



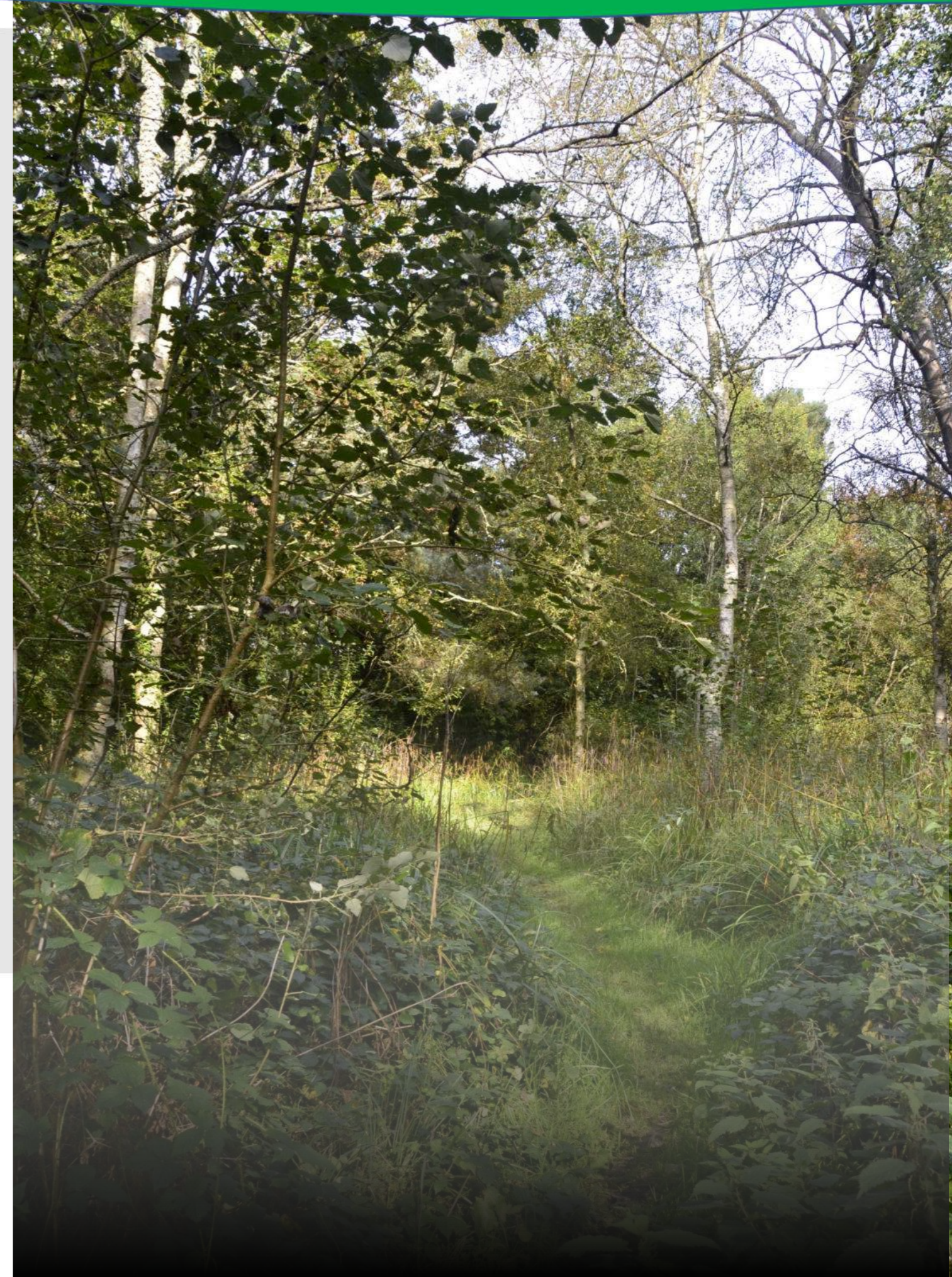
# Orlestone & Dene Park Forest Management Plan

*2023 — 2033*

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The mark of  
responsible forestry

Forestry Commission  
woodlands have  
been certified in  
accordance with the  
rules of the Forest  
Stewardship Council.



Promoting Sustainable  
Forest Management  
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## Who is Forestry England?

For over 100 years, we have been growing, shaping and caring for over 1,500 of our nation's forests for the benefit and enjoyment of all, for this generation and the next.

- We are the biggest landholder in England, managing more than [1,500 woods and forests](#).
- As well as health benefits, our woodlands make significant contributions to local economies around the country. The [226 million visits](#) we get per year support over 80 private businesses across England
- We are the [largest supplier of sustainably produced timber](#) in England, selling around 1.4 million tonnes per year.
- The benefits our forests provide has been estimated at [£24.4 billion](#).

## Government Priorities

The 25 year Environment Plan was published in January 2018 to set out the government's approach to maintaining and enhancing the natural environment, within a generation. The plan is broad in scope but covers cleaner air and water, public forests and woodland, marine protected areas, species protection, administrative and governance issues.

The [England Trees Action plan](#) 2021-2024 was developed to support the 25 year environment plan for green recovery. It aims to boost tree planting and establishment, improve woodland management and support a thriving green economy across England, delivering more for society, nature, the climate and the economy. There are 80 policy actions the government is taking over this Parliament to help deliver this vision.

## Forestry England Priorities

Our task is to realise the potential of each of the forests in our care for sustainable business opportunities, wildlife and nature conservation, and the enjoyment and well-being of local people and visitors. Each of our forests supports the economy through local jobs, sustainable timber production and the provision of recreation and tourism opportunities. Our compass (opposite page) shows how our purpose, objectives and how [Growing the Future 2021–2026](#) work together to achieve this.

At the district level the East England Forest Delivery plan sets our priorities around five key themes:

1. For wildlife
2. For people
3. For climate
4. Our sustainable approach
5. Our people and our values

These strategic planning documents along with local knowledge are used to prepare a design brief, identifying key objectives for each forest plan area. The objectives for this forest plan can be seen on page 6, and are based around themes 1-4 only as the theme relating to our people and our values cannot be addressed within a plan.





Forest Plans are produced by us, Forestry England, as a means of communicating our management intentions to a range of stakeholders. They aim to fulfil a number of objectives:

- To provide descriptions of the woodlands we manage.
- To explain the process we go through in deciding what is best for the woodlands' long term future.
- To show what we intend the woodlands to look like in the future.
- To outline our management proposals, in detail, for the first ten years so we can seek approval from the statutory regulators.

Our aim is to produce a plan that meets your needs for the woodland; meets the needs of the plants and animals that live there and meets our needs as managers.

This draft plan does not set out the detailed yearly management operations for each small piece of a wood, known as a coupe. It is not possible to say which year a particular operation will take place, but we can say in which five-year period it should happen.

All tree felling in the UK is regulated and a licence is required before trees can be felled; the scale of tree felling across England's public forest estate is such that the Forest Plan is the best mechanism for applying for this licence.

Responsibility for checking that the plan meets all the relevant standards and statutes lies with another part of the Forestry Commission (Forest Services). If all the criteria are met, full approval is given for the management operations in the first ten years (2022 - 2032) and outline approval for the medium term vision (2031 - 2091). The plan will be reviewed after the first five years (2026) to assess if the objectives are being achieved. Natural England will approve management proposals for the Sites of Special Scientific Interest (SSSIs) which lie within our woods. Historic England will approve management proposals for Scheduled Monuments (SM).

## What are Forest Plans?

Underpinning the management proposals in Forest Plans is a suite of standard practices and guidance described briefly below. Some of these practices are strategic national policy, whilst others are local expressions of national policy to reflect the particular conditions found in East England - the policy level is indicated in brackets.

### **The UK Forestry Standard\* (national)**

The UKFS sets out standards for the sustainable management of all forests and woodlands in the UK and describes, in outline, good forest practice.

### **The UK Woodland Assurance Standard\* (national)**

The UKWAS certification standard sets out the requirements which woodland owners, managers and forest certification bodies can use to certify their woodland and forests as sustainably managed. It is the document which guides all of our management, and against which the FC is certified by outside consultants to ensure our compliance. The most current edition at this time is the third edition.

### **European Protected Species (national)**

In August 2007 amendments to the European Habitat Directive came into force in England and Wales to protect the habitat of a number of vulnerable species. Those European Protected Species (EPS) most likely to be found in this woodland habitat include all species of bat, hazel dormouse, great crested newt and otter.

### **Natural Environment and Rural Communities Act 2006 (national)**

The NERC Act came into force in October 2006 and was designed to help achieve a rich and diverse natural environment and thriving rural communities. The UK Biodiversity Action Plan was used to help draw up a list of habitats and species which are of principal importance for the conservation of biodiversity in England as required under section 41 of the NERC act.

### **Ancient and native woodland in England (national)**

Ancient and native woodlands are one of the oldest land uses and most diverse ecosystems. They have often taken hundreds, if not thousands of years to develop, and in the case of ancient woodland are irreplaceable. The managing ancient and native woodland practice guide (2010) promotes greater flexibility, encouraging new innovative approaches to woodland management that enhance biodiversity and heritage. It replaces the 1985 broadleaves policy.

### **Site of Special Scientific Interest (national)**

The SSSI series has developed since 1949 as the suite of sites providing statutory protection for the best examples of the UK's flora, fauna, or geological or physiographical features. Sites are selected as being the best regional examples of habitats, such as broadleaf woodland and/or plant and animal communities, and/or important populations of rare species.

These sites are also used to underpin other national and international nature conservation designations.

Information about individual SSSIs can be found on the Natural England website:  
<https://designatedsites.naturalengland.org.uk/>

### **Deadwood (national and local)**

Deadwood is important in the forest as a habitat for birds, invertebrates and some primitive plants. Guidance is given on how to provide deadwood in the forest of different sorts and sizes and how this will be distributed.

### **Natural reserves (national and local)**

Natural reserves are areas of the forest where little or no active management takes place thereby creating a very different and special habitat in our otherwise actively managed forests.

### **Other Designations**

The FC landholding in England has a wide range of European and national designations placed upon it in various locations across the country, such as;

- National Park
- Area of Outstanding Natural Beauty (AONB)
- Special Protection Area\* (SPA)
- Special Area of Conservation (SAC)
- Scheduled Monuments (SM's)
- County Wildlife Sites\*

Along with the standard guidance documents, we have individual plans for our designated sites; these describe work required to maintain and enhance the protected features. We will gradually integrate these into our Forest Plans where appropriate. This document combines both the forest plan and SSSI plan.

In addition, the Forestry Commission has a number of practice guides and specialist bulletins which further inform our management, some of these are available to download from our website <https://www.forestry.gov.uk/england-policypractice>



Forestry England

**Look out for ground nesting birds**

Between March and July rare ground nesting birds breed in this area.

The woodland is a priority habitat for these birds. Take any dog on a lead and do not enter the nesting area. Please do not pick flowers or cut grass. Please do not use the main track. Please do not use the main track. Please do not use the main track.

forestryengland.uk

Forestry England views sustainable management through four of the five inter-related perspectives presented on page 3.

### Wildlife

- W1** Increase the proportion of native deciduous species at Orlestone and Dene Park to at least 80% and the semi-naturalness of the property as a whole.
- W2** Ensure all SSSI components remain in 'Favourable' condition.
- W3** Expand and improve the freshwater habitats in Orlestone by increasing the number and quality of ponds and opening up the riparian habitats.
- W4** Remove the invasive Rhododendron from the understorey at Dene Park.

### People

- P1** Facilitate sustainable levels of public use within the forest by maintaining current recreational facilities such as the car park, trails and signage whilst continuing to prevent detrimental social behaviours that affect the site's value.

### Climate

- C1** Improve the resilience of our forests by increasing species diversity through restock programmes and mixed silvicultural practices, to protect future timber supplies and biomass.


### Our Sustainable Approach

- SA1** Maintain the land within our stewardship under FSC/PEFC certification by meeting standards detailed in UKWAS fourth edition.

