Mildenhall Forest Plan

2024 – 2034

Forestry England

Forestry England

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We propose you read this plan chronologically; however, if you are only interested in a specific section you can jump directly there by selecting the chapter name below.

FSC www.fsc.org FSC® C123214
The mark of responsible forestry

Forestry England forests and woodlands have been certified in accordance with the UK Woodland Assurance Standard (UKWAS)

PEFC PEFC/16-40-1001 Promoting Sustainable Forest Management www.pefc.org

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 governments 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.

What are Forest Plans?

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 (2024 - 2034) and outline approval for the medium term vision (2035 - 2096). The plan will be reviewed after the first five years (2029) 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).

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 FE is certified by outside consultants to ensure our compliance. The most current edition at this time is the fourth edition.

European Protected Species (national)

In August 2019 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 a woodland habitat include all species of bat, hazel dormouse, great crested newt, otter, sand lizard and smooth snake.

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 national designations placed upon it in various locations across the country, such as;

- National Park
- National Landscapes (previously Area of Outstanding Natural Beauty—AONB)
- UK National Site Network including 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 conservation plan (appendix 3), supporting the management of the designated sites across Mildenhall.

Objectives

The objectives opposite are framed via Forestry England district priorities detailed on page 3:

For wildlife

W1 To protect, maintain and enhance designated sites.

W2 To protect, maintain and enhance priority habitats.

W3 To protect, maintain and enhance priority species.

For people

P1 Create a pleasant natural environment for the public to enjoy outdoor recreation in a rural woodland setting.

P2 Work in partnership with stakeholders to maintain conservation and heritage features to a high standard.

P3 Maintain and improve cultural and heritage value of the land by protecting sensitive heritage features highlighted through the operational site assessment (OSA)* process.

P4 Agree Scheduled Monument (SM) management plans for Mildenhall Warren Lodge and Warren Boundary Banks, with Historic England (appendix 1).

For climate

C1 Maintain the land within our stewardship under Forest Stewardship Council® (FSC®)/ Programme for the Endorsement of Forest Certification (PEFC) by meeting standards detailed in UKWAS fourth edition.

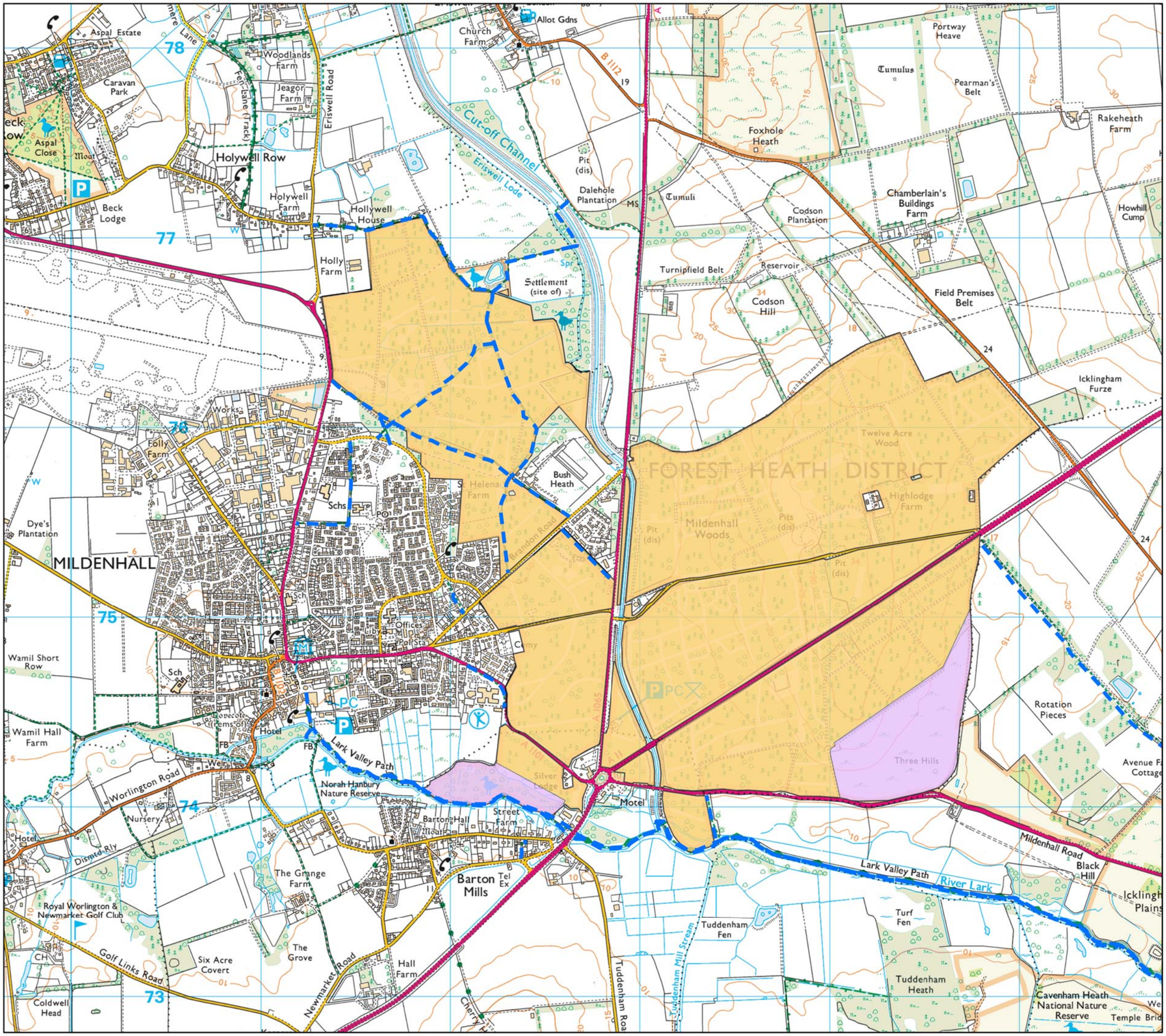
C2 Increase forest resilience to threats posed by climate change, pests, diseases and fire.

Our sustainable approach

SA1 Improve economic resilience of our forests by increasing species diversity through restock programmes and mixed silvicultural practices, to protect future timber supplies and biomass.

SA2 The felling plan should aim to smooth production from crops in cyclic clearfell but also meet market commitments.

To see how these objectives are incorporated into the site's planning please refer to the Design and Concept map on page 8.



Forestry England

East England Forest District

Mildenhall

Scale: 1:19,000

Plan area and landholding status

Legend

- Freehold woodland Public right of access
- Freehold woodland Permissive access
- Management area
- Public Rights of Way

Forestry England

East England Forest District
Mildenhall Forest

Design Concept Map

Access and recreation facilities

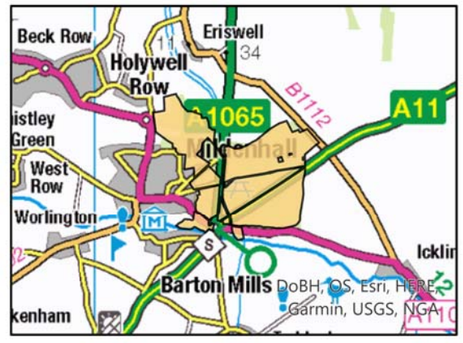
- Management area
- Settlements
- House
- Walking trails
- Forest access barrier
- Caravan site (disused)
- FE Car Park
- Public Rights of Way

Environment

- Sites of Special Scientific Interest
- Special Protection Areas
- Special Areas of Conservation
- Underplanted coupes
- Mildenhall Warren Lodge and Warren Banks Scheduled Monuments
- Water courses
- Open habitat plan ride network

Location & Context

Forest Plan area highlighted in yellow



Forest Plan Objectives

For Wildlife

- To protect and maintain designated sites.
- To protect and maintain priority habitats.
- To protect and maintain priority species.

For People

- Create a pleasant natural environment for the public to enjoy.
- Work in partnership with stakeholders to maintain conservation & heritage features.
- Maintain & improve cultural heritage value by protecting sensitive heritage features.
- Agree management plans for Mildenhall Warren Lodge & Warren Banks with Historic England.

For Climate

- Maintain the forest under FSC/PEFC certification by meeting the standards in UKWAS (4th edition).
- Increase forest resilience to threats posed by climate change, pests, diseases and fire.

Our Sustainable Approach

- Improve economic resilience of our forests by increasing species diversity through restock programmes and mixed silvicultural practices to protect future timber supplies.
- The felling plan should aim to smooth production from crops in cyclic clearfell but also meet market commitments.

N

Scale: 1:20,000

Location & History

Mildenhall Forest, which is part of Thetford Forest, covers an area of 592 hectares and lies within the Brecks, in the heart of East Anglia. It is among one of the warmest and driest parts of the UK with relatively low rainfall of less than 600mm/year.

The plan area is positioned to the east of Mildenhall town, within the county of Suffolk and within the administrative boundary of West Suffolk Council. It falls within three parishes including Mildenhall, Barton Mills and Beck Row, Holywell Row and Kenny Hill.

The woodland is divided into segments by a number of busy public roads. The most significant of these being the A11 and A1065 (Mildenhall to Brandon) road. A man-made drainage channel known as the 'cut off channel' runs south to north, physically separating the eastern and western sections of the woods. This is an artificial flood alleviation and drinking water conveyancing waterway, built in the 1950's. There is no running water in the wood however, the River Lark forms the very southern boundary.

The area is bordered by Mildenhall town and RAF Mildenhall to the west. From north east to south east is Breckland Farmland SSSI and Cavenham— Icklingham heath SSSI, and to the north and south farmland and industrial units.

Mildenhall Forest is predominantly commercial conifer plantations but differs from other areas of Thetford Forest in that it contains more mixed woodland with large broadleaf belts and open rides running through all segments of the woods. Prior to woodland establishment by the Forestry Commission, Mildenhall was an open grassland and dunes supporting grazing animals, followed by attempts at agricultural improvement during the early C19th. Consequently no ancient woodland survives in the design plan area. However, some large veteran oaks survive on the edge of the glideslope at TL 7170 7626 and there are a few areas of wet woodland with several large alder coppice stools at TL 7217 7650. The agricultural improvement involved the establishment of pine lines as wind breaks; a characteristic of the Breckland landscape. Some of these pine lines and also post- 1840 broadleaf belts have been incorporated into the modern forestry planting.

For over a century the landscape of Thetford Forest has been ever-changing; from the 1920's onwards tree planting on a huge scale created one of England's largest lowland forests and from the 1970's, when the trees started to reach maturity, the timber from the forest has been harvested. The present day landscape of Thetford Forest is a patchwork of trees of different ages intermingled with wide rides and open spaces.

Forest Plans have been used in Thetford Forest for more than 20 years; leading to a change from rectilinear felling shapes to more 'organic' shapes that follow natural or historic boundaries resulting in more of the forest becoming a mosaic of organic shapes composed of trees of different ages and species. There are just a few large rectilinear areas left to 'redesign' but most of Thetford Forest is well on the way to becoming a well balanced and sustainable multi-purpose forest.

Site Characteristics & Biodiversity

Soils

Mildenhall woods is located in the south west Breckland National Character Area (NCA) and is at the interface of the Fens and East Anglian Chalk NCAs. Its has a 1:40 west facing slope running from its high point of 35m at High Lodge Farm down to 10m where it meets the A1065. About 50% of the wood is below 10m. The River Lark runs east to west along the southern boundary.

Mildenhall woods was previously subject to mobile dune systems, with material blowing in from the fens. The soils are free-draining sands over chalk bedrock, except the river valley and the northern areas. The pH of the sand varies across the plan area being chalkier towards the noth east, characterised by Methwold soil series. The higher ground is characterised by deeper neutral to acidic Freckenham and Worlington soil series. The sands to the south and west are deep and acidic characterised by the Broomhouse and Red Lodge series. The Lark River valley is Adventurer's peat with acidic cover sands. The north part of Mildenhall Woods is mixed soil but typified by loamy and sandy soils with groundwater, and peaty near the surface.

Wooded Habitats

Coniferous Forest

Most of the wooded area of the plan is conifer forest, with Pine being the predominant species. Mature conifer areas are largely retained along forest boundaries but a few small patches are present within the main forest block. These help to vary age structure, provide opportunities for natural conifer regeneration and improve the amenity value. Many areas are managed through low impact silvicultural systems* (LISS) and can be seen on the management map on page 24.

Broadleaf Forest

Broadleaf woodland is well distributed across the plan area, with good links along forest boundaries and within the main forest block. They are also linked with conifer belts to create a continuous border around the forest protecting the external and internal landscape. Linking conifer and broadleaf belts provides an important opportunity to develop more mixed species boundaries overtime. The majority are managed through LISS but some are managed through minimum intervention as a natural reserve, shown on the management map on page 24.

The main broadleaf species include Birch, Oak and Beech, with a further 11 minor broadleaf species present. These provide the greatest biodiversity and carbon stores amongst predominantly commercial conifer plantations, making them an important part of the forest environment.

Deadwood

Deadwood of different sizes and stages of decay provide opportunities for feeding, breeding and shelter to many species. Fallen and standing deadwood like that shown in the photo opposite is an important woodland habitat for a range of fungi, invertebrates such as beetles and solitary wasps and hole-nesting birds such as woodpeckers.

The largest amounts of deadwood can be found in areas managed as long term retentions and natural reserves, where ecological processes such as decay and windthrow increase biodiversity value of the area. Operational site assessments are also used to identify further deadwood opportunities.

Site Designations & Biodiversity

Designated sites

Breckland Forest SSSI* designated in 2000 totals 18,126ha and covers most of Thetford Forest (*www.sssi.naturalengland.org.uk/citation/citation_photo/2000443.pdf*). The designation is for its breeding populations of Woodlark (Lullula arborea) and Nightjar (Caprimulgus europaeus), vascular plant assemblage (20 species), two assemblages (F111 and F112) of ground active invertebrates and pingos. Red squirrel is now considered extinct in the forest.

The majority of the plan area (576ha) is designated under the Breckland Forest SSSI (see design & concept map page 8). Mildenhall Woods is an important plant site with 12 plant species that are part of the vascular plant assemblage recorded, including Breckland mugwort and Breckland thyme, Maiden pink, Fine-leaved sandwort, Purple-stem cat's-tail, Sickle medick, Bearded fescue, Mossy stonecrop, Tower mustard, Bur medick, Wall bedstraw and a Prostrate perennial knawel reintroduction. Red-tipped cudweed was last recorded in 2002 and Spring speedwell is found in the south east of the wood. The invertebrate assemblages are associated with the early successional open habitats, such as short-turf grass heaths, bare ground and the forest roads and rides. Woodlark and Nightjar nest on open ground and rely on the clearfell tree harvesting system to generate suitable nesting habitat. There are no pingos present in the woodland. Mildenhall is in Unit 1 of the Breckland Forest SSSI and currently assessed as unfavourable-recovering.

Breckland Forest SSSI forms part of the Breckland SPA* designated under the European Birds Directive. The SPA designation supports populations of Woodlark, Nightjar and Stone curlew. Woodlark and Nightjar are associated with rotational clear fell restocks but Woodlark are further associated with open habitats such as short-turf grass heaths and rides. The revision of the forest plan will try to smooth the 'supply' of breeding habitat over time by amending the felling dates of the clearfell coupes to produce an annual area of clearfell close to the sustainable mean for the forest. This is illustrated in a bar graph in the proposed management plan section, on page 21. Stone Curlew nest on open ground including sandy heaths, well grazed grassland and arable fields. They are a regular breeder in Mildenhall. Both Breckland Forest SSSI and SPA areas are currently assessed as unfavourable-recovering.

