

Lords Lot Forest Plan

2016



North England Forest District



Planning and District Context

The Strategic Plan for the Public Forest Estate in England outlines the delivery of forest policy at a national level. At a regional level there are six Forest Districts covering the country that directly oversee the implementation of policy actions in local public forest estate woodlands. Forest Enterprise England is the organisation responsible for managing the English public forest estate.

North England Forest District (NEFD) is the management unit that manages the public forest estate in Northern England. This is an extensive area encompassing 9 county or unitary authority areas from the Scottish border to Durham and Lancashire.

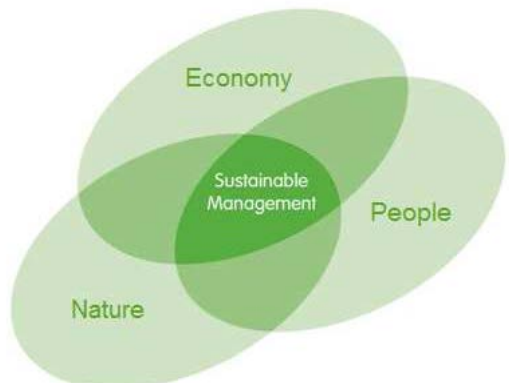


Our task is to realise the potential of each of the forests in our care for sustainable business opportunities, wildlife and nature conservation, and the enjoyment and well-being of local people and visitors. Each of our forests supports the economy through local jobs, sustainable timber production and the provision of recreation and tourism opportunities. All are funded by revenue from timber sales and recreation provision.

The woodlands of the district are currently arranged in 62 management areas, and their management is covered by individual ten year forest plans that identify local issues and the broad silvicultural management of the woods. Forest Plans are reviewed every five years.

These plans and their associated forest operations ensure that produce from the woodlands is endorsed by the Forest Stewardship Council® (FSC) and the Programme for the Endorsement of Forest Certification® (PEFC) as being produced from woodlands under good management that meet the requirements of the UK Woodland Assurance Standard (UKWAS) and the UK Forest Standard (UKFS).

Individual Forest Plans aim to deliver a range of public benefits with achievable objectives that deliver the three drivers of sustainable land management outlined in the North England Forest District Strategy.



These key drivers are supported by the following Forest District Policy;

- we will optimise the financial return from timber production compatible with achievement of other forest district objectives while complying with the UK Forestry Standard and meeting the requirements of the UK Woodland Assurance Scheme
- we will provide public access to all our forests and woodlands where there are no legal or safety restrictions. We will encourage and permit a wide range of recreational activities from walking and quiet enjoyment to more specialised activities including orienteering, horse riding and motor sports.
- we will ensure that rare and threatened habitats are protected and managed to maintain or enhance their conservation value

Lords Lot Forest Plan

This is the third revision for Lords Lot Forest Plan.

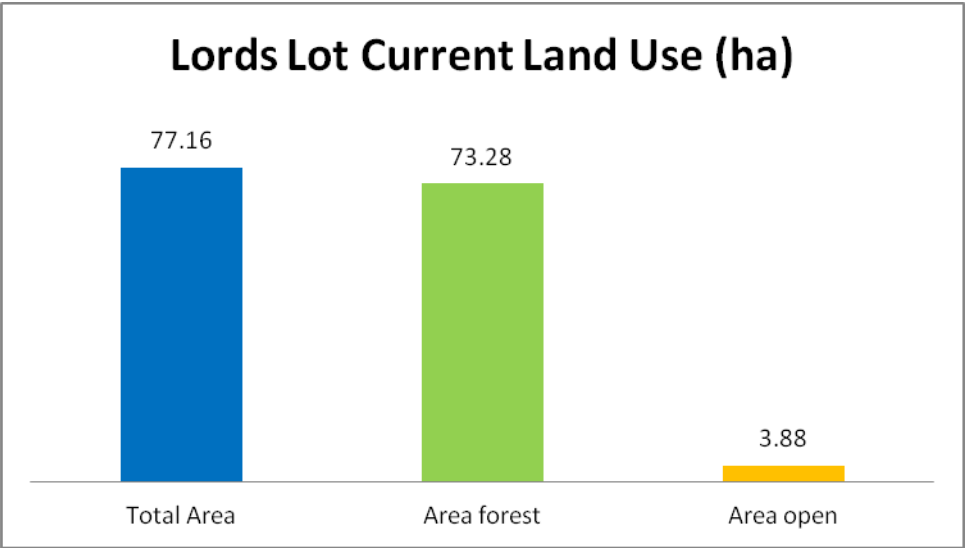
Part 1 Background Information and Appraisal

Introduction

Lords Lot Wood and the neighbouring Tomlinsons Lot are situated less than 5 kilometres to the east of Carnforth, near to Lancashire’s northern boundary. They extend to a total of 77 hectares. The woodlands are freehold, being acquired and planted in the mid to late 1950’s.

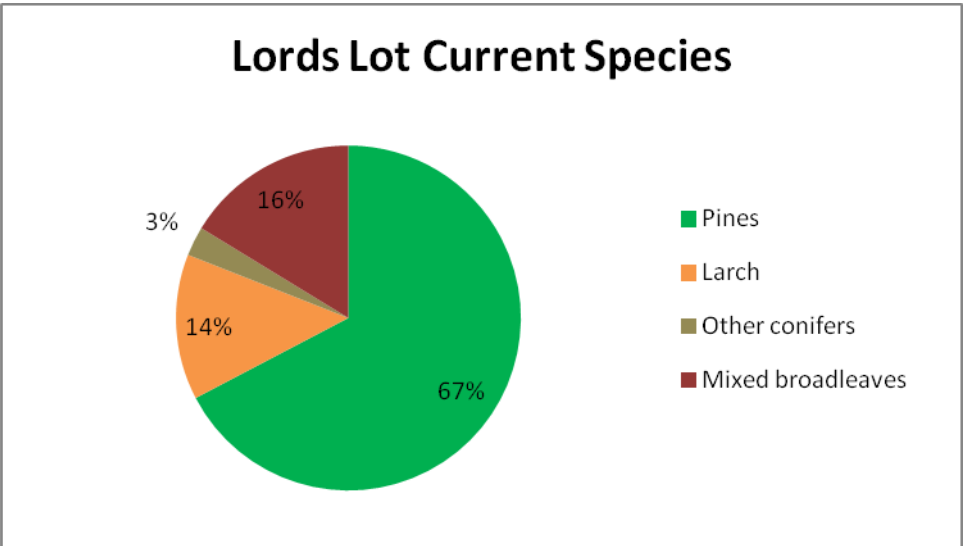
Current Woodland composition

Of the combined total area 73ha is afforested and approximately 4ha permanent open land.



