



## 3 Biodiversity

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## 3.1 Introduction

We value our biodiversity for its intrinsic value, because it enriches our lives and for the services that healthy ecosystems provide.

This chapter provides an overview of the biodiversity of England. Adopting the approach set out in the England Biodiversity Strategy, we have structured the chapter around UK Biodiversity Action Plan priority habitats, providing information on some of the important species groups associated with each.

### UK Biodiversity Action Plan (UK BAP)

The UK Biodiversity Action Plan, published in 1994, was the UK Government's response to signing the Convention on Biological Diversity (CBD) at the 1992 Rio Earth Summit. It set out a programme for the conservation of the UK's biodiversity and led to the production of 436 action plans to achieve the recovery of many of the UK's most threatened species and habitats.

A review of the UK BAP priority list in 2007 led to the identification of 1,149 species and 65 habitats that meet the BAP criteria at UK level. Priorities for England will be published in 2008 under Section 41 of the NERC Act 2006.

Assessment of progress with implementation of the UK BAP Habitat and Species Action Plans takes place every three years and reports have been completed, in 1999, 2002 and 2005. Data from the 2008 reporting round will be used with other indicators to show how the UK has progressed towards the CBD 2010 target to achieve a significant reduction in the rate of biodiversity loss.

The focus is on semi-natural habitats (habitats which have been modified by man but retain many natural features), in particular the 56 UK BAP priority habitats that occur in England. They are grouped under the following broad habitat types: grassland, heathland, woodland, open water, wetland, inland rock, coastal and marine. In addition, there are sections on 'urban' and 'arable, orchard and hedgerow' biodiversity.

The first section presents an overview of the evidence on the state of semi-natural habitats in England. In the following sections, we look at each habitat group, providing information on geographical extent, importance and inclusion in national and international designated sites. Using our database of SSSI information, we present the most recent assessment of the condition of each habitat group within designated sites. The condition of habitats within SSSIs is described as 'favourable or recovering' or 'unfavourable'. Each of these terms encompasses several more detailed categories of condition (Section 3.2.4). Where evidence is available on the state of habitats outside designated sites, this is also presented.

#### **England Biodiversity Strategy – ‘Working with the grain of nature’**

Published in October 2002, the England Biodiversity Strategy brings together England’s key contributions to achieving the 2010 target to halt biodiversity loss. It seeks to make biodiversity part of the mainstream of our thinking and emphasises that healthy, thriving and diverse ecosystems are essential to everybody’s quality of life and wellbeing.

The Strategy has five themes:

- Protecting the best wildlife sites
- Promoting the recovery of declining species and habitats
- Embedding biodiversity in all sectors of policy and decision making
- Enthusing people
- Developing the evidence base

An explicit aim of the strategy is to deliver the UK Biodiversity Action Plan in England, and an important measure of success of conserving England’s biodiversity is how the status of priority species and habitats is changing. Natural England is Defra’s lead delivery agent for the England Biodiversity Strategy. With our partners, we are developing a new framework that will establish clearer accountabilities for delivery and enhance biodiversity at a landscape scale.

From the 2005 progress report on the UK BAP Priority Action Plans, a series of key threats were identified (BRIG 2006a) and these are summarised in each habitat section for which they are available. Not surprisingly they overlap with many of the adverse reasons that have emerged from the SSSI condition assessments. The key pressures and risks are brought together and analysed in Chapter 5.

The final section in this chapter gives an overview of England’s species, bringing together overarching statistics and national indicators.

For each habitat, more detailed analyses have been undertaken, with regional spatial information and more thorough information on each species group. This information will be available in a series of resource documents on Natural England’s website.

### The economic value of biodiversity

Biodiversity is important to humans for a variety of reasons. It may increase an individual's wellbeing directly (for example, through recreational use or through more passive values gained without actual use) or indirectly through its contribution towards the maintenance of ecosystem functions, such as the regulation of water or carbon cycles. For this reason, the conservation of biodiversity is essential to the wellbeing of current and future generations.

Whilst we can be relatively bold in making this assertion in a general sense, quantifying the intrinsic value of biodiversity (as measured in terms of species richness) remains challenging in a policy context. Much of the research to date has focused on investigating values for individual species and habitats, making aggregation and an understanding of the big picture difficult.

In a study in Northumberland and Cambridgeshire, public understanding of the term biodiversity was generally low but this was overcome to some extent when presented in the right way. The public were willing to pay a positive sum for additional policies aimed at protecting and enhancing biodiversity (ranging between £36-£74 annually per household over five years). Another key finding is that the public expressed relatively high values for the protection of rare unfamiliar species, suggesting that policies should not be restricted to target only familiar and charismatic species.

Source: Christie *et al.* (2004)

### 3.1.1 Approach to estimating habitat extent

To produce estimates of the extent of habitats we have combined the data on habitats within SSSIs (from our SSSI database) with mapped datasets on undesignated habitats from a variety of sources (see below). Using the SSSI data allows assessment of habitat condition to be made that would be impossible from raw inventories. Also, we have been able to generate a consistent set of data that can be compared across terrestrial habitats, across English regions, and overlaid with other digital datasets.

There is no one definitive estimate of extent of habitats in England. Because of differing methodologies, our estimates differ from others, including targets set for maintaining UK BAP priority habitats (which represent estimates of the extent of habitat of sufficient quality to meet the BAP definitions). The habitat extent estimates presented in this report should not be regarded as definitive. Rather, they represent a further contribution to the habitat evidence base, which will be revised as habitats are resurveyed and inventories updated. This range of estimates of extent highlights the need for further comprehensive work on habitat inventories.

The estimates for grassland, wetland, coastal and heathland habitats outside SSSIs were derived from the BAP priority habitat inventories. The extents of broadleaved woodland, and wood-pasture and parkland were derived from the Forestry Commission's Interpreted Forest Type data (IFT) (Forestry Commission 2001) and historical wood-pasture and parkland data (Haines-Young 2007), respectively. Standing water data were derived from the Great Britain Lakes Inventory (Hughes *et al.* 2004) and canals from the Ordnance Survey 'Strategi' data. For marine habitats, we used the 'UK SeaMap - Seabed Landscapes' data (Connor *et al.* 2006). We used the Countryside Survey 2000 (Haines-Young *et al.* 2000) to estimate the extent of broad habitat types, including inland rock, arable and improved grassland.

Where there are no data on the total area of habitats outside SSSIs (for example rivers and littoral rock), those habitats have been excluded from the extent figures and maps, but the SSSI condition figures and maps have been included within each section.