying CD-ROM. These supporting materials include briefing sheets on individual habitats and species, toolbox talks and a quiz for training delegates. The pack covers the fundamentals of ecology and introduces legislation governing wildlife and construction issues, before providing practical guidance on dealing with wildlife on sites.

Working With Wildlife: Pocket Book

Newton, J., Williams, C., Nicholson, C., Venables, R., et al

2004

32 page A4 booklet

Audience: Individuals Involved in Construction and Development

Link: Available for purchase from CIRIA Books –

http://www.ciria.org/acatalog/C613.html

Sample: **http://www.ciria.org/acatalog/c587.pdf**

This pocket book is aimed to provide construction site operatives and managers with practical advice about some of the more significant wildlife species that may be found on UK construction sites. It provides guidance to assist with the identification of each of the wildlife species covered, and explains what to do when they are discovered on site. The book is designed to help construction sites comply with the law, whilst encouraging greater awareness and implementation of environmental good practice, and highlighting health and safety implications of working with wildlife.

Working With Wildlife: Site Guide

Newton, J., Williams, C.

2005

196 page A4 book

Audience: Individuals Involved in Construction and Development

Link: Available for purchase from CIRIA Books –

http://www.ciria.org/acatalog/C567.html

Sample: **http://www.ciria.org/acatalog/c567.pdf**

This booklet provides information and guidance, for a wide range of people working in the construction industry, to raise awareness of the law relating to wildlife and promote understanding and implementation of good practice in protecting wildlife on development and construction projects. This guide is intended to be used as a quick, on-site reference to help identify species and provide guidance on what should be done if these species are discovered. It provides information on the roles of the contractor and ecologist in helping to understand the issues, and gives guidance on the optimal times for carrying out specialist surveys and mitigation.

Building Greener

Construction Industry Research and Information Association (CIRIA)

2006

The full guidance document will be published in Autumn 2006

Audience: Designers, Planners and the Construction Industry

Link: **http://www.ciria.org/buildinggreener/guidance_introduction.htm**

The guidance will explore the planning, design, construction and maintenance issues surrounding the incorporation of green roofs, green walls and associated features across a range of different property types for both new and existing buildings. The document will focus on how these features can benefit the built environment by enhancing biodiversity, sustainable drainage and thermal efficiency. It will use case studies to highlight good practice and lessons learnt and will include information on the framework and drivers provided by planning guidance and Building Regulations, the benefits and barriers, design choices and construction and maintenance issues in relation to each of the features covered.

Biodiversity Indicators for Construction Projects

Woodall, R., Crowhurst, D.

July 2003

29 page A4 booklet

Audience: Designers, Planners and the Construction Industry

Link: **http://www.ciria.org/pdf/w005.pdf**

This booklet introduces a set of three complementary biodiversity indicators, developed by BRE and CIRIA, that allow the impact of construction projects on biodiversity to be measured. This will help users to measure the impact of their construction product and construction processes on biodiversity, while designers and construction teams will also be able to use them to monitor their own performance. It is hoped that these indicators will facilitate the design and construction of more ecologically sound projects and help to raise awareness and understanding of biodiversity principles and issues within the construction industry.

Duties on Relevant Authorities to Have Regard to the Purposes of National Parks, Areas of Outstanding Natural Beauty (AONBs) and the Norfolk and Suffolk Broads: Guidance Note

Defra

2005

10 page A4 leaflet

Audience: Relevant Local Authorities Land Management Departments

Link:

http://www.defra.gov.uk/wildlife-countryside/issues/landscap/pdf/authorityduties-guidancenote.pdf

This leaflet provides guidance relating to National Parks, Areas of Outstanding Natural Beauty (AONBs) and the Norfolk and Suffolk Broads and aims to raise awareness and provide greater clarity of the duties designed to protect these areas. It explains how authorities might demonstrate compliance with the duties, details the process by which they will be monitored and provides a new opportunity for all relevant authorities to show their commitment to conserving and enhancing our finest landscapes.

Biodiversity Checklist: Developer's Guidance

Cambridgeshire County Council

March 2001

6 page A4 leaflet

Audience: Local Planning Authorities

Link:

http://www.cambridgeshire.gov.uk/NR/rdonlyres/BA8E3741-34F4-4421-80F7-3069B275FF61/0/biodguide.pdf

This leaflet provides guidance, developed in consultation with local authority planners in Cambridgeshire and Peterborough, of the type of information relating to biodiversity that might be expected on submission of planning application forms. This guidance covers a number of steps that can be taken during the planning application process to ease the work of the planners and ensure government legislation is not contravened, whilst also achieving benefits for biodiversity.

Business and Biodiversity

Business and Biodiversity: A UK Business Guide for Understanding and Integrating Nature Conservation and Biodiversity into Environmental Management Systems

Earthwatch

2002

24 page A5 booklet

Audience: Businesses

Link: **http://www.businessandbiodiversity.org/pdf/bandb.pdf**

This booklet introduces the importance of biodiversity and nature conservation, describing the main threats to biodiversity and explaining why the conservation of biodiversity is important to business. The document also introduces five steps on integrating biodiversity into an Environmental Management System. These five steps take businesses through: identification and listing business activities and effects on local biodiversity; identification and review of potential risks and impacts; setting priorities for action; development of a management planning programme; and integration and implementation of an appropriate action plan into the business process.

Business and Biodiversity: Site Biodiversity Action Plans – A Guide to Managing Biodiversity on Your Site

Earthwatch

2003

6 page A5 leaflet

Audience: Businesses

Link:
http://www.businessandbiodiversity.org/pdf/B&B%20SITE%20BAP%20(181)%20V10.pdf

This leaflet provides instruction and practical guidance on the development and delivery of biodiversity action plans for business sites. The document includes advice on: how to conduct an ecological site survey; how to prepare, and then implement, the biodiversity action plan; and guidance on monitoring, reviewing and reporting on plans. A series of case studies are included for Severn Trent Water, the Royal Bank of Scotland, GlaxoSmithKline, Center Parcs and RMC.

Case Studies in Business and Biodiversity: A Companion Volume to 'Business & Biodiversity: A UK Business Guide for Understanding and Integrating Nature Conservation and Biodiversity into Environmental Management Systems

Earthwatch

2000

32 page A5 booklet

Audience: Businesses

Link: **http://www.businessandbiodiversity.org/pdf/bandbcasestudies.pdf**

This booklet introduces biodiversity action plans and provides ten indicators of biodiversity engagement, which include understanding biodiversity, developing and integrating a company biodiversity action plan, working with local partners and employees, funding and management support, and communication and engagement with internal and external stakeholders. The indicators are illustrated with examples of best practice, in addition to a series of case studies for Northumbrian Water, Center Parcs, London Luton Airport, Glaxo Wellcome, BP Amoco and The Co-operative Bank.

Putting a Bit Back: A Guide to Nature Conservation for Small to Medium-sized Enterprises (SMEs)

Earthwatch

2001

8 page A5 booklet

Audience: Businesses

Link: **http://www.businessandbiodiversity.org/pdf/bit.pdf**

This booklet provides best practice recommendations for SMEs and identifies a range of simple activities that can be carried out in the workplace (e.g reducing pollution, using energy wisely and minimising waste) to help protect and conserve the environment, whilst also improving business efficiencies. The recommendations focus on key areas relating to nature conservation processes including: environmental review; site review; improving site nature conservation interest; memberships and sponsorships; staff involvement; and a review of actions. The document also includes a series of case studies for Shields Environmental Ltd, Beacon Press Ltd, Mileta Tog 24, Husky Injection Moulding Systems and Ginns and Gutteridge Ltd.

Business and Biodiversity: A Guide for UK-Based Companies Operating Internationally

Earthwatch

2002

48 page A5 booklet

Audience: International UK-Based Businesses

Link: **http://www.businessandbiodiversity.org/pdf/BandBOseas.pdf**

This booklet provides an overview of considerations and challenges for UK-based companies with operations or links overseas and explains the international framework of conventions, laws and regulations relating to biodiversity. The document also provides examples of good practice, which illustrate specific problems companies have already faced and addressed. For example, designing and implementing a company BAP, and involving stakeholders and supply chains in the process.

Business and Biodiversity: The Handbook for Corporate Action

Earthwatch, The World Conservation Union (IUCN), World Business Council for Sustainable Development

2002

56 page A5 booklet

Audience: Health, Safety, Environment and Sustainable Development Representatives

Link: **http://www.businessandbiodiversity.org/pdf/IUCN-EW-WBCSD%20Handbook.pdf**

This booklet aims to raise awareness of the importance of biodiversity to the business community. It uses the experiences of a number of companies which have already begun integrating biodiversity concerns into their management systems and taking action to conserve biodiversity, to provide examples of good practice and lessons learnt. In particular the report outlines the business case for biodiversity, identifies corporate biodiversity issues, and provides guidance for developing biodiversity corporate action.

Education

Biodiversity Education Pack: Key Stage 1 and 2

Essex Biodiversity Partnership

33 page A4 booklet

Audience: School Teachers and Pupils

Link: **http://www.essexbiodiversity.org.uk/library/CD_folder/Education%20Pack.pdf**

This booklet is designed as an educational tool for teachers to use to teach pupils at key stage 1 and 2 about the importance of biodiversity conservation. It aims to educate pupils about the importance of biodiversity and help them to understand the need to protect it, and it is hoped that this will help to influence and direct children to bring about a more sustainable future. The pack introduces the concepts of biodiversity and sustainability, species and habitats and suggests practical activities for lessons to assist the understanding of the pupils.

Health

Better Environment, Healthier People: Our Contribution to Health

Environment Agency

October 2005

17 page A4 leaflet

Audience: Environmental and Health Services in Local Authorities

Link: **http://publications.environment-agency.gov.uk/pdf/GEHO0905BJOV-e-e.pdf?lang=_e**

This leaflet explores the relationship between the outdoor environment and the physical and mental health and well-being of people. The document uses examples to highlight the effects on health of a range of outdoor environments, including: 'living with chemicals'; 'living near industry'; 'living in towns and cities'; 'living near water'; 'living in the countryside'; 'living in the future'. It aims to help the Environment Agency to work effectively with others to improve the environment in ways that benefit the nation's health.

Enhancing the Healing Environment: A Guide for NHS Trusts

Kings Fund

June 2004

74 page guide

Audience: Local Authorities and health-related Public Authorities

Link: **http://www.kingsfund.org.uk/resources/publications/enhancing_the.html**

The guide shows how staff teams can make changes to areas such as waiting rooms and gardens by making better use of existing resources. Drawing on learning from the King's Fund's Enhancing the Healing Environment programme, it sets out the case for investing in good hospital design to encourage health/healing benefits, and offers a step-by-step guide to planning a design project.

Promoting land management in the NHS to support local biodiversity

Department of Health

2005

21 page report

Audience: Local Authorities and health-related Public Authorities

Link: **http://www.gosw.gov.uk/gosw/docs/166235/Biodiverstiy_Report_Final_E1.pdf**

This report sets out the results of some innovative work across the NHS estate in the SW region, which has explored how positive estate management can contribute to patient and staff well-being, and makes a wider contribution to enhancing local biodiversity. As a result the report represents the start of a new partnership between health and environmental sectors in the South West. The recommendations set out some sensible ways in which this can be taken forward and developed.

Infrastructure

Integrated Washland Management for Flood Defence and Biodiversity

Morris, J., Hess, T.M., Gowing, D.J., Leeds-Harrison, P.B., Bannister, N., Wade, M., and Vivash, R.M. (Report to DEFRA and English Nature)

2004

155 page report

Audience: Key Policy Areas include Catchment Flood Management Plans (CFMP), Habitat Management, Agri-Environment Schemes, and the Water Framework Directive

Link:
http://www.silsoe.cranfield.ac.uk/iwe/projects/washlands/enrr%20598%20washland%20report.pdf

The report reviews the options for washland creation and provides guidance on how, and under what conditions, washlands might be developed to deliver benefits for biodiversity and/or flood management. It reviews selected case study experience in the UK and Europe and draws out existing and potential synergies and issues between flood defence and biodiversity, and identifies interventions that can be adopted to deliver flood management and biodiversity objectives.

Biodiversity Action Plan

Highways Agency

2001

Approximately 21 pages on Highways Agency website

Audience: Environmental and Conservation Organisations, Neighbouring Landowners, Local Authorities

Link: **http://www.highways.gov.uk/aboutus/723.aspx**

This Biodiversity Action Plan provides details of targets to protect and enhance biodiversity where it exists alongside the motorway and trunk road network. The document is part of a long-term strategy for the conservation, and where possible enhancement, of habitats and species on motorway and trunk road verges. It aims to provide habitat and species action plans which are relevant and appropriate to the network and to the work of the Highways Agency, to set practical and realistic actions and targets so that the Highways Agency's contribution to biodiversity can be maximised, to raise awareness and understanding of the importance of the Highways Agency's biodiversity work among staff and contractors, environmental partners and the general public. The plan emphasises that the protection of species and habitats on roadside verges is not simply the remit of nature conservation organisations, but should also be the responsibility of business, the private utilities, local authorities and local communities.

Public Procurement

Sustainable Procurement Guide

The Environment Agency

November 2002

74 page A4 book

Audience: Buyers, Managers, Specifiers, Project Managers and Suppliers at the Environment Agency and All Other Public Authorities

Link: **http://www.environment-agency.gov.uk/commondata/103599/spg_517077.doc**

This guide provides a best practice template for the Environment Agency and any other organisations looking to enhance their sustainability within procurement and supply chain activities. It provides a base upon which an approach can be developed to suit the environmental culture and values of any organisation using the guide. The guide is divided into two parts: the first part is a process guide for Buyers to understand how to integrate environmental and social issues into their day to day procurement activities; the second part gives specific information on the high environmental and social impact products and services identified.

Environmental Purchasing in Practice: Guidance for Organisations

The Chartered Institute of Purchasing and Supply (CIPS), the Institute of Environmental Management Advisors (IEMA) and the National Health Service (NHS)

2002

106 page A4 book

Audience: Environmental Practitioners, Purchasers and Supply Chain Professionals in All Organisations

Link: Guide is available free of charge to IEMA members through the CIPS website

http://bookshop.cips.org/

Or can be ordered through the IEMA website for non-IEMA members

http://www.iema.net/shop/product_info.php?cPath=27_29&products_id=55

This book presents an account of good environmental purchasing practice and has been written for those with responsibilities for purchasing and the supply chain, and for environmental management professionals and consultants. It will also be of use to budget holders and technical staff who are involved in purchasing decisions or are equipment users, and those who develop and implement policy relating to purchasing, environmental management, supply chain management and risk management.

Project – Oriented Environmental Management System Manual (POEMS)

Defence Procurement Agency and Defence Logistics Organisation

May 2005

A4 book on Acquisition Safety and Environmental Management System (ASEMS) website

Audience: MOD employees, contractors and partners

Link: **http://www.asems.mod.uk/poems_manual.htm**

This manual aims to explain the contents and operation of the environmental management element of the MOD's Acquisition Safety and Environmental Management System (ASEMS), which is known as the Project-Orientated Environmental Management System (POEMS). It describes the environmental management processes and procedures to be employed during a project's life cycle within the Defence Procurement Agency (DPA), Defence Logistics Organisation (DLO) or by contractors working for them.

An Introduction to Environmental Management in the MOD Acquisition Process

Ministry of Defence (MOD)

July 2005

33 page A4 booklet

Audience: MOD employees, contractors and partners

Link: **http://www.asems.mod.uk/greenbook_1_3.pdf**

This booklet introduces the concepts, terms and activities of effective environmental management that should be applied within the acquisition process. It is intended to enable Integrated Project Teams (IPTs) and other MOD staff to understand the main environmental issues and essential methodologies to control, minimise and mitigate environmental impacts arising from the MOD's procurement decisions. The booklet also introduces and supports the Project-Orientated Environmental Management System (POEMS) used to establish environmental management systems and undertake environmental assessments.

Waste Management

Guidance on Municipal Waste Management Strategies

Defra

July 2005

18 page A4 booklet

Audience: Local Authorities (Waste Management)

Link:
http://www.defra.gov.uk/ENVIRONMENT/WASTE/localauth/pdf/guidemunwaste-strategy.pdf

This booklet provides guidance which sets out government expectations of waste disposal authorities and waste collection authorities, when preparing and updating Municipal Waste Management Strategies. It aims to ensure that long term strategic planning is in place to ensure delivery of more sustainable waste management. The document contains Practice Guidance, which provides detailed advice for authorities on how to produce waste management strategies.

Site Management and Species Protection

Sites of Special Scientific interest: Encouraging positive partnerships

Code of Guidance

Defra

April 2003

50 page guidance document

Audience: Natural England, Public Bodies, Statutory undertakers and SSSI land owners and occupiers

Link: **http://www.defra.gov.uk/wildlife-countryside/ewd/sssi/sssi-code.pdf**

This guidance document emphasises the significance of SSSIs and the importance of making sure they are properly protected and conserved; and securing (where practicable and appropriate) their restoration and enhancement. It endorses the value of constructive dialogue, listening carefully to range of views; the importance of support both through advice and, where appropriate, through financial assistance; and the expectation that information about SSSIs will be freely available. It also draws specific attention to the need for public authorities to be fully accountable in the actions they take, both on and in respect of, SSSIs.

