East Midlands Regional Assembly

East Midlands Biodiversity Forum

Putting Wildlife Back on the Map -

A Biodiversity Strategy for the East Midlands

Full Strategy

PUTTING WILDLIFE BACK ON THE MAP

A Biodiversity Strategy for the East Midlands

Adopted by
East Midlands Biodiversity Forum & East Midlands Regional Assembly

This version dated 15th May 2006

CONTENTS

Tables & Figures

FOREWORD

Biodiversity excites, motivates and provides inspiration for many people in the East Midlands. Indeed, conservation organisations in the region have more than 250,000 members. Many people visit the East Midlands to enjoy the wildlife and scenery of the Peak District, Sherwood Forest and the Lincolnshire Coast, areas that stand comparison with the best wildlife sites in Europe. In addition, many residents use and enjoy local sites such as Beacon Hill, Summer Leys, Martin's Pond and Wessington Green, where they not only get enjoyment, but also benefit from relaxation, exercise and interaction with like-minded people. Research has shown the health benefits that such activities produce. We also know that the interest of many people in the environment started as children, sparked by visits to such sites. The East Midlands Biodiversity Forum's publication *Action for Regional Biodiversity: Case Studies Making a Difference* highlights sites like these and indicates other ways in which people can get involved in taking action to promote biodiversity.

However, the biodiversity of the East Midlands is greatly reduced from what it once was, and indeed is still declining in many areas. There have been catastrophic losses of species-rich grasslands in all counties, wetlands have been drained and heathlands converted to agriculture or commercial forestry plantations. On average one plant species becomes extinct in each of our counties every year. These changes are documented in the Forum's publication *Towards a Regional Biodiversity Audit for the East Midlands.* For many habitats very small areas now remain, with the remnants widely scattered. Continued management of these remnants is often difficult, but it is crucial to ensure the continued existence of these valued sites as 'reservoirs' of biodiversity. In fact, it is likely that biodiversity has declined more in the East Midlands than in any other region in England. The scale of past losses means that the region needs to take significantly more action than elsewhere to create new wildlife habitats. As biodiversity is accepted as a key test of sustainable development, reversing these trends poses a major challenge to a region aiming to meet sustainability targets. Many organisations such as the Wildlife Trusts are doing their bit, but major players in the region, from businesses, through to the public and voluntary sectors and local communities, need to commit themselves to taking positive action if sustainability targets are to be met.

The region has made some progress in creating new opportunities for biodiversity, as projects such as Rutland Water, Freiston Shore, Whisby Nature Park, Red Kites at Rockingham, Stanwick Lakes and the National Forest demonstrate. Other exciting projects are being planned, including Willington Gravel Pits, Beckingham Marshes, Frampton, Baston & Thurlby Fens, and the Fenland Waterways Link. Some habitats can be created (though some are irreplaceable once lost). In many cases, we have the technical knowledge and have targeted the key areas for action, but accessing appropriate funding is still difficult and time consuming. Many major funding initiatives could do more to build stronger linkages between economic development and the quality of the environment, recognising the interdependence of these.

Apart from quality of life issues, the environment and biodiversity are important economically, contributing 71,000 jobs and 3% of the region's gross domestic product. This makes it comparable in size to sectors such as construction and food and drink (Emda, 2002). The RSPB estimates that each visitor to the North Norfolk Coast nature reserves spends £14 and that £30-40,000 pounds spent equates to the employment of one full time post. In December 2003, 35,000 thousand people went to Donna Nook National Nature Reserve to see the grey seals and in 2003, 5,000 people paid to see Montagu's harriers at Frampton. Sherwood Forest National Nature Reserve receives over

500,000 visitors a year, and there are an estimated 22 million visits a year to the Peak District National Park. Local communities and businesses across the region benefit directly and indirectly from the flow of visitors, and simply from being within a high quality natural environment.

There are now excellent policies for biodiversity in the Regional Spatial Strategy, Regional Tourism Strategy and the Regional Environment Strategy and everyone needs to work with these to achieve better outcomes for biodiversity in the East Midlands. If programmes do not contain appropriate policies and actions then they need to be challenged. We are now in an excellent position to take the steps forward that will make the difference in the East Midlands and all we need is *your* commitment and imagination. Biodiversity is not an obstacle to development; it is an opportunity to improve everyone's quality of life, both now and in the future.

R J Keymer
Chair of the East Midlands Biodiversity Forum

Councillor John Bull
Chair of the East Midlands Regional Assembly Environment Task Group

EXECUTIVE SUMMARY

Our vision is for a region – its landscapes and water bodies, coasts and seas, towns and cities – where wild spaces and habitats are part of healthy functioning ecosystems; where we nurture, treasure and enhance biodiversity, and where biodiversity is a natural consideration of policies and decisions in society as a whole.

> *"Experts tend to think that scientific facts are convincing in themselves. Exchange of this type of information does not necessarily motivate people outside these circles. These data are insufficient to change knowledge, attitudes and behaviour. They have to be translated into concepts and messages that appeal to the target audience, are relevant to them and connect with emotional aspects and relate to personal benefits"*
> ***Mainstreaming Biodiversity, IUCN, 2002***

In recent years, good progress has been made on protecting and enhancing biodiversity through improved national policy and legislation. In the East Midlands, biodiversity conservation policies are an essential component of the Integrated Regional Strategy (IRS). However, if the long-term health of the region's biodiversity and a truly sustainable future is to be secured, the full value of biodiversity to society needs to recognised, coupled with fundamental changes in people's behaviour.

The region's biodiversity – wildlife and habitats – constitutes a key resource, contributing to and underpinning people's quality of life. Biodiversity is fundamental to health and well being, it is a key determinant of economic success and it provides a sense of place and character.

Putting Wildlife Back On The Map – The East Midlands Biodiversity Strategy provides a strategic framework for the conservation and enhancement of biodiversity. The strategy adopts the vision and approach set out in *Working with the Grain of Nature - A Biodiversity Strategy for England* and builds on the headline objectives of the *Regional Environment Strategy* and other regional policies. It identifies the main issues affecting the region's wildlife and outlines opportunities and activities that will ensure its protection and enhancement, whilst increasing people's enjoyment and understanding of nature. It also illustrates the importance of knowing how well wildlife is doing.

The aim of the strategy is to promote the creation of the policy, strategic and communications framework within which conservation and enhancement of biodiversity can best be achieved, so our vision can be realised.

The cumulative effects of human activity, accelerated in the 20th Century, have led to dramatic landscape change and declines in biodiversity across the East Midlands. Based on a number of widely recognised indicators such as the coverage of statutory wildlife sites, the region has the poorest biodiversity in the country. Wildlife habitats have been lost and those that remain are often small and fragmented. A large number of species have been driven to extinction (EMBF, 2003) and many others are endangered. On top of this, the region's wildlife now faces the uncertain but potentially huge impacts of climate change. If progress is to be made on halting and reversing these declines, an understanding of five key challenges is essential:

Keeping wildlife on the map: The challenge for the region is to halt the decline in characteristic habitats and species. It is vital to ensure that sites of special scientific interest (SSSI) and local wildlife sites are conserved and managed for future generations. It is also important that wildlife does not become confined to protected sites, but thrives in the wider countryside and places where people live, throughout the region.

Putting wildlife back on the map: In the region where the decline in characteristic flora and fauna has been so great, there is an urgent need to restore degraded wildlife habitats and create new areas for wildlife.

People and wildlife: A high quality natural environment brings psychological benefits: contact with the natural environment can uplift the human spirit; increase people's sense of place, self-esteem, pride and well-being; improve physical and mental health and generally contribute to quality of life.

Wildlife and the economy: Biodiversity is increasingly recognised as an essential element necessary to support a thriving and sustainable economy. A high quality environment helps attract inward investment and a new work force, and more directly, the environmental economy of the East Midlands generates 3% of the region's gross domestic product.

Keeping track of wildlife: A detailed knowledge of the region's biodiversity resource, including the extent and condition of habitats and the distribution and size of species populations, is essential if action for biodiversity is to be planned effectively and for progress on sustainable development to be monitored.

These five challenges cut across all areas of regional activity that affect biodiversity. Actions to address each of these themes are required from all the key sectors across the region. Chapters 3-11 of the strategy set out these actions, split up into the key socio-economic sectors that affect biodiversity:

- Agriculture
- Water and Wetlands
- Forestry and Woodlands
- The Coast and Sea
- Urban and Post-Industrial Regeneration
- Sustainable Communities and Green Infrastructure
- Education, Community Engagement and Enjoyment
- Business and Industry
- Tourism and Recreation

The final chapter, Delivery and Resources, makes clear the increased level of resources and commitment required if the current declines in biodiversity are to be stopped and reversed in coming decades.

Every organisation with a stake in any of the socio-economic drivers outlined above and developed in Chapters 3-11 must make a commitment to helping to deliver this strategy. The East Midlands Biodiversity Forum (EMBF), which has produced this strategy in consultation with a wide range of partners, will report progress on an annual basis and review the strategy in 2010.

1. INTRODUCTION

1.1 Rationale: the need for the East Midlands Biodiversity Strategy

1.1.1 The region's biodiversity – wildlife and habitats – constitutes a key resource contributing to and underpinning people's quality of life. It is fundamental to health and well being, it is a key determinant of economic success, an integral component of sustainable development, and it provides a sense of place and character.

1.1.2 However, the biodiversity of the East Midlands is under tremendous pressure – degradation of the biodiversity resource is generally recognised to have been greater here than in any other English region (EMBF, 2003). The surviving wildlife of our countryside and towns depends on the active management of key habitats and features as well as clean air, soils and water. This is recognised in wider policies and incentives to encourage and reward appropriate land management, and in regulations to protect wildlife features and avoid damage.

1.1.3 This strategy identifies the main issues affecting the region's wildlife and outlines opportunities and activities that will ensure its protection and enhancement, whilst increasing people's enjoyment and understanding of biodiversity. It also illustrates the importance of knowing how well wildlife is doing. Continuing work is needed on monitoring and reporting, protection and enhancement programmes and achieving regional contributions to national and international targets.

1.1.4 The health of biodiversity is a key indicator of environmental quality and thus of sustainability. As such, the strategy forms an essential component of the East Midlands Integrated Regional Strategy (IRS) and the Regional Environment Strategy (REnvS). It also seeks to inform the other regional strategies that could influence the state of biodiversity – such as the Regional Economic Strategy (RES).

1.2 A vision for the East Midlands' biodiversity

1.2.1 This strategy adopts the approach to biodiversity conservation set out in *A Biodiversity Strategy for England*, including a modified version of its vision:

Our vision is for a region – its landscapes and water bodies, coasts and seas, towns and cities – where wild spaces and habitats are part of healthy functioning ecosystems; where we nurture, treasure and enhance biodiversity, and where biodiversity is a natural consideration of policies and decisions in society as a whole.

1.3 The role and aim of the strategy

1.3.1 The aim of this strategy is to promote the creation of the policy, strategic and communications framework within which conservation and enhancement of biodiversity can best be achieved, so our vision can be realised.

1.3.2 It helps to do this by:

- Identifying the strategic framework needed for conservation and enhancement of biodiversity to be achieved at a local level, through local biodiversity action plans (BAPs).
- Informing other regional strategies and sectors of the role and relevance of biodiversity in delivering their objectives.
- Identifying key delivery partners, the role envisaged for them and the support available to them.

1.3.3 The strategy sets out how the region can contribute to strong international, national and regional policies and obligations in ways that build on and contribute to the character, attractiveness and economic strength of the region.

1.3.4 The scale of the challenge cannot be overestimated. Despite many years of legal protection for our best sites and characteristic wildlife, and years of policies and programmes aimed at preventing the further loss of biodiversity, we have lost much and in some sectors, this continues. We must commit ourselves to a step-change in the capacity to deliver for biodiversity, to counter continuing depletion and enable a future richer in wildlife.

1.4 The Integrated Regional Strategy

1.4.1 This strategy is a 'daughter' strategy of the Regional Environment Strategy (REnvS), which is itself a key component of the Integrated Regional Strategy (IRS). It provides a strategic framework for the conservation and enhancement of biodiversity in the region. As such, it is fully endorsed by the East Midlands Regional Assembly (EMRA).

1.4.2 The IRS is the region's sustainable development framework. It is the overarching framework for all strategies in the East Midlands in order that they take into consideration other strategies and allow the region to develop in a sustainable manner. To achieve this the IRS is split into four themes:

- Economic
- Environment
- Social
- Spatial

1.4.3 *The Regional Environment Strategy* is one of the four major strategies that build on the challenges and develop the themes identified in the IRS. The others are:

- The Regional Spatial Strategy (RSS), (formerly the Regional Planning Guidance)
- The Regional Economic Strategy
- The Regional Social Strategies

1.4.4 The relationship between these four regional strategies is an integrated, 'horizontal' one. Further details on key objectives and policies contained in the IRS and its component strategies to which the Regional Biodiversity Strategy relates, are found in Appendix 4.

1.5 The national and local biodiversity action plan hierarchy

1.5.1 This strategy is also integrated vertically within the biodiversity planning process. 'Biodiversity Planning' originates from the 1992 UN Convention on Biological Diversity. This committed each of its 159 signatories to produce plans or programmes for the conservation of biodiversity. The UK Government published the UK Biodiversity Action Plan (UK BAP) in 1994. This was followed by a set of action plans for priority species and habitats, produced jointly by a wide grouping of conservation bodies, the UK Biodiversity Partnership, from 1995.

1.5.2 Local biodiversity action plans (LBAPs), instigated by the UK BAP and operating primarily at county and national park scales, are key to local delivery for UK and local biodiversity priorities, and to engaging local communities in conserving biodiversity. In 2002, in response to devolution of environmental decision-making to Scotland and Wales, Defra published the Biodiversity Strategy for England (EBS). This addresses policy issues pertinent at country level, enabling easier delivery at other levels. This Regional Biodiversity Strategy responds similarly to the need to engage with regional decisions and decision-makers. It links UK and local BAPs by presenting regional biodiversity targets that reflect both. It also supports the delivery and strategic functions of the region's LBAPs and assists in communication between LBAPs, the England Biodiversity Group and the UK Biodiversity Partnership.

1.6 Roles and responsibilities in delivering the strategy

1.6.1 The nature conservation sector has a key role to play in helping to implement this strategy through advice and expert guidance, practical projects and community engagement, but this sector cannot do it alone. The East Midlands Biodiversity Forum (EMBF) has produced this strategy in consultation with a wide range of partners and will report progress on an annual basis and review the strategy in 2010. Responsibility for the publication and review of the strategy sits with the EMBF, but implementation is a responsibility of every regional organisation with a stake in any of the socio-economic areas of activity identified in the strategy.

1.6.2 In addition, local communities, individuals, and organisations have a valuable role to play. Small-scale local actions and even individual commitments to change are, cumulatively, just as important as large-scale programmes and showpiece projects. The strategy identifies many regional and sub-regional partners, but these are not intended to be exclusive and other organisations wishing to take up a particular challenge will be welcome.

1.7 Structure of the East Midlands Biodiversity Strategy

1.7.1 Chapters 3-11 of the strategy set out actions and split up into the key socio-economic areas of activity that affect biodiversity:

- **Agriculture:** (Chapter 3) 81% of the region is farmed. Farmers, land managers, funding agencies and farming advisors need to work together to manage farmland habitats more sympathetically for characteristic wildlife, and ensure that important habitats and threatened species are conserved and enhanced.

- **Water and Wetlands:** (Chapter 4) the region's wetlands must be conserved and enhanced for biodiversity, but they must also function for flood management, water supply, pollution

control, recreation, and drainage. Integrated management and conservation of wetlands is required, to respond to problems threatening biodiversity, such as over-abstraction, diffuse pollution and inappropriate development.

- **Forestry and Woodlands:** (Chapter 5) a single woodland may be a commercial crop, wildlife habitat, landscape feature and place for recreation. We need to conserve and enhance the biodiversity of all woodland types through appropriate management and fully recognise the role of woodlands in new developments.

- **The Coast and Sea:** (Chapter 6) wildlife in coastal and marine areas faces a special set of challenges from resource use, sea-level rise, development and widespread lack of understanding of marine and coastal processes. Conservation and enhancement of coastal biodiversity requires new understanding and an integrated approach.

- **Urban and Post-industrial Regeneration:** (Chapter 7) wildlife in developed areas is essential to quality of life, yet by definition these areas hold more people and are subject to greater pressure for development than anywhere else. We must conserve and enhance the urban and post-industrial biodiversity resource through effective planning and community involvement.

- **Sustainable Communities and Green Infrastructure:** (Chapter 8) Green Infrastructure (GI) is a planned network of multi-functional greenspace and interconnecting links that is designed, developed and managed to meet the environmental, social and economic needs of communities across the region. It is set within, and contributes to, a high quality natural and built environment and is required to enhance the quality of life for present and future residents and visitors, and to deliver 'liveability' for sustainable communities.

- **Community Engagement, Enjoyment and Education:** (Chapter 9) we must ensure that people are fully aware of the importance of biodiversity and the intrinsic value it contributes to the quality of their lives. They must be able to engage in conservation activity that provides an enjoyable learning experience.

- **Business and Industry:** (Chapter 10) the move towards a sustainable regional economy needs to help to conserve and enhance the region's biodiversity, acknowledging that a high quality natural environment is essential to business and industry, and that the environmental economy of the region is thriving and set to grow further.

- **Tourism and Recreation:** (Chapter 11) the region's 'growth industry' is especially reliant on a high quality natural environment, and those working to increase the quality of facilities and range of attractions and activities must not lose sight of the need to conserve and enhance the natural environment that attracts millions of visitors in the first place.

1.7.2 Chapter 12, 'Delivery and Resources', makes clear the increased level of commitment required if the current declines in biodiversity are to be stopped, and for there to be a net gain in biodiversity in coming decades. Implementation will require significant human and financial resources. Basic infrastructure requirements include support for regional co-ordination, local biodiversity action plan (LBAP) implementation and the development and management of local records centres (LRCs). Area-based partnership initiatives will also need to be developed further, to tackle the decline in the region's biodiversity, provide integration with local economies and

promote the social value of biodiversity. Further work is required to identify priority projects, their geographical locations and detailed resource requirements.

2. THE ISSUES

2.1 The state of biodiversity in the East Midlands

2.1.1 The landscape and biodiversity of the East Midlands have undergone dramatic changes over the centuries. The modern landscape is the culmination of millennia of human land management and habitation. This in turn has had a huge influence on our wildlife. Following major woodland clearances, agriculture became the principal land use, as it is today. Throughout the 17th and 18th Centuries, agricultural land was enclosed to create hedged or walled field patterns. Change accelerated in the 19th Century as the Industrial Revolution led to the development of the Nottinghamshire and Derbyshire coalfields to supply fuel for heavy industry, domestic heating and the expansion of urban centres.

2.1.2 Change was most dramatic in the 20th Century. Agricultural intensification saw the extensive drainage of wetlands, flower-rich grasslands ploughed for arable crops, hedgerows removed to maximise efficiency, a shift away from mixed to more specialised farming, increased grazing levels in the Pennine uplands and pesticides, herbicides and artificial fertilisers applied to the land. All this had major impacts such as reduced food supplies for farmland birds and declining water quality of rivers and wetlands. The drive for self-sufficiency in timber supply, especially war-time felling, resulted in the conversion of many ancient woodlands to conifer plantations and trees were planted on heathland and other marginal land less suitable for agriculture, but important for wildlife. In the uplands, pollution, over-grazing and erosion by visitors have degraded extensive areas.

2.1.3 The quality of the urban environment has also declined. Industrial expansion was fuelled by a rapidly expanding coal mining industry, which, in many cases, caused environmental problems that persist today. Furthermore, urban expansion, in response to a rising population, required the construction of roads, factories and new homes, which eroded habitats in the urban fringe.

2.1.4 In the last couple of decades, a multitude of new projects has started to try to enhance the region's biodiversity. However, the legacy of long-term declines means that the East Midlands now has to find a way to restore its biodiversity starting from a generally low threshold. Based on a range of widely accepted indicators such as the number and coverage of protected sites and the region's high placement in the National Plant Extinction Table, the region has the poorest biodiversity in the country. Wildlife habitats have been lost and those that remain are often small and fragmented. In addition, a number of species have been driven to extinction, county-by-county, and many others are endangered. The EMBF's 2003 publication '*England's East Midlands wildlife: the future you can help!*' catalogues many of these extinctions.

2.1.5 A strategic approach and concerted action is required for the decline in the region's biodiversity to be halted and turned into a net gain. This approach must encompass a range of actions, beginning with the protection, conservation and favourable management of existing local, national and internationally designated sites. Policy 28 of the RSS clearly establishes that the first priority for conserving and enhancing biodiversity in the East Midlands is to protect our existing resource – particularly nationally and internationally designated sites, and those natural habitats that are irreplaceable. These sites will provide part of the 'reservoir' of biodiversity needed to help the East Midlands recover what has been lost. Further action on a wholly new scale is needed to

enhance these sites, and restore and create new wildlife habitats. In the wider countryside and in urban areas, the needs of biodiversity must be built into to land management and funding programmes, and planning decisions. All this needs to be monitored effectively and we need to foster a better understanding of the value of biodiversity to the regional economy and to people.

2.1.6 The RSS and this strategy identify a range of targeted actions needed to deliver the aspirations described above. In addition, we must be prepared to respond positively to opportunities such as the recent review of Common Agricultural Policy and the Government's Sustainable Communities Programme. Agri-environment funding schemes and the development and adoption of Green Infrastructure principles are two examples of areas where the region has responded positively, and helped define a new approach to managing biodiversity in the wider urban areas and countryside – not just in special sites.

2.1.7 In order to enable people to grasp the range of issues facing biodiversity conservation and management in the East Midlands, five key challenges have been identified:

- Keeping wildlife on the map
- Putting wildlife back on the map
- People and wildlife
- Wildlife and the economy
- Keeping track of wildlife

2.1.8 The context and nature of each theme is discussed in more detail below. These five challenges cut across all areas of regional activity that affect biodiversity. Actions to address each, are required from all the key sectors across the region. In addition, there is one cross-cutting issue that not only affects biodiversity, but also economic activity, human health and safety and our quality of life as well – climate change.

2.2 Climate Change and Biodiversity

2.2.1 A recent study (De Siqueira et al., 2004) estimated that due to climate change, 15-37% of Earth's species could be 'committed to extinction' by 2050 – meaning they will have nowhere to go. We can hope the local effects in the East Midlands will not be so catastrophic, but climate change is still the single greatest challenge to conserving and enhancing the region's biodiversity.

2.2.2 Much of the evidence for climate change comes from monitoring trends in biodiversity. For example, the UK Phenological Network compiles observations on key natural events. Such results show, for example, that egg-laying by 20 bird species is up to 17 days earlier than 25 years ago.

2.2.3 In the East Midlands, predictions are for a 1-3^{o}C rise in the annual average daily temperature by the 2050s, and a concurrent drop in summer rainfall by up to –30%. Winters are predicted to be slightly wetter, with up to 15% more precipitation, but overall there will be less rainfall. So-called 'freak' weather events – storms, floods and heat waves – are likely to become more frequent and more severe. Matters could be significantly worse by the 2080s. For many species, the practical impact is that their 'climate space' – the climatic zone within which they do best – will shift northwards. Modelling of predicted responses by wildlife is carried out under the MONARCH project of the UK Climate Impacts Programme (UKCIP).

2.2.4 Wildlife has only three ways of responding to climate change: by moving, by adapting in place, or by going extinct. Part of the current threat is the rate of climate change, which may mean many species cannot adapt in time. In addition, human activity has radically altered the landscape – especially true in the East Midlands. Isolated populations could disappear from untenable sites, but fail to colonise new sites because the habitat is unavailable or the distance involved is beyond their dispersal capabilities. Even where wildlife can hang on within its original range, populations are likely to be placed under greater stress by more frequent and severe droughts, floods and storm events. On the positive side, species new to the region may be able to colonise rapidly, if the right habitats are available to receive them. For example, Dartford warblers may expand their range northwards if high quality lowland heathland exists for them. The 'characteristic' wildlife of the region might be quite different in a few decades time.

2.2.5 Many of the region's most characteristic habitats are likely to be significantly affected by climate change. For example, the Peak District's blanket bogs are highly vulnerable, as they are the most south-easterly example of this internationally important habitat in Britain. If we do nothing but protect what we have now, we can also expect a significant net loss of coastal habitats due to sea-level rise, which is predicted to be between +12 and 67cm by the 2050s. Where regional action is needed in key areas of economic or social activity, these actions are drawn out in subsequent chapters of this strategy. Climate change will have an impact in almost every sector – water and wetlands, agriculture, forestry, and coastal management are some of the most obvious.

2.2.6 Action for biodiversity in the face of climate change can also bring benefits to the regional economy, and human health and welfare. For example, managed realignment and wetland habitat creation along the Lincolnshire Coast and the region's strategic river corridors would save hundreds of millions of pounds otherwise needed to upgrade and maintain artificial flood defences, not to mention saving the insurance and reconstruction costs on society when these fail.

2.2.7 While there is considerable consensus on the causes of climate change, much debate remains on its severity and probable effects. Some argue there is no point in taking action until we are certain what we are dealing with, and that precipitate action might be counter-productive. The predominant view, one advocated in this strategy and based on the precautionary principle, is that whatever the impacts of climate change are, in degree and in detail, one sure way of helping wildlife adapt to the effects will be to create bigger areas of habitat, and link them up. This will take a long time, so we must start right away.

2.2.8 Action to protect and conserve biodiversity must be an inseparable element of the region's response to the threat, a response that must include minimisation of greenhouse gas emissions and adaptation strategies as set out in policy ENV6 of the Regional Environment Strategy.

2.2.9 A fuller picture of climate change predictions and impacts in the region can be found in '*the potential impacts of climate change in the East Midlands'*, commissioned by the former Sustainable Development Round Table (emsdOt) in 2000. Further information can also be found on the UKCIP website (http://www.ukcip.org.uk/).

2.3 Keeping Wildlife on the Map

2.3.1 An indication of the current biodiversity resource is given in *Towards a Regional Biodiversity Audit for the East Midlands* produced in 2004. This identifies the key UK BAP habitats to be found

in the region. Whilst there are gaps in our knowledge, it indicates the variety of biodiversity present, due to the particular geography of the region.

2.3.2 The East Midlands is a region of contrasts, from the large metropolitan centres of Derby, Leicester and Nottingham, to the extensive rural areas in the west and east. Indeed Lincolnshire is one of the most sparsely populated counties in the country, but even here population is growing fast and could pose future challenges to the area's biodiversity. In the south of the region, Northamptonshire is a mainly rural county, but significant development is planned.

2.3.3 There is a great diversity of landscape types, from the upland moors and limestone dales of the Peak District, east through fertile, farmed lowlands to the chalk ridge of the Lincolnshire Wolds and the sand dunes and salt marshes of the Lincolnshire Coast and the Wash. Large areas of the Peak District National Park and Lincolnshire Coast are protected at a European level because of the quality of their wildlife. Outside these very extensive designations, important wildlife habitats and protected sites are of more limited occurrence, but nationally and internationally important areas such as Rutland Water, Sherwood Forest and the Lincolnshire Limewoods indicate the value of what we still have. Not all sites of value are natural in origin – Northamptonshire demonstrates the interrelationship between biodiversity, industry and landscape, where the former gravel pits in the Nene Valley now support internationally important wintering water bird populations.