There are 3 important geological areas, formerly notified as separate SSSI's which now form unit 005, 006 and 007, within the Breckland Forest SSSI. Two of these are present within the plan area including Warren Hill (006) and High Lodge (007), and both are currently assessed as favourable condition. These provide evidence for interpreting and understanding the links between geography, climate, environment and human history of East Anglia during the middle Pleistocene.

Rex Graham Reserve SSSI and SAC (2.76ha) is a long disused chalk pit supporting populations of the nationally rare plant, Military orchid. Moonwort, Adders tongue fern, Common twayblade, Pyramidal orchid, Southern marsh orchid and Mezeron are also recorded here. It is currently assessed as favourable condition. Public access is strictly controlled here with a fence around the pit and the surrounding woodland excluding deer. The dualling of the A11 between the Barton Mills roundabout and Thetford in 2014 prompted a project to create an extension and corridor to link Rex Graham through to Warren Hills to protect the Military orchid population. This can be seen in the design & concept map on page 8.

Barton Mills valley is a 10.7ha local nature reserve in the very south west of Mildenhall woods. It is wet woodland, reed and sedge bed with open water bodies.

The east side of the plan area is adjoined by Breckland Farmland SSSI and Cavenham – Icklingham Heaths SSSI and SAC. Both also form part of the Breckland SPA.


Rex Graham Reserve


Military Orchid


Woodlark


Nightjar


High Lodge pit , geological site


Breckland mugwort

Priority habitats

The UK Forestry Standard requires a minimum of 10% open ground or ground managed for conservation and enhancement of biodiversity as the primary objective, across the Thetford Forest landscape. UKWAS requires a minimum of 10% of the district management area to be managed as open space for biodiversity, cultural and recreational purposes. The existing open space within this plan includes Warren Hills heath, glideslope, Warren Lodge Scheduled Monument, Rex Graham and the network of forest rides. This accounts for 16% of the plan area (see pie chart on page 17) which includes both permanent open space and temporary open space, created through felling operations. Open habitat is managed through grazing, mowing, discing, frequent scrub removal interventions and bracken control.

Priority open habitats within the plan area include Lowland heathland, Lowland dry acid grassland, Lowland Meadow and Lowland Calcareous Grassland.

Lowland Heathland

There is a ride length of lowland heath along a forest ride at TL 7357 7433 (2.27ha)

Lowland dry acid grassland

The area known as Three Hills/ is an area of acid grassland at TL 7437 7450 (35.46ha) with a small area of associated dune grassland on the disturbed Anglo-Saxon cemetery. This is an area of 2002 habitat re-creation managed under the Brecks Heath Partnership and is effectively a buffer to the Cavenham & Icklingham Heaths SSSI. The rides and pits west of High Lodge TL 7391 7544 (~1.0ha) that support Breckland Mugwort and Bur medick, along with 'Pilgrims Walk' are also areas of acid grassland.

Lowland Meadow

There are areas in the north east of the wood that are remnant dune and probable dune slack that do not fit well within the priority habitat classification as inland dunes are exceedingly rare in the UK. However, the examples of this support flower rich swards including large populations of maiden pink and tower mustard, such as the glide slope area at TL 7163 7623 (6.16ha) and surrounds (~9.22ha).

Lowland Calcareous Grassland

The ride system in the north east of the wood supports calcareous grassland where wide enough. The ride around TL 7477 7602 (1.89ha) is a good example. The Rex Graham Reserve and its extension, where the chalk is exposed have developed as calcareous grassland.

Wet woodland

There are three areas of wet woodland within the lower west part of Mildenhall Woods. The local nature reserve area on the north bank of the River Lark at TL 7222 7408. A second area at TL 7252 7460 (5.73ha). The third, known as Hurst Fen is in the north at TL 7238 7650 (6.72ha), this area contains some significant alder coppice stools.

The north part of the woods had wet hollows, due to a historically higher water table at or above the surface, however the water table is now significantly lower mainly due to post-war drainage of the landscape. It would appear that these small areas were not planted, or failed if done so, due to the higher water table. They have now lost many species such as Milk Parsley characteristic of a wetter landscape.

The priority habitats detailed support a variety of nationally rare flora and fauna. It is recognised that widening and linking rides to surrounding open habitat within this plan will increase biodiversity for the priority habitats, whilst improving species distribution. The Thetford Forest Open Habitat Plan was developed for this purpose and aims to integrate 10% open space across the 12 Thetford Forest plans (see appendix 2). The plan will see existing forest tracks widened from 10m to approximately 40m to create ecological corridors that link important biodiversity areas across Breckland Forest SSSI (Thetford Forest) to SSSIs in the adjoining landscape. It aims to create this landscape network as priority habitat that supports the Breckland Forest SSSI plant, invertebrate and bird conservation features.

In 2019, a field scale trial of the network was carried out in Kings Forest. The learning from this trial has been used to review the network across the forest as part of the forest resilience programme. The habitat and restock map on page 26 shows the proposed network of 40m wide rides for the Mildenhall plan area. Where appropriate, these rides will be scalloped to add interest and improve edge habitat, increasing their value to wildlife. Scalloping will also improve wildlife management opportunities helping to reduce damage to planted trees and natural regeneration.

These wide rides will not only provide high conservational value but also timber extraction routes, easy access for public use such as walking and fire breaks helping to prevent fires spreading during a wildfire incident and providing good access for the emergency services. They are also important for wildlife management providing good feeding areas for deer.

The current planned timescale for implementation of the Thetford Open Habitat Plan is April 2024 to March 2026. For more information and updates on this please visit: www.forestryengland.uk/article/thetford-open-habitat-project

Three/Warren Hills, Lowland dry acid grassland

Priority species

There is a variety of priority species recorded in Mildenhall forest including mammals, amphibians, reptiles, lepidoptera, birds, plants and invertebrates.

There are up to 8 species of bat recorded throughout Thetford Forest. They feed along the open rides and in the open woodland matrix. A significant area known to host Barbastelle has been identified in the centre of Mildenhall Woods TL 7372 7504 (63.25ha). This was also confirmed by the A11 dualling survey work and has been changed in the plan to be managed as natural reserve in future.

Common toad are recorded in the wood, associated with the Cut-off channel and smooth newt is associated with waterbodies in the local nature reserve. Water vole and Otter have also been recorded in the Cut-off Channel. Water vole have been recorded in the wood whilst no known holts have been found in the forest for Otter.

The priority bird species present in the woodland include Goshawk and Tree pipit. Goshawk are regular breeders here with 4 pairs now recorded. The Tree pipit is a migrant species which breeds in younger restock* coupes.

Adder, Grass snake and Common lizard are recorded in the woodland. The waterbodies provide feeding sites for grass snake and the open habitats provide feeding areas for all species.

Basil Thyme is associated with the calcareous track sides and likely supports populations of the Basil Thyme Case Bearer Moth. There are 7 other priority moth species recorded across the woodland of which most are associated with flower rich or short-turf and disturbed grassland, found in the rides and open habitats. Other species are associated with woodland ecotone and wet habitats for breeding and feeding including Autumnal Rustic, Buff Ermine, Deep-brown dart, Cinnabar, Blood-vein, Forester and Large Wainscot. Butterflies present include Grayling and Small heath, associated with fine-leaved grasses in short-turf rides; White admiral associated with damp woodland and White letter hairstreak associated with remnant elm suckers.

A range of insects are found in Mildenhall these include: Adonis' ladybird, *Chrysis illigeri*, *Dendroxena quadrimaculata*, *Lygus pratensis*, *Micropeza lateralis*, mud wasp, *Priocnemis coriacea* and the red-tailed mason bee. However, the scarcest is the wormwood moonshiner beetle, known only from its rare host plant; Breckland mugwort.

In addition to the above listed priority species badgers are also present, evident from the couple of active badger setts recorded within the woodland. Hedgehogs are also present in the woodland.

By applying different management systems across the woodland including the use of lower impact silvicultural systems, clear fell coupes and maintaining open space in heathlands and rides, priority species are well supported here.

All priority species and habitats will be taken into account as part of the OSA* process before work commences to ensure species protection and to identify additional opportunities for enhancement.


Wormwood moonshiner beetle


Common Toad


Otter


Adder


Goshawk


Water Vole


Hedgehog

For People

Access and Recreation

Public access is permitted on foot across the whole plan area (see plan area map on page 7), which is held under freehold. The main forest user group is walkers, particularly dog walkers around the glideslope area (see design and concept map page 8) close to Mildenhall town.

There are two official car parks including Barton Mills—Walkers Snack bar along the A1065 close to the Barton Mills roundabout, and another at Warren Lodge. Although not encouraged, several gateways around the area are also used for parking. The waymarked Mildenhall Warren Lodge Walk starts from the Warren Lodge car park. There are currently no plans to further increase formal recreation facilities within the woodland.

There are a small number of low key events and permissions across the plan area including Cycling and orienteering.

There is a caravan site to the east of Brandon road which had been managed since the 1960's-70's on the same basis as the one at High Ash, Hilborough. Over the last 8-9 years there has been no active business here but the footprint remains for potential small scale business development to be explored in future.

There is a lot of anti-social behaviour across the woodlands but a particular site was highlighted off the A1101, where the layby is used for parking to access the forest. This area will undergo heavy thinning operations to open up the woodland helping reduce the appeal for anti social activities in this area.

Europe wide studies have indicated people visiting forests prefer to see stands of large mature trees, both broadleaves and conifers. This confirms our own management policy of retaining some overmature trees and managing them under LISS, thereby contributing to providing a more aesthetic environment.

There is a Thetford Forest facebook page which enables two way communication between Forestry England and forest users.

Community

An agreement is in place with RAF Mildenhall located to the north west of the plan area to ensure tree heights within the glideslope are maintained to an agreed limit, ensuring the safe landing of aircraft. The full glideslope area can be seen in appendix 4. A survey of tree heights was carried out as part of the plan revision and a small clear fell area has been included in the management map on page 24 as a result. The restock and habitat map on page 26 shows the glideslope area will be managed through a combination of permanent and temporary open space where tree height restrictions are greater and short rotation coppice where these are lower.

There are private houses within the forest and others bordering the forest boundary. Farming units border the plan area along with Mildenhall town and Cavenham and Icklingham Heaths SSSI.

The nearest town to the plan area is Mildenhall with a population of around 15,500. Surrounding villages include Barton Mills, Holywell Row, Beck Row, West Row and Eriswell with a total combined population of around 10,000.

Forest plans are revised every 10 years and plans for the East England Forest District are accessible from the Forest Plans webpage at https://www.forestryengland.uk/forest-planning.

Safeguarding our Heritage

Evidence of the presence of humans has been found over the area now covered by Mildenhall Woods spanning the prehistoric periods to the First World War. The archaeological evidence shows that this landscape has been used for multiple purposes, including as a place: to live, to bury the dead, to farm, to quarry, and to train for battle.

A Palaeolithic lake-side settlement, Suffolk Historic Environment Record (SHER) MSF8746, was discovered during brickearth extraction in the 19th century to the west of Highlodge Farm, and it has seen several phases of excavation through the 20th century. A large number of flint artefacts, including scrapers and hand-axes, and faunal remains, including straight tusked elephant and rhinoceros, have been found at the site. Over 2000 Palaeolithic hand-axes have been found Warren Hill in the south-eastern corner of the forest (SHER MSF8742). Research suggests that the hand-axes predate the Anglian Glaciation (*c.* 450,000 years ago), meaning that Warren Hill is significant not only for its rich artefactual assemblage, but also because it is one of the oldest human sites in Britain. Occupation of this area continues into the Mesolithic and Neolithic as evidenced by the nationally important Neolithic settlement at Hurst Fen (National Heritage List for England (NHLE) 1006056), adjacent to Mildenhall Woods, where material from both periods has been found. Neolithic arrowheads have also been found at High Lodge, a flint knife at Warren Hill, and worked flints near Butt Plantation.

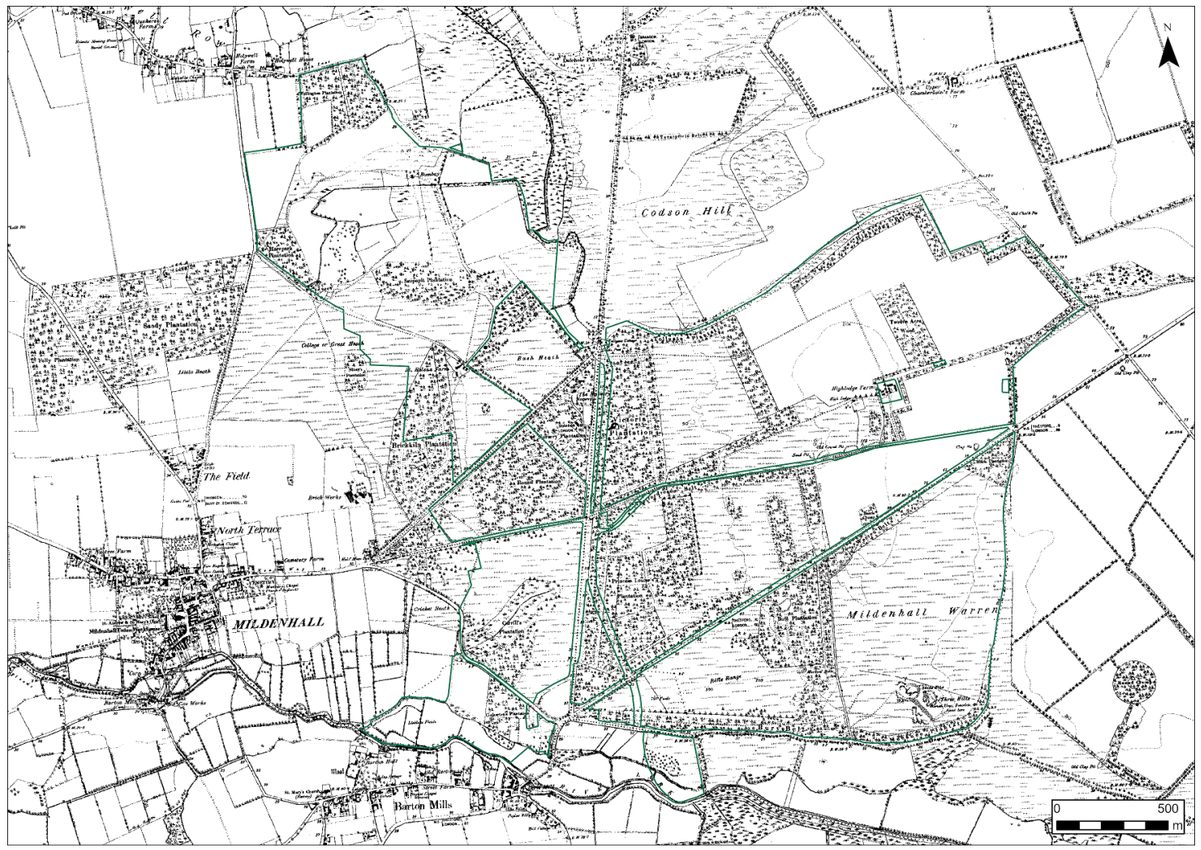
Three Bronze Age barrows, or burial mounds, were known at Three Hills, Warren Hill, each originally around 21 m in diameter and 3 m high. Trenches had been cut through the barrows before the site was gradually levelled in 1866 century prior to gravel extraction. Some attempt was made to record archaeological remains, which included the remarkable find of a pile of 18 Red Deer antlers above a crouched female inhumation associated with a decorated food vessel, in one barrow (Prigg, 1872, SHER MSF8743). Further evidence of Bronze Age activity is suggested by the tentative identification of three further barrows to the north of Warren Hill and finds of Bronze Age pottery in the area. There is little known evidence of Roman occupation in this area, limited to scattered surface finds, but considerable evidence of activity from the early medieval period on. 19th century quarrying in the Three Hills area revealed Anglo-Saxon burials within the Bronze Age barrows and a cemetery consisting of around 18 graves and a horse burial.