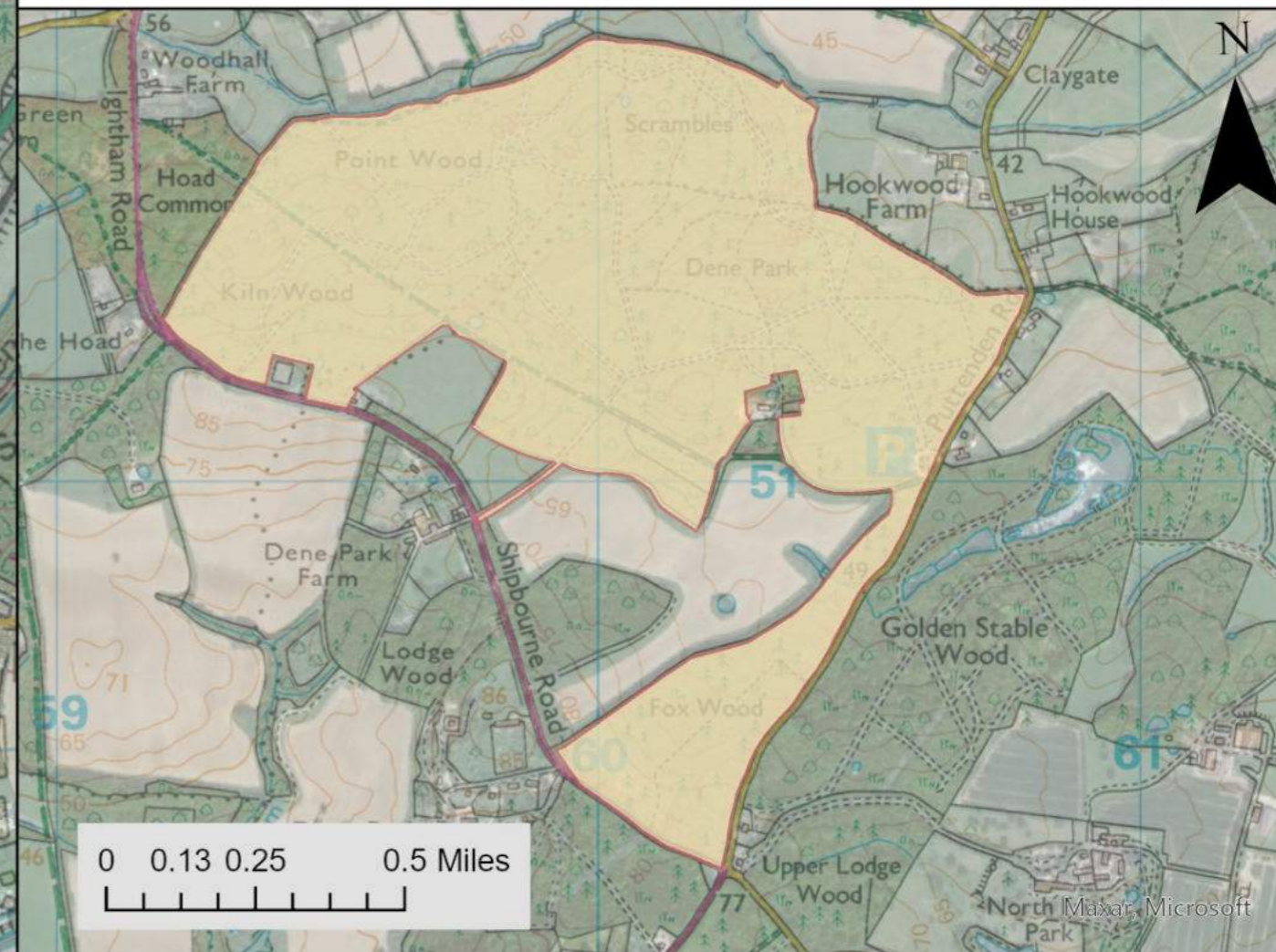
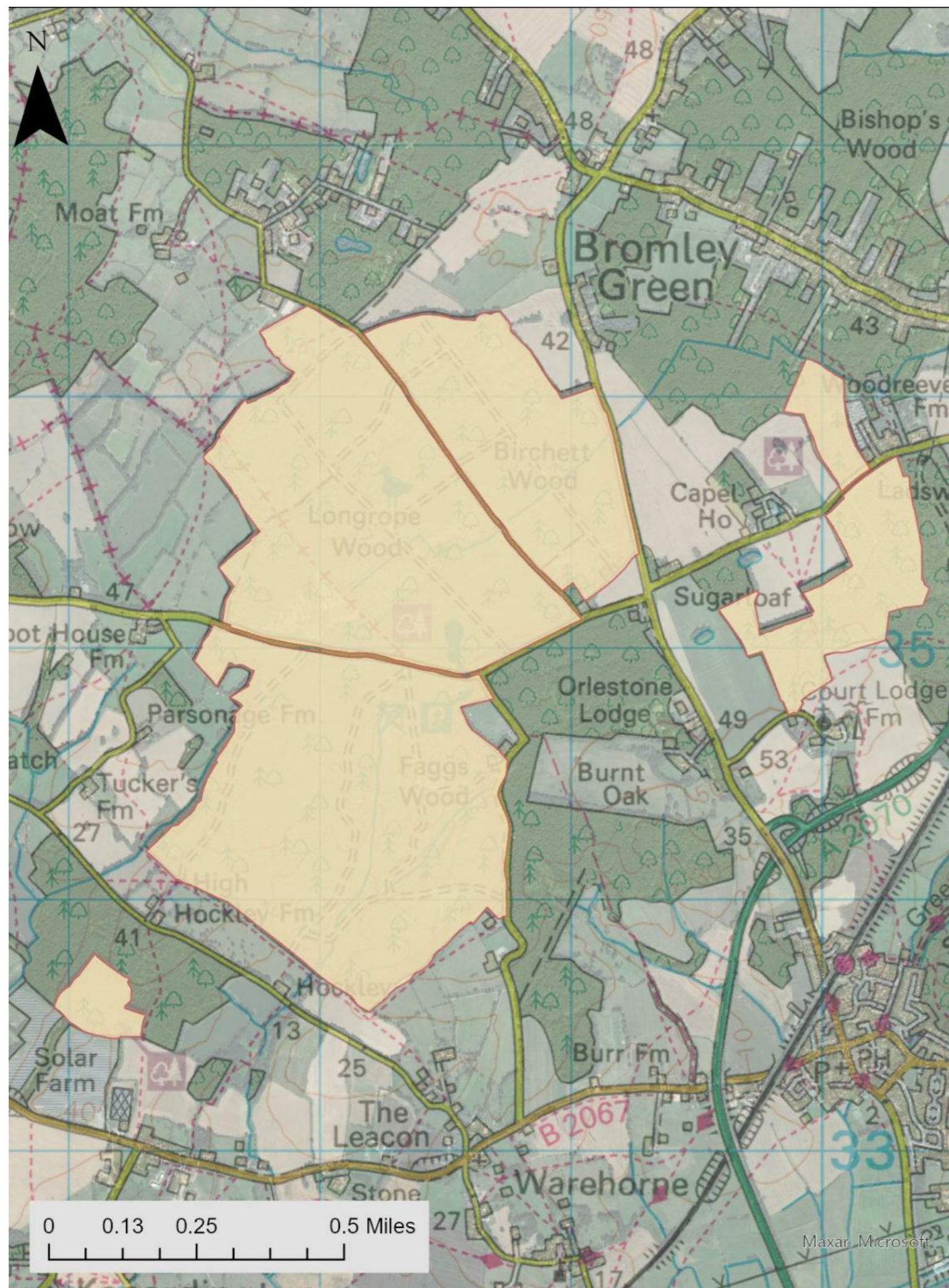
To see how these objectives are incorporated into the site's planning please refer to the Design and Concept above on pages 8 & 9.

**East England Forest District  
Plan Area & Landholding**

**Orlestone Forest & Dene**

 Freehold woodland - Public right of access

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**Map 1:** The plan area for Orlestone (left) and Dene Park (right) showing level of access to the public.



Orlestone's ponds support several species found nowhere else in the UK. We intend to improve existing and create new ponds.

**W2-W3**

Coppice represents a historic approach to management that provides a rotational open habitat great for birds and butterflies. **W1-C1-SA1**

Permanent open spaces are also important to ensure that a wide variety of species are supported.

**W2-SA1**

Orlestone borders some nearby protected areas. Ham Street, an adjacent nature reserve is critical for species dispersal around the landscape.

**C1-SA1**

Minimum intervention areas (wild areas) represent conserved areas managed to retain their ancient woodland characteristics.

**W1-W2-C1**







Watercourses provide connectivity between the ponds and the surrounding landscape.

**W2-W3-SA1**

Public rights of way facilitate low-level sustainable use of the site by the public.

**P1**

**East England Forest District  
Design Concept Map  
Orlestone Forest**

-  Coppice
-  Minimum Intervention (wild areas)
-  Orlestone Car Park
-  Watercourses
-  New ponds
-  Open water

0 0.15 0.3 0.6 Kilometers






Scale 1: 17500

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July 2022

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**Map 2:** An over-arching spatial representation of Orlestone's objectives and how they fit together and in the broader landscape.

Design Concept Map

-  Dene Car Park
-  Coppice
-  Minimum Intervention (wild areas)
-  Proposed new ponds
-  Rides

0 0.150.3 0.6 Kilometers

Produced by:  
Planning & Environment Team  
February 2021

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Three new ponds form a network of freshwater habitats for Great Crested Newts and other protected species. **W3**

Widening the ride network will increase light levels, benefitting plant and invertebrate species. The wider rides are integrated into the surrounding public rights of way, facilitating low-impact recreation. **W1-W2**

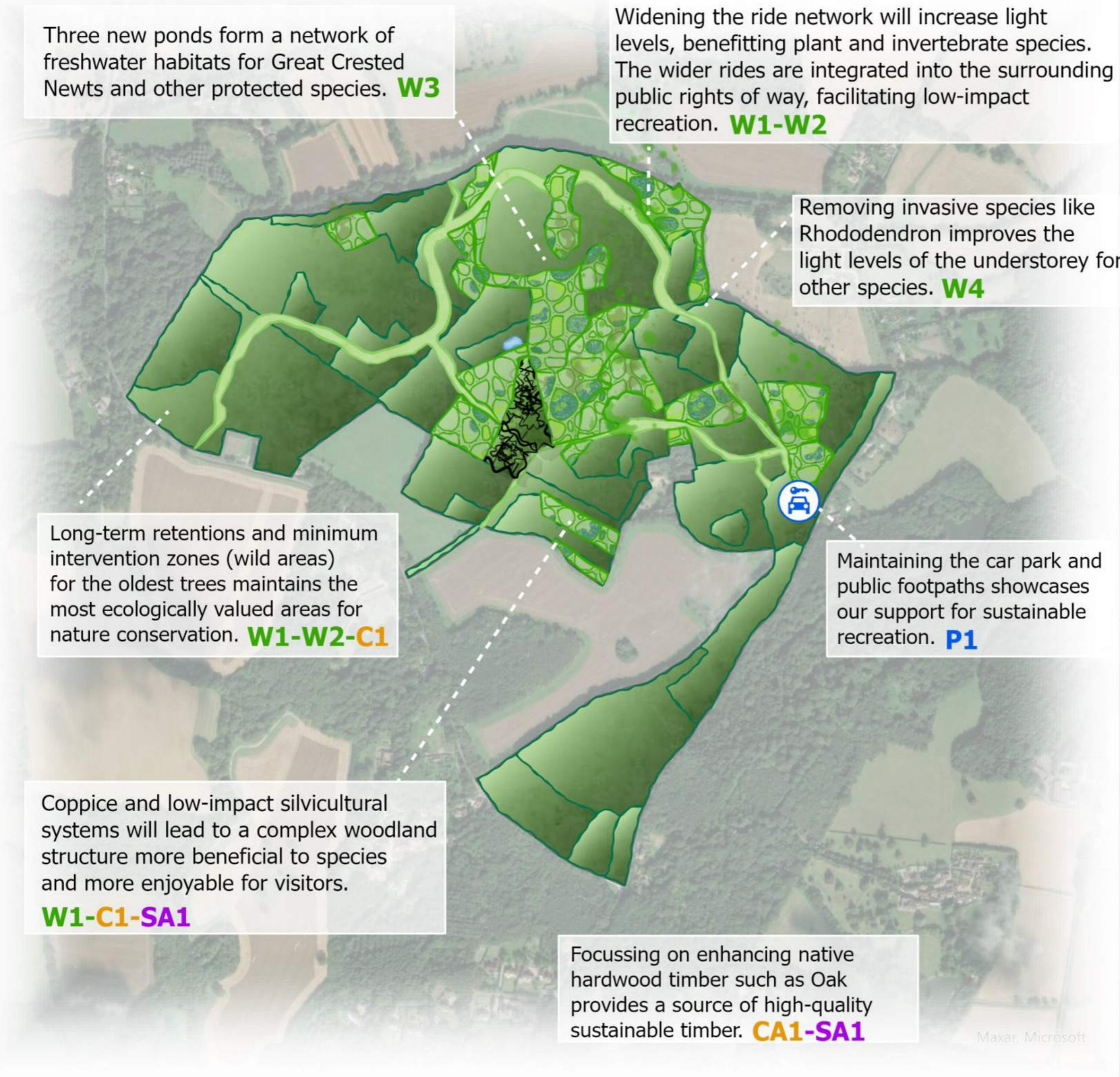
Removing invasive species like Rhododendron improves the light levels of the understorey for other species. **W4**

Long-term retentions and minimum intervention zones (wild areas) for the oldest trees maintains the most ecologically valued areas for nature conservation. **W1-W2-C1**

Maintaining the car park and public footpaths showcases our support for sustainable recreation. **P1**

Coppice and low-impact silvicultural systems will lead to a complex woodland structure more beneficial to species and more enjoyable for visitors. **W1-C1-SA1**

Focussing on enhancing native hardwood timber such as Oak provides a source of high-quality sustainable timber. **CA1-SA1**



Map 3: An over-arching spatial representation of Dene Park's objectives and how they fit together and in the broader landscape.

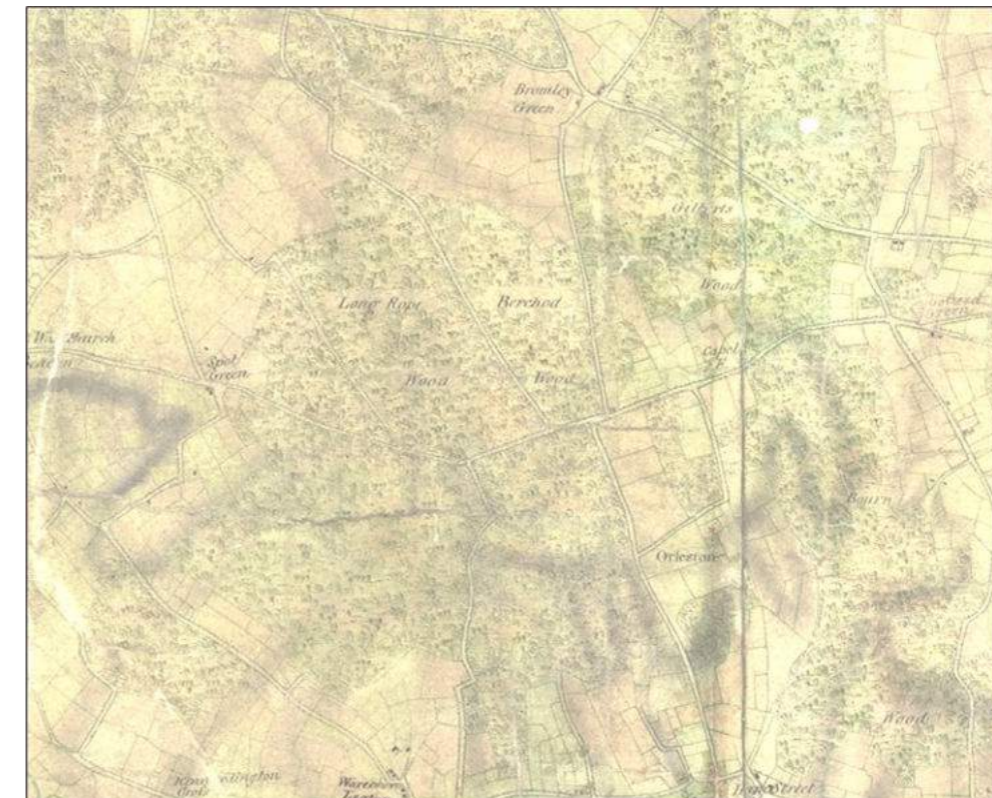


Orlestone is mentioned in the Domesday book (1086) but its description may indicate that Orlestone possessed a relatively small area of woodland during this period. The size of Orlestone Forest has not varied considerably since at least the late 18<sup>th</sup> century (see Figure 1 & Annex I). Dene Park is perhaps even older (Appendix I) and was at one point likely a deer park for hunting.

The forest plan (FP) area totals 511ha which includes Orlestone forest (412.9ha) and Dene Park (98.4ha). Orlestone can be divided into four distinct parts: Haberdashers Wood, Twelve Acre Wood, Penfold Wood and Orlestone itself (Map 1). Orlestone itself is approximately six miles south-west of Ashford, Kent. Dene Park is almost 33 miles north-west of Orlestone and is located three miles north of Tonbridge.