2.3.4 Protected sites, such as sites of special scientific interest (SSSI), cover a very small area of the East Midlands (about 4.5%), occupying a much lower proportion of the area than the national regional average (around 7%) (English Nature, 2004). Of the SSSIs, only 49% by area are in favourable or recovering condition - put simply the ecological condition of over half of the region's nationally important wildlife sites is still poor or declining. Even allowing for the possible skewing effect of extensive areas of upland SSSIs that are in unfavourable condition, this is unsatisfactory. However, at sub-regional scales, SSSI condition may be locally better than the above figure indicates, which would suggest that local priorities may shift more towards addressing priority BAP habitats in non-statutory sites, or where they occur outside the designation system altogether. Another positive note is that the region has some of the largest individual SSSIs in England, in the Wash and the Peak District Moors.

2.3.5 SSSIs are important, but it is also important to remember they are designated only as a representative *sample* of the best wildlife habitats present in the region. Many non-statutory sites such as local wildlife sites are of SSSI quality, though relatively few are now likely to be designated as such in the future. The majority of some habitat types, such as unimproved grasslands and ancient woodland, are protected by the network of non-statutory sites: The cumulative value of even small sites in forming a network must also be recognised and enhanced. The weight given to conserving and enhancing existing biodiversity in the region within non-statutory sites must be based on an objective assessment of the site's true intrinsic value, not the perception that these sites are not valuable just because they do not have statutory protection.

2.3.6 Although biodiversity has declined nationally, it has probably declined faster in the East Midlands than anywhere in Britain in recent decades. A great deal of evidence exists on this point, some of it catalogued in the EMBF's 2003 publication '*England's East Midlands wildlife: the future you can help!*' Further work on the Regional Biodiversity Audit will help refine this view and demonstrate where the best and worst aspects of the region lie. Land use is dominated by highly productive, but often biodiversity-poor, farmland. Urbanisation and mineral extraction have

caused the loss and degradation of many irreplaceable wildlife habitats, though some valuable new habitats such as flooded gravel pits have also been created. The restoration of large mineral workings is increasingly being recognised as a major opportunity to secure benefits for wildlife. Outside certain areas such as the Peak District and the Lincolnshire Coast, SSSIs and local wildlife sites are often now isolated in a comparatively wildlife-poor landscape, and even within the Peak District, there has been substantial degradation. Table 1 gives a summary of the region's designated sites and key wildlife features; Figure 1 provides an overview of the distribution and extent of the region's nationally and internationally important sites for wildlife.

2.3.7 The initial challenge for the region is to halt the declines. We have to recognise that despite years of effort and statutory protection for much of the best wildlife resource, we have continued to lose sites and species. As part of delivering the major step-change increase in the level of the region's biodiversity required, it is vital to ensure that SSSIs, local wildlife sites and UK BAP priority habitats and species are conserved and managed for future generations. It is also important that wildlife generally becomes more varied and more widely distributed on more sites. Therefore, the conservation of the existing resource alone will not be sufficient to secure a future for biodiversity given the current patterns of habitat and species loss.

Table 1. Important wildlife assets in the East Midlands

A. Designated sites – the 'Jewels in the Crown'

The region has:

- 3 Ramsar Sites
- 10 Special Areas of Conservation
- 4 Special Protection Areas
- 10 National Nature Reserves
- 1 National Park (Peak District)
- 1 Area of Outstanding Natural Beauty (the Lincolnshire Wolds)
- 1 National Forest
- 384 Sites of Special Scientific Interest, covering 61,575 hectares.
- 83 Local Nature Reserves
- …and several thousand Local Wildlife Sites.

B. Key wildlife habitats

Habitats for which the East Midlands has a significant proportion (more than 10%) of the English total include:

- Lowland wood pasture and parkland – 22.3%
- Lowland hay meadows – 12%
- Saltmarsh – 15.4%
- Mudflats – 18.4%

C. Key species

The region's habitats support scores of UK BAP priority species, including many with nationally and internationally important populations. Based on the table in Appendix 2, the

following numbers of priority species (of selected groups – this list is not exhaustive) are known to occur in the East Midlands:

- 7 mammals (water vole, brown hare, otter, dormouse, harbour porpoise, pipistrelle and barbastelle bats)
- 14 birds (including bittern, nightjar, skylark and common scoter)
- 2 amphibians (natterjack toad and great crested newt)
- 1 fish (burbot)
- 2 ants
- 7 beetles (including stag beetle)
- 2 crustaceans (including freshwater white-clawed crayfish)
- 13 moths
- 1 lichen
- 2 fungi
- 6 mosses
- 2 stoneworts
- 14 vascular plants (including cornflower, sea lavender, Deptford pink and shepherd's needle)

Base date: December 2005

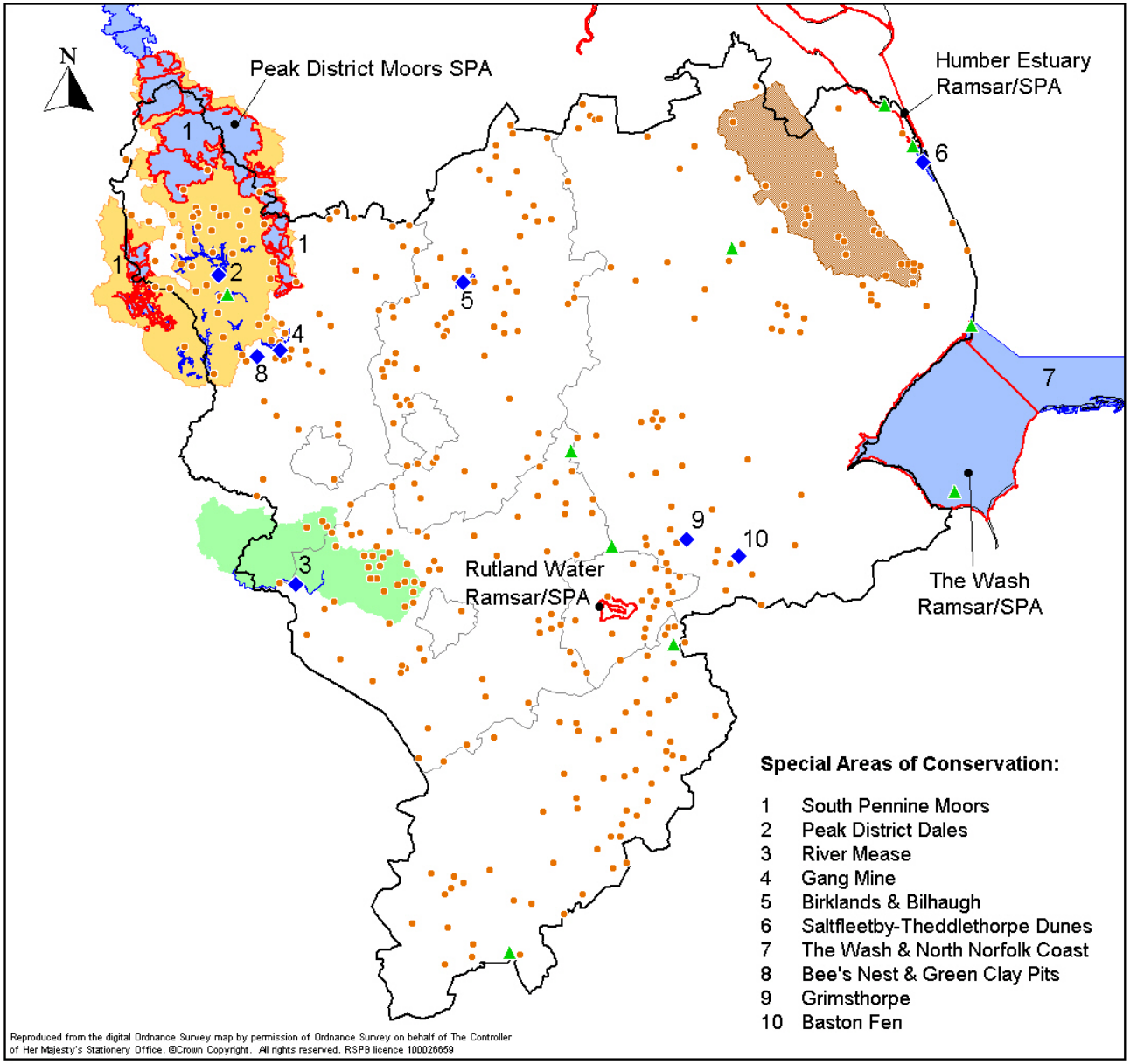


Figure 1: National and International Designated Sites in the East Midlands

Key:

- Special Protection Area
- Special Area of Conservation (boundary illustrated where scale permits)
- Site of Special Scientific Interest
- National Nature Reserve
- Peak District National Park
- The National Forest
- Lincolnshire Wolds AoNB

Notes:

All SPAs, SACs and Ramsar sites are also SSSIs.

Most NNRs are also SSSIs.

Ramsar site boundaries assumed to be coterminous with SPA boundaries where labelled for the purposes of this map

English Nature is to notify a new SSSI/ SPA/Ramsar site in the Upper Nene Valley Gravel Pits, Northamptonshire (only the SSSI is illustrated here)

Map provided for illustrative purposes only: consult English Nature for details of all designated wildlife sites

2.4 Putting wildlife back on the map

2.4.1 Ultimately, if the goal of halting and reversing the decline in biodiversity is to be achieved the region must have a greater diversity of species, more wildlife habitat, and increasing populations of those species that have declined. In the region where the decline in characteristic flora and fauna has been so great, there is an urgent need to restore degraded wildlife habitats and create new areas for wildlife. The EMBF has already set short-term priorities and targets and these have been adopted in Appendix 3 of the RSS. These should be reviewed and carried forward into the new RSS. Policy 29 of the RSS requires all parties to work together to promote a major 'step change' increase in the region's biodiversity through several mechanisms. At a regional scale, the most important and challenging proposals are:

- Establishment of large scale habitat creation projects in the priority areas of Lincolnshire, the region's strategic river corridors (SRCs) and heathland areas, and;
- Establishment of a regional project to promote the re-creation of key wildlife habitats in each joint character area (JCA) in the East Midlands.

2.4.2 In many cases, such projects are already under way. Other areas have yet to achieve the same momentum. There is a huge resource of expertise and experience for practitioners to draw on in seeking to restore and re-create wildlife habitats in the region. Detailed design and management prescriptions are obviously important and organisations with practical experience, such as the Wildlife Trusts and the RSPB, are ready to offer advice based on projects in the region and across the UK. While to a great extent, opportunities to create new wildlife habitats have to be taken where they can be found (particularly for very large scale projects), it is also important to consider how such projects best 'fit' the natural, historical and cultural character of different areas of the East Midlands. In England, JCAs and natural areas have been identified by the statutory agencies. These provide a framework for considering which habitats are highly characteristic to a particular area (see Appendix 1). Many local authorities have undertaken landscape character work in more detail at county scale and this should be referred to help inform choices about habitat creation. Most of the county councils have also carried out assessments of historic landscape character, which should be used to help guide discussions about the appropriate location and nature of habitat creation projects and ensure that in striving to reverse biodiversity declines we do not damage our valuable historic and cultural heritage. Ideally, individual projects of all scales should be seen as part of an integrated habitat network that 'makes sense' when viewed at landscape, sub-regional and regional scales.

2.4.3 There is currently no agreed list of priority species for the East Midlands, which would be the equivalent of the regional habitat targets listed in Appendix 1 of this strategy. There is a need for such a list, to help prioritisation of regional funding for species-related projects and this will form part of the EMBF's work programme prior to the next iteration of this strategy in 2010.

2.4.4 In certain circumstances, there may be a strong case to argue that a scarce or extinct species should be re-introduced into suitable habitat. For reintroductions to be viable and acceptable, a range of stringent criteria must first be met, including research to ensure that the areas selected can sustain viable populations of the target species. A good example of a successful re-introduction programme is the red kite. Once familiar in most parts of Britain, red kites were persecuted throughout the 19th century, so that by about 1870 they had disappeared from the East Midlands. In 1995 English Nature (EN), the Forestry Commission (FC) and the RSPB introduced a release

programme in the Rockingham Forest and successful breeding soon followed. Red kites are now a common sight in the north of Northamptonshire and continue to spread into new areas.

2.5 Regional spatial priorities for conserving and enhancing biodiversity

2.5.1 In seeking to restore biodiversity, it is helpful to have a spatial indication of the priority areas at a regional, strategic level. The statutory agencies in England have drawn up JCAs and natural areas, which help to define the key characteristics of all parts of the country in terms of their biodiversity, landscape, historic and cultural heritage. English Nature's natural areas have been used in the RSS to indicate where the regional biodiversity habitat management and re-creation targets are capable of being implemented (see Appendix 1 of this strategy). However, both the JCAs and natural areas are descriptive in nature and do not indicate regional spatial priorities as such.

2.5.2 To help inform the RSS, the EMBF has prepared a map of biodiversity conservation areas (BCAs) and biodiversity enhancement areas (BEAs), shown in Figure 2. BCAs represent areas that retain some of the best wildlife resources in the region, which could, if well managed, be 'reservoirs' of wildlife that help the East Midlands' biodiversity recover to sustainable levels. BEAs are areas in which biodiversity may be at greatest risk or already is severely degraded.

2.5.3 **The BCAs and BEAs are not the only areas of the East Midlands where action for biodiversity is needed.** Wildlife occurs everywhere, and many regional programmes – agri-environment schemes for example – will not be implemented on the basis of these spatial priorities. The identification of these regional spatial priorities does not preclude local action anywhere else in the region. Nonetheless, we must recognise that resources for restoring and recreating habitats are finite and there is a need to consider where the greatest needs and greatest potential benefits lie to avoid diffusion of effort. At a local scale, in every area of the region, there are many opportunities that will help restore wildlife to the wider countryside. Indeed, programmes and projects taking advantage of such opportunities are critical for the concept of BCAs and BEAs to work properly, since the large scale habitat restoration and creation projects likely to be focused on these areas will be unable to function in a countryside otherwise devoid of wildlife.

2.5.4 **Furthermore, BCAs and BEAs are not designations, nor are they to be treated as constraints on development.** Sub-regional authorities should not attempt to define fixed boundaries for these areas in their plans and strategies. Instead, they should consider whether existing plans and programmes in these areas properly acknowledge the potential and need that exists and fulfil the requirements of the RSS – particularly policy 29 (see Appendix 4). If not, they should consider what action is required to achieve the required outcomes. These areas should act as focal points for regional, and sub-regional, biodiversity funding and partnership working. The following sections define the different types of area in further detail and explain the approach needed

Biodiversity conservation areas

2.5.5 BCAs have been defined principally based on their having a relatively high proportion of the existing semi-natural wildlife habitats in the region – particularly SSSIs and local wildlife sites. BCAs tend to contain the largest sites, or a large number of sites in close proximity, which lends them greater ecological value, connectivity and coherence compared with many other areas of the

East Midlands. These areas offer some of the best prospects for retaining environments with a rich and resilient biodiversity resource. Wildlife in these areas is likely to be more capable of adapting positively to future challenges brought about by climate change and accommodating the sustainable development of local communities and businesses, simply because the resource is in better condition to start with.

2.5.6 The emphasis in BCAs is on giving strong protection to the existing network of protected sites and high quality semi-natural habitats, and using these areas as a solid foundation on which to base large-scale habitat enhancement and creation projects. This approach will reinforce the ecological integrity of the core sites by increasing the scale, diversity and interconnectivity of semi-natural habitats. Key actions required are to:

- Support existing biodiversity and landscape enhancement projects;
- Bring all existing protected sites back into favourable condition;
- Buffer existing semi-natural habitats from adverse impacts;
- Restore and re-create locally characteristic habitats based on assessments of local landscape character;
- Expand and link isolated blocks of semi-natural habitats to reduce fragmentation effects;
- Promote social and economic benefits by investing in linked facilities for sustainable access, enjoyment and education, and in businesses that contribute to and capitalise on a high quality natural environment, such as environmentally sustainable tourism.

Biodiversity enhancement areas

2.5.7 BEAs are areas where the biodiversity resource is particularly poor, or where there are regionally or even nationally significant opportunities to reverse biodiversity losses by implementing habitat creation projects on a landscape scale. BEAs may have relatively few protected sites – those that do exist are often small and isolated. The communities that live and work in these areas deserve a better environment. In the absence of large-scale positive action, BEAs are likely to continue to lose what biodiversity value they have left. In future, they could become effective obstacles to the long-term adaptation of the region's wildlife in response to threats such as climate change. Where protected sites and remnant semi-natural habitats exist then the requirements outlined for BCAs above are also vital to BEAs. However, in BEAs, even more emphasis should be given to the identification of opportunities for habitat creation, where habitats have been lost, and restoration, where habitats are degraded, on a much larger scale than has previously been aspired to. Key actions required are to:

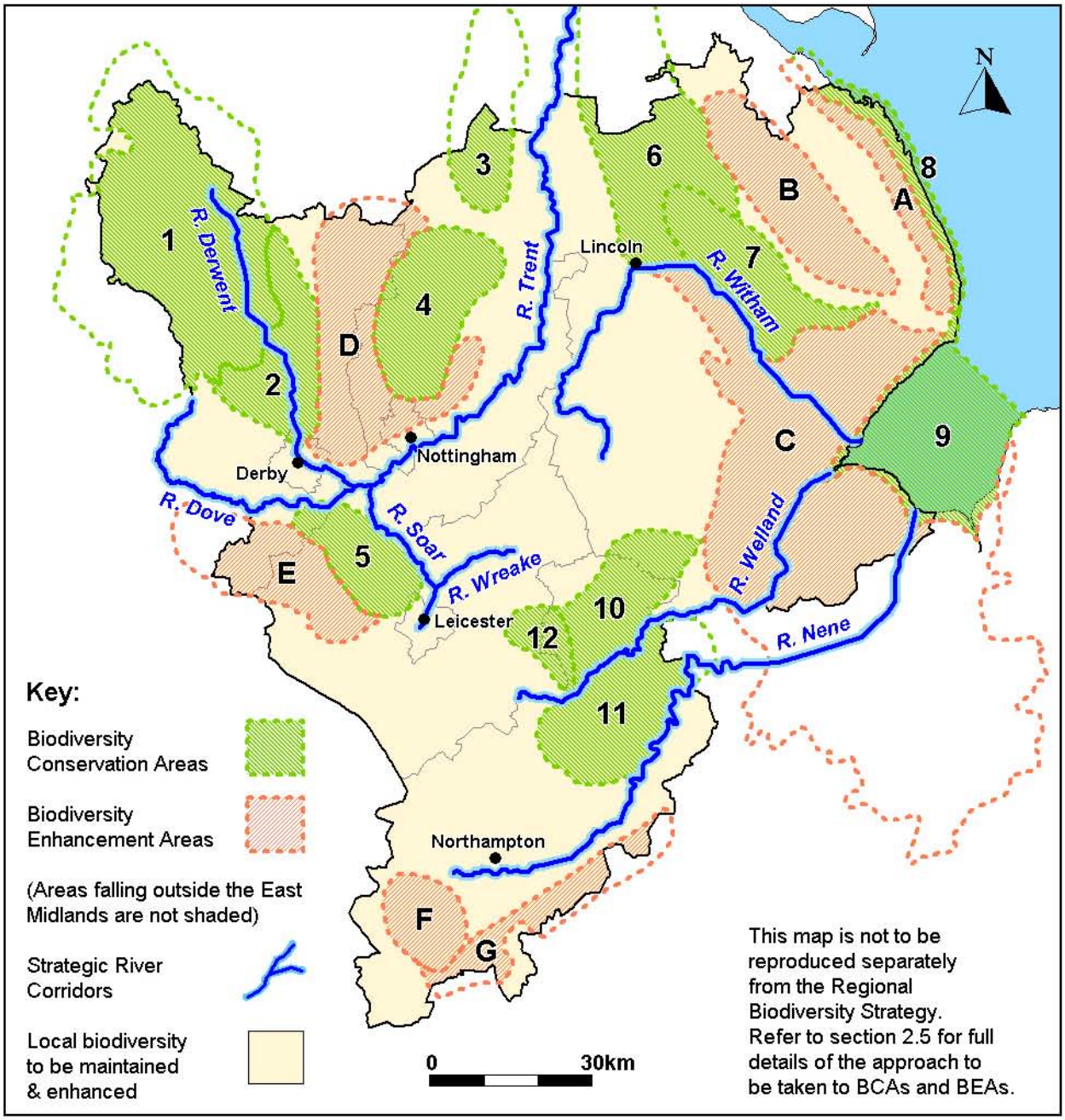
- Support existing biodiversity and landscape enhancement projects and partnerships;
- Identify and allocate land in sub-regional plans and strategies, for special habitat creation projects;
- Require new developments in these areas to contribute positively to the enhancement of the area, both in terms of location and design;
- Promote through partnership working, in areas that do not already have such projects in place, the establishment of large scale habitat creation projects;
- Promote the social and economic benefits of habitat creation and enhancement by investing in linked facilities for sustainable access, enjoyment and education, and in businesses that contribute to and capitalise on a high quality natural environment.

2.5.8 It is worth noting that the strategic river corridors (SRCs) are identified here as BEAs. This approach is consistent with policy 29 of the RSS. The SRC Working Group of the EMBF has prepared a Regional BAP for these features, as they are considered a unique biodiversity asset of the East Midlands that does not fit within administrative boundaries or even natural areas.

2.5.9 The EMBF is committed to an early review and refinement of the BCAs and BEAs, and the regional habitat targets presented in Appendix 1, ideally in time to inform the preparation of the new RSS. Key priorities for this review may include:

- Improving the spatial analysis of existing concentrations of regional priority habitats and species, including those not protected by statutory designations, to help refine the spatial limits of BCAs and BEAs;
- Gap analysis to identify the scope for new projects and local actions, area by area;
- Preparation of strategic action plans for BCAs and BEAs, including closer integration of regional habitat creation targets with these spatial areas.

Figure 2: Regional Spatial Priorities for Conserving and Enhancing Biodiversity



Biodiversity Conservation Areas:

1 The Peak District
2 Derbyshire Peak Fringe & Lower Derwent
3 Humberland Levels
4 Sherwood Forest
5 Charnwood Forest
6 Coversand Heaths
7 Lincolnshire Limewoods & Heaths
8 Lincolnshire Coast
9 The Wash
10 Rutland & SW Lincolnshire
11 Rockingham Forest
12 Leighfield Forest

Biodiversity Enhancement Areas:

A Lincolnshire Coastal Grazing Marshes
B Lincolnshire Wolds
C The Fens
D The Coalfields
E The National Forest
F Daventry Grasslands
G Yardley-Whittlewood Ridge

All Strategic River Corridors are also Biodiversity Enhancement Areas.

2.6 People and wildlife

2.6.1 Every species is dependent on others for its survival, and the web of biodiversity itself is an integral and significant part of the Earth's life support system. The link between the loss of forests and effects of changes such as global warming and sea level rise are examples of the need to protect biodiversity to ensure our own survival. Land management which respects natural processes has huge benefits for people and wildlife, including:

- Virtually all of our food is derived from the natural environment. Clean air and water sustain the healthy crops and livestock that feed us and the regional food processing industry. Wild ecosystems still produce much of the fish we eat.
- Floodplains and washlands act as release valves for rivers in flood, protecting homes;
- Woods, hedges and field margins form windbreaks and prevent soil erosion;
- Woodlands and peatlands perform a valuable role in carbon sequestration, essential to help reduce carbon dioxide concentrations in the atmosphere that contribute to climate change;
- Watercourse buffer strips help prevent nutrients reaching rivers and lakes, reducing pollution;
- Saltmarsh in front of sea defences reduces the erosive power of waves;
- Sand-dunes provide natural coastal defences;
- Peatlands hold huge amounts of rainfall which is released slowly, thus reducing the risk of flooding downstream;
- The living world, especially freshwater and seawater, absorbs and breaks down many of our poisons and wastes.

2.6.2 English Nature's report 'Revealing the Value of Nature' (2002) summarises many examples and research that demonstrate the importance of biodiversity to human physical and mental health. Contact with the natural environment can uplift the human spirit; increase people's sense of place and well being; improve both physical and mental health; provide opportunities for life-long learning, engage people in community activities, and generally contribute to quality of life. A recent report commissioned by English Nature, *Nature for People: The Importance of Green Spaces to East Midlands Communities* (2004), highlighted the value that people place on visiting wildlife sites, and the need for such sites to be accessible and well managed. Biodiversity is an integral element of landscapes that people value both as part of their daily lives, and areas they visit for leisure and recreation such as the Peak District National Park (PDNP).

2.6.3 The large membership of conservation organisations in the region, numbers of visitors to wildlife sites and visitor centres, and voluntary conservation work are all indicators of the considerable importance people in the region attach to wildlife conservation and the enjoyment that they get out of the natural environment. The conservation of this environment provides opportunities to local authorities / LSPs for engaging people with community strategies.

2.6.4 The value of biodiversity and wildlife habitats to people's quality of life is now acknowledged as something that the land use planning system must protect and enhance as an essential component of sustainable development. In response to the high levels of growth projected for the Milton Keynes and South Midlands (MKSM) Sub Region, the concept of Green Infrastructure has been formulated, to try to ensure 'liveability' for existing and future residents of the whole region (see Chapter 8).

2.7 Wildlife and the economy

2.7.1 Unfortunately, nature conservation is perceived by some as a constraint to economic development. However, policies and activities which support conservation are beneficial to the local economy, as demonstrated by *The Environmental Economy of the East Midlands* (2002), which identified that the environment and biodiversity supports 71,000 jobs, perhaps half of which are directly related to biodiversity, and generates 3% of the region's gross domestic product. This makes it comparable in size to sectors such as construction and food and drink. Significant fields of employment include consultancy, landscape design and management, nature conservation, agri-environment delivery and especially tourism. The report is under review, and research to date shows strong growth in many sectors.

2.7.2 Sustainable tourism based on the enjoyment of the natural environment is a growth sector and will continue to rise further if a wider understanding and enjoyment of our precious wildlife assets is encouraged. The East Midlands Tourism Strategy '*Destination East Midlands'* (2003) recognises this and identifies continued environmental enhancement (including habitat creation and 'greening up' key transport corridors) as an important objective needed to underpin continued growth in this sector. The Peak District National Park, over a third of which is designated for its nature conservation importance, received an estimated 22 million visitors in 1998, with a visitor spend of £185 million, providing direct or indirect employment of 2,129 full-time equivalent jobs. The development of opportunities to enjoy the natural environment away from the already well-visited areas will further increase the value of the environmental economy.

2.7.3 The value of a high quality natural environment, rich in biodiversity, in attracting and retaining inward investment and the skilled workforce needed to allow the region to prosper, is now well proven. The National Forest demonstrates the benefits of a healthy environment in attracting inward investment. The number of jobs in the forest area increased from 102,641 to 107,613 (an increase of 4.1%) between 1991 and 2001, a growing number of which are in forestry, tourism, construction, finance and services. Additionally, over £19 million of regeneration funding came into the forest area between 1992-2002.

2.7.4 Wildlife is also increasingly being recognised as an important product of the rural economy: new agri-environment schemes intended to enhance wildlife have the added benefit of helping to support rural employment and income.

2.7.5 Furthermore, many species provide products for human use, and hence have direct economic value, including fish, trees for timber, charcoal and firewood. Wild varieties of crop plants are increasingly being found to have useful genes that make them resistant to disease or environmental change.

2.7.6 In order to maximise the value of the region's environmental assets, it is essential that the contribution that biodiversity makes to the regional economy is recognised, that further opportunities are developed and that business and industry in the region ensures that its activities promote the highest possible environmental quality. In future, sustainable long-term management needs to be favoured over short-term approaches. For example, sustainable approaches to water catchment, floodplain and coastal management are likely to deliver multiple benefits and more economic solutions in the longer term than pipe-end water treatment and hard flood/coastal defences on their own. Climate change is likely to make sustainable "preventative" approaches

increasingly favourable as the cost of shorter-term "remedial" measures and insurance rises in the future, even though the initial capital cost may be higher.