The medieval period saw the establishment of Mildenhall rabbit warren in 1247-8 which continued to be used into the post medieval period (after *c.* 1540). The forest today largely sits within the area covered by the warren and the boundary banks that defined it can still be seen on the ground on the northern and southern perimeter. A well-preserved section of the northern perimeter bank was designated as a Scheduled Monument in May 2024, indicating the significance of the warren boundary, NHLE 1485668. The eastern boundary banks were removed by later gravel workings and large sections of the western banks by modern road systems. However, post medieval wood banks and field boundaries appear to be aligned on the warren boundaries in part of the western area. Another feature of the rabbit warren in Mildenhall was the warrener's lodge. The lodge provided accommodation for the warrener and family, storage for trapping equipment and carcasses, and a look-out and defence against poachers (The Breckland Society 2017, 24). Mildenhall Warren Lodge was originally a two-storey building to which a lean-to extension was added in the 19th century (later demolished). The lodge was later designated as a Scheduled Monument as a roofless structure, NHLE 1006023, but has subsequently been conserved in two main phases: clearance of vegetation and consolidation of the walls from 2003; and the addition of a roof in 2017, the design of which was based on a photograph taken in the 1930s. The scheduled area encompasses the lodge building and its associated structures, including the remains of the lean-to and a well. The warren lodge and warren banks have Scheduled Monument Management Plans which have been agreed with Historic England (see appendix) and their condition is regularly monitored by the Friends of Thetford Forest and Forestry England staff. A second warrener's lodge is thought to have been located in the Three Hills area, but no remains survive.

Mildenhall Woods in 1813. The three barrows on Warren Hill can be seen in the bottom right corner (Ordnance Survey Drawings: Feltwell, Norfolk (OSD 238). Issued by the British Library under the Open Government Licence version 1.0.

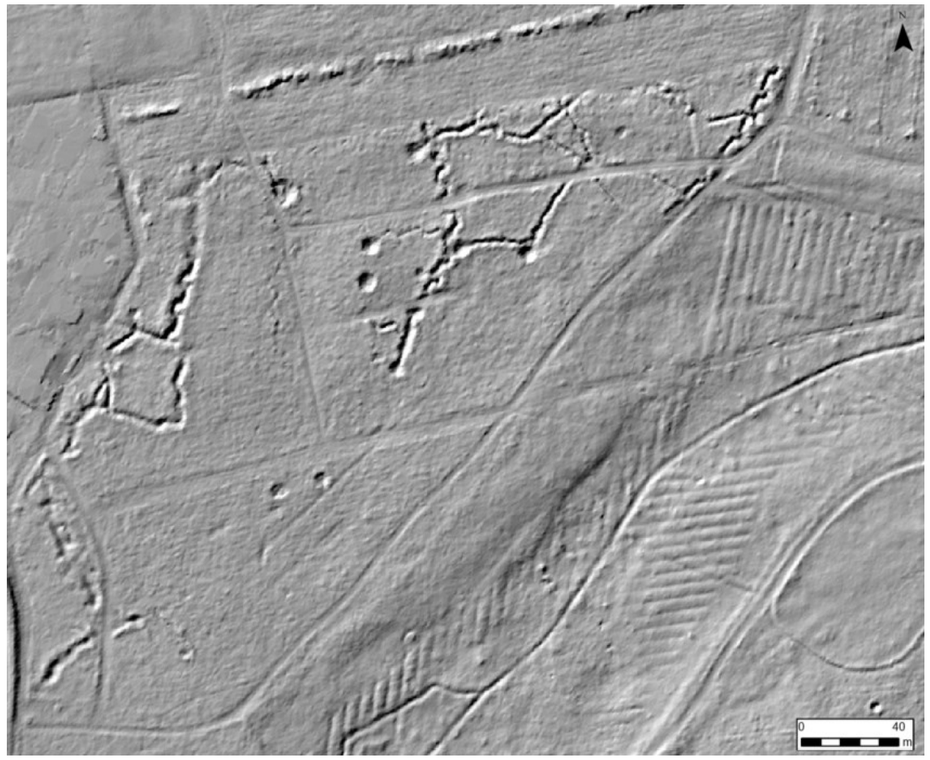
Safeguarding our Heritage … continued

Evidence of woodland management in the post medieval period is shown by wood banks throughout the wood, defining the boundaries of plantations which can be seen on the 1st edition Ordnance Survey map (1:10560, 1885). This map also shows the site of Bombay Farm in the north-western area of the wood. While the farm has disappeared, boundaries associated with it survive as earthen banks. Excavations by Lady Grace Briscoe in the 1950s also uncovered the remains of a building in this area (Suffolk HER MSF8923). Another feature not shown on the 1st edition OS map, but associated with the post medieval period, is a tree enclosure ring created as a decorative plantation located in the south-western area of the wood. Numerous examples of tree enclosure rings are found nearby in Brandon Country Park, but it is unclear whether this site was associated with the garden of a great house. Another activity taking place within the woodland in the post medieval period was quarrying for sand, gravel and chalk, probably from at least the 19th century and possibly earlier. The area of Three Hills was extensively excavated at this time, when the discoveries of Bronze Age and Anglo-Saxon burials were made, but other pits are scattered throughout the wood.



Mildenhall Woods in 1885. The green line indicates Forestry England holdings. 1st edition Ordnance Survey map 1:10560, 1885 © Crown Copyright and database right 2023. Ordnance Survey Licence number 100021242.

A rifle range was also created within the southern area of the wood in the 19th century and marker butts at regular intervals survive as earthworks, possibly associated with the popular Volunteers movement which began in 1859. The south-western area of the wood was put to use by the military in the First World War when a complex of training trenches was created for the Northern Army Schools of Instruction. The earthworks replicate the form of trenches on the front line, including listening posts and communication trenches, and were used to train soldiers in the art of 'bombing', or throwing grenades.



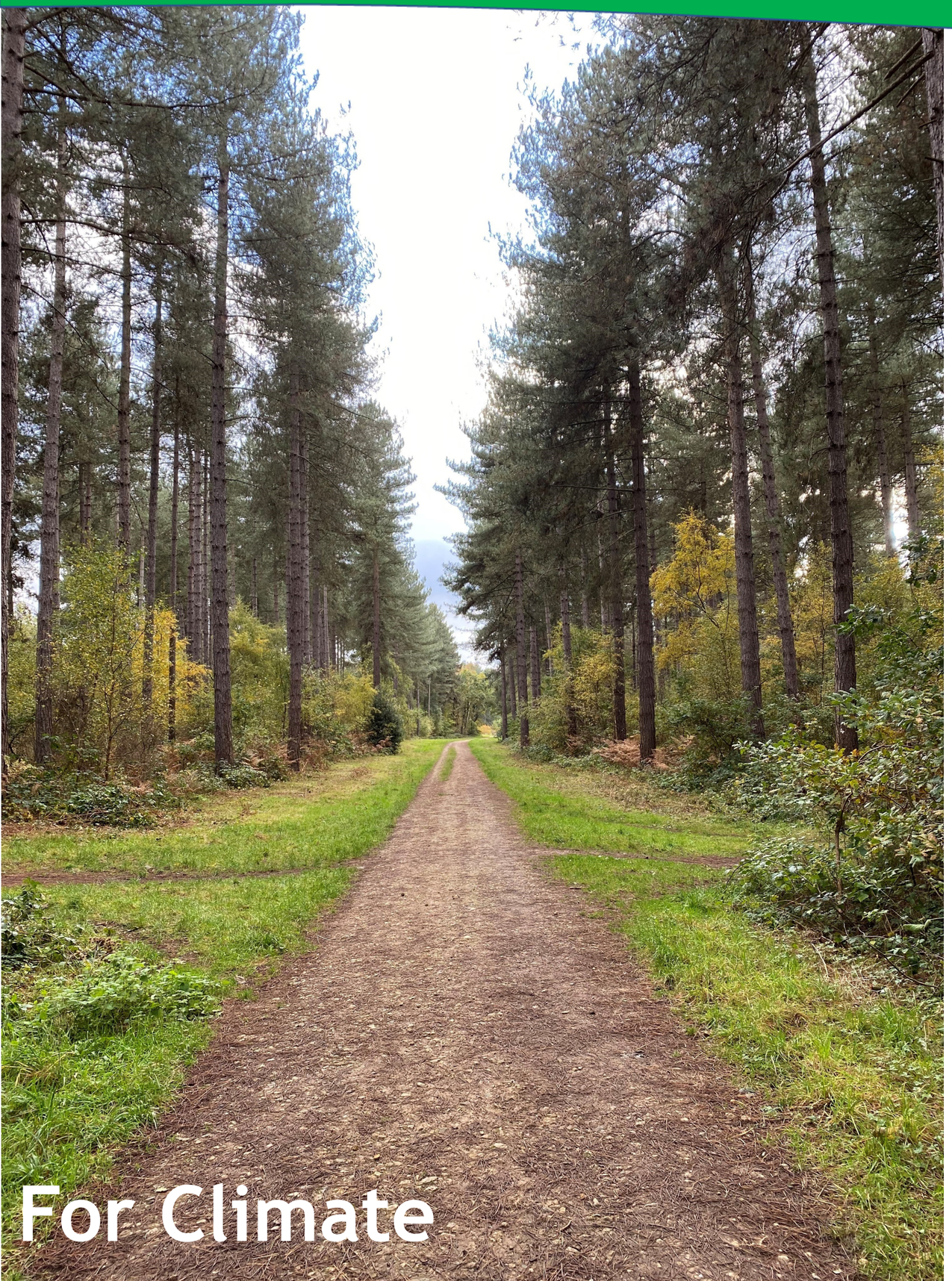
First World War training trenches as shown on a hillshade visualisation of lidar imagery. © Crown Copyright. Forest Research. Based upon BNG LPS Project, FC England and Fugro Geospatial Data. Supported by the Heritage Lottery Fund. Visualisation created by Historic England.

Breckland Society, The, 2017. *The Internal Archaeology of the Breckland Warrens: A Report by The Breckland Society*, via, http://www.brecsoc.org.uk/wp-content/uploads/2017/07/brecsoc_internal_archaeology.pdf

Masterson, M, 2017. English Rifles: The Victorian NRA. In *History Today*, via, https://www.historytoday.com/miscellanies/english-rifles-victorian-nra

Prigg H, 1872, The Tumuli of Warren Hill, Mildenhall', In, *Proceedings of the Suffolk Institute of Archaeology*, 4/5: 287-299.

Suffolk Historic Environment Record, via, https://heritage.suffolk.gov.uk/



Forestry England

Tree Species

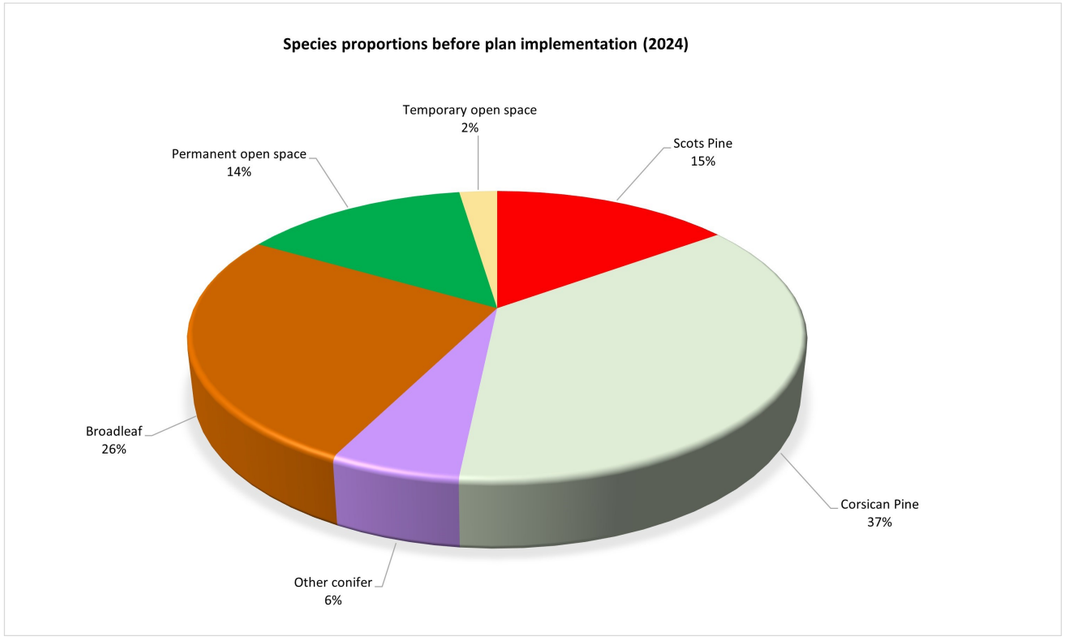
The whole plan area is predominantly a pine forest; this genus was chosen as both Scots and Corsican pine are particularly well suited to the soils and climate in Thetford; growing fast and producing good quality timber. The heavy reliance on pine, particularly Corsican pine, has had its downside as Dothistroma Needle Blight (DNB) is now present across the whole forest; Corsican pine is particularly susceptible to this disease; Scots pine is also affected but to a lesser extent. The effect of DNB is to reduce the number of needles held on the tree and also to reduce the efficiency with which the remaining needles photosynthesize, leading to poor growth and in the worst cases killing the tree. As a result this species is rarely planted and alternatives are used for restocking such as Scots pine and Douglas fir. There are only a few pioneer species (Pine, Birch & Larch) which grow well in the open conditions created after clearfelling.

Mildenhall has seen significant species change over the last 10 years becoming one of the best mixed woodlands in Thetford Forest. Where most others contain well over 50% of Corsican pine, Mildenhall sits at a modest 37%. This is still concerning and further reductions will continue to be made but this can be balanced with more sensitive management methods.

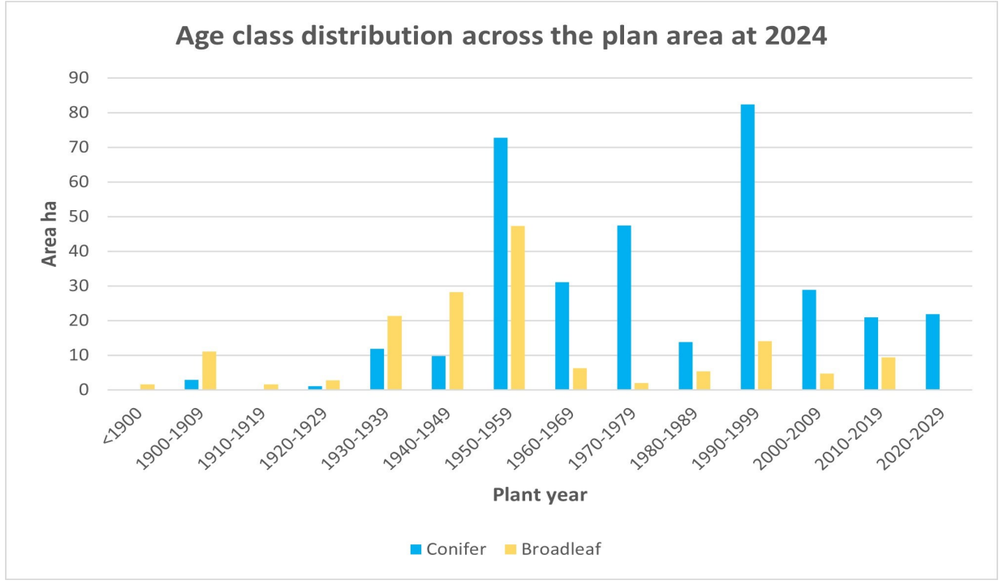
Areas of extreme DNB infection require immediate intervention to avoid mortality. These have been identified for underplanting* as part of a programme across Thetford Forest that will see up to 266ha per year, over a period of 30 years, underplanted. There are only a few areas identified within the Mildenhall plan and these have already been underplanted. These can be seen on the design & concept map on page 8. Although this will result in coupes being felled later than originally planned this will maximise the economic output of timber in these infected coupes and diversify species across the forest, a key objective of the plan. The later felling periods also help to smooth felling into the future, reducing peaks between 2042-2056 closer to the mean felling level. This will provide a more even supply of habitat for Woodlark and Nightjar in future, also a key objective of the plan.