Local Sites: Guidance on their Identification, Selection and Management

Defra

2006

30 page A4 booklet

Audience: Local Authorities Land Management Departments

Link: **http://www.defra.gov.uk/wildlife-countryside/ewd/local-sites/localsites.pdf**

This booklet provides guidance on the development and management of systems to identify sites of local importance for nature conservation in England. The guidance aims to promote more transparent and consistent approaches in the operation of local sites systems, embracing regional and local diversity and variation within the natural environment, encouraging existing partnerships and prompting others to fill gaps to protect their local natural wildlife and geological heritage by using examples of best practice. It outlines the roles and purposes of local sites systems and proposes frameworks and standards for their operation as well as for the selection, protection and management of the sites themselves.

Wildlife Fencing Design Guide

Pepper, H.W., Holland, M., Trout, R.

2006

13 page A4 book

Audience: Local Authority Planning Departments (particularly Road Planning)

Link: **http://www.ciria.org.uk/acatalog/c646.pdf**

This booklet provides theoretical guidance for designers and planners and practical guidance to managers and fence constructors and, in particular, those involved in fencing roadsides. The guidance covers all types of fencing that may be used to control wildlife in farming, forestry, landscape management and along linear corridors, in particular along roadsides, but also railways and canals. The need for wildlife fencing is explained together with discussion of the factors that should be considered when deciding whether fencing is necessary. Specific advice is given in relation to wildlife fencing along different types of road and the implications for wildlife fencing alignment, design and maintenance.

Badgers and Development

English Nature

2002

16 page A4 booklet

Audience: Planning Authorities

Link: **http://www.english-nature.org.uk/pubs/publication/PDF/badgerdev.pdf**

The purpose of this booklet is to provide guidance on how to consider the conservation and welfare impacts of developments on badgers in the assessment of planning applications and to ensure that developments are carried out according to best practice guidelines. The guidance provides an insight into badger biology and lifestyle, the relevant wildlife legislation and advice to help developers avoid committing offences and increase the likelihood of obtaining a licence from English Nature before any work goes ahead which will interfere with badger setts.

Water Vole: Guidance for Planners and Developers

English Nature

2001

6 page A4 leaflet

Audience: Local Authority Planners and Developers

Link: **http://www.english-nature.org.uk/pubs/publication/PDF/Watervole.pdf**

This leaflet offers a guide to the legal protection provided to the water vole and gives advice on searching for evidence of water voles and the steps that should be taken to ensure water vole habitats are protected through the planning process. The guidance is aimed at planners and developers and also provides details of how developments can be designed to provide opportunities for habitat enhancement.

Water Vole Conservation Handbook (Second Edition)

Rob Strachan and Tom Moorhouse

2006

37 page book

Audience: Ecologists and River Managers

Link: Available for purchase from NHBS – **http://www.nhbs.com/title.php?tefno=88540**

This book provides a practical guide to water vole conservation and aims to improve the understanding and awareness of the requirements of water voles. The second edition has been updated and expanded to include the most recent research into the species, current legal protection and its status in the wild. The book contains sections on water vole surveys and habitat management, and includes 25 case studies of UK projects.

Know Your Vole: Rat Control and Water Vole Conservation

The Wildlife Trusts

October 2002

2 page A4 leaflet

Audience: Pest Control

Link: **http://www.wildlifetrusts.org/files/uploaded/knowyourvole.pdf**

This leaflet provides guidance explaining how to control pests without damaging water voles. It explains the risks of pest control and the legal protection of water voles, highlights the distinguishing features of rats and water voles, and provides advice to help protect the water vole population.

Bats in Roofs: A Guide for Surveyors

English Nature

2002

4 page A4 leaflet

Audience: Surveyors

Link: **http://www.hastings.gov.uk/animal_nuisance/bats.pdf**

This leaflet provides a guide to the law protecting bats and bat roosts in the UK and provides guidance on searching for evidence of bats. Bat roosts are protected even if the bats are absent so the leaflet also provides guidance to help recognise roosts even if there are currently no bats in residence. The guidance is aimed at surveyors and also provides details of who to contact if bats or bat roosts are found.

Impact of Lighting on Bats

Dr Jenny Jones

May 2000

3 page A4 leaflet

Audience: Environmental Department in Local Authorities

Link: **http://www.lbp.org.uk/07library/lighting_and_bats.pdf**

This leaflet explains the significant impact that lighting can have on bats by affecting feeding behaviour, chances of predation and changing their foraging areas. It explains the legal protection status of bats and suggests that lighting in the vicinity of a bat roost that causes disturbance could constitute an offence. The document provides guidance on the management of lighting to reduce the effect of artificial lighting on bats.

A Guide to Rabbit Management

Wray, S. (Cresswell Associates)

2006

12 page A4 book

Audience: Land Managers

Link: **http://www.ciria.org/acatalog/c645.pdf**

This booklet provides a summary of the existing body of knowledge with regard to the European Rabbit, and gives relatively straightforward guidance on the management of rabbit populations. The results of consultations and literature reviews are set out and the principles of an integrated management system for all types of land managers are outlined. It includes detailed chapters on rabbit damage and control methods as well as chapters on the history of the rabbit in Europe, rabbit ecology and biology, diseases, and relevant legislation.

Wetland Restoration Manual

The Wildlife Trusts' Water Policy Team

2005

660 page manual

Audience: Public bodies working on wetland projects

Link: Available for purchase from NHBS – **http://www.nhbs.com/title.php?tefno=112676**

The manual is a guide to best practice in wetland restoration work in the UK and internationally. It contains guidance on: the background to wetland issues; water-level control; physical works; the main UK wetland habitat types, their protection and restoration; post-industrial land opportunities for wetlands; invasive species; survey and monitoring; and canals. It was developed by The Wildlife Trusts with partners across the UK and uses case studies to demonstrate cases of good practice.

Keepers of Time: A statement of policy for England's Ancient and Native Woodland

Defra and Forestry Commission

2005

13 page statement

Audience: Owners and Land Managers of Woodland

Link: **http://www.forestry.gov.uk/keepersoftime**

This statement updates the government's policy towards woodlands and trees by re-emphasising their value, evaluating threats and opportunities and setting out a range of actions to improve their protection and quality. It also includes a comprehensive range of outcomes to monitor progress and measure success.

UK Biodiversity Action Plan and National Biodiversity Strategies

UK Biodiversity Action Plan

English Nature and Department of the Environment

1994

192 page report

Audience: All Public Authorities

Link: **http://www.ukbap.org.uk/Library/PLAN_LO.PDF**

The UK Biodiversity Action Plan (BAP) was published in 1994 in response to the Biodiversity Convention, to develop national strategies for the conservation of biological diversity and the sustainable use of biological resources. The plan commits the UK government to an action plan to halt the loss of biodiversity through a series of tasks: to conserve species and habitats; to develop public awareness and understanding; and to contribute to biodiversity work in the European and global context.

Biodiversity: The UK Steering Group Report (Volumes 1 and 2)

Department of the Environment

1995

103 page report

Audience: All Public Authorities

Volume 1 Link: **http://www.ukbap.org.uk/Library/Tranche1.pdf**

Volume 2 Link: **http://www.ukbap.org.uk/Library/Tranche1_Ann_f.pdf**

Volume 2 Link: **http://www.ukbap.org.uk/Library/Tranche1_Ann_g.pdf**

The report provides detailed targets for conserving biodiversity in the UK and monitoring the actions outlined in the UK Biodiversity Action Plan (BAP). It includes recommendations for increasing public awareness and involvement in conserving biodiversity, and suggests ways of improving accessibility and the co-ordination of information on biodiversity. Volume 1 of the report outlines the biodiversity planning process while Volume 2 consists of action plans and lists of species of conservation concern.

Sustaining the Variety of Life: 5 Years of the UK Biodiversity Action Plan

The UK Biodiversity group

2001

159 page report

Audience: All Public Authorities

Part 1 Link: **http://www.ukbap.org.uk/Library/BIODIV1.PDF**

Part 2 Link: **http://www.ukbap.org.uk/Library/BIODIV2.PDF**

Part 3 Link: **http://www.ukbap.org.uk/Library/BIODIV3.PDF**

Part 4 Link: **http://www.ukbap.org.uk/Library/BIODIV4.PDF**

Part 5 Link: **http://www.ukbap.org.uk/Library/BIODIV5.PDF**

Part 6 Link: **http://www.ukbap.org.uk/Library/BIODIV6.PDF**

Part 7 Link: **http://www.ukbap.org.uk/Library/BIODIV7.PDF**

The report reviews the progress of the biodiversity partnership and the successes, challenges and future objectives for the UK Biodiversity Action Plan (BAP). It aims to consolidate and reinforce the directions of the original UK BAP, whilst identifying new delivery approaches: to translate the effort

of developing action plans into effective action on the ground; to increase efforts to make biodiversity a mainstream consideration in the policies and practices of all sectors; to recognise, encourage and facilitate the contribution made by Local BAPs; to build on the opportunities of internet technology to facilitate communication and make information available; and to ensure that the concepts and priorities of biodiversity conservation evolve over time.

Working with the Grain of Nature: A Biodiversity Strategy for England

The England Biodiversity Group

October 2002

Audience: All Public Authorities

Link: **http://www.defra.gov.uk/wildlife-countryside/biodiversity/biostrat/index.htm**

The Biodiversity Strategy for England is a Government strategy, but it has been prepared with the active partnership of a broad range of stakeholders in the public, voluntary and private sectors. The Strategy sets out a series of actions that will be taken by the Government and its partners to make biodiversity a fundamental consideration across all main sectors of public policy and also looks at ways of engaging society as a whole in understanding the needs of biodiversity and what can be done by everyone to help conserve and enhance it.

Working with the Grain of Nature – Taking it Forward:

Volume I – Full Report on Progress under the England Biodiversity Strategy 2002-2006

Defra

November 2006

136 page report

Audience: All Public Authorities

Link: **http://www.defra.gov.uk/wildlife-countryside/biodiversity/biostrat/indicators/pdf/grain/grainvol1v3.pdf**

This report describes the progress that has been made under the England Biodiversity Strategy since 2002. The report sets out a new vision and includes the progress made using a holistic approach. The report also includes a review of headline indicators, progress reports for each workstream in the strategy and forward work programmes until 2010.

Working with the Grain of Nature – Taking it Forward:

Volume II – Measuring Progress on the England Biodiversity Strategy: 2006 Assessment

Defra

November 2006

188 page report

Audience: All Public Authorities

Link: **http://www.defra.gov.uk/wildlife-countryside/biodiversity/biostrat/indicators/index.htm**

This report is an update of the 2003 baseline assessment and presents updated and improved indicators as well as an assessment of trends in 2006 and several new indicators, over the 2003 assessment, that aim to address identified gaps in the series. Indicator updates and further development are expected to continue so that, by 2010, a time series for the indicators will be available to help assess England's contribution to UK, European and global targets for biodiversity.

Appendix 2

Legislation, International Environmental Agreements and Policy Statements

Reference number	Legislation	Public authority function										
		General overarching	Local Authorities	Public Bodies	Parks and Green Spaces	Corporate Strategy	Education	Health	Infrastructure	Public Procurement	Waste Management	Site Management and Species Protection
International Environmental Agreements												
1	International Convention on Biological Diversity United Nations Environment Programme (1992).	✔										
2	Ramsar Convention on Wetlands of international importance especially waterfowl habitat (1971).	✔										✔
Europe												
3	The Habitats Directive (EC Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna).	✔										✔
4	The European Birds Directive (EC Council Directive 79/409/EC on the Conservation of Wild Birds)	✔										✔
5	The Bern Convention on the Conservation of European Wildlife and Natural Habitats. EC. 1979.	✔										✔
6	Environmental Impact Assessment (85/337/EEC) Directive (EIA Directive) (as amended by Directive 97/11/EC)	✔	✔	✔	✔		✔	✔	✔		✔	✔
7	Strategic Environmental Assessment (2001/42/EEC) Directive (SEA Directive).	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
8	EU CITES Regulations (Council Regulation (EC) No 338/97 The European Union Wildlife Trade Regulation (1997) and Commission Regulation (EC) No 865/2006.	✔										✔

Reference number	Legislation	Public authority function										
		General overarching	Local Authorities	Public Bodies	Parks and Green Spaces	Corporate Strategy	Education	Health	Infrastructure	Public Procurement	Waste Management	Site Management and Species Protection
Europe												
9	Water Framework Directive (2000) (2000/60/EC)	✔							✔			
10	Wildlife and Countryside Act (1981)	✔										✔
England and Wales												
11	Environmental Protection Act 1990 (EPA)	✔										✔
12	Environmental Information Regulations (2004)			✔								
13	The Protection of Badgers Act (1992)	✔										✔
14	Planning and Compulsory Purchase Act (2004)		✔		✔		✔	✔	✔		✔	✔
15	Conservation (Natural Habitats, &c.) Regulations (1994)		✔	✔								✔
16	The Offshore Marine Conservation (Habitats, &c.) Regulations (2007)											
17	The Environment Act (1995)	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
18	Natural Environment and Rural Communities Act (2006)			✔	✔	✔	✔	✔	✔	✔	✔	✔
19	Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999	✔	✔	✔	✔		✔	✔	✔		✔	✔

Reference number	Legislation	Public authority function										
		General overarching	Local Authorities	Public Bodies	Parks and Green Spaces	Corporate Strategy	Education	Health	Infrastructure	Public Procurement	Waste Management	Site Management and Species Protection
England and Wales												
20	Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007		✔	✔								✔
21	National Parks and Access to the Countryside Act (1949)		✔									✔
22	Countryside and Rights of Way Act (2000) (CRoW Act)		✔	✔								✔
23	Local Government Act (2000).		✔		✔	✔	✔	✔	✔	✔	✔	✔
England												
24	Planning Policy Statement 1: Sustainable Development (2005)		✔	✔								✔
25	Planning Policy Statement 9: Biodiversity and Geological Conservation (DCLG 2005)		✔	✔					✔			✔
26	The Environmental Protection (Restriction of Use of Lead Shot) (England) Regulations 1999.	✔	✔	✔								✔
Wales												
27	Planning Policy Wales (Welsh Assembly Government, 2002)		✔	✔					✔			✔
28	Technical Advice Note (Wales) 5: Nature Conservation and Planning		✔	✔					✔			✔
29	The Environmental Protection (Restriction of Use of Lead Shot) (Wales) Regulations 2002.	✔	✔	✔								✔

Overview of legislation

International Environmental Agreements

1. International Convention on Biological Diversity United Nations Environment Programme (1992)

The Convention is the first global agreement on biodiversity conservation and all countries that have joined it are legally bound to implement the provisions set out in the Convention. The Convention aims to achieve biodiversity conservation, sustainable use of biodiversity and an equitable sharing of the benefits arising from commercial use of genetic resources.

The Convention covers ecosystems, species and genetic resources and includes issues such as measures and incentives to conserve biodiversity, regulated access to genetic resources, education and awareness and provision of financial resources. As a signatory of the Convention, the UK is legally bound to comply with its provisions.

http://www.biodiv.org/convention/convention.shtml

2. Ramsar Convention on Wetlands of international importance (1971)

The Convention on Wetlands, signed in Ramsar, Iran, in 1971, is an intergovernmental treaty which provides the framework for national action and international co-operation for the conservation and wise use of wetlands and their resources.

The official name of the treaty *The Convention on Wetlands of International Importance especially as Waterfowl Habitat* reflects its original emphasis on the conservation and wise use of wetlands primarily to provide habitat for waterbirds. Over the years, however, the Convention has broadened its scope to cover all aspects of wetland conservation and wise use, recognising wetlands as ecosystems that are extremely important for biodiversity conservation and for the well-being of human communities. Contracting Parties commit themselves to; designate at least one wetland for inclusion in the Ramsar List and promote its conservation; to include consideration of wetland conservation in national land-use planning; to promote training in wetland research, management and wardening and to consult with other contracting parties about the Conventions implementation, including shared water systems, shared species and transfrontier wetlands. As a contracting party, the UK is required to integrate the principles of the Convention into national policies and actions including legislation to make best possible wise (sustainable) use of wetland resources

http://ramsar.org/

Europe

3. The Habitats Directive (EC Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna)

The Habitats Directive promotes the protection of biodiversity and requires EU Member States to maintain or restore wild species and natural habitats in their territories at a favourable conservation status. Member States are bound by the Directive to implement a number of measures to achieve this, including protecting species listed in Annexes 1 and 2 of the Directive through a network of sites known as 'Natura 2000'. The Directive also requires monitoring of EU habitats and species, and six yearly reports.

As part of the requirements of the Directive, Member States must propose a national list of Sites of Community Importance (SCI). Following adoption, these sites are designated as Special Areas of Conservation (SAC). Along with Special Protection Areas (SPA), classified under the EC Birds Directive, these make up the Natura 2000 network of protected areas.

If a plan or project has the potential to adversely affect the integrity of a Natura 2000 site it will not be permitted, *unless* it can be proven that there are no alternatives and imperative reasons of overriding public interest. The Directive also requires specific protection for certain species wherever they might occur within a Member State's territory.