2.8 Keeping track of wildlife

2.8.1 A detailed knowledge of the region's biodiversity resource, including the extent and condition of habitats and the distribution and size of species populations, is essential if action for biodiversity is to be planned effectively and for progress on sustainable development to be monitored.

Targets and indicators

2.8.2 The RSS includes habitat management and re-creation targets developed by the EMBF (see Appendix 1). However, there is no equivalent set of targets for BAP priority species whose populations require regional action (Appendix 4). This is because, for many species, the current knowledge of the size and distribution of their populations is limited

2.8.3 The Regional Environment Strategy also includes the following biodiversity indicators and targets, which require the implementation of effective recording and monitoring programmes if progress is to be accurately measured:

Table 2: Regional Environment Strategy indicators and targets

Indicator	Targets
Extent and condition of SSSIs	95% in favourable condition by 2010. Increase the area of land that qualifies as SSSI to 7% (the current national average) of the regional land area by 2010.
Condition of Wildlife Sites	Net improvement in condition on a 5 year cycle
Populations of wild birds and of five key BAP species	Halt and reverse the decline by 2008.
Extent of priority BAP habitats created or enhanced	As set out in Appendix 3.

Data collection and management

2.8.4 Measuring progress and achievements against the targets and indicators requires good and accessible data. *Towards A Regional Biodiversity Audit for the East Midlands* (2004) highlights the lack of up-to-date quantitative data for many of the UK BAP priority habitats. There are also gaps in the availability of species data, although a wide range of specialists provides updates for some groups. Much biodiversity reporting occurs at a broader level as part of wider environmental monitoring, such as the Countryside Agency's national and regional 'State of the Countryside' reports.

2.8.5 Data comes from many sources – individuals, statutory and non-statutory organisations, local authorities and private companies. It is presented and managed in a variety of ways and by a variety of people. County-based local biological records centres (LRCs) are major repositories for habitat and species information. They operate, and their information is accessed, in different ways, but they work together to address issues across the region. The main challenge, which requires core funding, is to achieve full coverage of LRCs in the East Midlands. It also ensures

regional co-ordination between LRCs, data collectors and data users. This would enable gaps to be identified and addressed and data to be more easily retrieved, shared, and accessed without charge (see Chapter 12).

2.8.6 There is also a need to strengthen links between local, regional and national systems and initiatives. These include: the National Biodiversity Network – the national gateway for biodiversity data; the Biodiversity Action Reporting Scheme (BARS); and East Midlands Intelligence (formerly the Regional Observatory) - a sign-posting service for regional data across all sectors.

Monitoring and reporting

2.8.7 As well as collecting and managing biodiversity data, there is a need to monitor the habitat and species indicators within the RSS and the REnvS so that trends can be identified, tracked and acted upon. Annual monitoring of RSS delivery is published by EMRA. Monitoring enables the success of habitat management, restoration and re-creation programmes to be evaluated. Currently monitoring programmes are frequently uncoordinated, under-funded or completely lacking. In some fields, we are also forced to rely on proxy indicators and incomplete datasets. There is a need for additional funding for monitoring and reporting – the scale of funding necessary has been researched at a sub-regional level in many areas of the East Midlands (e.g. through the Nottinghamshire BAP Implementation and Monitoring Review paper) and some of the conclusions are detailed in Chapter 12. The challenge is to establish a prioritised and sustained monitoring programme for biodiversity based on the need to address and report on national, regional and local biodiversity targets. These include obligations to report regional progress towards biodiversity targets in both the UK BAP and LBAPs. To facilitate this we have to review what we are able to monitor, agree indicators and revisit targets on a regular cycle.

2.8.8 In the East Midlands, the former regional observatory *East Midlands Intelligence,* may provide the opportunity to formalise a regional monitoring system, through the *State of the Region* reports. BARS will be important for the region and for the LBAP partnerships to utilise this new system. Another further development is the potential of geographical information systems (GIS) that can be used to identify where habitats and species populations are thriving, where they are under threat and where there are opportunities for habitat linkage and creation. None of these initiatives can work, however, without the continued commitment and expertise of thousands of volunteer recorders who underpin survey work coordinated by voluntary sector organisations.

2.9 Taking action for biodiversity

Introduction to Chapters 3-11

2.9.1 The remaining sections of this strategy follow the model provided by the Biodiversity Strategy for England (EBS), with minor adjustments. The EBS '*seeks to integrate concern for biodiversity into the key economic sectors that most affect it'* and addresses sectors '*that establish the framework for those public policies that are most likely to have an impact [on biodiversity]*'. This sector-based approach (rather than one based on habitat or landscape types) complements the habitat and species-focused approach of BAPs.

2.9.2 This strategy adopts a similar approach. Thus, Chapter 3 deals with agriculture as an area of regional economic activity that affects biodiversity, rather than farmland as a regional priority

habitat, though clearly there is a fundamental link between agriculture, farmland habitats, and species like farmland birds in this example. These sectors have been singled out because:

- They are important areas of economic and social activity in the East Midlands that affect biodiversity (or have the potential to affect biodiversity)
- They tend to have discrete systems of funding, administration and regulation in place that help define 'boundaries' of influence and responsibility.
- Many have unique challenges and issues linked to biodiversity that need to be addressed.

The role of lead agencies and partners

2.9.3 Each sector-based chapter includes a table, setting out specific actions to be taken, towards identified objectives. For each action, a lead partner is identified and for many, existing partners and potential partners are shown too. The role of the lead partner is to co-ordinate delivery of the action and report back upon this. Other partners may have an equal or more active role to play in delivery but there can be only one partner accountable to the EMBF for each action.

2.9.4 All leads and existing partners have agreed, during the process of strategy production, to take forward the stated action. Potential partners have not been approached during strategy development but many of them are likely to have a valuable role to play and will be engaged as the strategy is implemented.

3. AGRICULTURE

3.1 Vision for agriculture

3.1.1 Agriculture will be a thriving and sustainable sector that embraces biodiversity as one of its key objectives. The agricultural sector will become an increasingly important partner in landscape or sub-regional scale co-ordinated action to rebuild biodiversity interest and restore the ecological health of the countryside. Targeted action will be taken to manage or restore threatened priority habitats, promote recovery of rare and vulnerable species and address the needs of many widespread and characteristic species currently in decline. Such action will allow species to move freely through the countryside and adapt to climate change. Farmers will be aware of the opportunities provided by agri-environment schemes, will be knowledgeable about the actions needed to increase populations of farmland species and will have taken such action on their farms.

3.1.2 This will deliver wider benefits for the region, such as an attractive countryside rich in wildlife that people will want to visit and enjoy, thereby offering entrepreneurial opportunities for farmers and landowners.

3.1.3 The eight principles of the Government's Strategy for Sustainable Farming and Food will be applied as well as improved Environmental Impact Assessment regulations for use of uncultivated land or semi-natural areas. Farming and wildlife conservation groups will be well supported and able to play a strong role.

3.2 Current issues

3.2.1 Agriculture is the most extensive land use in the East Midlands, occupying 81% of the land area. However the resource is not evenly distributed with the Grade 1 and 2 quality (16% of the total) mostly located in the east of the region, while the 21% of the total which is of Grade 4 and 5 quality is located primarily in Derbyshire and the Peak District National Park. It is a largely arable area: the region produces 30% of the nation's vegetables but has only 5% of the nation's milk herd (Defra).

3.2.2 The farmed landscape includes a range of important habitats such as species rich hedgerows, and wood pasture and parkland. The region is particularly important for lowland meadows, with 12% of the national total, and lowland wood pasture and parkland, with 25-50 % of the national total. The first priority is to protect and manage existing sites, to extend and buffer them wherever possible. Compared to an average of 8% for England, 20% of the East Midlands is potentially affected by flooding. Historically we are likely to have had large areas of wetland and wet grassland that would have flooded regularly and opportunities should be sought to re-create these habitats and create new ones.

3.2.3 Over the past 50 years, broad changes in farming practice have occurred, such as specialisation and intensification, driven largely by national and European agricultural policy. These changes have affected all of the region's farmland from the upland grazing systems of the Peak District to the intensive arable systems of Lincolnshire. The resulting changes in farmed habitats have led to massive declines in the wildlife associated with farmland. This has been highlighted by the alarming declines in farmland birds, which, being near the top of the food chain, are good indicators of the state of farmland wildlife as a whole. Some of our best-known

species, such as the song thrush and skylark, have declined by over 50% in the past 25 years (Birds of Conservation Concern, RSPB, 2002). Unfortunately, the direct loss of habitats such as grassland is continuing across the region as studies in the Peak District National Park, the Soar Valley and the Lincolnshire coastal grazing marshes have shown.

3.2.4 The further loss of grassland has been partially due to the uncertain future facing livestock farming, in the light of the introduction of the Single Farm Payment, which includes the ending of beef and sheep subsidies. In the Peak District the loss of flower-rich grassland is often due to changes from hay production to silage, to increase winter feed for livestock. Livestock grazing is essential for the maintenance of biodiversity on many habitats and the lack of grazing animals (partly due to the Foot and Mouth and BSE crises) is a problem contributing to the decline of biodiversity in the region. Conversely, in the uplands of Derbyshire, overgrazing, mainly by sheep, remains a problem.

3.2.5 Other impacts of intensification are damage to soil, water and other ecosystems by agricultural pollution, compaction, erosion, pesticides and fertilisers; and agriculture's contribution to climate change. Soil is a valuable non-renewable resource that stores and recycles nutrients and water and acts as a buffer between the atmosphere and aquatic ecosystems. There is a need to recognise the importance of protecting soil and ensure it is managed in a sustainable way for farming and biodiversity.

3.2.6 Climate change has the potential to alter the way our countryside is farmed very significantly. Winter water-logging, and reduced availability of water for irrigation in summer could directly affect crop and livestock management processes. New crops may become viable; yields from currently economic crops could fall. Conversion from food production to bio-fuel and bio-energy crops such as short-rotation coppice could affect large areas of the countryside. New pests and diseases are likely to appear.

3.2.7 Wildlife is now increasingly being recognised as an important product of the rural economy. In the East Midlands, current agri-environment expenditure accounts for £15.6 million annually, and this will certainly increase under the new Environmental Stewardship scheme. Over the next five years, Defra-RDS anticipates widespread uptake of Entry Level Stewardship agreements to account for an annual expenditure of over £27 million, covering 70-80% of agricultural land in the region.

3.2.8 The Policy Commission on the Future of Food and Farming produced its report in 2002 that sets out a vision for the future of the farming and food industry in England. Its central theme is the reconnection of farming with the rest of the economy and with the environment; to reconnect farming with its market and the rest of the food chain, to reconnect the food chain and the countryside and to reconnect consumers with what they eat and how it is produced. The report accepts that modern, more intensive farming techniques have been responsible for the changes outlined above and also refers to other more widespread changes, such as the decline in soil organic content, an increase in phosphorus levels in topsoils, the pollution of water and an increased danger of extreme flood events.

3.3 Current initiatives

3.3.1 The Rural Development Regulation, created in 2000, supports rural development and agri-environment schemes designed to diversify rural economies, to encourage farmers to look to markets and diversified forms of income to reduce their dependence on subsidy, and enhance the environment.

3.3.2 Entry Level and Higher Level Stewardship is being rolled out across the region. Defra-RDS, FWAG, RSPB and staff from other organisations provide advice to farmers on a one to one basis and also help train new farm advisors to increase the advisory capacity.

3.3.3 Existing regional policy documents that contain policies for agriculture include:

- Regional Environment Strategy
- Regional Spatial Strategy
- England Rural Development Programme
- Objective 2
- Think Farming and Food – Regional Delivery Plan for Sustainable Farming and Food
- Rural Charter for the East Midlands
- East Midlands Rural Priorities Framework (under development)
- East Midlands Rural Action Plan (under development)
- East Midlands Regional Assembly's Strategic River Corridor Initiative

3.4 Key policy drivers

- Reform of the Common Agricultural Policy
- Implementation of the Report of the Policy Commission on the Future of Farming and Food
- Introduction of the next England Rural Development Programme in 2007
- Roll out of Defra's agri-environment schemes across the region
- EU Water Framework Directive
- Defra PSA targets for farmland birds and condition of SSSIs
- England Biodiversity Strategy

3.5 Policy linkages

- **Renewable energy targets** – may result in extensive bioenergy and biofuel crop production, with currently poorly understood impacts on biodiversity
- **Tourism and the rural economy** – wildlife-friendly farming is likely to be an increasingly important factor in maintaining treasured landscapes and attracting visitors to the countryside, especially away from areas like the Peak Park, as well as in opening up new employment, training and revenue opportunities for farmers, landowners and rural communities
- **Health and food production** – increasing awareness of the links between styles of farming practice, 'food scares', animal welfare and human health with the general health of the environment is likely to favour approaches to farming that directly or indirectly aid wildlife, e.g. extensive organic farming, distinctive local products, etc.

- **Landscape** – opportunities to integrate action to improve local distinctiveness and landscapes with the improvement of biodiversity, as recognised in the Countryside Agency's "Countryside Quality Counts".
- **Historic heritage** – opportunities to integrate action to improve the historic heritage with the improvement of biodiversity, e.g. raising water levels and increasing/maintaining wetness

3.6 Constraints/uncertainties

- **Market reform:** Agriculture is facing one of the most uncertain periods it has ever had to address, due to the desire to open up markets to competition and help the prosperity of developing countries that may be dependant on only one or two products. Allied to this is reform of the Common Agriculture Policy (CAP) and the move away from direct price support for commodities to paying farmers to diversify and to maintain and improve the environment. It is too early yet to judge the effect of CAP reform and the introduction of the Single Farm Payment but there are major concerns about the future of livestock farming and of small mixed farms.
- **Climate change:** The effects of climate change are certain to influence agricultural management and farmland biodiversity, directly and indirectly through weather patterns, new crops, new farming practices and changing distributions in species.

Objective 1: To manage effectively the remaining wildlife habitats and reduce fragmentation by extensive habitat creation

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
1a. Ensure new agri-environment schemes are targeted to benefit biodiversity, allowing for the management and extension of existing sites and the creation of new ones	Contribution to regional biodiversity targets in RSS. Contribution to meeting PSA target of 95% of SSSIs in favourable condition by 2010	Good (75%?) match between HLS targeting statements and BCAs and BEAs, increasing annually	Annual, ongoing	NE	Defra's Reg Consultation Group	
1b. Promote use of agri-environment shemes to buffer existing wildlife habitats from the effects of intensive agriculture	Protection for existing habitats	Buffering in place for all habitats in 100% of HLS agreements	Annual, ongoing	NE	Defra's Reg Consultation Group	
1c. Promote the development of new funding schemes to ensure the provision of livestock across the region as essential to the maintenance of wildlife habitats by grazing.	Appropriate management of wildlife habitats	A scheme introduced to support the provision of livestock.	2007	NE	Defra's Reg Consultation Group	
1d. Improve baseline and monitoring data for farmland Biodiversity Action Plan priority habitats and species	Data on BAP priorities	Produce East Midlands baseline and update annually.	Baseline 2007 and annually.	NE	EMBF, RSPB	
1e. Increase farmer and landowner awareness and understanding of habitat management and creation by training events and the	Sympathetic management of wildlife habitats	Increasing no. of people trained and no. of demonstration farms established.	Annual	NE	EA, FWAG	

development of demonstration farms						
1f. Increase farmer and landowner awareness and understanding of the requirements of farmland species by training events and the development of demonstration farms	Increased populations of farmland species.	Increasing no. of people trained and no. of demonstration farms established.	Annual	NE	EA, FWAG	
1g. Promote awareness of the benefits to biodiversity of an increase in extensive and organic farming systems	Increase in the area of extensive and organic farming	Double the current area	2010	NE	EMBF, Defra's Regional Consultation Group, EMRAF, FWAG.	
1h. Input to review of EIA Regs to ensure effectiveness	Better protection of farmland habitats	Effective response to consultation	2005	EMBF		

Objective 2: To minimise the effects of diffuse pollution in aquatic and wetland habitats

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
2a. Ensure the buffering of watercourses by using agri-environment schemes to establish marginal strips	Improved water quality, benefits for wildlife	Buffering in place for all watercourses and waterbodies in all HLS and ELS agreements.	Annual	NE	EA, FWAG	
2b. Increase awareness of the Codes of Good Agricultural Practice so that air, soils and water achieve better condition	Maintenance of resources	100% awareness of the Codes	2006	NE	EA, FWAG	

4. WATER AND WETLANDS

4.1 Vision for water and wetlands

4.1.1 The vision is to conserve and enhance the biodiversity of rivers and wetlands and ensure that water resources are used wisely. Rivers will be reconnected with their floodplains, whilst avoiding increased flood risk, through the creation of washlands and associated wetland habitats. This will not only restore and improve wetland ecosystems and functions, but will also bring direct economic and social benefits. Avoiding further development on floodplains is the most cost-effective form of flood defence – it eliminates the costs of damage and clearing up as well as the distress and health risks flooding causes. Better land management and more appropriate land-use throughout river catchments will also contribute to restoring the natural processes which attenuate high river flows.

4.1.2 Characteristic natural features will be restored to canalised and culverted rivers. Natural rivers and streams will be recognised for the wide variety of environmental functions that they perform. Meanders, soft and hard beds and banks, fast and slow flows and deep and shallow water, are all vital features of natural watercourses which enable them to do their job of draining the land, providing homes for wildlife and mitigating high flows.

4.1.3 The overarching requirement of the Water Framework Directive (WFD) to achieve good ecological status of waters will be met. Water and wetland habitats are especially vulnerable to diffuse pollution from agriculture, roads and urban runoff, as well as point source pollution. Conservation organisations and regulatory bodies will work closely with riparian landowners, managers and farmers to minimise pollution by linking wetland management to agri-environment and other conservation schemes.

4.1.4 All new developments will be planned around sustainable water quality and water resources and should have in-built water conservation measures, e.g. sustainable urban drainage systems (SUDS) which comprise constructed wetlands, including reedbeds, which capture, clean and slowly release surface water run-off back to local watercourses.

4.2 Current issues

4.2.1 Wetland biodiversity depends on both open water habitats – rivers and lakes – and other wetland habitats, such as marsh, fens, upland blanket bog, wet woodland and reedbeds, where the water-influenced nature of the soil and vegetation is critical. Such habitats often help define local distinctiveness and landscape character, and in the context of the farmed or urbanised lowland areas of the region, wetlands often are the richest remaining habitats. Rivers, streams and canals act as wildlife corridors enabling wildlife to move easily across landscapes heavily modified by human activity.

4.2.2 The East Midlands is to a large extent defined by its major rivers: the Trent in Nottinghamshire, the Derwent in Derbyshire, the Soar in Leicestershire, the Nene in Northamptonshire and the Witham in Lincolnshire are all central to these counties, whilst the Welland links several counties together. Lincolnshire has several significant chalk rivers, a UKBAP priority habitat. These rivers and their tributaries form a focus for biodiversity interest: many conservation sites are dependent upon water, with concentrations in river valleys.

However, due to the degraded state of many rivers and floodplains, they have been the focus also for conservation activity – an East Midlands Large Rivers Habitat Action Plan has been produced, whilst the Strategic River Corridors Initiative has concentrated efforts on the rivers named above. Figure 2 defines the SRCs and several BEAs and BCAs that are characterised by important wetland habitats.

4.2.3 Man-made wetlands (reservoirs, gravel pits and canals) are also important. Several reservoirs (notably Rutland Water) and gravel pits (such as Attenborough Lakes near Nottingham) are now SSSIs. There are also important canal systems in the region, such as the Cromford, Chesterfield and Grand Union Canals. The region contains extensive areas of grazing marsh, for example, on the Lincolnshire Coast. Other wetland habitats tend to be more scattered and limited in extent, with the notable exception of upland blanket bog.

4.2.4 The extensive blanket bogs of the Peak District are of international importance for their biodiversity. They also provide essential water catchment and carbon sequestration functions and are a nationally important landscape and recreational resource. Moorland erosion and degradation caused particularly by fire, overgrazing and air pollution poses a significant threat to these functions, and their location at the most south-easterly extreme of the UK distribution of this habitat makes them especially sensitive to the effects of climate change.

4.2.5 As the quantity, quality and availability of water is one of the most important determinants of biodiversity, a fundamental resource for people and a key feature of local environments and landscapes, it is important that water is managed, abstracted and treated in ways which help aquatic plants and animals to thrive. Securing healthy wetland habitats, strong populations of associated species and fully functioning ecosystems is the best way to ensure that the region's water meets the social and economic demands we place upon it. Wetlands, both natural and created, should be managed for the multiple benefits they can provide. Socially they are important recreational and amenity areas, whether as a local greenspace, a setting for formal sports, for activities such as angling or as places for quiet enjoyment. Economically they are all part of the matrix of water and wetland sites which make up the region's water supply system, support economic activity and provide ecosystem services, such as reduction of pollution, flood management, water for irrigation and industrial processes and the replacement of depleted nutrients in the soil.

4.2.6 Some of the region's wetlands are internationally important, especially for birds. This country's position on the western edge of the Eurasian landmass makes it particularly important for migratory ducks, geese and waders. Sites such as Rutland Water and the Wash are designated as special protection areas (SPAs) and Ramsar Sites as they are home to internationally important numbers of wintering water birds. Similarly, parts of the Lincolnshire Fens and coastal grazing marshes are of national significance (See figure 1).

4.2.7 Notwithstanding the creation of valuable artificial wetland sites and habitats such as gravel pits, many important habitats have been lost in floodplains, with loss of natural functions and features. The restoration or re-creation of extensive wetlands to replace these presents a significant challenge. This is particularly so when considering climate change, and the changes in precipitation and thus water resources that this will bring about.

4.3 Current initiatives

4.3.1 Many national initiatives bringing benefits to wetlands are interpreted and progressed on a regional basis (e.g. Habitats Directive, PSA Target – see Key policy drivers below). These and other regional scale initiatives include:

- The RSPB/EA/EN Wetland Vision Project, highlighting opportunities for wetland creation in England, is being informed at a local and regional level.
- BCAs and BEAs (see section 2.5): there is a wetland focus in the Humberhead Levels BCA and The Fens BEA.
- The Strategic River Corridors Initiative is a broad sustainable development initiative seeking to make the most from the unique opportunities provided by river corridors, encompassing all the larger rivers of the East Midlands (see Figure 2).
- *On Trent* is working to secure a sustainable balance between the natural and historic heritage, agriculture, commercial activity and development along the River Trent.
- The Water for Wildlife Project supports a variety of work to further the conservation of key water-related UKBAP species and habitats by the Wildlife Trusts with the backing of the Environment Agency, Biffa and Severn-Trent Water.
- The Trent Salmon Restoration Project, led by the Trent Rivers Trust, has been successful in bringing this key species back to the river, with associated environmental benefits.
- Both Severn-Trent Water Ltd and Anglian Water Services manage their reservoirs across the region in order to bring about significant biodiversity benefits.
- The Lincolnshire Chalk Streams Project is a partnership working to conserve and enhance this nationally important resource.

4.4 Key policy drivers

- Regional Environment Strategy
- Regional Spatial Strategy
- Water Framework Directive
- Environment Agency strategies (e.g. catchment abstraction management strategies and catchment flood management plans)
- Water companies periodic review
- Defra Catchment-Sensitive Farming Programme
- PSA target for SSSI condition
- Habitats Directive

4.5 Policy linkages

Wetland biodiversity conservation links closely with other policy areas, notably:

- **Sustainable development** – wetlands provide multi-functional benefits: social (e.g. flood alleviation, cultural heritage), economic (e.g. water quality improvements, focus for tourism activity) as well as environmental (e.g. biodiversity, landscape)
- **Spatial planning** – areas suitable for wetland creation can be expressed spatially and are being promoted through projects such as the SRCs; protection of floodplains from development brings various benefits, including biodiversity benefits; sustainable urban drainage systems can create new wetlands

- **Climate change** – climate change is likely to bring problems for wetlands through changing patterns of precipitation and water resource implications, whilst more frequent flooding episodes may bring problems or benefits; carbon storage in peatlands is significant, and peatland degradation may raise major concerns.

4.6 Constraints/uncertainties

- **Climate change** – whilst the future course of climate change is uncertain, it is highly probable that availability of water resources will be a constraint upon maintenance and creation of wetland habitats; unpredictable water demand from new developments around the region may also impose pressures on the water environment.
- **Water Framework Directive** – achievement of good ecological quality for all appropriate water bodies may not be easy to accomplish due to the various pressures on the water environment.

Objective 3: To promote the management, restoration and creation of wetlands

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
3a. Promote environmentally sympathetic management of watercourses.	Contribution to Regional Biodiversity Targets. Achievement of SSSI favourable conditions targets	Regional Bio-diversity Targets. 95% SSSIs favourable.	See app. 1 2010	EA (rivers) BW (canals)	WT, SRC, RSPB, EMBF	EH, IDBs, LOs
3b. Promote environmentally sympathetic management of other wetlands.	Contribution to Regional Biodiversity Targets. Achievement of SSSI favourable conditions targets	Regional Bio-diversity Targets. 95% SSSIs favourable.	See app. 1 2010	NE	WT, RSPB, EA, EMBF	EH, IDBs, LOs
3c. Promote restoration of degraded wetlands, through use of agri-environment schemes, peatland restoration and river corridor management projects and other mechanisms to link rivers and floodplains.	Contribution to Regional Biodiversity Targets. Wetlands utilised for multiple functions as well as maximum biodiversity benefits.	Regional Biodiversity Targets.	See app.1	NE	EMRA, FWAG, WT, EA, RSPB, EMBF	EH, IDBs, LOs
3d. Encourage and support the creation of new wetlands through mechanisms such as planning gain, mineral restoration, SUDS, flood mitigation measures and new floodplain woodlands.	Contribution to Regional Biodiversity Targets. Wetlands utilised for multiple functions as well as maximum biodiversity benefits.	RenvS target for 10% annual increase in post-aggregate area used for biodiversity. Regional Biodiversity Targets.	Annual, ongoing from 2003 baseline. See app.1	EMBF	LAs, EMRA, EA, NE, WT, RSPB	ACs, LOs
3e. Ensure that regional plans and strategies consider	Appropriate policies for creation of new multi-	Regional Biodiversity Targets.	See app.1	EMRA	EMBF, SRC, EA,	LAs, GOEM

the multiple roles of wetlands and encourage wise use of water resources, including support for the Strategic River Corridor Initiative.	functional wetlands.				EMDA, FC, NE	

Objective 4: To manage water resources sustainably

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
4a. Undertake and implement review of abstractions impacting on SAC/SPA	Undertaking review of consents according to agreed timetable.	Sites assessed and action initiated	2010	EA	NE	WCs, LOs
4b. Identify and address problems at other sites dependent on water regime e.g. AMP4 (and AMP5 in time), Restoring Sustainable Abstractions Programme.	Contribution to Regional Biodiversity Targets. Achievement of SSSI favourable conditions targets.	See app.1 SSSI PSA target	Ongoing 2010	EA NE		BW, WCs, LOs, FWAG
4c. Implement water level management plans.	Water level management plans implemented to benefit of biodiversity	According to agreed timetable	t.b.c	EA	IDBs, NE, WT	LOs
4d. Identify areas where inappropriate development would adversely impact on wetlands and water resources through over-abstraction from surface and groundwater, and advise LPAs and other delivery agencies accordingly.	Zero development in constrained areas unless fully mitigated.	Areas identified and best practice advice produced.	Ongoing	EA	EMRA, NE	LAs

Objective 5: To improve water quality

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
5a. Undertake and implement review of discharges impacting on Special Area of Conservation and Special Protection Areas.	Undertaking review of consents according to agreed timetable.	Sites assessed and action initiated	2010	EA	NE	WCs, LOs
5b. Identify and implement catchment-scale solutions for sites with water quality problems, including measures to tackle diffuse pollution through agri-environment schemes, Sustainable Urban Drainage Systems and benefits from water industry Asset Management Plans.	Contribution to Regional Biodiversity Targets. Achievement of SSSI favourable conditions targets.	See app.1 SSSI PSA target	Ongoing 2010	EA (AMP4/5) NE (other)		BW, WCs, LOs, LAs, FWAG, HA

5. FORESTRY AND WOODLANDS

5.1 Vision for forestry and woodlands

5.1.1 In common with the environmental aim and objectives of *Space4trees*, the East Midlands' Regional Forestry Framework, the aim is to maximise the contribution of trees and woodlands to the region's natural, cultural and historic environment and ensure they are better able to withstand external environmental pressures.