Both Orlestone and Dene Park are dominated by broadleaves with integrated conifer components and in some areas pure conifer stands. A good open ride network at Orlestone provides links to important conservation features throughout the forest taking advantage of surrounding open pastureland to benefit species listed in the SSSI documentation. Coppice areas provide habitat for Nightjar and Nightingale and the large quantity of ponds identified (both permanent and ephemeral) provide good habitats for water flora and fauna and amenity value for site visitors. Dene Park is less open and the ride network less pronounced.

Orlestone is held under freehold with 53ha dedicated under CROW including fifty acre wood and Penfold wood. The remaining 316ha is constrained access (Map 1). Whilst listed as constrained access it has de facto public access due to nation-wide policy. Dene Park is held under freehold with the whole area open access land dedicated under CROW. This document represents the second FP for Orlestone but the first for Dene Park.



**Figure 1:** A map of Orlestone and its surrounding landscapes around the start of the 18th century.



*“Our vision is that the nation’s forests will provide the most valuable places for wildlife to thrive and expand in England”*

## Our approach

### **The nation’s forests are an unrivalled national asset**

They are critical to the country’s response in this time of crisis for nature. We are positive about the difference we can make. A quarter of a million hectares of land of breath-taking diversity make up the nation’s forests which provide valuable, high-quality, sustainably managed habitats for wildlife in forests and woodlands, grasslands, heaths, wetlands and our internationally-renowned arboreta.

The rich, diverse and connected habitats in the nation’s forests will continue to be improved and enhanced by our sustainable forest and land management.

### **We will build on our success**

Our people and partners will use skilled and professional management to improve continually the condition of precious habitats in our care. We will lead the development of fully functioning ecosystems, where species can establish, thrive and spread across landscapes.

We will also continue to reintroduce wildlife to support and grow the abundance of species flourishing in the nation’s forests. We will showcase this exciting biodiversity story to champion nature, build opportunities for deeper learning and create a sense of wonder for all.

### **We will grow for the future**

We will harness the power of nature, establishing a network of wild areas within the nation’s forests.

To achieve our wildlife objectives we have to align our work to policies and practitioners at multiple scales. The joint nature and climate crises cannot be tackled in isolation. The next page highlights how we ensure our approach aligns with others.



**NATIONAL SCALE**

**National approach**

The UK Government is finalising its 2030 Biodiversity Strategy. This will tie together existing policies, laws and strategies on woodland expansion, woodland management, priority habitats, priority species and the implementation of the Nature Recovery Network.



**REGIONAL SCALE**

**Kent's approach**

In 2020 the Kent Biodiversity Strategy identified an approach to maintain, restore and create habitats that thrive with wildlife over the next 25 years (KNP, 2020). Orlestone resides within the Low Weald Woodland Biodiversity Opportunity Area (BOA), a key focus area for the Kent Nature Partnership (KNP). The identified priorities for this BOA include restoring woodland management, widening woodland rides, restoring PAWs woodlands and the maintenance/restoration of ponds (KNP 2015a). Dene Park is within the Medway & Low Weald Grassland and Wetland BOA. The objectives for this BOA are to enhance woodland management, extend and connect woodland fragments, improve the management of invasive species and maintain, restore and create ponds for supporting Great Crested Newts (KNP 2015b).

The Kent Biodiversity Strategy lists several priority habitats and species which are found within Orlestone, Dene Park and their surrounding landscapes. The Forestry Commission is a stated champion in the KBS for lowland woodland. As such, in the following pages we present how Forestry England intends to support these regionally important habitats and species.



**LANDSCAPE SCALE**

**Around Orlestone & Dene Park**

The effective conservation of nature requires a landscape-scale consideration. Within Orlestone, Soaper's Wood and Haberdashers Wood are contiguous to Ham Street SSSI/NNR. Ham Street is considered to be a nationally important representation of ancient woodland that harbours exceptional assemblages of invertebrate and bird species (Natural England, 1989). In particular, and like Orlestone SSSI, it supports rare species associated with wet woodland and rotational open-space. Ensuring the long-term connection of Ham Street to Orlestone via Soaper's and Haberdashers woods will be critical for species connectivity and landscape resilience to the threat of climate change.



**SITE SCALE**

**Orlestone SSSI**

Whilst management to enhance nature will occur throughout Orlestone and Dene Park, the Orlestone SSSI represents the core area within which nature conservation will be focussed within this FP. Orlestone was designated as a SSSI in 1989. When Orlestone's first FP was written the SSSI was in 'Unfavourable—Recovering' status. It is now classed as Favourable—Improving. Orlestone forest SSSI is made up of 6 units although unit 1 (Burnt Oak Wood) is managed by Kent Wildlife Trust (KWT). The SSSI was assessed in 2021 and all units managed by FE are in favourable condition.

Ensuring we consult with KWT and align our work will be critical in ensuring the SSSI remains in favourable condition and is as effective as possible at conserving its unique features of interest.



**HABITAT SCALE**

**Priority Habitats**

Whilst a landscape and site-scale considerations are vital so to are specific actions related to species and habitats. Orlestone and Dene Park can be disaggregated into a handful of key habitats: ancient woodland, open areas, ponds, watercourses and wetlands. These are priority habitats at national, regional, landscape and site scales and are discussed in further detail in the pages below. Our proposed management follows best-practice guidelines and the latest sustainability standards.



**SPECIES SCALE**

**Priority species**

At the most acute spatial scales is the considerations of individual species. Tailoring management to target individual species only occurs for species that are considered especially important. This could be because they are rare and threatened or because they are harmful invasive species. Like habitats, there are clear priority species identified at national, regional, landscape and site scales. A comprehensive list of the priority species found at Orlestone and Dene Park can be found in Appendix II. A subset are presented in the following pages with explanations of how our intended management will support these species.

## Ancient Woodland

**The habitat:** Practically all of Orlestone and Dene Park is ancient woodland. This is comprised of both ancient semi-natural woodland (ASNW) totalling 40ha (8% of the plan area) and plantations on ancient woodland (PAWS) totalling 416ha (90% of the plan area). The PAWS area is a mixture of coniferous and broadleaf woodland. As of 2021, Orlestone is currently 19% coniferous whilst the SSSI at Orlestone is 14%. The long-term objective is to reduce the presence of conifers to no more than 15% of the overall site by 2050 and 10% in the SSSI. Dene Park is 9% coniferous as of 2021. The native NVC classification of this woodland is W10 *Quercus robur-Pteridium aquilinum-rubus fruticosus*, this will guide the restoration of the woodland in terms of species choice for the future but consideration will also be given to climate resilient species and provenances.

Of Orlestone and Dene Park's many species, of particular note are the species that feed on the Aspen and Oak. Orlestone's Aspen alone support species such as the lesser belle moth (not found elsewhere in Britain) and the Micromoth *Nephopteryx hostilis*. A scarce Longhorn Beetle *Sapreda populnea* creates galls on Aspen stems which are also inhabited by a rare Micromoth *Cydia corallana*. The Weevil *Dorytomus affinis* was only found at one other place in Britain at time of citation. Several more equally rare invertebrates are associated with Orlestone's Oaks (see Appendix II).

### Proposed management:

**Gradual removal of coniferous species.** Coniferous species have ecological, social and economic value; however, ancient woodland is a scarce resource and Forestry England regards it as a priority to restore these woodlands so that they can best support native species that rely on these habitats (Forestry Commission, 2010). Retaining some conifers makes the woodland more resilient to climate change and better able to support resident and migrating species.

**Identification of veteran trees.** Veteran trees are known to be important habitats for woodland specialist species. We will identify current and future veteran trees where possible to retain their ecological value.

**Retain deadwood.** Deadwood is incredibly important for many of Orlestone and Dene Park's woodland specialist species, such as fungi. Standing and fallen deadwood will be purposefully retained for these species. This benefits the Lesser Spotted Woodpecker and also making dens!

**Remove invasive species.** Species such as Rhododendron can provide a welcome source of colour in winter. Unfortunately, these invasive non-native species can create conditions that are not favourable to priority species such as the Dormouse. Unless removed the Rhododendron will spread throughout Dene Park and destroy any understorey or natural regeneration for the future.

## Ponds, watercourse and wetlands

**The habitat:** Orlestone has a notable collection of freshwater features. The first site-wide survey was done in 2000, which surveyed 57 ponds out of a total of 167 permanent and seasonal ponds in the woodland. Additionally, there are several streams within Orlestone which act as important habitat links throughout the property. There are a few ponds in Dene Park with Great Crested Newts present as well as a few small streams.

Orlestone and Dene Park's freshwater habitats support SSSI species including the water beetle (*Limnebius crinifer*) not found anywhere else in Britain. Other rare species include the Great Silver Water Beetle (*Hydrophilus piceus*), the Water Beetle (*Hydrovatus clypealis*) and Crane fly (*Molophilus lackschewitzianus*).

### Proposed management:

**Map the ponds.** The baseline survey provides the locations of all ponds in tables and paper map form. The major ponds were digitised as part of the formation of this plan and new management prescribed.

**Improve the ponds.** The major mechanism in which the condition will be improved will be to increase light levels around the ponds through thinning encroaching trees. Increasing light levels results in a broader diversity of species to inhabit the pond and directly support the Great Crested Newts. Pond restoration is a stated objective of the BOA that Dene Park resides within.

**Create new ponds.** Three new ponds will be created at Dene Park (Map 2) and even more at Orlestone (Map 3) to encourage species connectivity and support species resilience against unpredictable weather patterns brought on by climate change.

**Riparian (gill) corridors.** Ten metre buffers either side of the river will be used as per the UKFS best practice guidance, aiming for around 50% canopy cover to enable a mixed habitat that supports multiple micro-habitats and species. These Gill habitats are uncommon and a noted feature to retain and enhance within the Low Weald National Character Area.

**Monitor for species .** Using eDNA sampling techniques will help us understand with more accuracy which ponds support Great Crested Newts and other priority species. This means we get better target specific management to where it is most needed.

## Open Space

**The Habitat:** Open space is a critical component of any woodland. For both Orlestone and Dene Park the aim should be for at least 10% of the woodland to be managed as open space either through permanent or temporary measures.

Permanent open space has increased at Orlestone since the first forest plan was created from 1.5% to 9% in 2021. Much of this is provided through ride networks, glades and box junctions. The rides are dominated by acidic grassland, particularly common bent and creeping soft-grass. These rides provide important habitat for Lepidoptera species and Dormice. In 1980 English Nature (now Natural England) commissioned a survey of Orlestone. As part of this study the most important rides were identified for ground flora. The report suggests that 3 km of rides be managed for permanent shade and 7 km of rides to be managed as wide sunny rides that can support nectar bearing and habitat plants for invertebrates. A total of 21 key ride segments were identified. This approach has been simplified for this plan so that rides are managed in the 'three zone system' highlighted by Warren and Fuller (1993). This system removes intruded scrub from the trackway and ditch lines. Beyond the ditch lines a further 5m band on each side should be coppiced. A further 5-10m band should be coppiced to create 20m-30m long alternating scallops, with a two-crown width 'bottle neck' retention every 60-80m. Additionally, two or three standards and/or pollards should be selected for retention every 20-30m.

### Proposed management:

**Felling trees.** Temporary open space is created through felling trees. This is achieved primarily through coppice management and small clearfell operations. This provides critical habitat for Nightjar, Nightingale and various invertebrates. The role and importance of coppice is discussed in greater detail below.

**Coppice.** Nightingale numbers may be increasing at Orlestone but there is still a need to continue to coppice the woodland as Orlestone is considered one of the most important Nightingale populations in the UK (Black 2016). Coppicing also diversifies the wood products we make and diversifies the habitat types within the forest.

**Ride widening.** At Orlestone and Dene Park this means opening up paths so that more light can reach the ground. This is critically important for plants and the species that use them. It also means paths can get less muddy!

**Permanent open space.** Ensuring that the permanent open spaces remain in good condition and doesn't slowly become forest is important so that open habitat and grassland species are always supported. We will ensure permanent open space by occasionally mowing or mulching any vegetation that gets too large.

## Priority species: targeted action



**Turtle Dove**, listed as Vulnerable globally in the IUCN Red List of Threatened Species (IUCN, 2022) and listed as a Kent Biodiversity Strategy priority species (KBSPPS). An EU-wide action plan states that the best action we can do is to encourage suitable nesting habitat via understorey (European Commission, 2018). Turtle doves have been spotted primarily around permanent open areas at Orlestone. As they are grain feeders it will be important to keep open grass swards available as a food source.

The **Three-lobed Crowfoot** is listed as Endangered in England and is a KBSPPS. It is a pond specialist plant species that requires light and is resilient to disturbance. As per best-practice guidelines we will be opening up our ponds to support this species and others (Freshwater Habitats Trust, 2015).

Another rare plant species found at Orlestone is **Golden Rod**. This species is thought to be declining due to overshadowing at forest edges and on rides. Following best-practice guidance we will widen and open up rides to facilitate more habitat for this species to grow in (Butterfly Conservation, 2022a).



There are many important species of Lepidoptera at Orlestone and Dene Park. In particular there is the **Grizzled Skipper** butterfly, listed as Vulnerable nationally and another KBSPPS. We will undertake more coppicing and ride management to create the conditions for this species to flourish (Brereton et al, 1998) The **White Admiral** is another KBSPPS butterfly listed as Vulnerable nationally. This species requires mature woodland to thrive and as such we will retain specific compartments of mature woodland under minimum intervention (Butterfly Conservation, 2022b). **Purple Emperor**, are also found in these woods so ride side operations will take into account their habitat requirements.

Orlestone has multiple rare water beetle species, including the species **Limnebius crinifer**. This species is listed as Endangered in the UK and is at threat of extinction without sufficient pond habitat in the Weald specifically. In addition to managing our ponds better for wildlife we will be creating new ponds to enable this species to expand its strongholds (JNCC, 2010).



The **Dormouse** is a species that likes woodland with a lot of light (English Nature, 2006). To support the Dormouse populations at Orlestone and Dene Park we will be opening up rides, creating scallops, thinning mature woodland, continue coppicing and looking to diversify our native deciduous woodland species diversity. This will hopefully lead to the Dormouse being able to expand throughout the woodland more easily.



*“We want the nation’s forests to be a living treasure for all, deeply connected to people’s lives and improving the health and wellbeing of the nation”*

## Our approach

### **Forests can provide a sense of wildness and peaceful connection to nature**

The nation’s forests are among the most popular natural spaces in the country, visited hundreds of millions of times every year. We want to go further: breaking down barriers and reaching across all of society so everyone feels welcomed into these shared public spaces. We are evolving our offer to people, reaching out to new audiences and welcoming visitors to the nation’s forests that reflect the richness and diversity of the communities they serve.

We will share our forests’ stories with our visitors. We want to deepen their sense of wonder, understanding, respect and connection to forests, forest culture and our shared natural heritage.

