



## 7 Conclusion

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This Report presents the first comprehensive, integrated assessment of the state of England's biodiversity, geodiversity and landscapes.

### England's natural environment is important

The Report clearly demonstrates the importance of England's natural environment for species and habitats, landscapes and geodiversity and for the benefits which we enjoy as individuals and as a society. England's natural environment is internationally important for its species and its habitats. For example, England has globally important populations of breeding seabirds and wintering waders and wildfowl, and 18% of the world's heathland. We have internationally important populations of bats and oceanic lichens, and more than half the European species of bryophytes including one moss not recorded anywhere else in the world. England is rich in veteran trees in ancient woodland and parklands. We have more chalk rivers than any other country in Europe and over half the European resource of chalk coasts. Nearly 20% of Europe's Atlantic and North Sea estuaries are in England.

The combination of habitats, geology and human influence helps create landscapes that are rarely found outside England, including ancient hedged landscapes and our hugely varied coastline. England's geology has very high international heritage status because of both its diversity and the history of geological research.

England's natural environment is important for its intrinsic value, but it is also vital for the ecosystem services it provides. These include not only easily valued services such as flood defence, clean water and carbon sequestration, but also the less tangible and equally important cultural, aesthetic, health and wellbeing benefits. The evidence for these non-valued services is accumulating and we have provided case studies in this report.

### Our natural environment is under pressure

Our natural environment is under pressure from a range of threats. Many of these threats have been evident for several decades: pressure from intensification of land and sea management and pressures arising from continuing economic development, such as land take, pollution and water abstraction.

### Historical declines

Over the last 50 years or so England's natural environment has suffered serious losses. Our farmland today is much less rich in wildlife. Although there is much grassland, now only 3% of it is rich in plant species, and traditionally managed meadows are very rare. Arable land is also now much poorer in wildlife. There has been a substantial decline in the distribution of arable flowering plants, with seven species going extinct. Farmland birds have declined by over a half since the 1970s. Many of the surviving wildlife-rich sites form a small, isolated and fragmented resource. Some species are now more or less confined to protected sites, for example early spider, late spider and burnt orchids.

There have been major declines in all three easily monitored invertebrate groups: moths, butterflies and bumblebees. Wetland species have suffered: England and Wales hold one quarter of the world population of southern damselfly, but it has declined by 30% since the 1960s. And all amphibian species have declined, the natterjack toad by three quarters of its former range.

At sea, whilst our understanding is still limited by the evidence available, the state of the marine environment is cause for particular concern. Overfishing has led to the decline of both fish populations and fragile habitats such as reefs.

There have been landscape gains through restoration of woodland areas, but damage to character through loss of features such as field boundaries and intrusive development. There have been major improvements to access through the creation of National Parks, National Trails, and Country Parks.

### Past decade

There has been a levelling off in the past decade in the long-term decline of a number of indicator species including farmland birds and butterflies. However, the trend for some groups is still downwards. For example, the flora, birds and butterflies most associated with our woodland are all continuing to decline. There has been a particular decline in specialist species – those species that have very specific habitat requirements – revealed in the monitoring of birds, bumblebees and butterflies. For example, the specialist grassland edge Duke of Burgundy butterfly has declined by 50% in the last ten years.

Wetland and freshwater habitats continue to give us particular concern. Our open waters are perhaps in the worst condition of all habitats, even where legally protected. Wetland species are suffering with, for example, eels declining by 90% since the mid-1980s and water voles the most rapidly declining mammal. There have been major declines in populations of breeding wading birds on unprotected lowland wetland grasslands, notably the snipe which is down by 90% in some regions. Coastal habitats such as saltmarshes are declining due to coastal squeeze and pollution.

However, some of the trends over the last ten years show that there has been real improvement. There have been major increases in heathland birds, for example nightjar, woodlark and Dartford warbler – and the last of these has increased its range by over 100% due to milder winters. Some wetland birds have shown massive increases (for example gadwall, whooper swan), the recovery of the otter has continued, and four bat species are increasing significantly.

For our landscapes, whilst some 20% are showing signs of neglect, existing character has been maintained in 51%, and enhanced in 10%.

The last ten years have seen a major increase in opportunities to enjoy the natural environment by giving a right of access to mountain, moor, heath, down and registered common land. There is a growing body of evidence relating to the benefits of access to and engagement with the natural environment – specifically in terms of individuals' health and wellbeing – and this is increasingly being recognised in public policy. However, there is a complex relationship between provision of opportunities for access and engagement with the natural environment and resulting behaviours.

Furthermore, the pressures on the environment sometimes present opportunities, for example through large scale habitat creation for flood management, and natural green space within new housing developments.