5.1.2 The character and quality of the region's environment will be enhanced by a landscape-scale approach to woodland management, tree planting and woodland creation. The ancient woodlands, veteran trees and other historic features such as parklands and wood pasture will be identified, protected, and sustainably managed.

5.1.3 Woodlands and trees will have an important role in both the mitigation and the management of the impacts of climate change and other pressures on the environment. Strategies will focus on the creation of more robust and sustainable habitat networks – the re-connection of isolated fragments of semi-natural habitat and, in particular, the increase in size of core woodland areas will create more ecologically functional wooded landscapes and habitat networks that are better able to withstand the growing pressures of climate change.

5.1.4 The contribution of trees, woodlands and wooded features to the wider environment in urban and rural areas will be based on a good understanding of local landscape character, cultural history, archaeology and ecology. Opportunities to create more sustainable woodland and wooded environments will be actively sought through reforms to agricultural policy and support (see Chapter 3).

5.1.5 Woodland SSSIs will be brought into favourable or recovering condition and action will be focused on the recovery of priority habitats and species. The restoration or improvement of native woodlands and associated habitats will be the management priority on the majority of planted ancient woodland sites. The restructuring of (recent) woodland will also be supported where the restoration of other national priority habitats is sustainable at a landscape scale.

5.2 Current issues

5.2.1 Trees and woodlands are often irreplaceable habitat for diverse and complex assemblages of flora and fauna. Surviving ancient semi-natural woodlands (ASNW) and veteran trees are also cherished as distinctive landscape features of cultural significance. In addition to social, recreational and environmental benefits, managed woodlands can provide renewable materials, wood products and renewable energy in a sustainable manner, benefiting future generations. Forestry therefore can represent one of the best examples of sustainable development with an important role in enhancing people's quality of life.

5.2.2 The region is characterised by lowland mixed deciduous woodlands; alder and willow wet woodlands along rivers, streams and lake margins; upland ash and upland oak woods in the Peak District and some extensive areas of conifer plantations. However, woodland cover for the region is only 5.1% of the land area compared with 8% for England as a whole. ASNW accounts for approximately 16% of the woodland cover and although overall woodland cover is low there are a

number of well-wooded areas reflecting historic land use and ownerships, including the old hunting forest areas of Sherwood, Leighfield and Rockingham Forests. These woodlands and other distinct clusters of ASNW are of major significance in the region in both landscape and habitat terms. The Peak District's upland oak and ash wood habitats and the Birklands and Bilhaugh woodlands in Sherwood are of both national and international significance having been designated special areas of conservation (SAC). The region also has almost one quarter of the country's wood pasture and parkland, containing veteran trees and many other features and habitats of great historic and ecological importance. Examples of historic parkland, often associated with veteran trees, include Clumber Park, Calke Abbey and Chatsworth.

5.2.3 The implications of climate change are already becoming apparent and are predicted to affect trees and woodlands in the East Midlands in a number of ways. These include an extended growing season but more damage from frost, pests and disease and a greater degree of stress caused by drought, storms and flooding.

5.2.4 Trees and woodlands also have a valuable role to play in the mitigation of climate change impacts on biodiversity and the wider landscape. In the right places they aid the management of surface water, helping to create 'spongy' landscapes, and provide shade, shelter and humidity in urban microclimates as well as offering an important alternative source of renewable energy with which to displace carbon emitting fossil fuels. Trees and woodlands also can play an important role in carbon sequestration – plant growth absorbs carbon dioxide, releases the oxygen and stores the carbon. This helps mitigate the effects of burning fossil fuels, which release greenhouse gases and contribute to climate change.

5.2.5 Specialised, intensively managed tree cover has the potential to be an important contributor to the region's renewable energy strategy if the right policy incentives are put in place to encourage large scale cultivation of short-rotation coppice. While this has the potential to help the region reach its renewable energy targets, the net impacts on farmland biodiversity and the value of the new habitat for 'traditional' woodland biodiversity communities is uncertain at this time. Research is underway that suggests some declining farmland and woodland birds are present in the habitat, for example, but questions remain over productivity.

5.3 Current initiatives

5.3.1 In the East Midlands, landscape scale initiatives provide a valuable model for future activity and are highlighted as an important strategic component in the Regional Forestry Framework, Space4trees. There is space here only to mention the largest-scale projects.

5.3.2 The largest and highest profile of these initiatives is the National Forest, an ambitious and highly innovative project to increase woodland cover from an average of 6% to 30% over a 200 square mile area of Leicestershire and Derbyshire.

5.3.3 In Nottinghamshire, the Sherwood Forest Trust is a local partnership and development trust working to restore the traditional landscapes and habitats of the ancient hunting forest of Sherwood. Also in Nottinghamshire, the Greenwood Community Forest is working to a long-term strategy to create an extensive network of environmental regeneration sites and community green-spaces, particularly through the reclamation of disused colliery and associated sites within the former coalfield. Forming a contiguous block with the Greenwood and Sherwood Forest projects

is the East Derbyshire Woodlands Project, which encourages woodland creation and management through the provision of advice to owners.

5.3.4 In Northamptonshire the Rockingham Forest Trust operates as a social enterprise and a registered charity and has been highly successful in raising the profile of the forest area and generating community based action to conserve and enhance the environment and develop the rural economy. Also in Northamptonshire, the Forest Enterprise Ancient Woodlands Project aims to progressively return some 7,000 hectares of non-native plantation on ancient woodland sites to a mix of native woodlands and associated habitats and landscapes.

5.3.5 The Forestry Commission's JIGSAW projects in the Lincolnshire Lime Woods and the Leicestershire Leighfield Forest support the linking and buffering of fragmented ancient woodland sites in public and private ownership and promote the collective management of the woodlands as a resource for rural enterprise, public access and environmental education.

5.3.6 The region's two designated landscapes in the Peak District National Park and the Lincolnshire Wolds AONB operate a range of management activities focused on specific management objectives within the context of a wider policy to protect, enhance and, where appropriate, extend native woodland and tree cover. The "*Ravine WoodLIFE*" project operating over several regions in England and Wales has received funding from the European Commission (EC) through LIFE Nature to bring under management the Peak District upland ash woodland areas, to ensure their long term ecological viability.

5.3.7 Across the region, significant progress is being made to assess the scale and nature of green infrastructure provision through a series of localised mapping exercises. The results of these studies will be valuable in targeting future woodland creation and management activities to deliver biodiversity and other public benefits.

5.4 Key policy drivers

- Sustainable Forestry: the UK Programme
- England Forestry Strategy
- 'Space For Trees' – The Regional Forestry Framework for the East Midlands
- Woodland Access Standard
- UK Forestry Standard
- Woodland grant schemes such as the Forestry Commission's England Woodland Grant scheme and Defra's Farm Woodland Premium Scheme
- Defra's PSA targets for condition of SSSIs
- Environmental Stewardship Scheme
- Forestry Commission's Environmental Guidelines and Good Practice Guides

5.5 Policy linkages

- **Climate change:** Trees and woodlands are important components of integrated international, national and regional policies to reduce greenhouse gas emissions and form an essential part of our adaptation strategies. They offer a potential source of renewable energy, help sequester carbon, and help to mitigate some of the unavoidable effects of

climate change by cooling and shading, and helping moderate surface flows and ameliorate droughts.

- **Agricultural land use change:** A significant proportion of the region's 50,000 hectares of woodland that is not under state (Forest Enterprise) ownership or management is in small blocks on farms. Competing demands on limited management resources, lack of economic markets and poor economies of scale have meant that much of this resource has suffered from many years of under-management. Changes to agri-environment schemes will have potentially important implications for trees and woodland habitats.
- **Sustainable communities:** The Government's Sustainable Development policy 'Securing the Future' clearly states the case for greenspace and biodiversity (Green Infrastructure) as a fundamental requirement for regeneration and the drive for sustainable communities. National and regional exemplars such as the National Forest and the Greenwood Community Forest have demonstrated the potential for multifunction woodlands to deliver gains for biodiversity, landscape, cultural heritage and public enjoyment as well as providing an environment for regeneration and economic growth.

5.6 Constraints/uncertainties

- **Climate change:** the real scale, nature and extent of climate change impacts over a 'woodland' timescale – the long term viability of the woodland canopy component itself as well as the complex interactions with associated flora and fauna. This raises questions about new woodland creation and the viability of some native species and habitat associations in say 50-100 years time.
- **Agricultural reform:** the farming industry is currently in a highly uncertain state and further changes or policy signals may have profound effects on the decisions of individual landowners about woodland or the conversion of agricultural land into woodland or energy crop uses.
- **Sustainable communities:** there is a growing consensus around the need for a sustainable approach to growth and development and the need for green infrastructure. What is much less clear is how this will be delivered or, perhaps more crucially, maintained in the longer term, especially for those activities that have a long development life such as woodland creation.
- **Political commitment**: EMRA has proposed a Regional Environment Fund, the purpose of which is to move the funding of major, regional investment programmes onto a more secure, longer-term footing. This will have to be matched by a political commitment from regional partners that such investment will be properly managed and maintained in the longer term.

Objective 6: To enhance the character and quality of the region's environment by a landscape scale approach to woodland management, tree planting and woodland creation.

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
6a. Agree, as part of the review of the Regional Spatial Strategy, revised regional targets for woodland expansion, restoration, and maintenance.	A robust process using landscape characterisation and biodiversity data and trends at a landscape scale to identify broad objectives and targets	Realistic but challenging regional targets based on County objectives and priorities	Sept 2006	EMBF	LGA, NE, NF, FC, EMRA	
6b. Support specific initiatives to conserve and expand East Midlands' priority woodland habitats and species populations and support the restructuring of recent woodland where the restoration of other national priority habitats is sustainable at a landscape scale.	To halt and reverse the decline in the priority woodland habitats; Lowland Mixed Broadleaves, Upland Mixed Ash woods, Upland Oak woods and Wet woodlands and the species populations, as identified by the England Woodland Biodiversity Group's priority target species list : Dormouse, Limebark Beetle, Bullfinch, Bat spp., Oak polypore, Spotted flycatcher, Song thrush, Willow tit, Marsh tit, Lesser spotted woodpecker, Turtle dove, Linnet, Tree sparrow, Reed bunting, Stag beetle and *Lipsothrix* spp..		By 2020	FC	EMBF, LBAPs	WTs, NE, PDNPA
6c. Bring into favourable or recovering condition Woodland Sites of Special Scientific Interest and other SSSIs where woodland is a factor.	Favourable condition	95%	By 2010	NE	FE, FC	PDNPA, LOs

6d. Promote the role of new woodland and associated habitats on the flood plain as part of catchment flood management plans and the regeneration of strategic river corridors.	Recognition of the benefits of woodland in enhancing river catchments	Creation of new woodland and associated habitats on the flood plain.	Ongoing	EA	FC, NE, SRC, NF	WCs

Objective 7: To identify, protect, and sustainably manage the ancient woodlands, veteran trees and other historic features such as parklands and wood pasture.

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
7a. Identify regional priority cluster areas in which to target action to protect, extend and enhance ancient woodland sites and features through the Regional Forestry Framework.	Agreement on regional priority cluster areas	Ecologically robust networks of semi -natural habitat which protect and enhance the regions ASNWs	By end of 2006	FC	EMBF, NE	WT
7b. Survey the region's veteran trees, parkland and wood pasture resources	Identification, location and condition of resource	Improved baseline data on the region's veteran tree and parkland / wood pasture resources	2007	NE	EMBF, WT	FC
7c. Reflect national Ancient Woodland Policy in the revision of the current regional spatial strategy	A presumption against any loss or damage of ancient woodland sites, veteran trees or other historic features	No further loss or damage of ancient woodland sites, veteran trees or other historic features	By end of 2006	EMRA	WT, NE, LGA	
7d. Reflect national Ancient Woodland Policy to improve and maintain the ecological condition of ancient and native woodland	Promote the gradual restoration of planted ancient woodland sites to native woodlands and associated habitats on public and private lands.	The majority of planted ancient woodland sites either being improved or under gradual restoration to native woodland	2020	FC	WT, FE	

6. THE COAST AND SEA

6.1 Vision for the coast and sea

6.1.1 The vision is to ensure that the coast, much of which is protected by national and international wildlife site designations (see Figure 1), will be secure from unsustainable exploitation and inappropriate development. The continued protection, management and enhancement of coastal wildlife sites is of paramount importance to the future of biodiversity in this area and in the region as a whole. In the future, the system of national and international site designation will recognise and protect important marine areas for biodiversity in a similar way to the coastal habitats.

6.1.2 Beyond protecting the immense wildlife value of the coast and sea as it is now, the vision for coastal and marine areas is to address the huge range of demands we place on its landscape and natural resources, such as renewable energy generation, fishing, tourism and flood defence. To do so we will overcome two significant challenges that could prevent effective integration of biodiversity conservation and enhancement with economic and social objectives. One is our lack of knowledge and understanding of how coastal and marine systems function. The second, a core element of a future vision for the coast and sea, is to strive for a multi-agency approach to integrated environmental management that transcends administrative boundaries and sectors of responsibility. Conservation organisations will work closely with local authorities, statutory agencies and other organisations to ensure that the coast and its natural resources are managed in such a way as to conserve and enhance their natural integrity, environmental quality and wildlife carrying capacity. In pursuit of this, the Integrated Coastal Zone Management Plan involving all organisations with economic, social and environmental interests will be developed to help ensure that human activities on the coast are compatible with nature conservation aims.

6.2 Current issues:

6.2.1 The Lincolnshire Coast is one of the most outstanding areas for biodiversity in England. In this region, it is particularly important given that many habitats inland have been so heavily modified or lost. The coast includes the dunes, beaches and inter-tidal habitats, the agricultural and wetland habitats just behind the sea walls and dune systems, and the true marine environment below the low tide level, well out into the North Sea.

6.2.2 The coast is vital for a range of habitats and species found nowhere else in the region; some are nationally important. Lincolnshire holds more than 26% of the national total of lyme grass fore dunes. Saline lagoons also represent an important coastal habitat. These man-made brackish water habitats support a number of rare invertebrates as well as important migratory and overwintering bird species. There are three national nature reserves (NNRs): Donna Nook, Saltfleetby-Theddlethorpe Dunes, and Gibraltar Point. The last is located at the northern tip of the Wash and forms an important area for large numbers of wintering water birds and migrants. There are important colonies of grey and common seals in the Wash and on the sand bars off the Lincolnshire Coast. Donna Nook NNR has one of the largest grey seal breeding areas in the UK with nearly 1,000 seal pups born over the winter of 2004-5.

6.2.3 The sea off the Lincolnshire Coast forms part of the Southern North Sea Marine Natural Area with a seabed consisting of gravel, sand and mud in varying mixtures. Sandy habitats tend to

be dominated by burrowing organisms. Sublittoral communities on the deeper sandflats are more diverse and provide important nursery grounds for commercial fish species such as plaice, cod and sole. The tube building worm *Sabellaria spinulosa* forms reefs which allow other species to colonise. Current research is investigating the distribution of these reefs.

6.2.4 One of the most important issues, which affects our ability to deal effectively with all the others, is our lack of knowledge about coastal and marine processes and biodiversity. The coast and marine area is a vast, complicated and dynamic system that we do not fully understand. We do not know fully the impacts of our actions, how coastal and marine ecosystems function, or the value of marine areas for biodiversity. There has been no systematic survey of marine life off the coast, though there are records of the fauna of the Humber and Wash Estuaries. More investment is required to measure, monitor and predict the consequences of our actions on the coast and sea.

6.2.5 Although much of the coast is legally protected, wildlife site designations generally stop at the sea's edge. With all the demands on and conflicts around the marine environment, there is a pressing need for a marine site protection system and for consistent and rigorous evaluation of environmental impacts, at least the equal of the system in place for terrestrial habitats. A Marine Protection Bill is anticipated before the next general election that it is hoped will begin to address this deficiency.

6.2.6 The coastal landscape we can see is intimately connected to the physical and ecological processes that occur in the North Sea and the Wash. Superimposed on these natural processes are wind turbine developments and the potential for sand and gravel extraction, and beach renourishment programmes. Beach renourishment could lead to sand overlaying shingle ridges, which may have an adverse effect on marine faunas and nesting shore birds. Aggregate extraction could affect the seabed topography as well as increasing turbidity. This could disturb the benthic communities and possibly lead to a reduction in species diversity and loss of communities of marine species.

6.2.7 The North Sea is rising, in part due to climate change. The Environment Agency currently uses a figure of 6mm per year rise in average sea levels. Inter-tidal habitats will inevitably diminish in quality and area unless we take innovative action. Nationally, an estimated 100 hectares of inter-tidal habitat is already being lost to sea level rise every year, which puts the roughly 100-150 hectares recreated so far in the region through managed realignment, in context. Rising sea levels together with a threat of increased storminess will increase the risk of flooding. Extensive areas of farmland are protected from the sea by engineered sea defences, but these require increasingly costly maintenance. Increased sea levels could have serious implications for important coastal habitats and historic features. The urgency and scale of the response required must not be underestimated.

6.2.8 As well as its immense wildlife value, the coast and sea has a unique place in our culture and history. What is now grazing marsh or arable land behind sea walls often holds evidence of centuries of human occupation and industry, such as salt making. Proposals for coastal development and even habitat creation need to take the heritage value of these areas into consideration – in seeking to restore and recreate one kind of environmental asset, we should not allow the destruction of other irreplaceable assets.

6.2.9 Coastal towns such as Skegness are important tourist destinations and the nearby conservation sites provide a more peaceful alternative for quiet recreation. The combined annual

visitor total to the three NNRs now approaches half a million people, many of whom come from other regions of the UK. Income generated from tourism, together with investment in staff and land acquisition by organisations such as the Lincolnshire Wildlife Trust and RSPB, makes a significant contribution to the local environmental economy. Restoring the grazing marsh and encouraging diversification including tourism attractions is especially important for improving the quality of life for the isolated farming communities within this coastal hinterland. Overall, the coastal zone has an important role in enhancing people's quality of life, offering as it does a unique range of tourism and leisure activities, including enjoyment of wildlife spectacles the equal of anything in Britain.

6.2.10 The coast forms part of the interface between our river systems (see Chapter 4) and the sea. Rivers and the tidal zone need to be managed in a way that recognises this linkage. For example, heavily engineered tidal stretches of rivers with sluices and locks can obstruct the passage of migratory fish with implications for upstream efforts to restore freshwater biodiversity. One aim should be the removal or re-design of these barriers. Similarly, over-abstraction upstream may have the potential to alter salinity in the Wash and elsewhere, affecting ecologically (and commercially) valuable shellfish populations.

6.2.11 These are only a few of the huge number of complex issues that face coastal and marine biodiversity. Many more, including on-shore wind turbine development, marinas, water-sports offshore (including around seal colonies) and general disturbance of remote coastal areas, need to be addressed by an integrated, sustainable approach to coastal zone management.

6.3 Current initiatives

6.3.1 A huge range of projects, partnerships and strategies devoted to managing the region's coasts and marine areas exist already. There is space here to mention only some of the most important.

6.3.2 Shoreline management plans have been drawn up by the Environment Agency in partnership with local authorities and other stakeholders.

6.3.3 The coast and offshore areas are the focus of much research and monitoring by wind farm developers. Several companies are producing detailed environmental impact assessments in relation to wind farm sites. Baseline surveys covering various species, coastal processes, shipping, visual impact and commercial fisheries are to be undertaken.

6.3.4 Wash Strategy and Wash Estuary Management Plan: a range of partners including Lincolnshire County Council, English Nature and others developing plan for consultation. The Wash LBAP is in preparation for publication.

6.3.5 The Lincolnshire Coastal Grazing Marsh Project aims to restore biodiversity and protect and enhance the cultural, historic and natural environment of this natural area.

6.4 Key policy drivers

- Regional Spatial Strategy
- Regional Environment Strategy

- UK Biodiversity Action Plan (BAP)
- England Biodiversity Strategy
- Lincolnshire BAP
- Wash Local BAP
- Wash Estuary Management Strategy
- DTI offshore renewable energy
- Fisheries Policy
- Marine Bill
- Shoreline Management Plans

6.5 Policy linkages

- **Climate change** – international, national and regional policies to reduce greenhouse gas emissions and adapt to unavoidable climate change impacts are particularly important. Sea level rise will degrade some habitats and provide opportunities for creating others through managed realignment. On- and offshore wind turbine development, currently essential to help meet national and regional targets for renewable energy production, is a major issue for coastal and marine biodiversity and landscapes.
- **Tourism, culture and economic development** – the Regional Economic Strategy and the Regional Tourism Strategy both have significant implications for the coast and sea given the uniquely remote nature of the area and the importance of coast and sea-based tourism to the local economy.
- **Coastal and marine heritage** – from marine wrecks to the record of human occupation and activity found on coastal grazing marshes, the coast and sea are of high cultural and scientific value. The protection and enhancement of this resource needs to be integrated with action for biodiversity as well as all the other pressures on the coastal and marine environment described above.
- **Tidal and freshwater river management** – integration of shoreline management plans with other strategies for managing tidal rivers (and freshwater stretches further inland) is important to facilitate migratory fish movements through the removal or re-design of barriers such as sluices, and ensure the stability of estuarine systems.
- **Inter-regional linkages** – the EMBF and other regional and local organisations must work more closely with counterparts in adjacent areas of Eastern England and the Yorkshire and Humberside regions.

6.6 Constraints/uncertainties

- **Climate change:** the long-term effects of sea level rise, global warming and storm events on the coast and Wash and the hinterland are difficult to predict. With sea level predicted to rise between 12 and 67cm by the 2050s any storms and spring high tides could have a similar effect to the 1953 flooding which inundated east coast villages and farmland and cost hundreds of lives. Plant and animal communities may be able to adapt to future changes in the environment but the rarer species may disappear from the region. Increasing sea temperatures already appear to be undermining seabird productivity in some parts of the UK – this may become an issue in the East Midlands and could extend to the seal food chain.

- **Renewable energy development:** the effect of offshore renewable energy sites on biodiversity in the North Sea is currently largely unknown but is being improved through studies of offshore sites elsewhere in Europe.
- **New agri-environment schemes:** take-up of the new ELS and HLS schemes by farmers on the coastal grazing marshes will be important for the overall management of this type of habitat. The effectiveness of the schemes in encouraging these farmers to raise water levels and restore traditional grazing, and the impact such measures will have on biodiversity will only become apparent after some years.

Objective 8: To conserve existing coastal and marine habitats and species

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
8a. Coordinate promotion of the value and conservation of marine and coastal habitats	Increased public and policy awareness of need for coastal and marine conservation	Included in all relevant regional and local policy documents	By 2010	NE	EA, RSPB, LWT, LCC, ELDC	EH, LOs, TI
8b. Ensure agri-environment schemes are targeted to benefit coastal biodiversity	Contribution to meeting biodiversity targets in RSS		Ongoing to 2010	NE	LWT, FWAG, RSPB	LOs, NFU, CLA
8c. Ensure that local planning policies avoid inappropriate development which would adversely impact on coastal habitats	No loss of coastal habitats to inappropriate development	No loss or damage to existing coastal habitats	Ongoing	EMRA		LAs
8d. Protect and manage existing high quality marine habitats by site designation	Network of protected marine areas	All qualifying habitats surveyed and protected	2010	NE	EA, RSPB, LWT, LCC, ELDC	DGs, FI, TI
8e. Seek new national landscape designation for the Lincolnshire coast	Enhanced protection for Lincolnshire coastal landscape and biodiversity	AONB or Heritage Coast designated	2010	NE		

Objective 9: To increase the extent of coastal habitats, particularly through coastal management by natural processes and by managed retreat

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
9a. Promote the creation of saltmarsh, mudflats, grazing marsh and associated habitats through managed realignment of coastal defences	Increased areas of coastal priority habitats, and sustainable coastal flood defences	Regional coastal habitat targets in RSS achieved	By 2010	EA	NE LWT RSPB MoD	LOs, LAs, EH

Objective 10: To increase knowledge of coastal habitats and species

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
10a. Implement research and monitoring programmes to enhance decision-making processes	Increased understanding of coastal ecosystems and potential effects of development upon them	No adverse effect on species or habitats; avoidance of inappropriate development	Ongoing	NE	EA	LWT, RSPB, LAs

Objective 11: To increase knowledge of marine habitats and species

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
11a. Implement research and monitoring programmes to establish spatial and ecological priorities for action in marine areas.	Better protection of marine habitats and species through improved knowledge and understanding	Data of sufficient standard in place to support marine protected site network and robust decision-making based on EIA approach.	Ongoing	NE	Crown Estate, Defra-RDS; DTI, FI	LWT; MCS, CEFAS

11b. Conduct a baseline survey to establish current populations of fish and locations of spawning grounds	Improved knowledge of fish spawning populations to inform sustainable fisheries policy	Current populations established and system of annual monitoring established	2008	NE	FI	CEFAS

7. URBAN AREAS AND POST-INDUSTRIAL REGENERATION

7.1 Vision for urban and post-industrial habitats

7.1.1 The vision is for a wildlife-rich environment, where the remaining resource of urban and post-industrial habitats of importance for biodiversity is protected and its value is widely recognised and understood. A more rigorous planning system will properly consider the biodiversity value of urban and post-industrial habitats when assessing proposals for development. In this way, the most important sites will be protected and exemplary ecological mitigation and compensation provided for damaged or lost sites.

7.1.2 All new developments will incorporate new habitats and make provision for their long-term management. New landscaping, traditionally lacking in vision and long-term provision for wildlife, will reflect LBAP priorities, make wider use of native species and improve habitat connectivity. Consideration of how wildlife can be encouraged through innovative and high quality design should become the norm. Features such as 'green roofs' that can have substantial benefits for wildlife, energy efficiency, and sustainable urban drainage will become widely used. The provision of Green Infrastructure will become a fundamental part of new development schemes (see Chapter 8).

7.1.3 New and expanded grant schemes should help community groups to manage local habitats to maintain and enhance their wildlife value, helping meet biodiversity and wider quality of life targets. The nature conservation sector, including urban wildlife groups, Wildlife Trusts, local authorities, the BTCV and Groundwork Trusts will continue to support these community groups and to undertake urban and urban-fringe habitat management work, but will also be able to access new funds and engage new partners to do so, so that biodiversity enhancement can be achieved on a greater scale. We want to increase environmental education, particularly in areas and amongst communities where engagement in conservation is currently low.

7.2 Current issues

7.2.1 Urban and post-industrial sites include almost the full range of habitats (apart from coastal and marine habitats) present in the region. Thus, it is even possible to find calcareous grasslands, lowland heath and reed beds integrated into the urban environment. These habitats are often small fragments of those that were present before the land was used for built development and so may represent remnants of wildlife-rich ecosystems that have been largely lost from the wider countryside. There are also those habitats that are found predominantly in the urban environment, such as tall buildings, roofs and formal parks, which have often evolved a characteristic ecology of their own. Post-industrial habitats, those that have developed on land previously used for built development or industrial or extractive processes, can also include novel or unusual assemblages of flora and fauna found only on such sites. Post-industrial habitats are often, but not always, associated with urban areas. For example, there are many extensive post-industrial habitats associated with the mining industry in rural areas, such as the former colliery tips of Sherwood Forest and the quarries of the Peak District.