### **We will build on our success**

We will continue to provide first-class outdoor experiences in the nation’s forests with excellent customer service. Our expert sustainable forest, land and recreation management allows us to expand and improve our offer: attracting more people to enjoy places we look after across the whole country, in every season.

There is something for everyone, including our rich and varied arts programmes, sports and physical activities, historical sites, and a mindful connection for enjoyment, health and wellbeing.

### **We will grow for the future**

We will increase the diversity of visitors to the nation’s forests.

To achieve our objectives for people means carefully balancing how much we promote visitors to woodlands. Some sites are better equipped to support visitors and some sites support species more vulnerable to disturbance. Below we present the balance proposed for Orlestone and Dene Park.

## Fitting into the surrounding landscape

Both Orlestone and Dene Park are within the Low Weald National Character Area (NCA). The Low Weald is characterised by low-lying clay vales with the occasional sedimentary outcrop. Orlestone represents the former whilst Dene Park represents the latter. Dene Park is in fact close to southern boundary of the Wealden Greensand NCA, known for its 'scarp and dip' topography, which may explain its more mixed landscape.

For both properties, the majority of the surrounding landscape is farmland with a minority component of nearby woodland. There is limited altitudinal variation, ranging from 10 to 50 metres above sea level (a.s.l) at Orlestone. This results in no single part of the forest being particularly visible. Nonetheless, it is important to ensure that the forest fits into the broader national character area of the Low Weald. By comparison, Dene Park ranges from 50 to 80 metres a.s.l. Despite the slightly higher altitude Dene Park is not notably more visible than Orlestone and it is the edges that are most viewable from the nearby roads.

Continuing to be mindful of fitting both properties into the surrounding landscape is essential. Some of the ways in which we may do this include maintaining woodland edges, avoiding unnatural 'hard' edges and preferring organic interlocking forms.

## Community

Orlestone forest is a backdrop to the villages of Hamstreet and Woodchurch. Dene Park is next to the villages Hadlow and Shipbourne. The immediate landscape surrounding both woodlands is mostly agricultural land and some forested land. It is expected that the trend for greater urbanisation around both Orlestone and Dene Park will continue, potentially exacerbating the access and recreation demands on both properties.

Over the years there have been volunteer groups associated with both Orlestone and Dene Park. For example the Medway Countryside Partnership at Dene Park and KWT and the Woodland Trust at Orlestone. All of these collaborations will likely continue being a key element for achieving the vision stated here.

There are five parishes that overlap Orlestone: Shadoxhurst, Ruckinge, Orlestone, Warehorne and Kenardington. Dene Park overlaps with two: Shipbourne and Hadlow. All of these parishes clearly recognise the benefits of having woodland in their parish, with Shadoxhurst even identifying as the 'woodland gateway to the countryside' in their parish Council Strategy (Shadoxhurst Parish Council, nd). Maintaining this woodland resource is also noted as important in the broader Ashford District Strategy to 2030, which suggests further urban development across the district is likely (Ashford Borough Council 2019). Both woodlands are evidently important to current and future communities as a place to enjoy the natural world.

## Safeguarding our Heritage

Despite both sites having a rich history (Appendix I) there are no scheduled monuments in either Orlestone or Dene Park. There are also no records of any heritage features in the area. Operational Site Assessments (OSAs) are carried out before operations take place.



## Access and Recreation

There is a small car park and picnic site at Orlestone named Faggs wood. It has a capacity of around 25 cars. These woodlands are popular due to the closeness to major towns. Dene Park lies North of Tonbridge with a population of 40,360 people and Orlestone lies south of Ashford with a population of 124,300 people. There are also smaller villages surrounding these woodlands.

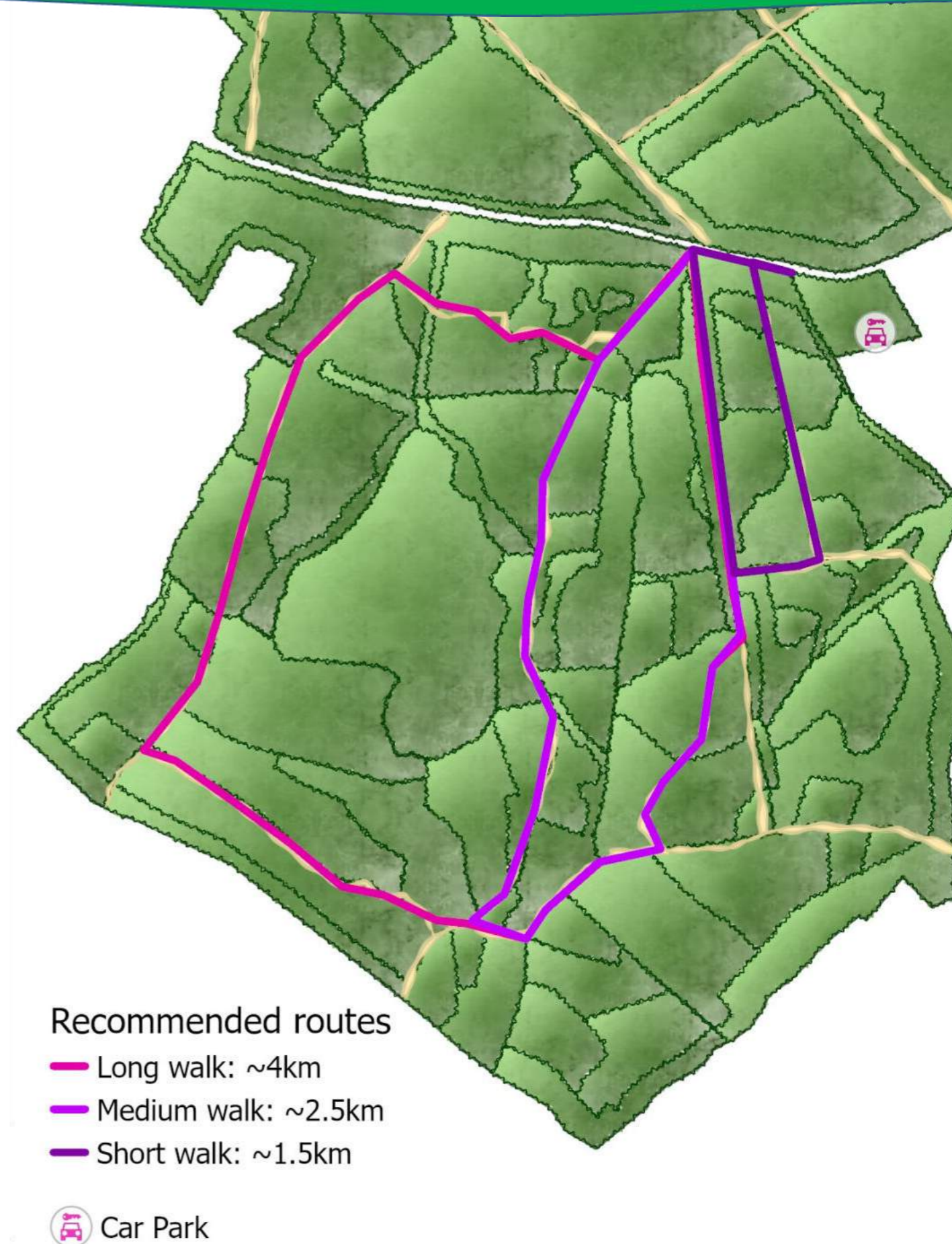
There is a small car park at Dene which is also the main entrance to the forest and therefore serves a dual purpose: being used by hauliers for timber extraction as well as public access.

There are no formal recreation facilities available at any of the sites but PROW either run through them or along the forest boundary. Horse riding and mountain biking are prohibited at Orlestone due to the SSSI designation. Both sites are mainly used by dog walkers and conservation individuals/groups. There are three public footpaths that pass through the forest sites and a By-way that is open to all traffic at Orlestone. A bridleway runs along the boundary of Dene Park.

Anti-social behaviour including fly-tipping, motorcycling and even on occasion burned vehicles have been known to occur, especially at Orlestone, and targeted responses to prevent this have occurred over recent years.

There are no plans to further develop recreation within the woodlands. This is because Orlestone is a protected area with nationally important assemblages of priority species. Connecting everyone with the Nation's Forests is at the core of what Forestry England aims to achieve. However, it is also important to balance the benefits of recreation with other objectives, such as conservation. Excessive recreation can affect these objectives.

At Dene Park there is an obvious main ride circular walk whereas at Orlestone there is a much more extensive ride network. To account for this the plan now proposes to zone Orlestone so that recreation is focussed in the southern component of the site, with three potential routes highlighted here (Figure 2). Zoning in protected areas has been shown as a highly effective mechanism to limit the distribution and degree of disturbance (IUCN 2018). This would not be policed but rather gently encouraged. It is hoped that this will still enable recreation but also allow the north of the property to focus on conservation objectives, such as pond creation.



**Figure 2:** Three potential recreation routes at Orlestone that would avoid the conservation priority zone in the northern block.

*“Our vision is that the nation’s forests are resilient to climate change, increasing the value of benefits they provide to communities by producing high-quality sustainable timber and absorbing more carbon emissions”*

## Our approach

### The nation’s forests are growing more resilient

The trees, vegetation, soils and freshwater environments of the nation’s forests play a critical role in absorbing and storing greenhouse gas emissions. We will expand the nation’s forests, contributing to the government’s action plans on trees, nature and climate along with developing and taking wider opportunities for woodland creation. We will tell the story of climate change, productive forestry and forest resilience as a part of this work.

### We will build on our success

We will continue to manage the nation’s forests, following world-class, independently certified, sustainable forest and land management standards to ensure they thrive and provide vital sustainably produced timber. The nation’s forests will continue to contribute to the growing green economy, supplying renewable timber and forest products as sustainable alternatives.

Forestry England is at the forefront of internationally significant scientific research in forests and climate science. We will continue to work with the forestry industry, the energy sector and corporate partners as they can support us and increase our impact. By adapting, diversifying, and improving the composition, scale, connectivity and quality of the nation’s forests they will thrive over the coming decades.

### We will grow for the future

We will create new woodlands, expanding the nation’s forests and absorbing more carbon from the atmosphere.

To achieve our climate objectives means carefully considering how much timber we fell in each woodland. Woodlands are a key tool in mitigating climate change; however, timber is a sustainable product that can replace more environmentally damaging products. As England’s largest woodland owner and England’s largest timber provider we have a responsibility to balance both.



### How much should be felled?

Forestry England considers many factors when carefully deciding which trees to fell and when. Whilst there are established economic and ecological benefits from felling trees, trees are not felled unless there is a sound ecological, social or economic reason to do so.

Orlestone and Dene Park both have a significant proportion of economically mature woodland (Figure 3). It is important to not remove too much of the woodland at once. No more than 10% of the woodland will be felled in a five year period. There is a long-term plan for both sites to reduce the proportion of coniferous trees, and as such these species will be prioritised. Furthermore, it is known that certain conifer species are at particular risk, for example the Corsican Pine can suffer from Red Band Needle Blight and Spruces are currently at risk of the Eight-toothed European Spruce Bark Beetle (*Ips typographus*). Other species such as Western Hemlock are known to be heavily self-seeding and can quickly spread across the forests.

There is also value in keeping the trees for carbon sequestration. In fact, this is currently valued at 10 times the value of our timber production; however, this does not equate to realised income (Forestry England, 2021). The revenue from timber acts as the primary mechanism with which Forestry England creates actual income, vitally important to maintain paths, fund conservation work and many other tasks!

Some level of felling (thinning) is always required as a forest ages in order to maintain light conditions. This is important as it improves the quality of the remaining trees and enables future generations of trees to grow underneath the canopy. As Orlestone and Dene Park are ancient woodland there is no ambition to increase the proportion of permanent open space.

