

# Biodiversity

## Introduction

*Orangetip butterfly  
on coralroot*



1. The Chilterns landscape supports a rich mosaic of distinctive habitats, species and features, reflecting past land management practices and underlying geology.
2. Of particular note are the ancient woodlands, chalk downland and scrub communities including juniper and box, chalk streams and associated river valley habitats, farmland habitats, remnant heathland, acid grassland and wood pasture.
3. The Chilterns chalk escarpment represents a potentially important stepping stone for specialist chalk species moving between the southern central chalk landscapes and suitable habitats further north-east. Enhancing ecological networks in the Chilterns is likely to prove of more than local importance in the face of climate change.
4. The Chilterns AONB has a substantial network of statutory and non-statutory designated sites, between them covering a total of 9,507 ha or 11.4 % of the AONB. These include three Special Areas of Conservation - part of the Natura 2000 suite of sites of European importance and 64 Sites of Special Scientific Interest – of national importance. A further 494 local sites do not have statutory protection but are recognised locally as important sites for wildlife or geology. The Chilterns is also identified by Plantlife as an Important Plant Area for its internationally important plant populations.
5. Recent studies, including in the State of Nature UK (2013) report, have shown that nationally, biodiversity has continued to decline over the long term, despite conservation efforts. The Natural Environment White Paper (2011), and the

## Designated sites

- Special Area of Conservation
- National Nature Reserves
- Site of Special Scientific Interest
- AONB Boundary



Lawton Report - Making Space for Nature (2010) make plain that conservation efforts need to move beyond a site-based approach, to look at ecological networks and how wildlife uses the wider countryside.

6. Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services (2011) includes national targets for condition and extent of priority habitats and protected species, as well as national and European sites.
7. Priority habitats and species referred to in this plan are embedded in law through Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006). Section 41 lists 943 species and 56 priority habitats of principle importance for conservation in England. These are the same habitats and species which have historically been addressed by UK Biodiversity Action Plan work.
8. Protected Landscapes are in a good position to contribute to such targets, with their track record of working with broad partnerships at a landscape scale.
9. In the Chilterns, local biodiversity partnerships have established a strong basis for this approach through the Biodiversity Opportunity Areas / Conservation Target Areas projects which seek to target conservation efforts in particular areas. There are also good examples across the Chilterns of individual landowners or organisations such as the National Trust initiating landscape scale conservation through working with neighbours.

<sup>1</sup> *Ancient Woodland Inventory for the Chilterns – Report and Inventory Maps (2012)*

## Broad Aims

- Conserve and enhance the wildlife value of all habitats.
- Enhance ecological networks so that they are bigger, better, more resilient, joined up and dynamic.
- Ensure that the wider benefits of the natural environment are understood and recognised.
- Encourage more people to develop a greater understanding of and involvement in wildlife conservation.

