

*The Chilterns  
9,507ha of sites  
designated for  
their wildlife  
value*

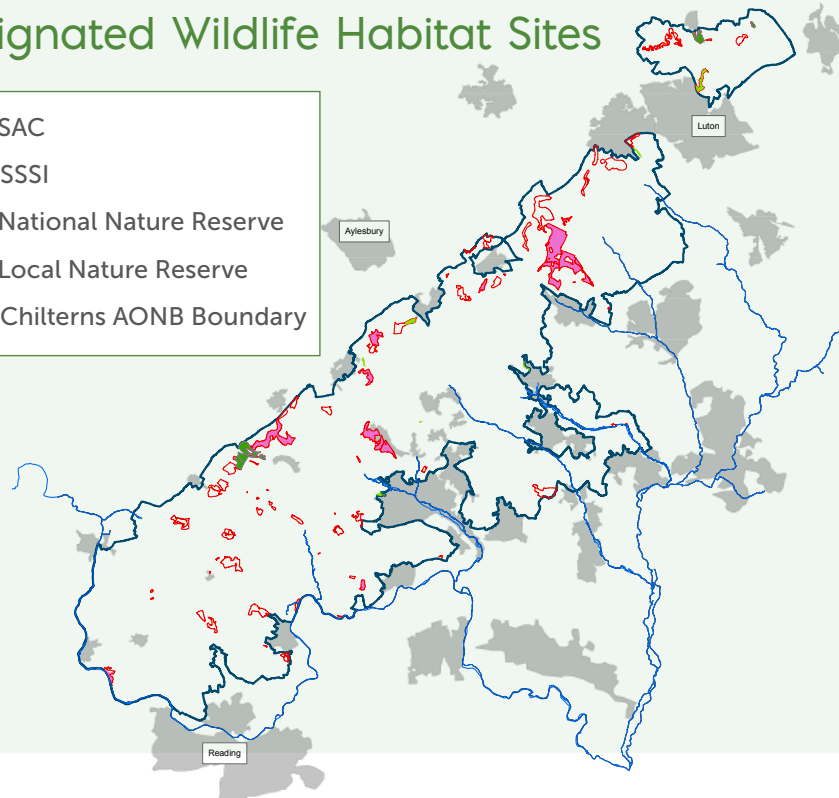
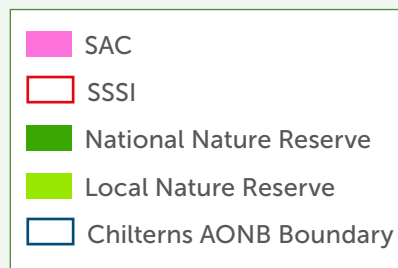


## 5. NATURE

The Chilterns is home to a wonderful variety of wildlife, including many protected and notable species. The AONB is particularly important for its chalk grassland, chalk streams, ancient woodlands (especially beech) and arable habitats. Fine-grained variations in soils, topography and past management have given rise over millennia to rich habitat mosaics. These include box woodland and juniper scrub, scarp slope and dipslope chalk streams, wayside verges and disused quarries. Wood pasture and veteran trees, heathland and acid grassland (habitats often associated with common land) add to the mix.

The habitats associated with the Chilterns are often a by-product of traditional management – grazing, woodland management and quarrying – over many millennia by farmers, woodland owners and other land managers. Its chalk escarpment provides a crucial stepping stone for species moving through the landscape, often in response to climate change and other pressures.

### Designated Wildlife Habitat Sites



The Chilterns has many sites designated for their wildlife value, including nationally and internationally important sites. These include:

- Three Special Areas of Conservation (SACs – sites of international importance), including the Chilterns Beechwood SAC (made up of nine separate sites), Aston Rowant SAC and Hartslock Wood SAC
- 64 Sites of Special Scientific Interest (national importance)
- 494 local sites recognised for their wildlife or geology

Plantlife identifies part of the Chilterns as an 'Important Plant Area' for internationally important plant populations.