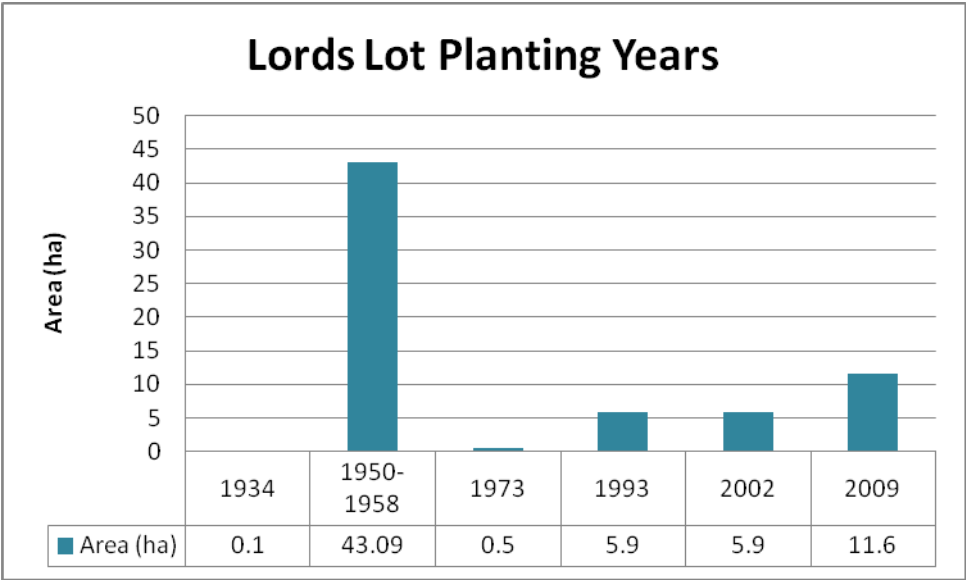
Species and timber potential

The most abundant productive tree species is Scots Pine, which has often been planted in mixture with Red oak or beech. Other species present include Japanese larch and Western hemlock. There is also an increasing proportion of locally native woodland that is dominated by birch, but includes oak and other minor tree species. Initially Scots pine proved to be fairly productive, achieving yield classes of 12 to 14. More recently severe damage by grey squirrels has caused many tree crowns to snap and some of the stands are looking rather moribund with a subsequent reduction in productive capacity. However, the site is productive for tree growth and there is potential for more species diversity.



Age class

Most of the current crops of trees were planted between 1956 and 1958, though there are some broad-leaved trees that have grown out of older hedges. Felling and restocking of the first rotation plantation commenced in the early 1990’s and about a third of the woodland has since undergone felling and restocking.



Designated areas

There are no formal designations within or adjacent to the woodland but Lords Lot bog is recognised as a rare habitat in Lancashire.

Heritage

There are no scheduled monuments. Three undesignated features are recorded which according to Lancashire County Council records include a post medieval quarry (SD550707), the site of a previous farmstead last recorded in maps from 1891 but since lost (SD539705) and the route of Lords Lot road which dates to pre-1847.

Landscape, Topography and Soils

Lords Lot lies between 85 and 135 metres above sea level and is comprised of rolling terrain. The soils are a mixture of brown earth and gley. The woodland is represented by a low to moderate wind hazard classification and the crop is stable with little internal wind damage.

Lords Lot Wood is prominent from adjacent and nearby highways, but views of it are not extensive. It is not prominent in the wider landscape of pasture farmland and other small woodlands.

In landscape terms:

The overall shape and scale of the wood within the landscape is acceptable.

The wood is a little lacking in structural and internal diversity but this is improving as the programme of felling and replanting progresses. Close up external viewpoints and internal landscapes are important.

Biodiversity

The major feature of wildlife interest is Lords Lot bog which exhibits a number of locally important species. This lowland sphagnum bog is a rare habitat type in Lancashire. Attractive features are the abundant white heads of cotton grass and the dense network of trailing cranberry shoots. There are good patches of sundew and cross-leaved heath and several types of rushes and sedges. In the open water is a small colony of bog bean. The warm sheltered habitat provided by the surrounding plantation is favourable for breeding odonata and other insects including a colony of Green Hairstreak butterflies. A fuller description can be found within the now dated management plan for the bog, which is appended, to the archived 1994 Forest Design Plan. Principles of management are highlighted on the Conservation and Heritage map.

Most of Lords Lot has an interesting ground flora. Of particular note is the presence of Black bryony, Sanicle and Wild hop. The woodland is also held in high regard for the number and variety of fungi that can be found.

Some benefit will follow from the programme of felling and regeneration, in the form of greater diversity in tree ages and woodland structure. Opportunities to retain some areas beyond their economic optimum would further add to age diversity and biological interest. Care should be exercised during operational planning to recognise and protect any micro sites, which are of floristic or other value.

A proportion of broad-leaved trees should be maintained as over mature specimens and consideration given to the retention of some suitable deadwood, where this can be done safely.

Communities and recreation

It is Forestry Commission policy to promote quiet, informal recreation such as walking, cycling, picnicking, and studying wildlife. We also seek to provide opportunities for more specialist users and for events when this is compatible with site conditions and other management objectives.

Lords Lot is a low-lying wood in close proximity to Carnforth and Lancaster in an area with scattered woodland cover and is important for local access. Lords Lot is used mostly by local people for informal recreation and used occasionally for orienteering events. There is evidence of use by horse riders and motorcyclists; the latter in particular causing damage to path surfaces and watercourses. Though there are no formal public rights of ways usage by local people over a number of years has led to the development of an informal network of paths. Recreational interest could be improved by recognising these paths during operational planning and taking opportunities to enhance the routes and maintain a good surface for walking. The woodland is used occasionally for orienteering events.

Persistent fly tipping and vandalism in both car parks has been a growing problem which has resulted in the closure of both car parks. The costs associated with this waste disposal have proven excessive. There is no requirement for any other recreational development at the present time.

Sporting rights are held by the Forestry Commission and there is no intention at present that they should be let.

Pests and diseases

Roe deer are resident in the area and there is potential for damage to both tree crops and other habitat types through browsing and grazing. An annual cull is taken by Forestry Commission rangers.

Grey squirrels are prevalent throughout all the woodlands and are causing damage to mature tree crops. Previous attempts at population control have proved futile given the proximity to neighbouring woodland where little grey squirrel culling has taken place.

Larch is under threat from the disease *Phytophthora ramorum* and consequently there will be no future restocking of larch. Larch will be thinned in areas of continuous cover and accepted as a component where it is regenerating naturally.

Access and roading

Access for timber harvesting is generally good although most internal tracks are shared with informal walking routes. Lords Lot road, which externally links the woodland from either side, is in need of repair/upgrade which would improve access for harvesting operations and improve vehicle access for general management. Access on to the public road from the northern entrance, although currently possible, would benefit from general widening and surface improvements to facilitate access by timber lorries.

Part 2 Analysis and Concept

The factors outlined in Part 1 present various opportunities and issues. These are summarised below and represented on the accompanying Issues and Opportunities map:

LORDS LOT Factor	Opportunities	Issues
Soils	Soils generally good throughout which provides potential for wider species diversity.	Localised waterlogged areas– may be better suited to MB (willow, alder) or open space.
Continuous Cover Forestry (CCF)	Consider identifying a core area of long term retention to retain structure and provide a stable habitat adjacent to Lords Lot bog Woodland is windfirm with little evidence of wind throw following previous interventions Wider conversion to CCF would provide greater opportunity for species diversity, climate change mitigation and improved long term resilience.	Species diversity only achievable by under planting of shade tolerant species. Protection from deer crucial to successful establishment.
Biodiversity	Opportunity for some localised interpretation of bog BHS and to create wider buffer area of Long Term Retention/CCF Link open and MB habitats through woodland	Open area in middle of wood in filled with birch regeneration. Needs to be maintained for deer management
Access/Roading	Good links and close to M6 Management would be eased and economic value of future harvesting improved if Lords Lot road were upgraded to link opposite sides of the wood. Freehold – potential to expand levels of public access if desired. An increase in threshold ownership signage would provide a clearer recognition of FC ownership to visitors.	Lords Lot road is currently inaccessible for any traffic. Internal network of tracks share forwarder access routes. Illegal motorbike incursion causing localised erosion and damage.
Harvesting	Thinning opportunities, low wind hazard classification and crops appear to be stable on good soils. Scale and shape of current coupes appropriate. Opportunity for CCF management.	Harvesting of 2012-2016 coupes not happened – need to reschedule these and subsequent coupes Some coupes beyond economic maturity. Clearfell system provides limited opportunity to diversify the range of conifer species being limited predominantly to pines.
Pests and disease	Focus removal of larch component during thinning and prioritise clear fell of larch dominated coupes	P.Ramorum – larch no longer desirable future species Grey squirrel – control possible but infill from neighbouring woods. In past prevalent post thinning with much resultant crown breakage and reduce productivity

Future Species	Potential for species diversity e.g. WRC, DF, ESF, GF, NF, RSQ and JCR. Climate change mitigation	Under clearfell system species choice limited to light demanding species i.e. pines which will limit diversity. Larch no longer desirable species choice.
Current species	Restocking over the last 15 years is performing well.	SCDB doesn't necessarily reflect species composition in some areas e.g. P93 SP - % birch? Regeneration in open/riparian areas? Larch component – P.Ramorum risk Grey squirrel damage Areas of mature Western Hemlock beginning to regenerate which is not a desirable future component.