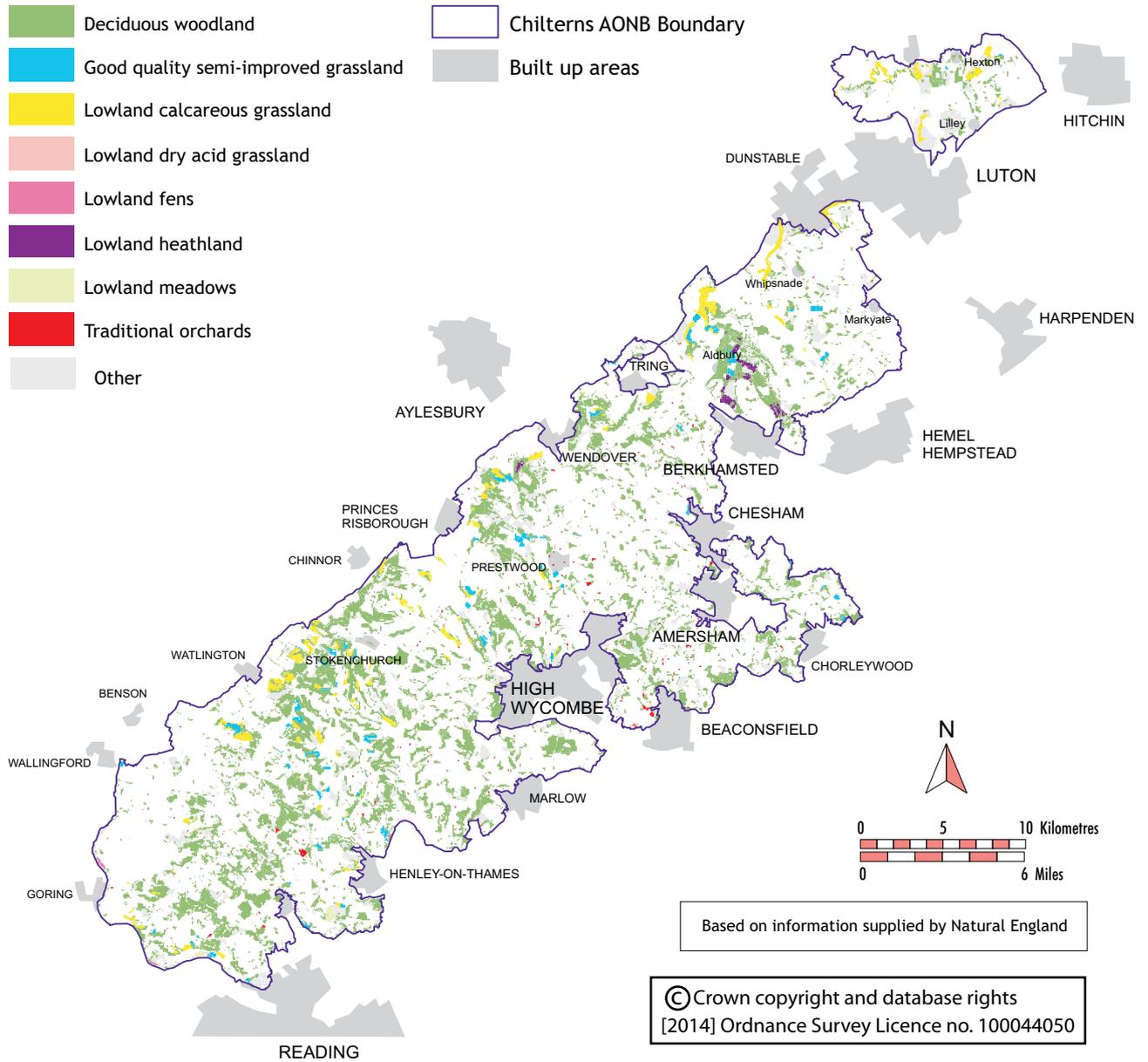
## Special Qualities

### Woodland

1. The Chilterns is known for its extensive beech woods and ancient woodlands, with over 13.2% of the AONB (11,058 ha) now known to be ancient<sup>1</sup> woodland.
2. Many rare and unusual species are associated with the beech 'hangers' on the thin chalk soils of the steep scarp slopes - for example, shade-tolerant orchids such as birds nest orchid, ghost orchid, red helleborine and rare fungi such as Devil's bolete. Also found on the thin chalk soils are nationally-important yew woods and box woods.
3. On the deeper, more nutrient-rich soils of the plateau the woodlands tend to have relatively open canopies and ground flora characterised by brambles, bracken and bluebells as well as rarer species such as violet helleborine and coralroot.
4. The Chilterns has a rich heritage of parkland, wood pasture and commons. Many of these sites contain important or veteran trees and associated deadwood invertebrates and fungi.
5. Habitats of Principle Importance in the AONB include: lowland beech and yew, lowland mixed deciduous woodland, wood-pasture and parkland.

## Priority habitats in the Chilterns

### Priority Habitat



### Chalk grassland

6. The Chilterns has nationally important concentrations of wildlife-rich chalk grassland, with over 700 hectares in the AONB, particularly along the steep scarp slopes of the chalk outcrop and dry valley slopes. Many specialist plants and animals are associated with chalk grassland. Rare species for which the AONB is particularly important include Chiltern gentian, wild candytuft, pasque flower, Duke of Burgundy, silver-spotted skipper and glow worm.
7. Chalk scrub is also often of high wildlife value but needs active management. Juniper and box scrub habitats are of particular interest in the Chilterns.
8. Former chalk quarries – a number of which are SSSIs or Local Wildlife Sites - make an important contribution to the chalk grassland/ pioneer habitat resource of the AONB.

### Farmland habitats and species

9. Farmland has an important contribution to make the biodiversity of the Chilterns, and is the predominant land use in the AONB (over 60% of the area). The thin chalk soils of the escarpment are ideal for many rare arable plants, and the Chilterns holds important populations of a number of species including ground pine, shepherd's needle, red hemp nettle, narrow-fruited corn salad and few-flowered fumitory. The AONB was found to hold significant populations of a number of farmland bird species in the 2002 Chilterns Farmland Bird Survey<sup>2</sup>, however, more recently<sup>3</sup> populations of most farmland bird species in the AONB have deteriorated in line with population trends for south central England.