The map doesn't show local wildlife sites (almost 500). Total area of designated sites is greater than 9,500 ha (over 11% of the AONB)

## Key Facts

### Grassland, Heathland and Bare Ground

- The Chilterns supports important concentrations of species rich grassland including chalk, neutral and acid grassland
- Remnant heathland is also found in the Chilterns, often on common land
- Quarries/former quarries provide bare ground, an important habitat for many species
- Chalk grassland is an internationally rare, fragile, wildlife rich habitat which has developed over centuries of grazing on nutrient-poor chalk soils
- Home to populations of chalk specialist species, including wild candytuft, pasque flower, silver-spotted skipper and glow-worm
- Grassland and heathland scrub up quickly if left unmanaged
- Livestock grazing is the best way to manage chalk grassland and should be encouraged
- Chalk scrub is often of high wildlife value – habitat mosaics, including small areas of scrub and longer grassland, as well as short turf, are important
- Juniper and box scrub habitats are notable in the Chilterns
- Many grassland and heathland sites are popular with visitors; this requires management to prevent disruption to sensitive species and habitats





## Trees and Woodland

- The Chilterns is one of the most heavily wooded areas in England, famous for its extensive beech woods and ancient woodland
- Ancient woodlands cover only 2% of England. In the Chilterns this figure is 13%. They are home to many rare and threatened species
- Priority habitats in the Chilterns include lowland beech and yew, lowland mixed deciduous woodland, wood pasture and parkland
- The Chilterns has a rich heritage of parkland, wood pasture and common land, with high concentrations of veteran trees, associated deadwood invertebrates and fungi
- The Chilterns has the largest native box woodland in the UK
- Active management of woodlands is needed to let in light and create habitat mosaics
- Plantations on ancient woodland sites need to be restored through a mix of natural regeneration and appropriate planting
- Invasive non-native pests and disease, as well as increasing deer numbers, are a serious and growing concern for our woodlands that needs management
- Management of woodlands to increase diversity species mix and age is needed to ensure resilience to climate change, pests and disease
- Traditional orchards, particularly cherry, were once important in the Chilterns and the mix of old fruit trees and grassland are valuable for wildlife

## Water Bodies and Wetlands

- Rivers and wetlands are scarce but precious habitats in the Chilterns
- Chalk streams are a globally scarce habitat – nine of the circa 300 chalk streams in the world are found here
- Chalk streams are shallow, fast flowing watercourses with a gravel bed and low banks. Flows depend on groundwater levels in the underlying chalk aquifer
- They are home to some of the UK's most endangered species including water vole, otter and brown trout
- Winterbournes, the upper reaches of streams that are dry in the summer months, support unique plants and animals
- The chalk aquifer underlying the Chilterns supplies water to millions of people in the south east
- Besides the main chalk streams there are numerous chalk springs at the foot of the scarp
- Of the nine chalk streams, none are currently assessed as being of 'Good Ecological Status/Potential' according to the latest Environment Agency assessment
- Low flows are the key issue affecting the area's chalk streams
- Pollution is also a significant concern, especially from urban and sewage effluent, as well as diffuse pollution. Pollution becomes more concentrated at times of low flow
- All our chalk streams have been heavily modified due to milling, agriculture and urban development, leaving fragmented habitats, degraded natural river channels and interrupted natural processes
- The spread of non-native invasive species such as Himalayan balsam, Japanese knotweed and North American mink have had an impact on the ecology of Chilterns chalk streams

- The River Thames forms the boundary between the North Wessex Downs and the Chilterns
- Other wetland habitats include lakes, gravel and mineral extraction pits, reservoirs, canals, ponds and temporary waterbodies, all providing important wildlife habitat
- Many ponds on farmland and common land were created to water livestock or from small scale mineral extraction. They provide habitat for a variety of specialist wildlife, e.g. newts and starfruit. The number and ecological condition of ponds in the Chilterns has significantly declined over many years