Appraisal

Lords Lot, although of comparatively small size is delivering against all national policy priorities of People, Nature and Economy. The woodland is important for local people and has potential for further recreational development if desirable. The ecological value is developing and Lords Lot bog is an important feature of county significance. There is capacity to extend the rotation length which will improve internal age and structural diversity. Although some of the pine has experienced damage and loss of productivity due to grey squirrel damage the good soils and stable nature of the site provide potential for species diversity both for productive conifers and locally native broadleaved regeneration through an expansion of CCF across the woodland area.

Part 3 Objectives and Proposals

The following objectives have been identified based on FEE National Policy and NEFD Strategic Plan

Forest District Strategic Goal	How Forest Plan delivers
ECONOMIC <u>Wood Production</u> – <i>‘we will maximise the financial return from timber production compatible with the achievement of other district objectives whilst complying with the UK Forestry Standard and meeting the requirements of the UK Woodland Assurance Scheme’</i>	<p>CCF provides opportunity for sustainable forest management maintaining productivity through the introduction of a wider range of conifer species. Developing mixed broadleaved areas provide local woodfuel market opportunities. Ecological Site Classification (ESC) will determine appropriate species but potential species diversity could include WRC, DF, ESF, GF, NF, RSQ and JCR and red oak.</p> <p>Upgrade Lords Lot road to improve access for timber harvesting. Clearfell coupe containing pure WH at northern end of the wood to reduce natural regeneration of this undesirable species.</p>
NATURE <i>‘we will continue to diversify the age class structure of our even-aged woodlands and increase the value of all our woodlands and forest for wildlife’</i> <i>‘we will ensure that rare and threatened habitats are protected and managed to maintain or enhance their conservation value’</i>	<p>Environmental improvements will be delivered through forest restructuring achieved through forest planning, thinning and restocking and open space management. CCF will provide opportunity for wider species and age structure. Take opportunities during routine thinning operations to widen rides to facilitate effective deer management throughout the woodland and maintain/manage birch regeneration in permanent deer management areas.</p> <p>Introduction of Long Term Retention/CCF around Lords Lot bog.</p> <p>Manage Lords Lot bog in such a way as to safeguard and enhance its features of interest.</p>
PEOPLE <i>‘we will utilise the land and resources at our disposal to assist communities close to our forests to enhance their environments and hence their quality of life’</i> <i>‘we will provide public access to all our forests and woodlands where there are no legal or safety restrictions...’</i>	<p>Local value of Lords Lot recognised. Take opportunities to utilise the woodland to benefit local community e.g. forest schools. Retention of woodland area as CCF/LTR to retain mature structure and continuity of woodland cover. Maintain local access arrangements. Upgrade Lords Lot road to improve access through the wood. Improve threshold signage to include types of public use that are acceptable to discourage anti-social use of the woodland.</p>

Part 4 Monitoring plan

The objectives identified in section 3 will be monitored in the following ways;

Objective	Criteria for success	Assessment
ECONOMIC Wood production Sustainable economic regeneration	<p>Marketable parcels of timber on offer to the trade. Improved timber harvesting access and infrastructure</p> <p>Successful establishment of underplanting.</p>	<p>Production forecast and sales records Harvesting facilitated according to the felling plan Restocking assessments</p>
NATURE Restructuring	<p>Delivery of Forest Plan felling/thinning and restocking proposals</p>	<p>Five yearly Forest Plan review</p>
PEOPLE Visual enhancement to visitors.	<p>Establishment of mixed woodland and ongoing restructuring of the plantations.</p>	<p>Five year Forest Plan review.</p>

Part 5 Forest Plan Maps

- Location – 1:50,000 scale showing location in context of other woodland in the local area
- Current Species – species composition in 2016
- Landform – indicating topography of the woodland and local area
- Wind Hazard - windiness represented by Detailed Aspect Method Scores (DAMS)
- Soils – indicating the soil composition across the woodland
- Conservation and Heritage – statutory and non-statutory conservation and heritage features
- Access, Recreation and Services – formal public rights of way, FC access and recreation and local services
- Issues and Opportunities – representation of significant issues and opportunities to be considered in the final design concept
- Felling Proposals – showing felling periods and location of any proposed new road lines or access which require EIA screening
- Future Species – representing the broad design concepts with long term vision for future species and open habitat

Part 6 Forest Plan Outcomes

Landscape

Visual sensitivity is analysed with consideration to visibility and the importance and nature of views of the woodland from key viewpoints. Shape, landform and scale are considered with particular emphasis on mitigating geometric shapes, symmetry and distinct parallel lines in the landscape through species choice, forest edge and coupe design.

Lords Lot is not particularly prominent in the landscape and views of the woodland from the surrounding countryside and public highways are of low impact demonstrated in the view from the B6254 from Over Kellet. Continuous cover management across the woodland will however provide landscape continuity.

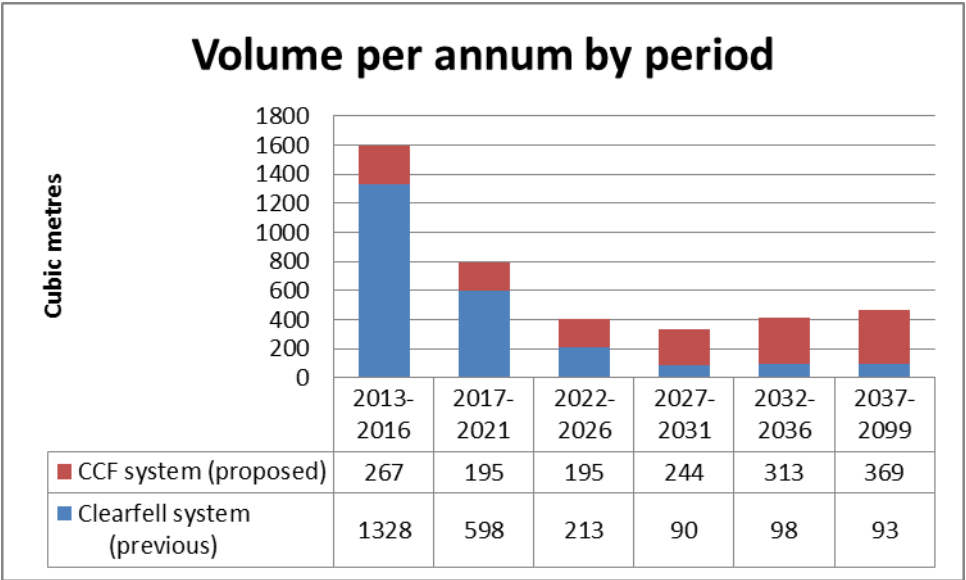


The internal landscape of the woodland, which is particularly valuable to local people who visit the area, will be enhanced through Continuous Cover management. The internal structure will develop through regular thinning and enrichment with a wider range of tree species.