Following felling, coupes are planted usually within 2 years. A fallow period is often necessary to reduce the likelihood of the young trees being eaten by pine weevil, found in stumps and roots of felled or dead conifers. Fencing may be required in both underplanted areas and clear fell coupes to reduce mammal damage giving the trees the best possible chance of survival. Fencing requirements should be discussed and agreed with the wildlife management team and kept to a minimum.

Broadleaves make up 26% of the plan area, with the majority located within roadside belts and large blocks across the woodland, as well as natural reserves. Open space including both permanent and temporary (e.g. recently felled areas) accounts for 16% of the plan area.



Structural diversity



The bar chart above illustrates how past management of the woods has perpetuated the condensed initial establishment phase—resulting in the current limited spread of tree ages. Some of the original pine plantings and broadleaf belts remain.

The design brief is to 'smooth' the felling of the second rotation so that the age class distribution becomes more evenly spread over a period of 60 to 70 years. This equates, approximately, to a rotation* of trees and will move the forest forward on a more sustainable basis. As detailed on page 17 the underplanting programme will help to achieve this objective by reducing peak felling periods to provide a more even spread overtime. This can be seen in the graph within the proposed management section on page 21.

Forest resilience

Timber is a renewable material and wood products can have a long life. Timber is a low carbon alternative to materials such as plastics, concrete and steel which require a lot of energy to be produced, emitting carbon dioxide when they are made. When trees are harvested we restock the area to start the cycle again. Growing and using wood helps to tackle the climate and biodiversity crisis. As the trees grow they remove carbon dioxide from the air and convert it to wood. Trees which grow the quickest and live the longest provide the best 'carbon sinks'. However, these two attributes are usually mutually exclusive. Productive forests favour fast growing trees like conifers but slower growing trees like Broadleaves can store more carbon over there longer lifetime. However, a compromise can be found by ensuring the presence of both conifer and broadleaf species within the woodland. In Mildenhall forest conifer is the main species determined mainly by the designation and business requirements. The faster growing conifer will provide good carbon storage in the medium term whilst the broadleaf areas provide good long term storage.

The threat posed to timber production from climate change and more directly from pests and diseases is having a significant impact in forests, with Corsican pine being the worst affected. To ensure long term sustainable timber production the present tree species will require age/species diversification in future rotations selecting species more resistant to the current and increased incidence of pests and diseases.

The plan area is an established woodland with a relatively limited age structure and a ride network throughout. Felling coupes will be designed to vary the age structure across the forest to improve future resilience, a key objective for the plan. Silvicultural systems currently used include thinning on a 5-7 year cycle in conifer plantations and a 10-13 year cycle for LISS areas to encourage natural re-generation. Strip felling and subsequent underplanting is also being carried out in areas of high dothistroma infection helping to add further diversity to the woodland.

The planting of small proportions of Corsican pine as both pure crops or within mixtures may be considered for use in areas of high airflow and where establishment is difficult. These will be trial sites and assessed at year 5 and 10 with a report produced to indicate condition and how these coupes may inform decision making on future tree planting. These reports will be submitted to Forest Services. There is one coupe around the glideslope area which may be planted with Corsican pine as a mixture. This is shown on the restock and habitat map on page 26.

To improve forest sustainability tree species and tree protection is considered as part of the restock programme taking into account soil type, diversification, climate resilient species, disease and pests. As a result of changing priorities restock species are decided closer to the time of felling and it may be necessary to fence the replanted areas to prevent browsing by mammals. The split between conifer, broadleaf and open space is shown on the habitat and restock species map on page 26 and a list of possible species for restocking are listed in the proposed management section on page 23.


Underplanting site, Mildenhall

Our Sustainable Approach

Financial sustainability

Mildenhall is a productive forest and as such conifer is an important species for continued use across the majority of the plan area. The sandy, free draining soils that dominate these woodlands are well suited to support conifer crops, which take around 50 years to reach economic maturity for our current timber market. During this time they will be thinned regularly on a cycle of 5-7 years to improve growing conditions to enhance the quantity and quality of the final crop.

Broadleaf species can take around 150 years until they are considered of suitable size to produce quality timber products for harvesting. However, the poor growing conditions mean that the trees are often of poor form and low quality and so only suitable for firewood. Therefore they are managed on a shorter rotation under LISS to maximise volume for this market through regular thinning interventions every 10-13 years. Broadleaves remain vital to the woodlands offering the most biodiverse areas and helping to improve soils for the second rotation.

Conifers provide a major source of timber products for construction and housing throughout the world and are also used for furniture, fencing, paper and cardboard. Forestry England is the country's largest supplier of sustainable timber grown in England.

The plan shows that currently the woodlands are predominantly Corsican pine, but in future this will change to include a much wider range of other conifer species. This will increase species diversity across the woodland and improve economic resilience, allowing the woodlands to continue to generate an income that can be reinvested back into the woodlands.

The plan revision should not affect the short term sales contracts commitments, coupes can be changed but appropriate substitution of coupes must ensure that future sales can be met.

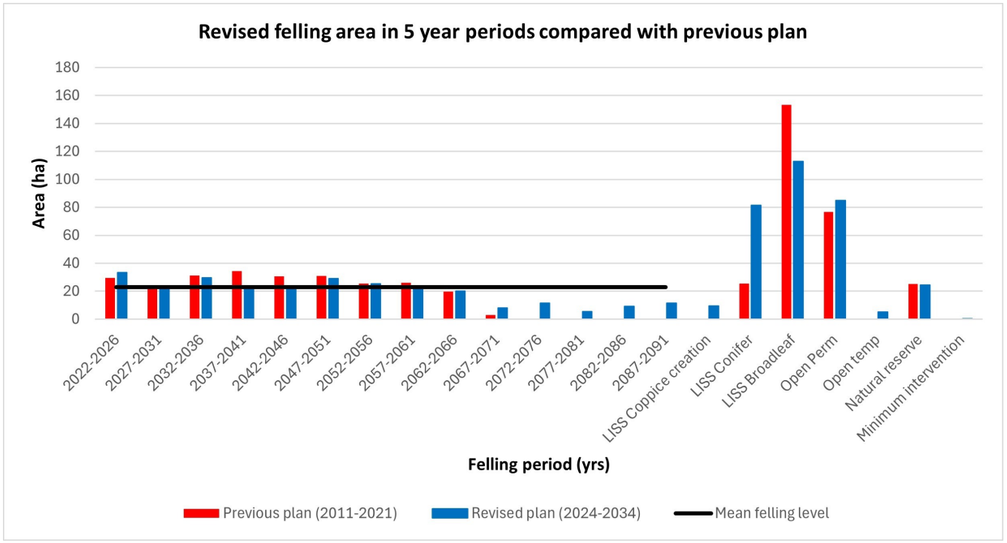
Forestry England

Proposed management plans

The proposed management below builds upon the objectives listed on page 6 and details how progress will be measured:

For Wildlife Objectives

W1 *To protect, maintain and enhance designated sites.*



The chart above compares the felling area per period of the previous forest plan alongside the new revised plan, together with an indication of mean level of felling across the plan area. The new plan has, where possible, reduced the peaks in the previous plan to provide a more even spread of SPA habitat long term. There are a couple of coupes which have been underplanted and are shown in the design and concept map on page 8. These contributed to smoothing out the peaks by moving the felling period much later than previously planned. The inclusion of the linear type felling coupes shown on the management map on page 24 as part of the open habitat plan, have increased the felling area above the mean level in the current felling period 2022-2026 but this will provide more permanent SPA habitat in future.

There has been an increase in permanent open space of just over 8ha which is from improved data records following a survey of the plan area before the plan revision. An area retained as open to extend Rex Graham has also contributed to the increase in permanent open space.

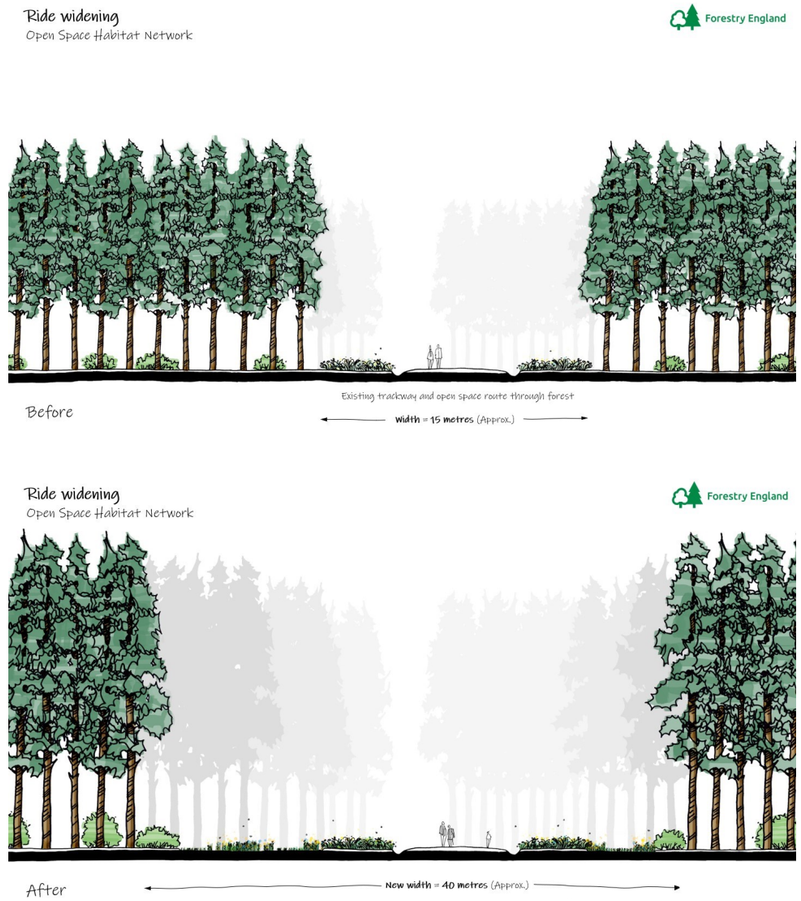
The increase in LISS conifer and reduction in LISS broadleaf is a result of re-allocating to the correct species present e.g. some areas in the previous plan were showing as broadleaf when they were in fact conifer.

W2 *To protect, maintain and enhance priority habitats.*

The provision of permanent open space will see an increase of 1% following implementation of the revised plan. This gives a combined total (permanent plus temporary) of 17% which meets the requirements of UKFS (see pie chart on page 23).

The increased open space comes as a direct result of the extension to Rex Graham to link with Warren Hills and the implementation of the Thetford open habitat plan, of which the full extent can be seen in appendix 2. The priority habitats detailed on page 12 support a variety of nationally rare fauna and flora. It is recognised that widening and linking rides to surrounding open habitat within this plan will increase biodiversity for the priority habitats, whilst improving species distribution.

These open habitat corridors will be created by widening some existing forest tracks from 10-15m to approximately 40m as shown in the diagram below. The ride will swap over from one side to the other to create a weaving corridor through the forest that will narrow and widen at various points to produce a scalloping effect. These will also provide warmer areas for wildlife, improve deer management opportunities and add visual features of interest within the landscape.



For more information on the Thetford Open Habitat Project please visit this webpage: [Thetford Open Habitat project | Forestry England]

W3 *To protect, maintain and enhance priority species.*

There are a variety of priority species recorded in Mildenhall forest including mammals, reptiles, amphibians, lepidoptera, birds, invertebrates and plants. Priority species will be maintained through the planned programme of management identified for their supporting habitats. Opportunities will be identified at the operational level and incorporated into work programmes via the operational site assessment (OSA) process.

The proposed management below builds upon the objectives listed on page 6

For People Objectives

P1 *Create a pleasant natural environment for the public to enjoy outdoor recreation in a rural woodland setting.*

It is difficult to assess how pleasant a woodland environment is as this is subjective. However, managing the woodland through a variety of silvicultural systems including clear fell, LISS and retaining patches of overmature trees such as those present in natural reserve coupes, should create a pleasing environment for forest users and passers by. Maintaining open space also helps to create internal views within a relatively flat landscape.

P2 *Work in partnership with stakeholders to maintain conservation and heritage features to a high standard.*

The Friends of Thetford Forest (FOTF) play an active role in maintaining the conservation and heritage features across Thetford Forest. The FOTF Conservation group undertake various conservation tasks on a monthly basis which for Mildenhall has included annual vegetation clearance at Rex Graham to ensure the rare orchids have a suitable environment to thrive. The FOTF also hold an annual open day for Mildenhall Warren Lodge and Forestry England hold one for Rex Graham. This helps to promote awareness of these important features.

P3 *Maintain and improve cultural and heritage value of the land by protecting sensitive heritage features highlighted through the operational site assessment (OSA)* process.*

Site specific heritage features are considered as part of an OSA process before work commences. A ‘cab card’ guide to protecting heritage assets has also been produced for forest workers and contractors to refer to during operations to increase understanding and protection of heritage features.

P4 *Agree Scheduled Monument (SM) management plans for Mildenhall Warren Lodge and Warren Boundary Banks, with Historic England (appendix 1).*

Appendix 1 shows the Scheduled Monument management plans for Mildenhall Warren Lodge and Mildenhall Warren Boundary Banks. These have been agreed with Historic England.

For Climate Objectives

C1 *Maintain the land within our stewardship under Forest Stewardship Council® (FSC®) / Programme for the Endorsement of Forest Certification (PEFC) by meeting standards detailed in UKWAS fourth edition.*

UKWAS audits are carried out nationally in Forestry England woodlands on an annual basis to retain our certified status. An approved forest plan is a key part of the evidence given to the auditors to prove that the forest is managed sustainably.

C2 *Increase forest resilience to threats posed by climate change, pests, diseases and fire.*

By meeting the first objective in our sustainable approach section on page 23 we will also increase forest resilience to climate change, pests and diseases.