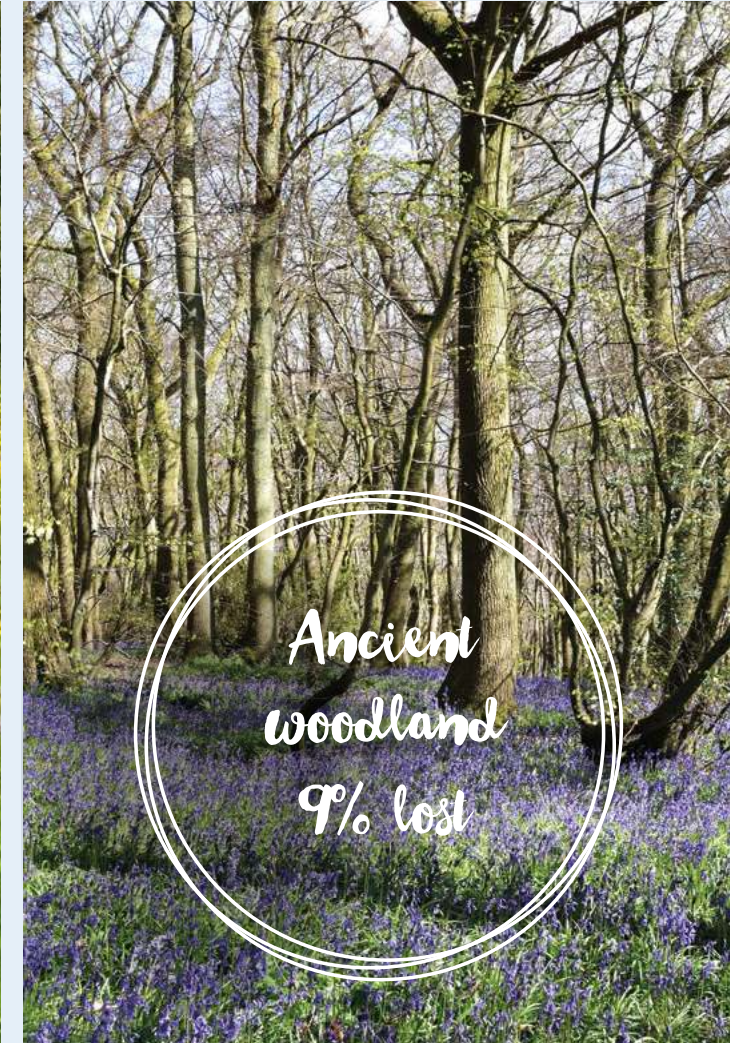
## Farmland Habitats

- Farmland is the main land use in the Chilterns, covering over 60% of the AONB and providing a wide range of wildlife habitats
- Farming has created a mosaic of arable and grassland habitats, stitched together by hedgerows and interspersed with woodland, commons and downland
- Species-rich ancient hedgerows and hedgerow trees provide important wildlife habitat and corridors
- Hedgerows need the right management to sustain their value for wildlife
- Farmers play an important role planting and restoring hedgerows; with the declines in livestock farming, the function of many hedges as barriers to movement of stock has gone
- Farmers also have a crucial role to play in protecting and maintaining soil health to support soil invertebrates, fungi and microbes
- Modern farming techniques and the move towards larger fields has impacted farmland wildlife; much of this change was concentrated in the early post-war period, yet declines in biodiversity continues
- The Chilterns was once a stronghold for rare arable plants and farmland birds, such as lapwing, yellowhammer and skylark; many of these species are in decline



## Long Term Trends

The Chilterns saw major losses in area of characteristic habitats and landscape features over the course of the 20<sup>th</sup> century<sup>23</sup> including:





## Recent Trends

- The UK State of Nature Report 2016 found that 56% of UK species have declined since 1970
- This trend is mirrored in the Chilterns with many wildlife species in long-term decline in both abundance and range
- Much of the best surviving wildlife habitat lies within designated sites and nature reserves. Many formerly abundant species of the wider countryside are in decline
- Species with specialist habitat requirements are hardest hit
- Over the past 10 years many woodland and farmland birds have declined or disappeared. The decline in woodland bird species reflects a long-term reduction in woodland management across the Chilterns
- Plant species – particularly specialist chalk loving plants – are also under pressure; the northern Chilterns is one of the three most richest and important chalk floras in the UK, yet ten of the 60+ rarer species are thought to be extinct. Many others are restricted to a single site

## KEY ISSUES

Despite the efforts of many people and organisations over many years – not least farmers and land managers, volunteers and community groups, NGOs and statutory agencies – we are still losing wildlife habitat and species from the Chilterns. This is due to a range of factors, many of which are listed below. More effective action is needed, for example, landscape scale conservation initiatives, in order to halt and reverse these declines.

Habitat degradation takes many forms including direct loss of habitat, decline in habitat quality, fragmentation and increased isolation of habitat and increased leisure and recreational use. Species that require habitat mosaics rather than single habitats are often the hardest hit.