4. The European Birds Directive (EC Council Directive 79/409/EC on the Conservation of Wild Birds)

The Birds Directive sets out the framework for the conservation and management of wild birds in Europe. The Directive requires that Member States, shall take requisite measures to maintain the population of all species of naturally occurring birds in the wild state at a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic and recreational requirements. The Directive also requires Member States to take requisite measures to preserve, maintain, or re-establish a sufficient diversity and area of habitats for all species. The species in Annex I shall be the subject of special conservation measures (i.e. classification of Special Protection Areas) concerning their habitat in order to ensure their survival and reproduction. Member States are obliged to establish a general scheme to protect all wild birds.

http://europa.eu.int/eur-lex/en/consleg/pdf/1979/en_1979L0409_do_001.pdf

5. The Bern Convention on the Conservation of European Wildlife and Natural Habitats. EC. 1979

The Bern Convention contains legal obligations in relation to the conservation and protection of wild animal and plant species and their habitats, which contracting parties, including the UK, must adhere to. The European Community adopted the EC Birds Directive in 1979 and the Habitats Directive in 1992 to implement the Bern Convention in Europe.

http://conventions.coe.int/Treaty/en/Treaties/Html/104.htm

6. Environmental Impact Assessment (85/337/EEC) Directive (EIA Directive) (as amended by Directive 97/11/EC)

The EIA Directive aims to ensure that any effects that new development are likely to have on the environment are understood and taken account of fully before such development goes ahead. The Directive requires that an Environmental Impact Assessment is carried out by those involved in planning certain projects to identify any likely significant effects on the environment (including biodiversity) to ensure that the public and relevant competent authority (or planning authority) can fully understand the predicted effects and scope for reducing them before determining the planning decision.

Developers are responsible for preparing an Environmental Statement, which should be submitted alongside the planning application and local authorities are responsible for assessing the information contained within the Environmental Statement.

The list of projects to which the EIA Directive applies can be found in Appendices 2 and 3 of the EIA Guidance.

http://ec.europa.eu/environment/eia/eia-legalcontext.htm#legalcontext

7. Strategic Environmental Assessment (2001/42/EEC) Directive (SEA Directive)

The SEA Directive requires that certain plans and programmes are assessed for their impacts on the environment (which includes biodiversity). The authority preparing the plan or programme is required to produce a report on the likely significant effects of the programme, in addition to consulting on the draft plan or programme and Environmental Report, taking account of the Environmental Report and consultation responses, and providing information showing how the environmental assessment has been taken account of when the plan or programme is adopted. The Directive also requires monitoring of the plan or programme to ensure unforeseen adverse impacts on the environment are identified and reduced.

Those plans and programmes which are subject to the SEA Directive can be found be following the link to the Directive.

http://www.environ.ie/DOEI/DOEIPol.nsf/0/b8aeb091f741ee9c80256f5d004cd61c/$FILE/0142_en.pdf

8. EU CITES Regulations (Council Regulation (EC) No 338/97 The European Union Wildlife Trade Regulation (1997) and Commission Regulation (EC) No 865/2006

The EU CITES Regulations aim to protect regulate and monitor international trade in certain species of flora and fauna. The regulations help to safeguard species that are threatened globally. The regulations categorise species and strengthen and extend import and export controls that were previously in place.

http://www.ukcites.gov.uk/news/865_06.pdf

http://www.unep-wcmc.org/species/trade/eu/tradereg.html

9. Water Framework Directive (2000) (2000/60/EC)

The Water Framework Directive aims to safeguard and improve water quality and requires that Member States prevent deterioration in status and aim to reach at least 'good status' in all water bodies (inland, coastal and groundwaters) by 2015. Water quality status includes both chemical and ecological status. The Framework Directive require Member States to prepare a river basin management plan for each river basin district by 2009 (and update it every 6 years). River basin districts are regional in scale but the boundaries relate to river catchments.

The Secretary of State, Welsh Assembly and Environment Agency have a duty to exercise their functions to secure compliance with the Water Framework Directive. The Secretary of State will approve all environmental objectives and river basin management plans. The Environment Agency is responsible for draftingriver basin management plans, ensuring stakeholder and public participation in preparing river basin management plans and carrying out analysis needed to support the plans. The Environment Agency has set up a liaison panel in each river basin district to assist with river basin planning. These panels include representatives of those regulators and deliverers who will need to take action to achieve Framework Directive objectives.

All public bodies are under a duty to exercise their functions having regard to river basin management plans [Regulation 17 of SI 2003 No 3242 The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003].

http://ec.europa.eu/environment/water/water-framework/index_en.html

http://www.environment-agency.gov.uk/business/444217/444663/955573/

England and Wales

10. Wildlife and Countryside Act (1981)

The Wildlife and Countryside Act provides for the protection of birds and a number of other animal and plant species, the prevention of the introduction of non-native species, notification of Sites of Special Scientific Interest by the country agencies, contains measures for the management and protection of Sites of Special Scientific Interest and provides for the designation of Marine Nature Reserves.

It should be noted that many of the provisions in the Countryside and Rights of Way Act and the Natural Environment and Rural Communities Act replace provisions set out in the Wildlife and Countryside Act.

The CRoW Act changes the Wildlife and Countryside Act by amending Site of Special Scientific Interest notification procedures, providing enhanced powers for the management and protection of these sites, and extending powers for entering management agreements. The Act places a duty on public bodies to conserve and manage Sites of Special Scientific Interest further. The CRoW Act also amends the Wildlife and Countryside Act by increasing the legal protection for species which are threatened.

The Natural Environment and Rural Communities Act makes eight amendments to part 1 of the Wildlife and Countryside Act, which aim to improve protection of wildlife.

http://www.jncc.gov.uk/page-3614#download

11. Environmental Protection Act 1990 (EPA)

The Environmental Protection Act established the Nature Conservancy Council for England (now Natural England) and the Countryside Council for Wales along with the Joint Nature Conservation Committee. The Act places duties on these councils to discharge their nature conservation functions. In addition to giving these councils the powers to establish, maintain and manage nature reserves, the Act requires that they provide advice and knowledge to any persons about nature conservation in their area. It should be noted that parts of the EPA were updated by the Clean Neighbourhoods and Environment Act (2005).

http://www.opsi.gov.uk/acts/acts1990/Ukpga_19900043_en_1.htm

12. Environmental Information Regulations (2004)

The Environmental Information Regulations enable the public to access information that is held by public authorities. The Regulations require that public authorities make environmental information that they hold ivailable to members of the public, and this should be done progressively by electronic means. Such information should be organised to ensure it is disseminated to the public in an active and systematic way. The regulations also give the general public rights of access to environmental information from public authorities.

http://www.opsi.gov.uk/si/si2004/20043391.htm

13. The Protection of Badgers Act (1992)

The Protection of Badgers Act provides protection for both badgers and their setts. The Act makes it an offence to wilfully kill or injure badgers or interfere with their setts, except under the terms of licence. Those found to have committed offences under the Act are liable to a term of imprisonment and/or a fine.

http://www.opsi.gov.uk/ACTS/acts1992/Ukpga_19920051_en_1.htm

14. Planning and Compulsory Purchase Act (2004)

The Planning and Compulsory Purchase Act aims to give effect to the Government's policy on the reform of the planning system.

Although the majority of the Act does not relate to biodiversity conservation, Part 8 states that local authorities, joint planning boards and National Park authorities 'will be able to acquire land by compulsory purchase if they think that it will facilitate the carrying out of development, re-development or improvement on or in relation to the land, on condition that such acquisition will be of economic, social or environmental benefit to their area' (Planning and Compulsory Act Guidance Notes).

http://www.opsi.gov.uk/acts/acts2004/20040005.htm

15. Conservation (Natural Habitats &c.) Regulations (1994

The Conservation (Natural Habitats etc.) Regulations make provision for implementing Council Directive 92/43/EEC (the Habitats Directive) into domestic legislation on the conservation of natural habitats and of wild fauna and flora.

The Habitats Regulations provide for the protection of Special Protection Areas and Special Areas of Conservation, in addition to species listed in Schedule 2 of the Regulations and plants listed in Schedule 4.

The Habitats Regulations contain an express (with regards to certain regimes) requirement and a general duty that competent authorities must consider or review plan or project consents, permissions or other authorisations permission which have been applied for or previously granted, which affect a European site either alone or in combination with others. Authorisations can be restricted or revoked where the integrity of the site would be adversely affected (subject to exceptions).

http://www.opsi.gov.uk/SI/si1994/Uksi_19942716_en_1.htm

16 The Offshore Marine Conservation (Habitats, &c.) Regulations (2007)

These regulations transpose the Habitats and Birds Directives in the UK offshore marine area. This covers seas more than 12 nautical miles from the coast, including waters out to British fishery limits (up to 200 nautical miles), and any part of the seabed designated as part of the UK continental shelf (which in some cases extends beyond 200 nautical miles). This is anticipated to come into force in August 2007.

17. The Environment Act (1995)

The Environment Act established the Environment Agency, the Scottish Environment Protection Agency and National Parks Authorities and established new standards for environmental management. The Act makes provision for the control of pollution, the conservation of natural resources and the conservation or enhancement of the environment and provides for the protection of important hedgerows in England and Wales.

18. Natural Environment and Rural Communities Act (2006)

The primary purpose of the Natural Environment and Rural Communities Act is to implement key aspects of the Government's Rural Strategy (2004).

The Act establishes both Natural England, an independent body responsible for conserving, managing and enhancing England's Natural Environment, and the Commission for Rural Communities, an independent advocate, watchdog and expert adviser for rural England. It also reconstitutes the Joint Nature Conservation Committee and renames and reconstitutes the Inland Waterways Amenity Advisory Council.

Section 40 of the Natural Environment and Rural Communities Act requires that 'Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.' It should be noted that the NERC Act supersedes and replaces Section 74 of the Countryside and Rights of Way Act.

http://www.opsi.gov.uk/ACTS/acts2006/20060016.htm

19. Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999

The Regulations apply to projects falling within the scope of the Environmental Impact Assessment (85/337/EEC) Directive (EIA Directive) (as amended by Directive 97/11/EC) requiring planning permission in England and Wales.

http://www.opsi.gov.uk/si/si1999/19990293.htm

In addition, there is a series of Regulations applying to England and Wales and implementing Directive 85/337/EEC, relating to different types of activity with the potential to significantly affect the environment. These are referenced in Appendix 8 of Environmental Impact Assessment: A Guide to Procedures' (ODPM, WAG, 2000) **http://www.communities.gov.uk/index.asp?id=1143258** and can be sourced from the OPSI website **http://www.opsi.gov.uk**

20. The Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007

Schedule 1 of the Conservation (Natural Habitats, &c) (Amendment) (England and Wales)8 Regulations 2006 (Habitats Regulations) inserts a new Part IVA into the Conservation (Habitats, &c.) Regulations 1994 and transposes into English law the requirement to carry out Appropriate Assessment for land use plans.

http://www.defra.gov.uk/corporate/consult/nat-habitats-2006/nathabitats2006-consultation.pdf

21. National Parks and Access to the Countryside Act (1949)

This Act provided the framework for National Park and Area of Outstanding Natural Beauty (AONB) creation in England and Wales and was amended by the Environmental Protection Act (1990), the Environment Act (1995) and the Countryside and Rights of Way Act (2000).

The Act gave power to the Nature Conservancy Council to establish nature reserves and gave powers to local authorities to establish local nature reserves in their area, placing a duty on the Nature Conservancy Council to inform local planning authorities of areas of Special Scientific Interest.

http://www.defra.gov.uk/rural/pdfs/ruraldelivery/bill/np-1949.pdf

22. Countryside and Rights of Way Act (2000) (CRoW Act)

In terms of wildlife protection and nature conservation, the CRoW Act places a Duty on the National Assembly for Wales and Government Departments to have regard to biodiversity conservation, in addition to maintaining lists of species and habitats for which conservation steps should be taken, in accordance with the Convention of Biological Diversity (1992). Section 74 of the CRoW Act contains a list of all species and habitats of principle importance for biological conservation.

Additionally, the CRoW Act provides for public pedestrian access to land (of certain types), makes amendments to the law of public rights of way, and improves management for AONBs.

http://www.opsi.gov.uk/acts/acts2000/20000037.htm

23. Local Government Act (2000)

The Local Government Act gave a wide-ranging power for principal local authorities to take any steps to promote or improve the economic, social or environmental well-being of their local community unless expressly prohibited by other legislation. Additionally, the Act requires that local authorities produce Community Strategies to promote the wellbeing of their local communities. The Guidance issued as part of DETR Circular 4/2001 states that Local Biodiversity Action Plans should be considered, among other things, when local authorities are preparing these Community Strategies.

http://www.opsi.gov.uk/Acts/acts2000/20000022.htm

England

24. Planning Policy Statement 1: Sustainable Development (2005)

Planning Policy Statement 1 sets out the national land use planning policies for England in relation to sustainable development. Planning Policy Statement 1 outlines requirements for regional planning bodies and local planning authorities in relation to development plans and development control to ensure sustainable development principles are given full consideration.

Planning Policy 1 requires that planning policies and planning decisions should seek to protect and enhance the countryside and urban areas, including wildlife habitats.

http://www.communities.gov.uk/index.asp?id=1143805

25. Planning Policy Statement 9: Biodiversity and Geological Conservation (DCLG 2005)

Planning Policy Statement 9 provides the national land use planning policy context for biodiversity conservation in England. Planning Policy Statement 9 sets out key requirements for Regional Spatial Strategies and Local Development Frameworks along with requirements for planning authorities to ensure the protection of designated sites, protected species, ancient woodland and other natural habitats, habitat networks. The need for planning authorities and developers to consider biodiversity interest on previously developed land and biodiversity within developments are also covered by Planning Policy Statement 9.

http://www.communities.gov.uk/index.asp?id=1501970

26. The Environmental Protection (Restriction of Use of Lead Shot) (England) Regulations 1999.

The Lead Shot (England) Regulations1999 prohibit the use of lead shot for any purpose on named SSSIs, considered important for waterfowl, and all Ramsar (wetland) sites. The use of lead shot is also prohibited for shooting various species including mallard (thus effectively banning the use of lead shot for shooting waterfowl throughout the whole of England). The Police enforce the Regulations.

Wales

27. Planning Policy Wales (Welsh Assembly Government, 2002)

Planning Policy Wales sets out the context for land use planning policy for the Welsh Assembly Government and is supplemented by Technical Advice Notes (TAN5).

Section 5 of Planning Policy Wales sets out the requirements for local authorities to address land use planning biodiversity issues in Unitary Development Plan (UDP) preparation and in development control and has the overarching aims of promoting biodiversity conservation, protecting statutorily designated sites and safeguarding protected species.

http://new.wales.gov.uk/docrepos/40382/4038231121/403821/403821/403828/planningpolicy-e.pdf?lang=en

28. Technical Advice Note (Wales) 5: Nature Conservation and Planning

Technical Advice Note 5 along with Planning Policy Wales provide the national planning policy framework for Wales in relation to nature conservation. Technical Advice Note 5 provides advice to planning authorities on both development plans and development control for designated sites and areas outside designated sites, protected species, commons and greens. This TAN was subject to consultation in January 2006.

http://new.wales.gov.uk/docrepos/40382/4038231121/403821/403821/40382/403822/TAN_5_Nature_Conservation_a1.pdf?lang=en

29. The Environmental Protection (Restriction on Use of Lead Shot) (Wales) Regulations 2002.

The Environmental Protection (Restriction on the Use of Lead Shot) (Wales) Regulations 2002 prohibit the use of lead gunshot over wetland Sites of Special Scientific Interest identified as important to waterfowl; over all areas below the high watermark; and for shooting coot, ducks and geese, and moorhen anywhere in Wales.

Appendix 3: Summary of Key Nature Conservation Designations

Natura 2000 Site Network – the EU Habitats Directive (Directive 92/43/EEC) provides for the creation of a network of protected areas across the European Union, known as 'Natura 2000' sites. This internationally important network consists of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), which will usually also be Sites of Special Scientific Interest.

- **Special Areas of Conservation (SAC)** are sites designated under the Habitats Directive 1992, established to protect natural habitats, rare and threatened species (other than birds) and habitats for these species. There are 571 SACs currently designated in the UK. SACs are protected under international law, and are afforded a high degree of protection in the UK.
- **Special Protection Area (SPA)** are sites designated under the Directive on the Conservation of Wild Birds (the Birds Directive) and were established to protect wild bird species and their habitats.

Ramsar Wetlands of International Importance (Ramsar Sites) – Many Sites of Special Scientific Interest, Special Areas of Conservation and Special Protection Areas are also designated under the Ramsar Convention as wetlands of international importance. The first Ramsar sites were designated in 1976.

National Nature Reserves (NNR) – these nationally important sites were established to protect some of the best examples of habitat and geological formations in the UK. At the end of 2004, there were:

- **217 NNRs in England covering 87,900 hectares; and**
- **76 NNRs in Wales covering more than 24,006 hectares.**

Sites of Special Scientific Interest (SSSI) represent the best examples of our national wildlife habitats, geological features and landforms. They have been identified by scientific survey as representing the highest conservation value. They are protected under UK law. The land owner or occupier can be required to manage the land in a certain way. Where agreement on how the land should be managed can not be reached, the relevant UK Government Conservation Body can apply for a compulsory purchase order, and where a SSSI is damaged, the land owner or occupier can be subject to a substantial fine.