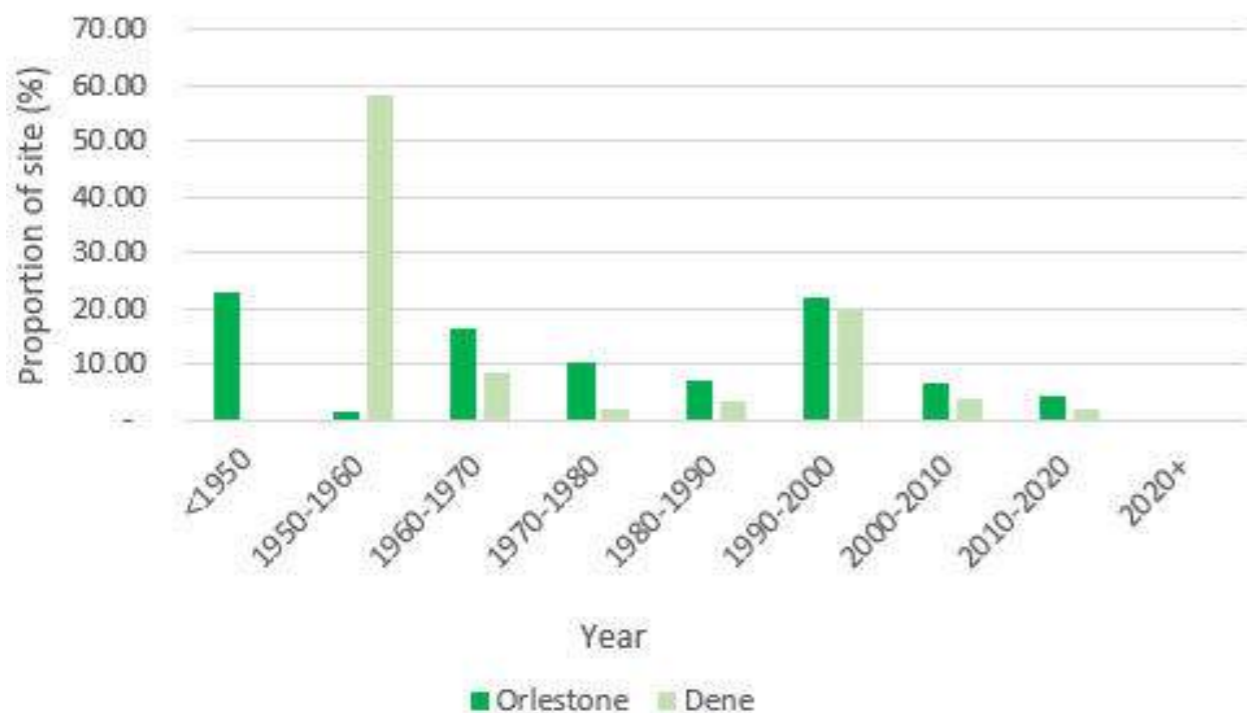


Figure 3: The age distribution of trees at Orlestone and Dene Park

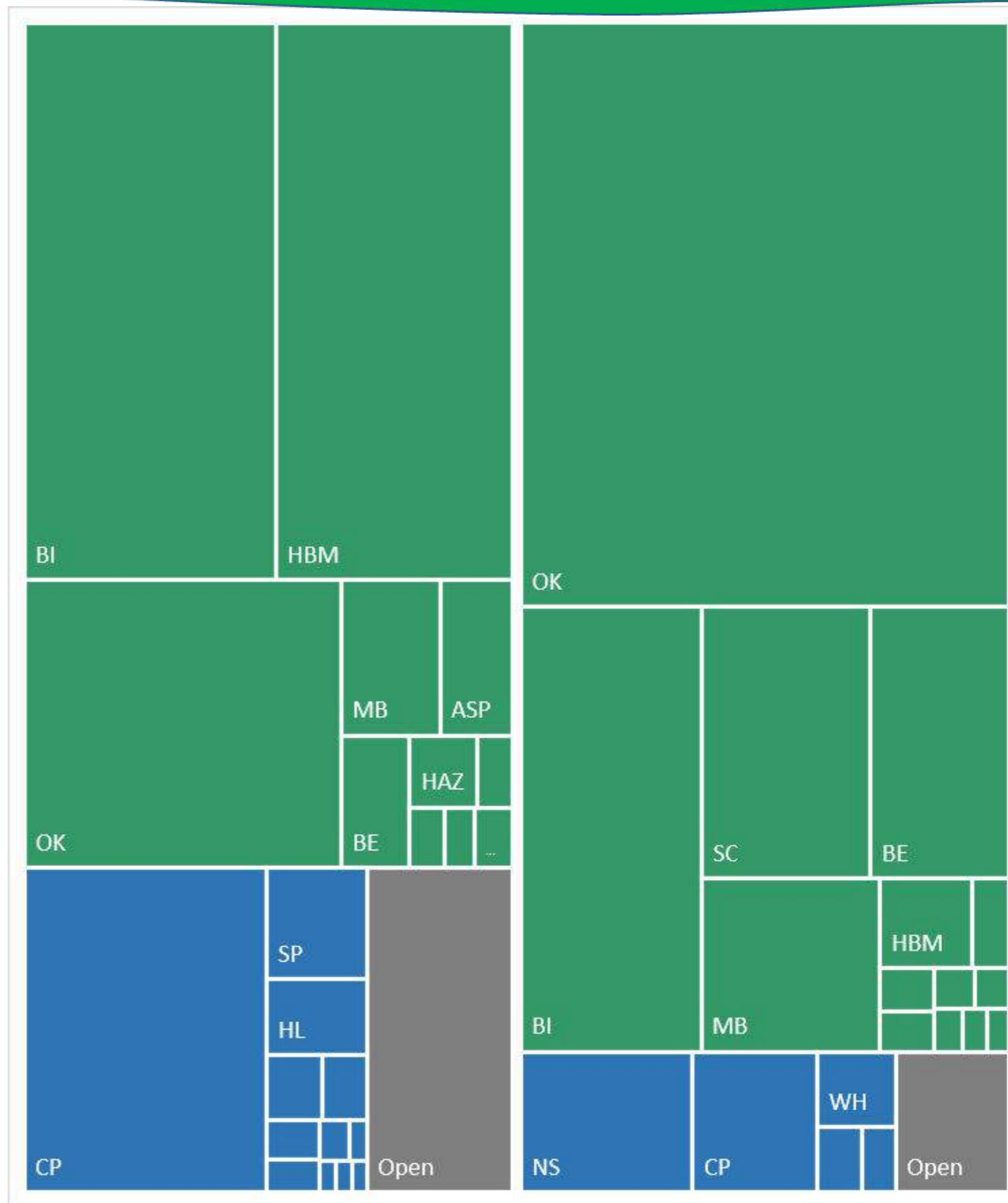


Figure 4: The relative proportions of Deciduous (green), Coniferous (blue) and open (grey) by species at Orlestone (left) and Dene Park (right).

## How should it be felled?

How trees are felled is also important. A policy change in 2010 meant that clearfelling in ancient woodland is only encouraged at a small scale. This means that woodland specialist species can gradually reclaim the new habitat. As such, whilst clearfelling will happen at Orlestone and Dene Park over the coming decade the primary method of felling will be via low impact silvicultural systems. This means that there will always be forests with canopy present but proportions of the canopy will be removed gradually. This is similar to the thinning mentioned above. This means the forest will retain its sense of place, it will remain suitable habitat for countless species and future generations of trees can naturally grow up amongst the remaining trees.

Coppice is somewhat different. It acts similar to a clearfell in that the whole coupe will be felled at once; however, it happens at very different timescales. Whilst clearfelling will occur every 30-40 years, coppicing occurs every 8-12 years. The objective is to maintain a significant proportion of the forest as transitional open space, scrub and thicket. Coppice is a great form of management as it has marked benefits for specific species (see Wildlife section) has social and historical value of continuing a traditional practice and economic value by creating a distinct output for specialised markets. As shown in Figure 4, there are currently very few stands of young woodland at Orlestone and Dene Park and coppicing should expand this habitat.

Ensuring a diverse array of silvicultural management is important for economic sustainability so that there is a steady stream of income being generated from the forests. For a full overview of how much will be felled and how see Map 4.

For a schematic overview of how trees are felled please see the next page.

### Forest Development Types

One way to managing the forest that encourages resilience is Forest Development Types (FDTs). These are a new approach that ensure long-term species suitability, appropriate management and outputs of the wood are considered from the outset. Particularly suitable FDTs for Orlestone and Dene Park are 2.X (Corsican Pine dominated), 5.X (oak dominated), 7.X (Birch dominated), 8.X (Beech dominated) and 9.1 (Alder dominated). Though this does vary between Orlestone and Dene Park significantly. Whilst FDTs are not formally embedded in this plan, the proposed felling and restock have been designed with the FDT approach in mind so that future forest managers could incorporate them more centrally.

## What will replace it?

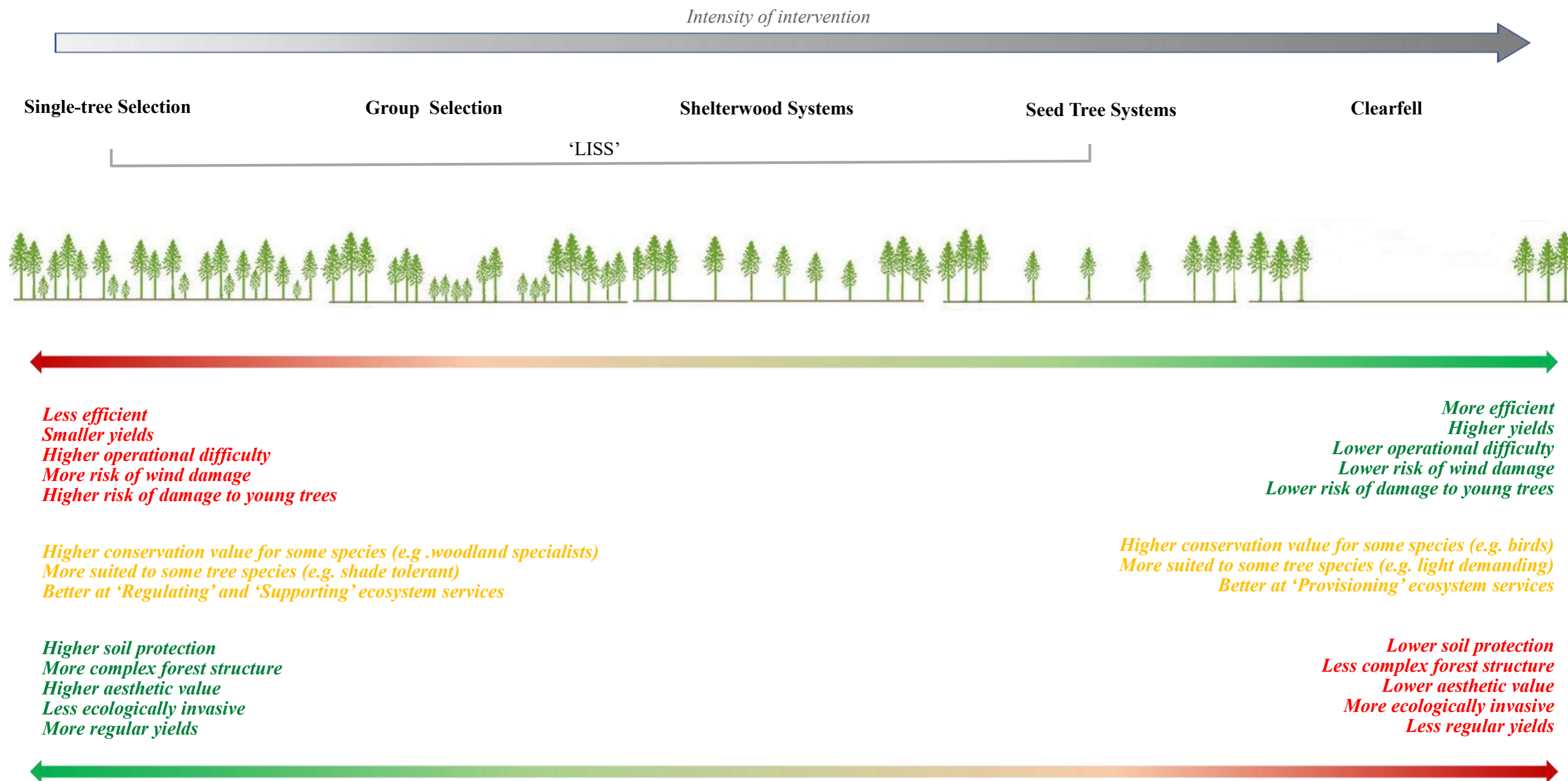
Building resilient woodlands through species, age and structural diversity is key to ensuring the long-term sustainability of the woodland within a changing climate. A key consideration for ensuring ecological resilience and a steady flow of timber is to diversify the species and age classes within the forest. Both Orlestone and Dene Park are expected to become warmer and drier under climate change scenarios. To reflect this species and provenances need to be chosen that will thrive under these conditions.

Restock will be primarily through natural regeneration of site native species to include Oak, Ash, Alder, Aspen, Sallow, Wild Service Tree and Hawthorn. Supplementary planting will be used if regeneration is not successful. The key objective for the restock at both Orlestone and Dene Park will be ensuring a diversity of tree species which are suited to the current environment and the future climate. Species that would be considered for supplementary planting may include but not be limited to: Lime, Hornbeam and Walnut although final choice will depend on an assessment of site soil, topography competition and stock availability. Even though the ambition is to reduce the proportion of conifer species it is important to keep a diverse selection of conifers, especially for bird species such as crossbill.

Another consideration is browsing. Browsing by deer, squirrels and rabbits may become a notable problem. The need for fencing will be assessed through enclosure plots. It is also difficult to predict what the pests and diseases of the future will be; however, there is a strong chance that Oak Processionary Moth and Eight-toothed Spruce Beetle may become a more significant threat as its

## How we will fell trees at Orlestone & Dene

There is no singular ‘best’ way to harvest trees. It depends on the objectives and the site itself. Each method has its own advantages and disadvantages. Below is an high-level summary of why we may choose one method over another. If, for example, a stand is at risk of being lost to a new pest/pathogen we may choose to clearfell it before the timber is degraded. On the other hand, if a stand has high ecological value but very high quality timber we may choose single tree selection so that sustainable timber can be utilised without sacrificing ecological integrity.



**Figure 5:** An overview of the silvicultural systems that will be used at Orlestone and Dene Park along with their associated benefits and weaknesses.



## Sustainability standards

Forestry England manages the forests according to the best-practice criteria set out by UKWAS. UKWAS means our management aligns with both the FSC® and PEFC sustainability standards. There are five key outcomes of this:

1. We all agree to manage the public forest estate in a sustainable way (for people, nature and the economy), including protecting and maintaining its ecology for the long-term.
2. In order to meet the requirements of both FSC® and PEFC certification we have to meet the requirements set out in the UKWAS certification standard.
3. All our wood and non-wood products are both FSC® and PEFC certified.
4. The UKWAS standard incorporates EU and UK legal requirements (including the UK Forestry Standard) and guidance into a single certification standard covering a range of topics from forest planning to community consultation and workers' rights.
5. We are audited against the UKWAS standard by an independent certification body (currently Soil Association Certification).

## Sustainable forestry

The sustainable production of timber has been a central pillar of the Forestry Commission for over 100 years. In fact, we are the largest supplier of sustainably produced timber in England, selling around 1.4 million tonnes per year. The production of timber is also the largest source of income for Forestry England, the money from which facilitates the actions required to meet other objectives in the plan, such as conservation work and social infrastructure.

Clearly, sustainable forestry is about more than felling trees but silvicultural considerations remain at the heart of any Forest Plan and are now described in further detail.

## Sustainability in practice

Sustainability is a multi-dimensional and complex idea. Below we present two examples of what sustainability means to us when we manage Orlestone and Dene Park. These are just a few of the many ways in which we ensure sustainability is central in how we work.

### Sustainable venison

The UK's deer numbers are increasing rapidly in number and range. There are several reasons for this but primarily it is due to a lack of predators to keep the populations in check. The economic impact of deer in the east of England alone is estimated to cost millions of pounds (White et al. 2004). Perhaps more importantly, if deer numbers are too high they can prevent any regeneration of trees, threatening the sustainability of the wood itself.

We manage deer populations in order to look after our forests sustainably. Our highly skilled wildlife rangers replace the role of Britain's missing predators by sensitively and humanely controlling deer populations in woods. Our expert staff use trained working dogs to track and find deer. Our main objective is always forest management, rather than wild meat production, but having a reliable and ethical outlet for this by-product is important to make best use of what would otherwise go to waste.

The meat supplied to our partner game dealers is turned into a range of cuts of wild venison that is sold across the country. You can buy our wild venison online at [Farm Wilder](#).

### An invasive beetle—*Ips typographus*

Climate change can result in species expanding their habitable range. The Larger Eight-toothed European Spruce Beetle (*Ips typographus* –hereafter 'Ips') is now increasingly common in the south-east of England. The 'Ips' beetle burrows into the main stem and creates lateral galleries for the larvae. The potential threat 'Ips' provides is so severe that if found a statutory plant health notice is issued and Norway Spruce up to a kilometer away must be felled.

We are now trying to prevent the spread of Ips by proactively and pre-emptively removing as many Norway Spruce as we can. This will reduce the suitable habitat for the beetle and hopefully prevent any further untimely loss of Norway Spruce. Proposals are to remove *Picea* species (Spruce) from the landscape as soon as possible, with bulk removal within 5 years and an aim for total eradication within 10 years. Spruce felling will follow *Ips typographus* national policy, as and when it is published. You can see our felling proposals on page 24 and 26.