**Changes in land management practices:** A decline in traditional land management practice, such as extensive grazing crop rotation, small scale quarrying and hedge-laying has led to a decline in biodiversity.

**Lack of wildlife habitat management:** A lack of support and resources to manage existing wildlife sites, semi-natural habitats and important ecological networks, such as roadside verges and hedgerows.

**Environmental and ecological change:** Including climate change, loss of pollinators and impacts of pests, diseases and invasive non-native species (INNS).

**Impacts of people and dogs:** The actions of visitors to the Chilterns can damage many of the area's wildlife habitats. For example, dogs can disturb ground nesting birds and high visitor numbers can make it harder to carry out appropriate site management.

**Habitat fragmentation:** Housing, transport infrastructure and changes in land use, continue to leave a legacy of habitat fragmentation from severed hedgerows, culverted chalk streams and lack of buffer zones along the rivers, to isolation of chalk grassland and ancient woodland. Wildlife habitats need to be big enough and sufficiently well connected for wildlife to thrive and species need corridors to move through the landscape in response to a changing environment.



## Rebuilding Nature – the ‘Lawton Principles’

Professor Lawton’s landmark report ‘Making Space for Nature’<sup>24</sup> concluded that “There is compelling evidence that England’s collection of wildlife sites is generally too small and too isolated, leading to declines in many of England’s characteristic species.” The report identified the essence of what needs to be done to enhance the resilience and coherence of England’s ecological network in four words: more, bigger, better and joined.

We need to: (i) Improve the quality of current sites by better habitat management (ii) Increase the size of current wildlife sites (iii) Enhance connections between, or join up, sites, either through physical corridors, or through ‘stepping stones’ (iv) Create new sites (v) Reduce the pressures on wildlife by improving the wider environment, including through buffering wildlife sites.



**BIGGER. BETTER. CONNECTED.**  
Put the right habitat in the right place

*Making space for nature: a review of England’s wildlife sites and ecological networks: DEFRA 2010*



<sup>24</sup>Including species characteristic of the Chilterns, species for which the Chilterns is important, and rare, notable and protected impact species found in the Chilterns, and keystone species.

## Strategic Objectives

The Government's Biodiversity 2020 Strategy stated the ambition that, "By 2020, we will see an overall improvement in the status of our wildlife and will have prevented further human-induced extinctions of known threatened species."

So far, not enough has been done to achieve this, either in the Chilterns or nationally. The Government's 25 Year Environment Plan contains ambitions for nature and the aim of becoming the first generation to leave the environment in a better state than we found it. This Management Plan sets out a framework for joint action to progress these ambitions in the Chilterns.

The following objectives have been put in place to help prioritise and invest in the natural environment, and in the people and organisations that care for it, to deliver 'more, bigger, better, more joined up spaces for nature.'

- NO1** Ensure that spaces for wildlife are expanded, well connected, well managed and diverse.
- NO2** Increase the range and abundance of populations of key wildlife species<sup>25</sup>.
- NO3** Minimise development impacts on the AONB and its setting; where they are unavoidable, ensure they provide net environmental gains.
- NO4** Ensure that chalk habitat management in the Chilterns is widely considered an exemplar of best practice.
- NO5** Enable people to understand and be inspired by the natural environment of the Chilterns, ensuring that policies and decisions recognise the Chilterns' value to society and in its own right.
- NO6** Secure greater protection for chalk streams as a globally rare habitat.
- NO7** Encourage people from different organisations, communities and backgrounds, to work together to 'make space for nature' in the Chilterns.

## Policies

To achieve these objectives, we must work together to:

### NO1 & NO4

**NP1** Create large, more joined up, functional habitat networks, reconnect surviving pockets of habitat, and develop landscape-scale conservation initiatives.

Strong collaboration, leadership and resources are needed to reverse the declines in wildlife and follow the rationale set out in the Lawton Report. Funding needs to be targeted firstly at supporting management of good quality existing habitat and secondly at re-creation of habitat in target areas, such as biodiversity opportunity areas and conservation target areas, to support the delivery of the Lawton Principles.

Options for creation of more 'wilded' landscapes, linking core areas (e.g. priority habitat, designated sites, ancient woodland) with the wider countryside also need to be explored.

**NP2** Promote and support landowner and farmer-led initiatives that prioritise nature and deliver wildlife conservation and enhancement at a landscape/catchment scale.