7.2.2 Planners and many professional ecologists once considered urban and post-industrial habitats an inferior biodiversity resource. However, their value has become increasingly

recognised, not only for biodiversity but also for their substantial contribution to the quality of life of those who live and work nearby. Indeed, many small urban sites are more valued by those who live near them, than sites of higher biological value in the wider countryside. This has been recognised for many years by organisations such as the Wildlife Trusts and Groundwork and a great deal of work has been undertaken, in conjunction with some sympathetic local authorities, to engage people further in conserving and enhancing their local urban and urban-fringe habitats. The close links between access to a wildlife-rich environment and a high quality of life are increasingly recognised, as are the benefits for health and well being, as previously described in Section 2.6.

7.2.3 Post-industrial and urban sites often hold diverse and sometimes unusual species assemblages and demonstrate dynamic ecological processes, particularly for invertebrates. For example, a study of just five sites in Nottingham revealed 922 invertebrate species, of which 585 were found on a single site, including 19 Nationally Notable B species and a Red Data Book hoverfly (*Neoascia obliqua*) and bug (*Lygus pratensis*) (Jenkins et al 1991). The same site is also notable for its colony of slow worms and has water vole records. The abundant wildlife of former coal mining sites in Yorkshire, including species-rich invertebrate assemblages, and protected vertebrate species such as great-crested newt, otter, little ringed plovers and barn owls, has been well documented (Lunn, 2001). The fact that half of Leicestershire's SSSIs are former mineral sites highlights the value of these habitats.

7.2.4 Most urban habitats are found in the principal towns, such as Nottingham, Leicester, Derby, Northampton and Lincoln. In addition, many market towns and other settlements include significant urban habitats, such as parks, railway embankments and tall buildings. Within these urban habitats, commonplace (but greatly valued) species such as garden birds and foxes, species in national decline such as pipistrelle bats, and regional rarities such as black redstart and peregrine falcon, can all be found.

7.2.5 Post-industrial habitats are scattered throughout the region, with notable concentrations in the Nottinghamshire, Derbyshire and Leicestershire Coalfields, the Trent Valley, the Peak District quarries and in the hinterlands of towns that have suffered economic decline and the loss of traditional manufacturing bases, such as Corby. These contain significant regional populations of species such as vipers bugloss, slow worm and little ringed plover.

7.2.6 One of the main issues is development pressure on urban and post-industrial habitats. By definition, urban areas are those in which extensive development has occurred and invariably will continue to do so. Urban and post-industrial habitats are currently protected only where they qualify under existing national and local site protection systems, which are usually based on rural criteria. Due to historical lack of recognition and the consequently poor history of recording on many urban and post-industrial sites, it is possible that many that should qualify have not been designated as, for example, local wildlife sites and so are not formally protected. This is particularly the case in counties where invertebrate criteria for local wildlife site designation have not been developed.

7.2.7 Current planning policy rightly seeks to protect the countryside from encroaching development and to concentrate built development in urban areas. Unfortunately, this has also led to the loss of valuable habitats in those areas and the gradual erosion of the wider urban greenspace resource. The current national target for housing is that a minimum of 60% of all new houses should be on previously developed land (Planning Policy Guidance Note 3, ODPM). This

target helps protect the open countryside, and undoubtedly has achieved an increase in the sustainability of new developments that have been undertaken on sites of low ecological value. However, it has also led to the loss of many urban and post-industrial sites of high biodiversity, and often of significant social or cultural value.

7.2.8 Pressure for development nationally, particularly for the enormous increase in housing as advocated in the Sustainable Communities Plan (ODPM, 2003), means it may be impossible to reconcile meeting the national housing targets with providing easy access for all residents to wildlife-rich greenspace. It is essential that innovative and creative thought is applied to this conundrum, to avoid the blanket application of pro-development policies without due regard to the existing biodiversity value of the land.

7.2.9 The legacy of many post-industrial sites can rouse strong local feeling from communities that may want them 'cleaned up'. The conservation sector needs to work harder to inform and enthuse local communities about the hidden value of 'untidiness' to help ensure such sites should not always be tidied up, and that it is not always a case of the landowner abdicating their responsibilities.

7.3 Current initiatives

7.3.1 In some cases, urban and post-industrial habitats in the region are partially protected or enhanced through development schemes because of good planning conditions and the imaginative use of Section 106 agreements to secure funding for long term management. This is, unfortunately, still not the norm. However, the region exhibits many innovative and award-winning mineral restoration schemes that are enhancing and creating substantial areas of BAP priority habitats, such as at Sutton and Lound in the Idle Valley, Langford Lowfields and Shardlow on the Trent, Rufford Colliery in Sherwood and Ketton Quarry in Leicestershire.

7.3.2 The ongoing process of refining the wildlife sites system nationally and regionally, including development of criteria for faunal groups in some counties, is enabling the process of site designation and protection around the region to proceed at differing rates. As part of this, some urban and post-industrial sites are being surveyed that have never previously been assessed.

7.3.3 Urban wildlife groups, Wildlife Trusts, many local authorities, the BTCV and Groundwork Trusts have undertaken urban and urban fringe habitat management work for many years, often aided by grants and usually with the close involvement of and heavy reliance on local communities. There are currently funding opportunities available through grant schemes such as 'Wildspace!' and 'People and Places' to manage urban habitats for nature conservation, so enhancement on a meaningful scale is a real possibility, if these funding streams continue.

7.3.4 English Nature's Accessible Natural Greenspace targets combined with Wildspace! funding have helped the development of many of the new local nature reserves (LNRs) in the region. There are several district-based initiatives, such as the Natural Connections Project in Mansfield and the Pocket Parks Project in Northamptonshire that have made significant progress in the declaration of new LNRs based on predominantly urban and post-industrial habitats.

7.3.5 Currently many local authorities commit limited resources to managing urban, and to a lesser extent post-industrial, habitats, raised indirectly from a variety of sources including pooled Section 106 monies and economic regeneration funds. Regeneration funding schemes derived

from national or European sources, such as the Neighbourhood Renewal Fund, have been important in enabling the conservation management of some urban habitats as part of a contribution to enhancing local quality of life. These have amounted to a significant stream of resources to date.

7.3.6 There is a range of strategic initiatives in the region focussing on habitat creation, management, enhancement and, to varying degrees, the provision of Green Infrastructure. Many of these cover substantial areas of urban and post-industrial habitats, these include the National Forest, Greenwood Community Forest and the Sherwood Forest Initiative. The extensive former sand and gravel extraction areas in the Nene Valley are a fundamental part of the proposed development of the Nene Valley Regional Park and are soon likely to feature as the region's newest special protection area, designated under the EU Birds Directive (see figure 1).

7.3.7 Wildlife Watch and RSPB Wildlife Explorer groups in the region involve local children in learning about and valuing their environment in urban and urban fringe areas. A number of national formal environmental education schemes such as the ecoschools and forest schools programmes have been instrumental in engaging children in urban habitats close to where they live.

7.4 Key policy drivers

- PPS9
- English Nature Greenspace Targets
- Local Nature Reserve Targets
- UKBAP and LBAPs
- "Securing the Future"
- PPS1
- PPG3
- MPG1
- RSS8 (including the Regional Transport Plan)
- Regional Environment Action Plan
- Community Strategies
- European Urban Charter
- European Regional Development policies
- Regional Economic Strategy
- Sub-Regional Strategies
- Minerals and Waste Plans
- Structure Plans
- LDFs

7.5 Policy linkages

- **Cultural** - much of the unusual biodiversity of these habitats has developed as a result of human interactions with wildlife through centuries of urban and industrial development. Urban wildlife, and urban and post-industrial built heritage often go together on the same site.
- **Energy** - the urban environment provides some of the best opportunities to link habitats and energy issues, such green roofs designed for energy efficiency and wildlife;

- **Health** - access to wildlife-rich green space is important for mental and physical well-being and for a high quality of life. The majority of people live in towns and cities, so for many those green spaces will be urban and post-industrial habitats;
- **Spatial planning** - the imperative for conserving the region's biodiversity is explicit in RSS8 as are, however, also the policies to maximise the development of brownfield land, and the development of new transport schemes, many of whom will significantly impact urban and post-industrial habitats, such as the Nottingham Tram;
- **Social inclusion** - involvement of local communities in the use and management of local green space is essential and benefits those communities immeasurably;

7.6 Constraints/uncertainties

- **National Brownfield Targets**: One of the most significant constraints is the pressure for development on previously developed land driven by national targets as described above.
- **Lack of site evaluation and mapping**: A further constraint in the protection of sites is the lack of consistent mapping and evaluation of such habitats. This is largely due to a history of such sites being treated as low priority for survey in many areas, a lack of recognition of the importance of urban and post-industrial wildlife assemblages, and the absence of invertebrate criteria for the designation of local wildlife sites in every county in the region.
- **Lack of resources**: As with all habitats, there are insufficient resources for proper management of the majority of urban and post-industrial habitats. Whilst those sites that are notified as SSSIs may receive regular funding, the majority are subject to the changing whims and fashions in deciding priorities for grant schemes. This can result in temporally fragmented management, with a resultant loss of biodiversity. Often only local people, working voluntarily, have kept any management of these sites going at all.
- **Lack of awareness**: There is an institutional lack of awareness amongst planners, politicians and policy makers of the potential biodiversity value of urban and post-industrial sites. Too often these sites are seen as a merely as a prime location for development. There is an additional problem of the perceived 'untidy' nature of such sites, which does not fit with planning aspirations for high tech, sanitised cities. Whilst this is the case, the cultural pressure to develop these habitats will continue. Awareness raising amongst those who influence development decisions, including local people, is therefore essential. This awareness raising is resource-intensive and usually falls to the under-resourced voluntary sector, so it cannot always be done successfully.
- **Planning system**: The current limitations on the use of planning obligations also provide a constraint to conserving and enhancing urban and post-industrial habitats and to the creation of new ones. The lengthy negotiations necessary to produce effective Section 106 obligations, combined with the limitations on what can be covered by planning conditions, have resulted in reluctance against their widespread use to achieve habitat gain. There are positive signs, however, that this may change in the near future.
- **Resistance to best practise/innovation**: A reluctance to be innovative or even to adopt best European practice with regard to ecological design is a constraint to the incorporation of high quality habitats into new developments, such as extensive areas of green roofs. Thus, the need for education and awareness raising also exists for the engineering and architectural professions.
- **Lack of support for community groups**: The dynamism of urban human communities can lead to uncertainties in the long-term conservation management and enhancement of these habitats. There is a commonly seen pattern of rise and decline in the dynamic of community groups associated with such sites, as key characters leave and the group often

struggles to reform and become effective again. Once again, the short-term nature of most funding streams means that the necessary external support to facilitate an effective group is often not available. The result can be the abandonment of sites and the disillusionment of communities who feel that they have been left unsupported.

Objective 12: To protect and conserve urban and post-industrial habitats of significant biodiversity value

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
12a. Increase the knowledge of the value of urban and post-industrial habitats amongst those involved in planning and development	Increased recognition of the value of urban and post-industrial habitats through information and education.	Training on the value of urban and post-industrial habitats for planners, elected members and professionals in the development industries.	By 2008	EMRA	WTs, LA, NE	Emda
12b. Implement RSS8 policies on high quality, sustainable urban design with biodiversity fully integrated.	Measurable improvement in the quality and sustainability of new development, including the standard of habitats created.	95% of all new build to incorporate good provision for biodiversity, both in terms of protection and new habitat creation	By 2008	EMRA	LAs, PDNPA, WTs	Emda
12c. Develop Local Development Framework and Sub-Regional Strategy policies to value and protect urban and post-industrial habitats across the region.	That the value of urban and post-industrial habitats is weighted properly in the development planning process.	Suitable policies in place in all LDFs and Sub-Regional Strategies	By 2008	EMRA	LA, PDNPA, NE, WTs, WT, CA	
12d. Recognise the most valuable habitats through Wildlife Site and LNR designation.	That the most valuable sites are protected from development and that there is a good evidence base from which to defend them.	All urban and post industrial sites surveyed and designated where they meet the criteria, consistently across the region	By 2010	WTs	LA, PDNPA, LRC, NE, WT	
12e. Improve land use allocation in urban areas to conserve remaining habitats.	A cessation of the allocation of the most valuable urban habitats for development, or where this does occur, the inclusion of meaningful mitigation and ecological compensation	All sites of the value of Wildlife Site or above protected from development in LDFs and Sub-Regional Strategies, or where there are reasons that outweigh the need to protect the site, sufficient ecological	By 2008	EMRA	LAs, NE, WTs	Emda, SSP

		compensation is made				

Objective 13: To manage urban and post-industrial habitats to enhance their biodiversity value

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
13a. Record and map all urban greenspace and post-industrial habitats consistently across the region	A good evidence base for the extent of the resource and its value so that future decisions on management can be made.	All greenspace in urban areas and post-industrial habitats to have been mapped and under a programme of ongoing monitoring.	2008	EMBF	LRCs, LAs, NE, WTs	BTCV, GT, Emda
13b. Produce management guidelines for the conservation of urban and post-industrial habitats	Conservation management guidance that can be practically implemented, particularly through existing local authority land management practices.	Guidelines available to all LA	By 2007	EMBF	NE, LAs, WTs	BTCV, GT, EH
13c. Promote the use of management guidelines to inform the management of urban greenspace and post-industrial habitats in local authority ownership	Good conservation management of urban and post-industrial habitats in LA ownership so that their biodiversity value is enhanced.	All sites under conservation management in accordance with the recommendations in the guidelines	2009	EMBF	LAs, NE, WTs, BTCV, GT	SSP, EMRLGA, EH
13d. Ensure all urban and post-industrial LNRs have management plans and that they are being implemented	LNRs managed to an exemplary standard.	Management plans to be in place and active management underway.	2007	NE	LAs, WTs, GT	

Objective 14: To involve local communities in urban green space conservation

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
14a. Ensure all urban and post-industrial LNRs have associated community conservation groups	All LNRs to have active support groups formed from the local community that can ensure their conservation management in the long term.	All LNRs to have "Friends" groups, provided with adequate support and information	2008	NE	LAs, WTs, BTCV	SSP
14b. Increase environmental education provision consistently across the region so that more people of all ages and from all sectors of society can better understand and engage with their local urban habitats.	Increased recognition of the value of urban and post-industrial habitats through information and education.	At least one Watch Group in each Principle Urban Area (PUA) Events in each PUA and conurbation, including walks and talks to promote the importance of urban wildlife and engage local communities	By 2007 By 2007	WTs EMBF	LAs WTs, LAs, WTs, BTCV, GT	 Emda
14c. Engage with local communities to encourage them to value and care for green space on their doorstep, including parks, fragmented habitats and allotments.	High quality green space that is rich in wildlife	Conservation activities on green space sites to increase by 50% based on area of land managed and number of people involved.	By 2008	EMBF	LAs, NE, BTCV, GT, WTs	

.

8. SUSTAINABLE COMMUNITIES AND GREEN INFRASTRUCTURE

8.1 Vision for Green Infrastructure

8.1.1 Green Infrastructure (GI) is a planned network of multi-functional green-space and interconnecting links that is designed, developed and managed to meet the environmental, social and economic needs of communities across the region. It is set within, and contributes to, a high quality natural and built environment and is required to enhance the quality of life for present and future residents and visitors, and to deliver 'liveability' for sustainable communities. GI is an inclusive term covering a huge range of assets and features in urban and rural areas, many of which have a primary or contributory role for biodiversity, such as parks and gardens, country parks, woodlands, waterways, natural and semi-natural habitats for wildlife, SSSIs, pocket parks and recreational routes for walkers, cyclists and equestrians. GI assets can provide multifunctional benefits, for example, ecological services such as flood control and local climate amelioration.

8.1.2 Green Infrastructure will link the urban centres to their rural hinterlands providing accessibility to countryside rich in biodiversity. GI helps bring biodiversity close to where people live and work, and provides easy and sustainable access to biodiversity resources further afield. GI will buffer and link existing high quality sites and areas (e.g. SSSIs, BCAs) and enhance areas which have significant potential but degraded resources (BEAs) (see figure 2). GI provides and enhances natural corridors and links missing from much of the region and contributes to landscape-scale habitat creation to meet the regional biodiversity targets.

8.1.3 Green Infrastructure in urban and rural locations will deliver high quality biodiversity for the local environment, as part of its multifunctional aspirations. New and enhanced biodiversity assets such as woodlands, parklands, meadows and river corridors can provide access to the natural environment which is known to improve well-being and so should be seen as an essential component in creating healthy new communities. GI is also critical to assisting the regeneration of existing communities improving the quality of the local environment including maintaining or improving its local character and so attract inward investment.

8.2 Current issues

8.2.1 The need for Green Infrastructure was identified, and concept developed, when early proposals for growth in Northamptonshire (part of the Government's Milton Keynes and South Midlands Growth Area) failed to acknowledge the need to deliver an enhanced environment alongside housing, employment, transport infrastructure and health and education facilities. GI policies and implementation mechanisms were developed and included in the MKSM Sub-regional Strategy, and thereby into the RSS. EMRA has recognised there is a need for GI to be delivered as part of development across the whole the region, not just in Northamptonshire, and has adopted an objective to deliver GI in its revised Integrated Regional Strategy. To investigate how GI might be delivered across the region outside the growth area a research project is being undertaken, led by EMRA (see current initiatives, below).

8.2.2 Although a strategic policy for Green Infrastructure in Northamptonshire is now in place in the RSS, the delivery mechanism is still uncertain, and no similar policy exists for the rest of the

region. In Northamptonshire, ODPM is funding a River Nene Regional Park (RNRP) Project that is still in the early stages of development as a contribution towards GI delivery. However, this initiative will only deliver part of what is needed. Local delivery of GI is also needed through the planning system and housing development schemes. Across the rest of the region implementation is likely to be more difficult to achieve until a regional spatial policy is adopted to provide a context and a driver or change.

8.2.3 Green Infrastructure is a new concept. Understanding of what it means, what is required, and how it should be delivered, is evolving fast. Organisations with a role to play in delivering GI must take care to avoid a number of obvious pitfalls. For example, GI must be more than just a re-labelling of the established approach to providing green space and natural habitats – an approach which has caused the net loss of much biodiversity, a widespread deficit in good quality open space, and the steady erosion of quality of life in many areas. Neither must GI be taken to mean only the delivery of large-scale, multi-million pound projects in well-defined areas such as the RNRP or the National Forest. To be judged a success, "sustainable communities" must include GI, and GI must attract new resources, and help shape a new approach that truly does integrate biodiversity into the design and function of new development at all scales and in all areas.

8.3 Current initiatives

8.3.1 Many initiatives within the region that currently deliver the biodiversity and some other aspects of Green Infrastructure but are not currently recognised as such because they pre-date the concept. Examples could include the Lincolnshire Grazing Marshes Project, On Trent, Peak Vision, The National Forest, English Nature's *Wildspace*! grant scheme to create local nature reserves, plus many LBAP projects across the region.

8.3.2 EMRA's Green Infrastructure study has examined existing initiatives and the potential for further delivery across the region associated with regeneration activity. The findings of this study need to be examined and opportunities sought for developing it further. In particular, the development of the BEA/BCA approach (chapter 2.5) needs to consider the level of biodiversity mapping detail needed to guide GI delivery in future.

8.3.3 Within Northamptonshire, English Nature and other members of the EMBF are working with developers to ensure that proposals incorporate Green Infrastructure into major new housing developments and with local authorities to ensure the policies for GI in the RSS are incorporated into local delivery frameworks (LDFs). Guidance for local authorities and developers has been produced to illustrate how GI might be delivered (*Planning for Sustainable Communities: A Green Infrastructure Guide for Milton Keynes and the South Midlands*).

8.3.4 The ODPM has funded feasibility work on the proposed RNRP. Consultation on possible boundaries, objectives and governance took place in 2004. A Strategy Steering Group has been formed to help guide further development of the concept.

8.3.5 The RSPB and English Nature have been working together to identify the best areas of the Nene Valley for biodiversity, preparatory to English Nature notifying a new SSSI, SPA and Ramsar site. Notification of this new site (commencing winter 2005) will provide a fundamental safeguard for much of the biodiversity of the valley and a baseline for consideration of future GI projects.

8.4 Key policy drivers

- The ODPM Sustainable Communities Plan
- The Regional Spatial Strategy for the East Midlands (RSS 8)
- England's East Midlands Integrated Regional Strategy.

8.5 Policy linkages

8.5.1 Green Infrastructure has strong links with urban and post-industrial development (chapter 7), community engagement (chapter 9), business and industry (chapter 10), and tourism and recreation (chapter 11) but goes well beyond any one of these sectors in its scope and importance to the future integrated, sustainable development of the East Midlands. Other policy linkages include:

- **Quality of Life:** the Government's national headline Quality of Life indicators include several that relate to GI, such as biodiversity, access to greenspace, general health levels, etc.
- **Sustainable development:** according to the Government, "Sustainable Communities are about more than just housing". Development should represent an opportunity to enhance environmental quality, including biodiversity, and not an unending battle to save what little is left.
- **Water resources:** providing GI at a local scale as part of all new development should help increase the permeability of urban areas to water, reduce the amount of runoff and increase the overall quality of water entering rivers and groundwater replenishment. SUDs, buffers along watercourses, and new multi-functional wetland habitats are all aspects of GI capable of making a contribution.

8.6 Constraints/uncertainties

- **Lack of coordinated approach**: Despite the activity of a wide range of projects across the region by many organisations and partnerships, there is no coherent approach for the region to deliver biodiversity gain across the region at present. Furthermore, current delivery is not explicitly linked to Green Infrastructure delivery, although individual projects may link to wider objectives e.g., the association of wildlife site management to local health initiatives through BTCV's Green Gyms.
- **Delivery**: The concept of Green Infrastructure is well developed in the region and recognised in various strategy documents. However, it is not clear generally how GI might be delivered and maintained through the planning system. A scoping study for the region led by EMRA has identified a range of constraints ranging from the availability of data for mapping and the need for coherent joint action by deliverers, to funding mechanisms.

Objective 15: To develop a clear spatial framework for GI delivery at regional and sub-regional levels to help guide prioritisation

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
15a. Ensure that the concept of GI is rolled out across the East Midlands beyond the growth area by applying the same audit process and spatial policies developed for the MKSM sub-region.	Consistent approach to GI delivery in all parts of the region	Consistent guidance adopted for all parts of the region	End 2008 (with adoption of RSS8)	EMBF	EMRA	
15b. Identify a regional GI network that incorporates and adds detail to the BEA/BCA approach presented in the Regional Biodiversity Strategy.	GI proposals can be assessed in the context of a clear regional spatial framework	Guidance for all BEA/BCAs produced	End 2007	EMBF	NE, EA, RSPB, WTs	
15c. Develop a sub-regional approach for biodiversity delivery outside BEA/BCAs as part of EMRA's Regional GI Initiative	Local GI proposals can be assessed in a clear and consistent way	Guidance for local delivery of the Regional GI Initiative produced	End 2007	EMBF	NE, EA, RSPB, WTs	
15d. Develop Sub-Regional Strategy policies and Local Development Framework best-practice guidance to promote development of the GI network	Provision of a clear methodology for translating regional GI priorities into local decision-making	Suitable policies in place in all SRS and LDFs	End 2007	EMBF	EMRA	

Objective 16: To provide clear guidance on how to deliver a high quality biodiversity network as part of multifunctional GI

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
16a. Develop a common Regional-level understanding of the role of biodiversity in GI delivery by staging a conference for EMBF members, EMRA, Emda and other regional partners.	Regional decision makers understand and promote the role of biodiversity in GI delivery	Conference held and proceedings circulated	End 2007	EMBF		EMRA, Emda, SSPs
16b. Publicise and share best practice examples of integrated GI delivery that incorporates high quality biodiversity	Good practice is acknowledged and lessons disseminated among other regional stakeholders	Updates on latest projects on at least an annual basis	Ongoing	EMBF		

Objective 17: To recognise opportunities for delivering GI and support through reliable funding and data provision

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
17a. Examine current delivery framework for GI for biodiversity and address any gaps in coverage	Large scale initiatives for GI delivery in place across all sub regions	Review carried out. Action plan agreed	Oct-06 Jan-07	EMBF EMBF		EMRA
17b. Work with RA, Emda, GOEM and SSPs to establish a funding structure to deliver and manage GI sites	Assured funding for GI delivery at regional, sub-regional and local scales			EMBF		EMRA, Emda, GOEM, SSPs

17c. Examine availability of biodiversity information for GI planning and produce action plan to address any gaps in data availability	High quality biodiversity data available to help inform decisions about GI delivery	Review carried out. Action plan agreed	Oct-06 Jan-07	EMBF EMBF		LRCs, LAs

Objective 18: To ensure that economic regeneration initiatives, biodiversity projects and multi-functional GI delivery are developed in an integrated way

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
18a. Promote integrated delivery of biodiversity in regional economic regeneration projects delivering GI.	Biodiversity delivery integrated into major regeneration projects as part of GI	GI delivery integrated into RES & emda/SSP business plans	End 2007	EMBF		EMRA, Emda, GOEM, SSPs
18b. Promote delivery of multi-functional GI within biodiversity projects by producing checklist	Biodiversity-led projects capitalise on opportunities to deliver wider GI benefits	GI checklist for biodiversity projects produced All biodiversity projects assessed for contribution to wider GI benefits	End 2006 Ongoing	EMBF EMBF		
18c. Adopt a regional target for GI provision, and for biodiversity delivery within GI and embed this in the Regional Environment Strategy	Consistent regional targets for GI provision and biodiversity delivery across IRS	Regional target developed and adopted	End 2007	EMRA	EMBF	
18d. Link delivery of regional GI targets between regional strategies including biodiversity, economic development, environment,	Consistent regional targets for GI provision and biodiversity delivery across IRS	Links to GI targets incorporated in appropriate regional strategies	End 2008	EMRA	EMBF	Emda

tourism, public health, education and skills, culture and sport.						

9. COMMUNITY ENGAGEMENT, ENJOYMENT AND EDUCATION

9.1 Vision for community engagement and enjoyment

9.1.1 The people of the East Midlands will be fully aware of the importance of biodiversity in its own right, and its role in sustaining their health and the quality of their lives. They will be committed to living their own lives in ways that reduce their direct or indirect impact on biodiversity. Communities will be encouraged and helped to experience biodiversity and take action to conserve it. Coherent and consistent communication backed up by learning-through-experience opportunities will help to develop this common understanding and enjoyment, and promote positive action and lifestyle change. Opportunities for people to experience, enjoy and be involved with wildlife will be diverse and yet integrated to provide a lifelong journey of learning and enjoyment in all parts of the region, from school age upwards.

9.1.2 Those with a role in delivering this strategy will strive to identify and involve sections of the community that currently are not engaged, and seek to understand and reduce barriers to communication where they exist. Environmental organisations will reach those communities through appropriate communications, staff and volunteer recruitment strategies, and choice of projects and locations. They will need to make the actions set out in this strategy relevant to the lives, emotions and needs of the target audience. Better research, and changes to the way environmental organisations work may be required, not just more communication using tried and tested methods. Organisations will recognise that the poorest communities experience the poorest quality environments, with the least biodiversity, and act to improve biodiversity in the areas in which those communities live. Organisations will benefit generally through increased support and this will help achieve other actions in this strategy, not least through a strong base of support for recording and monitoring biodiversity (see Chapter 12).

9.1.3 In order to engage communities, communications will:

- Decide who the target audience is;
- Translate this strategy into concepts and messages that appeal to the target audience;
- Make this strategy connect with the lives, emotions and needs of the target audience, and;
- Make this strategy relate to the personal benefits desired by the target audience.