*Populations of many farmland bird species in the AONB, including the yellowhammer, have undergone serious declines over recent years*

10. Species rich hedgerows with hedgerow trees, and ancient hollow-ways are distinctive features of the Chilterns, some of the hedgerows supporting plants and animals typical of ancient woodland.
11. There is a strong history of orchards in the Chilterns, particularly cherry orchards, but they are now reduced to a remnant of their former extent due to neglect and lack of financial viability. The mix of old fruit trees and associated grassland can have important biodiversity value.
12. Habitats of Principle Importance found in the AONB include ponds, arable field margins, hedgerows and traditional orchards.

<sup>2</sup> Chilterns Farmland Bird Survey 2002

<sup>3</sup> Farmland Breeding Bird Populations in the Chilterns AONB 2013

### Commons

13. There are around 2,000 ha of registered common land in the AONB and a far greater area of former common.
14. Common land is not in itself a habitat but is associated with a number of Habitats of Principle Importance in the AONB – in particular lowland dry acid grassland, lowland heathland, wood-pasture and parkland and ponds. Being largely uncultivated and generally on the less fertile soils many commons have retained a rich biodiversity.
15. Significant species groups are associated with the commons: dead wood invertebrates, epiphytic lichens, lepidoptera, fungi.

River and wetland habitats are covered in the Water Environment chapter

### European Protected Species

16. European Protected Species occurring in the AONB include the following:

Species	Associated habitat
<b>Bats</b> (various species)	Undisturbed old farm buildings or hollow trees close to good foraging habitat are commonly used for roost sites.  Foraging habitats– woodland/ wetland.  Specific requirements vary between species.
<b>Common or hazel dormouse</b>	Deciduous woodland or scrub and species rich hedgerows connected to woodland. Hazel is an important provider of food (insects and hazel nuts).
<b>Great crested newt</b>	Field ponds in arable or pastoral settings are preferred breeding ponds. The species may also be found in a range of other pond types, the largest populations being recorded from ponds formed in abandoned workings, such as chalk or clay pits. On land, great crested newts can be found in a range of habitats, including ancient woodland, scrub and rough grassland where there are suitable ponds nearby.
<b>Early gentian</b>	High quality calcareous grassland ideally with a sward height of no more than 5cm and low level disturbance.

## Key Issues

1. Declines in extent and condition of semi-natural habitats over past decades have increased habitat fragmentation and added to the difficulty of sustaining appropriate management of sites.
2. There has been progress over the past five years in bringing the majority of Sites of Special Scientific Interest into favourable (65% by area) or unfavourable recovering (34% by area) condition. Monitoring and management support needs to be sustained, particularly to see that management proposals to achieve favourable condition are implemented.
3. Information about the condition of local sites or habitat outside of SSSIs is very patchy, with only 47% of local sites known to be in positive conservation management<sup>4</sup>.
4. More frequent extreme weather events and greater climatic variability are anticipated due to climate change.
5. Healthy, robust ecological networks are important to support adaptation to climate change. Conservation efforts need to support this through a focus on landscape scale action. Expansion and recreation of fragmented habitats such as chalk grassland, orchards, wood pasture heathland and riverine habitats need to be part of the overall approach.
6. Well-managed roadside verges can provide valuable habitats for wildlife and contribute to enhanced ecological connectivity. Greater promotion is needed of existing guidelines.<sup>5</sup>
7. The livestock sector has continued to decline over recent years, with fewer grazing animals in the Chilterns as a result. Alongside this are associated declines in relevant skills and knowledge base as well as infrastructure. Increasing difficulties are anticipated securing appropriate grazing on those conservation sites which require it.
8. Environmental schemes (agri-environment and woodland grant schemes) are a major tool for management and re-creation of wildlife habitats both within designated sites and in the wider countryside. Take up in the Chilterns has been relatively high over recent years, however the area within Environmental Stewardship has started to reduce, thought to be due in part to uncertainty over Common Agricultural Policy reform. There is a need to work closely with the farming community to sustain the biodiversity achievements and to promote effective use of future schemes.
9. Introduced pest species, diseases and non-native invasive species are an increasing concern within the AONB as elsewhere. Of particular concern are the impacts or potential impacts of deer, grey squirrel, Chalara dieback of Ash, Acute Oak Decline, Oak Processionary Moth, *Phytophthora*, Himalayan balsam and Japanese knotweed.
10. With 750,000 people living in or within 3 kilometres of the AONB, and 55 million visits per year, the Chilterns is one of the most-visited AONBs in the country. Whilst much of the area is able to absorb relatively high numbers of visitors, there are local areas of concern which need to be carefully managed and key sites need to be buffered and protected. Sustaining grazing on grassland wildlife sites in the urban fringe is a particular concern due to impacts of people and dogs.