Local Nature Reserves (LNR) – areas that contain wildlife or geological features that are of interest locally. There are currently 1260 LNRs in England, and all are in public ownership.

Local Sites – These sites are selected by partnerships which include local authorities, and aim to conserve sites of regional or local importance.

Appendix 4: Complete Collection of Case Studies

This appendix includes all of the case studies compiled in preparing the guidance on the Biodiversity Duty for Public Authorities.

It is structured as follows:

A. Case studies included in the Guidance for Local Authorities

B. Case studies included in the Guidance for Public Authorities

C. Additional case studies compiled in preparing the guidance but not included in either document.

A. Case Studies included in the Local Authority Guidance

Case Study: Conserving Nature for the Community

Hampshire County Council's Corporate Biodiversity Action Plan

Hampshire County Council's Corporate Biodiversity Action Plan emphasises the importance of nature to quality of life in Hampshire. It involves all departments of the County Council and includes planning, highways, land management, recreation, education and social care. Actions vary from protecting internationally important habitats to enhancing the natural environment of school grounds.

The Plan is a key element in the County Council's programme for sustainable development. It demonstrates strong corporate commitment to conserving the natural environment of Hampshire and sets out a challenging plan of actions to further this work and develop new initiatives.

The Corporate Biodiversity Action Plan has three main aims:

- To improve the County Council's performance in conserving and enhancing the natural environment of Hampshire
- To use the benefits of biodiversity in delivering services such as education and social welfare
- To raise public and staff awareness of biodiversity

The Plan encompasses key actions, indicators and targets to ensure real commitment to delivery. The significant recognition that biodiversity underpins sustainability places Conserving Nature for the Community at the very heart of day-to-day work in Hampshire. This has helped to improve delivery of environmental programmes, improve interdepartmental working on biodiversity activity and enhance environmental awareness amongst Council staff.

http://www3.hants.gov.uk/biodiversity/corporateactionplan.htm

Case Study: Local Area Agreement for Cornwall

Cornwall County and District Councils

The Cornwall Local Area Agreement forms a delivery plan for the Cornwall Community Strategy. The vision of the Cornwall Community Strategy is for "a strong sustainable community for one and all", and the Local Area Agreement aims to deliver the best quality of life in the UK, by removing barriers, improving earnings and conserving the environment. Outcomes are identified for the Cornwall Local Area Agreement, one of which is to make Cornwall a "Centre of Excellence for the Natural Environment". The aim is to improve biodiversity management, enhance public awareness, and provide greater training and environmentally based business opportunities, as well as contributing to Cornwall's brand image.

The development of the Centre of Excellence will be driven by working groups established by the Cornwall Economic Forum and Environment Kernow (the overarching environmental partnership for Cornwall). The progress of this outcome will be monitored via three indicators, for which ambitious targets are set:

- Uptake of Environmental Stewardship;
- Local Sites with improved outcomes for Biodiversity Action Plan habitats and species;
- Training beneficiaries in the environmental sector.

Alongside the aim to become a Centre of Excellence, the Cornwall Local Area Agreement also contains other objectives relating to biodiversity, including:

- Enhance environmental management in rural businesses;
- Make a measurable contribution to national Quality of Life Public Service Agreement targets, for example for farmland bird numbers;
- Improve management of local Biodiversity Action Plan habitats;
- Revitalise Environment Kernow;
- Increase levels of community involvement in environmental management.

http://www.cornwallstrategicpartnership.gov.uk/index.cfm?articleid=12893

Case Study: Delivering Biodiversity through Partnerships

Canterbury City Council

Canterbury City Council is able to incorporate biodiversity into many of its activities because of its commitment to partnership working. Active participation in a wide range of projects not only delivers specific biodiversity benefits but also establishes a culture where officers are used to networking with other stakeholders and seeking advice and support.

At County level the City Council is an active member of the Kent Biodiversity Partnership. At sub-regional level the East Kent Partnership, which is supported by the South East of England Development Agency (SEEDA), has developed the East Kent Strategy which includes as a priority theme "to protect and enhance East Kent's natural assets and resources".

The City Council is an active partner in a number of partnerships which consider sub regional environmental issues including the Kent Downs Area of Outstanding Natural Beauty Joint Advisory Committee, the Swale and Medway Estuary Partnership, the Blean Initiative, and the Thanet Coast North East Kent European Coasts Management Scheme.

The City Council Corporate Plan recognises the importance of natural environment, and priorities include "enhance our environment as the greenheart of East Kent; taking the lead on sustainable environmental protection…"

At operational level the City Council has developed partnerships to manage wildlife sites in the District. The City Council owns 7 local nature reserves, 3 of which are managed by the Kent Wildlife Trust, 1 by the RSPB. Conservation organisations and community groups are actively involved in the management of the others. The City Council has designated three further local nature reserves, two of which are managed by Parish Councils and the third by a charitable trust.

http://www.canterbury.gov.uk/

Case Study – Epsom Common – restoration of an SSSI

Epsom and Ewell Borough Council

Much of Epsom Common is a Site of Special Scientific Interest (SSSI) and is owned and managed by Epsom & Ewell Borough Council (EEBC). During the 1980s it was recognised that Epsom Common was showing a decline in its biodiversity due to the rapid progression of scrub and young woodland, which was reducing the diversity of habitats on the site. Some work took place with volunteers and council staff to clear some scrub and the idea of re-introducing cattle was suggested. In 1997, two cows were introduced. Public reaction was positive but the scale of the initiative was insufficient to reverse the detrimental changes taking place.

Following the CROW Act of 2000, EEBC, as the owner of the site, became statutorily responsible for protecting its biodiversity, with its status classified as 'unfavorable declining.' English Nature and the Epsom Common Association, an 800 strong local interest group, asked EEBC to sign a 'Site Management Statement' which committed it to working to ensure that the site's biodiversity was protected and that it did not lose its SSSI status.

Much progress has been achieved since 2001 in partnership with Natural England, the Epsom Common Association and the Lower Mole Countryside Management Project. In 2001 EEBC declared the whole site as Local Nature Reserve and a Countryside Stewardship Agreement was entered into with DEFRA to start a process of re-creating pasture woodland on the site and permanently reversing the decline in important habitats. As scrub has been cleared, grazing has been progressively re-introduced. In January 2005 a 10 year management plan was passed by EEBC and the site's status was declared as 'unfavorable recovering'. A long term aim of National Nature Reserve Status has been set as a goal by both EEBC and Natural England and the site is now seen by Natural England as one of the best managed commons in the South East. In August 2005, a five year 'Wildlife Enhancement Scheme' was agreed with Natural England to fund biodiversity work.

Progress to date owes much to the efforts of volunteers and local residents. The ECOVOLS (volunteer arm of the ECA) have an extensive annual work programme, make charcoal once per month and in 2006 local county councilors awarded them £10,000 to purchase an all terrain vehicle to carry all their tools around the site.

Case Study: Calderdale Wildspace! Project – Improving LNRs for Biodiversity

Calderdale Metropolitan Borough Council

The Calderdale Wildspace was a 3 year project funded by English Nature. The aims included:

- To increase Calderdale's LNR provision from no LNRs to one hectare of LNR for every 760 people in Calderdale and to ensure 80% of Calderdale's residents have a LNR within 2km of their home through the declaration of 10 LNRs, totalling 250 ha. This has been achieved and Calderdale is one of the first local authorities to exceed English Nature's target of one hectare of LNR per 1000 population.
- To actively involve local communities, especially disadvantaged groups, in the sustainable use and management of LNRs. Each site has a local community group which is working with the Council to deliver biodiversity improvements. In some cases, they are Friends groups, in others user groups.
- To maintain and enhance the biodiversity of LNRs, with special attention to habitats and species identified as priorities in the Calderdale Biodiversity Action Plan, through the production and implementation of management plans. Each site now has a management plan, which includes prescriptions for priority habitats and species.

The project has helped to mainstream biodiversity into Council thinking and has provided a spring board to local and national funding steams.

Case Study: Making Contracts Work for Wildlife

CABE Space

CABE Space (2006) provides guidance on how urban parks can be improved for biodiversity. The guidance summarises different types of ground maintenance contract as:

- **Input-based** – where the operations are specified, with frequencies and standards.
- **Output-based** – where specific results are specified, such as the maximum height of grass allowed.
- **Outcome-based** – where the general results are described, leaving the contractors to specify their approach to achieving them. This is usually supported by method statements provided by the contractor, agreed by the client, and forming practical instructions for those undertaking the work.

CABE Space recommends an outcome based approach as the most appropriate for achieving the goal of increasing biodiversity, while still providing a useful way of specifying grounds maintenance work. This type of specification has the added advantage that it is not restricted to an annual cycle of work, allowing progression towards outcomes through more than one season. Self monitoring can be undertaken if measurement methods are clear, and this can include progressive targets.

Case Study: Broadhurst Clough and Park

Manchester City Council

This site comprises 14 ha of urban countryside in Moston, North Manchester, an area of high deprivation. Broadhurst Clough was previously an open water habitat which was filled in 1946 for the building of prefab housing, which was subsequently demolished in the 1960s. Since then it has become a declining wetland – remaining wet during the winter months but not retained its open water qualities. The site has experienced a variety of problems, mainly public pressure from trampling, dumping, burning and off-road motorcycles. The wetland is located immediately next to Broadhurst Park, a formally laid out public green space with junior and senior football pitches, which have experienced severe drainage problems adversely affecting their function as a sports facility.

The project addressed these two different problems affecting the two adjacent and functionally important green spaces. The solution was to drain the excess water from the playing fields into the neighbouring declining wet area, thus reinstating it as a wetland and enhancing the playing fields' capacity to function as a sports facility. This enabled the creation of two open water areas whilst still retaining some of the marshy grassland. A consultation involved the local footballing community, residents and archaeological groups to raise awareness of the planned project and gain support for it.

The work involved two phases, the first involving the creation of the wetland scrape and football pitch drainage work, and the second involving development of wetland infrastructure, access and interpretation, aiming to increase public use and enjoyment of the site.

The project has benefited from dedicated voluntary community involvement in improving the site. An application has been made for a Breathing Spaces Grant to carry out community activities to increase the use of the Clough. There has been a significant improvement in the drainage of the junior football pitches. Over time there are plans to develop the site further as a high quality resource for both passive and active leisure activities, and an important educational facility for local schools and adults.

Case Study: The Living Highways Project

Powys County Council, CCW and Partners

In the UK, road verges contain some of the last remaining examples of species-rich habitats that were once common in the wider countryside and that have declined at an alarming rate over the past few decades. They may also help to provide physical links between otherwise isolated pockets of remaining habitats, assisting in the expansion and dispersal of less mobile species.

The Living Highways Project is an established partnership, started in 2001, between the Montgomeryshire, Radnorshire and Brecknock Wildlife Trusts, Powys County Council, the Countryside Council for Wales and the Powys Verges and Hedgerows Concern Group. The project aims to safeguard and encourage valuable wildlife habitats and species associated with road verge areas in Powys, Mid Wales. The project is working on a number of different initiatives to achieve this, including setting up systems to protect known sites of high ecological value and improving verge management practices.

The removal of cuttings is an important management consideration when aiming to maintain or increase the biodiversity of grassland areas, helping to reduce nutrient levels to the benefit of native flora. In 2005, trials conducted by Montgomeryshire Wildlife Trust on behalf of the partnership investigated the feasibility of using cuttings in compost and biogas production. They demonstrated that it is physically possible to collect cuttings from Powys road verges on a relatively large scale and that the material is suitable for compost and biogas production, producing potentially valuable end products. As well as the environmental benefits of diverting material from landfill, biogas production also has the potential to provide a source of sustainable energy, with advantages in reducing carbon emissions. The trial has been followed by further development and evaluation work, with a view to wide-scale harvesting in future.

Case Study: Using Agri-Environment Schemes to Enhance Urban Fringe Wetlands

Norwich City Council

Five wetland sites managed by Norwich City Council have benefited from agri-environment funding under the Broads Environmentally Sensitive Areas (ESA) Scheme. The sites cover a wide range of wetland types, including fen, reed-bed and wet grassland and are adjacent to the Rivers Yare and Wensum. Norwich City Council has entered a total of 46 hectares of the five sites into the ESA Scheme.

Prior to their entry into the scheme, the sites concerned had gone through cycles of activity followed by relative neglect, due to changing Council priorities or the amount of funding available. Although conservation management had been undertaken at some of the sites, none of them were in anything like ideal condition, and some had suffered from neglect and abuse, including illegal dumping. There was little prospect of the Council being able to fund the required improvements and furthermore, some Council members regarded the sites as a drain on the Council's resources, and at one stage it had been proposed selling off much of the largest and best site, Marston Marsh, for a golf course extension.

It was believed that the ESA Scheme could fund much needed capital investment and annual management, as well as putting the sites on a more consistent management regime that would not be subject to changing Council priorities and budgets. The scheme has been very successful, and all the sites are now in a better condition, with further improvements planned, including further capital works under ESA Conservation Plans. The ESA scheme has enabled cattle grazing to be introduced to three sites, improving the vegetation structure and halting scrub encroachment. Southern marsh orchids were recorded in 2006, other flowering plants have also increased as a result of the grazing and winter conditions have been improved for birds such as snipe.

The ESA scheme has brought substantial conservation benefits and helped to raise the profile of the sites, which are all now recognised as key biodiversity areas. It has helped to draw in funding for other improvements such as interpretation boards and visitor leaflets. The scheme has also enabled remaining internal conservation budgets to be directed at other, non ESA sites equally in need of investment and better management.

Case Study: School Grounds Wildlife Project

Norfolk County Council

This scheme has been running since 1989. It has evolved over this time from being solely concerned with improving the nature conservation value of school grounds through tree-planting and pond and meadow creation to a broader remit in which school communities are encouraged to look at how they use their grounds and what might be done to improve them, emphasising the desirability of improving biodiversity. Over three quarters of Norfolk's schools have taken measures to improve their grounds with support from the scheme.

All local authority schools in Norfolk are offered a free advice and design service to support them in grounds improvement projects. In addition, a 100% grant is available for native trees and shrubs. Fruit trees have also been offered to schools, to tie in with the 'five-a-day' fruit initiative, encouraging them to plant local varieties where possible.

There is a strong network of support for schools who wish to improve their grounds in Norfolk. This is co-ordinated through the Norfolk School Grounds Co-ordination Group; a forum for those practitioners from local authorities, companies and non-governmental organisations whose work involves them in advising schools about improving their grounds.

The Council evaluated the scheme in 2005 to test its effectiveness in increasing the biodiversity of school grounds. A questionnaire was sent out to twenty-one schools which had created a pond and carried out native tree-planting within the past five years. The responses identified significant increases in the numbers of frogs, toads, newts and song thrushes present in school grounds, demonstrating that the work is making a real difference to their biodiversity as well as creating an important educational resource.

Case Study: Beach Management for Biodiversity

Pembrokeshire Coast National Park Authority and Pembrokeshire County Council

For many years the Pembrokeshire Coast National Park Authority has recognised the importance of beaches and beach heads both for biodiversity and as an important component of the landscape. The Park Authority owns several beach head sites and has undertaken major dune restoration projects using local community groups and volunteers to fence and plant dunes, moving car parking off sandy areas and establishing boardwalks.

Since the formation of the Pembrokeshire County Council in 1996 the Park Authority has been part of a PCC led liaison group involving organisations responsible for beach management. This group comprises several teams from PCC, including Environmental Health, Dog Wardens and team leaders from teams responsible for beach and toilet cleaning. They meet several times per year with staff from the Countryside Council for Wales, Environment Agency, National Trust, and the National Park Authority to discuss beach awards, beach management, water quality and safety. In order to conserve biodiversity, beaches in Pembrokeshire are cleaned by hand rather than by machine, helping to protect the strand line so that seaweed and driftwood are left in place. Even where large concentrations of seaweed are found they are left on site unless there are overriding health or amenity considerations. An annual multi-agency briefing for all beach staff ensures that those involved in the management of the beach have information on any special characteristics of beaches and considerations with regard to biodiversity conservation.

Case Study: West Midlands Biodiversity Enhancement Areas

West Midlands Regional Assembly

In order to meet the challenge of developing a 'landscape scale' or 'area based' approach, as set out in 'Restoring the Region's Wildlife: Regional Biodiversity Strategy in the West Midlands', the West Midlands Regional Assembly has identified 14 Biodiversity Enhancement Areas in the Region.

The Biodiversity Enhancement Areas cover important concentrations of wildlife. These areas include both urban and remote rural areas, and range in size from a few parishes to extensive upland habitats.