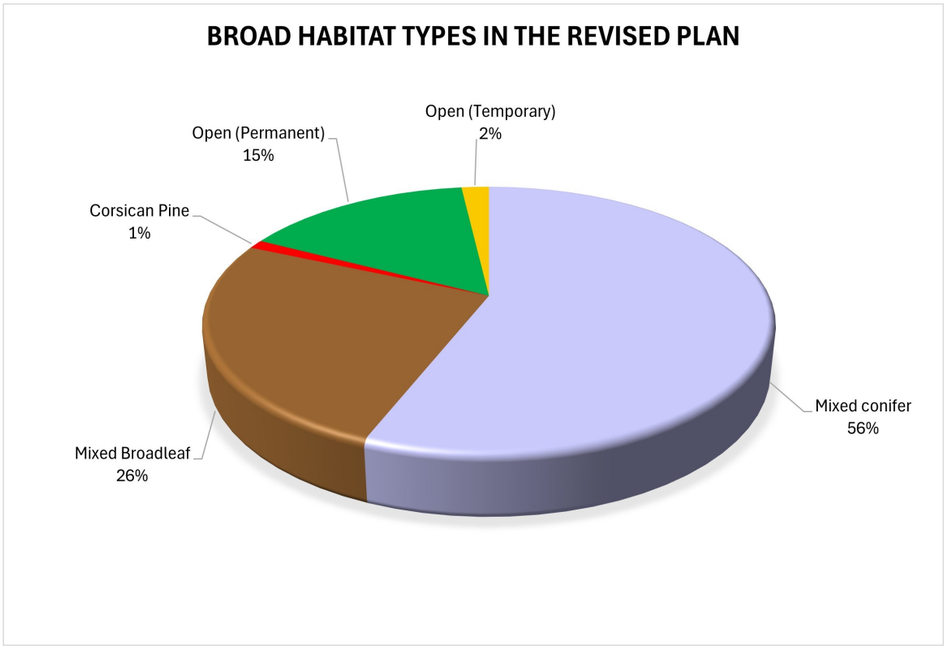
The plan revision includes some key changes like clear felling with seed or frame trees which will involve the retention of between 20-50% stems in these areas. The location of these areas can be seen on the management map on page 24 and 25 and are predominantly present in the south east of the woodland, where natural regeneration exists across much of this area. It is hoped that more sensitive management here will encourage further natural regeneration whilst still opening up the woodland enough to reduce anti-social activity. The felling periods here in the previous plan created adjacency issues but by retaining at least 20% of scattered trees ensures it can still be considered woodland and that the work can be carried out in the adjacent periods, benefiting both SSSI/SPA species, woodland management and market commitments. Although the intention is to retain 20% of trees in these areas it should be noted that the felling area includes the full coupe in the forest plan felling application to allow for a complete clear fell. This may be necessary due to unforeseen windblow risks or to remove the full overstorey to release areas where significant regeneration is present and will be assessed by the beat forester during the OSA stage.

Maintaining and increasing wider ride networks which in turn provide fire breaks will help prevent fires from spreading whilst also allowing good access for the emergency services. Areas around properties which lie in or directly border the woodland are generally managed as LISS and contain some of the most mature trees within the woodland. These act as fire belts particularly where the species is broadleaf and help reduce the risk to life and property in the event of a fire.

The proposed management below builds upon the objectives listed on page 6

Our sustainable approach objectives

SA1 Improve economic resilience of our forests by increasing species diversity through restock programmes and mixed silvicultural practices, to protect future timber supplies and biomass.



The pie chart shows projected habitat proportions by the end of the plan period. Restock species will be confirmed by a site assessment after felling — soil pits and vegetation surveys will be used to ascertain the optimum species for the coupe taking into account prevailing knowledge of species performance and pathology concerns. The species choice in the chart is shown only as Mixed conifer, this phrase should be taken to mean a mixture of conifers across the forest as a whole not necessarily a mixture in every compartment*.

The increase in restock species diversity should improve the resilience of the forest to climate change and the threat from pests and diseases. The habitat and restock map on page 26 gives an indication of the split between conifer, broadleaf and open space.

The following conifer species may be planted in restock coupes following clear fell operations: Scot's pine, Douglas fir, Atlas cedar, Japanese red cedar, Wellingtonia, Maritime pine, and Macedonian pine.

The planting of Corsican pine may be carried out in one coupe shown on the habitat and restock map on page 26. It is thought this coupe may be difficult to establish so a mix of Corsican pine with other conifer species has been chosen here. Corsican pine will also remain in some of the small patches of mature trees within LISS and natural reserve areas. The future diversity of conifer species is expected to increase across both forests as new species and silvicultural systems are introduced.

The percentage of broadleaf has remained at 26% and will increase further overtime as the temporary open space areas become stocked with naturally regenerated Birch and Oak, and LISS coupes are managed where possible to encourage a 50/50 split of conifer/broadleaf mixtures.

These LISS coupes can be seen on the habitat and restock map on page 26 shown as mixed broadleaf/conifer or mixed conifer/broadleaf. The first species type listed is the main one currently present in these coupes.

SA2 The felling plan should aim to smooth production from crops in cyclic clearfell but also meet market commitments.

The objective to smooth timber production while continuing to meet market commitments is very similar to a prior objective to protect, maintain and enhance designated sites and the same restriction of age class on clearfell area applies. Most of the stands in the plan are programmed for felling at their current optimum marketable age—between 50 and 70 years old. In the interim, the productive stands are expected to yield good quality thinning material, and the average coupe size is large enough to allow efficient timber harvesting.

The chart on page 21 shows that the area of felling in the next ten years (2024-2034) has changed from the previous plan. Mildenhall is a relatively small woodland and some restocked areas have struggled to establish so it is important to ensure felling is at a reasonable level and that felling coupe periods are well spread across the woodland. The change in felling area is a result of delaying some coupes further into the future to avoid previous peaks. This change also helps to allow timber to reach full economic maturity before felling.

There has been an increase in clear fell area between 2022-2026 mainly as a result of the inclusion of the open habitat plan. Although the felling area is greater some trees will be felled before they are economically mature which consequently can reduce the volume originally expected from these areas. However, the plan has been assessed and the volume predicted is greater than the previous plan which has been agreed with the programme manager.

This shows market commitments will be met and the work to smooth production in subsequent years has improved the flow of timber towards the end of the century.

Forestry England

East England Forest District

Mildenhall

Scale: 1:15,000

Management map

Legend

Clear fell

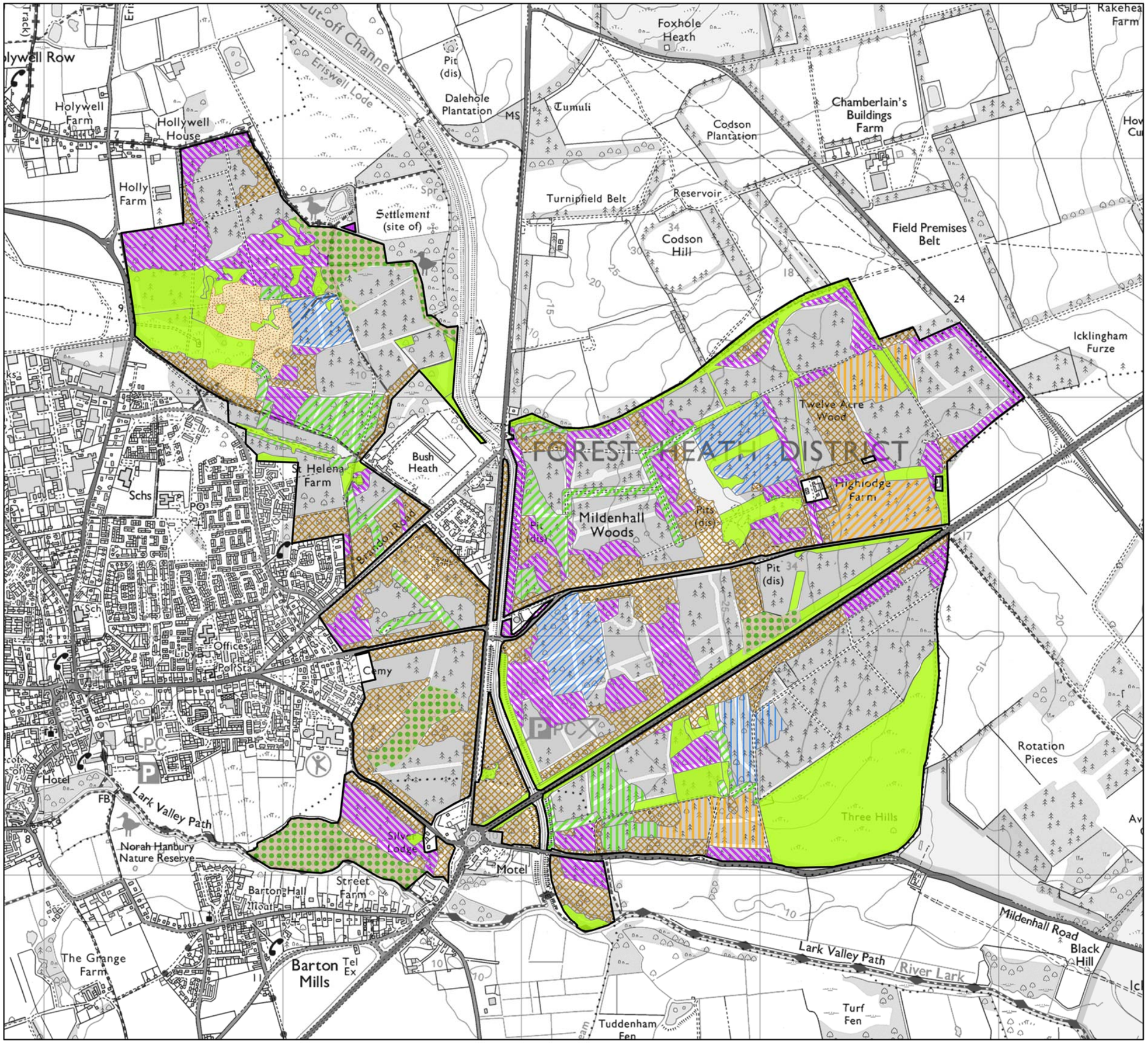
- Clear fell 2022-2026
- Clear fell with seed/frame trees 2022-2026
- Clear fell 2027-2031
- Clear fell with seed/frame trees 2027-2031
- Clear fell 2032-2036
- Clear fell with seed/frame trees 2032-2036
- Clear fell 2037-2041
- Clear fell 2042-2046
- Clear fell 2047-2051
- Clear fell 2052-2056
- Clear fell 2057-2061
- Clear fell 2062-2066
- Clear fell 2067-2071
- Clear fell 2072-2076
- Clear fell 2077-2081
- Clear fell 2082-2086
- Clear fell 2087-2091

Lower Impact Silvicultural Systems

- LISS conifer
- LISS Broadleaf
- LISS Group felling to create coppice
- Natural reserve
- Minimum intervention

Open/other

- Open



Forestry England

East England Forest District

Mildenhall

Scale: 1:15,000

Management map for 10 year plan approval period

Legend

Clear fell

- Clear fell 2022-2026
- Clear fell with seed/frame trees 2022-2026
- Clear fell 2027-2031
- Clear fell with seed/frame trees 2027-2031
- Clear fell 2032-2036
- Clear fell with seed/frame trees 2032-2036

Lower Impact Silvicultural Systems

- LISS conifer
- LISS Broadleaf
- LISS Group felling to create coppice
- Natural reserve
- Minimum intervention

Open/other

- Open space

Forestry England

East England Forest District

Mildenhall

Scale: 1:15,000

Habitat and Restock map

Legend

- Mixed broadleaves/conifer
- Mixed conifer/broadleaf
- Corsican pine (max 60%)
- Conifer
- Sweet Chestnut
- Birch short rotation coppice
- Permanent open space
- Temporary open space

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 delivery plan priorities	Forest Plan Objective	Monitoring
For Wildlife	W1: To protect, maintain and enhance designated sites. W2: To protect, maintain and enhance priority habitats. W3: To protect, maintain and enhance priority species.	A Habitat Regulations Assessment will be carried out and agreed with Natural England. There are 5% of coupes <5ha, which is below the 10% threshold. Progress with implementation of the open habitat network as per the approved Thetford open habitat forest plan, to encourage distribution of rare flora and fauna. The mid term review (2029) should assess any progress here. Implementation of the agreed conservation plan in appendix 3. The mid term review (2029) can assess any progress here.
For People	P1: Create a pleasant natural environment for the public to enjoy outdoor recreation in a rural woodland setting. P2: Work in partnership with stakeholders to maintain conservation and heritage features to a high standard. P3: Maintain and improve cultural and heritage value of the land by protecting sensitive heritage features highlighted through the operational site assessment (OSA)* process. P4: Agree Scheduled Monument (SM) management plans for Mildenhall Warren Lodge and Warren Boundary Banks, with Historic England (appendix 1).	As this is subjective it is difficult to monitor. However, feedback made to the beat forester or recreation department will be used to monitor success of this objective. Continued maintenance through volunteer working groups and open days for Warren Lodge and Rex Graham. The mid term review (2029) will review the continuation and success of these with the environment team. Heritage will be monitored through the OSA process. See agreed SM plan for Warren Lodge and Warren Banks in appendix 1.

District Strategic Objective	Forest Plan Objective	Monitoring
For Climate	C1: Maintain the land within our stewardship under Forest Stewardship Council® (FSC®) /Programme for the Endorsement of Forest Certification (PEFC) by meeting standards detailed in UKWAS fourth edition. C2: Increase forest resilience to threats posed by climate change, pests, diseases and fire.	UKWAS audits and certification Sub compartment updates can be used to show movement towards a more diverse range of species overtime. OGB 4's will highlight difficulties with establishment. Maintaining and increasing open ride networks and managing areas as LISS around property will increase resilience to fire risk.
Our Sustainable approach	SA1: Improve economic resilience of our forests by increasing species diversity through restock programmes and mixed silvicultural practices, to protect future timber supplies and biomass. SA2: The felling plan should aim to smooth production from crops in cyclic clearfell but also meet market commitments.	The sub-compartment* database is updated after restocking to show the newly planted species and their proportions. As part of this updating process the restocking information is compared with the habitat and restock plan to confirm compliance. The restocking area can vary slightly from the plan as physical features come to light only after felling. Most of these minor changes are within the tolerances agreed between Forestry England and Forest Services – see Tolerance table on page 31. A felled coupe is usually restocked two years later, when all the ground preparation and weed control has been completed. To monitor timber sustainability, a stocking assessment is carried out to measure establishment success after five years. The sub-compartment* database will be used to monitor species diversity and assessed as part of the full forest plan revision. The mid term review (2029) will assess the progress and success of underplanted areas identified on the management map (page 24). A comparison between the production forecast of the previous plan (2011-2021) and the revised plan (2024-2034) was carried out to ensure no negative effect on market plan commitments. This has been agreed with the programme manager. To monitor compliance with the felling plan, after a coupe is felled the shape is captured on the ground using a GPS* receiver and the data is uploaded into GIS*. The resulting point data is then compared to the original coupe shape to

UKWAS Compliance table [1]

	Forest Plan Area (Ha)	Forest Plan %	Forest District Area (Ha) [2]	Forest District %
Total area	592	100	34,578	100
Total wooded area	495	84	31,393	91
Natural reserve - Plantation (1%)	15.1	3.3	343	1
Natural reserves - Semi-natural (5%)	9.5	8.8	260	5
Long-term retentions and low impact silvicultural systems	231	39	14,750	43
Area of conservation value (>15%) including designations: PAWS, ASNW, NR, SSSI, SAC, SPA & Conservation zones	583	98	31,815	92

[1] Figures calculated 17th May 2024 and correct at time of publication.

[2] Gravetye included (South East)

Application for Forest Plan

Forest Enterprise — Property

Forest District:	East England
Woodland or property name:	Mildenhall
Nearest town, village or locality:	Mildenhall
OS Grid reference:	TL 732 751
Local Authority district/unitary Authority:	West Suffolk Council

Signed ……..
.Forest Management Director

East England FD

Date……...

Signed ……..
Area Director

East & East Midlands Area

Date of approval……..