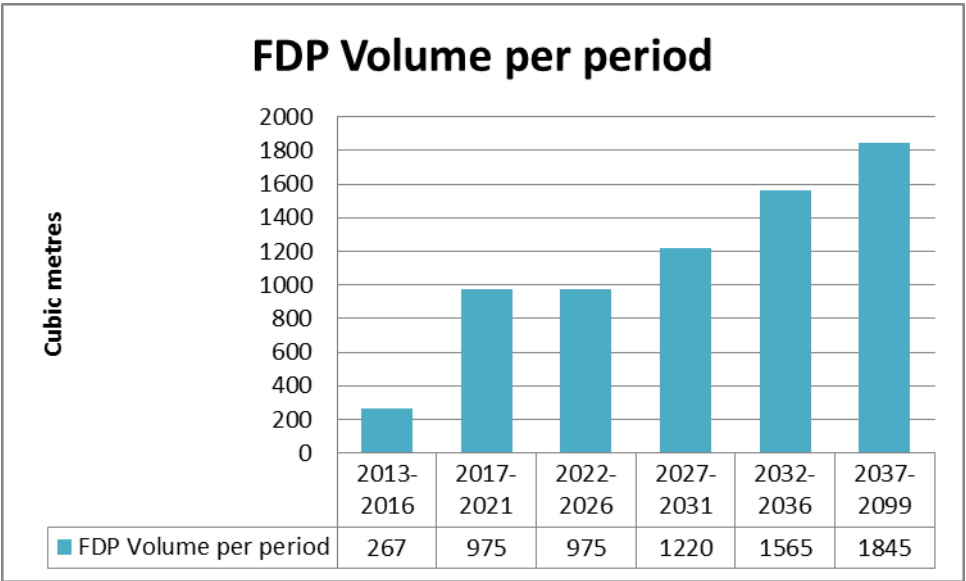


Timber production

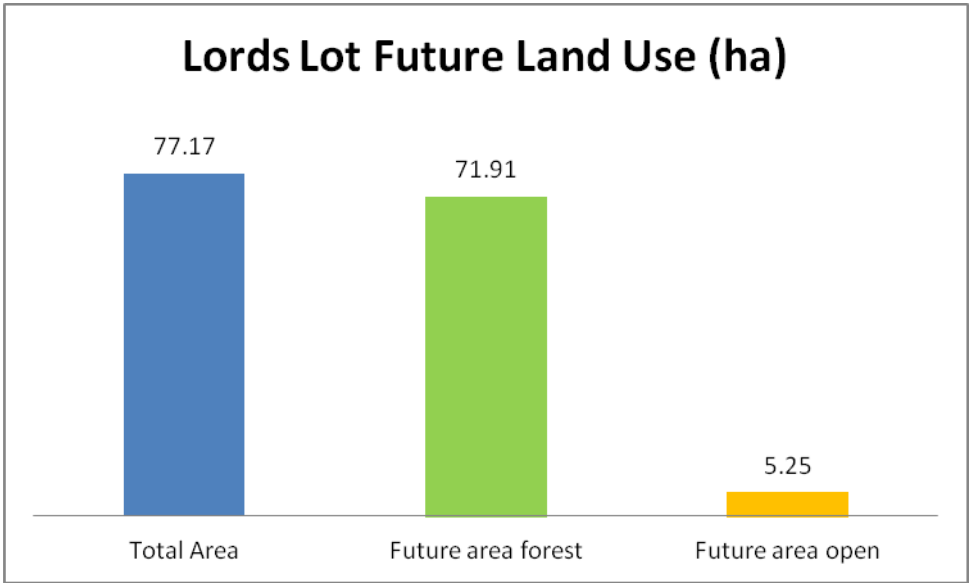
Average timber production per annum is shown below as a comparison between the current clearfell system and the proposed Continuous Cover management. Although there is an initial sacrifice in production up until 2021 volume is sustained in subsequent years through regular thinning.



This steady increase in yield under CCF management is represented in the graph below.

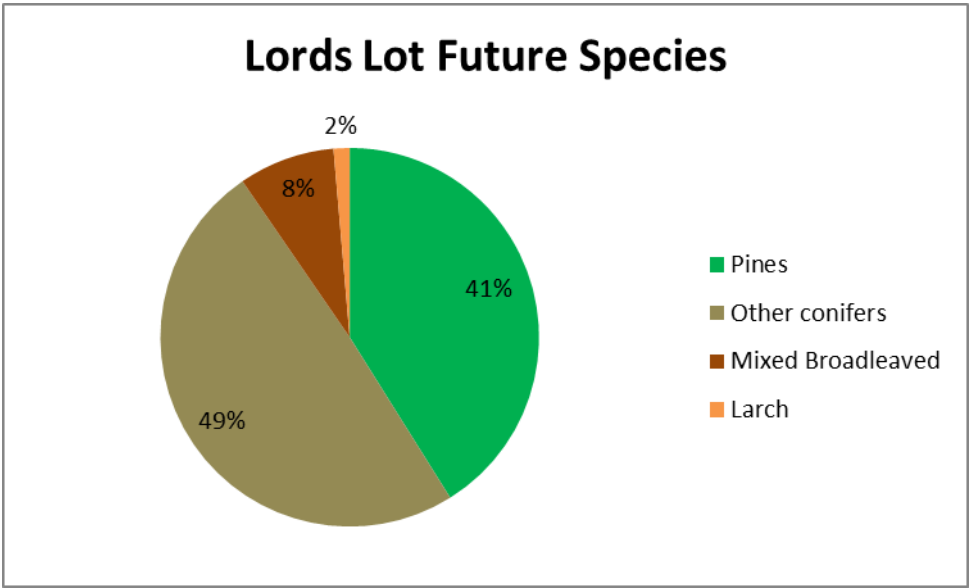


Future Land Use



Future Species

The combined percentages of future species composition shown below meet the minimum requirements for UKWAS and UKFS (65% primary species (SP), 20% secondary species (MC) and 5% mixed broadleaves).



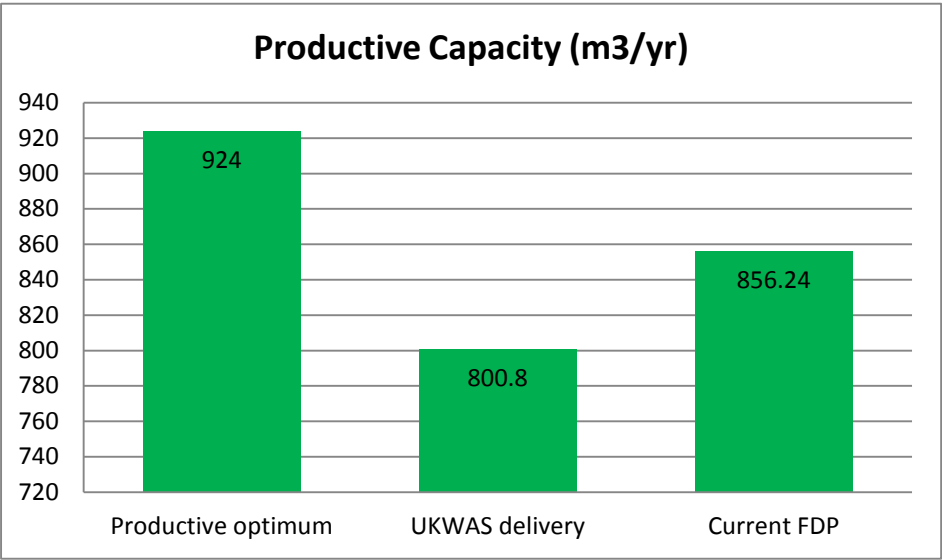
Productivity

The productive potential is optimised through timber production achieved through delivery of the harvesting plan and delivery of ecosystem services and other non-market benefits included in biodiversity, climate change mitigation, water, people and landscape. This is represented in the Productive Capacity Analysis below:

The graph shows the relative productive capacity (m³/year) of the forest based on average yield class as a comparison between the following scenarios;

- 1. Productive optimum – productive capacity assuming that the total productive area is planted with the optimum commercial species suited to the site (i.e. Scots pine YC 12).
- 2. UKWAS delivery – productive capacity achievable through minimum UKWAS compliance with a species percentage mix comprising 65% primary species (SP YC 12), 20% secondary species (MC YC 12), 5% broadleaved (YC 4) and 10% open space.
- 3. Forest Plan – productive capacity based on the percentage species mix and open land from this plan.

