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Note 3: Garden warbler and willow warbler not included in records database but are priority species in EM woodland bird project. ✓ means they are likely to benefit from the proposed management.

North York Moors

Sand Hutton Forest Design Plan

FDP 23

January 2011

Outgang Road
Pickering
North Yorkshire
YO18 7EL
01751 472771

FOREST ENTERPRISE - Application for Forest Design Plan Approvals in England

Forest Enterprise - Property

Forest District:	North York Moors
Woodland or property name:	Sand Hutton
Nearest town, village or locality:	Sand Hutton
OS Grid reference:	SE 680 585
Local Authority district/unitary	North Yorkshire/City of York

Areas for approval

	Conifer	Broadleaf
Felling	45.46	
Restocking	36.88	8.58
Continuous Cover	48.72	

1. I apply for Forest Design Plan approval for the property described above and in the enclosed Forest Design Plan.
2. 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.
3. I confirm that the proposals contained in this plan comply with the UK Forestry Standard.
4. I undertake to obtain any permissions necessary for the implementation of the approved Plan.

Signed

Signed

Forest Management Director

Grants and Regulations Manager

District

Region.....

Date.....

Date of Approval..... **Date approval ends**.....

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Sand Hutton

178.2 Ha

Period of Plan: 2011 - 2021

1. Background

Sand Hutton woodlands straddle the A64 - York to Scarborough road, on the north-east edge of the City of York. They comprise of several blocks ranging between 3 and 57 hectares that lie between Strensall Common SSSI and Buttercrambe Moor. The surrounding land is mainly arable farmland, with the Food and Environment Research Agency facility located centrally between the blocks.

2. Describing the Site

2.1 Geology and Soils

The majority of the Sand Hutton woods are growing above a complex of Alluvial Warp and Lacustrine Clays with sand and gravel deposits. Soils are predominantly sand in texture which gives rise to a typical podzol soil type. These have characteristically low nutrient and moisture status, which restricts the range of tree species where timber production is an objective. Some local variation occurs where higher silt content leads to areas of podzolic brown earth, increasing fertility and broadening the range of tree species suitable for timber production.

2.2 Tree Species

As to be expected with the associated soil types, Pines (Corsican, Scots & Lodgepole) are the main conifer species comprising almost 60% of the overall area, with Scots pine accounting for over half of this. Other conifer species include Western hemlock, spruce, larch and Lawson cypress.

Over the last Design Plan period, broadleaf species have increased from 12% to 17% of the overall area, with birch forming the main component. Other broadleaves include sycamore, oak, beech, ash and poplar.

2.3 Wind Damage

The majority of Sand Hutton woods fall within Windthrow Hazard Class 2, with parts of Whey Carr and Aldby Fields plantations reaching class 3, providing good windfirm conditions, which do not restrict thinning operations. Subsequently, stands can be managed on extended rotations and provide opportunities for continuous cover management.

2.4 Landscape

The woods sit within the Vale of York where the landform is flat. They are located within a medium-scale arable landscape of largely geometric field patterns, but which are open and more irregular to the north. Tree cover can restrict views and in places gives a sense of enclosure.

2.5 People and Community

Sand Hutton woods are leasehold woodlands where the owner has retained sporting rights and exercise these through a number of shooting syndicates.

A bridleway runs through the middle of White Sike Plantation and along the western edge of Whey Carr Plantation. The woods have no designated footpaths within or adjacent to the plantations and, due to their leasehold nature are not registered as open access under CROW legislation.

Because of the terms of the lease, potential for an increase in recreational use and facilities is limited. Access is likely to remain on an informal basis – mostly by local people exercising dogs.

2.6 Natural Heritage

The woods are predominantly secondary plantation conifer/broadleaf woods, although a significant proportion of Grange Wood is designated as Plantation on Ancient Woodland Site (PAWS).

As highlighted in the previous plan, woodland at Worlds End Plantation adjacent Strensall Common SAC/SSSI was recognised for its potential for lowland heathland restoration. During the previous plan, 18.22 ha of conifer deforestation has been carried out as part of the restoration process. This continues to receive appropriate management to achieve favourable condition of this valued habitat.

Records show the presence of Common water vole associated with The Stank IDB drainage system running through Scrogs Bottoms.

Breeding Nightjar are recorded on and adjacent to Sand Hutton Woods. This is a red status species that requires temporary open space to nest and breed as created by recently felled conifer plantations. Other priority woodland bird species as shown in Appendix 3 are noted within or adjacent to Sand Hutton woods.

There are numerous examples of old oak and ash, both within the woods and as boundary trees that can be considered as veteran or future veteran trees.

Scrogs Wood is designated as a Local Wildlife Site and is described as predominantly 'Woodland: broadleaved, semi-natural' with a small proportion of 'Woodland: mixed, plantation'.

2.7 Cultural Heritage

There are no known archaeological features at Sand Hutton.

3. Describing the Project

3.1 Project Brief

- increase the proportion of native broadleaf cover, particularly across areas of PAWS.
- increase the diversity of the age structure by maintaining current felling patterns throughout the wood and enhance external and internal edges
- consider the selection of alternative main tree species that will contribute toward timber production where productivity can be improved
- maintain and manage recently converted lowland heathland to improve its condition status

3.2 Objectives

- Conserve veteran trees and continue the restoration of PAWS to native woodland, to be measured by the sub-compartment database.
- Maintain the area of semi-natural habitat restored from woodland, to be measured by the sub-compartment database.
- Maximise and maintain a sustainable supply of timber from site-appropriate conifer and broadleaf species, to be measured by the Production Forecast and Sales Recording Package.

3.3 Constraints

- terms of the lease restrict the development for public recreation
- small scale of the woodland blocks, contributing to the lack of habitat connectivity in the surrounding landscape
- site limiting factors (low nutrient and moisture regime/invasive species such as rhododendron)

3.4 Implementation

3.4.1 Conservation

Protect and, where appropriate, enhance all known sites of archaeological and ecological importance:

Archaeological sites

All sites, regardless of their designation, will receive the same level of care during the planning and execution of forest operations. The operational planning system will ensure they are recognised and the proper measures for their protection are in place before work begins. This planning system also ensures that, where possible, opportunities to enhance the condition of archaeological interest are taken during routine forest work.

Ecological sites

All work sites are surveyed prior to any operations both to audit the accuracy of information already held on record and to identify opportunities to further improve the ecological value of the woodlands. For Sand Hutton this will include:

- Managing Veteran trees and PAWS as set out in – ‘Ancient Woodland on the Forestry Commission Estate in England (March 2002)’
- Managing Lowland Heath as set out in – ‘Heathland on the Forestry Commission Estate in England (March 2005)’
- Increase the diversity of species and age structure that will maintain and improve favourable habitat for identified target species.

3.4.2 Timber Harvesting

We will continue to sustainably harvest timber both from clearfell and thinnings, and where appropriate develop broadleaf stands to increase their contribution to timber production. These operations will be planned and controlled to ensure due regard for all other objectives of management in Sand Hutton.

3.4.3 Landscape

The woods at Sand Hutton do not lie within a designated landscape. Views are limited to edges and internal landscapes and as a consequence, landscape sensitivity is considered low.

Clearfell areas have been designed so that their scale and shape are in keeping with the scale of the woodland blocks and the surrounding landscape. The resulting diversity in age and height that the clearfell system produces will enhance both external and internal views of the woodlands.

The adoption of Continuous Cover Forestry (CCF), principally at Scrogs Wood, Scrogs Plantation and Grange Wood, will contribute toward the creation and retention of species and structurally diverse woodlands within the landscape.

3.5 Plan

The design concept map shows the key factors we need to address. These are taken forward and used to form the basis of a practical plan in the fell and restock maps.

3.6 Areas

3.6.1 Breakdown of felling areas within the period of the plan.

A map showing the location of felling sites can be found in the A1 Forest Design Plan folder.

Felling	Area - hectares	% of total area
2007 – 2011 Clearfell	12.88	7
2012 – 2016 Clearfell	13.62	8
2017 – 2021 Clearfell	18.96	11
Continuous Cover	48.72	27
Minimum Intervention	N/A	N/A

3.6.2 Breakdown of constituent areas.

A management information map showing the location and detail of the constituent areas can be found in the A1 Forest Design Plan folder.