Date approval ends……..
*delete as appropriate

Areas for approval

	Conifer	**Broadleaf**
Clear felling	62ha	
Clear felling with seed/frame trees	25ha	
Regeneration Felling	33ha	45ha
Regeneration Felling (creation of coppice)		10ha
Open space (including heathland, ride network and archeaological sites)	4ha	8ha

I seek approval to clearfell 87ha of the Public Forest Estate (this is the area in green, orange and blue stripe fell periods—i.e. 2022-2036). Restock will be through planting mixed conifer species at a stocking density of 2,500 stems per ha. Corsican pine may be planted in the locations shown on the habitat and restock map as agreed with Forest Services. For areas shown as clear fell with seed/frame trees 20-50% of stems will be retained where possible and appropriate to encourage development of existing regeneration. Supplementary planting will be carried out where necessary to meet a stocking density of 2,200 stems per ha.

In addition to the above felling, 194ha will be managed using lower impact silvicultural systems (LISS) including regeneration and selective felling. This will be done through the removal of single and small groups of trees, removing no more than 40% of the stems within any single management unit/compartment 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.

Regeneration felling (creation of coppice) refers to the area of Birch that has not yet been coppiced so requires the initial felling of single stems. This will be done through the removal of small groups <0.25ha over the lifetime of the plan with the intention of regrowth occuring. Supplementary planting will be carried out if required.

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.

Date of commencement of the plan:

Expiry Date:

Mid-Term Review Date:

	Adjustment to felling coupe boundaries	Swapping of felling coupes	Adjustment to felling operation	Timing of Restocking (including natural regen)	Species choice	Clearance of standing trees associated with wind-blown areas	Tree health
Formal approval by area team required.	> 25% of the coupe area	Where changes to the felling sequence is likely to result in a significant breach [1] of the UKFS adjacency rules	Thinning to selective felling or clear felling	Where this is > 4 planting seasons from the date of felling.	From mixed, predominantly broadleaves to evergreen conifer.	**Sensitive[2] areas:** all clearances of ≥1ha or clearances of ≥10% of the stand if area of stand is under 10ha. **Non-sensitive areas:** all clearances of ≥5ha or clearances of ≥25% of the stand if area of stand is under 20ha.	Where no SPHN issued and felling required.
Written approval only required from area team.	Between 10-25% of the coupe area	Where changes to the felling sequence is likely to result in a minor breach [3] 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. Change from other conifers to Corsican Pine		Thinning > 50% but < 65%
Formal approval by area team not required.	≤ 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	Where this is <2 planting seasons from the date of felling. For natural regeneration this is <3-4 years.	Any other changes.	Only if formal approval is not required.	Where SPHN is issued or thinning up to 50%

[1] Greater than 20% of the coupe boundary

[2] Approval letter retained for compliance inspection purposes

[3] 20% or less of the coupe boundary

[4] District team must retain all relevant documentation for compliance inspections

Forestry England

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.

Compartments

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

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 The England Trees Action Plan)

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

Favourable condition

Natural England's definition for a SSSI in its intended state.

GIS

Geographic Information System - computer program that enables FE 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.

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 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.

National vegetation Classification

The key common standard developed for country nature conservation agencies to produce a comprehensive classification and description of the plant communities of Britain. Each are systematically named and arranged with standardised descriptions for each.

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.

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.

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 takes to reach economic maturity e.g. Scots Pine may be grown on a 80 year rotation.

Forestry England

SAC

A special area of conservation is the land designated under directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.

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.

SPA

Special Protection Area designated under the European Habitats Directive (European 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.

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.

UK Forestry Standard

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

UK Woodland Assurance Standard (UKWAS)

A voluntary scheme for the independent assessment of forest management in the UK. The Standard 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.

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^3 per hectare has a yield class of 14.

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.

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.

Lower impact silvicultural systems (LISS)

This is also known as Continuous Cover Forestry and includes a suite of silvicultural systems where species, sites, wind risk, tree health risk and management objectives allow a range of silvicultural approaches. These include group selection, shelterwood or under-planting, small coupe felling, coppice or coppice with standards, minimum intervention and single tree selection systems.

The majority of these systems 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. In the plan this management includes selective felling and regeneration felling.

LISS is often used in areas of high public access to maintain the visual impact of large mature trees for their aesthetic value. It is also a suitable management system on sites where establishment of trees would be difficult if the site were to be clear felled, due to mammal damage or poor soil quality. LISS is also used to manage most of the broadleaf crops and all the mature conifer crops in areas of high conservation value as these trees often provide important nesting habitat.

Open space

Temporary open space follows felling when coupes are prepared for planting or to encourage natural regeneration. It is also created through coppicing.

Permanent open space will be centred on conservation and heritage sites—Open habitats for the plan area are described in detailed on page 12.

Long term retention

These are generally small areas of over mature trees retained for environmental benefit significantly beyond the age or size generally adopted by the woodland enterprise. They are felled at a much later date than usual which will generally co-inside with the felling of a larger adjacent coupe particularly if windblow may be an issue.

Minimum Intervention

No systematic felling or planting of trees. Operations normally permitted are fencing, control of exotic plant species and vertebrate pests, maintenance of paths and rides and tree safety works.

Natural Reserves

Predominantly wooded, permanently identified and in locations of particularly high wildlife interest or potential. They are managed by minimum intervention unless alternative management has higher conservation or biodiversity value.

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.

Appendices:

1: Scheduled Monument Plan for Mildenhall Warren Lodge & Warren Boundary Banks

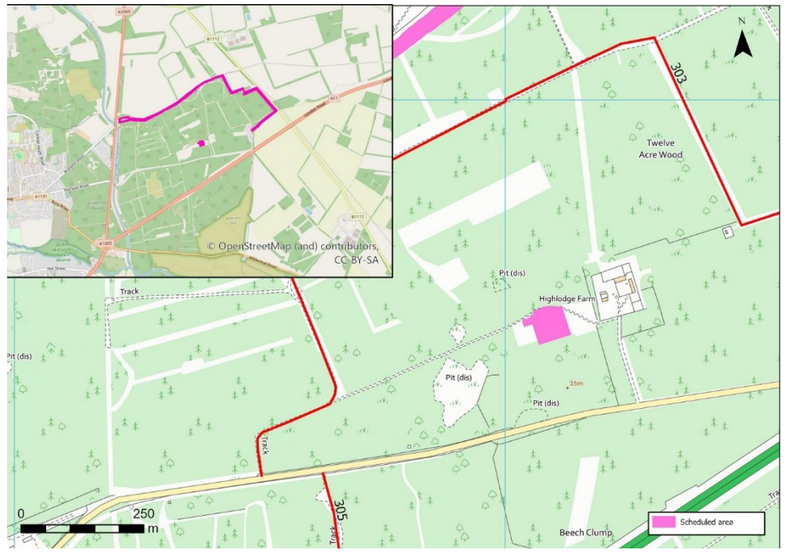
2: Thetford Forest Open Habitat Plan

3: Conservation plan

4: RAF Mildenhall Glide slope area and tree height restrictions map

5: Image citations and Stakeholder consultation record

Forestry England Monument Management Plan East District	**Date of Visit:** 09/02/2022
List Entry: 1006023 (OCN: SF 124)	**Scheduled Monument Name:** Mildenhall Warren Lodge also known as Old Keeper's Lodge
Local Numbers: MNL 134	**OS Grid Reference:** TL 74070 75568
Beat: Thetford West	**Forest District Compartment Number:** 4444
Plan Period: 2021-2027	**Other Statutory Designations:** N/A



Site Descriptions and Importance:

(Scheduling description) The upstanding, earthwork, and buried remains of Mildenhall Warren Lodge. The structure dates to the late C15 or C16 and was ruined in the C20.

Reasons for Designation

The standing, earthwork and buried remains of Mildenhall Warren Lodge, a warrener's lodge dating from the C16 within a medieval warren, is scheduled for the following principal reasons:

* Survival: for the very well-preserved standing masonry remains possibly containing some fabric from the C16, and some surviving interior features;

* Rarity: as one of only a few surviving warren lodges nationally from the medieval and later period that survives close to its original form and in continuous use until the early C20;

* Potential: the warreners lodge and its immediate surrounding have the potential to provide valuable evidence for the warreners' industry and practices;

* Documentation: Mildenhall Warren has been referenced in documents since 1323 which combined with the physical remains adds to our knowledge and understanding of the warrening industry both nationally and regionally and testifies to the importance of the industry in this area;

* Group value: for its close proximity to the Mildenhall Warren Banks (a Scheduled Monument, NHLE 1485668) and other warren remains of national importance in the Suffolk and Norfolk Brecks.

History

Warrens were an area of land set aside for the breeding and management of rabbits (or 'coneys') in order to provide a constant supply of fresh meat and skins. The practice of rearing rabbits was introduced to southern England by the Normans in around 1100 and soon spread to almost every part of the country. As only those with manorial rights could own a warren, early examples were mostly associated with the higher levels of society. The earliest written source is a grant of land to Plympton Priory, cum cuniculi (with rabbits), in 1135 and Henry III established one of the first mainland warrens at Guildford in 1235. However, they gradually spread in popularity, with the C14 and C15 seeing a broader adoption of warrens, including some substantial enterprises by religious houses, and by the C16 and C17 they were a common feature on most manors and estates throughout the country. Warrens continued in use until fairly recent times, finally declining in the face of C19 and C20 changes in agricultural practice, and the onset of myxomatosis in 1954.

Mildenhall Warren Lodge looking south-east. Photo: K Truscoe (April 2021)

Warrens in the Norfolk and Suffolk Brecklands, of which 26 have been identified by the Breckland Society as part of a research project undertaken between 2008 and 2010 (see Sources), lie within an area north from Barton Mills to Brandon and then east to Thetford. The earliest were established from the late C12 by monastic houses or wealthy landowners. Experiencing a climate not too dissimilar to that of the rabbits' native Mediterranean, namely warm, dry summers and low rainfall in winter, the Breckland warrens occupied the higher, permanently dry pastureland of parishes whose settlements clustered along the natural boundary between heathland and fen, or along rivers. To contain and protect the stock, and limit predation and poaching, the warrens were enclosed by banks made of turves which measured up to 2m high and 12m wide and were vertical on their inner faces and sloped on their outer faces. Each turf, also called a 'sad' or 'clower', were laid in the manner of a brick wall with the grass on the outer face. Once constructed, the banks were either topped with bundles of gorse twigs or planted with gorse or thorn bushes, to try and prevent the rabbits from escaping. If two warrens were placed side-by-side, such as Thetford and Santon Downham Warrens, each had its own bank with the space between used as a trackway known as a border. Some of the banks, including those at Brandon, Broomhill/Weeting, Santon, Thetford and Wangford Warrens, were also used to delineate parish boundaries. Within the warren itself, further banks were constructed to serve particular functions. Since the warreners aimed to breed as many rabbits as possible and to produce rabbit meat and fur of the highest possible quality, internal enclosures on some of the warrens may have been used to grow crops to provide additional feed for the rabbits, while enclosures known as 'the clapper' were used for segregating the breeding does. Linear banks with funnelled ends, known as trapping banks, were also constructed parallel to the warren banks to ensnare rabbits for selective culling. Larger warrens were also associated with a lodge. As well as providing living accommodation for the warrener they were also used to store trapping equipment and carcasses and act as a lookout and defence against poachers.

After the Dissolution of the Monasteries (1536-1541), the Breckland warrens passed to lay landowners, often as part of an estate purchased as monastic lands were sold off. However, they mostly continued to function as working warrens until the late-C18, sustaining two fur-processing factories at Brandon and short-lived premises in Thetford and Swaffham. The annual cull on many of the warrens during the C18 ran to over 20,000 animals, with the meat being sent up to London and to the Cambridge colleges, as well as to markets locally. The fur was despatched to Luton, for use in the hat industry, but also to Europe and as far afield as South America. Lakenheath was one of the last working warrens and survived until 1940. The best-preserved Breckland warrens now lie within Thetford Forest which, now covering an area of some 47,000 acres, was established from 1922 to sustain the nation's dwindling supply of timber resource after the First World War.

The first documented reference to Mildenhall Warren is in 1323, when Bury Abbey recorded income from it. After the Dissolution it was owned consecutively by the Bacon, North and Bunbury families. The 1807 Enclosure Map for Mildenhall Parish shows the warren had 1,066 acres.

The exact date of construction of the Lodge is not known. It is referenced in the Will of Nicholas Mey dated 1540 and George Childerstone's Will of 1662, including contents and warrener's nets. It has been suggested that the dressed limestone forming the quoins was repurposed from the earlier church building at Mildenhall. The lodge continued to be a dwelling until the early C20. In 1934 the land, including the Lodge, was purchased by the Forestry Commission. In 2000 - 2002, the building was restored by Friends of Thetford Forest, including the conservation of the upper parts of the walls. In 2012- 2013, Friends of Thetford Forest raised additional funding and managed the project to protect the building with a new roof.

Details

Materials: The lodge is built from a flint rubble core with knapped flint facing, some brick, and some dressed limestone. The ruinous east range is built from clunch. The well to the west is brick-lined. The roof is built from C21 timber and slate.

Plan: The lodge is a standing building approximately seven metres square and two storeys. The walls are approximately one metre thick. Attached at the east side are the ruinous foundations of a former extension in clunch. To the west is a brick-lined well, approximately 20 metres in depth.

Internal south face of Mildenhall Warren Lodge. Photo: James Cross (May 2017)

Description: The walls of the lodge have a flint rubble-core with a knapped flint facing. There are limestone ashlar quoins. The north elevation has an arched doorway with brick dressings, and the upper storey contains a small window opening with stone and brick dressings. To the right of it is a larger, later, blocked window with brick dressings and flint rubble infill. There is some surviving external render, containing animal hair, at ground floor level. There is a course of projecting stone with a flint rubble infilled area which may represent the position of a former lean-to extension. The west elevation contains a blocked door and blocked small window in a very similar position to the north wall. There is no render on the west elevation. The south elevation contains a blocked arched doorway, and at the first-floor level are two blocked, large rectangular windows. Between these windows are the visible remains of a small early window with brick dressings, infilled with flint rubble. The east elevation has no openings. There is an area of rebuilding in red brick, and some render to part of the ground floor. There is an early-C21 pyramidal timber roof structure with plain tiles. Internally, the first floor has been lost, leaving the internal space open. There are remains of a staircase on the inside of the north elevation, a first floor fireplace on the inner east wall and an early-C20 cooking range on the ground floor in the south west corner. Attached to the east end are the foundations of a former extension, built from clunch, and only surviving to a height of about 50cm at the time of survey (March 2023). There are remains of a sink and a drainage channel, and remains of brick flooring. Internally the lodge has a pamment floor and contains a late-C19 stove with a brick surround.

Extent of Scheduling: the area of protection is shown on the accompanying map extract and is designed to protect the standing and buried remains. It includes a 3 metre boundary around the monument, which is considered to be essential for its support and preservation.

Exclusions: all fences, fences posts and metalled surfaces within the scheduled are excluded from the scheduling, although the ground beneath these features is included.

(From Suffolk Historic Environment Record MNL 134)

1984: measured and drawn survey by Colin Pendleton. Original structure 3.56m frontage x 3.17m surviving to height of circa 4.88 m on SW side. Doorway NW frontage, no ground floor windows, no evidence of original stairs. First floor has 4 inwardly splayed windows, three infilled, and deteriorating large fireplace. At a later date two windows were inserted into the ground floor and three in the first floor walls and the back of the fireplace has been renewed with brick. The oolitic limestone quoins incorporate re-used moulded stonework and have been built in reverse, i.e., small quoins at bottom, large at top. It would appear to have been constructed during the demolition process of part of an earlier structure, possibly during restoration of Mildenhall Church in early 14th century. Stubs of part demolished outbuildings noted.