Farmers and other land managers are key to sustaining landscape-scale conservation initiatives over the long term.

**NP3** Look for and promote opportunities for restoring natural processes.

To help nature recover, we need to help natural processes re-establish themselves. This could, for example, include restoration of natural chalk stream flow, natural flood management or introduction of extensive grazing across different habitats. It could also include reintroduction of key species, such as pine marten, to the Chilterns to achieve better ecological balance, and action to support populations of pollinator species.

**NP4** Protect important, under-represented habitats and natural features through new designations and sensitive management.

Protect important habitats through nature conservation designations, including Local Sites and Sites of Special Scientific Interest (SSSIs). Local Sites are an important component of our ecological networks; their identification, monitoring and management is a high priority. There is a strong case for more Chilterns habitat, for example chalk streams, to be included in the national suite of SSSIs.

**NP5** Control and eradicate (where possible) invasive non-native pests and diseases in the Chilterns and develop strategies to reduce their impact.

Damaging impacts of deer, grey squirrel, Glis glis (edible dormouse) and mink need to be addressed, alongside a concerted effort to manage impacts of ash die back, acute oak decline, oak processionary moth, Phytophthora, Himalayan balsam and Japanese knotweed.

Collaborative action to reduce grey squirrel damage is identified as a priority.

Support schemes need to be put in place to promote good bio-security and prevent the spread and introduction of other invasive non-natives.

*See also Land, Woodland & Water (LO4, LP18, Key Action 1)*

**NP6** Protect and enhance important wildlife habitats<sup>26</sup>

The Chilterns' key wildlife habitats are the core of our ecological networks. They include species-rich grassland and disturbed/bare ground, ancient woodland, ancient and veteran trees, beech woodland, chalk streams, arable field margins, hedgerows, wayside verges, traditional orchards, and habitats associated with common land. The conservation of existing semi-natural habitat and ancient woodland, including restoration of PAWS (Plantation on Ancient Woodland Sites), is high priority.



**NP7** Improve ecological condition, resilience and diversity of important wildlife habitats

Best practice management is required of all important wildlife habitats. We need to test and develop new ways of sustaining the diversity within our habitats that is characteristic of the Chilterns. For example, we need glades in woodland, bare chalk in chalk grassland and flourishing ground flora at the base of our hedgerows.

Regeneration, restoration and active management of the Chilterns' woodland and trees is needed to preserve the wooded landscape that the AONB is renowned for.

There are also places where less active management is required – for example, we need to leave dead wood in our woodlands to provide homes for beetles or fungi.

We need to learn from our history of land management whilst developing new and contemporary ways of allowing nature to flourish.

**NP8** Maximise 'win-win' opportunities where restoration/expansion of wildlife habitats can, at the same time, provide benefits to society and respect/strengthen landscape character.

To do this we need to understand the key components of the Chilterns' natural capital and how past management has shaped the landscape. This includes understanding the benefits of good land management, such as reduced flood risk and provision of clean water. This understanding should inform decisions about investment in the natural environment. We also need a good understanding of landscape character and how past management has shaped the landscape we see today.

**NP9** Ensure those who make decisions that impact Chilterns' wildlife are able to do so on the basis of robust, up-to-date and readily available ecological information.

This underlines the importance of support for local record centres, but also other sources of information such as remote sensing data.

**NO2**

**NP10** Halt and reverse declines in rare, protected and characteristic wildlife species.

This needs to be based on solid scientific evidence and understanding of species population ecology. Effective monitoring and record keeping are crucial. Record centres need to be properly valued and supported to achieve this.

Focus should be on species at the edge of their range and initiatives developed that encourage expansion and favourable management of their habitats. 'Keystone' species – those that play a critical role in maintaining the structure and composition of an ecological community (e.g. earthworms) – should also be helped to thrive.

In England, many of our rarest and most threatened habitats and species are listed under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006 as being of principal importance for conservation.

**NO3**

**NP11** Ensure delivery mechanisms are in place to secure net gains for biodiversity in the AONB and its setting.

Planning policies and decisions must contribute to and enhance the natural and local environment. This includes minimising the impact on and providing net gains for biodiversity. The 25 Year Environment Plan takes this further setting out ambitions for net environmental gains. To secure these objectives for the Chilterns effective mechanisms need to be developed and implemented.