Note: The difference between UKWAS delivery and Forest Plan also includes requirements such as riparian corridors, landscape, ancient woodland, heritage etc. which require going beyond the minimum species composition and open space percentages to achieve UKFS.



The United Kingdom Forest Standard (UKFS)

The UKFS is the reference standard for sustainable forest management in the UK. The UKFS is supported by a series of guidelines which outline the context for forestry in the UK, defines standards and requirements and provides a basis for regulation and monitoring. These include General Forestry Practice, Forests and Biodiversity; Climate Change, Historic Environment, Landscape, People, Soil and Water.

Lords Lot Forest Plan is able to demonstrate that relevant aspects of sustainable forest management have been considered and the stated objectives in Part 3 and outcomes in Part 6 show how sustainable forest management will be achieved. The plan provides a clear means to communicate the proposals and to engage with interested parties and serves as an agreed statement of intent against which implementation can be checked and monitored.

In addition to conforming to general sustainable forest management principles UKFS is demonstrated in the following key areas:

Productivity	The productive potential is dictated by timber production achieved through delivery of the harvesting plan and delivery of ecosystem services and other non-market benefits included in biodiversity, climate change mitigation, water, people and landscape. This is represented in the Productive Capacity Analysis graph.
Structure	Future species composition; 49% mixed conifer, 41% pines and 8% mixed broadleaved, exceeds UKFS minimum requirements. Long term structure will improve through linking of permanent broadleaved and open habitats (7%).
Silvicultural	Continuous cover principles will be adopted with Long Term Retention (LTR) of areas of broadleaved woodland. This will improve species and age class diversity.
Biodiversity	Priority habitats and species are considered during the planning phase. Ecological connectivity achieved by extending and linking areas of native broadleaved woodland and open space will be enhanced ensuring that the area is managed with conservation and biodiversity as a major objective.
Climate change	LTR and continuous cover areas will minimise soil disturbance. Forest resilience will be enhanced over time through greater species diversity, particularly establishment of alternative conifer species (49%), with age and stand structure diversification to help mitigate climate change and disease/pest outbreaks. Ecological Site Classification will be used to identify the most appropriate species.
Landscape	The planning process refers to the Local Landscape Character to inform the forest design. Visual sensitivity and consideration to visibility and the importance and nature of views of the woodland from several key viewpoints is used to inform shape, landform and scale. Particular emphasis is made on mitigating geometric shapes, symmetry and distinct parallel lines in the landscape through species choice, forest edge and coupe design.
Historic	Historic features are recognised and their safeguard will be routinely incorporated into operational management.
People	The Forest Plan is consulted with individuals, the local community and organisations with an interest in the management of the forest.
Water	Water quality will be protected through a CCF management regime with adherence to Forest and Water guidelines as a minimum during harvesting and forest management operations.

Longer term management proposals

The proposals in this plan will lead to a more diverse and resilient woodland, with a greater range of species and habitats providing long term sustainability and greater resilience to potential pests and disease. Substantial areas of alternative conifer woodland will have been established, and the range of other broadleaved species will have been extended.

Timber production will continue with successive thinning under a continuous cover regime and opportunities for alternative ways of managing the woodland in the future will be enhanced with the introduction of a much broader range of species which will also contribute toward climate change mitigation. Establishment of a broader suite of commercial species will provide long term sustainability and the development of broadleaves will offer potential for local woodfuel markets.

Wider species and age class diversity will enhance public benefit by improving the internal and external attractiveness of the woodland.

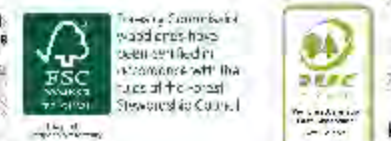
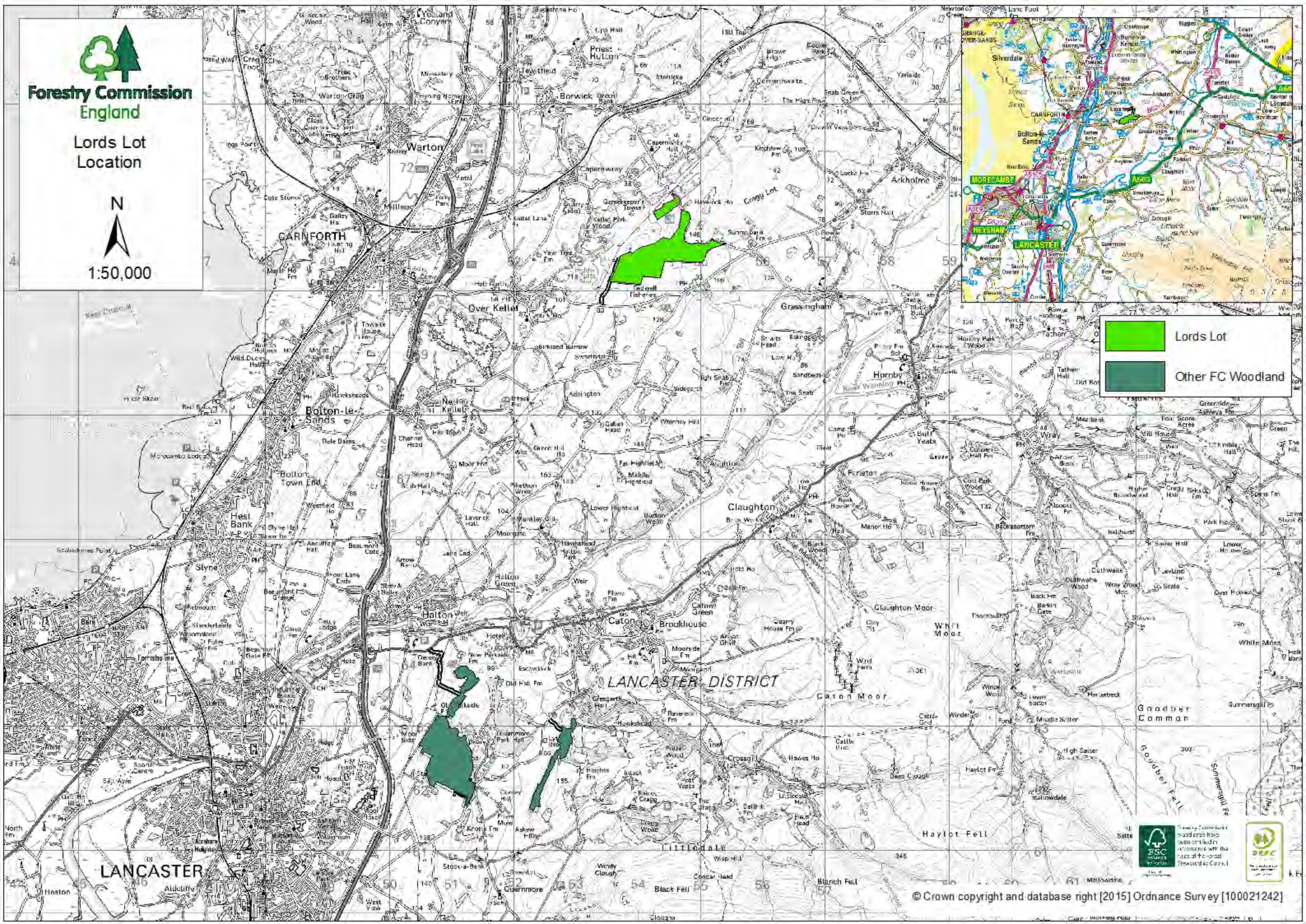
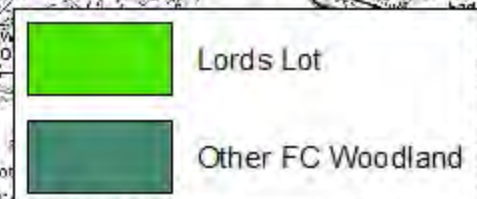