9.1.4 This strategy sets out many actions aimed at the creation of opportunities for people to engage with, benefit from and enjoy biodiversity. Examples include:

- Promoting opportunities to enjoy the natural environment away from already well-visited areas, and provide them close to where people live.
- Development of further appropriate employment opportunities, generated by the enjoyment of biodiversity and high quality natural landscapes;
- Making the countryside attractive and enjoyable to all;
- The establishment of projects that provide opportunities for people to appreciate biodiversity and become involved in its conservation, and;
- Securing rights of way and high quality public access to biodiversity-rich woodlands, uplands, coastline and other habitats to facilitate public enjoyment.

9.2 Current issues:

9.2.1 This strategy will not achieve this vision by itself – it will not motivate people outside small circles of experts and enthusiasts. Neither can the strategy take on the role of identifying every key audience. This responsibility rests with the lead and partner organisations identified against actions in this strategy and in LBAPs. Many voluntary sector organisations have strong public membership and volunteer support. They run local nature reserves and other projects, and are well placed to lead community engagement initiatives. However, resources for these organisations are often stretched and the support of local and regional government, statutory agencies, landowners, and the private sector will be crucial.

9.2.2 It is impossible to involve the entire population of the East Midlands, so organisations must think carefully about who is being targeted and why. The target audience of biodiversity organisations has traditionally been those who have the time, social background and money to spare to care about biodiversity. Organisations need to focus greater attention on involving the diverse communities in the East Midlands who have traditionally been ignored. The poorest and most excluded urban and rural communities often have the most to gain (in terms of health, learning opportunities and quality of environment) from better natural environments and enhanced biodiversity.

9.2.3 One issue worth highlighting is the challenge of engaging young people with the natural environment. Fears about child safety, home entertainment, a crowded curriculum, and concerns about liability during school trips all have combined to reduce the breadth of experience of the natural environment of many young people. This in turn is contributing to other problems such as poor health. The challenge for biodiversity organisations is to provide opportunities for young people, their families and schools that are safe (in reality and perception), easily accessible, rewarding and exciting. Better understanding and experiences of the natural environment from a young age could pay dividends across a lifetime.

9.3 Current initiatives:

9.3.1 There is a huge range of national, regional and local initiatives, which seek to engage communities in biodiversity issues, and practical action. The list below provides examples of initiatives and projects, but is not intended to be exhaustive:

- The combined East Midlands membership of voluntary sector conservation organisations such as the RSPB, the Wildlife Trusts, the National Trust and BTCV is over 250,000.
- The UK Phenology Network run by the Woodland Trust involves thousands of registered recorders, who help record and monitor seasonal events. Such data provides part of the hard evidence for climate change and can be an excellent way to involve people and communities, especially schools.
- English Nature's "Wildspace!" project engages communities with their local green spaces and LNRs.
- Each week, across the East Midlands, teams of volunteers take practical action on nature reserves and local green spaces.
- The BTCV Green Gym® involves individuals and communities in healthy practical activity combining health, biodiversity and practical action.

- The Wildlife Trusts, BTCV and other organisations are delivering environmental training in biodiversity and related issues to individuals and communities.
- Through the Environmental Option of the New Deal scheme, unemployed people are being introduced to biodiversity concepts, and realising how behavioural change can positively influence their environment.

9.3.2 All the projects and initiatives above conserve or improve nature while simultaneously mobilising and supporting voluntary and community effort, and achieving wider benefits in terms of health, learning, skills, and jobs.

9.3.3 Numerous forums for community engagement exist within local government, including local strategic partnerships (LSPs), Local Agenda 21 forums and now, community involvement processes introduced by the new planning system. These do not always operate successfully and the challenge for local government is to find innovative ways to broaden and strengthen involvement by such means.

9.4 Key policy drivers

- Working with the Grain of Nature: A Biodiversity Strategy for England (Defra 2002)
- Life Support: Incorporating Biodiversity into Community Strategies (Defra 2004)
- Securing the Future - The UK Sustainable Development Strategy (Defra 2005)
- UK and local Biodiversity Action Plans
- Regional Environmental Strategy
- Regional Economic Strategy

9.5 Policy linkages

9.5.1 Community engagement and enjoyment has clear links to several other important social policy areas, including:

- **Health** – increased community engagement with biodiversity and the natural environment could improve general levels of physical and mental health. Short regular walks or the kind of exercise possible through active conservation work can reduce coronary and respiratory disease, help weight loss and reduce stress. The benefits of access to natural greenspace, and attractive landscapes rich in wildlife are well documented.
- **Learning and skills** – providing first-hand experiences of biodiversity, and opportunities to be directly involved in conservation action can help people learn new practical skills and increase their confidence and independence, whether it is through helping to manage coppice woodland or by guiding less experienced visitors around a nature reserve. Learning through play and experience in young people is particularly important. It can teach confidence and independence, and engender understanding and respect for the natural environment and other people – helping create the next generation of active citizens.
- **Responses to climate change** – ultimately, responsibility to take action to reduce the causes of climate change rests with individuals and communities. Improving understanding and appreciation of biodiversity and the problems it faces may help drive other changes in lifestyle that will assist the UK's efforts to resolve wider environmental problems like climate change.

9.6 Constraints/uncertainties

- **Political priorities**: if economic performance in the East Midlands begins to decline, biodiversity and the environment may well be allowed to slip down the list of priorities.
- **Community engagement** may be perceived as secondary to the conservation of habitats and species, instead of a key element of successful biodiversity conservation, and may be limited if biodiversity conservation is too narrowly focused, and does not include parks, gardens and green spaces.
- **Organisational behaviour** change in the environment sector (for example, by becoming more inclusive both in terms of the staff employed and the communities worked with) is a prerequisite to successful community engagement.

Objective 19: To listen, understand and be more open to ensure effective communication of biodiversity concepts and messages

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
19a. Ensure that communication relating to biodiversity conveys the message that it is fundamental to the quality of life for all people in the East Midlands.	Key audiences receive strong and consistent message about importance of biodiversity to quality of life.	All relevant publications and events incorporate key message.	Ongoing	EMBF	EMRA; any EMBF member; LBAPs	GOEM, Emda, LSPs, UKPN, LAs, Schools, LCG
19b. Present messages that link global issues to local biodiversity needs.	Key audiences receive clear messages about link between local biodiversity and global issues.	All relevant publications and events incorporate key message.	Ongoing	EMBF	EMRA; any EMBF member; LBAP p'ships	GOEM, LSPs, UKPN, LAs, Schools, LCGs
19c. Promote the message that a healthy environment, rich in biodiversity is good for the economy – jobs and business.	Key audiences receive clear messages about importance of environment for economic prosperity.	All relevant publications and events incorporate key message.	Ongoing	EMBF	Any EMBF member; LBAPs	GOEM, Emda, LSPs, UKPN, LAs, Schools, LCGs

Objective 20: To ensure meaningful community engagement in biodiversity activities

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
20a. Target events and projects to enable people from previously under-represented sections of the community and different parts of the region to engage in conservation activity as an enjoyable learning experience.	All communities have an opportunity to engage in biodiversity and conservation activity/learning.	Different organisations will need to identify key audiences relevant to their activities and record and report against SMART targets.	Ongoing	EMBF	Any EMBF member; LBAPs	GOEM, Emda, LSPs, UKPN, LAs, Schools, LCGs
20b. Link volunteering opportunities into provision of Green Infrastructure, to increase volunteering for conservation on open green-space.	Increase residents' engagement with local biodiversity and high quality natural environments	Increase total volunteer hours on local green-space by 10% per year	2007 and annually	NE	EMRLGA, WTs, RSPB, WoT, BTCV, FC, Emda	VE

10. BUSINESS AND INDUSTRY

10.1 Vision for business and industry

10.1.1 The region's businesses will develop in a way that respects the natural environment and that, individually and collectively, they become actively involved with the conservation of the region's biodiversity. Simple examples of how this can be achieved include:

- Sympathetic management of existing company-owned wildlife sites;
- Incorporation of biodiversity features, such as ponds and wildflower areas, on existing industrial sites;
- Creation of wildlife habitats as an integral part of new development and financial or in-kind support for biodiversity projects.

10.1.2 In the coming few years, business and industry will manage supply chains and investment decisions to reduce the risks of indirect adverse impacts on the natural environment.

10.1.3 A closer working relationship between conservation organisations and industry will develop a significant level of trust between the sectors. This is essential if industry is to be confident that by carrying out conservation work on its land it will not necessarily be limiting the future potential for development. A flexible approach to the creation of temporary wildlife habitats on industrial land will be adopted - the principle that biodiversity gain may be of a temporary nature appears to work well in other regions, with industry nature conservation associations (INCAs) operating successfully on both the Humber and Tees Estuaries. Opportunities to create more lasting biodiversity enhancements will also be taken wherever possible, through strong partnerships that utilise the strengths of each sector.

10.1.4 Business and industry will have access to accurate biological information. Businesses seeking to expand their operations will be able to plan sympathetic development on based on good quality data. Additionally, industrial organisations are required to comply with environmental legislation, e.g. Control of Major Accident Hazards Regulations (COMAH) and the Integrated Pollution Prevention and Control (IPPC) Regulations, which requires them to take account of their impact on the natural environment.

10.2 Current issues

10.2.1 There is huge variety in the industrial sector of the East Midlands, from manufacturing in the main urban areas to agriculture and food processing in Lincolnshire, and the scale of many of these industries has obvious potential to impact, either positively or negatively, on the region's biodiversity. However, with careful planning and consultation it is possible to achieve major biodiversity benefits from operations that initially appear to be of limited wildlife value.

10.2.2 The value of incorporating biodiversity conservation into the business model is becoming increasingly recognised by the business community and a number of businesses operating in the East Midlands, including Center Parcs, Anglian Water and Severn Trent Water have already produced and are beginning to implement their own corporate biodiversity action plans.

10.2.3 In order to encourage further engagement with and awareness of biodiversity conservation, the benefits to business and industry must be set out in a clear and concise way. The Business and Biodiversity Resource Centre website lists the following as potential benefits to business of engaging with biodiversity:

- Managing risk;
- Enhancing reputation and generating good publicity opportunities;
- Improving consumer and shareholder satisfaction;
- Helping to build supportive partnerships with government, non-governmental organisations (NGOs), local organisations, community groups, and other parts of the private sector;
- Reducing permit cycle times for expansion and development plans;
- Limiting the negative impacts of environmental accidents, e.g. spillages;
- Improving resource use efficiency.

10.3 Current initiatives

10.3.1 Emda published a study of the 'Environmental Economy of the East Midlands' in 2002 which concluded that this sector generates approximately 71,000 jobs and 3% of the region's GDP. This makes it comparable in size to other important sectors such as construction and food and drink. The environmental economy includes businesses supplying environmental technologies and services, rural businesses such as agri-environment schemes and organic farming, and tourism and leisure businesses dependent on the quality of the region's natural and historic environment. Emda is updating the study in 2005.

10.4 Key policy drivers

- UKBAP
- England Biodiversity Strategy
- Habitats Directive
- PSA target for SSSI condition
- LBAPs

10.5 Policy linkages

- **Renewable energy targets** – a number of industries are currently investigating a variety of ways to meet renewable energy targets. This ranges from the use of biofuel crops (e.g. short rotation willow coppice) to installation of wind turbines. The potential knock-on effects of the various options are understood to varying degrees.
- **Regulatory legislation** – European legislation such as the EU Habitats Directive, Water Framework Directive, IPPC, COMAH all have an impact on the way industry operates in some way. The effectiveness of how the various regulations are applied will determine how much of an effect their implementation has on biodiversity.
- **Sustainable development** – most business sectors are now aware of the need for sustainable development and the benefits it brings. The availability of support systems to help businesses develop in a sustainable manner is likely to be vitally important in ensuring that sustainable development delivers the maximum possible positive benefit for biodiversity.

10.6 Constraints/uncertainties

- **Historically conflicting relationships**: Perhaps the biggest constraint to the successful engagement of business with biodiversity projects is the idea that businesses and conservation organisations find it hard to successfully cooperate as the two sectors, inevitably, find themselves on conflicting sides of relevant issues. Finding a way to overcome historical differences and work together is an essential step to ensure that the business sector is fully engaged with biodiversity conservation.
- **Biodiversity not a business priority**: Conservation of biodiversity is not perceived as a high priority issue by the majority of businesses and industries. If the economic climate takes a downturn, biodiversity conservation might become seen as 'frills' rather than being recognised as essential to maintain long-term economic prosperity.

Objective 21: To engage business in priority biodiversity conservation projects

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
21a. Establish a mechanism for dialogue between business and conservation organisations.	Regular exchange of ideas and views between business and conservation organisations.	More transparent relationship between business and conservation organisations.	2006	EMBF		Emda, CBI, NE, EA, FC, WTs, EP, LAs, PDNPA
21b. Identify region-wide projects where business involvement would be beneficial.	Clear set of priorities with which to approach business.	Regularly updated 'wish list' of regionally important projects.	2006	EMBF		Emda, CBI, NE, EA, FC, WTs, EP, LAs, PDNPA.
21c. Implement priority projects with business support.	Benefits for both biodiversity and business.	Aim for at least 1 major project per year.	Ongoing	EMBF	WTs, FC, EP, LAs	Emda, CBI, NE, EA, PDNPA.
21d. Promote the formation of Industry Nature Conservation Associations to provide advice, support, promotion and environ-mental monitoring services for business and industry.	Increased involvement of business and industry in biodiversity conservation.	Areas where INCA formation would be valuable identified.	2006	EMBF		Emda, CBI, NE, EA, FC, WTs, EP, LAs, PDNPA

Objective 22: To secure the management of industry owned / managed land to benefit biodiversity

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
22a. Encourage the inclusion of features to benefit biodiversity in new developments.	Reduction in habitat loss resulting from development.	Consistent policies on biodiversity to be included in all Local Development Frameworks.	Ongoing	EMBF	NE, EA, WTs,	Emda, CBI, FC, EP, PDNPA, LAs

Objective 23: To increase the accessibility of biodiversity information relevant to business

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
23a. Promote the availability of biodiversity information to business through Local Records Centres.	Full consideration of biodiversity issues in business activity.		Ongoing	EMBF	LRCs, NE, EA, WTs, Emda	LAs

11. TOURISM AND RECREATION

11.1 Vision for tourism and recreation

11.1.1 Tourism providers will make the most of the region's biodiversity, without damaging the quality of the environment that forms the attraction in the first place. The tourism sector will recognise the contribution biodiversity makes to their business, building and strengthening these links and enhancing the region's natural value by putting back resources into biodiversity conservation and enhancement.

11.1.2 Leisure opportunities will be extended in rural, sub-urban and urban areas by maintaining, enhancing and growing the quality, quantity and accessibility of green-space managed for wildlife, so providing access to high quality natural green-space for all.

11.2 Current issues

11.2.1 The tourism sector has always relied heavily upon the high environmental quality of certain areas, such as the Peak District National Park and the Lincolnshire Coast and Wolds. While the popularity of these continues to grow, a new emphasis has been placed on urban and local tourism in recent years.

11.2.2 The overall quality of the natural environment available for leisure use by all sectors of the population has declined in recent decades. Development has expanded in greater proportion than green space needed by its occupants. Increasing road traffic makes many spaces inaccessible, especially by children, and intensive farming has reduced the quality of the rural environment. In some areas, restoration of former mines and quarries has created new resources, including a variety of wildlife habitats and leisure uses. The National Forest has demonstrated the reality of using biodiversity enhancement to turn a large area of mixed land-use into a valuable resource for leisure and tourism, bringing significant new income to the region.

11.2.3 There has been steady recent growth in tourism and leisure businesses that are dependent on the high quality of the region's natural and historic built environment. For example, the 18 National Forest sites attracted 5.7 million day visits in 2002, with people spending an average of £25.

11.2.4 The annual value of tourism to the region is £4 billion. More than half of this comes from day trips, all but £292m of the rest from inbound and domestic overnight trips

11.2.5 The East Midlands Rural Development Plan identifies that 40% of tourism workers are in rural areas and shows a rise in rural tourism income above the regional average.

11.2.6 Walking is identified as one of most popular leisure activities amongst tourists, which the Regional Tourism Strategy shows is increasingly so, especially in rural districts.

11.2.7 The 2005 Green Infrastructure Scoping Study shows that provision of accessible natural green space is very variable across the region and does not meet established standards for a large proportion of the population within its study areas.

11.3 Current initiatives

11.3.1 There are hundreds of examples of projects, sites and initiatives enabling people to experience wildlife and the countryside as part of a tourism and recreation experience, from small urban nature reserves to the Peak District National Park or the open beaches of Lincolnshire. The following is not intended to be an exhaustive list.

- The East Midlands Green Infrastructure Scoping Study has taken an important step towards quantifying the available Green Infrastructure resource, in a set of sites with different land-use and residential patterns.

- There are hundreds of nature reserves, open to the public, throughout the region. The Wildlife Trusts manage 270 nature reserves covering over 7,000 hectares. The RSPB, Woodland Trust and the National Trust also own and manage extensive sites for wildlife that attract thousands of visitors a year. The RSPB's Freiston Shore reserve already attracts 63,000 thousand visitors a year, even though it has only been open for two years. There are also 10 national nature reserves and 83 local nature reserves, many of these in and adjacent to urban areas.

- Volunteering opportunities abound on nature reserves, contributing to participants' health, enjoyment and social networks. The Wildlife Trusts have over 2,500 active volunteers in the region, the RSPB up to 2,000 more.

- The Wildlife Trusts have three visitor centres in the region, at Gibraltar Point, Attenborough and Rutland Water, which welcome 200,000 visitors each year, generating a turnover of over £500,000.

- The National Forest runs a residential visitor centre 'Conkers' as well as welcoming visitors at a number of sites, to participate in a wide range of activities.

- Hundreds of wildlife events take place in the region each year. Amongst the largest is the annual Birdfair at Rutland Water. Regular events include 700 each year organised by The Wildlife Trusts.

- The East Midlands Rural Development Plan identifies initiatives including producer groups for farm attractions and farm accommodation, leisure development, natural area identities, market towns and quiet greenway links to the countryside.

- The Peak District National Park is piloting an accreditation scheme for visitor accommodation, meeting high environmental standards.

- Sherwood Forest attracts thousands of visitors each year, most concentrated around the Major Oak, making Newark and Sherwood the most visited district in the region. The Sherwood Forest Initiative aims to broaden local and visitor interest in the habitats and wildlife of the forest, as well as extending leisure opportunities and activities.

11.4 Key policy drivers

- Regional Tourism Strategy and other IRS documents
- 2005 Environmental Economy Report
- Public Health Strategy
- Strategy for Sustainable Food and Farming
- Regional Forestry Framework
- SSPs - play a key role in delivering the Tourism Strategy
- 'Smart Growth the Midlands Way' draft proposal
- Sustainable Communities Plan
- UK Sustainable Development Strategy
- Urban Action Plan

11.5 Policy linkages

- **Economic rural development and inward investment** – the 2005 Environmental Economy Report identifies that for this sector, there has been 16% growth in domestic tourism spend in the East Midlands since 2002, compared to a 3% increase nationally. There has been 19% growth in inbound regional tourism versus a fall of 7% nationally. Tourism and leisure may become one of the East Midlands' most reliable industries and for some isolated rural areas, the only viable alternative to agriculture.
- **Agricultural land use change** – one of the central themes of the Policy Commission's 2002 report on the Future of Food and Farming is the reconnection of farming with its market and the rest of the food chain, and to reconnect consumers with what they eat and how it is produced. The ability of farmers and rural communities to attract visitors to the countryside is one way of helping this deeper understanding and appreciation to develop, while growing a market for high value local products.
- **Health** – Reconnecting consumers with food production supports informed decisions about healthy eating. Enabling people to enjoy outdoor leisure activities in a high quality environment supports good physical and mental health. The public health strategy includes physical activity, self-esteem, reduced heart disease and mental illness amongst its 16 objectives and identifies environmental enhancement as offering great potential for improving health and reducing health inequalities.
- **Sustainable development and sustainable communities** – Tourism and recreation have great potential to provide economic development that is environmentally sustainable, by investing in the enhancement of the natural environment. Doing so assists in the provision of Green Infrastructure and provides opportunities for community engagement, so contributing towards sustainable local communities too.
- **Built heritage and the historic environment –** There is considerable potential to link the development of tourism dependent on a high quality natural environment, with existing historic attractions, landscape and built heritage enhancement, including historic attractions in the marine environment.
- **Culture –** The region's natural environment reflects and supports many aspects of its people's culture and is itself a cultural attraction**.** The attraction of the natural environment as an aspect of tourism and recreation is often entwined with other cultural activity and there is considerable potential to enhance these links.

11.6 Constraints/uncertainties

- **Climate change**: The effects of climate change are certain to influence land management, urban and rural environmental conditions, seasonal variation, cause more extreme weather events and influence coastal topography, all of which will influence the ability of visitors and residents to enjoy the region's biodiversity and natural environment.
- **Sustainable communities**: The concept of Green Infrastructure is well developed in the region and recognised in various strategy documents. However, it is not yet clear generally how GI might be delivered and maintained through the planning system. A scoping study for the region led by EMRA has identified a range of constraints ranging from the availability of data for mapping and the need for coherent joint action by deliverers, to funding mechanisms.
- **Agricultural market reform**: Agriculture is facing one of the most uncertain periods it has ever had to address, due to the desire to open up markets to competition. Allied to this is reform of the Common Agriculture Policy (CAP) and the move away from direct price support for commodities to paying farmers to diversify and to maintain and improve the environment. The potential for environmental enhancement that will benefit tourism and recreation is considerable but will depend upon uptake of higher level agri-environment options and successful, environmentally sensitive, farm diversification.

Objective 24: To increase annual tourism spend within areas of high quality natural environment.

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
24a. Promote the development of links between environmental management, products, activities and events, especially within areas of high environmental quality.	Potential visitors aware of linked environmental and tourism assets of high-quality areas.	Scheme in place and marketed to potential visitors	By 2010	NE	GOEM, FWAG, PDNPA, NT, FC, WTs	NFU, CLA, Emda, EMRAF, EMRLGA, RNRP, CEM
24b. Promote development of locally distinctive added value products, linking local production to high standards of environmental management.	Products developed and marketed		By 2010	NE	GOEM, FWAG, Emda	NFU, CLA, PDNPA, EMRAF, NT, FC, WTs
24c. Promote development of links between advisors and information available to land-managers, so that business, tourism, food-production and environmental management advice can be considered together and mutual benefits developed.	Co-ordinated, comprehensive advice available to land-managers	Available to all land-managers	By 2008	NE	GOEM, FWAG, NT, WTs, RSPB, FC, Emda	NFU, CLA, CEM, BL
24d. Ensure that relevant regional tourism and economic strategies recognise the benefits of a high quality natural environment in sustaining economic performance	Appropriate policies in regional strategies	Ensure policies are included at the next review of relevant strategies, including the RES and regional tourism strategy	By 2008	NE	Emda, EMRA, WTs, RSPB, NT, FC, EA, WoT	GOEM, EMRAF, NFU, CLA

Objective 25: To increase visitor and resident awareness of the region's environmental assets and opportunities to experience them.

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
25a. Promote the inclusion of questions about environmental quality, wildlife and outdoor activities in regular regional visitor surveys, to establish a baseline and measurement.	Evidence available to decision-makers on changing levels of visitor interest in natural environment	Survey results available on a regular cycle	2007 and every two years	EMBF		Emda, NE, WTs, RSPB, NT
25b. Establish and strengthen links between environmental management and the education, training and skills sectors.	Increased environmental management skills base	Increased number of students with environmental management accreditation	Steady increase (%?) every two years	NE	Emda, WTs, RSPB, NT, BTCV	LSC, ESPP, FC, EA
25c. Ensure environmental quality, including biodiversity, is included in regional promotion and publicity to tourists and visitors.	Wide awareness of environmentally distinctive, high quality areas	Identification of 5-10 distinct areas and wide awareness of these	Active promotion of one area by 2008, five by 2015	NE	Emda, PDNPA	NT, WTs, RSPB
25d. Promote awareness of areas providing a high quality natural environment, ways that these can be experienced, benefits of enjoying them and responsible use, to residents and workers in the region,	Wide awareness within the region, of accessible areas of high environmental quality and ways that these can be enjoyed	Information available to large numbers and ultimately all of the resident and working population	Info available to 50% of the pop'n by 2008, 100% by 2010	NE	WTs, RSPB, NT, FC, EA, WoT	Emda, EMRA, EMRLGA, GOEM, SE

25e. Promote development of regional or sub-regional identities for areas with distinct environmental character and quality and wider promotion of these.	Wide awareness of environment and biodiversity amongst tourism providers and visitors	Environment and biodiversity considered as a generic issue for all tourism-related publicity and publications and referred to in at least 20%	System in place by 2007	NE	Emda, NT, FC, WTs, RSPB, WoT, EA	GOEM

Objective 26: To ensure that increased tourism and leisure use of high quality natural environments does not increase environmental impacts upon these areas or the region.

Action required to meet Objective	Outcome desired	Target	Timescale	Lead	Existing partners	Potential partners
26a. Promote development of integrated transport policy and provision, including improved public transport links to leisure and tourist destinations.	No increase in private transport use, or associated environmental impacts, due to increased leisure and tourism	Integrated public transport provision to stay ahead of tourism and leisure demand	From 2006 and ongoing	EMRA	NE, PDNPA	Emda, EMRAF, GOEM
26b. Promote further development of environmental accreditation schemes for tourism providers and their extension across the region, especially within areas of high environmental quality.	Reduced environmental impact of current and future levels of tourism	Scheme piloted and available for wide adoption by 2010	Development 2005-2010	NE	PDNPA	EMRLGA, Emda, NT, FC, NFU, CLA
26c. Through accreditation schemes and wider promotion, encourage the use and marketing of local products, produced to high environmental standards, by visitor destinations and accommodation.	Reduced environmental impact and increased awareness of and profit from high quality local products	10% annual increase in local sales of locally distinctive products	From 2007 and ongoing	NE	Emda, GOEM	EMRLGA, NFU, CLA, NT, PDNPA, EMRA

26d. Promote awareness of accessible sites of high environmental quality and interest, close to larger visitor centres and accommodation, also providing information on responsible use.	Encourage greater awareness and use of accessible sites of high environmental quality in the wider countryside	Information on sites in the surrounding area available at all large visitor centres and accommodation providers	Info available at visitor centres by 2007, then in 10% of accommodation per year	NE	WTs, RSPB, WT, NT, NE, FC	Emda
26e. Consider and develop 'putting a bit back' schemes where tourists staying in high quality areas make a small financial contribution towards environmental management	Encourage recognition of the need and support for management, of a high quality natural environment	Assess the potential for a scheme, pilot and roll out, as appropriate	Assess by 2008, pilot by 2010, roll out by 2012	NE		PDNPA, EMRLGA, Emda

12. DELIVERY AND RESOURCES

12.1 Vision for delivery and resources

12.1.1 The nature conservation sector will play a key role in helping to implement this strategy through advice and expert guidance, practical projects and community engagement. The nature conservation sector will advise, support and often lead partnerships, and will work with the public and private sector to deliver the strategy. Responsibility for the publication and review of the strategy sits with the EMBF, but implementation is a responsibility of every regional organisation with a stake in any of the socio-economic areas of activity identified in the strategy, including many for which nature conservation is only a relatively small aspect of their work.

12.1.2 Many of the most spectacular nature conservation successes in the East Midlands have been the product of strong partnerships between diverse organisations. This approach will continue and grow stronger to enable the challenges laid down in this strategy to be met. To underpin this work, the nature conservation sector and other stakeholders will aspire to secure effective resources for delivery, management and reporting on a long-term basis. The nature conservation sector will recognise and adapt to climate change as part of management plans and will adopt new approaches to site protection and habitat creation.