The West Midlands Regional Spatial Strategy sets out the Biodiversity Enhancement Areas, and encourages the reinforcement of their ecological integrity. Aims for the Biodiversity Enhancement Areas include:

- supporting existing biodiversity and landscape enhancement projects;
- buffering habitat units from adverse impacts;
- restoring and re-creating locally characteristic habitats;
- expanding and linking isolated habitat units;
- promoting social and economic benefits by investing in linked facilities for sustainable access, enjoyment and education;
- investing in businesses that contribute to and capitalise on a high quality natural environment.

Case study: Lichfield Biodiversity and Landscape Supplementary Planning Document (SPD)

Lichfield District Council

Lichfield District Council has produced a draft Biodiversity and Landscape SPD which aims to provide a mechanism to contribute to future sustainable development in the District. The SPD gives an overview of policies relating to landscape and biodiversity, methods of protecting biodiversity and enhancement and creation opportunities. The SPD also contains a large number of appendices including a biodiversity checklist for developers which highlights protected species in the District and signposts to further information relating to these species.

The Biodiversity and Landscape SPD is expected to have a number of benefits when it is published including:

- Providing additional information and guidance on biodiversity conservation and enhancement for planners and developers.
- Ensuring biodiversity is considered at the earliest stage, i.e. before an application is made. This ensures effective protection for biodiversity and that mitigation and enhancement is properly planned for maximum biodiversity gain. There are also benefits for development control officers and applicants as unnecessary delays in the application process are avoided.
- Providing applicants and developers with the full range of local and national biodiversity and landscape guidance from an early stage.
- Validations of applications before they are considered by committee. Biodiversity issues are identified through the checklist and an applicant then provides survey information with their application where appropriate. This allows mitigation measures to be agreed in advance of the application going to committee.

Case study: Protected Species and your Planning Application

Lancashire County Council, the Wildlife Trusts, English Nature and Lancashire Rural Futures

Lancashire County Council and partners have produced a three page leaflet for use by all those considering putting in a planning application. The leaflet is deigned to offer a brief introduction to protected species and to highlight the need to consider such species at the initial stages of an application.

The leaflet is well illustrated and easy to follow, and contains information under the headings:

- Species and the law;
- How do protected species affect me?;
- Your responsibilities (before submitting a planning application);
- Specific information on Bats, Great Crested Newts, Badgers, Otters, Water Voles and Wild Birds.

The leaflet also provides links to further information and a link to Lancashire County Council's Supplementary Planning Guidance: Landscape and Heritage which includes information on biodiversity.

The leaflet has been produced to save time and resources for the planning department as protected species should be considered before planning applications are submitted.

http://www.lancashire.gov.uk/environment/ecology/protected_species_pp.asp

Case Study: Redbridge Strategy for Planning Conditions and Obligations

Redbridge Borough Council

The London Borough of Redbridge has produced a Supplementary Planning Document on nature conservation, which allows for the use of planning conditions and obligations to bring about improvements in biodiversity. The Document states:

"Where appropriate, the Council will use planning conditions or Section 106 agreements with developers to secure the rehabilitation and ongoing management of areas important for nature conservation. This may also include a contribution towards meeting the objectives of the Biodiversity Action Plan for the borough."

Case Study: Durham Biodiversity Partnership – Biodiversity Education and Eco-schools

Durham County Council, Darlington Borough Council, Gateshead Council, South Tyneside District Council and Sunderland City Council

Durham Biodiversity Partnership provides web based biodiversity education materials, including information about biodiversity in the curriculum, local biodiversity projects, practical examples of how biodiversity can be incorporated into learning opportunities, and examples of potential efficiency and cost savings to schools from environmental projects.
http://www.ecoeducation.org.uk/

The Partnership also encourages the enhancement of wildlife on the school grounds for educational and wildlife purposes and links this to the more general inclusion of biodiversity in education. The document 'Enhancing Wildlife in the School Ground: Everything you need to know to attract wildlife into the school environment!' outlines methods that can attract and enhance biodiversity on the school grounds, providing:

- Practical information on habitat management and the different types of species that can be attracted to particular habitats, their feeding habits, etc
- Instruction sheets for the construction bird tables and bird and bat boxes
- Suggested study opportunities
- Contact information for further information.

This approach has successfully encouraged the teaching of biodiversity in local schools and the development of a number of eco-schools in Durham. One eco-school example is Harrowgate Hill Junior School, which has recently been awarded the prestigious Green Flag following an evaluation of the success of the initiatives and methodology undertaken. The Green Flag accreditation means the scheme is being run in such a way that the children feel they have ownership. In this case, the children have their own budget, funded by recycling printer cartridges, selling old clothing for recycling to developing countries and other fund-raising initiatives.

Case Study: Cumbria Business Environment Network – Environmental Awards

Cumbria Waste Management Environment Trust, Cumbria Rural Enterprise Agency, Environment Agency, Cumbria County Council, Carlisle City Council, Eden District Council

The Cumbria Business Environment Network (CBEN) has a contract with Natural England to deliver practical biodiversity advice to businesses throughout Cumbria. The project aims to deliver tailored biodiversity advice to businesses, whilst taking account of the Cumbria biodiversity action plan to help focus on priority habitats and species. The advice can be as simple as advising businesses to cut the grass around their buildings less frequently to enable wild flowers to bloom and seed, providing a source of food for insects and birds.

Another initiative involves the use of an award scheme for local businesses. Participating businesses are offered a free audit by an environmental expert, who will advise and guide the business through the process. There are three levels of award – bronze, silver and gold – and each level has an associated set of criteria, guidance handbook and checklist for assessment purposes. The bronze award requires businesses to demonstrate awareness and commitment to environmentally sound operations. Businesses are then encouraged to progress through the system, following the guidance to reach the silver level, where they are expected to have made progress towards assessing and controlling environmental risks. Finally the gold level award is achieved by businesses which have achieved a level of excellence in identifying risks, have implemented procedures to manage their potential impacts, and plan for a continued improvement in performance.

The environmental benefits of the scheme are to:

- Improve environmental management, skills and practices
- Increase recycling
- Cut costs by reducing waste going to landfill
- Reduce the risk of pollution
- Ensure businesses are aware of relevant environmental legislation
- Minimize energy consumption
- Develop best practice by reducing, reusing and recycling waste, and cutting energy costs.

Businesses are attracted by the opportunity for cost savings, advice and support to meet environmental legislation, and by the reputational benefits provided by the three levels of award.

Case Study: B-LEAF – Training Towards Employment

Blyth Valley Local Environmental Action Force (B-LEAF), Blyth Valley Borough Council

The B-LEAF project has been developed to provide opportunities for disadvantaged people trying to overcome drug or alcohol addiction to take up volunteer work on biodiversity projects to assist the establishment of a 'normal' life. The project was set up because although there is a wide range of support available to help overcome drug and alcohol addictions, there is a lack of support to enable the individual to gain access to employment and integrate with society. This can be a major problem for this group because, in most cases, their lack of work experience, qualifications and basic skills needs can create barriers to employment and a drug-free lifestyle.

The B-LEAF project provides volunteering opportunities to gain work experience on project allotments, woodland management and on local nature reserves, and achieve qualifications to help these individuals engage with employment. The project remains in the early stages, but a steering group has been established with representatives of the Northumberland Drug and Alcohol Action Team (DAAT), Blyth Valley Borough Council, Escape Family Support, Community Matters, and Northumberland Care Trust. A local agricultural college has now expressed a desire to provide courses and support for participants, to enable them to achieve qualifications. Links are also being established with other parts of Northumberland and South Tyneside to expand the service.

Case Study: Bristol Wildspace Project

Bristol City Council

The Bristol Wildspace Project began in September 2002, funded by English Nature's Wildspace! grant scheme and Bristol City Council's Inclusive Parks Fund. The main aim is to promote community involvement and environmental education on Bristol's local nature reserves (LNRs). An evaluation of the project has reported that it has brought significant benefits to Bristol's LNRs and the surrounding communities, highlighting seven key areas of progress:

- **Promoting community ownership of LNRs**. In supporting community development, the project has ensured that local people do not simply become involved in tasks on site, but are able to take an active part in decision making and developing new ideas. Capacity building has proved cost-effective and has encouraged volunteers to develop a better understanding of site management, whilst allowing individuals to learn new skills and become more empowered.
- **Building a sense of community**. Community Groups were found to bring benefits to their community that extend far beyond the improvements made on site.
- **Promoting the health benefits of LNRs**. The project provided physical and mental health benefits for participants through physical activity, which also provided a sense of achievement and the opportunity to learn new skills. 'Walking the Way to Health Walks' were particularly good examples of this and took place on all LNR sites.
- **Promoting learning**. Learning about wildlife and landscape is at the core of all Wildspace events. The Guided Walks, Owl Prowls, Bat Detecting Evenings, Bug Hunts and holiday activities for children were all found to promote learning in a way which is enjoyable, fun and accessible.
- **Improving quality of life for disadvantaged groups**. The Wildspace project has worked hard to bring benefits to people experiencing social and economic disadvantage and was found to have helped to bring real social benefits and improve quality of life for those most disadvantaged in society – meeting needs not necessarily being met by other providers.
- **Improving LNRs for wildlife and people**. The project has brought improvements to the LNRs through working with site managers, partners and community groups.
- **Expanding the network of LNRs**. The project has significantly raised the public profile of LNRs in Bristol and the evaluation suggested that these sites should be promoted as flagship Sites of Nature Conservation Interest for community involvement and environmental education.

Case Study: 'Breathing Places' Campaign

BBC

In June 2006, the BBC launched a national three-year campaign to protect biodiversity, in partnership with Natural England, the Wales Biodiversity Partnership, Scottish Natural Heritage, and the Environment and Heritage Service Northern Ireland. The 'Breathing Places' campaign is being supported by the Big Lottery Fund and aims to inspire the public to create and care for green places across the UK.

The campaign aims to involve more than one million volunteers to transform more than 50,000 sites for the benefit of wildlife and for people to enjoy. The BBC has created a 'Breathing Places' booklet, available from their website **www.bbc.co.uk/breathingplaces**, to provide advice and guidance to any individual, group or organisation interested in getting involved. The booklet provides a step-by-step guide to creating a Breathing Place and then registering it on the BBC website. It also introduces the £5 million grants programme funded by the Big Lottery Fund and suggests other potential sources of funding.

There are significant opportunities for local authorities to promote the 'Breathing Places' campaign locally, thereby encouraging community involvement and biodiversity projects within the local area. Individual project details are included on the website providing an ideal opportunity to raise awareness of activities within local authorities to a national or even international audience.

B. case studies in the public authorities guidance

Case Study: The Evolution of UK Forestry Policy

Forestry Commission

UK forestry policy has evolved throughout the twentieth century and continues to change in response to greater political and public awareness of environmental and sustainability issues.

The 1st World War saw a significant decline of wood resources. In 1919, the Forestry Act created the Forestry Commission, giving it responsibility for woods in England, Scotland, Wales and Ireland. The remit centred on a need to rebuild and maintain a strategic timber reserve, which involved buying up large areas of agricultural land and planting of conifers.

The need for increased self-sufficiency in food production following the 2nd World War resulted was in direct conflict with the objective of woodland planting, which meant that woodland planting moved away from agricultural land towards marginal land.

From the 1950s, planting, harvesting and marketing of timber to wood using industries became an increasingly important part of the Forestry Commission's work. It wasn't until the 1970s that conservation and amenity issues were given increased importance through landscaping and increased planting of native broadleaves.

By the 1990s, the Forestry Commission's remit had evolved to promoting and maintaining multipurpose forestry, with incentives for landowners provided in the way of awards, grant schemes and Forest Design Plans to balance commercial demands with recreation and conservation.

Current forestry policy is contained within England Forestry Strategy 'A New Focus for England's Woodlands' (Forestry Commission, 1998)

http://www.forestry.gov.uk/efs

The Government's vision for England's native and ancient woodlands is set out in the Defra and Forestry Commission policy statement 'Keepers of Time'

http://www.forestry.gov.uk/website/pdf.nsf/pdf/anw-policy.pdf/$FILE/anw-policy.pdf

Case Study: The Evolution of UK Forestry Policy (continued)

Welsh forestry policy is set out in the Wales Forestry Strategy 'Woodlands for Wales' (Welsh Assembly Government, 2001)

http://www.forestry.gov.uk/forestry/infd-5nlkt7

In May 2006, Defra launched a consultation on producing a new strategy for England's trees, woods and forests. The consultation closed in August 2006.

http://www.defra.gov.uk/corporate/consult/forestry-strategy/index.htm

The consultation stated that there is a need to bring forestry policy together within the wider sustainable development agenda. This involves giving greater recognition to the contribution trees, woods and forests can make to the environment e.g. through mitigating and adapting to climate change, to social wellbeing e.g. through maximising health benefits and economic sustainability, e.g. by aligning grant aid with the delivery of public benefits. Biodiversity is now seen as one of the key environmental priorities. The new Strategy is expected to be published in summer 2007.

Case Study: East Of England Sustainable Development Toolkit

East of England Regional Assembly and the East of England Sustainable Development Round Table

Weblink: **http://www.toolkit-east.org.uk/**

The East of England Toolkit was developed by the UK Centre for Economic and Environmental Development (UK CEED) on behalf of Regional Assembly, the East of England Development Agency (EEDA) and Government Office for the East of England (GO-East).

Its purpose is to highlight the economic, environmental and social impacts of policies, development proposals and other new initiatives within the Region and provide information which can help to improve them. The Toolkit has a central role in helping partners to advance the Integrated Regional Strategy.

The Toolkit provides an on-line checklist against objectives of the Regional Sustainable Development Framework. For each objective, the assessor must decide whether a policy or initiative will have a very positive, slightly positive, neutral or mixed, slightly negative or very negative impact.

The Toolkit includes a section on Biodiversity and Landscape Enhancement, which poses a series of questions:

- Will it encourage greater biodiversity?
- Will it create any new habitats/wildlife sites?
- Will it protect and enhance existing habitats and wildlife sites?
- Will it help to protect any species at risk?
- Will it help to protect any SSSIs and other designated sites?

Biodiversity is also considered within other sections of the toolkit, for example, in the consideration of the impact of the initiative on agriculture. The series of questions under each objective act as a checklist and help to inform the development of policies which will maximise positive effects on biodiversity and minimise negative effects. The Toolkit links to a range of information on habitats and wildlife, including key policy requirements and good practice examples and the need to conserve priority species and habitats set out in Biodiversity Action Plans.

Case Study: Highways Agency Biodiversity Action Plan

Highways Agency

Weblink: **http://www.highways.gov.uk/aboutus/1153.aspx**

The area of land owned by the Highways Agency between highway fences but not occupied by the road, known as the soft estate, represents a considerable habitat resource and network for biodiversity. Currently, the area of the soft estate stands at 30,000 hectares. It consists of a wide variety of habitats, particularly grassland, scrub and woodland close to roads, but also larger areas of other habitats such as heathland, rock faces and wetlands.

The main aim of the Highways Agency Biodiversity Action Plan is to support the Agency's goal of conserving and, where possible, enhancing biodiversity. This is supported by specific objectives to:

- Provide habitat and species action plans which are relevant and appropriate to the network and to the work of the Agency, including some requested by national and regional conservation organisations;
- Set practical and realistic actions and targets so that the Agency's contribution to biodiversity can be maximised;
- Raise awareness and understanding of the importance of biodiversity work among the Agency's staff and contractors, its environmental partners, and the general public.

The Highways Agency Biodiversity Action Plan was developed by a Partnership of stakeholders from a variety of organisations, including English Nature, RSPB, Environment Agency, Defra, Countryside Agency, National Trust, the National Air Quality Forum as well as the Highways Agency themselves. This involved a process of review of UK, regional and local Biodiversity Action Plans for references to roads, to find which species and habitats could occur within the Highways Agency's soft estate, and which are likely to be most threatened by the development of new roads.

Action plans and targets have been developed for individual habitat and species, progress towards which will be measured using Key Progress Indicators. Implementation will be via three mechanisms:

- Local verge management practices, including the use of Route Management Strategies and Environmental Management Plans;
- Environmental works associated with road construction, maintenance and improvement schemes; and
- Specific biodiversity conservation projects at selected locations.

Case Study: Sustainable Procurement at North Wales Police

Weblink: http://www.north-wales.police.uk

North Wales Police is continuing to develop environmental and sustainable development policies and strategies as part of its efforts to reduce operational impacts on the local community and as a commitment to the future. As a part of these policies and procedures the Procurement Department has been tasked with a primary objective to consider the whole life cost, energy efficiency and disposal implications of all the goods and services it procures.

An internal document, the Environmental Purchasing Guide, has been produced with the aim of promoting staff awareness of current legislation and offering advice in areas such as:

- Whole Life Cycle costs – including maintenance, energy consumption and disposal. Eco labels – a logo awarded to manufacturers who can prove their products have less impact on the environment, therefore influencing the consumer market. Energy Efficiency – All electrical and white goods should be rated A+ to ensure maximum efficiency in its working environment.
- Practical efforts are being made to influence change by implementing trials of recycled products, discussing delivery schedules and packaging reduction with suppliers and looking to source furniture from managed forests. The department is also trialling both an e-Tendering system and Procurement Cards in an attempt to reduce paper and streamline processes.
- Tender documentation now has a clause relating to sustainability and ethics that will be weighted and evaluated as suppliers return their tender submissions. The department has also worked closely with the Facilities Management Department and contributed to the requirements of the Environmental Management System that was instrumental in allowing North Wales Police to be the first Force in Wales to achieve Green Dragon Level 5.
- The Chartered Institute of Purchasing and Supply recently awarded the Procurement Department accreditation for its documentation and procedures. This award will support the department in further raising awareness internally and promoting good practice in relation to sustainability.