Forestry Commission
England

Lords Lot
Location

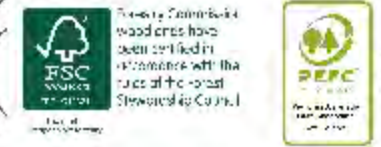
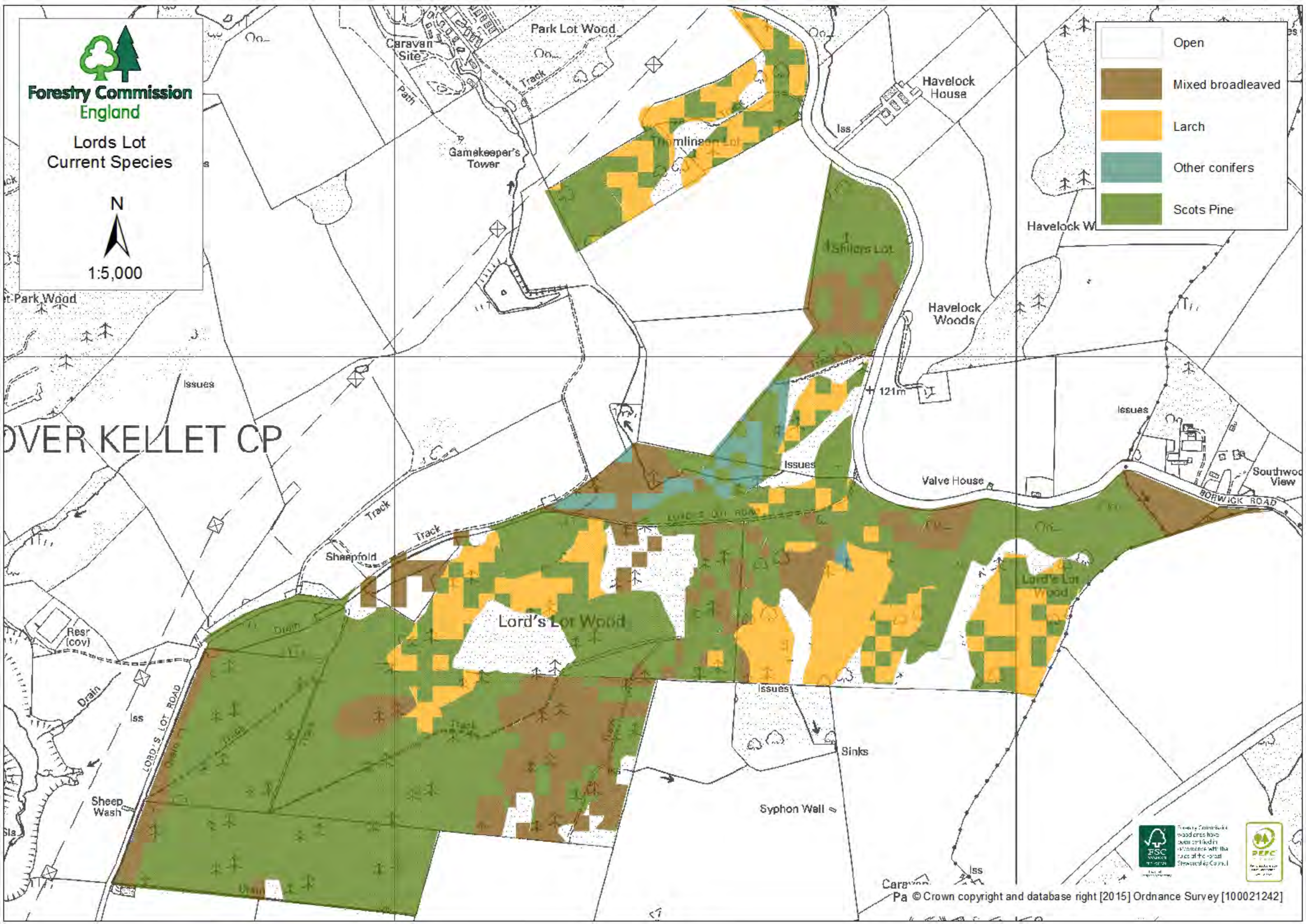


1:50,000





Lords Lot
Current Species







**Forestry Commission
England**

Lords Lot
Landform

N

1:5,000

 50m Contours

 Watercourses

Lords Lot is situated within a landscape of gently rolling terrain between 85 and 135 metres above sea level