2002-2009: Clearance and restoration work, and further observations - Originally it had a single entrance; at first floor level are four rectangular window openings, on on each elevation and evidence of a fireplace. An additional door and windows were added in the 19th century; a kitchen range inserted on the ground floor and a lean to constructed against the east and north walls. The walls are of flint with limestone dressings and some of the corner stones are re-used Romanesque dressed stone. Collyweston Roofing Slates were found during restoration in 2000.

2010: The Breckland Society's survey of The Warrens of Breckland noted - The warren lodge is a standing by roofless two-storey building about 7sqm. Its walls are flint rubble-core with a knapped flint facing. The four original window and door openings with stone dressings survive and the cornerstones are of dressed limestone, which may have come from the earlier church at Mildenhall. A Will in 1540 includes "the wareyn" and the inventory accompanying George Childerstone's Will of 1662 includes "at the warren lodge one bed with a flockbed 3 ould hayes or netts and other implements belonging to him as the warrener". Low banks to the south of the warren lodge were noted in 2000 and are shown on the 1905 OS map; however, these appear to have been destroyed by felling operations in 2000.

2017: Lodge was put on the Heritage at Risk Register in 2011 because its flintwork had been damaged by harsh winter weather. A new roof was built to protect it, modelled on a photograph of the 1930s.

Condition

The main lodge building is in generally good condition, apart from damage to a small area of roof tiles. The mortar on the low walls, all that remain of outbuildings on the eastern side of the main building, is failing and crumbling away, causing individual stones and sections of stonework to come loose from the walls. Chalk from these walls has been used to graffiti small areas of the walls.

Decline and Vulnerability

The warren lodge is in an isolated area and may be damaged through unsociable behaviour, as has happened with the roof tiles and graffiti. The mortar on the low walls of the demolished outbuildings may be subject to weather-related deterioration, a process which will hopefully to arrested following repairs.

Management Objectives:

- Maintenance of the building and remains of outbuildings in a good condition.
- Maintenance of the cleared area around the building, including its associated well and soakaway, and sympathetic expansion of the cleared area on the northern side.

Work Proposed in the Plan Period:

- Replacement of the damaged roof tiles.
- Repair using lime mortar on the outbuilding walls.
- Vegetation clearance and control in the area around the lodge and its associated structures.
- Removal of graffiti (using a soft brush to avoid damaging the walls).
- Expansion of the cleared area on the northern side, but retaining the lilac hedge and larger trees in order to retain a screen for the building when felling occurs within its vicinity.

Achieved

Annual contract

Proposed Works which Require Scheduled Monument Consent:

Repairs to broken roof tiles and to mortar on low walls of the outbuildings. Scheduled Monument Consent received 09/05/2022.

Arrangements for Monitoring:

The lodge building is monitored regularly by the Friends of Thetford Forest volunteers and opened to the public annually. The lodge will also be visited at least twice during the plan period, once with the Historic England Heritage at Risk Project Officer.

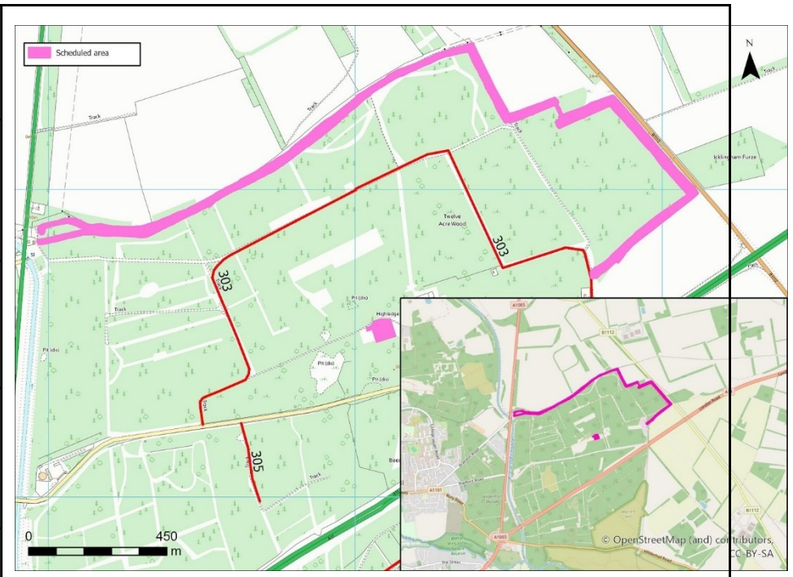
Opportunities:

Development of a story map or app to connect Mildenhall Warren Lodge with other lodge buildings and warren infrastructure.

Record of management and/or observations during Plan Period

- April 2021 – Damage to a small area of roof tiles. The mortar on the low walls, all that remain of outbuildings on the eastern side of the main building, is failing and crumbling away, causing individual stones to come loose from the walls. Small areas of graffiti using loose chalk pieces on the walls of the lodge building. Bees in residence adjacent to the blocked doorway on the western side.
- February 2022 – No change to roof files, but sections of the outbuilding walls are coming away due to the deterioration of the mortar.
- July 2022 – visit with Anne Mason (Friends of Thetford Forest) and Simon Coombe (FE) to discussion schedule of repairs and removal of bees. No change to roof files, or further deterioration of mortar on the outbuilding.
- August 2022 – visit with Emma Rawlinson (Forest Planner), Fraser Eyres (Beat Forester) and Anne Mason (FoTF) to discuss future tree clearance around the site in relation to preserving its context. AM recommended retaining the lilac hedge, a species known to be planted by warreners.
- 21/09/2023 – Visit by Krysia Truscoe (FE Historic Environment Advisor) and Emma Rawlinson (FE Forest Planner) to inspect the extended scheduled area and discuss its inclusion in the Mildenhall Forest Plan.
- 01/05/2024 – Discussion with Simon Coombe (Forestry England) and Anne Mason (F0TF) to discuss schedule for repairs to broken roof tiles and crumbling walls, also the possible removal of the bees' nest.

Forestry England Monument Management Plan East District	**Date of Visit:** 21/09/2023
List Entry: 1485668	**Scheduled Monument Name:** Mildenhall Warren Boundary Banks
Local Numbers: MNL 485	**OS Grid Reference:** TL7403976095
Beat: Thetford West	**Forest District Compartment Number:** 4430-4434, 4440-4442
Plan Period: 2024-2029	**Other Statutory Designations:** N/A



Site Descriptions and Importance:
(Scheduling description)

Summary:

The earthworks and buried remains of the eastern and northern boundary banks of Mildenhall Warren, dating from the C14 or earlier.

Reasons for Designation:

The earthworks and buried remains of the eastern and northern boundary banks of Mildenhall Warren are scheduled for the following principal reasons:

* Survival: the northern and eastern boundary banks including remains of trapping banks, survive well as upstanding earthworks and buried remains;

* Period: although one of a considerable number of monuments characteristic of the medieval period, the remains of the warren demonstrate the wealth and standing of the owners, Bury St Edmunds Abbey and later secular estates, and the importance of the warrening industry to the area;

* Diversity: the boundary bank earthworks, linked trapping banks and the related warreners lodge, provide a rich diversity of features which collectively have the potential to enhance our understanding of the site's foundation, use and decline;

* Potential: the boundary banks will retain important environmental and artefactual evidence to inform our understanding of medieval and post-medieval rabbit farming;

* Documentation: the site is well documented both through historical documents and aerial photography, LiDAR imagery and recent survey work which has contributed to our understanding of the warren and its impact on the medieval and later agricultural economy of East Anglia;

* Group value: the remains have a strong functional and historical relationship with the standing remains of Mildenhall Warren Lodge, (a Scheduled Monument, NHLE 1006023), while its grouping with other well-preserved boundary banks in the Suffolk and Norfolk Brecks, including Thetford, Downham High Warren and Santon Downham Warren (all scheduled), provide important evidence on the social and economic standing of ecclesiastical and secular estates during the medieval and post-medieval periods, one which saw the exploitation and management of the Breckland landscape for a warrening industry that spanned some 600 years.

Eastern half of the warren banks © Forest Research lidar 2017 MDH DTM 25cm_HS

History

Warrens were an area of land set aside for the breeding and management of rabbits (or 'coneys') in order to provide a constant supply of fresh meat and skins. The practice of rearing rabbits was introduced to southern England by the Normans in around 1100 and soon spread to almost every part of the country. As only those with manorial rights could own a warren, early examples were mostly associated with the higher levels of society. The earliest written source is a grant of land to Plympton Priory, cum cuniculi (with rabbits), in 1135 and Henry III established one of the first mainland warrens at Guildford in 1235. However, they gradually spread in popularity, with the C14 and C15 seeing a broader adoption of warrens, including some substantial enterprises by religious houses, and by the C16 and C17 they were a common feature on most manors and estates throughout the country. Warrens continued in use until fairly recent times, finally declining in the face of C19 and C20 changes in agricultural practice, and the onset of myxomatosis in 1954. Warrens in the Norfolk and Suffolk Brecklands, of which 26 have been identified by the Breckland Society as part of a research project undertaken between 2008 and 2010 (see Sources), lie within an area north from Barton Mills to Brandon and then east to Thetford. The earliest were established from the late C12 by monastic houses or wealthy landowners.

Experiencing a climate not too dissimilar to that of the rabbits' native Mediterranean, namely warm, dry summers and low rainfall in winter, the Breckland warrens occupied the higher, permanently dry pastureland of parishes whose settlements clustered along the natural boundary between heathland and fen, or along rivers. To contain and protect the stock, and limit predation and poaching, the warrens were enclosed by banks made of turves which measured up to 2m high and 12m wide and were vertical on their inner faces and sloped on their outer faces. Each turf, also called a 'sad' or 'clower', were laid in the manner of a brick wall with the grass on the outer face. Once constructed, the banks were either topped with bundles of gorse twigs or planted with gorse or thorn bushes, to try and prevent the rabbits from escaping. If two warrens were placed side-by-side, such as Thetford and Santon Downham Warrens, each had its own bank with the space between used as a trackway known as a border. Some of the banks, including those at Brandon, Broomhill/Weeting, Santon, Thetford and Wangford Warrens, were also used to delineate parish boundaries. Within the warren itself, further banks were constructed to serve particular functions. Since the warreners aimed to breed as many rabbits as possible and to produce rabbit meat and fur of the highest possible quality, internal enclosures on some of the warrens may have been used to grow crops to provide additional feed for the rabbits, while enclosures known as 'the clapper' were used for segregating the breeding does. Linear banks with funnelled ends, known as trapping banks, were also constructed parallel to the warren banks to ensnare rabbits for selective culling. Larger warrens were also associated with a lodge. As well as providing living accommodation for the warrener they were also used to store trapping equipment and carcasses and act as a lookout and defence against poachers.

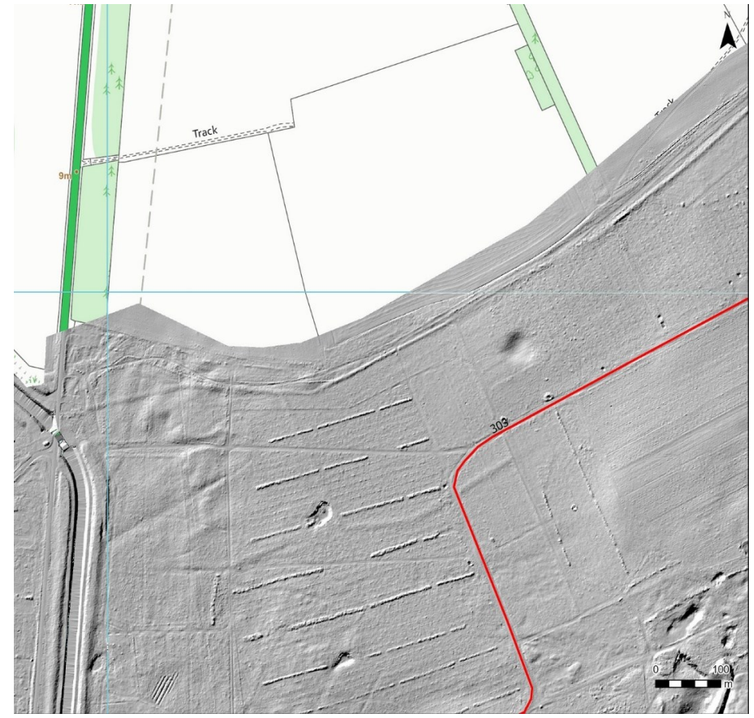
After the Dissolution of the Monasteries (1536-1541), the Breckland warrens passed to lay landowners, often as part of an estate purchased as monastic lands were sold off. However, they mostly continued to function as working warrens until the late-C18, sustaining two fur-processing factories at Brandon and short-lived premises in Thetford and Swaffham. The annual cull on many of the warrens during the C18 ran to over 20,000 animals, with the meat being sent up to London and to the Cambridge colleges, as well as to markets locally. The fur was despatched to Luton, for use in the hat industry, but also to Europe and as far afield as South America. Lakenheath was one of the last working warrens and survived until 1940. The best-preserved Breckland warrens now lie within Thetford Forest which, now covering an area of some 47,000 acres, was established from 1922 to sustain the nation's dwindling supply of timber resource after the First World War.

The first documented reference to Mildenhall Warren is in 1323, when Bury Abbey recorded income from it. After the Dissolution it was owned consecutively by the Bacon, North and Bunbury families. The 1807 Enclosure Map for Mildenhall Parish shows the warren included 1,066 acres.

Details

Principal Elements:

The site comprises the earthwork and buried remains of the perimeter and trapping banks of Mildenhall Warren, first recorded in 1323. It lies within Thetford Forest on the northern boundary of Mildenhall Woods and the northern and eastern boundary of Twelve Acre Woods and follows the boundary between the parishes of Mildenhall and Eriswell. Many of the banks survive as earthworks visible above ground, occasionally up to a metre high. In some areas the banks are not discernible on the ground but are shown to survive through Lidar imaging.



Western half of the warren banks © Forest Research lidar 2017 MDH DTM 25cm_HS

Description:

Mildenhall Warren was laid out with boundary banks in an irregular, but roughly triangular shape, a little to the north of the River Lark, and immediately south of Eriswell Warren. The perimeter banks originally extended for a length of approximately 9.15 km and enclosed an area approximately 447 hectares, but the surviving banks described here are only those to the north-east and east, in two continuous sections. The rest of the banks, and the interior of the warren, were not considered as part of this assessment (2023). The warren lodge is a separate scheduled monument (NHLE 1006023).

The following description will describe the banks starting from the south-east:

* The first continuous section runs from TL7476675725 by the edge of a track. The bank is approximately 50cm high rising to 75cm high further north-east, and is approximately 10m wide. It extends north-eastwards for approximately 440m, following the parish boundary line between Mildenhall and Icklingham. The earthworks become more easily discernable further north-east.

* At TL7511475993 the bank turns a corner north-westward and follows the line of the parish boundary between Mildenhall and Eriswell for approximately 400m. In some places the bank is as much as 12m wide, and there are possible traces of a double bank. The rest of the banks all follow exactly Mildenhall and Eriswell parish boundary.

* At TL7483776308 the bank turns a corner towards the south-west, and continues for approximately 198m, where it ends at TL7465276213.