Habitat type (based on principal species planted)	Area – hectares	%age of total area
Conifer	92.73	52
Broadleaf*	54.98	31
Temporary open space (clearfell)	9.32	5
Agricultural, heathland, restoring heathland and planned open areas	21.85	12

*** Not including natural regeneration in continuous cover areas**

3.7 Methods / Forest Operations

3.7.1 Planning

Before any major forest operations are undertaken an “Operational Site Assessment” is completed. This document details the proposed work and outlines all known environmental, social and operational considerations. The “Operational Site Assessment” then becomes an important reference document during the planning phase, at the pre commencement meeting before scheduled works begin and for supervisory visits during the operation. The “Operational Site Assessment” is kept along with other documents relating to the operation in the main office.

For routine maintenance operations (e.g. fencing, ride mowing, survey work etc.) the North York Moors policy on timing of operations to minimise wildlife disturbance will be followed.

3.7.2 Standards

All operations within the forest will be carried out according to guidance contained in the U.K Forestry Standard, the U.K. Woodland Assurance Scheme, and will adhere to the guidance given in the Forestry Commission Guideline Publications (Forests and Water, Forests and Archaeology, Forest Nature Conservation, Forest Recreation)

3.7.3 Harvesting

The majority of the timber is likely to be sold standing and then contractors will be employed by the purchaser to carry out the work. Staff from both the timber buyer and the Forestry Commission will monitor work through regular site visits to ensure all guidelines and contract conditions are adhered to.

Clearfell V's Continuous Cover Forestry

All plans are required to consider lower impact silvicultural systems (LISS) in windfirm conifer plantations as opposed to traditional clearfell systems. This decision is based upon the methodology provided in FC Information Note 40 – ‘Transforming Even-aged Conifer Stands to Continuous Cover Management’.

Using the FC Forest Research Agency, Establishment Management Information System – EMIS, Scots pine is considered ‘suitable’ for CCF where timber production is considered as an objective. We will look to implement through the

management of the successor stand where this does not compromise other objectives.

See Appendix 2 – CCF justification.

3.7.4 Haulage

As in our other woodland blocks we will continue discussions with the relevant Highways Authority to agree haulage routes and discuss annual tonnage's.

All timber traffic will be managed in line with the Road Haulage of Round Timber Code of Practice (2003), which aims to improve the safety and environmental standards of the timber haulage industry.

3.7.5 Restocking

Conifer

The areas of clearfell in the design plan will be replanted to diversify species and age structure and to continue to provide a sustainable timber resource. For Sand Hutton this will include Douglas fir and hybrid larch where soil type changes from podzol to podzolic brown earth.

Corsican pine is no longer considered for restocking due to the impact of Red Band Needle Blight. Also, Western hemlock is no longer considered appropriate for restocking due to its poor timber quality and its invasive nature through natural regeneration.

In areas where the restoration and protection of the heathland understorey is desirable then Scots Pine will be the preferred species.

The continuous cover areas will be managed to encourage natural regeneration, though enrichment planting may be considered if regeneration is not successful or to further diversify the species present.

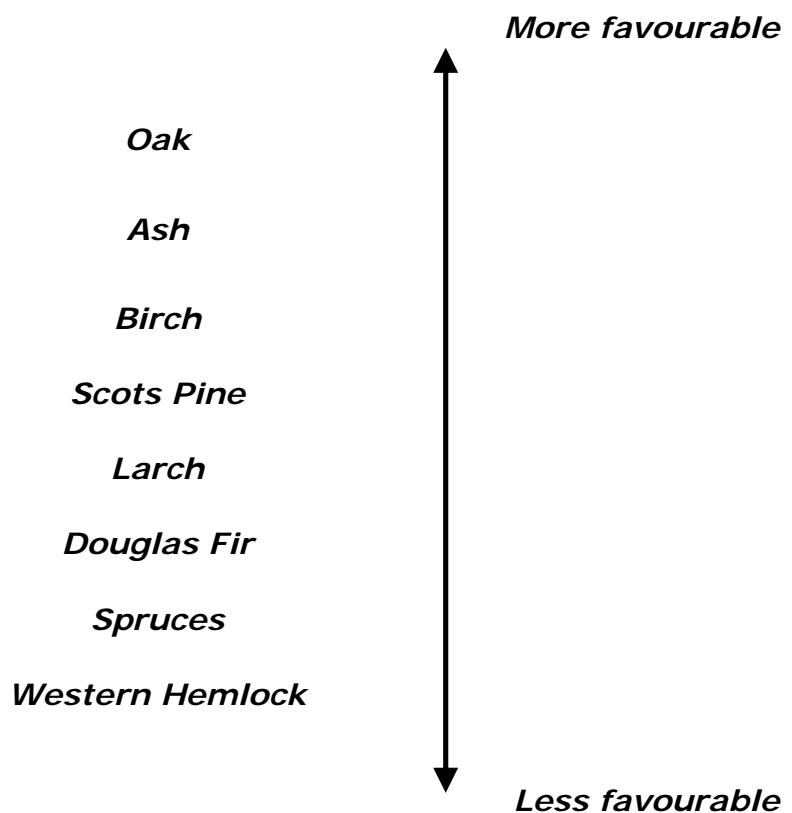
Natural regeneration development across continuous cover and clearfell areas will be assessed and the risk it poses to the aims of the plan considered. Where it presents a high risk e.g. Western Hemlock on well developed heathland area, it will be removed as soon as practicable. Where the risk is lower it will be allowed to reach a harvestable size and removed as part of a routine felling or thinning operation.

Broadleaf

The PAWS at Grange Wood is predominately W16 – Lowland oak-birch woodland with bilberry, with smaller areas of W10 – Lowland mixed broadleaf woodland with bluebell. These will be restored through the adoption of CCF management and implemented by successive thinnings and small group fellings to allow more light to reach the forest floor and so encourage natural regeneration of site native species.

In addition and where ground conditions allow, the opportunity to plant closely spaced groups of oak amongst a matrix of Scots pine and birch will be carried out, with the objective of growing oak as a final crop tree. Overall, these areas will be relatively small and until on-site assessments are completed, will be unmappable. However, these are likely to be associated with areas identified as Mixed Conifer where associated with Scots pine, and Mixed Broadleaf where associated with birch on the Restock map.

Species regeneration on PAWS areas



Natural regeneration in PAWS woodland will be assessed and the risk it poses to the aims of the plan considered. Where dense shade or invasive species (such as Western Hemlock or rhododendron) threatens the native woodland community, it will be removed as soon as practicable. Where the risk is lower it will be allowed to reach a harvestable size and removed as part of a routine felling or thinning operation.

Heathland

Land previously restored to lowland heath will continue to be managed under an approved agri-environment scheme through a Farm Business Tenancy agreement. The current HLS agreement expires in 2019, and will ensure sheep grazing is maintained at appropriate stocking levels and bracken/birch regeneration is managed to promote lowland heath restoration. Under this agreement, progress of restoration will be reviewed annually.

4. Monitoring

4.1 Clearfells

All clearfell areas are managed spatially using the Sub Compartment Database to ensure the boundaries and designs are accurately reproduced on the ground. Significant variances in the areas to be felled require a formal amendment of the plan plus the agreement of and approval by FC regional staff, as per CSM 6.

4.2 Restock

All restock areas where timber production is an objective will be planted and monitored to ensure that the number of established trees / ha fully meets the requirements of OGB*4. This document has mandatory requirements on the monitoring of the crop in Year 1 and Year 5 to ensure the establishment of at least 2500 trees / ha.

4.3 Continuous Cover

Continuous cover areas will be monitored using the methods and procedures contained in OGB*7. Similar in scope to the methods employed for restock areas, where timber production is the aim we need to have 2000 saplings / ha after 10 – 15 years, these should be evenly spread over 90% of the site.

4.4 Design Plan

All design plans are formally reviewed “mid term” and this plan, its aims and objectives and its success at achieving those aims and objectives will be formally reviewed in 2015. This time period can be shortened if circumstances change significantly or if parts of the plan prove detrimental to the overall aims and objectives.