12.1.3 The nature conservation organisations must act together to make clear to government that establishing a core biodiversity infrastructure is an essential prerequisite for maintaining and enhancing biodiversity.

12.1.4 Finally, the vision for biodiversity in the East Midlands depends on scaling up the successes to date, financially, spatially and geographically. There are hundreds of good examples of projects around the region. Nature reserves support much of the region's threatened wildlife and provide examples of good practice that need to be translated into action in the wider countryside. We are starting to see a shift towards this landscape-scale, ecosystem-based approach, for example through the new agri-environment schemes, but still have much to do.

12.2 Current issues

12.2.1 The Biodiversity Strategy for England notes that several factors have constrained progress in local delivery for biodiversity, in particular limited resources. In many cases it has been difficult for local partnerships to secure long-term funding for the implementation of LBAPs, therefore staff are often employed on short-term contracts, which has led to a lack of continuity. Furthermore, the monitoring of progress has been hampered by poor geographical coverage of local biological records centres (LRCs) and the consequent inability to establish effective monitoring programmes. A full network of LRCs is crucial to ensure the availability of baseline and ongoing data to support, monitor and contribute to LBAP actions.

12.2.2 Implementation of this strategy will require very significant human and financial resources. The cost of simply maintaining the existing network of sites and delivering current enhancement projects is already large, and often difficult to meet under current funding processes and priorities. These often favour new and exciting capital projects over the routine delivery of site management and basic monitoring infrastructure. Every new capital project can add to the revenue costs and increase the difficulty for the managing organisation to maintain all their projects in the long term.

12.2.3 There currently are serious gaps in the core biodiversity infrastructure in this region. The costs of developing such an infrastructure include:

- Investment to allow local wildlife site systems (to facilitate assessment, designation, administration, monitoring, advice and management) to operate effectively and consistently in every county.
- Investment to achieve full coverage of local records centres (there are currently no LRCs in Northamptonshire and Lincolnshire).
- Investment to establish a regional biodiversity information network with a single regional centre (possibly attached to one of the LRCs) is necessary in order to set data standards across the region and develop regional information products.
- The cost of engaging, training and supporting the 'next generation' of biodiversity recorders as well as the existing volunteer base.
- Support for regional BAP co-ordination, and LBAP implementation. At a minimum, experience across the UK has shown that effective delivery requires a regional biodiversity manager and a coordinator for each county LBAP.

12.2.4 Some indicative estimates of the costs of meeting data needs and establishing the core biodiversity infrastructure for the region are shown below. However, there is some uncertainty as delivery of LBAP targets involves partners in drawing down funding to support new work. Conversely, some of these figures may be significant under-estimates because they are based on current delivery levels rather than the ideal (or perhaps even the basic) service level needed to implement this Strategy.

12.3 Data needs and the costs of meeting them

12.3.1 Regional data needs and costs were assessed in a series of reports to the EMBF in 2004. Policies and associated indicators and targets that generate a need for biodiversity information are identified in the Regional Environment Strategy and Regional Spatial Strategy). Data needed to compile the information required by these indicators were analysed in terms of type (habitat, species, site designation etc.) and quality (accuracy, precision, currency, geographic coverage etc).

12.3.2 The main conclusion was that data of sufficient quality is not currently being collected for the majority of indicators. Information requirements for SEA and policy review have been assessed following published guidance and consultation with agencies developing the SEA for the RSS. Habitat inventories together with assessments of habitat fragmentation and condition are needed to plug gaps in the current baseline

12.3.3 The current infrastructure is inadequate to meet regional needs for biodiversity data supply. Initiatives to establish LRCs in Lincolnshire and Northamptonshire and to improve LRC services in Derbyshire will achieve a complete geographic coverage in terms of local data accessibility by about 2007, but a regional biodiversity information network with a regional centre is necessary in order to set data standards across the region and develop regional information products. It has been calculated that such an initiative should result in annual net savings of at £20k to £50k across the region, while improving and expanding biodiversity data delivery. As well as supplying the information needed by government agencies to plan a better environment for people to live and work in, a regional network would also improve services to the commercial

sector and lead to higher overall levels of sustainability in economic development as well as improving access to the large volume of high quality data generated by volunteers.

12.3.4 Projected costs are summarised below. A holistic review of indicators associated with all regional plans and programmes would probably identify a more effective suite of biodiversity indicators with cheaper data collection costs. Limited cost reductions on measuring existing indicators may be achieved by developing volunteer recorder groups, but this would entail a longer lead in time. If current national pilot schemes on species monitoring are continued and funded nationally, further savings may also result. A 25% reduction in running costs of the biodiversity information network could be achieved by combining the new regional centre with an LRC.

Table 3: Projected costs of data collection/supply to serve RES/RSS		
Data collection	**Start-up costs**	**Annual costs**
Environment Strategy indicators	£45,432	£24,892
RSS indicators	£15,025	£21,150
SEA baseline information	£55,000	£72,250
SEA sustainability indicators	not costed	
Data supply		
Option 1: Biodiversity information network with independent regional centre	£53,000	£122,000
Option 2: Biodiversity information network with regional hub located in existing or newly developed LRC	£45,500	£92,500

Local records centres

12.3.5 Effective local records centres are vital for the gathering, interpretation and supply of the background data for biodiversity action at the local and regional scale. A paper prepared in 2003 by the Association of Local Government Ecologists (ALGE) suggested the following costs, as applied to the East Midlands.

Establishment costs for new LRCs
(Derbyshire, Lincolnshire and Northamptonshire): 3 x £60k = **£180,000**

Annual revenue costs for LRCs
(all 5 counties): 5 x £110k = **£550,000**

12.3.6 However, the ALGE estimate of £110k per county per year for annual LRC revenue costs is significantly lower than a later estimate reported to the EMBF. This higher estimate of £142k/LRC/year (**£710,000** for the region) was based on three recent business or development plans including those for Derbyshire and Northamptonshire. The same paper suggested that this figure could fall to £113.5k/LRC/year (**£568,000** for the region) if the LRCs were set up as part of a regional biodiversity network as described above. A sensible funding model would be for LRCs to be funded by local users and the regional hub to be funded by regional users, possibly with some small equilibrating flow of funds within the network based on service level agreements (SLAs).

12.3.7 Whatever the precise revenue costs of a geographically complete, efficient regional biodiversity network, three clear messages emerge from costing work done to date:

- The ongoing costs of providing a basic level of service for biodiversity recording and reporting have up to now not been properly appreciated or planned for.
- The annual revenue costs of LRCs and the costs of LBAP delivery appear large, but less so if the environmental benefits, and the savings to regional business and industry are taken into consideration.
- Significant savings are possible by closer coordination of biodiversity reporting between LRCs, and between a regional hub and LRCs, particularly if the regional hub physically sits with one of the LRCs.

12.4 Resource requirements

Regional biodiversity co-ordination

12.4.1 Implementation of the Regional Biodiversity Strategy requires co-ordinated action. In future, there will be a need to monitor, report on, and update actions in the strategy. Until autumn 2005, the EMBF did not employ any staff and all progress was the result of voluntary in-kind and financial contributions of Forum members. East Midlands Regional Assembly has now appointed a Regional Biodiversity Co-ordinator for the EMBF, initially for 3 years. This has been funded by Defra, through English Nature (and through Natural England in due course) and facilitated by the ODPM. There is a small operating budget and one of the main responsibilities is to manage and deliver the additional workload generated by this strategy. Indicative resource requirements are in the region of **£80 - £100k per annum**.

Local biodiversity action plans

12.4.2 A paper prepared for the EMBF in 2001 suggested, for an average county, the annual cost of providing the essential services following production of an LBAP was as follows:

Table 4: Indicative annual cost of LBAP service delivery*	
Habitat Surveys, data manipulation and analysis:	£100k
Species surveys and monitoring:	£50k
LBAP co-ordination:	£25k**
Production of guidance:	£5k
Annual report, other literature:	£5k
Total	***** £185k**

* With proper alignment of data needs, LBAP costs of habitat surveys, data manipulation and analysis, and species surveys and monitoring, would overlap with regional costs cited in table 3

** A paper produced for the England Biodiversity Group in 2002 identified the cost of co-ordination for each LBAP as around £45k per annum. This work has led to some funding being made available by Defra, for LBAP and regional co-ordination, for three years from 2005 but this covers only part of the costs borne by LBAP partnerships.

*** This ignores the funding necessary for other desirable services relating to involvement in planning, promotional/educational/training work and advice to wildlife site owners.

12.4.3 Across the East Midlands as a whole (there are 7 county-equivalent or sub-regional LBAPs in the East Midlands), the funding required to co-ordinate implementation of LBAPs amounts to **£1,295,000 per annum**. However, the general view of this particular assessment is that £185k per annum is a significant under-estimate

12.5 Current initiatives

Regional partnership initiatives

12.5.1 The regional nature conservation sector includes national agencies and organisations with a regional presence, including English Nature, the Countryside Agency, Environment Agency, Defra-RDS, the RSPB, the Wildlife Trusts and the National Trust. It also includes sub-regional organisations with a role and duty to conserve and enhance biodiversity, including local authorities. Many other organisations are crucial stakeholders – especially those seeking to conserve and enhance related environmental resources such as fine landscapes, water resources, and the cultural and historic heritage of the region. Several multi-partner forums provide a medium for exchange of information and best practice, and a collective voice for biodiversity at the regional scale, including the EMBF, the EMRA Climate Change Group, and the Strategic River Corridors Initiative.

12.5.2 The Biodiversity Strategy for England (EBS) highlights the vital role that local and regional partnerships have played in delivering action for biodiversity on the ground. At the regional level, this has been demonstrated by the integration of biodiversity into the work of emerging regional administrative structures, by incorporating biodiversity policy into the Integrated Regional Strategy framework and by securing the adoption of regional biodiversity targets in the Regional Spatial Strategy. At a local level, LBAP partnerships in every East Midlands county, and the PDNP and National Forest, through the development of local biodiversity action plans, have set the local biodiversity agenda and developed targets for biodiversity action on the ground; identifying and ensuring action for the most urgent sub-regional biodiversity conservation priorities and integrating consideration for biodiversity into relevant local policies and strategic frameworks.

12.5.3 Discussions between SITA Trust and all the Regional Biodiversity Forums in England have resulted in the formation of partnerships to deliver SITA Trust's *Enriching Nature Programme*, with around £500,000 available to each region per year. Full details with a Guidance Note for Regional Biodiversity Forums are on the SITA Trust website: www.sitatrust.org.uk.

12.5.4 Other examples of funding available include: the English Nature-administered 'Countdown 2010 Biodiversity Action Fund' (formerly known as the Environmental Action Fund); the Big Lottery Fund; and various Landfill Tax Credit Scheme funds. The Regional Biodiversity Coordinator will have a role in sign-posting current and future sources of funding for biodiversity action.

Project-based implementation

12.5.5 The SITA fund provides the first opportunity for a single coordinated regional-level funding source for major projects across the region. There are already a number of successful biodiversity-related partnership projects operating across the region. The following are examples only, not intended to be an exhaustive list:

- **On Trent** is working to secure a sustainable balance between the natural and historic heritage, agriculture, commercial activity and development along the River Trent. Running costs alone for the project amount to **£50k per annum** – major project delivery will require significantly more resources.

- The **Coversands Initiative** is restoring and recreating over 1000 hectares of lowland heathland at around 30 sites – about half of the work is in Lincolnshire and Nottinghamshire. The overall project budget is £1.75m over 5 years, which equates to roughly **£175k per annum** in the East Midlands.

- Wildlife Trusts across the Midlands are working to progress BAPs for water-related species and habitats through the national **Water for Wildlife** project. The budget for the Derbyshire Trent catchment alone is over **£35k per annum**.

- The **Sherwood Initiative Area Partnership Scheme** is restoring and re-creating the characteristic habitats of Sherwood Forest. The scheme is making improvements through an HLF funded education, interpretation and community involvement programme. The project budget is **£5.5m over five years** with proposed rollout beyond 2007, continuing Sherwood Forest Trust's integrated programme of landscape restoration.

- **Community Action for Wildlife** provides conservation training and skills development opportunities for people in North Nottinghamshire. There are several strands to the work relating to community capacity building for biodiversity action. Funded largely by the Alliance Sub-Regional Strategic Partnership, the budget amounts to **£400k over two years**.

- **Moors for the Future** in the Peak District aims to re-vegetate about half of the most degraded blanket bog, restoring eroding moorland paths, providing moorland visitor facilities and a moorland research centre. Similar or higher levels of funding would be required in the future to consolidate the work to date, complete revegetation of other degraded areas and restore the peatland hydrology in key areas. This is a **£4.7m 3-year partnership project**, supported by the Heritage Lottery Fund

- A range of other initiatives may provide additional funding and targeting opportunities. For example, the Strategic River Corridors Initiative (SRCI) bid for 4 million Euros to support SRCI work. Biodiversity partners may be able to influence targeting of projects through the new English Woodland Grant Scheme.

12.5.6 These are indicative of the nature and financing of the new projects and partnerships that will be need to established to achieve the aims of this strategy. Further work is required to identify priority projects, their geographical locations and detailed resource requirements.

12.6 Action Plan preparation, monitoring and review

12.6.1 Responses to the consultation draft of this strategy included several proposals or ideas that, while not requiring a modification to the strategy per se, do need to be considered by the EMBF as possible additions to its future work programme. The appointment in 2005 of the Regional Biodiversity Coordinator provides a means of facilitating this and the EMBF's work programme is to be reviewed and updated in the near future.

12.6.2 Regional biodiversity habitat management and creation targets are defined in the RSS (Appendix 3) and these provide a basic means of monitoring progress on the implementation of this strategy.

12.6.3 Where possible, target dates have been set for specific actions in the themed chapters. These provide a focus for activity and will be reflected in annual action plans that will be prepared by the EMBF.

12.6.4 Progress on implementation will be reviewed by the EMBF annually and will be reported to the EMRA. The EMBF will formally review the Strategy on a 5-year cycle and make appropriate revisions as required following wider consultation.

APPENDICES

Appendix 1: Regional Habitat Targets

Habitat		UK Resource Restoration Targets	Regional Management/ Targets (new sites)		Regional Creation Targets			Regional Priority Areas	
			No. hectares	Year	No. hectares*	Year	No. hectares** existing target date – 2020	Sub-area	Natural Area
1	Veteran trees***	Na	n y a					All	All
2	Lowland wood pasture and parkland	20,000	5000	2010	240	2010	346	All	All except DP, Fe, LC
3	Wet woodland	Na	2500	2010	440	2015	1,132	All	All especially Fe, LC, TV, WA
4	Upland mixed ash woods	Na	600	2010	75	2015	1,528	P	WP
5	Upland oak woodland	70,000-100,000	480	2010	200	2005	575	P	DP, SW
6	Blanket bog	1,485,000	9100	2015	Na		a	P	DP, SW
7	Purple moor grass and rush pastures	56,000	400	2005	40	2010	59	P	DP, SW
8	Upland heathland	>2,000,000	16100	2010	3640	2010	a	P	DF, DP, SW, WP
9	Lowland heathland	58,000	1000	2005	600	2005	1,326	E, N, T	Ch, CM, NL, Sh
10	Lowland calc grassland	33,000-41,000	1200	2010	210	2010	3,735	E, N, P	LL, LW, SM, WP
11	Lowland dry acid grassland	<30,000	n y a		250	2010	3,094	E, N, T	Ch, CM, NL, Sh
12	Lowland hay meadows	<15,000	3000	2010	610	2010	b	All	All except DP
13	Cereal field margins	Na	2200km	2010	5000km	2010	1,834	All	All except DP
14	Hedgerows	190,000kms	2500km	2010	1700km	2010	a	All	All except DP, Fe, SW, WP
15	Farmland (other than above)***	Na	n y a					All	All
16	Grazing marsh	300,000	5000	2005	800	2005	17,285	E, T	LC, TV
17	Fens	Na	500	2005	1000	2010	2,675	E, T	Fe, TV
18	Reed beds	5,000	100	2005	300	2005	87	E, T	Fe, LC, TV
19	Eutrophic standing waters	178,000	n y a		1000	2010		All	All except DP

					ponds				
20	Mesotrophic standing waters		n y a		n y a			All	Ch, DP, TV, WA, WP
21	Large rivers***	Na	554km	2005	10km	2010		E, P, S, T	TV & elsewhere
22	Chalk rivers	Na	80km	2010	0				
23	Saline lagoons	Na	63	2010	15	2010	59	E	LC
24	Salt marsh	Na	5000	2010	520	2010	b	E	LC
25	Sand dunes	Na	583	2010	90	2010	a	E	LC
26	Mud flats	Na	38000	2010	2700	2010	b	E	LC
27	Coastal vegetated shingle	Na	42	2005	0		a	E	LC
28	Sabellaria reefs	Na	n y a		n y a			E	LC
29	Muddy gravels	Na	n y a		n y a			E	LC
30	Modiolus beds	Na	n y a		n y a			E	LC
31	Sub littoral sands and gravels	Na	n y a		n y a			E	LC
32	Urban & post-industrial***	Na	3000	2010				All	All
33	Metalliferrous grassland	Na	300	2010	16	2010		P	WP, DF

Notes:

a) Methodology for new creation targets produced an impractically high result and therefore the existing target stands.

b) Methodology for new creation targets produced a negative result for the period from the existing target until 2020 suggesting that the existing target is more than adequate in relation to the calculated regional resource. Therefore no additional target is required.

The approach adopted in developing the management/restoration target was to recognise that so little semi-natural habitat remains in the region that it should be all managed to achieve a favourable condition.

In developing the creation targets the definition used was the creation of a habitat type in a location where it has never occurred previously or where almost all traces of its previous existence have been lost.

The different dates in the main table repeat the dates given in the national BAP habitat action plans.

Na = Not available

Nya = Not yet available

* The creation figures have been derived from:

- Published sources of information;
- Scaling up from the LBAPs;
- From work by the EMBF; and
- By considering the Regional proportionate share of the England Biodiversity Action Plan Targets (as calculated by English Nature) adjusted

by the EMBF.

** The creation figures (existing target date — 2020) have been derived from:

- Published sources of information (including the Regional Targets for Biodiversity June 2000, which is due to be revised soon);
- The regional share of nationally important natural areas for each priority habitat was calculated. This value was then applied to the published figures for the total England resource and total England creation target for each priority habitat. These figures were then summed to give the expected total, regional resource. The regional resource expected by the existing target date (i.e. the current restoration/management area added to the creation target for the existing target date) was subtracted from the newly derived figure to give the 2020 creation target.

*** Not UK BAP priority habitats but local habitats of strategic significance.

List of East Midlands sub-areas	List of East Midlands natural areas	
E Eastern	**Ch** Charnwood	**NS** Needwood & S Derbys Claylands
N Northern	**CM** Coal Measures	**RF** Rockingham Forest
P Peak	**NL** N Lincs Coversands & Clay Vales	**Sh** Sherwood
S Southern	**DF** Derbys Peak Fringe & Lower Derwent	**SM** Southern Magnesian Limestone
T Three Cities	**DP** Dark Peak	**SW** South-west Peak
	Fe Fens	**TV** Trent Valley and Rises
	LC Lincolnshire Coast and Marshes	**WA** West Anglian Plain
	LL Lincolnshire and Rutland Limestone	**WP** White Peak
	LW Lincolnshire Wolds	**YW** Yardley-Whittlewood Ridge
	MC Midland Clay Pastures	

Appendix 2: Selected Priority UK Biodiversity Action Plan species known to occur in the East Midlands arranged by group

English Name	Latin Name	LBAP Species Action Plan
Mammals		
Water vole	*Arvicola terrestris*	NR, NT, LR, LN, PD
Barbastelle Bat	*Barbastella barbastellus*	LN
Brown hare	*Lepus europaeus*	NR, LN, DB (proposed)
European otter	*Lutra lutra*	NR, NT, LR, LN, DB (proposed)
Dormouse	*Muscardinus avellanarius*	NR, LR, DB (proposed)
Harbour Porpoise	*Phocoena phocoena*	
Pipistrelle bat	*Pipistrellus pipistrellus*	NR, NT, LR, LN, DB (proposed)
Birds		
Skylark	*Alauda arvensis*	LN, DB (proposed)
Bittern	*Botaurus stellaris*	LN (to be published 2006)
Nightjar	*Caprimulgus europaeus*	NT
Linnet	*Carduelis cannabina*	LN, DB (proposed)
Reed bunting	*Emberiza schoeniclus*	LN, DB (proposed)
Woodlark	*Lullula arborea*	
Common scoter	*Melanitta nigro*	
Corn Bunting	*Miliaria calandra*	LN, DB (proposed)
Spotted flycatcher	*Muscicapa striata*	DB (proposed)
Tree sparrow	*Passer montanus*	LN, DB (proposed)
Grey partridge	*Perdix perdix*	LN, NR, DB (proposed)
Bullfinch	*Pyrrhula pyrrhula*	LN, DB (proposed)
Turtle dove	*Streptopelia turtur*	LN, DB (proposed)
Black Grouse	*Tetrao tetrix*	
Song thrush	*Turdus philolelos*	LN, DB (proposed)
Amphibians		
Natterjack toad	*Bufo calamita*	LN
Great crested newt	*Triturus cristatus*	LN (to be published 2006), DB (proposed)
Fish		
Burbot	*Lota lota*	
Ants		
Hairy wood ant	*Formica lugbris*	DB (proposed)
Shining wood ant	*Formicoxensus nitidulus*	DB (proposed)
Beetles		
Stag beetle	*Lucanus cervus*	
A leaf beetle	*Cryptocephalus coryli*	LN (2000-2006)
A ground beetle	*Dromius quadrisignatus*	
Bast bark beetle	*Ernoporus tiliae*	NR
A ground beetle	*Harpalus obscurus*	
A ground beetle	*H. parallelus*	
A ground beetle	*Panagaeus cruxmajor*	LN (2000-2006)
Crustaceans		
Freshwater white-clawed crayfish	*Austropotamobius pallipes*	NR NT LR LN PD, DB (proposed)
Lagoon sand-shrimp	*Gammarus insensiblis*	
Moths		
Marsh moth	*Athetis pallustris*	LN (2000-2006)

English Name	Latin Name	LBAP Species Action Plan
White-spotted pinion	*Cosmia diffinis*	
Heart moth	*Dicycla oo*	
Bordered gothic	*Heliophobus reticulata*	
Lunar Yellow underwing	*Noctua orbona*	
Brighton wainscot	*Oria musculosa*	
Barberry carpet	*Pareulype berberata*	
Common fan-foot	*Pechipogo strigilata*	
Pale shining brown	*Polia bombycina*	
Argent and sable	*Rheumaptera hasta*	DB (proposed)
Chalk carpet	*Scotopteryx bipunctaria*	
Barred Tooth-striped	*Trichopteryx polycommata*	
Four-spotted moth	*Tyta luctuosa*	
Square-spotted clay	*Xestia rhomboidea*	DB (proposed)
Lichens		
A lichen	*Bacidia incompta*	
Fungi		
Oak polypore	*Buglossoporus pulvinas*	DB (proposed)
Pink waxcap	*Hygrocybe calyptriformis*	DB (proposed – all waxcaps)
Mosses		
Appleyard's feather-moss	*Brachythecium appleyardiae*	PD
Beaked beardless-moss	*Weissia rostella*	DB (proposed)
Derbyshire feather-moss	*Thamnobryum angustifolium*	PD
Flamingo moss	*Desmatodon cernuus*	DB (proposed)
Sausage beard-moss	*Didymodon tomaculus*	DB (proposed)
Spruce's bristle-moss	*Caloplaca luteoalba*	DB (proposed)
Stoneworts		
Great tassel stonewort	*Tolypella prolifera*	
Lesser bearded stonewort	*Chara curta*	
Vascular Plants		
Cornflower	*Centaurea cyanus*	DB (proposed)
Deptford pink	*Dianthus armeria*	
Red hemp-nettle	*Galeopsis angustifolia*	DB (proposed)
Early gentian	*Gentianella anglica*	LN
Sea lavender	*Limonium (endemic taxa)*	
Pennyroyal	*Mentha pulegium*	DB (proposed)
Grass-wrack pondweed	*Potamogeton compressus*	LN, DB (proposed)
Shepherd's needle	*Scandix pecten-veneris*	
Small-flowered catchfly	*Silene gallica*	
Greater water-parsnip	*Sium latifolium*	LN
Killarney fern	*Trichomanes speciosum*	
Ribbon-leaved water plantain	*Alisma gramineum*	
Pillwort	*Pilularia globulifera*	
Juniper	*Juniperus communis*	

Key to Local Biodiversity Action Plans:			
DB:	Lowland Derbyshire	**NR**:	Northamptonshire
LR:	Leicester, Leicestershire and Rutland	**NT**:	Nottinghamshire
LN:	Lincolnshire	**PD**:	Peak District

Appendix 3: Local biodiversity action plans in the East Midlands

A local biodiversity action plan (LBAP) is a partnership process for the strategic conservation of biodiversity in a local area, usually a county. The process is objective led, with targets for maintaining, enhancing and/or creating priority habitats and species. Typically, partnerships comprise statutory and voluntary organisations, local authorities, businesses, farming and land management bodies and local community groups. LBAPs act as key mechanisms to help implement the UKBAP, taking into account national priority habitats and species in addition to local considerations. For delivery, the LBAP relies on the involvement of all sectors of the community. To function effectively they must be underpinned with effective monitoring systems, such as LRCs, to manage biological information and local wildlife site networks to target activity. The LBAPs covering the East Midlands are:

Biodiversity Action Plan	Date of Publication
Leicester, Leicestershire and Rutland	1998
Lincolnshire	2000
Lowland Derbyshire	1997
National Forest	1998
Northamptonshire	2002
Nottinghamshire	1998
Peak District	2001

LBAPs and local delivery plans have also been produced for some smaller administrative areas.

A typical example of a LBAP is that of Leicester, Leicestershire and Rutland. Publication was co-ordinated by a working group of 19 partners. Regular steering group meetings now guide the LBAP process in Leicestershire, involving a wider partnership of 37 organisations. An LBAP coordinator is employed by the partnership and based with Leicestershire and Rutland Wildlife Trust.

The Plan includes an appraisal of the current state of biodiversity in the area, identification of local priorities (including those UKBAP species that occur locally), and a series of habitat and species action plans (18 HAPs and 14 SAPs).

Each HAP/SAP addresses:

- Current Status
- Current Factors Affecting the Habitat/Causing Loss or Decline (species)
- Current Action
- Objectives and Proposed Targets
- Proposed Action with Lead Agencies

An annual report is produced which details progress on implementation of the Plan. Regular reports are made to the Leicestershire Nature Conservation Forum and delivery is driven through regular discussions and reviews of progress by the forum.

Appendix 4: International, national and regional legislation and policy relevant to biodiversity

Protection and enhancement of biodiversity is reinforced internationally, in the UK, and at regional and local levels by well-established agreements, legislation, and policy. This appendix summarises those provisions most relevant to the implementation of this Strategy and signposts sources of additional information.