* Another bank begins at TL7465576298 to the north-west, parallel at first to the eastern bank at a distance of approximately 40 metres, and may represent a trapping area. The western bank extends south-westwards for a distance of 178m, still following the Eriswell parish boundary line, and varies between 9 and 12m wide. The bank turns north-westwards for approximately 280m. From this point it is slightly flattened, and the track runs on top of it for the remainder of its extent. At TL7438076482 the track extends south-westwards for approximately 1550m, where it splits into two separate banks approximately 170m in length, these were likely to have been trapping banks.

Extent of Scheduling:

The area of protection is shown on the accompanying map extract and is designed to protect the known extent of the earthworks and buried remains of the northern and eastern boundary banks of Mildenhall Warren, including linked trapping banks. It includes a 5 metre boundary around the monument, which is considered to be essential for its support and preservation.

Exclusions:

All fences, fences posts and metalled surfaces within the scheduled area are excluded from the scheduling, although the ground beneath these features is included.

<table>
<tr><td><u>Condition</u>
Overall, the monument appears to be in a stable condition, but previous damage is apparent at its western end, and there is tree coverage and scrubby growth along much of its length.</td><td colspan="2"><u>Decline and Vulnerability</u>
The monument is at risk from the following factors:
• Overall large woody growth and natural regeneration.
• Damage by rabbits.
• Damage from forestry operations in the adjacent areas.</td></tr>
<tr><td><u>Management Objectives:</u>
Preservation of the monument and maintenance of its surface.</td><td><u>Work Proposed in the Plan Period:</u>
• Vegetation clearance and control in the area around the lodge and its associated structures.
• Monitoring and clearance of any dangerous trees and regrowth.</td><td><u>Achieved</u></td></tr>
<tr><td><u>Proposed Works which Require Scheduled Monument Consent:</u></td><td colspan="2"><u>Arrangements for Monitoring:</u>
The warren banks will be visited at least twice during the plan period, once with the Historic England Heritage at Risk Project Officer.</td></tr>
<tr><td colspan="3"><u>Opportunities:</u>
Development of a story map or app to connect Mildenhall Warren Boundary Banks with the lodge building and other warren infrastructure.</td></tr>
<tr><td colspan="3"><u>Record of management and/or observations during Plan Period</u>
• 21/09/2023 – Visit by Krysia Truscoe (FE Historic Environment Advisor) and Emma Rawlinson (FE Forest Planner) to inspect extent and survival of warren banks and discuss their inclusion in the Mildenhall Forest Plan.</td></tr>
</table>

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Appendix 2:

Thetford Forest Open Habitat Network

Scale: 1:110,000

Legend

- Open habitat network
- Existing priority habitat
- Forest extent

10 Sites of Special Scientific Interest:

1. Stanford Training Area
2. Lakenheath Warren
3. Thetford Heath
4. Brandon Heath
5. Breckland Farmland
6. Cranwich Heath
7. Weeting Heath
8. Grimes Graves
9. Bridgham Heath
10. Brettenham Heath

The Open Habitat Plan will create ecological connectivity between the 10 sites of special scientific interest and connect all 181 priority sites within the forest and surrounding landscape.

Feature	Management Requirements	Conservation Mechanisms	Feature Monitoring
Breckland Forest SSSI			
Woodlark	See details for Breckland SPA		
Nightjar	See details for Breckland SPA		
Red Squirrel	na	na	'Watching brief'
Vascular Plant Assemblage Breckland Mugwort	Maintain 'mugwort pits' as scrub free and unshaded, with broken turf (~20-40% bare ground). Control invasive species notably Gorse and Wood small-Reed.	BFGp Monitoring Feedback Operational Site Assessments Open Habitat Plan	Annual count by Breckland Flora Group (BFGp).
Vascular Plant Assemblage Breckland Thyme	Maintain as scrub free and unshaded, with broken turf (~10-20% bare ground). Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Discing of selected ride verge areas	BFGp Monitoring Feedback Operational Site Assessments Open Habitat Plan	Periodic survey as per BFGp schedule
Vascular Plant Assemblage Maiden Pink	Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges.	BFGp Monitoring Feedback Operational Site Assessments	Periodic survey as per BFGp schedule
Vascular Plant Assemblage Fine-leaved Sandwort	Maintain as scrub free and unshaded, with broken turf (~20-40% bare ground). Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Discing of selected ride verge areas. Periodic forest road restoration.	BFGp Monitoring Feedback Operational Site Assessments Open Habitat Plan	Periodic survey as per BFGp schedule
Vascular Plant Assemblage Purple-stemmed Cat's-tail	Maintain as scrub free and unshaded, with broken turf (~10-20% bare ground). Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Discing of selected ride verge areas.	BFGp Monitoring Feedback Operational Site Assessments Open Habitat Plan	Periodic survey as per BFGp schedule
Vascular Plant Assemblage Sickle Medick	Maintain as scrub free and unshaded, with broken turf (~10-20% bare ground). Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Discing of selected ride verge areas. Periodic forest road restoration. Control of Lucerne/hybrids to prevent hybridization.	BFGp Monitoring Feedback Operational Site Assessments Open Habitat Plan	Periodic survey as per BFGp schedule

Feature	Management Requirements	Conservation Mechanisms	Feature Monitoring
Vascular Plant Assemblage Bearded Fescue	Maintain as scrub free and unshaded, with broken turf (~20-40% bare ground). Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Discing of selected ride verge areas. Periodic forest road restoration.	BFGp Monitoring Feedback Operational Site Assessments Open Habitat Plan	Periodic survey as per BFGp schedule
Vascular Plant Assemblage Mossy Stonecrop	Maintain as scrub free and unshaded, Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Discing of selected ride verge areas. Periodic forest road restoration.	BFGp Monitoring Feedback Operational Site Assessments Open Habitat Plan	Periodic survey as per BFGp schedule
Vascular Plant Assemblage Tower Mustard	Maintain as scrub free and unshaded, with broken turf (~20-40% bare ground). Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Alternate/Biennial Discing of selected ride verge areas.	BFGp Monitoring Feedback Operational Site Assessments Open Habitat Plan	Periodic survey as per BFGp schedule
Vascular Plant Assemblage Bur medick	Maintain as scrub free and unshaded, with broken turf (~10-20% bare ground). Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Discing of selected ride verge areas. Periodic forest road restoration.	BFGp Monitoring Feedback Operational Site Assessments Open Habitat Plan	Periodic survey as per BFGp schedule
Vascular Plant Assemblage Wall bedstraw	Maintain as scrub free and unshaded, Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Discing of selected ride verge areas. Periodic forest road restoration.	BFGp Monitoring Feedback Operational Site Assessments Open Habitat Plan	Periodic survey as per BFGp schedule
Vascular Plant Assemblage Prostrate Perennial Knawel	Maintain as scrub free and unshaded, with broken turf (~20-40% bare ground). Patch turfing. Random Discing.	BFGp Monitoring Feedback Operational Site Assessments Open Habitat Plan	Annual survey as per BFGp schedule
Vascular Plant Assemblage Red-tipped Cudweed	Re-introduce (lost 2002)as per VPA plan. Maintain as scrub free and unshaded, with broken turf (~20-40% bare ground). Discing of selected ride verge areas. Periodic forest road restoration.	BFGp Monitoring Feedback Operational Site Assessments Open Habitat Plan	Periodic survey as per BFGp schedule

Feature	Management Requirements	Conservation Mechanisms	Feature Monitoring
Invertebrate Assemblages - unshaded early successional mosiac F111 sand & chalk	Maintain as scrub free and unshaded, with broken turf (~20-40% bare ground). Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Discing of selected ride verge areas. Periodic forest road restoration.	Operational Site Assessments Open Habitat Plan	Periodic specialist survey.
Invertebrate Assemblages - unshaded early successional mosiac F112 open short sward	Maintain as scrub free and unshaded, with broken turf (~20-40% bare ground). Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Discing of selected ride verge areas. Periodic forest road restoration.	Operational Site Assessments Open Habitat Plan	Periodic specialist survey.
Rex Graham Reserve SAC			
Military Orchid	Maintain reserve as relatively (<5%) scrub and (<10% shade free turf by annual manual cut and biomass removal in September/October). Maintain Mezereon population. Control Willowherb, Bracken, Privet and Hogweed by hand. Apply also to experimental site.	Forest Plan Habitat Regulation Assessment Operational Site Assessments	Annual count by Breckland Flora Group (BFGp).
Breckland SPA			
Woodlark	Felling plans aim for an even distribution of felled area for nesting habitat in cyclic clearfell. There should be no more than 10% of coupes <5ha as required under the SPA designation. Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Grazing and invasive species control in heathland FBT areas.	Forest Plan Habitat Regulation Assessment Operational Site Assessments Open Habitat Plan	5yr breeding male count. ~5-year habitat condition survey.
Nightjar	Felling plans aim for an even distribution of felled area for nesting habitat in cyclic clearfell. There should be no more than 10% of coupes <5ha as required under the SPA designation. Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Grazing and invasive species control in heathland FBT areas.	Forest Plan Habitat Regulation Assessment Operational Site Assessments Open Habitat Plan	5-year breeding male count. ~5-year habitat condition survey.
Rex Graham Reserve SSSI			
Military Orchid	See details for Rex Graham Reserve SAC		

Feature	Management Requirements	Conservation Mechanisms	Feature Monitoring
Priority Habitats			
Lowland heathland	Maintain as scrub free and unshaded, with broken turf (~10-20% bare ground). Grazing. Invasive species control. Discing of selected areas. Periodic 50% forage harvesting	Farm Business Tenancy with Norfolk Wildlife Trust Site management plan Higher Level Stewardship agreement Open Habitat Plan Operational Site Assessments	~5-year condition assessment
Lowland dry acid grassland	Maintain as scrub free and unshaded, with broken turf (~10-20% bare ground). Grazing. Discing of selected areas. Annual 50% forage harvesting of priority habitat areas. Discing of selected ride verge areas. Invasive species control.	Farm Business Tenancy with Norfolk Wildlife Trust Site management plan Higher Level Stewardship agreement Open Habitat Plan Operational Site Assessments	~5-year condition assessment.
Lowland Meadow	Maintain as scrub free and unshaded, with broken turf (~10-20% bare ground). Annual 50% forage harvesting of priority habitat areas. Discing of selected ride verge areas. Invasive species control	Agreement with MoD (Landing Lights) Site management plan Open Habitat Plan Operational Site Assessments	~5-year condition assessment.
Lowland calcareous grassland	Annual 50% forage harvesting of priority habitat areas. Discing of selected ride verge areas.	Operational Site Assessments Open Habitat Plan	~5-year condition assessment.
Wet Woodland	Manage as non-intervention. Consider Alder coppice at next harvesting/thinning intervention.	Forest Plan Operational Site Assessments	~5-year condition assessment.

Feature	Management Requirements	Conservation Mechanisms	Feature Monitoring
Protected & Priority Species			
Bat species	Maintain woodland succession and open habitat structural mosaic. Maintain non-intervention, CCF, long-term retention coupes. Protect veteran trees. Protect known roost sites.	Forest Plan Operational Site Assessments FS Protocol	Periodic specialist survey
Otter	Maintain woodland succession and open habitat structural mosaic. Maintain non-intervention, CCF, long-term retention coupes. Protect veteran trees. Protect known resting sites. Protect waterbodies.	Forest Plan Operational Site Assessments FS Protocol	Periodic specialist survey
Water Vole	Maintain woodland succession and open habitat structural mosaic. Protect known resting sites. Protect waterbodies.	Forest Design Plan Operational Site Assessments	Periodic specialist survey
Hedgehog	Maintain woodland succession and open habitat structural mosaic.	Forest Design Plan Operational Site Assessments	Periodic specialist survey
Badger	Maintain woodland succession and open habitat structural mosaic. Protect known setts.	Forest Plan Operational Site Assessments Forestry Practice Guide 9	Periodic specialist survey
Adder	Maintain woodland succession and open habitat structural mosaic. Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Protect known hibernation sites (stump rows).	Forest Plan Operational Site Assessments Open Habitat Plan	Periodic specialist survey.
Grass snake	Maintain woodland succession and open habitat structural mosaic. Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Protect known hibernation sites (stump rows). Protect water bodies.	Forest Plan Operational Site Assessments Open Habitat Plan	Periodic specialist survey.

Feature	Management Requirements	Conservation Mechanisms	Feature Monitoring
Protected & Priority Species			
Common Lizard	Maintain woodland succession and open habitat structural mosaic. Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Protect known hibernation sites (stump rows).	Forest Plan Operational Site Assessments Open Habitat Plan	Periodic specialist survey
Common Toad	Maintain woodland succession and open habitat structural mosaic. Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Protect known hibernation sites (stump rows). Protect water bodies.	Forest Plan Operational Site Assessments Open Habitat Plan	Periodic specialist survey
Smooth Newt	Maintain woodland succession and open habitat structural mosaic. Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Protect known hibernation sites (stump rows). Protect water bodies.	Forest Plan Operational Site Assessments Open Habitat Plan	Periodic specialist survey
Goshawk	Maintain woodland succession and open habitat structural mosaic. Maintain non-intervention, CCF, long-term retention coupes. Protect known nest sites.	Forest Plan Operational Site Assessments	Annual specialist survey.
Tree pipit	Maintain woodland succession and open habitat structural mosaic. Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges.	Forest Plan Operational Site Assessments Open habitat plan	Periodic specialist survey
Yellowhammer	Maintain woodland succession and open habitat structural mosaic.	Forest Plan Operational Site Assessments	Periodic specialist survey
Greater Water Parsnip	Protect water bodies.	Forest Plan Operational Site Assessments	Periodic specialist survey

Feature	Management Requirements	Conservation Mechanisms	Feature Monitoring
Protected & Priority Species			
Basil Thyme	Maintain as scrub free and unshaded, with broken turf (~20-40% bare ground). Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Discing of selected ride verge areas. Periodic forest road restoration.	Operational Site Assessments Open habitat plan	Periodic specialist survey
Proliferous Pink	Maintain as scrub free and unshaded, with broken turf (~20-40% bare ground). Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Biennial Discing of selected ride verge areas.	BFGp Monitoring Feedback Operational Site Assessments Open Habitat Plan	Periodic specialist survey
Grayling	Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Discing of selected ride verge areas.	Operational Site Assessments Open habitat plan	Periodic specialist survey
Small Heath Butterfly	Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Discing of selected ride verge areas.	Operational Site Assessments Open habitat plan	Periodic specialist survey
Moth Species	Maintain woodland succession and open habitat structural mosaic. Annual 50% forage harvesting of priority habitat areas. Annual swiping of non-priority forest ride verges. Discing of selected ride verge areas.	Forest Plan Operational Site Assessments Open habitat plan	Periodic specialist survey
Wormwood Moonshiner Beetle	Maintain population of Breckland Mugwort (only known foodplant)	Operational Site Assessments Open Habitat Plan	Periodic specialist survey

Forestry England

East England Forest District

Appendix 4

Scale: 1:5,000

RAF Mildenhall Glide Slope including tree height restrictions

Legend

- FE landholding (compartments)
- RAF Mildenhall Glide Slope
- Max allowable tree height zones

Image Citations

Page 1: Mildenhall forest, © Emma Rawlinson
Page 2: Thetford Forest, Forestry England Photo Library
Page 4: Forest Planning, Forestry England Photo Library
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Page 35: Broadleaf woodland, Mildenhall Forest, © Emma Rawlinson
Page 54: Young Corsican pine regeneration in Mildenhall forest, © Emma Rawlinson

Stakeholder consultation

Statutory: Natural England, West Suffolk Council, Historic England.

Non-statutory: Parish councils, Environment agency, Friends groups, Neighbours, Forest residents, Sporting tenants, General public, Conservation interest groups, Norfolk Wildlife Trust, RSPB, Butterfly conservation, Woodland Trust, Suffolk County Archaeologists.

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