*Operational Guidance Booklet

5. Determination of Impact Significance and Mitigation

5.1 Ancient and Native Woodland

Threats to our ancient and native woodlands can be immediate and absolute (e.g. loss to infrastructure or development) or slower and more subtle (e.g. shading from conifer species or invasive species such as Rhododendron). There are also more widespread environmental changes, such as diffuse pollution and climate change, which may threaten in the long term. (www.forestry.gov.uk/keepersoftime)

Major threats to ancient and native woodland are:

- *Climate change and fragmentation*
- *Excessive browsing and grazing by deer & livestock*
- *Inadequate or inappropriate management*
- *Invasive and problem species*
- *Diffuse pollution*
- *Loss*

Through this plan, we will continue to apply local and national policy and best practice guidance for the restoration of PAWS, and continue the control of the Rhododendron to enhance and maintain this valuable habitat.

5.2 Flora

Heathland is a UKBAP Priority Habitat

Within woods, concentrate on open space habitat expansion and management, developing heathland, neutral grassland and acid mires.

(G. Peterken – Native Woodland Development in the North York Moors and Howardian Hills)

This plan, while not creating new areas of lowland heath, will continue the management and development of lowland heathland created under the previous design plan. It will consider the development of habitat networks including heathland, with reference to Natural England's 'Historic Heathland site' document.

5.3 Other Objectives

Concentrate on developing habitat – rich riparian corridors with marshes, meadows, woodlands, trees in farmlands. These would pass through both woodland and farmland.

(G. Peterken – Native Woodland Development in the North York Moors and Howardian Hills)

We will continue to apply local and national policy and best practice guidance to the management of riparian corridors in Sand Hutton. This will improve and enhance the habitat network within the woodlands and benefit protected species including common water vole in Scrogs Plantation.

Continuing development of species and structural diversity will benefit habitats for priority woodland bird species throughout the woodland.

Appendix 1 – Consultation Record

13 May 2010

Internal stakeholder meeting attended by J Bates, P Cody, B Walker, N Short, N Rylance, J Simpson.

28 May 2010

Request to Chris Thompson, RSPB Advisor, for information on priority woodland bird species in or adjacent to Sand Hutton woods.

16 June 2010

Data received from C Thompson.

29 July 2010

Copies of Planning Meeting minutes and 'Brief and Objectives' document to Mr I Downey, FC Yorkshire & The Humber.

02 August 2010

Letter of Notification and copy of 'Brief and Objectives' document to: Smiths Gore, Claxton and Sand Hutton Parish Council, Mr G Winn-Darley, City of York Council, Ryedale District Council.

Response received from Smiths Gore.

10 September 2010

Meeting with Simon Christian, Natural England, Lead Conservation and Land Management Advisor.

16 September 2010

Letter of Notification and copy of 'Brief and Objectives' document to Food and Environment Research Agency

Appendix 2 – CCF justification

Site Factor	Suitability Score	Comment
WHC: range 1 to 3	1	
Soil fertility: Very Poor	1	Isolated areas of medium fertility
Species suitability: Scots pine	1	Corsican pine not considered due to RBNB

Initial analysis indicates significant areas of Sand Hutton could be suitable for CCF. Further analysis of stand structure is considered to help inform whether transformation should be considered.

- Stand form – Form is moderate and not of a high quality.
- Thinning history – Thinning has not followed a regular cycle to help develop crowns that can act as potential seed bearers.
- There is little or no sign of early or advanced regeneration of Scots pine.

On the basis of the above information, we will consider CCF across even-aged conifer stands using Scots pine through the management of the successor stand rather than the current stands and where this does not compromise the provision of temporary open space for breeding Nightjar.

We will however adopt CCF management on those areas where species and structural diversity already exists and the restoration of PAWS to native broadleaf is a key objective. This will be carried out using a group shelterwood system.

Appendix 3 - Bird records 2010 data (2005-2009 records) for Sand Hutton area

San

Note 1: These records are drawn from a database of all reports of all *breeding season* birds submitted by volunteer and professional surveyors, as casual records or as part of effort based surveys. It should be treated as indicative, and not an absolute or definitive assessment of priority woodland birds within locality.

Les

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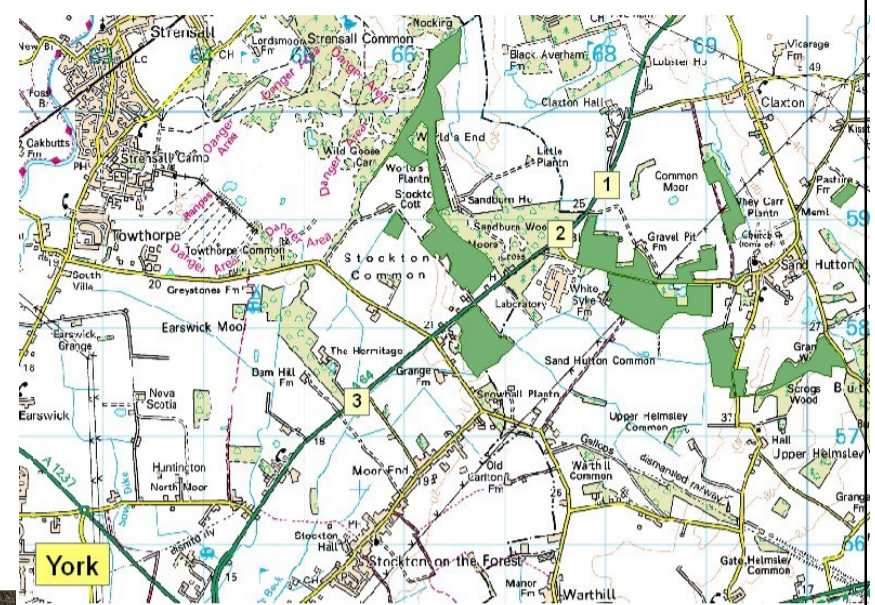
Forestry Commission
England



NORTH YORK MOORS
FOREST DESIGN PLAN 23
Sand Hutton



Sand Hutton Forest Design Plan



VIEW 1: Black Dyke and Moor Park plantations from A64. This woodland strip has the effect of breaking up the arable land in the foreground. Visual appearances will be improved through planned felling to break the uniformity of the pine on the skyline.

View 2: Black Dyke Plantation from the turn-off to the Food and Environment Research Agency. Tree cover can restrict views and in places give a sense of enclosure.



View 3: Kings Moor and Worlds End plantations from the A64. Views of these areas are reduced to edge trees only, because of landform and distance.