<sup>26</sup> 'Important wildlife habitats' used to indicate semi-natural wildlife habitats

## NO5

**NP12** Engage with more, and a greater variety of, local groups, communities, volunteers and young people to support wildlife, farming, land management and the local environment.

The demographic profile of those involved in wildlife conservation is very narrow, given the diverse communities within and close to the Chiltern. Everyone needs to feel they have a stake in the natural environment if we are to make progress. Communities can get involved in several ways, including buying local food and products, as well as wildlife monitoring and practical conservation activity.

Supporting and promoting citizen science initiatives can broaden engagement, recruit volunteers and support environmental recording. At the same time, we need to support and sustain the interest of local amateur naturalists who make a huge contribution to our knowledge of the local area. School and outdoor activity programmes can encourage younger generations to develop a long-term interest and involvement.

**NP13** Help visitors to discover and enjoy wildlife in the Chilterns while not harming or disturbing it.

Part of our mission is to inspire many more people with a sense of wonder in the natural world and the confidence to venture out into the countryside to enjoy the health benefits of green and beautiful, wildlife-rich spaces.

At the same time, some of our most precious habitats are particularly sensitive to impacts of visitors and their dogs. There needs to be a carefully planned and strategic approach to managing visitors, targeting areas with the capacity and infrastructure to accommodate additional use in order to protect the more sensitive sites from damage. This means better mapping of habitat sensitivity and current hotspots to support development of a strategy. Where there is a conflict between access and nature conservation, legislation requires that the natural environment be given priority<sup>27</sup>.

## NO6

**NP14** End environmentally unsustainable abstraction from Chilterns chalk streams to restore their ecology and improve their resilience to climate change.

Low water flows are the key issue affecting the area's chalk streams. Too much water has been abstracted from the Chilterns aquifer over recent decades. This, together with prolonged periods of low rainfall and an increasing frequency of droughts, has reduced the functioning length of chalk streams and severely degraded their ecology. Physical degradation of the rivers and their riparian corridors can further amplify the impact.

*See also Land, Woodland & Water (LP14, LP21, Key Action 5), Development (DP4)*

## NO7

**NP15** Create opportunities for farmers and other land managers, land agents, research institutes and nature conservationists to share learning on best practice wildlife conservation relevant to the Chilterns.

Opportunities for networking and learning are important in themselves and they help to develop wider thinking and a landscape scale approach.

**NP16** Create partnerships within and across sectors to drive forward better networking, decision making and action for wildlife.

Significant change will come through more joined up working within the nature conservation sector and, importantly, across sectors.

**NP17** Manage land to enhance the resilience of key habitats and species to the impacts of climate change.

Climatic variation and extreme weather events are already affecting our wildlife communities. We need to monitor and understand likely changes and their impacts on key species and habitats. This will help farmers and other land managers to make good decisions regarding future management. Well-connected habitat networks are crucial to allow species movement through the landscape in response to a changing climate.

## KEY ACTIONS

1. Develop and secure support for a 'Chilterns Natural Environment Delivery Plan' with ambitious five-year and 25-year targets. To include:
  - a. Landowner engagement plan – including support for farmer-led initiatives and networking opportunities for land managers
  - b. Baseline mapping – including priority habitat condition and natural capital
  - c. Assessment of resources – especially volunteers, to inform a more coordinated approach
  - d. Strategies for control and/or eradication of non-native pests and diseases
  - e. Proposals for reintroductions of key species – including pine martin
  - f. A suite of projects and site-specific enhancement proposals with landowner support – including flagship biodiversity and green infrastructure initiatives for investment from developer contributions, grant funding and other sources
2. Create an 'Agenda for Chilterns Wildlife'; a set of shared priorities to drive increased engagement and coordinated action for wildlife across the Chilterns, and secure support for this agenda across sectors including health, education, research and economic development.
3. Create a visitor management initiative to assess which areas are robust for recreational pressure and which are likely to be vulnerable, and to promote recommendations for future management and promotion.
4. Secure commitment to ending unsustainable abstraction from Chilterns chalk streams/chalk aquifers.
5. Develop and deliver landscape scale conservation initiatives including the five-year Chalk Cherries and Chairs Landscape Partnership Scheme in the central Chilterns, and Chalkscapes in the North Chilterns.