**Top:** Deer grazing affecting the ability of trees to grow.

**Bottom:** An example of what we are required to do to prevent pests and pathogens spreading.





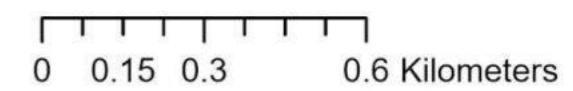
**East England Forest District**

**Orlestone Forest**

Scale 1: 17500

**Management Map**

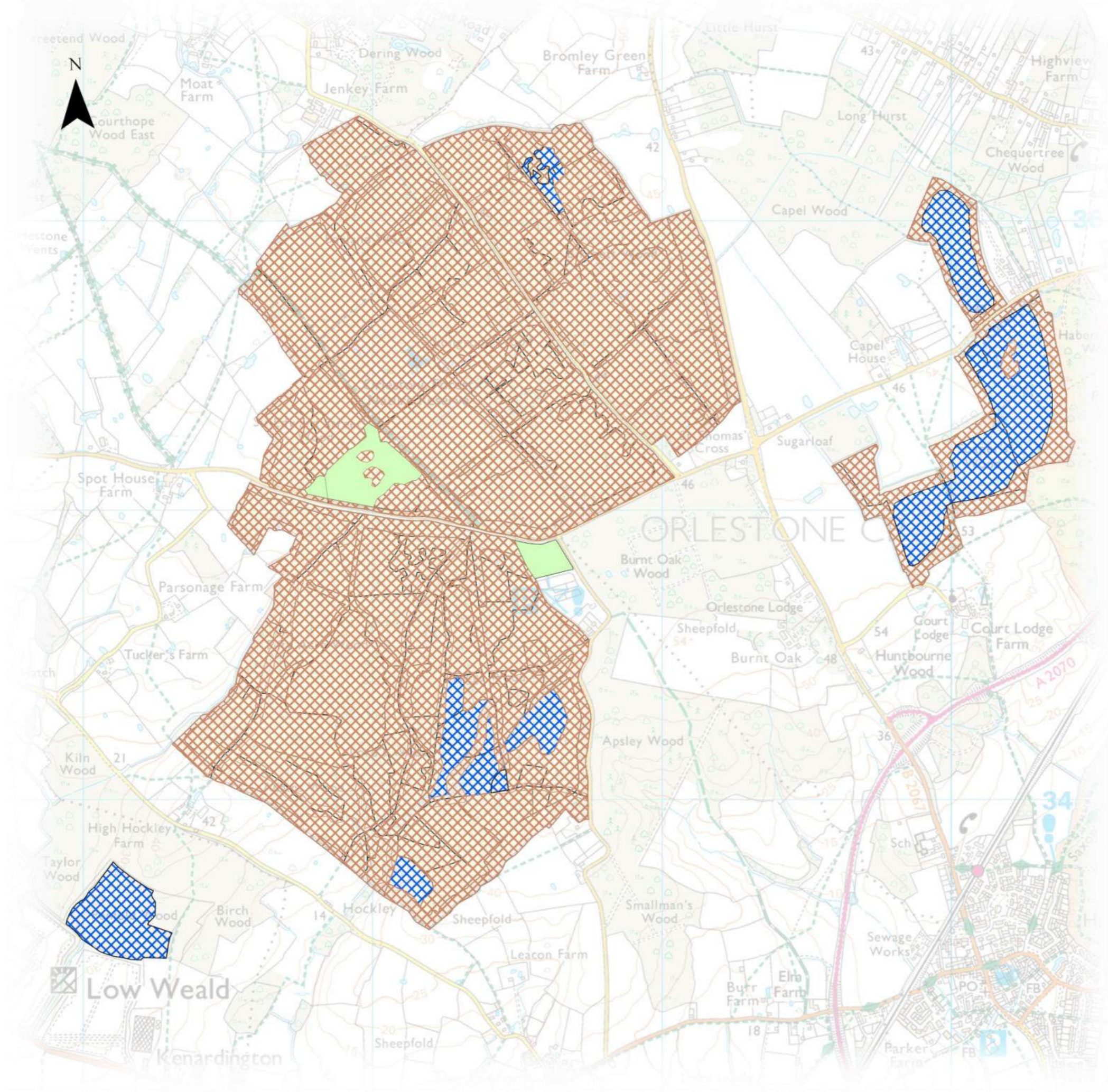
- Clearfell 2022-2026
- Clearfell 2027-2031
- LISS: Coppice
- LISS: Coppice w. standards
- LISS: Regeneration Felling
- Long-term retention
- Minimum intervention (natural reserve)
- Open



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Planning & Environment Team  
July 2022

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**Map 4:** The proposed felling at Orlestone over the next ten years by category.






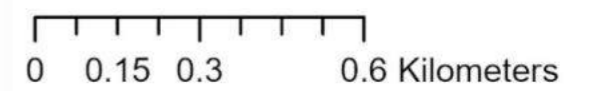
**East England Forest District**

**Orlestone Forest**

Scale 1: 17500

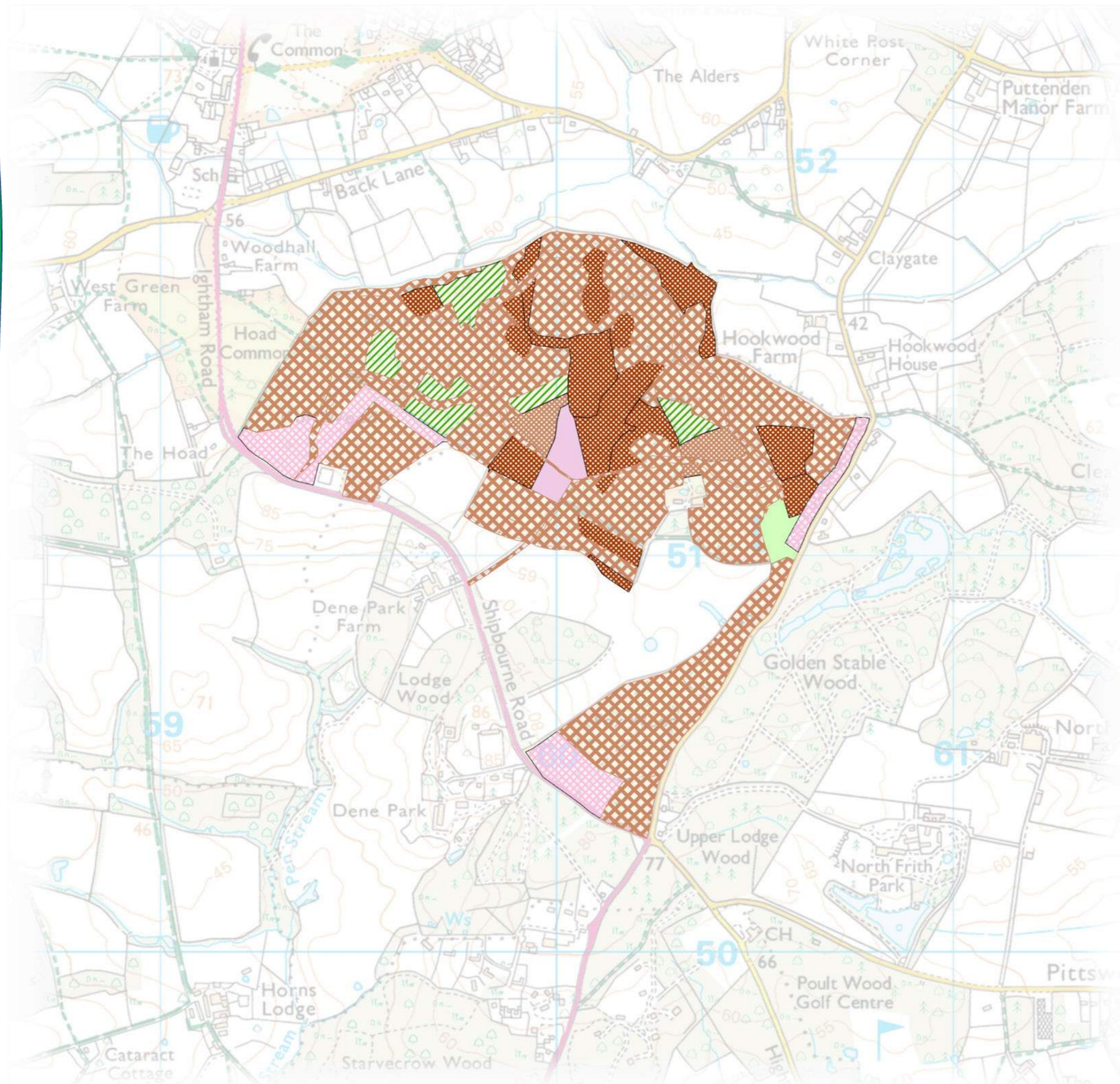
**Habitat and future restock**

-  Broadleaf
-  Mixed woodland
-  Permanent open



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 [100021242]

**Map 5:** The proposed restocking at Orlestone over the next ten years.



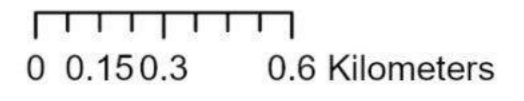
East England Forest District

Dene Park

Scale 1: 13000

Management Map

-  Clearfell 2022-2026
-  LISS: Coppice
-  LISS: Coppice w. standards
-  LISS: Regeneration Felling
-  Long-term retention
-  Minimum intervention (natural reserve)
-  Open



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Map 6: The proposed felling at Dene Park over the next ten years by category.

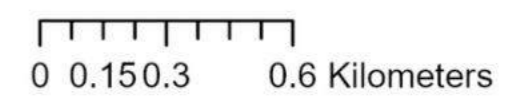
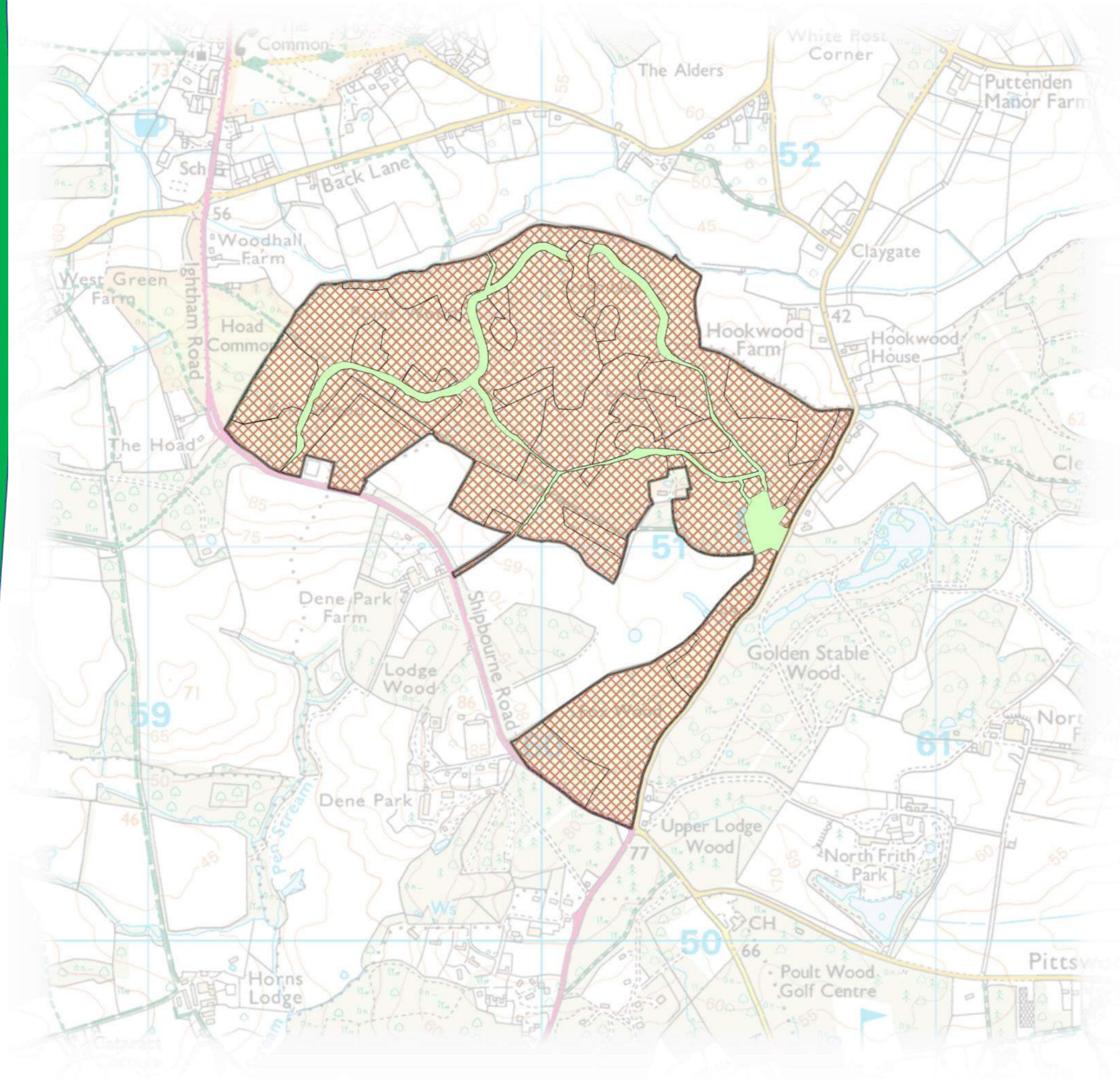
East England Forest District

Dene Park

Scale 1: 11000

Habitat and future restock map

-  Broadleaf
-  Open



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 [100021242]

Map 7: The proposed restocking at Orlestone over the next ten years.

## Monitoring

**FEE National vision and overall goal:** “To secure and grow the economic, social and natural capital value of the Public Forest Estate for the people of England.”