Case Study: Management of the Defence Estate for Biodiversity

Ministry of Defence

The MOD is one of the largest landowners in the UK and the largest public owner of designated sites for nature conservation. The need to provide realistic training across challenging and demanding terrain in a variety of environments means that the MOD has responsibility for some of the most unspoilt and remote areas in Britain. MOD establishments range in size from individual buildings to vast tracts of land, the largest of which is Defence Training Estate Salisbury Plain, extending over 38,000 hectares. Of the UK BAP priority habitats and species, 37 habitats and 139 species occur on the Defence Estate. MOD has management responsibility for 175 SSSIs, including over 130 with international and European nature conservation designations, as well as many locally important sites. In support of these designations and statutory commitments, the MoD has several initiatives and management mechanisms. For example:

- A MOD Biodiversity Strategic Statement has recently been published outlining strategic objectives for biodiversity with associated targets and performance indicators. The Statement was primarily produced in response to Government biodiversity targets under the Sustainable Development on the Government Estate agenda, and presented an opportunity to outline MoD's wider biodiversity conservation obligations[1].
- MOD has published internal policy and guidance on biodiversity conservation in the Joint Services Publication 362.
- A SSSI Favourable Condition Project was established to support the Government's PSA target on SSSI condition. Approximately £5 million has been invested in improving the 175 SSSIs on the MOD estate.
- MOD is undertaking an audit of the estate to improve understanding of the biodiversity interest and where it can support conservation obligations, including UK BAP targets.
- A hierarchy of appraisal tools and guidance on their use has been developed to ensure that obligations towards biodiversity and wider sustainable development objectives are considered at an early stage in the planning of policies and projects.
- Biodiversity is considered as part of a site's Environmental Management System. Where there is significant biodiversity interest an integrated management plan is developed.
- Internal advice is available through a specialist Environmental Support Team within Defence Estates.
- MOD has more than 120 voluntary Conservation Groups around the UK, comprising MOD personnel, other local experts and volunteers, which undertake regular work to monitor and improve the wildlife value of the estate.

[1] http://www.mod.uk/NR/rdonlyres/562E434A-ABBA-4FB2-8986-2ADC82EEB789/0/BiodiversityStratgicStatement.pdf

Case Study: Management of the Defence Estate for Biodiversity (continued)

- MOD has several non Departmental Public Bodies which have been informed of the new NERC duty and the need to integrate biodiversity into their management and review mechanisms, and that support is available within MOD and Defra if needed.
- Examples of recent projects are given in the MOD Conservation Magazine Sanctuary[2] and include restoration of SSSI coastal heath in Cornwall, integrating conservation management of heather moorland with military operations in North Yorkshire, contributing to improvement of the Rivers Usk and Wye, scrub management on SSSI grassland at Castlemartin Range, studying plants and sand dune movement at Braunton Burrows, and participating in conservation projects from bases in Cyprus and Ascension Island.

[2] http://www.defence-estates.mod.uk/publications/sanctuary/sanctuary2006.pdf

Case Study: Grounds Maintenance for Biodiversity

The Patent Office

The Patent Office was in contact with Community Action for Wildlife in Newport and the Biodiversity Officer at Newport City Council to seek advice on how grounds maintenance at its site could benefit biodiversity. As a result, various initiatives have been implemented including:

- Provision of bat and bird boxes
- Use of native plants in courtyard areas and borders
- Leaving some grass areas uncut to encourage development of small meadow areas
- Sowing wildflower seeds alongside roadside fencing
- Maintenance and protection of trees along the site perimeter, with advice from the Council's Tree Preservation Officer.

The grounds maintenance contract now stipulates:

- The replacement of slow renewables such as peat with soil improvers derived from processing or re-use of organic wastes such as coir, manure, leaf mould and bark chippings;
- The contractor makes full use of the composting area, by composting wherever possible and using the compost produced;
- Artificial fertilisers should be avoided and manure and green manure used instead; and
- Pesticides, herbicides and fungicides should be avoided.

8 PA Case Study: Calderdale Wildspace! Project – Improving LNRs for Biodiversity

Calderdale Metropolitan Borough Council, West Yorkshire

The Calderdale Wildspace! was a 3 year project funded by English Nature. The aims included:

- To increase Calderdale's LNR provision from no LNRs to one hectare of LNR for every 760 people in Calderdale and to ensure 80% of Calderdale's residents have a LNR within 2km of their home through the declaration of 10 LNRs, totalling 250 ha. This has been achieved and Calderdale is one of the first local authorities to exceed Natural England's target of one hectare of LNR per 1000 population.
- To actively involve local communities, especially disadvantaged groups, in the sustainable use and management of LNRs. Each site has a local community group which is working with the Council to deliver biodiversity improvements. In some cases, they are Friends groups, in others user groups.
- To maintain and enhance the biodiversity of LNRs, with special attention to habitats and species identified as priorities in the Calderdale Biodiversity Action Plan, through the production and implementation of management plans. Each site now has a management plan, which includes prescriptions for priority habitats and species.

Case Study: Species Protection on Police Sites

Great Crested Newts

North Wales Police occupies four premises in St Asaph Business Park, the largest being the Central Division HQ and 32 cell custody suite, covering 9500 m^2. The land at St Asaph Business Park was originally farmland. Great Crested Newts were discovered on the site when the land was being developed. To protect these animals, NWP relocated them to an adjacent field and ensured that they did not move back during the construction phase, by erecting a newt fence around the site boundary, which was checked daily for integrity. The civil engineering works were designed to enable the amphibians to continue to reside on the site, and included the provision of a freshwater pond on site. Regular monitoring and assessment of the GCN population is undertaken, and the pond appears to be a promising habitat. NWP always considers potential impacts on the GCN population when planning development and grounds maintenance work on any of its sites on the Business Park, seeking advice from ecological consultants where necessary.

Badgers

At the North Wales Police Force Headquarters in Colwyn Bay there is a building in the grounds called Llety'r Dryw, which is surrounded by woodland (with Tree Protection Orders). Within this woodland there is a Badger sett, which has been there since 1969. In 2002 works were required in the car park area of Llety'r Dryw. The work entailed using machinery within 30m of the sett entrance. The Clwyd Badger Group was consulted and visited the site and provided guidance. NW Police applied to the Countryside Council for Wales for a licence to work near a Badger sett, with the works being supervised. As part of the works a 'badger protection fence' was erected to prevent future parking on the grass slope leading to the sett. Now, when any grounds maintenance works are required at the site, the presence of the badger sett is brought to the attention of the contractors and the works supervised.

Peregrine Falcons

North Wales Police has successfully provided nest boxes for peregrine falcons at its Wrexham Divisional Police Headquarters.

Case Study: Management of Water Companies Land for Biodiversity

Water PLCs

The privatised water companies are major landowners, whose estates cover a wide variety of habitats in water catchments, as well as reservoirs, wetlands, watercourses and land adjacent to water and wastewater treatment works. There are numerous examples of actions being taken by water companies to benefit biodiversity on their land, a few examples of which include:

Northumbrian Water and Essex & Suffolk Water:

- Re-use of spoil at Howdon Wastewater Treatment Works to create a wetland
- Targeted habitat creation for water voles at Wear Valley Water Treatment Works
- Using locally sourced composted green waste as an alternative to topsoil to create wildflower grassland at Whittle Dene Water Treatment Works
- Designing treatment reedbeds to incorporate biodiversity at Lamesley Reedbed near Birtley
- Working with local Wildlife Trusts to improve land for biodiversity, with an annual focus on a particular species or habitat (including, in recent years, grassland, bats and woodland)
- Just an Hour scheme allowing staff to complete the equivalent of an hour of voluntary work per month, including conservation work to build otter rafts, clear scrub and ponds, plant trees.
- Designing landscaping for new offices to benefit biodiversity.

Severn Trent Water:

- Habitat creation and floodplain restoration at Aston Hall Farm
- Wetland creation in Trent Vale
- Habitat improvements at Knobbs Farm and Stoke Bardolph Farm
- Creation and management of wildflower meadows at STW sites
- Restoration and management of reedbed, wetland, lake and woodland at Witches Oak Waters
- Re-introduction of black grouse to the Upper Derwent Valley
- Introduction of water voles to Netheridge Sewage Treatment Works
- Tree Sparrow Project.

Case Study: Management of Water Companies Land for Biodiversity (continued)

Thames Water

- Auditing larger land holdings for their biodiversity interest and using this data to inform the business in protecting biodiversity interest through GIS and grounds maintenance.
- Development of the London Wetland Centre at Barnes, in partnership with Wildfowl and Wetlands Trust.
- Conservation management at many sites including: Crossness Marshes; Kempton Nature Reserve; the meadows at Farmoor Reservoir; Bracknell Millpond; Bicester, Godalming and Swindon Wetlands; Rye Meads; Kings Mead and the River Kennet.
- Sponsoring projects on water voles, bitterns, terns, tree sparrows, barn owls, peregrines, stone curlews and research on waterfowl using the SW London Special Protection Area.

11PA Case Study: Beach Management for Biodiversity

Pembrokeshire Coast National Park Authority and Pembrokeshire County Council

For many years the Pembrokeshire Coast National Park Authority has recognised the importance of beaches and beach heads both for biodiversity and as an important component of the landscape. The Park Authority owns several beach head sites and has undertaken major dune restoration projects using local community groups and volunteers to fence and plant dunes, moving car parking off sandy areas and establishing boardwalks.

Since the formation of the Pembrokeshire County Council (PCC) in 1996 the Park Authority has been part of a PCC led liaison group involving organisations responsible for beach management. This group comprises several teams from PCC, including Environmental Health, Dog Wardens and team leaders from teams responsible for beach and toilet cleaning. They meet several times per year with staff from the Countryside Council for Wales, Environment Agency, National Trust and the National Park Authority to discuss beach awards, beach management, water quality and safety. In order to conserve biodiversity, beaches in Pembrokeshire are cleaned by hand rather than by machine, helping to protect the strand line so that seaweed and driftwood are left in place. Even where large concentrations of seaweed are found they are left on site unless there are overriding health or amenity considerations. An annual multi-agency briefing for all beach staff ensures that those involved on the ground in the management of the beach have information on any special characteristics of beaches and considerations with regard to biodiversity conservation.

Case Study: Prescoed Prison Farm

HMP YOI Prescoed

HMP YOI Prescoed is the only prison farm in Wales. It includes a Special Site of Archaeological Interest (SSAI), a woodland certified by the Forest Stewardship Council and a Special Site of Scientific Interest (SSSI). It supports a variety of important species, including great crested newts, badgers, barn owls, dormice and 5 different bat species.

The prison farm is within the Tir Gofal agri-environment scheme, allowing it to be managed with wildlife in mind. The recent introduction of the Prison Service Biodiversity Action Plan (PSBAP) at Prescoed highlighted the operations around the fieldwork on the farm and its potential to encourage farmland birds such as lapwing, barn owl and bullfinch. Action plans for all of these species were drawn up incorporating the change from arable cropping within the farm modernisation programme to animal feed and fodder to support its dairy herd. A monitoring programme has been established and the farm has now recorded at least 5 breeding pairs of lapwing, a species not previously recorded on the site.

Barn owl boxes have now been erected on the farm, and, with the help of the Hawk and Owl Trust, areas of long rank grass have been left to encourage small mammals such as voles, shrews and mice, the staple diet of the barn owl. Barn owls are increasingly recorded in the vicinity and are expected to breed on the site in the near future. A recent project focusing on the restoration of wetland habitats on the edge of the woodlands is benefiting the local population of great crested newts.

13PA Case Study: The Living Highways Project

Powys County Council, Countryside Council for Wales and Partners

In the UK, road verges contain some of the last remaining examples of species-rich habitats that were once common in the wider countryside and that have declined at an alarming rate over the past few decades. They may also help to provide physical links between otherwise isolated pockets of remaining habitats, assisting in the expansion and dispersal of less mobile species.

The Living Highways Project is an established partnership, started in 2001, between the Montgomeryshire, Radnorshire and Brecknock Wildlife Trusts, Powys County Council, the Countryside Council for Wales and the Powys Verges and Hedgerows Concern Group. The project aims to safeguard and encourage valuable wildlife habitats and species associated with road verge areas in Powys, Mid Wales. The project is working on a number of different initiatives to achieve this, including setting up systems to protect known sites of high ecological value and improving verge management practices.

The removal of cuttings is an important management consideration when aiming to maintain or increase the biodiversity of grassland areas, helping to reduce nutrient levels to the benefit of native flora. In 2005, trials conducted by Montgomeryshire Wildlife Trust on behalf of the partnership investigated the feasibility of using cuttings in compost and biogas production. They demonstrated that it is physically possible to collect cuttings from Powys road verges on a relatively large scale and that the material is suitable for compost and biogas production, producing potentially valuable end products. As well as the environmental benefits of diverting material from landfill, biogas production also has the potential to provide a source of sustainable energy, with advantages in reducing carbon emissions. The trial has been followed by further development and evaluation work, with a view to wide-scale harvesting in future.

Case Study: Management of Estate Grassland

North Wales Police and Conwy County Borough Council

In 2002, North Wales Police and Conwy County Borough Council (CCBC) embarked on a joint project to adopt a more 'biodiversity friendly' management regime for the area of grassland in front of the Police Force Headquarters, some of which is owned by the Council and some by the Police. The grassland management had previously consisted of weekly cuts for the last 30 years.

The site was split into 3 different sections, which are managed differently to increase variety; a wildlife pond and marsh area, a wildflower meadow and a seasonal flower planted area – a combined area of approx 18,000m^2. The site was designated under the Conwy Local Biodiversity Action Plan – Habitat Action Plan – Urban Green Space section. Signs were erected around the perimeter of the site to explain to the public what was happening.

Following a cessation of mowing in spring and summer 2003, a 'baseline' survey recorded 79 species of plants. All were common and widespread with the exception of the hybrid rush Juncus x kern-reichgeltii and Field Madder Sherardia arvensis, an arable plant which has undergone serious decline nationally and is not common in North Wales. A small colony of Common Blue butterflies was apparently newly established in the area of its food plant (Bird's-foot Trefoil) – a plant species which had not been allowed to grow during the previous weekly cutting regime. Many more plant and invertebrate species were also observed across the site.

A formal Management Plan was agreed between NWP and CCBC in 2004 with a 'meadow cutting regime' in place, whereby, the grass is now cut every March and August. The grass cuttings are taken to CCBC compost depot.

The expense of weekly mowing of the site has been reduced considerably, and the cost savings used to fund site survey and management work. Three species of orchid – pyramidal, common spotted and bee – were recorded in 2006.

The project faced significant problems initially, provoking public controversy on the grounds that it the site was under-managed and untidy, with one local councillor quoted in the local press as referring to the site as a "jungle." This led to significant efforts to raise public awareness of the aims of the project and to address public perceptions of the site. It is mow widely accepted that the new management regime has increased the attractiveness and interest of the site, and the project was a major factor in the site being accredited as a Green Dragon Environmental Standard Level 5 site, and also formed part of the Old Colwyn Town in Bloom 2006 submission.

Case Study: Nant yr Arian Visitor Centre

Forestry Commission Wales

The Forestry Commission recently replaced its visitor centre at Nant yr Arian with a new, green building. The centre incorporates a variety of sustainable features, including a "living green roof", collection of rainwater which is re-used for flushing the toilets and for the bikewash, the use of recycled newspaper as insulation, a composting toilet system and a wood fuel heating system. FC Wales also has a daily routine of collecting refuse from the bins around the site and then sorting out any materials that can be recycled, such as paper, tins, plastic bottles and cardboard, before taking them to the recycling centre. This considerably reduces waste collection costs and keeps a large volume of useful materials out of landfill.

The centre's new facilities include showers, a large terrace overlooking the lake, a woodburning stove in the café/restaurant, more seating for customers, a new adventure playground and toddlers' playground and better interpretation and information on the forest's features of interest. The old visitor centre has been incorporated into the new centre to be used as an environmental classroom with plans to increase the focus on educational tourism. There is also a new and unusual triangular red kite viewing hide.

16PA Case Study: School Grounds Wildlife Project

Norfolk County Council

This scheme has been running since 1989. It has evolved over this time from being solely concerned with improving the nature conservation value of school grounds through tree-planting and pond and meadow creation to a broader remit in which school communities are encouraged to look at how they use their grounds and what might be done to improve them, emphasising biodiversity. Over three quarters of Norfolk's schools have taken measures to improve their grounds with support from the scheme.

All local authority schools in Norfolk are offered a free advice and design service to support them in grounds improvement projects. In addition to this, a 100% grant is available for native trees and shrubs. Fruit trees have also been offered to schools, to tie in with the 'five-a-day' fruit initiative, encouraging them to plant local varieties where possible.