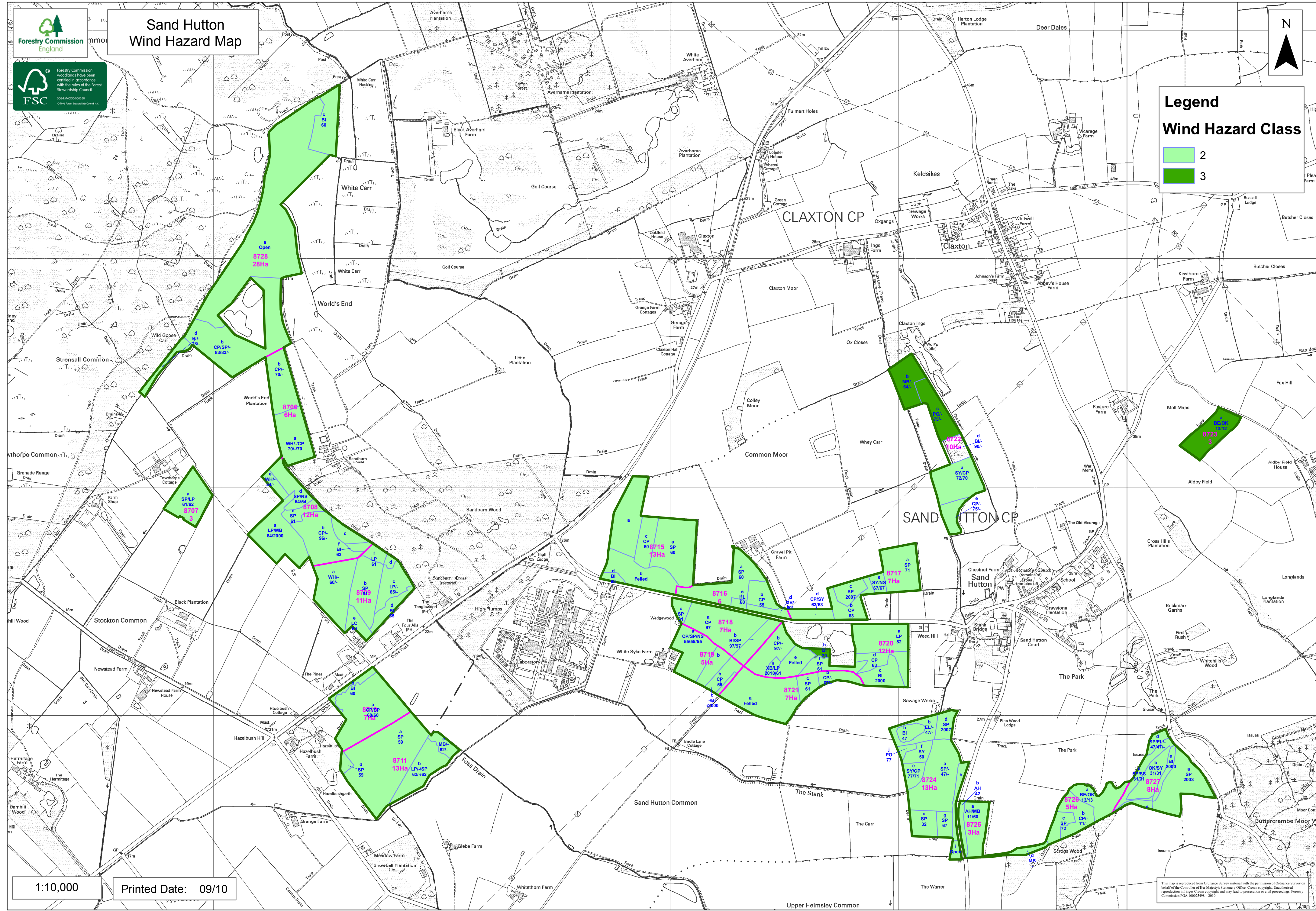
Sand Hutton Wind Hazard Map



Legend

Wind Hazard Class

- 2
- 3

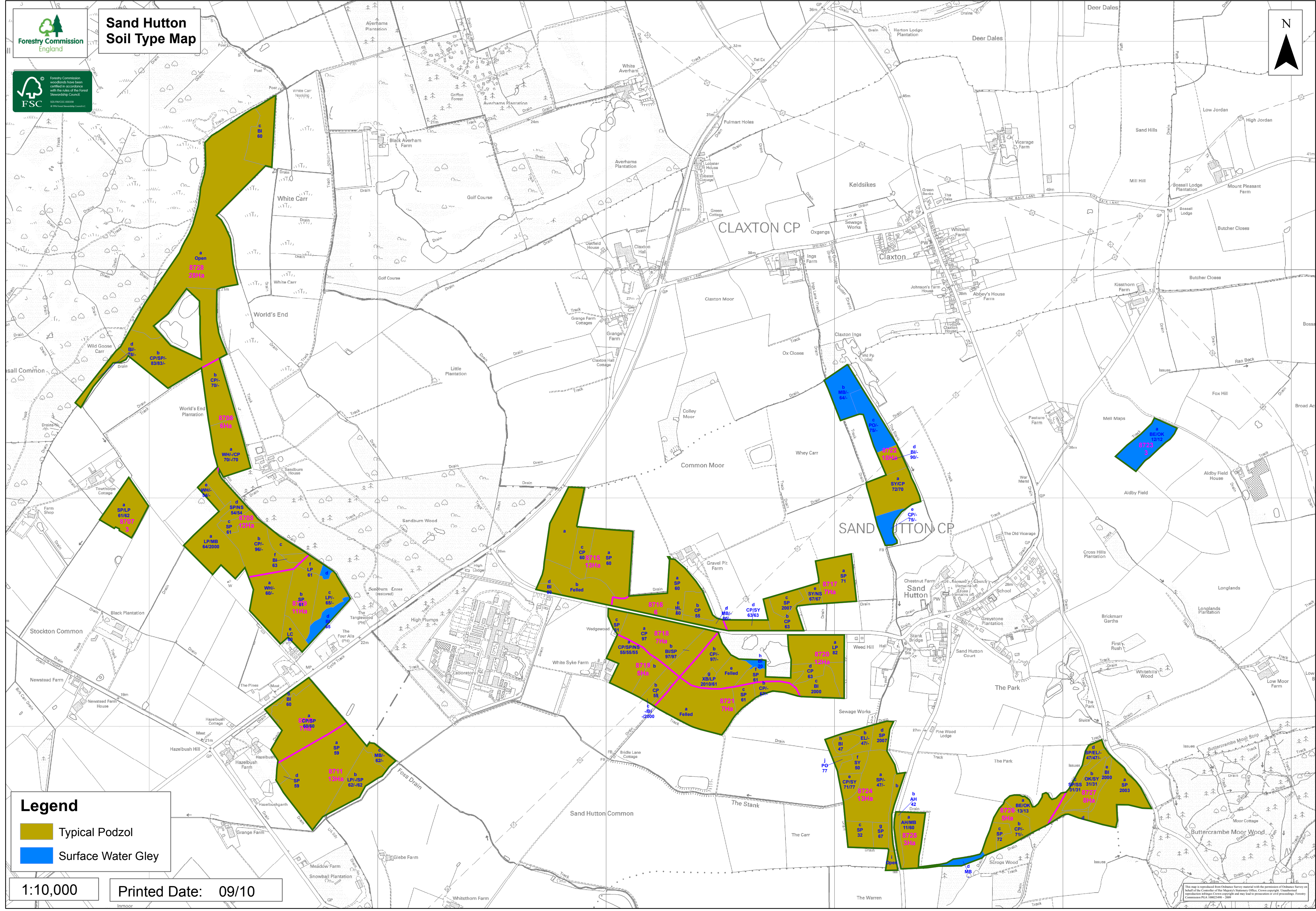


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Sand Hutton Soil Type Map