District Strategic Objective	Forest Plan Objective	Monitoring
<p><b>Wildlife</b></p> <p>“The nation’s forests provide the most valuable places for wildlife to thrive and expand in England”.</p>	<p><b>W1:</b> Increase the proportion of native deciduous species at Orlestone to at least 80% and the semi-naturalness of the property as a whole.</p> <p><b>W2:</b> Ensure all SSSI components remain in ‘Favourable’ condition.</p> <p><b>W3:</b> Expand and improve the freshwater habitats in Orlestone by increasing the number and quality of ponds and opening up the riparian habitats.</p> <p><b>W4:</b> Remove the invasive Rhododendron from the understorey at Dene Park.</p>	<p><b>W1A:</b> Both species proportions and semi-naturalness are calculated through Forester Web. A review will be undertaken during the mid-term review, five years after the plan is approved.</p> <p><b>W2A:</b> SSSI condition assessments every 6-10 years.</p> <p><b>W3A:</b> Number of ponds at Orlestone. Quality to be assessed based on judgement of district ecologist(s).</p> <p><b>W4A:</b> Presence and abundance of Rhododendron at Dene Park—assessed via subcompartment surveys and judgement of beat forester.</p>
<p><b>People</b></p> <p>“The nation’s forests are a living treasure for all, deeply connected to people’s lives improving the health and wellbeing of the nation”.</p>	<p><b>P1:</b> Facilitate sustainable levels of public use within the forest by maintaining current recreational facilities such as the car park, trails and signage whilst continuing to prevent detrimental social behaviours that affect the site’s value.</p>	<p><b>P1A:</b> Informal feedback from the public, site assessments from the beat forester, site assessments from the recreation ranger and feedback from the civil engineering department through OSAs.</p>

District Strategic Objective	Forest Plan Objective	Monitoring
<p><b>Climate</b></p> <p>“The nation’s forests are resilient to climate change, increasing their value for communities by producing high- quality, sustainable timber and absorbing carbon emissions.”</p>	<p><b>C1:</b> Improve the resilience of our forests by increasing species diversity through restock programmes and mixed silvicultural practices, to protect future timber supplies and biomass.</p>	<p><b>C1A:</b> Species diversity and silvicultural system diversity can be assessed through the subcompartment database. This will be done during the mid-term review, five years after the plan is approved.</p>
<p><b>Sustainable Approach</b></p> <p>“We put sustainability at the heart of the nation’s forests and all we do. The valuable benefits delivered by the nation’s forests are secure and resilient due to our environmental and financial sustainability”.</p>	<p><b>SA1:</b> Maintain the land within our stewardship under FSC/PEFC certification by meeting standards detailed in UKWAS fourth edition.</p>	<p><b>SA1A:</b> UKWAS audits and reviews by Forest Services will ensure that the forest is managed sustainably. The majority of the plan area will be restocked through natural regeneration of broadleaf species. To monitor timber sustainability, meet our legal obligations and continued UKWAS certification, a stocking assessment is carried out to measure establishment success after five years. Supplementary planting will be implemented where sites are not fully stocked.</p> <p>Also, as part of the plan review, the felled sites are surveyed and the sub-compartment database is updated to show the restock species and their proportions in felled areas. As part of this updating process, the restocking information is compared with the habitat and restock plan to confirm compliance. The sub-compartment database will be used to monitor species diversity and assessed as part of the full forest plan revision.</p>

UKWAS Compliance table <sup>[1]</sup>

	Forest Plan Area (Ha)	Forest Plan %	Forest District Area (Ha)	Forest District %
Total area	463	100	34,528	100
Total wooded area	448		30,129	87
Natural reserve - Plantation (1%)			317	1
Natural reserves - Semi-natural (5%)	18.5		255	5
Long-term retentions and low impact silvicultural systems	195		14,606	42
Area of conservation value (>15%) including designations: PAWS, ASNW, NR, SSSI, SAC, SPA & Conservation zones	463		28,431	28,431

<sup>[1]</sup> Figures calculated in March 2023 and correct at time of publication.

## Application for Forest Plan

### Forest Enterprise – Property

Forest District:	East England
Woodland or property name:	Orlestone and Dene Park
Nearest town, village or locality:	Ashford / Tonbridge
OS Grid reference:	TQ 982350 / TQ600513
Local Authority district/unitary Authority:	Ashford Borough Council / Tonbridge and Malling Borough Council

### Areas for approval

	Conifer	Broadleaf
Felling	63.3	
Regeneration Felling	44.6	29.7
Coppicing		29.3
Open area	5.0	9.5

1. I apply for Forest Plan approval\*/~~amendment approval~~\* for the property described above and in the enclosed Forest Plan.
2. I apply for an opinion under the terms of the Environmental Impact Assessment (Forestry) (England & Wales) Regulations 1999 for afforestation\*/deforestation\*/roads\*/quarries\* as detailed in my application.
3. I confirm that the pre consultation, carried out and documented in the Consultation Record attached, incorporated those stakeholders which the FC agreed must be included. Where it has not been possible to resolve specific issues associated with the plan to the satisfaction of consultees, this is highlighted in the Consultation Record.
4. I confirm that the proposals contained in this plan comply with the UK Forestry Standard.
5. I undertake to obtain any permissions necessary for the implementation of the approved Plan.

Signed  
Forest Management Director

East England FD

**Date:**

**Date approval ends:**

\*delete as appropriate

Signed:  
Director

East & East Midlands Area

**Date of approval:**

I seek approval to clearfell 63.3ha of the Public Forest Estate (this is the area in green and orange stripe fell periods—i.e. 2023-2033). Restock will be through natural regeneration or planting a variety of tree species at a minimum stocking density of 1,100 stems per ha.

In addition to the above felling 74.3ha will be managed using lower impact silvicultural systems (LISS) including regeneration and selective felling. This will through the removal of single and small groups of trees, removing no more than 40% of the stems within any single management unit/compartments over the approved plan period. This operation is aimed at encouraging initial seeding, provision of sufficient light to boost growth of understorey, allowing adequate space for the development of crowns and stem form for quality timber and to accelerate individual tree growth. Restock will be through natural regeneration, with supplementary planting carried out if required. An area of 29.3 ha has been identified for coppicing within the 10-year period.

**Date of commencement of the plan: \_\_\_ / \_\_\_ / 2023**

**Expiry Date: \_\_\_ / \_\_\_ / 2033**

**Mid-Term Review Date: \_\_\_ / \_\_\_ / 2028**

## Glossary

### **Biological Diversity**

The richness and variety of wildlife and habitats.

### **Canopy**

The mass of foliage and branches formed collectively by the crowns of trees.

### **Clearfelling**

This is one of the most common forms of felling. All the trees are felled across the site or 'coupe' with the timber part of the tree extracted to the forest road where it is taken away by lorry. The smaller branches and tops are left on site where they may be chipped, mulched or raked in to rows so that enough bare ground is available to plant the next rotation of young trees. The creation of the bare planting ground can be an important part of the management, as it is this bare ground that is the nesting habitat for Woodlark and Nightjar.

### **Compartments**

Permanent management units of land within a forest, further divided into sub-compartments. The compartment boundary usually coincides with a road or ride.

### **Continuous Cover Forestry (CCF)**

This is a general term for the management of trees without clearfelling them all. There are a number of CCF silvicultural systems but all of them are based on thinning the crop on a regular cycle and removing a proportion of the trees thereby making space for seeds to germinate and new saplings to grow and fill the resulting space.

CCF is often used in areas of high public access to maintain the visual impact of large mature trees as these trees are maintained for their aesthetic value. CCF is also used to manage most of the broadleaf crops in Thetford and all the mature conifer crops in areas of high conservation value as these trees often provide important nesting habitat e.g. Firecrest.

### **County Wildlife Sites (also SINC and LNR)**

A non-statutory designation, recognising a site's local importance for nature conservation. These sites are identified by the Local Authority and should be taken account of in planning.

### **Coupes**

Areas of forest that have been or will be managed together.

### **Cubic metre**

A standard forestry unit of timber volume. A cubic metre is roughly equivalent to a tonne of timber.

### **England Forestry Strategy (now England's Trees Woodlands and Forests)**

Describes how the Government will deliver its forestry policies in England and sets out the Government's priorities for the next five to ten years.

### **Favourable condition**

English Nature's definition for an SSSI in its intended state.

### **Forestry Commission Guidelines**

Outline the principles and standards of good management practices in forests and woodlands to enable landowners, land managers and their advisors to satisfy Forestry Commission policy.

### **GIS**

Geographic Information System - computer program that enables the FC to hold and display all the district's inventory, landholding and crop information. All the maps in this document have been produced using GIS.

### **GPS**

Global Positioning System, which uses information from satellites to accurately locate a position on the Earth.

### **Habitat Action Plans**

UK wide plans for priority habitats defined under the UK Biodiversity Action Plan. They contain quantitative targets for conserving, restoring and expanding the habitats.

### **Historic Environment**

These are the physical remains of every period of human development from 1 million years ago and include artefacts, earthworks, buried remains, structures and buildings.

### **Historic Environment Action Plan (HEAP)**

Sets out the requirements for the sustainable management of all historic environment sites.

### **Historic Environment Record (HER)**

The definitive database of all known Historic Environment remains which is managed by the County Archaeology Service.

### **LiDAR**

Light detection and ranging is a method of surveying landscapes. Flights over the landscape send down laser pulses to the ground and the time taken to reflect back

builds a picture of the relative height of the land and vegetation. For more information visit [www.breakingnewground.org.uk](http://www.breakingnewground.org.uk).

### **Long Term Retention**

In some areas trees are retained beyond their normal clearfell age to provide non-timber benefits such as bat roosts, raptor nests and landscape interest. Generally, these are thinned to encourage large crowned stable trees.

### **Minimum Intervention & Natural Reserves**

These two management types are similar in that they are areas where natural processes are left to progress unhindered unless there are tree safety issues e.g. a tree has died adjacent to a footpath and creates a hazard to the public. The natural reserve areas have been identified as a permanent feature in the plans where as minimum intervention is the current management type in these areas but could change in the future.

### **Native woodland**

Woodland containing tree and shrub species which colonised Britain unaided by the influence of man after the last Ice Age.

### **Natural regeneration**

The growth of trees from seed found in the soil or cast from adjacent trees and shrubs.

### **Non-native species**

Trees and shrubs that have been introduced to the UK by the activities of man. Also used to describe species not native to the site and locality.

### **Open space**

Temporary open space follows felling when coupes are prepared for planting or to encourage natural regeneration.

Permanent open space will be centred on the gallops and ride widening programmes.

### **Operational Site Assessment (OSA)**

Detailed site plans that are prepared in advance of all major forest operations and identify site constraints, opportunities and areas requiring special treatment or protection.

### **Red Data Book species**

Species that are included on Red Data lists published by the Joint Nature Conservation Committee (JNCC). The lists are based on a global system developed by the International Union for Conservation of Nature and Natural resources (IUCN) for classifying species according to their extinction risk.

### **Restocking**

The re-establishment of trees where felling has taken place. Restocking may be achieved through natural regeneration but as a term, it is more usually associated with replanting.

### **Ride**

Forestry term for unsurfaced roads, paths and tracks within a woodland.

### **Rotation**

The period, in years, that a 'crop' of trees take to reach economic maturity e.g. Scots Pine may be grown on a 80 year rotation.

### **Scheduled Monuments**

Nationally important archaeological sites which are protected under the Ancient Monuments and Archaeological Areas Act, 1979.

### **Semi-natural woodland**

A woodland predominantly composed of trees and shrubs that are native to the site and are not obviously planted.

### **Species Action Plan**

A conservation plan under the UK Biodiversity Action Plan for species based upon knowledge of its ecological and other requirements, which identifies the action needed to stabilise and improve its status.

### **SPA**

Special Protection Area designated under the European Habitats Directive (Council Directive 92/43/EEC).

### **SSSI**

Site of Special Scientific Interest—this designation is determined by Natural England and placed on areas of very high conservation value.

### **Sub-compartments**

Areas of forest comprising a more or less homogeneous crop in terms of age, species composition and condition. Their boundaries may change as the forest develops after felling and restocking.

### **Stand**

An easily defined area of the forest that is relatively uniform in species composition or age and can be managed as a single unit.

**Strategic Plan**

Serves as a guide to the management of woodlands within South East England Forest District. It divides the district into zones for the purpose of management and ensures that forestry activities reflect the local ecological, social and cultural individuality of woodland. Strategic objectives for each zone are presented within the context of the Government's strategic priorities for forestry in England (e.g. forestry for rural development; forestry for economic regeneration; forestry for recreation, access and tourism and forestry for the environment and conservation).

**Succession**

Applied to the natural sequence of species change on a site over time, or more simply, the following on of one thing after another. So successional open space is the open space and the plants associated with it, that persist for a short time after felling of trees.

**Thinning**

The removal of a proportion of the trees in a sub-compartment to improve the quality of the remaining trees, accelerate individual tree growth and provide income.

**Underplanting**

This system involves selectively felling strips currently between 1-2 rows of trees across the site or 'coupe'. These rows are then planted with young trees. The remaining older trees provide shade in summer and shelter from frost in winter giving an ideal climate for a larger variety of species to grow. The majority of tree species prefer this type of climate making this a useful management system for increasing species diversity and increasing success rates of restock.

**UK Biodiversity Action Plan**

The UK government response to the Convention on Biological Diversity at Rio de Janeiro: includes actions to safeguard key habitats and species.

**UK Forestry Standard**

The Government's criteria and standards for the sustainable management of forests in the UK.

**UK Woodland Assurance Scheme (UKWAS)**

A voluntary scheme for the independent assessment of forest management in the UK. The Scheme has been developed by a partnership of forestry and environmental organisations in response to the growing consumer demand for timber products from sustainably managed forests. It has been designed to ensure that it reflects the requirements of both the Government's UK Forestry Standard - and through this the guidelines adopted by European Forestry Ministers at Helsinki in 1993 - and the Forest Stewardship Council's (FSC's) GB Standard.

**Uniform Shelter wood System**

A management system that allows young crops to become established under the overhead shelter of existing crops. The existing tree crop is evenly and gradually removed over time in successive regeneration fellings to bring about natural regeneration on the ground beneath.

**Veteran tree**

A tree that is of interest biologically, aesthetically or culturally because of its age, or a tree that is in the ancient stage of its life, or a tree that is old relative to others of the same species.

**Windthrow (or sometimes windblow)**

Uprooting or breakage of trees caused by strong winds.

**Yield Class**

Yield class is a measure of the growth rate of a tree crop and is the maximum average rate of volume increment (increase) that a particular crop can achieve. For example, a crop capable of a maximum annual increment of 14 m<sup>3</sup> per hectare has a yield class of 14.