FSC
www.fsc.org.uk

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



PEPC
www.pepc.org.uk



**Forestry Commission
England**





Lords Lot
Detailed Aspect
Method Scores

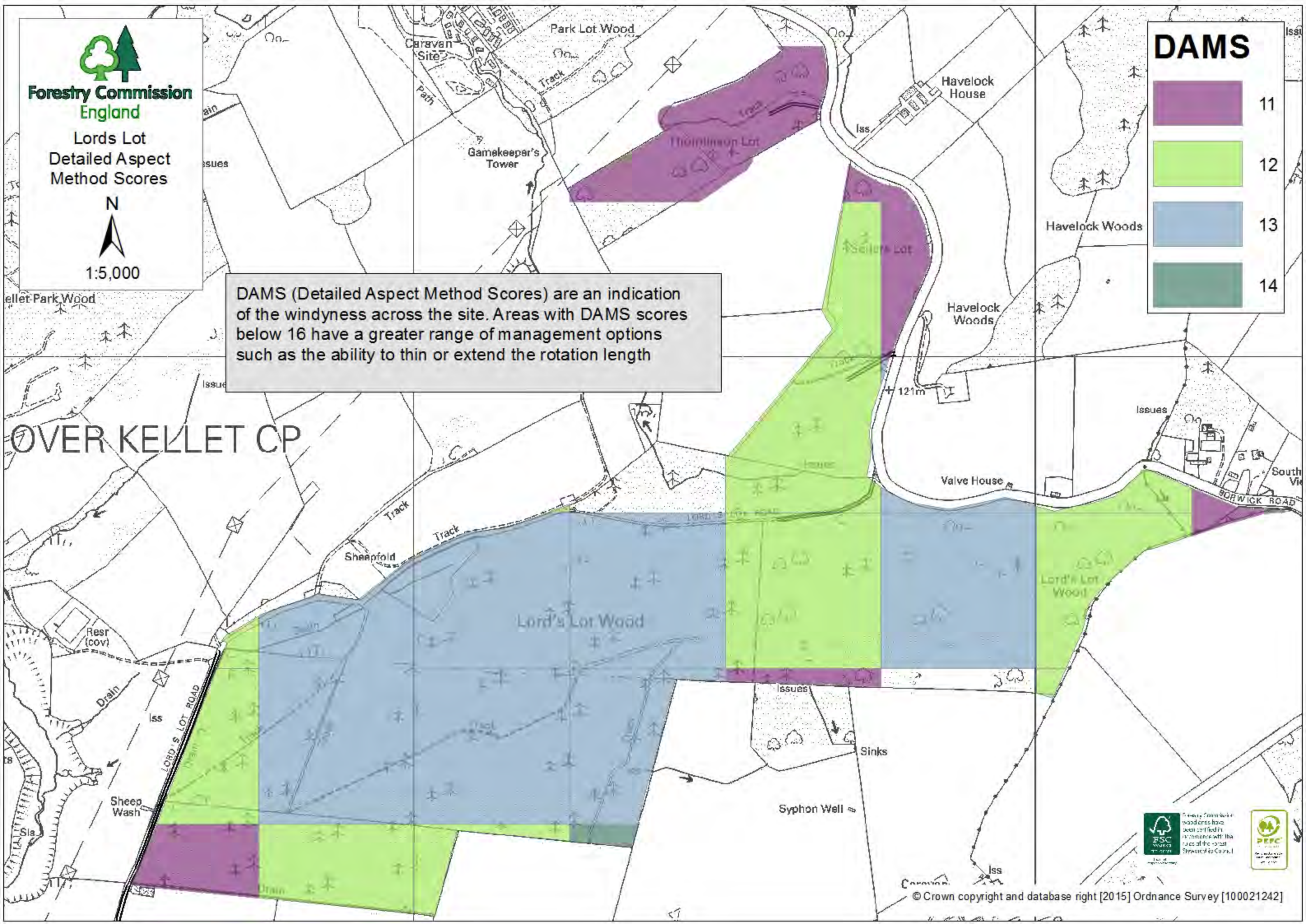
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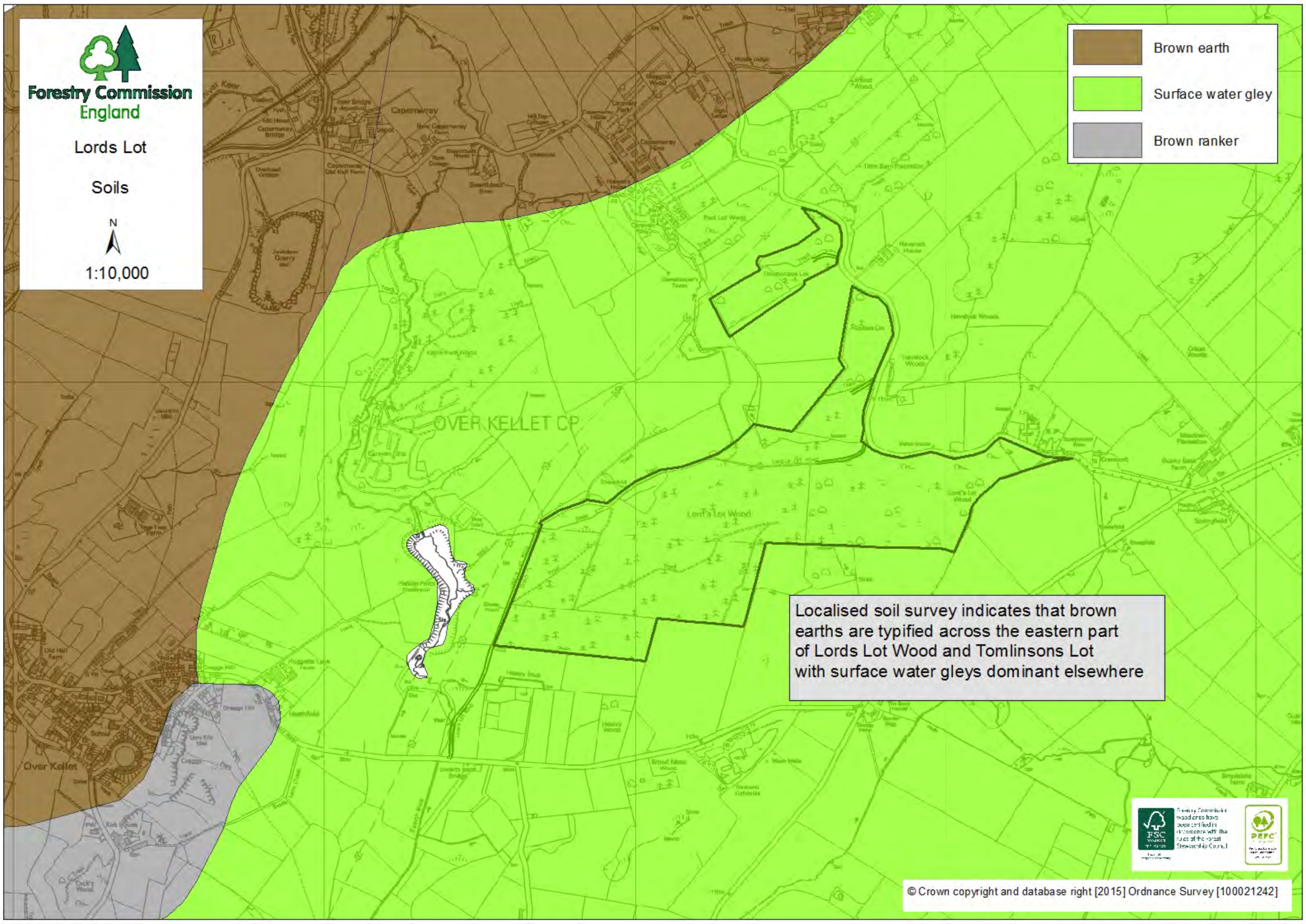
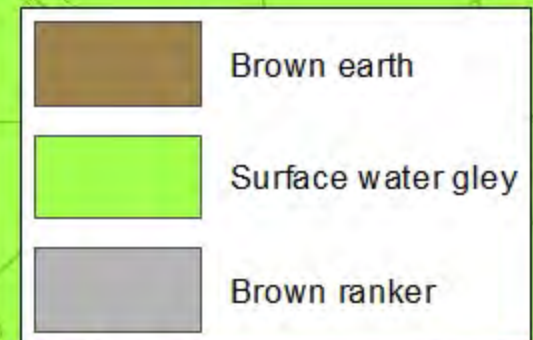
DAMS (Detailed Aspect Method Scores) are an indication of the windiness across the site. Areas with DAMS scores below 16 have a greater range of management options such as the ability to thin or extend the rotation length

DAMS

	11
	12
	13
	14



OVER KELLET CP



OVER KELLET CP

Lords Lot Road
Dated as pre-1847

High Park Cottage
Possible pre-1847 Farmstead

Possible Post Medieval Quarry

Management Principles for Lords Lot Bog

1. Monitor regeneration of trees to prevent encroachment and reversion to wet woodland
2. Maintain a stable localised climate through continuous cover management of adjacent woodland
3. Maintain integrity of dam