Legend

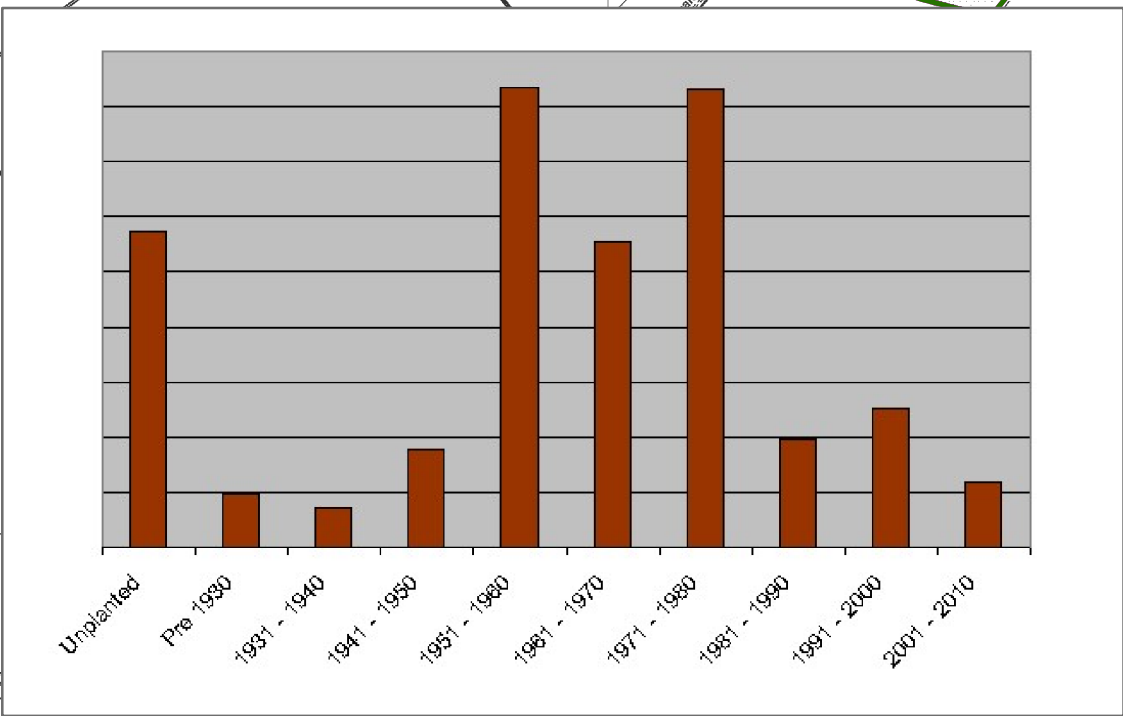
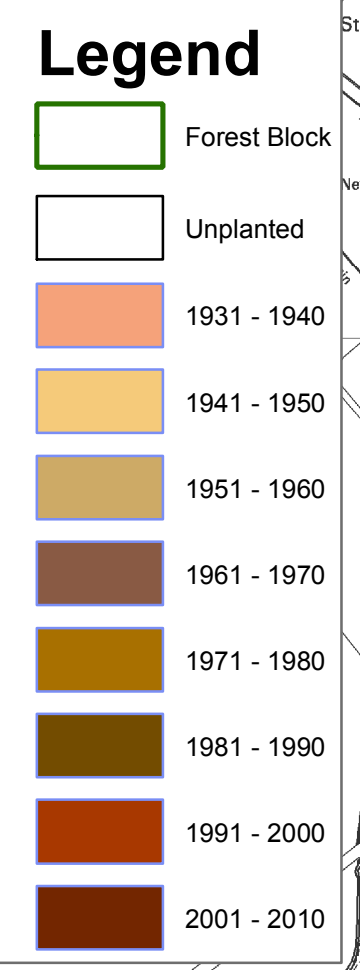
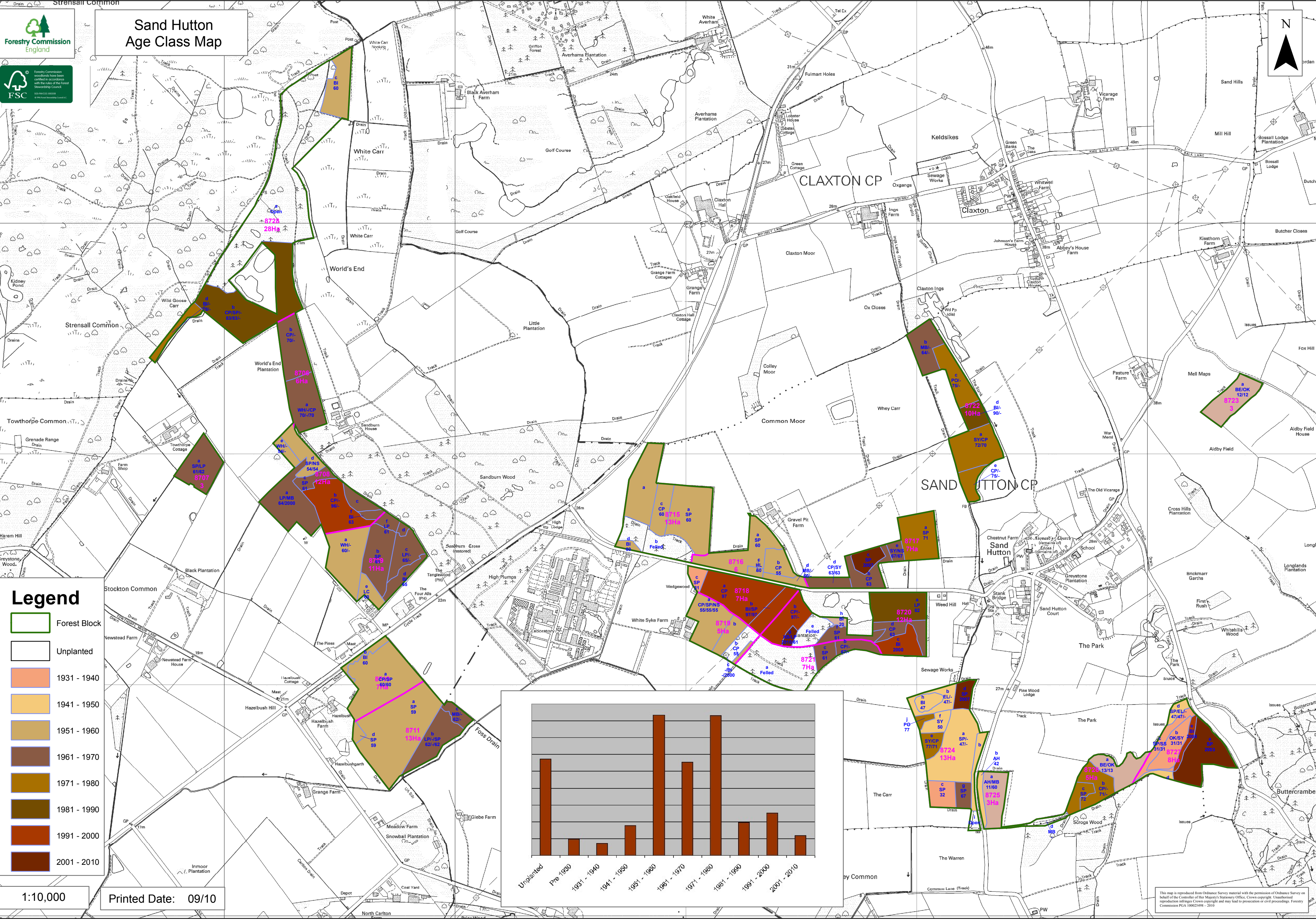
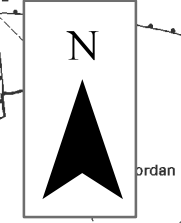
- Typical Podzol
- Surface Water Gley