## Tolerance Table

	Adjustment to felling coupe boundaries	Swapping of felling coupes	Adjustment to felling operation	Clearance of standing trees associated with wind-blown areas	Timing of restocking (including natural regen)	Species choice	Tree health
<b>Formal approval by area team required.</b>	> 25% of the coupe area	Where changes to the felling sequence is likely to result in a significant breach <sup>[1]</sup> of the UKFS adjacency rules	Thinning to selective felling or clear felling	Clearance of > 1ha or 10% of the area (whichever is less) in sensitive areas <sup>[2]</sup> , > 5ha or 25% of area (whichever is less) in non-sensitive areas.	Where this is > 4 planting seasons from the date of felling.	From mixed, predominantly broadleaves to evergreen conifer.	Where no SPHN issued and felling required.
<b>Written approval only required from area team.</b>	Between 10-25% of the coupe area	Where changes to the felling sequence is likely to result in a minor breach <sup>[3]</sup> of the UKFS adjacency rules			Where this is at least 2 but no more than 4 planting seasons from the date of felling.	Deciduous conifers to evergreen.	Thinning > 50% but <65%
<b>Formal approval by area team not required.</b>	<10% of the coupe area	Where changes to the felling sequence does not result in a breach of the UKFS adjacency rules.	Clear felling to selective felling or thinning	Clearance of < 1ha or 10% of the area (whichever is greater) in sensitive areas, < 5ha or 25% of the area (whichever is greater) in non-sensitive areas.	Where this is < 2 planting seasons from the date of felling.	Any other changes.	Where SPHN is issued or thinning up to 50%

[1] Greater than 20% or more of the coupe boundary

[2] Definition of sensitive areas is as per the EIA guidance

[3] 20% or less of the coupe boundary



# Appendices:

**I: Heritage**

**II: Biodiversity**

**III: Bibliography**

## History—Orlestone

Orlestone is mentioned in the Domesday book (1086) as in the possession of Hugo de Montsort and held locally by one William. The name is probably derived from that of former landowners, such as William de Orlanstan, probably a descendant of the William named in the Domesday survey who held the land during the reign of Richard I, and St Richard Orleston, who owned the parish during the reign of Henry V (Hasted 1799, 360). The parish is described in the Domesday survey as follows:

*William holds of Hugh 3 yokes and half a virgate in ORLESTONE 11 sokemen held this land. There is land for 3 ploughs. There are now 2 ploughs in demesne and 15 villans with 9 bordars have 3½ ploughs. There are 2 churches and 20 acres of meadow, [and] woodland for 6 pigs. (Domesday Folio 13: Kent)*

This might indicate that Orlestone possessed a relatively small area of woodland during this period, sufficient for feeding six pigs only when they were put into the wood in autumn to fatten on acorns (pannage). However, there is no definite way of calculating the actual area of woodland from Domesday Book from the figures of swine; the number given depends on the size of the acorn crop, which can vary, and does not specify whether the wood was small in size or simply lacking in oaks (Rackham 1986, 75). Indeed, Hasted's 18<sup>th</sup> century survey describes the parish as "enveloped with woods and is situated in so deep and miry a country, that it is only passable...in the driest weather" (Hasted 1799, 360). However, his suggestion that, because there was at the time he was writing, no nearby settlement, this is unfrequented land is probably erroneous; woodland has long been an important part of the local economy in this region and under the parish system in the Anglo-Saxon and medieval periods, the majority of woodland in the Weald was divided into parcels which were the property of places lying outside it (Rackham 1986, 80).

The size of Orlestone Forest has not varied considerably since at least the late 18<sup>th</sup> century (see Figure 1, Ordnance Survey (OS) surveyor's drawing). The roads that date from this period are still largely intact, although some have been reduced to tracks. On the 3<sup>rd</sup> edition map (1:10560, 1908) there are changes to some of the woodland areas' names: Figs Wood is now Faggs Wood and Sheat's Wood is now Sir Edward Street's Wood.

## Heritage features

Examination of Orlestone Forest, Soaper's Wood and Penfold Wood on lidar imagery indicates multiple phases of drainage (Figure 6). The overlapping nature, and differing construction styles, of the drainage systems demonstrates the past and present management of the area. Several small ponds are shown within the woodland on the 1<sup>st</sup> (1874) and 2<sup>nd</sup> edition (1898) OS maps (with many more in the land around it), but the lidar data shows numerous other examples. While the ponds are undated, their morphology is similar to the examples shown on historic maps and it is probable that at least a proportion of them date from the post medieval period.

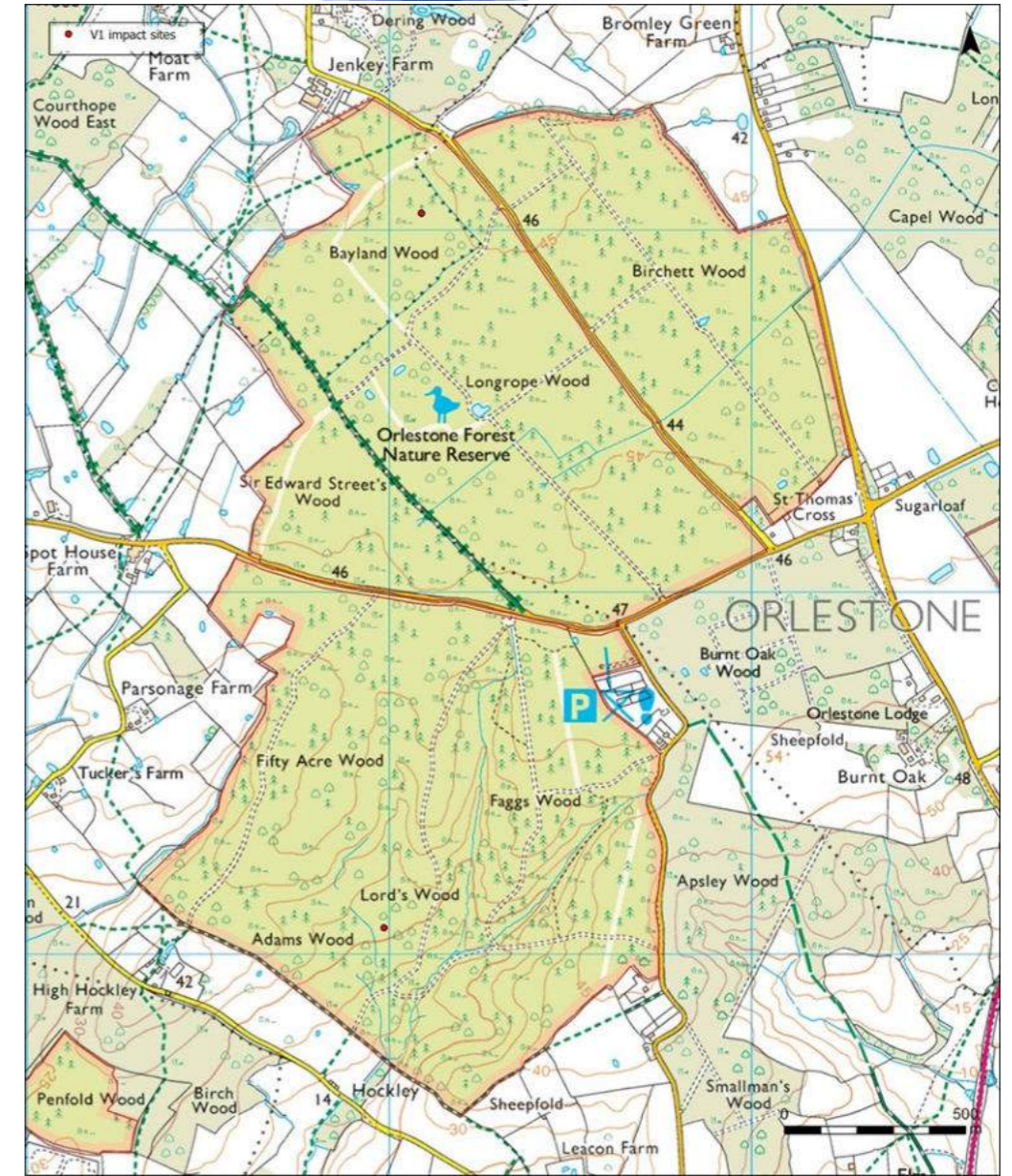
More recent heritage features comprise two Second World War V1 bomb crash sites which were investigated within Orlestone Forest by Research Resource Archaeology in 2021 (see Figure 7). The missiles were shot down over Bayland Wood on 5<sup>th</sup> July 1944 and Lord's Wood on 3<sup>rd</sup> August 1944. Finds around V1 explosion sites are typically located in a blast field around the impact point of around 40 metres (survey report, Welch forthcoming).



**Figure 1** Ordnance Survey surveyor's drawing (Hythe, Kent (OSD 105), 1797). British Library, OGL v1.0OGL v1.0, via Wikimedia Commons.



**Figure 6** Openness Positive visualisation of lidar DTM for the northern half of Orlestone Forest, showing numerous small ponds and overlying patterns of drainage systems (darker features). Red line = boundary of Forestry England land. © Environment Agency 2018.



**Figure 7** Approximate locations of V1 impact sites in Lord's Wood and Bayland Wood (red dots).

## History—Dene Park

Dene Park Forest is classified as an ancient woodland (Weald and Downs Ancient Woodland Survey 2010), a definition supported by its appearance on historic maps and placename evidence (Figures 8,9,10). It is depicted as part of Claygate Wood on Dury and Herbert's map of Kent published in 1769. This is a county-scale map, so does name individual parcels within the wood, but it does show what appear to be a number of rectangular assarts, cleared areas where land has been brought into cultivation from woodland, suggesting that the forest might predate the farms within it. One cleared area is located to the south-east of Shipborne Green in the position of an outfarm marked on the 1<sup>st</sup> edition Ordnance Survey map (Kent Historic Environment Record MKE81763). The term 'outfarm' refers to a group of agricultural buildings associated with a farm which is located elsewhere.

The 1<sup>st</sup> edition Ordnance Survey map (1:10560, 1871) names the wooded area overall as Frith Wood, with the northern section known as Knight's Wood. The name Frith is derived from Old English *fyrhp*, suggesting that woodland in this area is likely to date from before the conquest of 1066 (Rackham 1986, 97). The farm on the western side of the wood is named "Little Park Farm" on the 1<sup>st</sup> edition OS map, but by the time that the second edition was published (1:2500, 1897), it has been renamed "Dene Park Park Farm". The occurrence of 'park' names, whether great or little, suggests the land in that area might have formerly been part of a deer park (Rackham 1986, 145) and it is possible that part of the woodland was incorporated into it. The 2<sup>nd</sup> edition Ordnance Survey map (1:2500, 1897) shows the names of the forest compartments which are still in use. These include Kiln Wood, which, while no brickworks or kilns are marked, suggests that the Wealden Clay may have been exploited in this area at some time in the past.



**Figure 8** Excerpt from A topographical map, of the county of Kent, Dury and Herbert, 1769

**Figure 9** Excerpt from the 1st edition OS map (1871). © Crown copyright and database right 2022. Ordnance Survey Licence number 100021242

**Figure 10** Detail of the 1st edition OS map with the position of the outfarm indicated by the red box. © Crown copyright and database right 2022. Ordnance Survey Licence number 100021242

**Table 1:** Priority species known to occur at Orlestone, Dene Park or both sites.

Priority	Location	Key Species	Latin Name	Taxon	Last Record	
KBS	Both	Hazel Dormouse	Muscardinus avellanarius	Terrestrial Mammal	2019	
	Both	Marsh Tit	Parus palustris	Bird	2019	
VU globally/KBS	Both	Turtle Dove	Streptopelia turtur	Bird	2019	
VU national/KBS	Both	White Admiral	Limenitis camilla	Insect - Butterfly	2018	
KBS priority	Orlestone	Nightingale	Luscinia megarhynchos	Bird	2018	
	Orlestone	Pied Flycatcher	Ficedula hypoleuca	Bird	2018	
	Orlestone	Lesser Spotted Woodpecker	Dendrocopus minor	Bird	2019	
	Orlestone	Spotted Flycatcher	Muscicapa striata	Bird	2010	
	Orlestone	Hawfinch	Coccothraustes coccothraustes	Bird	2013	
	Orlestone	Nightjar	Caprimulgus europaeus	Bird	2018	
	Orlestone	Wood Warbler	Phylloscopus sibilatrix	Bird	2019	
	Orlestone	Common Crossbill	Loxia curvirostra	Bird	2019	
	Orlestone	Woodcock	Scolopax rusticola	Bird	2018	
	VU national/KBS	Orlestone	Grizzled Skipper	Pyrgus malvae	Insect - Butterfly	2017
	KBS	Orlestone	Olive Crescent	Trisateles emortualis	Insect - Moth	2005
	KBS	Orlestone	Poplar Leaf Roller	Byctiscus populi	Insect - Moth	2016
	EN Kent/KBS	Orlestone	Sussex Emerald	Thalera fimbrialis	Insect - Moth	2000
	KBS	Orlestone	Scarce Aspen Knot-horn	Sciota hostilis	Insect - Moth	2015
Orlestone		Scarce Aspen Midget	Phyllonorycter sagitella	Insect - Moth	2019	
Orlestone		Diamond-spot Sable	Loxostege sticticalis	Insect - Moth	2019	
Orlestone		Scarce Merveille du Jour	Moma alpium	Insect - Moth	2019	
KBS	Orlestone	Dark Crimson Underwing	Catocala sponsa	Insect - Moth	2010	
	Orlestone	Triangle	Heterogenea asella	Insect - Moth	2014	
	Orlestone	Toadflax Brocade	Calophasia lunula	Insect - Moth	2016	
KBS	Orlestone	Three-lobed Crowfoot	Ranunculus tripartitus	Plant	2019	
	Orlestone	Goldenrod	Solidago virgaurea	Plant	2011	
KBS	Orlestone	Slow-worm	Anguis fragilis	Reptile	2020	
KBS	Orlestone	Common Lizard	Zootoca vivipara	Reptile	2012	
KBS	Orlestone	Grass Snake	Natrix helvetica	Reptile	2019	
	Dene Park	Purple Emperor	Apatura iris	Insect - Butterfly	2016	
	Dene Park	Silver-washed Fritillary	Argynnis paphia	Insect - Butterfly	2016	
	Dene Park	Great Crested Newt	Triturus cristatus	Amphibian	1985	
	Dene Park	Eurasian Badger	Meles meles	Terrestrial Mammal	2016	

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## Stakeholder consultation

**Statutory:** Natural England, East Sussex County Council, Environment Agency, Historic England, County Archaeologists, South Downs National Park Authority.

**Non-statutory:** Parish councils, Friends groups, Neighbours, forest residents, sporting tenants, general public, conservation interest groups, SWT,

## Image Citations

Image 1: Orlestone Forest—Ed Lewis

Image 2: Orlestone Forest—Ed Lewis

Image 3: Orlestone Forest—Ed Lewis

Image 4: - Forest Walkers—Forestry Commission

Image 5: Orlestone Forest—Ed Lewis

Image 6: - Grizzled Skipper butterfly—Mike Mullis

Image 7: Orlestone Forest—Ed Lewis

Image 8: Orlestone Forest—Ed Lewis

Image 9: - Regrowth—Forestry Commission

Image 10: - Autumn—Forestry Commission

Image 11: Deer Grazing—Forestry Commission

Image 12: Felling—Forestry Commission

Image 13: Orlestone Forest—Ed Lewis

Image 14: Orlestone Forest—Ed Lewis



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