**Forestry Commission
England**

Lords Lot
Access
Recreation
and Services


N




1:5,000




CROW Dedicated Open Access




FC road/access




Rides




Gas pipeline




Powerline OH



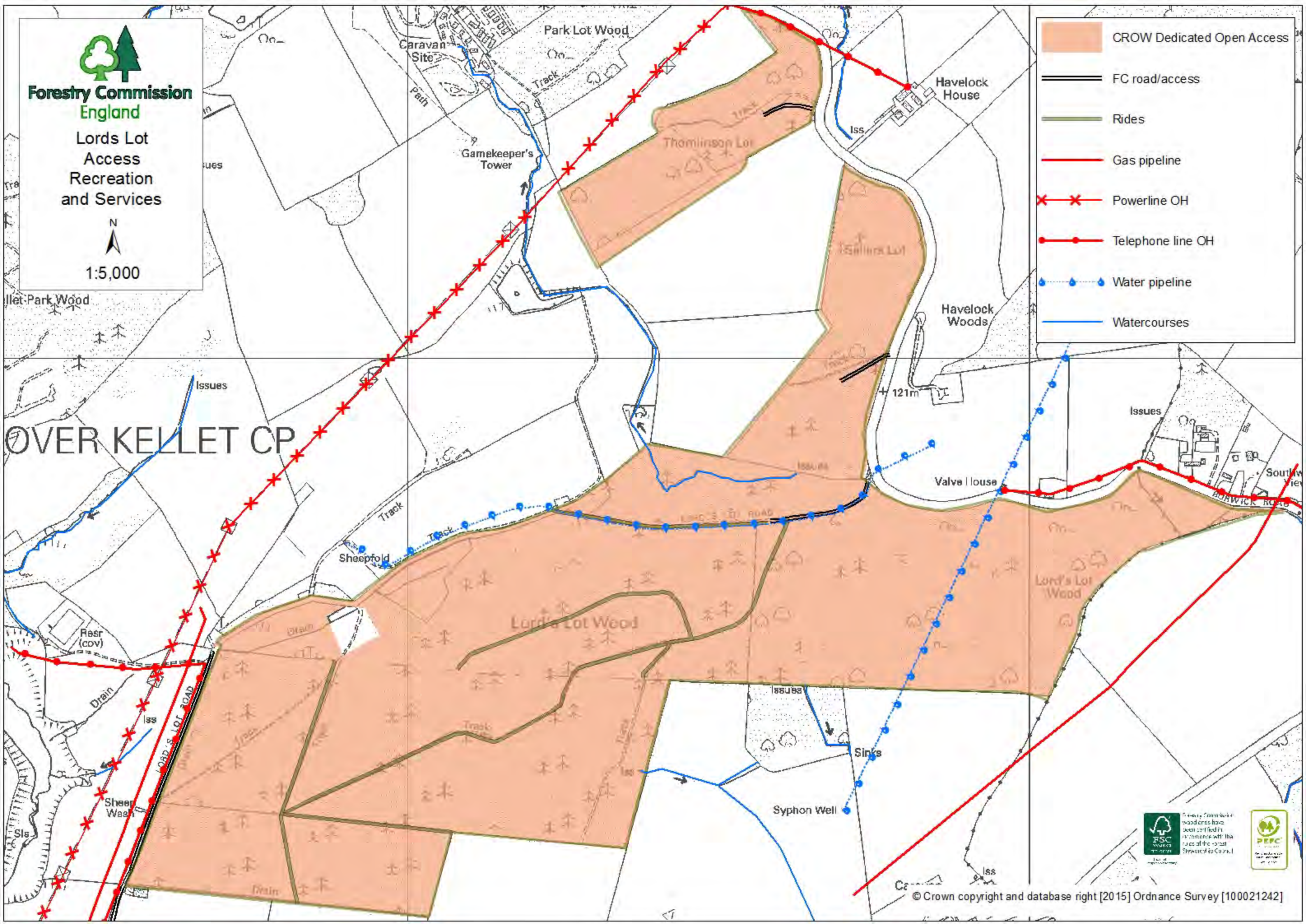
Telephone line OH



Water pipeline



Watercourses



Fertile soils generate prolific weed growth on restocking sites

Upgrade of Lords Lot road to allow access for forwarders and light vehicles would improve economic viability of harvesting operations and general forest management

Generally good soils provide opportunity for wider species diversity when planting. Climate change mitigation and improved resilience to pests and disease

Mature Western Hemlock producing prolific natural regeneration

Low wind hazard classification - opportunity for further thinning and CCF management

Lords Lot road only accessible for vehicular use from either end, middle section is unpassable

Field survey indicates that yield class of Scots pine is lower than predicted. Average yield class measured is 10 compared to database as 14

Central open area used for deer management is infilling with prolific birch regeneration

Moribund pine would provide a good overstorey for underplanting of alternative conifer species in a CCF regime

Improved threshold signage for visitors to provide a sense of ownership

Area planted in 1993 with Scots pine now dominated by birch regeneration. Some later plantations in 2002 are similar and require birch removal if planted crop is to survive.

Illegal incursion by motorbikes causing soil and ground damage

Larch at potential risk from Phytophthora ramorum. High percentage of larch surrounds Lords Lot bog

Good road access to M6

Internal network of rides used locally by the public as permissive paths shared with harvesting machinery during operations

Investment in respacing birch for P02 and P09 Scots pine restocks. Potential income from woodfuel or horse hurdles

Upgrade of Lords Lot road to allow forwarder access would reduce the need to travel on internal open rides

On site interpretation about management of Lords Lot bog





**Forestry Commission
England**

Lords Lot
Felling Proposals

N



1:5,000

Open

2016

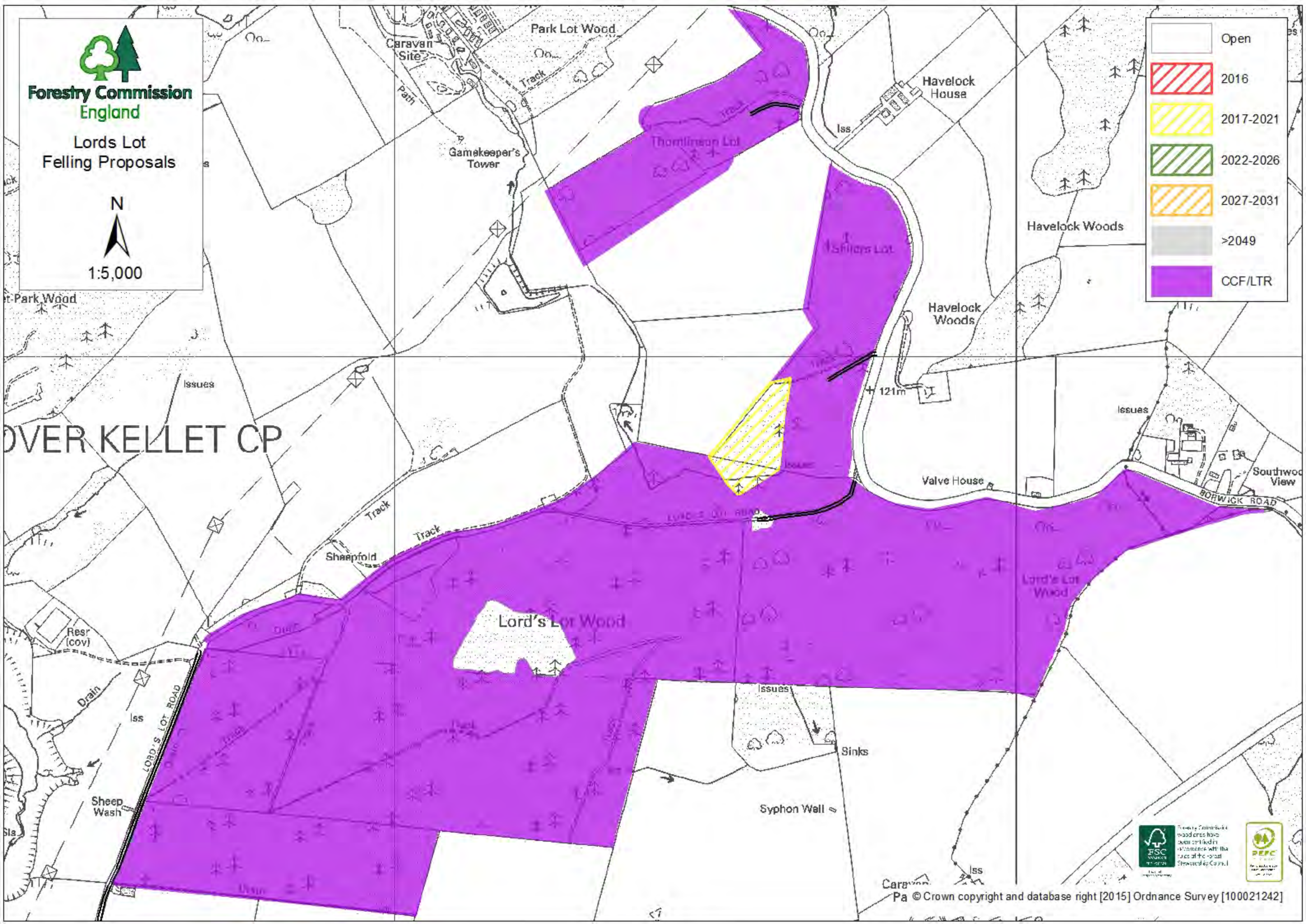
2017-2021

2022-2026

2027-2031

>2049

CCF/LTR



**Lords Lot
Future Species**