<sup>4</sup> *State of the Chilterns Environment Report (2012)*

<sup>5</sup> *Environmental Guidelines for the Management of Highways in the Chilterns (2009)*

11. Former chalk quarries can provide important habitat, however, appropriate long term plans are required as these sites tend to be under threat of substantial decline in biodiversity through scrub encroachment, erosion or development pressures.
  12. Planning policy changes, in particular the introduction of the National Planning Policy Framework and the presumption in favour of sustainable development is affecting the degree of influence that local planning authorities can have on development. The development and growth agenda is giving rise to increasing pressures within and adjacent to the AONB, with direct and indirect impacts including habitat loss, suburbanisation, air, noise and light pollution.
  13. There is a renewed focus on green infrastructure planning within some local authority areas and partnerships, one element of this being development of initiatives to target developer contributions so that they achieve the greatest benefit. This is to be encouraged and supported.
  14. Biodiversity offsetting is under consideration by the government as an approach to compensate for unavoidable residual impacts of development. It will be important to engage with this issue and the potential risks and opportunities it brings. Offsetting should not be used as a way of facilitating development in circumstances where existing statutory protection – for example in relation to AONBs - would preclude it. More attention needs to be paid to consideration of avoidance of impacts.
  15. Local Nature Partnerships (LNPs) have been established across the AONB, and will seek to contribute to delivery of Biodiversity 2020 targets. The LNPs are expected to work closely with the Local Economic Partnerships to raise awareness of the fundamental role of the natural environment in underpinning the economy and other sectors.
  16. Further work is needed to improve understanding of the biodiversity resource in the AONB, in particular priority habitat condition and trend data for characteristic species. State of the Chilterns Environment monitoring has been underway on an annual basis since 2009.<sup>6</sup>
- Section 6 outlines proposals for future monitoring.
17. A significant shift is underway from the public sector to the voluntary and community sectors with a range of conservation related activities, including site management being transferred. Initiatives such as the Chilterns Commons project demonstrate the enormous scope that exists to involve local groups and volunteers in custodianship of their local environment.

### Policies

#### **B1 Delivery of Biodiversity 2020 Strategy outcomes within the AONB and its setting should be supported.**

Biodiversity 2020 sets out four outcome areas relating to 1) Habitats and ecosystems on land 2) marine habitats, ecosystems and fisheries 3) species; and 4) people. These outcomes and targets are in the process of being translated to the local level, and provisional habitat targets have been proposed for National Character Areas. These targets will need to be driven forward within the AONB through a range of mechanisms including land management schemes, landscape-scale conservation initiatives and public awareness and engagement programmes.

<sup>6</sup> [www.chilternsaonb.org/state-of-the-environment](http://www.chilternsaonb.org/state-of-the-environment)

**B2 Action to conserve and enhance the condition of priority habitats and protected sites (statutory and non-statutory) within the AONB and its setting should be supported.**

The extensive network of designated sites in the Chilterns includes most but not all of the area's important habitats. Achieving good condition of all priority habitats requires landscape scale conservation action beyond the boundaries of protected sites as well as effective management action at a site level. Local sites (non-statutory) make up 8% of the AONB and are an important biodiversity resource - management advice and support is needed for these sites.

**B3 Delivery of Biodiversity 2020 habitat creation and restoration targets should be assisted.**

The Chilterns is considered to have particularly high potential for creation/ restoration of lowland wood pasture and parkland (indicative target 4% of the national total, joint highest with the High Weald), lowland calcareous grassland (indicative target 4% of national target) arable field margins (indicative target 2% of national total) and ponds (indicative target 2% of national total). Priority should be given to habitat creation and restoration within Biodiversity Opportunity Areas or equivalent areas.

**B4 Action to conserve European protected species and priority species should be promoted.**

Advice to land managers is needed to make sure that they are aware of The Conservation of Habitats and Species Regulations (2010) (as amended in 2012) and National statutory protection for priority species including the Natural Environment and Rural Communities Act (2006) and the Wildlife and Countryside Act 1981 (as amended). Support is also needed to ensure that land managers know what activities they can undertake to protected species.

**B5 Awareness of the impacts of pests, diseases and non-native invasive species on the wildlife of the Chilterns should be raised and effective action to control those impacts encouraged.**

Improved public awareness and understanding - alongside effective control strategies - is crucial to help prevent the new release of non-native invasive species and to prevent/ reduce the spread of existing populations. Guidance for land managers will be important to address issues such as species choice and provenance.