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Sand Hutton Age Class Map

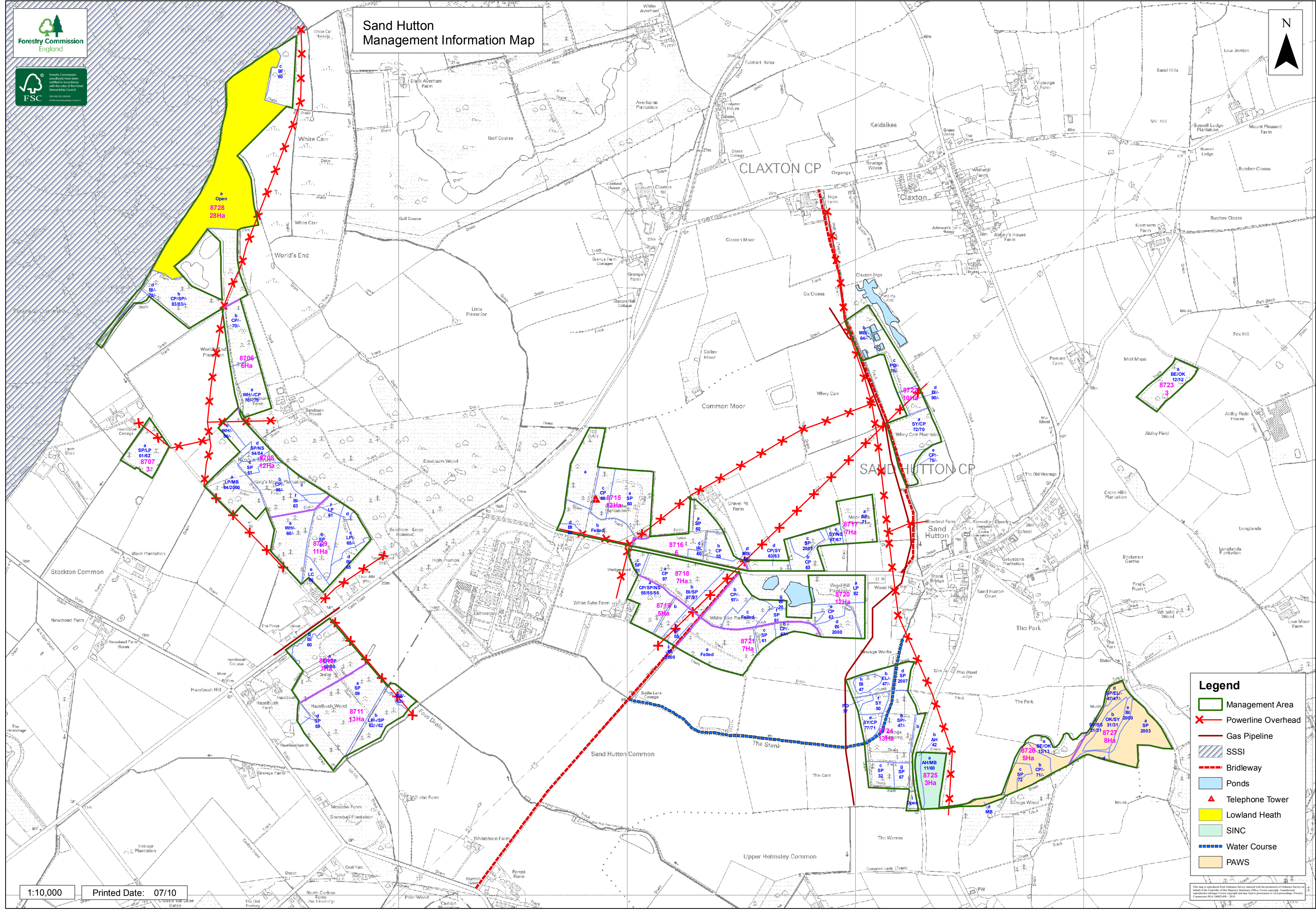


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Sand Hutton Management Information Map



- Legend**
- Management Area
 - X Powerline Overhead
 - Gas Pipeline
 - SSSI
 - - - Bridleway
 - Ponds
 - ▲ Telephone Tower
 - Lowland Heath
 - SINC
 - Water Course
 - PAWS

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Lowland heathland restoration adjacent Strensall Common SSSI carried out under previous plan
 Restored lowland heath will be appropriately managed to achieve favourable condition.

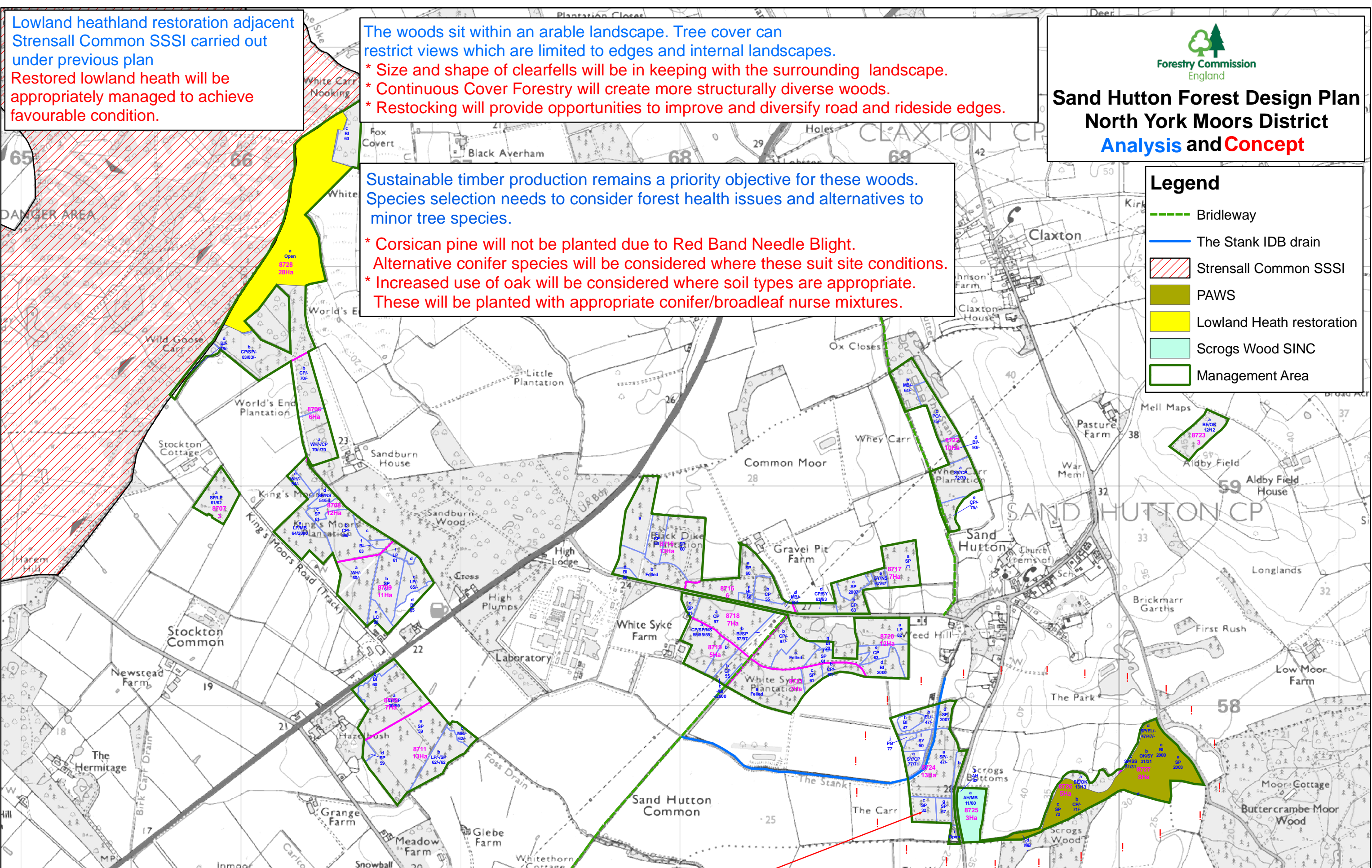
The woods sit within an arable landscape. Tree cover can restrict views which are limited to edges and internal landscapes.
 * Size and shape of clearfells will be in keeping with the surrounding landscape.
 * Continuous Cover Forestry will create more structurally diverse woods.
 * Restocking will provide opportunities to improve and diversify road and rideside edges.

Forestry Commission
 England
Sand Hutton Forest Design Plan
 North York Moors District
Analysis and Concept

Sustainable timber production remains a priority objective for these woods. Species selection needs to consider forest health issues and alternatives to minor tree species.
 * Corsican pine will not be planted due to Red Band Needle Blight. Alternative conifer species will be considered where these suit site conditions.
 * Increased use of oak will be considered where soil types are appropriate. These will be planted with appropriate conifer/broadleaf nurse mixtures.

Legend

- Bridleway
- The Stank IDB drain
- Strensall Common SSSI
- PAWS
- Lowland Heath restoration
- Scrogs Wood SINC
- Management Area



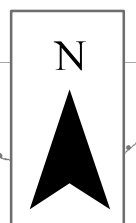
Priortiy Habitats and Species are recorded at these woods
 * Restore PAWS to native species through the gradual removal of non-native trees through a Continuous Cover system.
 * Maintain species and structural diversity of SINC through Conntinuous Cover system.
 * Manage riparian zone along IDB drain to maintain and improve habitat for Water vole.