### **Conservation action can be successful**

Whilst the general picture of our natural environment reveals many problems, our analysis of the impact of actions taken to date shows that much can be achieved in tackling these problems. There is growing evidence that conservation action has been successful, particularly where it has been targeted.

For example, the Species Recovery Programme has led to the successful re-introduction to England of the red kite, large blue butterfly, pool frog and interrupted brome grass (the last being one of the arable plant species that went extinct). The Biodiversity Action Plan (BAP) process has had successes for other species, with recovery targets exceeded for a range of species such as lesser horseshoe bat, bittern, curlew, silver-spotted skipper and Deptford pink. Of the priority habitats targeted under the UK BAP 24% are now assessed as increasing, including lowland heathland, arable field margins, grazing marshes, reedbeds and a number of woodland types. However, other BAP habitats and species continue to decline, for example chalk rivers, fens and coastal sand dunes, and red squirrel, turtle dove and starfruit. Both the Species Recovery Programme and BAP show what can be achieved through partnerships and coordinated action involving not only central government agencies but also non-governmental organisations, local bodies and individuals.

Regulation can also be an effective tool, such as Limestone Pavement Orders protecting limestone pavement.

The designation of our best wildlife sites as Sites of Special Scientific Interest (SSSIs), combined with agreements for their management, has been an effective tool in delivering appropriate management for nature conservation. The overall condition of SSSIs is improving significantly and, is on target to meet the Government's 2010 target. This applies to all the broad habitat groups within SSSIs, with the exception of open waters. Where comparable evidence has been collected, it demonstrates better condition of habitats under SSSI designation compared to non-designated areas.

Landscape designations have also been effective. The majority of the landscapes within the National Parks and Areas of Outstanding Natural Beauty (AONBs) are in good condition and SSSI habitats are also in at least as good condition within these protected landscapes as outside.

Agri-environment schemes have been designed to ensure that conservation of biodiversity, landscapes and historic features are more integral to agricultural land management across the wider countryside. The available evidence suggests that the schemes have been partially successful in maintaining the condition of the natural environment where they have been applied. Whilst it will take some time before the full benefits from changes in management are seen, there is now emerging evidence of the positive effects that can be achieved, for example in arable field margins.

### **But more needs to be done**

So we see a natural environment much less rich than 50 years ago, but showing signs of some recovery from long-term wildlife declines in the last decade, and with more opportunities to enjoy it. It is clear that targeted conservation measures have benefited both biodiversity and landscapes – they can and do work. We are clearly making progress in achieving the Government's policy objectives of protecting landscapes, improving access and halting biodiversity loss. However, given that many of our habitats and species are well below their levels of 50 years ago, we are very concerned as to whether our biodiversity and landscapes are sufficiently resilient and robust, diverse and interconnected to survive the future pressures and risks from development and climate change. In particular, our natural environment must now adapt to a climate that is changing faster and further than at any time in the recent geological past.

We will need to work at a sufficiently large landscape scale and in a more integrated way in order to ensure that the natural environment is conserved, enhanced and managed for the benefit of present and future generations thereby contributing to sustainable development.

### **Priorities for improving the evidence base**

Above all this Report is about the evidence for the current state of our natural environment. The Report provides a baseline against which progress can be measured in the future. We have drawn from the extensive range of evidence we have in England about the state of our natural environment. However, the Report also highlights where there are gaps in the evidence base; areas where we believe we need more evidence on the condition of England's natural environment and the way in which it is changing, and on our understanding about the best mechanisms that we can adopt in addressing the challenges that we see.

Our current evidence base is variable across Natural England's remit, and in this Report we have had to rely heavily on data from SSSI monitoring. In the future we will develop our evidence base and better integrate the different strands in order to inform our responses in the wider environment and to monitor progress – particular priorities will be marine ecosystems and public benefits from the natural environment.

We have identified within this Report priorities for action in collating evidence. We will use this Report as a basis for discussing these needs, agreeing them with partners and seeking ways to fill the gaps. Indeed, the development of a better evidence base can only be achieved through partnership working with key stakeholders and we look forward to developing a forward programme of evidence gathering in collaboration with others.

### **Summary**

The natural environment in England is much less rich than 50 years ago, and remains under pressure from a significant range of threats; some long-standing, others such as climate change, more recent. However, there is also evidence of what can be achieved by targeted efforts to address these pressures. These have resulted in some stabilisation in the state of the environment and in places resulted in the reversal of some of the previous losses seen throughout much of the 20<sup>th</sup> century. This Report provides a baseline against which progress can be measured in the future and draws attention to areas that are in urgent need of action.