**B6 More local communities and volunteers should be encouraged to become actively involved in wildlife recording and conservation in the Chilterns.**

There are many opportunities to engage and involve local communities in recording and conservation, and the Commons Project has demonstrated that there is a real demand for volunteer support and training. Continued and increasing local involvement will be key to achieving the biodiversity objectives set out in this section. The potential for 'citizen science' combined with modern technology to contribute to recording and conservation efforts should be fully explored.

**B7 Ecological networks should be conserved and enhanced through landscape scale initiatives.**

It is important to continue to support and develop landscape scale initiatives to link and buffer existing habitats and facilitate movement of species through the landscape. Increased ecological connectivity is key to achieving biodiversity gains. Priority should be given to enhancing ecological connectivity in those areas identified as the most important areas for biodiversity at a county level including Biodiversity Opportunity Areas and Conservation Target Areas, and to ensuring that Local Nature Partnerships are fully engaged in this work.

**B8 An improved understanding of the biological resource of the Chilterns should be developed, sufficient to guide the successful conservation of characteristic habitats and species.**

Having an up-to-date picture of the biodiversity resource of the AONB is a vital part of the area's management and monitoring. It is proposed to strengthen State of the Environment reporting in relation to species, for example incorporating population trend data for key species groups.

The role of Environmental Record Centres in relation to collating, verifying and disseminating information is crucial.

**B9 Recognition and understanding of the ecosystem services provided by the natural environment of the Chilterns and the benefits they provide for people and the economy should be promoted.**

The natural environment provides many benefits for people and the economy which need to be articulated to a wider audience. It will be important to work closely with Local Nature Partnerships and Local Economic Partnerships on this.

**B10 Improved management of commons, veteran trees, infield and hedgerow trees and ancient woodlands should be promoted and supported.**

Trees, woods and common land are important and characteristic features of the Chilterns landscape which need appropriate management.

**B11 Management to help Chilterns wildlife adapt to threats from adverse impacts of climate change, pests and diseases should be promoted.**

Ecological networks and permeable landscapes/ habitats are important to support more resilience to the impacts of climate change and pests and diseases. Large-scale strategic conservation action will be key to creating more robust ecological networks.

**B12 An appropriate balance between nature conservation and recreation should be sought. Where conflicts between the two are irreconcilable, nature conservation should take priority.**

Most of the time good management will enable an appropriate balance to be struck between different interests on a given site. However, it is important to re-state the principle that where this is not possible then priority should be given to nature conservation in line with the Sandford Principle<sup>7</sup>.

**B13 Grazing should be supported and promoted on those sites which need it to achieve good conservation status.**

Ensuring that semi-natural habitats which need grazing are appropriately managed has long been a concern and ongoing declines in livestock numbers only serve to underline this. It may be that conservation grazing herds (e.g. Wildlife Trust owned herds, community herds) will need to be increasingly relied upon. A substantial proportion of the semi-natural grassland in the AONB is horse grazed. Whilst carefully managed horse grazing can play a valuable role in conservation grazing, detrimental impacts on biodiversity can arise where this is not the case. Best practice guidance has been produced on horse pasture management and should be promoted.

<sup>7</sup> National Parks Policy Committee Review, 1974

**B14 a) Biodiversity Offsetting should only be used to secure net biodiversity gain where harm cannot be avoided or mitigated, and should not be used as a means to justify destruction of irreplaceable habitat.**

Biodiversity is not a single exchangeable commodity which can simply be recreated elsewhere and there is a risk that Biodiversity Offsetting may be used to facilitate inappropriate development.

On the other hand there is a real need to take proper account of development impacts on biodiversity and on wider ecological networks, and to find ways of ensuring that compensation land is properly managed for biodiversity over the long term. Effective approaches which deliver more for biodiversity are needed and it may be that Biodiversity Offsetting could play a useful part in this.

Biodiversity Offsetting must only be used as a measure of last resort where harm cannot be avoided or mitigated, and must deliver net biodiversity gain.

Any scheme must also take full account of the wider environmental and community impacts of the biodiversity loss and must give a clear commitment to ensuring the protection of irreplaceable habitats such as Ancient Woodland.

**b) The biodiversity offset should be close to where the initial loss occurs.**

Any new habitat needs to be 'in the right place', taking account of factors such as impacts on ecological connectivity, landscape character and natural green space. Proximity to the initial loss will be an important factor.



*Bluebells at Ashridge*