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Sand Hutton Current Felling Map



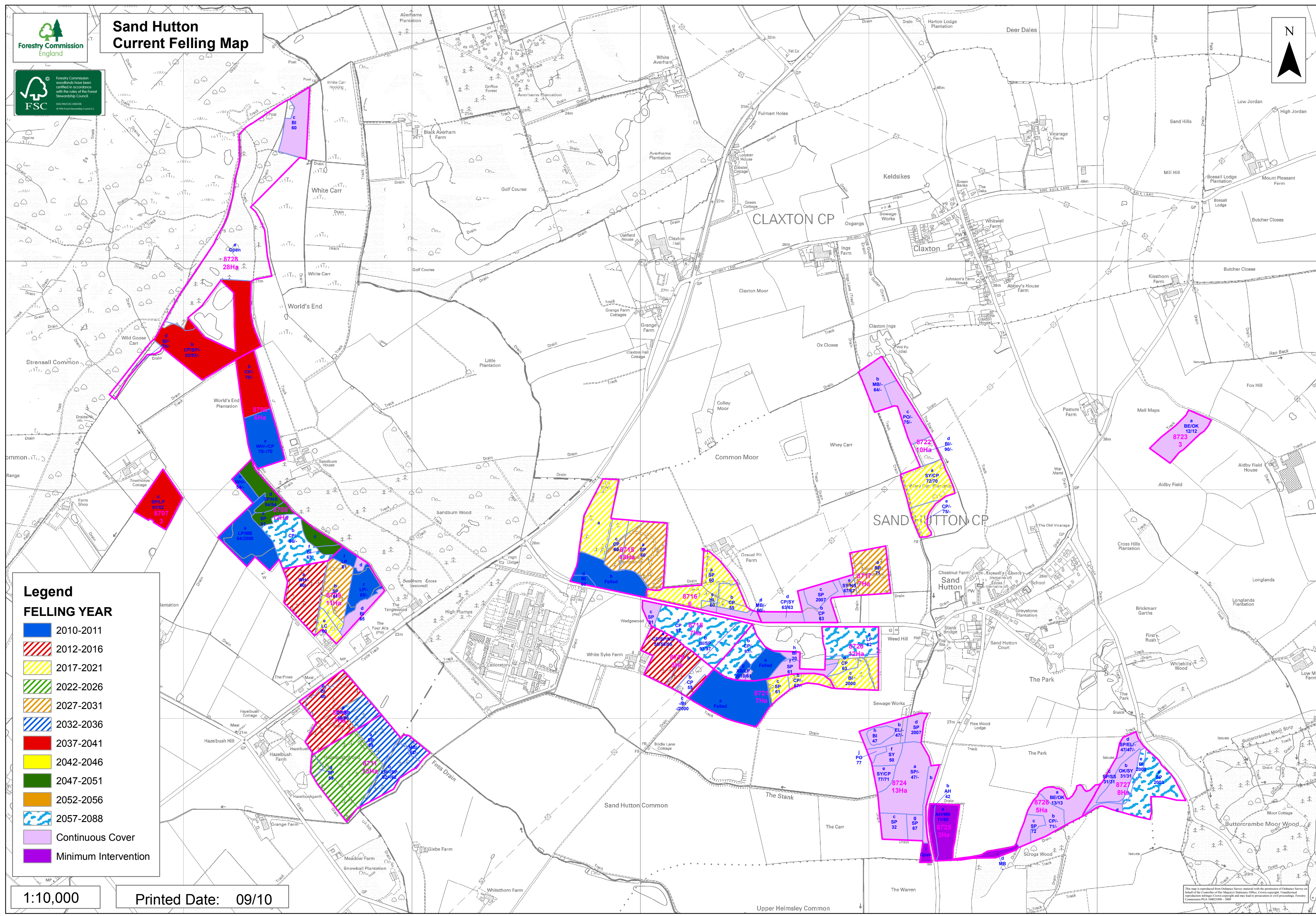
Legend

FELLING YEAR

- 2010-2011
- 2012-2016
- 2017-2021
- 2022-2026
- 2027-2031
- 2032-2036
- 2037-2041
- 2042-2046
- 2047-2051
- 2052-2056
- 2057-2088
- Continuous Cover
- Minimum Intervention

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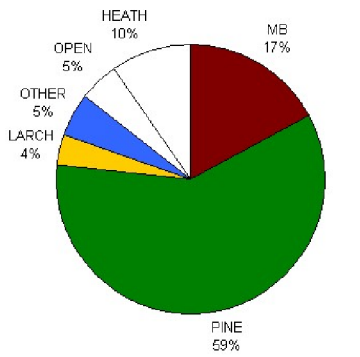
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Sand Hutton Existing Species Map



Pie Chart to show the planted area in % in Sand Hutton



Legend

- Mixed Conifer
- Mixed Broadleaf
- Norway Spruce
- Corsican Pine
- Lodgepole Pine
- Scots Pine
- Sitka Spruce
- Larches
- Douglas Fir

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Sand Hutton Proposed Harvesting Map

Proposed Harvesting Map

This map shows how we intend to manage tree felling in Sand Hutton in order to meet the multiple objectives of management there.

Clearfells
Clearfells remove all or the majority of trees from the site. They allow significant changes in landscape, species and age class diversity to be achieved in a short space of time. They provide temporary open space followed by a slow succession of different habitat types each exploited by different flora and fauna.

Continuous Cover
In a continuous cover system change is managed more slowly using a combination of heavier thinnings and small group fellings (normally no greater than 0.25Ha). The purpose of the thinning / felling operations is to produce timber and to allow enough light to reach the forest floor for replanting / regeneration to take place. The majority of the site has tree cover at all times and at one or more levels.

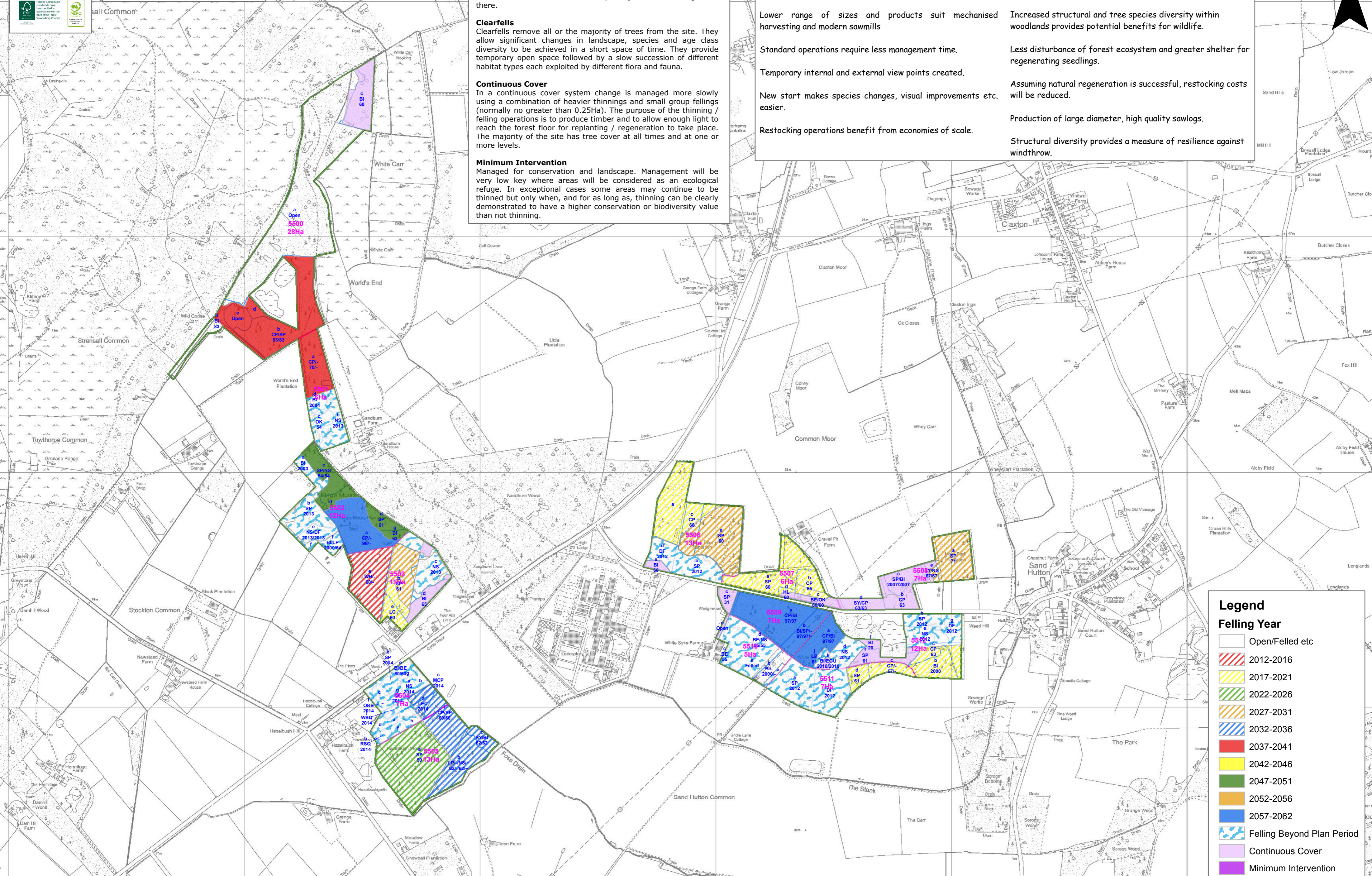
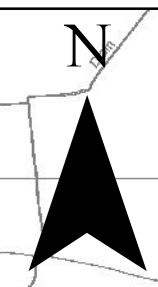
Minimum Intervention
Managed for conservation and landscape. Management will be very low key where areas will be considered as an ecological refuge. In exceptional cases some areas may continue to be thinned but only when, and for as long as, thinning can be clearly demonstrated to have a higher conservation or biodiversity value than not thinning.