There is a strong network of support for schools who wish to improve their grounds in Norfolk. This is co-ordinated through the Norfolk School Grounds Co-ordination Group; a forum for those practitioners from local authorities, companies and non-governmental organisations whose work involves them in advising schools about improving their grounds.

The Council evaluated the scheme in 2005 to test its effectiveness in increasing the biodiversity of school grounds. A questionnaire was sent out to twenty-one schools which had created a pond and carried out native tree-planting within the past five years. The responses identified significant increases in the numbers of frogs, toads, newts and song thrushes present in school grounds, demonstrating that the work is making a real difference to their biodiversity as well as creating an important educational resource.

Case study: Inspired at the Science Museum Swindon

The Science Museum

Inspired! shows how built development can be designed to incorporate biodiversity to help to obtain outline planning permission. The Science Museum's philosophy is that environmental requirements are not a burden, but can result in benefits that reduce risk and add value.

The site is the large object store for the Science Museum's collections and houses over 18,000 objects. It also stores another 200,000 smaller objects, since only 5% of the collections are on show at any time. The site comprises 220 hectares of farmland, woodland and tarmac. Inspired! is designed to enhance the landscape and create new opportunities to excite people about science.

Inspired! will house the collections in a purpose built facility, itself an exemplar of sustainable development that sits comfortably within its surrounding environment. Examples of biodiversity improvements include:

- 160-acre woodland mimicking adjoining Clouts Wood SSSI
- 100-acre chalk meadow with dewponds
- Planting of 6 kilometres of hedgerows
- Removal of runways and hardstanding
- 80 hectare organic farm supplying cafés
- 20 hectares of fields propagating seeds and short rotation coppice.
- Habitat enhancements
- Green Roof and other building orientated habitats
- Surveying and monitoring before, during and after construction phase

The achievements so far have been varied, ranging from the installation of bat and owl-boxes to working with young offenders to create woodlands. There are extensive benefits of improving the natural environment, including helping to attain outline planning permission and funding.

www.sciencemuseumswindon.org.uk

Case Study: 'Just an Hour' Project

Northumbrian Water and Essex & Suffolk Water

'Just an Hour' is a project run by Northumbrian Water and Essex & Suffolk Water in which all staff are encouraged to take up to an hour a month (or two days per year) to get involved in community or conservation work. This enables these two organisations to work towards achieving their biodiversity targets, whilst raising awareness of biodiversity issues amongst staff and the local community.

The biodiversity related projects include:

- Pond clearance
- Dormouse survey
- Invasive species control such as ragwort & pennywort clearance
- Making & erecting bird nest boxes
- Tree planting
- Scrub clearance & coppicing – on nature reserves & SSSIs
- Developing wildlife areas and vegetable plots with local schools
- Dry garden creation with a local shopping precinct
- Building an otter holt
- Building a stag beetle pyramid
- Juniper planting
- Rush cutting

'Just an Hour' offers staff an opportunity to see and learn more about the sites the water companies own and the broader areas that they work in and provides opportunities to engage the local community in biodiversity conservation.

Case Study: Staff, Prisoner and Community Engagement in Biodiversity Projects

HM Prison Service

The Prison Service recognises that the actions and targets it has set for biodiversity can only be achieved through active support from its staff, its central partnership and local partners. By encouraging staff and prisoner involvement in all aspects of biodiversity within its estate, and through local community projects, the Service can broaden its sustainable development social impacts agenda.

The Prison Service believes that all members of society should have access to green space and the natural world for enjoyment, education and wellbeing. Nature's biological diversity remains a source of constant enjoyment in people's lives. The Prison Service aims to build upon its past successes in this field to help form and bond closer links with offenders and those that work in the local community promoting and protecting biodiversity. Forming new partnerships and locally driven initiatives will aid the delivery of the Prison Service Biodiversity Action Plan (PSBAP) and addressing of other important social issues, such as providing transferable job skills to prisoners. Furthermore, encouraging local groups and communities to work with prisons and prisoners not only supports those communities and community projects, but encourages work towards Restorative Justice.

The Prison Service is working towards:

- Creating opportunities for individual offenders and community engagement with nature and wildlife both in rural, urban and inner city environments
- Making access to its estate available to a wide audience (where practicable and subject to operational needs)
- Expanding the opportunities for nature conservation and wildlife protection by developing activities that are enjoyable and inclusive for both staff and prisoners alike
- Maximising opportunities for volunteers to develop personal skills and expertise
- Enabling staff and prisoners to explore and improve the sustainability of their everyday life choices and how they impact on biodiversity and the outside community
- Endeavouring to keep rights of way managed and maintained with regard for biodiversity, where they pass through the Prison Service estate.

18PA Case Study: Durham Biodiversity Partnership – Biodiversity Education and Eco-schools

Durham County Council, Darlington Borough Council, Gateshead Council, South Tyneside District Council and Sunderland City Council

Durham Biodiversity Partnership provides web based biodiversity education materials, including information about biodiversity in the curriculum, local biodiversity projects, practical examples of how biodiversity can be incorporated into learning opportunities, and examples of potential efficiency and cost savings to schools from environmental projects.
http://www.ecoeducation.org.uk/

The Partnership also encourages the enhancement of wildlife on the school grounds for educational and wildlife purposes and links this to the more general inclusion of biodiversity in education. The document '*Enhancing Wildlife in the School Ground: Everything you need to know to attract wildlife into the school environment!*' outlines methods that can attract and enhance biodiversity on the school grounds, providing:

- Practical information on habitat management and the different types of species that can be attracted to particular habitats, their feeding habits, etc.
- Instruction sheets for the construction bird tables and bird and bat boxes.
- Suggested study opportunities.
- Contact information for further information.

This approach has successfully encouraged the teaching of biodiversity in local schools and the development of a number of eco-schools in Durham. One eco-school example is Harrowgate Hill Junior School, which has recently been awarded the prestigious Green Flag following an evaluation of the success of the initiatives and methodology undertaken. The Green Flag accreditation means the scheme is being run in such a way that the children feel they have ownership. In this case, the children have their own budget, funded by recycling printer cartridges, selling old clothing for recycling to developing countries and other fund-raising initiatives.

19PA Case Study: Cumbria Business Environment Network – Environmental Awards

Cumbria Waste Management Environment Trust, Cumbria Rural Enterprise Agency, Environment Agency, Cumbria County Council, Carlisle City Council, Eden District Council

The Cumbria Business Environment Network (CBEN) has a contract with Natural England to deliver practical biodiversity advice to businesses throughout Cumbria. The project aims to deliver tailored biodiversity advice to businesses, whilst taking account of the Cumbria biodiversity action plan to help focus on priority habitats and species. The advice can be as simple as advising businesses to cut the grass around their buildings less frequently to enable wild flowers to bloom and seed, providing a source of food for insects and birds.

Another initiative involves the use of an award scheme for local businesses. Participating businesses are offered a free audit by an environmental expert, who will advise and guide the business through the process. There are three levels of award – bronze, silver and gold – and each level has an associated set of criteria, guidance handbook and checklist for assessment purposes. The bronze award requires businesses to demonstrate awareness and commitment to environmentally sound operations. Businesses are then encouraged to progress through the system, following the guidance to reach the silver level, where they are expected to have made progress towards assessing and controlling environmental risks. Finally the gold level award is achieved by businesses which have achieved a level of excellence in identifying risks, have implemented procedures to manage their potential impacts, and plan for a continued improvement in performance.

The environmental benefits of the scheme are to:

- Improve environmental management, skills and practices;
- Increase recycling;
- Cut costs by reducing waste going to landfill;
- Reduce the risk of pollution;
- Ensure businesses are aware of relevant environmental legislation;
- Minimise energy consumption;
- Develop best practice by reducing, reusing and recycling waste, and cutting energy costs.

Businesses are attracted by the opportunity for cost savings, advice and support to meet environmental legislation, and by the reputational benefits provided by the three levels of award.

22PA Case Study: BBC 'Breathing Places' Campaign

In June 2006, the BBC launched a national three-year campaign to protect biodiversity, in partnership with Natural England, the Wales Biodiversity Partnership, Scottish Natural Heritage, and the Environment and Heritage Service Northern Ireland. The 'Breathing Places' campaign is being supported by the Big Lottery Fund and aims to inspire the public to create and care for green places across the UK.

The campaign aims to involve more than one million volunteers to transform more than 50,000 sites for the benefit of wildlife and for people to enjoy. The BBC has created a 'Breathing Places' booklet, available from their website www.bbc.co.uk/breathingplaces, to provide advice and guidance to any individual, group or organisation interested in getting involved. The booklet provides a step-by-step guide to creating a Breathing Place and then registering it on the BBC website. It also introduces the £5 million grants programme funded by the Big Lottery Fund and suggests other potential sources of funding.

There are significant opportunities for public authorities to promote and support the 'Breathing Places' campaign, thereby encouraging community involvement and projects to conserve and enhance biodiversity.

Case Study: Education and Raising Awareness at Kew

Royal Botanic Gardens, Kew

The Royal Botanic Gardens, Kew is the world's leading plant science organisation. Education is at the core of the work at Kew, which works with partners and local communities around the world and communicates with its 1.9 million annual visitors and users of its website that plants are vitally important to all of us and to the planet.

Kew aims to inspire an appetite for understanding and knowledge about plants and plant sciences to promote education and awareness about plant diversity. The on-site collections of living and preserved plants, combined with staff knowledge of plant science, provide inspirational learning for people of all ages. Kew's two-fold aim is to share scientific knowledge and skills with science conservation and horticultural colleagues and to share with the public an appreciation of the variety and importance of plants.

This is achieved through books, papers, contributions to conferences and research opportunities, experience in the field, specialist professional training and access to collections and expertise. Educational visits, open days, events and the internet are just some of the ways Kew engages with its visitors.

Kew has a team of education and interpretation staff, a lecture theatre seating 200 people, specialist lecture rooms with computer facilities, 40 teachers and 60 trained volunteer guides. Kew also provides continuous professional development for teachers and web resources such as www.plantcultures.com and vital plant databases.

Some examples of the educational and awareness raising work undertaken at Kew include:

- Over 100,000 children a year use Climbers and Creepers, an interactive plant play zone. Another 100,000 students participate in educational visits to the gardens at Kew and Wakehurst where they experience global biodiversity in the tropical Palm House, Temperate House and Princess of Wales Conservatory at Kew. All children visit Kew free of charge.
- With guidance from the MSB Project and the Learning Programme at Kew, a trial is underway to train schools to carry out a seed longevity study of native British flora. School students will be involved in making a genuine contribution to maintaining plant biodiversity. In 2006/7 nearly 70 schools around the country will be helping Kew in its cutting edge research on behalf of the MSB. This will involve 150 teachers and 2,000 students in hands-on experiments to provide information for scientists in the MSB.

Case Study: Education and Raising Awareness at Kew (continued)

- Midnight Ramblers. Young people get close up experience of the secret parts of Kew during sleep-overs. Expert guides bring the night to life, encouraging children to develop their interest in the life of plants and animals by exploring and learning through hands-on activities and environmental games.
- The Cactus Trail is one of the trails to help young families explore and learn about cacti and the conservation work of Kew.
- Kew is a leading figure in training others to protect threatened plants from illegal trade. In the last 5 years Kew has trained 500 students, 300 UK and overseas enforcement officers and distributed 5,000 training manuals and CD-ROMs free of charge to workers in over 160 countries.
- Approximately 100 visiting researchers use the on-site facilities at Kew every day, with many more accessing online. Kew is also supervising 85 PhD students.

D. Other case studies not appearing in either guidance document

Case Study: Managing Parks for Wildlife

Bristol City Council

BCC has been involved for over ten years in enhancing parks for wildlife by introducing 'nature conservation specifications' into parks across the city. The specifications are designed to create meadow areas for wildlife by leaving the grass long over the summer months and taking a hay cut in late summer. The meadow areas have been carefully chosen to benefit wildlife – selecting those areas of grassland that still retain an intrinsic wildlife interest (i.e. are botanically rich) and to fit in with the use of parks by people. This has brought spectacular results on sites across Bristol with wildflower rich meadows now a regular feature in a number of parks, giving people access to meadows full of wildflowers, butterflies and grasshoppers and a taste of the countryside in the city. Good examples include Manor Woods Valley, Highridge Common and the Downs, all of which have been well received by the public and are very rich in wildlife with species including bee orchids and cowslips.

Case Study: West Sussex Minerals Sites Biodiversity Action Plan

West Sussex County Council

As the Minerals Planning Authority, the County Council has demonstrated its commitment to biodiversity through the West Sussex Mineral Sites Biodiversity Action Plan. There are about 50 mineral sites in West Sussex ranging in size from one to 150 hectares and covering a total of over 700 hectares. The Biodiversity Action Plan aims to optimise biodiversity opportunities on minerals sites in West Sussex by:

- Ensuring there is sufficient biological, geological and archaeological survey information covering mineral sites on which to base decisions;
- Promoting sympathetic operational procedures and best practice management for biodiversity and geodiversity;
- Supporting closer working practices between nature conservation bodies, mineral operators and the planning authority;
- Improving the public perception of the minerals industry;
- Integrating biodiversity and geodiversity objectives with other restoration objectives for a site, for example recreation, access and education.

To do this, the West Sussex Minerals Sites Biodiversity Action Plan lists a number of key actions, including:

- Undertaking audits and surveys;
- Enhanced restoration schemes;
- Preparing factsheets for site managers;
- Organising an environmental awards scheme.

To help the industry, West Sussex County Council has produced a practical handbook for promoting biodiversity on mineral sites in West Sussex. The guide covers all aspects of site management from Site Biodiversity Action Plans, habitat management on active sites and best practice through to habitat recreation, legislation and protected species.

Weblink: **http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/biodiversity-action-plans.en;jsessionid=aHdcrDk3Lk94?page=2**

Case Study: Bedelands Farm Local Nature Reserve, Sussex

Mid Sussex District Council

Bedelands Farm is situated on the northeast edge of Burgess Hill, and comprises 80 acres of a variety of habitats including ponds, woodlands and wild flower meadows. It forms the northernmost part of the Green Crescent, a number of parcels of natural open space on the south and western side of the ring road around the town. The site links into the existing bridle and footpath network to provide a green route around the perimeter of the town, used by walkers, cyclists and horseriders.

The reserve has won the Green Flag award, the national standard for quality green spaces, each year since 2004. In 2003, the whole site was designated a Site of Nature Conservation Importance (SNCI). In 2000, it was one of 17 sites in the South East to be awarded the prestigious 'Millennium Marque', which recognises environmental excellence.

Sussex University and Mid Sussex District Council have been working in partnership on a scientific experiment to establish an optimum time for hay cutting and the effect of adding fertilizers and grazing on wild flower establishment. The experiment is being conducted in two meadows and interpretive information is located in each meadow.

Prior to being in the ownership of the District Council, the land was managed as traditional pasture and coppice. *The Friends of Bedelands Farm LNR* were formed in 1994 to undertake the practical conservation management of the reserve, which includes coppicing, pond works, path construction, vegetation clearance, construction and erection of bird boxes, surveys of flora and fauna, educational visits to schools, staging events and production of educational materials. Membership now comprises 226 households. The Friends are affiliated to the *British Trust for Conservation Volunteers* for technical support on conservation management.

Case Study: Merseyside Environmental Advisory Service – Biodiversity Development Advice and Support

Halton, Knowsley, Liverpool, Sefton, St. Helens and Wirral local authorities

The Merseyside Environmental Advisory Service (MEAS) is a sub-regional service, provided on behalf of the member authorities of Halton, Knowsley, Liverpool, Sefton, St. Helens and Wirral Councils. MEAS is organised into 5 teams – contaminated land, development control and environmental appraisals, ecology, support services, and waste. The ecology team provides core support on biodiversity issues, especially in relation to development control, but also to other teams and across directorates as the need arises. Biodiversity services provided by the MEAS ecology team on behalf of the member authorities include the following:

- Commenting on development control issues with particular reference to protected species and sites, invasive species and general ecological matters
- Recording biodiversity losses and gains arising from the development control process
- Maintaining a database of sites and species and providing access to this information as a service
- Responding to consultations relating to biodiversity and advising on how 'biodiversity gains' can be achieved. For example, through the installation of bat bricks (bricks with crevices for bat roosts) and nest boxes for birds.

Case study: Working with Public Authority Volunteers

RSPB

Providing volunteering time for staff to carry out specific conservation management is one way that any public authority can help biodiversity conservation. This type of activity can provide excellent team building opportunities and can act as a rejuvenating break from normal activities. It provides a connection with the natural world and gives staff a good feeling that they have made a positive contribution to conservation. For example, a group from the Environment Agency's Bedford office helped heathland and woodland restoration at the RSPB's nature reserve at the Lodge near Sandy, Bedfordshire. The team cleared bracken and removed invasive sycamore as part of a project to extend the area of lowland heathland, a BAP priority habitat and one that is very scarce in Bedfordshire. A case study of a member of Inland Revenue staff seconded to the RSPB in 2004 to be their Employee Volunteering Project (EVP) development officer can be found at: **http://www.rspb.org.uk/volunteering/type/teamchallenges/sharonnightingale.asp**.