International agreements and legislation

Title/origin	Objectives, requirements and obligations
United Nations *Convention on Biological Diversity* (signed at the Rio 'Earth Summit', 1992) Further information: www.biodiv.org	Conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the use of genetic resources. These objectives to be achieved through the ecosystem approach – a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way at any spatial scale where a working ecosystem can be identified.
United Nations Framework Convention on Climate Change (signed at the Rio 'Earth Summit', 1992) Further information: www.biodiv.org	Gather and share information on greenhouse gas emissions, national policies and best practices. Launch national strategies for addressing greenhouse emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries. Cooperate in preparing for adaptation to the impacts of climate change.
EU Sustainable Development Strategy (2001)	To halt the loss of biodiversity in the EU by 2010 as a priority.
World Summit on Sustainable Development (Johannesburg, 2002)	To achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth.
The Convention on Wetlands of International Importance (The Ramsar Convention, 1971) Further information: www.ramsar.org	Protection of wetlands of international importance for a range of wetland wildlife including birds, fish, invertebrates. Measures include the designation of Ramsar Sites.
European Council Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC) – the EC Habitats Directive (1992) Further information: www.jncc.gov.uk/page-23	To secure favourable conservation status for habitats and species of European interest and for other naturally occurring wildlife through site designation, enhancing the ecological integrity of the countryside, legal protection and management of activities affecting wildlife. Includes designation of Special Areas of Conservation (SAC).
European Council Directive on the Conservation of Wild Birds (79/409/EEC) – The EC Birds Directive (1979). Further information: www.jncc.gov.uk/page-162	Conservation of viable populations of naturally occurring wild birds through site designation, habitat creation and legal protection, including designation of Special Protection Areas (SPA)
European Union Directive (2000/60/EC) – The Water Framework Directive (2000)	Achievement of 'good' ecological condition of all surface waters, including coastal waters, through regulation of activities in a context of river basin management plans.
European Community Biodiversity Strategy (1998)	The framework for developing European Community policies and instruments in order to comply with the Convention on Biological Diversity within and beyond the territory of the European Union (EU).

National policy and legislation

Title/origin	Objectives, requirements and obligations
Wildlife and Countryside Act (1981)	Legal protection of species not covered by European legislation, as well as protection for SSSIs. Requirements on scope of development plan policies.
Countryside and Rights of Way Act (2000)	Enhanced protection for SSSIs and support for their management, and measures to improve the protection and management of AoNBs. Supports access to open land and puts a duty on public bodies to contribute to the conservation of priority habitats and species, as listed by the Secretary of State (currently the UK BAP list of priority habitats and species).
'Securing the Future' – the UK Government Sustainable Development Strategy (2005) Further information: www.sustainable-development.gov.uk/index.htm	Sets out the Government's vision and priorities for sustainable development. In place of the 1999 objectives which included 'effective protection of the environment', the Strategy now sets a new 'purpose' with guiding principles including 'living within environmental limits'.
Planning Policy Statement 9: Biodiversity and Geological Conservation (2005)	Sets out the UK Government's objectives for nature conservation and the framework for safeguarding natural heritage under UK and international law. It emphasises the importance of both designated and undesignated areas for nature conservation and advises on the treatment of nature conservation in development plans.
UK Biodiversity Action Plan (1994) Further information: www.ukbap.org.uk	The UK response to the Convention on Biological Diversity, which established the national approach to biodiversity conservation including action plans for key habitats and priority species.
UK Steering Group Report and tranche 2 action plans Further information: www.ukbap.org.uk	
Working with the grain of nature: A Biodiversity Strategy for England (2002) Further information: http://www.defra.gov.uk/wildlife-countryside/biodiversity/biostrat/index.htm	Promotion of a sectoral approach to biodiversity through integration with policies and programmes, to assist delivery of the UK BAP. It recognises the need for continued regional and local action to secure delivery. The East Midlands Biodiversity Strategy adopts a modified version of the EBS vision and structure.

These international and national objectives, requirements and obligations are reflected in a series of targets and indicators adopted by Government. The following are particularly important:

Defra-RDS Public Service Agreement (PSA) Target 3:

The PSA requires Defra-RDS to deliver a number of performance targets and increase the productivity of operations in return for Treasury resources allocated to the Department. PSA target 3 commits Defra-RDS to reversing the long-term decline in the number of farmland birds by 2020, and bringing ninety-five percent of all nationally important wildlife sites into favourable condition by 2010.

Sustainable Development Indicators:

The Sustainable Development Indicators are central to the monitoring and reporting of progress towards sustainable development. They are also powerful tools that can help focus public attention on the meaning of sustainable development and give a broad overview of whether 'a better quality of life' is being achieved. Collectively they encompass social progress, economic growth and environmental protection, including people's everyday concerns - like health, jobs, crime, air quality, traffic, housing, educational achievement, wildlife and economic prosperity. Of the Government's 15 headline and 147 core indicators, the following are particularly relevant to biodiversity:

Headline indicators

- H12 River water quality: Chemical and biological river quality
- H13 Wildlife: Populations of wild birds

Core indicators

- Q6 Sites affected by water abstraction
- S3 Trends in plant diversity
- S4 Biodiversity action plans
- S5 Landscape features
- S6 Extent and management of SSSIs
- S7 Countryside quality
- S9 Native species at risk
- S11 Area of ancient semi-natural woodland in Great Britain
- T1 Greening government operations

Regional policy

As explained in section 1.4, the Integrated Regional Strategy (IRS) is the region's sustainable development framework. It is the overarching framework for all strategies in the East Midlands in order that they take into consideration other strategies and allow the East Midlands to develop in a sustainable manner. The following components of the IRS are of most relevance for biodiversity.

Title	Objectives, requirements and obligations
Integrated Regional Strategy (adopted by the East Midlands Regional Assembly, 2000)	The IRS's environmental objective is 'To protect, improve and manage the rich diversity of the natural and built environmental and archaeological assets of the region'. Key issue: To halt and reverse the decline in the region's characteristic biodiversity. IRS priority is to 'Conserve and enhance the natural environment by tackling the biodiversity deficit and enhancing the environmental infrastructure'.
Regional Environment Strategy (Part 1): objectives and policies for the East Midlands Environment (August 2002)	A key component of the IRS. Considers the impact that our activities have upon the environment, summarises the key environmental challenges and sets objectives and policies to tackle them. Key policies relevant to this Strategy include Policy ENV21, 'To conserve and dramatically enhance biodiversity according to regional Biodiversity Action Plan priorities', and Policy ENV6, 'To…protect the environment when adapting to the challenges

	and taking up the opportunities which climate change will bring.'
Regional Environment Strategy (Part 2): actions for the East Midlands Environment (August 2003)	Includes a set of key actions together with indicators and targets, most of which are to carried forward by the EMBF through this Strategy and the actions of its member organisations. The indicators and targets are identified in Chapter 2 of this Strategy under *Keeping Track of Wildlife.*
Regional Spatial Strategy for the East Midlands (RSS8) (March 2005)	A key component of the IRS. Following the enactment of the Planning & Compulsory Purchase Act 2004, Regional Planning Guidance (RPG) became part of the statutory development plan and was renamed as the Regional Spatial Strategy (RSS). RSS8 (formerly RPG8) provides a rationale for the protection and promotion of biodiversity through the planning process. Key policies include: Policy 27: Protecting and enhancing the region's natural and cultural assets – defines the requirement for sustainable development to integrate natural assets, and sets standards for protecting key assets including the need to ensure 'a net gain' across the region. Policy 28: Priorities for enhancing the region's biodiversity – promotes the need to achieve a 'major step change increase' in the region's biodiversity and defines some spatial priorities at a sub-regional scale. Other important policies include Policy 29 (a regional target for increasing woodland cover) and Policy 34 (regional priorities for Strategic River Corridors).
Regional Economic Strategy for the East Midlands 2003-2010 ('Destination 2010')	Aims to make the East Midlands one of Europe's top 20 regions by 2010. Progress is measured against a set of integrated indicators that includes broad measures of environmental quality. Priorities for action include recognising benefits to business of environmentally friendly practices, promoting sustainable approaches to development in floodplains and minimising resource use in new development.
Regional Tourism Strategy for the East Midlands 2003-2010 ('Destination East Midlands') (Oct 2003)	Aims to ensure that tourism will be playing a significantly greater role in the prosperity of the East Midlands by 2010. As part of the Vision, 'All over the region, the conservation and improvement of natural habitats will have created wildlife destinations of top quality'. Recognises and seek to build on the strong relationship between the environment (including biodiversity) and sustainable tourism and recreation.

Appendix 5: The East Midlands Biodiversity Forum

In the late 1990s, the increasing importance of planning on a regional basis emphasised there was an urgent need for *regional* cohesion and co-ordination in the development of policies and actions for biodiversity. To fulfil this role the East Midlands Biodiversity Forum (EMBF) was established in 1998. The EMBF has subsequently been pivotal in ensuring that objectives, policies and targets for biodiversity are key elements of the Regional Assembly's Integrated Regional Strategy (the region's sustainable development framework) and Regional Environment Strategy as well as the Regional Spatial Strategy for the East Midlands.

It has long been recognised that a comprehensive regional biodiversity strategy was needed to integrate the needs of wildlife with other regional policies and programmes in the Integrated Regional Strategy. In 2002, Defra published '*Working with the Grain of Nature - A Biodiversity Strategy for England'*. The vision in respect of local and regional action is "*the full integration of biodiversity considerations within local and regional policies*." It also identifies the need for "*biodiversity considerations to become embedded in all the main sectors of economic activity, public and private*," which includes regional government. *Working with the Grain of Nature* provided the impetus for the production of the Regional Biodiversity Strategy.

Terms of Reference of the EMBF:

- Provides a regional focus for biodiversity priorities, issues and initiatives, to ensure that biodiversity is recognised as a key test of sustainable development at regional level;
- Provides advice on biodiversity and sustainability issues, influences and supports the implementation of the UK Biodiversity Action Plan (BAP), and local BAPs at regional level, as part of a linked network of regional groups;
- Facilitates co-operation, partnership working and effective communication between those working towards sustainable development in the East Midlands;
- Facilitates good practice amongst local BAP practitioners and acts as a focus of expertise and advice;
- Monitors and evaluates progress towards BAP targets, sustainability indicators and State of the Environment Assessments.

Membership

English Nature currently chairs the Forum. The membership includes representatives of each local BAP partnership, statutory agencies, voluntary organisations, businesses and regional bodies. The complete membership is:

BTCV
Country Land and Business Association
Countryside Agency
Defra Rural Development Service
East Midlands Regional Assembly
English Nature, Eastern Area Team
English Nature, Peak District & Derbyshire Team
Environment Agency
Forestry Commission
Lincoln BAP
Lincolnshire BAP
Lowland Derbyshire BAP
National Farmers Union
National Forest Company
National Trust
Newark and Sherwood BAP
Northamptonshire BAP
Nottinghamshire BAP

FWAG
Government Office for East Midlands
Groundwork
Leicester, Leicestershire and Rutland BAP
Oadby and Wigston BAP
Peak District National Park BAP
RSPB
The Wildlife Trusts

Appendix 6 References

2005 Green Infrastructure Scoping Study, EMRA, 2005
Birds of Conservation Concern, RSPB, 2002
Countryside Quality Counts, Countryside Agency, 2004-2005
The East Midlands Rural Development Plan, GOEM , 2000
England's East Midlands wildlife: the future you can help!, EMBF, 2003
The Environmental Economy of the East Midlands, EMDA, 2002
Extinction Risk from Climate Change, De Siqueira, M.F. et al, 2004, Nature 427, pp.145-148
Mainstreaming Biodiversity, IUCN, 2002
Nature for People: The Importance of Green Spaces to East Midlands Communities, English Nature, 2004
Planning for Sustainable Communities: A green Infrastructure Guide for Milton Keynes and the South Midlands, EQOL, 2005
Planning Policy Guidance Note 3, ODPM, 2000
The potential impacts of climate change in the East Midlands, emsdOt (the former East Midlands Sustainable Development Round Table), 2000
Revealing the Value of Nature, English Nature, 2002
Space4trees: the Regional Forestry Framework for the East Midlands, Forestry Commission, 2005
Strategy for Sustainable Farming and Food: Facing the Future, HM Govt., 2002
The Summer Invertebrate Fauna of Urban Sites in Nottingham, Jenkins, Reiley & Shepherd, University of Nottingham, 2001
The Sustainable Communities Plan, ODPM, 2003
Towards a Regional Biodiversity Audit for the East Midlands, EMBF, 2004
Wildlife and Mining in the Yorkshire Coalfield, Lunn, J., British Wildlife, v.12, no.5, June 2001, pp.318-326

Appendix 7 Glossary

Agri-environment [funding schemes]: Incentive payments available to farmers to pursue less intensive forms of agriculture that that are of benefit to the environment, wildlife and people. The new Environmental Stewardship scheme rolled out in 2005 offers 'Entry-level' and 'Higher-level' stewardship tiers. Defra-RDS administers the schemes.

Biodiversity: Shorthand for 'biological diversity' or 'the diversity of wildlife'; a measure of the range and variability of species, individuals, genetic character, ecosystems and habitats at any scale from local to global levels, and the structural and functional interrelationships between and within these different levels.

Biodiversity Action Plan (BAP): A framework for achieving the conservation of biodiversity by targeting resources towards priority habitats and species. Crucial elements include setting 'SMART' targets for the conservation and increase of priority habitats and species, identification of actions necessary to achieve these targets, and identification of the appropriate lead and partner organizations, individuals, or communities, to take action.

Brownfield land: previously developed land (including 'wasteland') now unused, neglected or cleared; includes former industrial and mineral extraction sites, spoil heaps, etc. Government targets specify that nationally, 60% of all new development should be on such land (as opposed to never-developed, 'greenfield' sites).

Carbon sequestration: the uptake and storage of carbon, generally by natural processes. Plant growth and the formation of peat in blanket bogs and fens absorbs carbon dioxide, releases the oxygen and stores the carbon. This helps mitigate the effects of burning fossil fuels, which release greenhouse gases and contribute to climate change. See *greenhouse gas*.

Diffuse pollution: pollution in water, air or soil caused by multiple small-scale sources or landscape-scale deposition of pollutants. Examples are polluted run-off from roads, and from farmland where excessive fertilizers etc. have been applied, rather than a point-source of pollution, e.g. an accidental spillage from a chemical plant.

Environmental economy: that section of the economy that either relies on a high quality environment to sustain it (e.g. tourism) or which supplies environmentally based goods and services (e.g. water supply, renewable energy technologies).

Fragmentation: A measure of the degradation and loss of wildlife sites, based on the average size of a wildlife site and the average distance between sites. Greater fragmentation normally leads to a slow decline in wildlife value.

Greenhouse gas: a gas in Earth's atmosphere that traps heat and can contribute to climate change. Carbon dioxide, methane and water vapour are some of the most important greenhouse gases. Major sources of greenhouse gases connected with human activity include fossil fuels burned in vehicles, homes, and by industry.

Green Infrastructure: a planned network of multi-functional greenspace and inter-connecting links provided across the region. It is set within and contributes to, a high quality natural and

built environment, and is required to deliver 'liveability' for new communities. Green Infrastructure consists of existing public and private assets, with and without public access, in urban and rural locations – for example, urban and Country Parks, Historic Parks and Gardens, informal and formal sports facilities, cemeteries, allotments, green corridors and wedges, waterways, footpaths, woodlands, natural areas, Sites of Special Scientific Interest and nature reserves.

Greenspace: any open space or access land, but particularly areas of space which provide opportunities for informal recreation (e.g. walking, cycling and bird watching) and/or may have significant wildlife, cultural and landscape value. See *Green Infrastructure*.

Indicators: A measurement or value that provides evidence of the effects of environmental programs or of the state or condition of the environment.

Integrity [ecological]: The ability of an ecosystem, site or region to function healthily and continue to provide natural goods and services and maintain biodiversity.

Managed realignment: the planned removal or breaching of coastal sea defences, to reduce the costs and risks of maintaining hard defences and to allow the creation of new coastal wildlife habitats to replace those lost to rising sea levels.

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

Phenology: The study and recording of the timing of natural events such as leaf-burst, flowering seasons and egg laying in birds. Used to track the impact of climate change on biodiversity.

Quality of Life: an integral purpose or objective of sustainable development, often interpreted as a broad measure of society's 'happiness' as assessed against a suite of social, environmental and economic indicators including trends in biodiversity.

(Beach) renourishment: artificial deposition of sand, shingle etc. in the inter-tidal zone to replace eroded material. A technique used in coastal flood defence.

Semi-natural habitat: Any habitat (with a community of native flora and fauna) partly modified by humans; usually applied only to those habitats that still strongly resemble completely 'natural' habitats, such as woodlands, wetlands, and flower-rich grasslands.

Strategic River Corridors: A planning concept, identifying the principal rivers of the East Midlands as multi-functional, landscape-scale, cross-boundary features of the region of major importance for biodiversity, landscape, and human activity.

Sustainable Communities: Places where people want to live and work, now and in the future. They meet the diverse needs of existing and future residents, are sensitive to their environment, and contribute to a high quality of life. They are safe and inclusive, well planned, built and run, and offer equality of opportunity and good services for all (from ODPM website).

Sustainable Development: At the heart of sustainable development is the simple idea of ensuring a better quality of life for everyone, now and for future generations. The World Commission on Environment and Development drew up a widely used definition in 1987: "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*."

Wildlife corridor: Any feature (usually linear) capable of being exploited by wildlife to move safely between high value wildlife sites, for example, rivers and their floodplains; motorway embankments; hedgerows linking small woodlands; a chain of small ponds.

Appendix 8: Acronyms and abbreviations

AC	Aggregates Company
ALGE	Association of Local Government Ecologists
AMP4	(Water Services) Asset Management Plan 4
AONB	Area of Outstanding Natural Beauty
ASNW	Ancient Semi Natural Woodland
BAP	Biodiversity Action Plan
BARS	Biodiversity Action Reporting Scheme
BCAs	Biodiversity Conservation Areas
BL	Business Link
BSE	Bovine Spongiform Encephalitis
BTCV	British Trust for Conservation Volunteers
BW	British Waterways
CA	Countryside Agency
CAL	Countryside Alliance
CAMS	Catchment Abstraction Management Strategy
CAP	Common Agricultural Policy
CBI	Confederation of British Industry
CEFAS	Centre for Environment Fisheries and Aquaculture Science
CEM	Culture East Midlands
CFMP	Catchment Flood Management Plans
CLA	Country Land and Business Association
COMAH	Control of Major Accident Hazards Regulations
Defra	Department for Environment, Food and Rural Affairs
Defra-RDS	Department for Environment, Food and Rural Affairs (Rural Development Service)
DG	Diving Group
DTI	Department of Trade and Industry
EA	Environment Agency
EBS	England Biodiversity Strategy
EC	European Commission
EFS	England Forestry Strategy
EH	English Heritage
ELDC	East Lindsay District Council
ELS	(Agri-Environment) Entry Level Scheme
EMBF	East Midlands Biodiversity Forum
Emda	East Midlands Development Agency
EMRA	East Midlands Regional Assembly
EMRAF	East Midlands Rural Affairs Forum
emsdOt	East Midlands Sustainable Development Round Table
EMRLGA	East Midlands Regional Local Government Association
EN	English Nature
EP	English Partnerships
EQOL	Milton Keynes & South Midlands Environment & Quality of Life Sub-Group
ESPP	Employment, Learning and Skills Partnership
EU	European Union
EWGS	England Woodland Grant Scheme
FC	Forestry Commission
FE	Forest Enterprise
FI	Fishing Industry
FWAG	Farming & Wildlife Advisory Group
GDP	Gross Domestic Product
GI	Green Infrastructure
GIS	Geographical Information System
GOEM	Government Office for the East Midlands
GT	Groundwork Trust
HA	Highways Agency
HAP	Habitat Action Plan
HLF	Heritage Lottery Fund
HLS	(Agri-Environment) Higher Level Scheme
IDB	Internal Drainage Board

INCA	Industry Nature Conservation Association
IPPC	Integrated Pollution Prevention And Control Regulations
IRS	Integrated Regional Strategy
IUCN	World Conservation Union (International Union for the Conservation of Nature)
JCA	Joint Character Area
LA	Local Authority
LBAP	Local Biodiversity Action Plan
LCC	Lincolnshire County Council
LCG	Local Community Group
LDF	Local Development Framework
LGA	Local Government Association
LNR	Local Nature Reserve
LO	Land Owner
LRC	Local (Biological) Records Centre
LSC	Learning and Skills Council
LWT	Lincolnshire Wildlife Trust
MCS	Marine Conservation Society
MKSM	Milton Keynes and South Midlands
MoD	Ministry of Defence
MONARCH	Modelling Natural Resource Responses to Climate Change
MPG	Minerals Planning Guidance
NCC	Nottinghamshire County Council
NE	Natural England
NF	National Forest
NFU	National Farmers Union
NGO	Non-Governmental Organisation
NNR	National Nature Reserve
NT	National Trust
PAP	Project Assessment Panel
PDNP	Peak District National Park
PDNPA	Peak District National Park Authority
PPG	Planning Policy Guidance
PPS	Planning Policy Statement
PSA	Public Service Agreement
PUA	Principle Urban Area
RDS	Rural Development Service
RES	Regional Economic Strategy
REnvS	Regional Environment Strategy
RFF	Regional Forestry Framework
RNRP	River Nene Regional Park
RPG	Regional Planning Guidance
RSPB	Royal Society for the Protection of Birds
RSS	Regional Spatial Strategy
SAC	Special Area of Conservation
SAP	Species Action Plan
SE	Sport England
SLA	Service Level Agreement
SPA	Special Protection Area
SPG	Supplementary Planning Guidance
SRCs	Strategic River Corridors
SRCI	Strategic River Corridors Initiative
SRS	Sub-Regional Strategy
SSP	Sub-Regional Strategic Partnership
SSSI	Site of Special Scientific Interest
SUDS	Sustainable Urban Drainage System
TI	Tourism Industry
UDF	Urban Design Framework
UKBAP	United Kingdom Biodiversity Action Plan
UKCIP	U.K. Climate Impacts Programme
UKPN	UK Phenological Network
VCO	Voluntary Conservation Organisation
VE	Volunteering England
WC	Water Companies
WESG	Wash Estuary Strategy Group
WFD	Water Framework Directive
WLMP	Water Level Management Plan
WoT	Woodland Trust
WT	Wildlife Trusts

East Midlands
Biodiversity Forum

East Midlands Biodiversity Forum

- provides a regional focus for biodiversity priorities, issues and initiatives, to ensure that biodiversity is recognised as a key test of sustainable development at regional level;
- provides advice on biodiversity and sustainability issues, influences and supports the implementation of the UK Biodiversity Action Plan (BAP), and local BAPs at regional level, as part of a linked network of regional groups;
- facilitates co-operation, partnership working and effective communication between those working towards sustainable development in the East Midlands;
- facilitates good practice amongst local BAP practitioners and acts as a focus of expertise and advice;
- monitors and evaluates progress towards BAP targets, sustainability indicators and State of the Environment Assessments.

The Forum is chaired by English Nature. Its 23 members include representatives from each local BAP, statutory agencies, voluntary organisations, businesses, and regional bodies. A complete members list is shown opposite.

East Midlands Biodiversity Forum
East Midlands Biodiversity Coordinator
c/o East Midlands Regional Assembly
Council Offices, Nottingham Road,
Melton Mowbray, Leicestershire. LE13 0UL
Tel. 01664 502 579
Email. warren.priest@emra.gov.uk

This publication has been funded by:

ENGLISH
NATURE

Contacts

Local Biodiversity Action Plans

Leicestershire, Leicester & Rutland
Leicestershire and Rutland Wildlife Trust
Brocks Hill Environment Centre,
Washbrook Lane,
Oadby, Leicestershire. LE2 5JJ
Tel. 0116 2720444
Email. info@lrwt.org.uk
www.lrwt.org.uk

Lincolnshire
Lincolnshire Wildlife Trust
Banovallum House, Manor House
Street, Horncastle, Lincolnshire LN9 5HF
Tel. 01507 526667
Email. biodiversity@lincstrust.co.uk
www.lincsbap.org

Lowland Derbyshire
Environmental Services Department
Shand House, Darley Road South,
Matlock, Derbyshire. DE4 3RY
Tel. 01629 580000
Email. info@derbyshirebiodiversity.org.uk
www.derbyshirebiodiversity.org.uk

National Forest
The National Forest Company
Enterprise Glade, Bath Lane,
Moira, Swadlincote,
Derbyshire. DE12 6BD
Tel. 01283 551211
www.nationalforest.org/nature

Northamptonshire
Countryside Services
Northamptonshire County Council
PO Box 163, County Hall,
Northampton. NN1 1AX
Tel. 01604 237227
countryside@northamptonshire.gov.uk
www.northamptonshirebap.com

Nottinghamshire
c/o Conservation Group
Nottinghamshire County Council
Trent Bridge House, Fox Road,
West Bridgford, Nottingham. NG2 6BJ
Tel. 0115 9774213
Email. biodiversity@nottscc.gov.uk
www.nottsbag.org.uk

Peak District National Park
Peak District National Park Authority
Aldern House, Baslow Road,
Bakewell, Derbyshire. DE45 1AE
Tel. 01629 816330
www.peakdistrict.gov.uk

Statutory Agencies

Countryside Agency
18 Market Place, Bingham,
Nottingham. NG13 8AP
Tel. 01949 876200
Email. info.eastmids@countryside.gov.uk
www.countryside.gov.uk

East Midlands Regional Assembly
Council Offices, Nottingham Road,
Melton Mowbray, Leicestershire. LE13 0UL
Tel. 01664 502555
Email. info@emra.gov.uk
www.emra.gov.uk

English Nature, Eastern Area Team
The Maltings, Wharf Road,
Grantham, Lincolnshire. NG31 6BH
Tel. 01476 584800
Email. eastmidlands@english-nature.org.uk
www.english-nature.org.uk

English Nature, Peak District and Derbyshire
Endcliffe, Deepdale Business Park,
Ashford Road, Bakewell, Derbyshire.
DE45 1GT
Tel. 01629 816540
Email. peak.derbys@english-nature.org.uk
www.english-nature.org.uk

Environment Agency Midlands Region
Sapphire East, 550 Streetsbrook Road,
Solihull. B91 1QT
Tel. 0121 7112324
www.environment-agency.gov.uk

Environment Agency Anglian Region
Kingfisher House, Goldhay Way,
Orton Goldhay,
Peterborough, Cambridgeshire. PE2 5ZR
Tel. 0870 850 6506
www.environment-agency.gov.uk

Forestry Commission
Willingham Road, Market Raisen,
Lincolnshire. LN8 3RQ
Tel. 01673 843461
Email. fc.emid.cons@forestry.gsi.gov.uk
www.forestry.gov.uk

Government Office for East Midlands
The Belgrave Centre, Stanley Place,
Talbot Street, Nottingham. NG1 5GG
Tel. 0115 9719971
Email. enquiries@goem.gsi.gov.uk
www.goem.gov.uk

Rural Development Service, DEFRA
Block 7, Chalfont Drive,
Nottingham. NG8 3SN
Tel. 0115 9291191
Email.
enquiries.eastmidlands@defra.gsi.gov.uk
www.defra.gov.uk/rds/em

Non Governmental Organisations

BTCV
Units 1 & 3, Building 16, Cromford Mill,
Mill Lane, Cromford, Matlock. DE4 3RQ
Tel. 01629 826711
Email. information@btcv.org.uk
www.btcv.org.uk

FWAG Midlands Office
The Yard, Foolow, Eyam,
Hope Valley, Derbyshire. S32 5QA
Tel. 01433 639829
Email. info@fwag.org.uk
www.fwag.org.uk

National Trust
Clumber Stableyard, Clumber Park,
Worksop, Nottinghamshire S80 3BE
Tel. 01909 486411
Email. enquiries@thenationaltrust.org.uk
www.nationaltrust.org.uk

RSPB Central England
46 The Green,
Banbury, Oxfordshire. OX16 9AB
Tel. 01295 253330
www.rspb.org.uk

The Wildlife Trusts
East Midlands Conservation Policy
The Old Ragged School,
Brook Street, Nottingham. NG1 1EA
Tel. 0115 9588242
Email. regional.policy@nottswt.cix.co.uk
www.wildlifetrust.org.uk/nottinghamshire/regional

The Woodland Trust
Autumn Park, Dysart Road,
Grantham. NG31 6LL
Tel. 01476 581111
www.woodlandtrust.org.uk

Designed and Printed by statusdesign.co.uk, 4690/06/06.