Advantages of Clearfelling

- Lower harvesting costs due to economies of scale
- Lower range of sizes and products suit mechanised harvesting and modern sawmills
- Standard operations require less management time.
- Temporary internal and external view points created.
- New start makes species changes, visual improvements etc. easier.
- Restocking operations benefit from economies of scale.

Advantages of Continuous Cover Forestry

- Less visual impact than clearfelling.
- Increased structural and tree species diversity within woodlands provides potential benefits for wildlife.
- Less disturbance of forest ecosystem and greater shelter for regenerating seedlings.
- Assuming natural regeneration is successful, restocking costs will be reduced.
- Production of large diameter, high quality sawlogs.
- Structural diversity provides a measure of resilience against windthrow.



Legend

Felling Year

- Open/Felled etc
- 2012-2016
- 2017-2021
- 2022-2026
- 2027-2031
- 2032-2036
- 2037-2041
- 2042-2046
- 2047-2051
- 2052-2056
- 2057-2062
- Felling Beyond Plan Period
- Continuous Cover
- Minimum Intervention

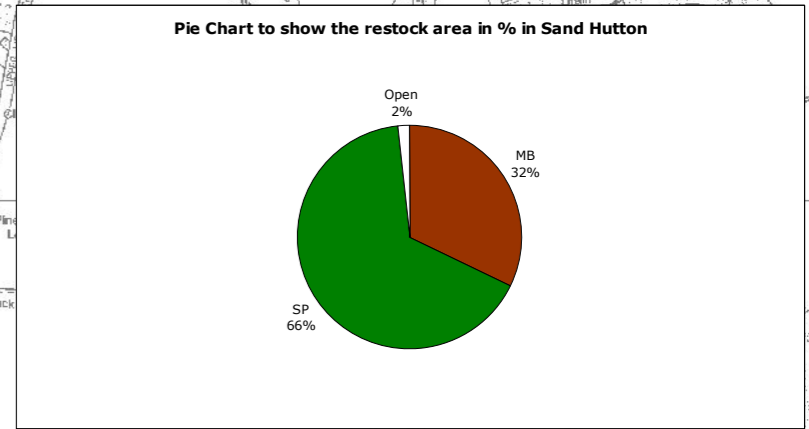
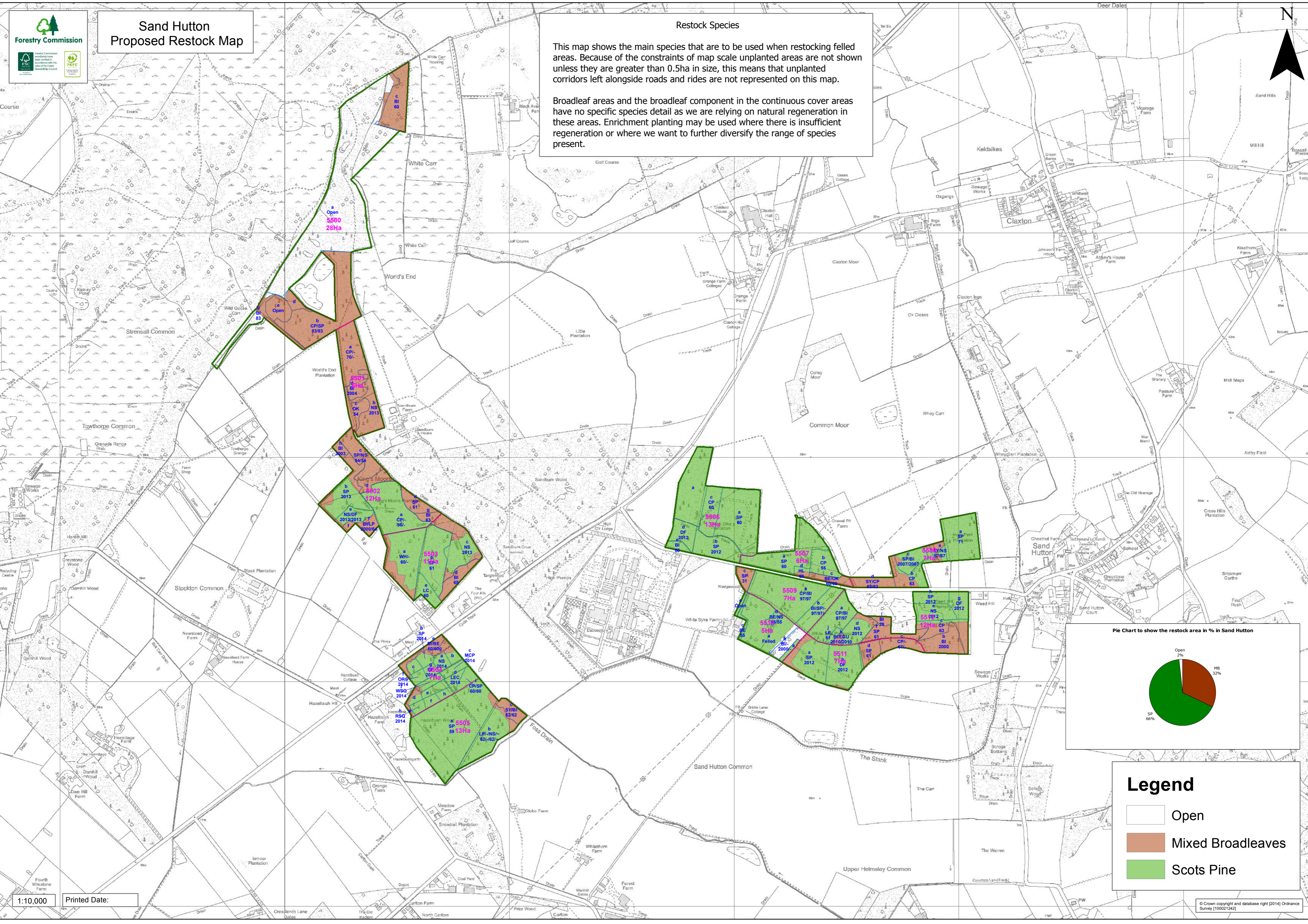
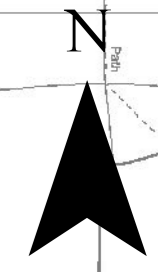


Sand Hutton Proposed Restock Map

Restock Species

This map shows the main species that are to be used when restocking felled areas. Because of the constraints of map scale unplanted areas are not shown unless they are greater than 0.5ha in size, this means that unplanted corridors left alongside roads and rides are not represented on this map.

Broadleaf areas and the broadleaf component in the continuous cover areas have no specific species detail as we are relying on natural regeneration in these areas. Enrichment planting may be used where there is insufficient regeneration or where we want to further diversify the range of species present.



Legend

- Open
- Mixed Broadleaves
- Scots Pine



Future Habitat and Species Map



Legend

- Heathland
- Native Dominant Woodland

Restock Species

- Mixed Broadleaves
- Mixed Conifer
- Scots Pine

Scale: 1:10,000 Printed Date: Jan 2011

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