Case Study: All of a Buzz – Working together to conserve brownfield biodiversity

Buglife, Natural England and local authorities

Weblink: **www.buglife.org.uk**

All of a Buzz in the Thames Gateway is coordinated by Buglife and Natural England in collaboration with a number of Local Authorities. The objective of the project is to provide information and advice about biodiversity on brownfield sites to planners, land managers and developers, to ensure that Biodiversity Action Plan Priority species and other threatened species are conserved. The project is tackling one of the big challenges facing nature conservation, the fact that all too often a development process is already quite advanced – and considerable resources have been expended – before rare and endangered species are identified and taken into account. By assessing hundreds of brownfield sites this project will flag up to planning authorities and developers where the important biodiversity is before other planning and resource decisions are made.

Government policy on biodiversity (such as the England Biodiversity Strategy) highlights that brownfield sites can be extraordinary oases of wildlife, supporting BAP Priority and Red Data Book species as well as BAP habitats. They are valuable to invertebrates such as bumblebees, beetles and butterflies because they include a diversity of habitats now rare in the wider landscape – including bare ground, flower-rich grassland and wet areas. Incredibly, brownfield sites support as many rare species as ancient woodland; experts refer to the best Thames Gateway sites as 'England's rainforest'.

The threats and challenges facing brownfield habitats were highlighted at Canvey Wick. This site was acquired by EEDA for development in 2002, but subsequent surveys revealed a hugely important fauna including 32 Red Data Book species and 5 BAP Priority species. After dialogue with Buglife and English Nature, EEDA withdrew the original development plans and submitted new plans that enabled the majority of the site to be designated as an SSSI, alongside a planned environmentally sustainable development incorporating 'brown roofs' on which endangered invertebrates will be able to forage for nectar.

The All of a Buzz project has identified that about a third of the Thames Gateway's brownfield sites are likely to be of high importance for wildlife, but many of the most important sites are already earmarked for development. The project has mapped over 1000 brownfield sites in the Thames Gateway and Greater London and has assessed over 400 of these, carrying out surveys on the key sites. This new data has been combined with existing information from Local Record Centres, recording schemes, experts and other sources.

Case Study: All of a Buzz – Working together to conserve brownfield biodiversity

Buglife, Natural England and local authorities *(continued)*

Weblink: **www.buglife.org.uk**

Once the project has achieved a more complete understanding of the invertebrate biodiversity resource in the Thames Gateway it will develop a strategy for conserving this remarkable biodiversity asset, including the identification of 'priority conservation areas' and 'areas with potential enhancement opportunities'. The project is also working with local biodiversity practitioners to raise awareness about why brownfield habitats are important for wildlife, and information packs have been sent out to local authority planners.

The model developed for identifying the wildlife resource present on brownfield sites early in the process can be applied more widely and it is hoped that similar approaches will be adopted in other areas where there a significant proportion of brownfield land supports endangered wildlife.

Case Study: Environmental Standards for Buildings

BREEAM

For more than a decade, the Building Research Establishment's Environmental Assessment Method (BREEAM) has been used to assess the environmental performance of both new and existing buildings. It is regarded by the UK's construction and property sectors as the measure of best practice in environmental design and management. BREEAM covers a wide range of environmental issues within one assessment, and presents the results in a way that is widely understood by those involved in property procurement and management.

BREEAM assesses the performance of buildings in the following areas, most of which are relevant to biodiversity:

- Management: overall management policy, commissioning site management and procedural issues
- Energy use: operational energy and carbon dioxide (CO2) issues
- Health and well-being: indoor and external issues affecting health and well-being
- Pollution: air and water
- Transport: transport-related CO2 and location-related factors
- Land use: greenfield and brownfield sites
- Ecology: conservation and enhancement of the ecological value of the site
- Materials: environmental implication of building materials, including life-cycle impacts
- Water: consumption and water efficiency.

Developers and designers are encouraged to consider these issues at the earliest opportunity to maximise their chances of achieving a high BREEAM rating.

Credits are awarded in each area according to performance. A set of environmental weightings then enables the credits to be added together to produce a single overall score. The building is then rated on a scale of PASS, GOOD, VERY GOOD or EXCELLENT, and a certificate awarded that can be used for promotional purposes.

BREEAM covers a range of building types, including offices, homes (known as EcoHomes), industrial units, retail units, schools and health buildings. Other building types, such as leisure centres and laboratories, can be assessed using a bespoke version of BREEAM.

http://www.breeam.org/index.html

Case Study: Information provision and raising awareness through the British Library

The British Library

An increasing proportion of valuable research material related to genetics, climate change and biodiversity is 'born-digital' as e-journals and databases, and may only be used in this format. The British Library is actively supporting digital preservation and public access, and has introduced new initiatives and programmes to safeguard 'permanent access to the records of science'.

The British Library also has a Sound Archive Wildlife Collection containing over 130,000 fully documented field recordings. These are being used to create exciting new soundscapes and hundreds of wildlife sounds can be accessed on-line to raise awareness and understanding of biodiversity. Additionally, the British Library supplies recordings to a large number of external organisations to enhance educational exhibitions.

Case Study: A Biodiversity Audit of Local Authority Sites

Calderdale Metropolitan Borough Council, West Yorkshire

Problem – The Council owns large numbers of parcels of land, ranging from small sections of roadside verge to important sites designated as SSSIs. These are the responsibility of various Council departments. Some of this land may have unrecognised existing or potential value to biodiversity. There was a need for a low cost, pragmatic solution.

The solution –

- Using GIS, the Council has mapped all unmaintained green spaces in Council ownership
- Using aerial photography, the Council has made an initial assessment of the biodiversity value of these sites – this has almost been completed.
- For sites showing biodiversity potential, a biodiversity site assessment is undertaken – this is currently in progress.
- Departmental ownership and constraints will be identified for each site with potential.
- For the prime sites, practical steps will be taken to maximise biodiversity gain (e.g. reviewing grazing licences, agri-environmental funding)
- The Council will produce site management plans/briefs for key sites with biodiversity potential.

Case Study: The EcoHouse – Leicester's Internationally Renowned Environmental Showhome

Leicester City Council

The EcoHouse demonstrates hundreds of environmental features and ideas, raising awareness of environmental issues and inspiring visitors to make changes to their own homes and gardens. The EcoHouse has welcomed more than 100,000 visitors since it first opened in 1989. The project is managed by Groundwork Leicester and Leicestershire, and receives financial support from Leicester City Council. A major expansion and refurbishment programme took place before the EcoHouse re-opened in February 2000, funded by the National Lottery, the European Union and more than 100 businesses.

On-site interpretation uses technology and innovative approaches to provide a rewarding experience to visitors, and includes video presentations, an audio trail, a number of interactive displays and touch-screen computers providing detailed information about the environmental products on view. EcoHouse staff provide guided tours, as well as information and advice to visitors about saving energy and water, sourcing recycled products, and information on grants available for environmental home improvements.

The EcoHouse also offers educational tours for schools, and provides activities linked to the national curriculum, including interactive environmental computer games. A range of events are hosted on the site to encourage volunteer and community involvement to maintain the organic garden and grounds. The gardeners provide advice to owners of gardens of all sizes on environmentally-friendly approaches to gardening.

Case Study: Wild about Manchester

Manchester City Council

'Wild About Manchester' is a community focused campaign which aims to get schools and the public involved in conserving, protecting and enhancing biodiversity in Manchester for current and future generations. The key objectives of the campaign, relating to advice, education and awareness, are:

- **To create a species and habitat audit to establish a baseline of biodiversity in the city**. Local communities, schools and partners are all involved in the collation of biodiversity information to inform the species and habitat audit.
- **To promote biodiversity in Manchester**. Specific aims are to raise the profile of major natural attractions, to increase the involvement of local people in biodiversity by encouraging the formation of 'friends of' and community groups, to promote wildlife-friendly gardening, to fully utilise media opportunities and to promote the benefits of eco-tourism across the city.
- **To promote biodiversity as an environmental education resource**. Manchester City Council is making efforts to raise awareness of biodiversity through national curriculum studies, including the promotion of wildlife gardens in schools to facilitate wildlife surveys.

In 2006 there were more than 75 nature conservation projects across all wards in Manchester, involving more than 1,000 participants from local community groups, schools and members of the public. These projects created three new ponds and twelve wildlife hedges, planted eight fruit orchards and four wildflower meadows, and erected approximately 1,000 nest boxes across parks, gardens and school grounds.

Case Study: Northumberland County Council Local Food Procurement

Northumberland County Council

Northumberland County Council aimed to improve the local economic impact of its procurement, and began this by shifting its food suppliers from non-local to local sources. The Council aims to have moved 10% of its procurement spending to local sources within the next three years. This is being done by:

- Raising awareness of the Council's contract needs by arranging a seminar for small, local suppliers;
- Maintaining the capability of local suppliers by working with regional business support agencies;
- Altering the specifications of tenders to open them to small, local businesses, and requiring the contractor to be able to assist the Council's Catering Services Department to pursue a sustainable food procurement strategy and be able to supply locally grown or organic produce.

The changes to the Council's tender process saw a five-fold increase in the number of expressions of interest from local suppliers, and the contracts for supplying meat, milk, bread and fruit and vegetables were all awarded to local suppliers.

Although the main aim of this scheme was to provide economic benefits to local industry, sourcing food locally is also likely to have significant positive environmental effects, and specifically biodiversity benefits. These include:

- Reducing the distances that food is transported, reducing greenhouse gas emissions of from transport and refrigeration, with indirect benefits for biodiversity;
- Encouraging the procurement of organically-grown food. Organically farmed land supports wildlife by not using agrochemicals, and providing new habitats such as field margins and hedgerows.

http://www.sustainable-development.gov.uk/what/documents/northumberland-county-council1.pdf

Case Study: Portishead Golf Course

North Somerset District Council

Portishead's seafront has a small 10ha public golf course. It is bordered by a public path along the seafront and a busy road with residential houses, as well as other areas of public open space on either side. In 2005, North Somerset Council's Grounds Maintenance Contracts Officer identified the site as having potential to be enhanced for wildlife, and sought advice from the Council's Biodiversity Officer and the Hawk and Owl Trust about improving its management. It was agreed that enhancements for biodiversity would add greatly to the site's amenity value, and a series of enhancements were proposed that would be straightforward to implement while creating habitats for birds, invertebrates and small mammals. These enhancements have included:

- A new species-rich hedgerow was planted along the bare fence line, which would also serve to screen the road and improve the visual amenity of the site and a further hedgerow was planted to border part of the public path by the seafront totalling approx. 150m. The hedge plants were part funded by North Somerset Council's Biodiversity Action Grant. The hedgerow was planted by the Carlton Centre Volunteers (a group of people with learning difficulties) with a supervisor from the Goblin Combe Environment Centre, Cleeve, and grounds maintenance workforce.

- A change to the grassland management regime, to encourage voles to support birds of prey, by cutting different parts of the course at different frequencies.

- Bat and bird boxes were installed, with funding from the Biodiversity Action Grant. Barn owls and kestrels are in the local area and this project is intended to provide new habitat for them.

Although the project is small in scale it demonstrates that improving public open space for wildlife can be fairly straightforward and can provide opportunities for social inclusion. It is intended that the project will be ongoing, subject to funding, with additional hedgerows and, hopefully, interpretation, as there are good views of the bird life to be viewed on the adjoining Severn Estuary. There are plans to undertake monitoring work and to publicise the work through a display in a local library at a future date.

Case Study: Project Bullfinch

Manchester City Council

Project Bullfinch aims to improve and stabilise an existing habitat for bullfinches, with significant involvement of the local community. The project focuses on Chorlton Water Park, South Manchester, where there is a strong resident population of bullfinches, a Biodiversity Action Plan species which has experienced a significant decline in recent decades.

The project involved planting of fruit trees, bushes and teasel to provide food at different times of year, and gorse for nesting and shelter. It has involved the local community in practical action to conserve their environment, while raising awareness of bullfinches and biodiversity more generally. The community was involved from the start of the project and at all stages throughout. A consultation exercise at Barlow Moor Community Association was undertaken to gather opinions and support. Many of the trees and plants were planted by school children and health walkers. It has helped to enhance local habitats, benefiting bullfinches and a variety of other species.

Case Study – West Sussex Notable Road Verges Scheme

West Sussex County Council

In the early 1970s The Sussex Botanical Recording Society drew attention to the botanical significance of a number of road verges. Through discussions with the County Surveyor the Notable Road Verge (NRV) scheme was established. The key purpose was to ensure that the designated sites received appropriate management. The NRV scheme is now a central part of The West Sussex Road Verge BAP, which establishes a series of objectives and actions to enhance the management of road verges for biodiversity (see **http://www.biodiversitysussex.org**).

There are now 84 NRVs. While most have been designated for their flora, some are of importance for invertebrates and fungi. The County Council has identified the location of the NRVs with marker posts and each is subject to an agreed management regime.

Case study: A Biodiversity Action Plan for London Underground

London Underground, Metronet Rail, Tube Lines, London Biodiversity Partnership and its partners, Transport for London.

This case study presents an example of how a transport organisation has produced a Biodiversity Action Plan (BAP) to improve understanding and management of biodiversity.

London Underground (LU) is one of the largest land owners in London. Over half of the network is above ground and LU is aware that trackside vegetation is a valuable haven for plans and animals, particularly in central London. LU felt that it needed a co-ordinated approach to ensure that the biodiversity value of its property is managed appropriately as it moves into a major period of investment across the network.

Based on an initial LU survey and a series of surveys carried out by LU's Public Private Partnership contractors, Metronet and Tube Lines, LU built up a picture of the plants, animals and habitats on their property. LU worked with the London Biodiversity Partnership and its partners to understand what could be done to conserve and, where possible, enhance the biodiversity value of their trackside. Metronet and Tube Lines maintain the trackside habitat, so LU worked closely with them in agreeing future activities and initiatives in the London Underground Biodiversity Action Plan.

Developing the BAP has given LU a much better understanding of the biodiversity value of its property and how it can manage this. The BAP will allow it to apply good trackside management consistently across the network and it will help promote biodiversity to staff and the millions of people who travel with LU each year.

Case study: Design for Biodiversity Guidance

Organisation/Partnership: London Development Agency, Greater London Authority, Natural England, Groundwork and London Wildlife Trust.

This case study presents an example of how a development agency is promoting biodiversity conservation in design and management of the built environment.

The Design for Biodiversity project is a partnership project established to promote the conservation of wildlife as part of the design and management of buildings and urban landscapes in London. Although the project is London-based, the importance of Design for Biodiversity and the features and opportunities addressed are wholly relevant and applicable within all development and regeneration.

Design for Biodiversity promotes the ecological function of a built structure and environs in its local context. This requires not only the consideration of how a built structure can minimise any adverse impact upon the local ecology, but also a consideration of whether the built structure or its landscaped environment can deliver any wider ecological benefits or enhancements.

The initiative has established a guidance document that provides a step-by-step approach to addressing biodiversity when planning and delivering built developments in London. It includes five key steps that are necessary to ensure compliance and achieve best practice:

- consultation and scoping;
- survey and impact assessment;
- incorporating biodiversity objectives;
- identifying enhancement, mitigation or compensation;
- ensuring appropriate management and aftercare.

The guidance can be can be downloaded at **www.d4b.org.uk**, where the website provides further information on biodiversity planning policy for London, and case studies of good practice that illustrate how to integrate features into development.

Case study: Managing the Release from Reservoirs to Benefit Biodiversity

Yorkshire Water

Yorkshire reservoirs are situated in some of the most dramatic and beautiful scenery in England. In addition to their recreational value, they are also highly important for wildlife. However, the principal function of the reservoirs is industrial. Most were built by the Victorians to supply drinking water to the expanding cities of Yorkshire and to provide water for the textile and steel industries, fuelling the great industrial engine of the North.

Reservoirs are a vital component of Yorkshire's water supply, meeting nearly half of the demand. In addition, many reservoirs provide compensation water which must be released to the watercourse downstream in order to meet the needs of industry and to protect the environment by maintaining a baseflow. However, most of the historical industry has now declined, making the releases generally surplus to industrial needs. Also, releases were not specifically designed to meet environmental needs and are therefore sub-optimal.

Recognising that there was an opportunity, Yorkshire Water has worked in collaboration with the Environment Agency and Durham University since 2002, to investigate the feasibility of operating reservoirs differently, to both maximise the resource and benefit biodiversity.

At pilot catchments near Sheffield and Holmfirth, compensation releases have been redesigned to optimise reservoir operation and improve flows downstream. Releases have been designed to benefit brown trout based on their lifecycle requirements, by creating seasonally variable flows, including a spate in autumn to encourage trout spawning migration.

Stakeholders such as the Salmon and Trout Association, Sheffield Wildlife Trust and local wildlife groups were involved right from the start, bringing valuable local knowledge and support.

The pilot trials have proved a success, benefiting the trout population (and anglers) through faster growth rates and increased spawning, and providing improved habitat for invertebrates such as caddis and mayflies.

Building on this success, Yorkshire Water aims to apply the techniques and lessons learnt from the pilots to other suitable reservoirs in the region, seeking more opportunities to manage its operations to benefit the biodiversity of the region.

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