Gisburn Forest Plan 2015

North England Forest District

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

Planning and District Context

The Strategic Plan for the Public Forest Estate in England outlines the delivery of forest policy on the public forest estate at a national level. At a more local 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.

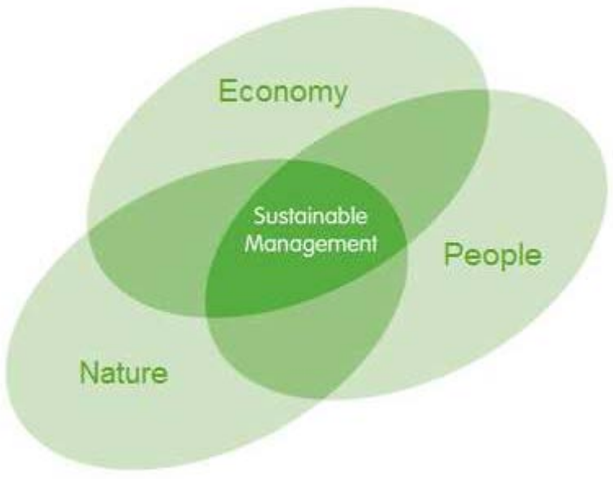
North England Forest District (NEFD) is the management unit that manages the public forest estate in Northern England. This is an extensive area encompassing 9 county or unitary authority areas from the Scottish border to Durham and Lancashire.

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 design 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 and the UK Forest Standard.

Individual FDP's 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 maximise 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

Gisburn Forest Design Plan

This plan is a resubmission of the one submitted and approved in 2009. Following the five year review in 2013 the decision was made to review the objectives of the plan in order to deliver District Policy with consideration to available resources and the potential future economic value of the forest for commercial timber production.

Broadleaf establishment has been very successful on more fertile soils and sheltered sites in the SE of the forest but less so in the northern parts of the forest and conversion to broadleaves at the scale proposed in the current plan would require significant financial investment in the form of deer fencing.

There is the prospect of increased timber production elsewhere in the district, prompted by the spread of *Phytophthora ramorum* in larch which has impacted on the scheduling of felling proposals.

In addition, there has been significant successful recreational development in recent years with potential for further projects which was not reflected in the previous plan.

To take account of these factors, the Gisburn plan was revised ahead of time and presented as a full resubmission.

Part 1 Background Information

Introduction

Gisburn Forest lies within the Forest of Bowland Area of Outstanding Natural Beauty, in Lancashire. It is situated in the upper Hodder valley, near to Stocks reservoir. Much of the land area is leased from United Utilities and was initially afforested by the Forestry Commission from 1949 through to the early 1960s. Our holding extends to 1245 hectares and is the largest wooded area in Lancashire. Over recent years Gisburn has become an increasingly important recreational destination for an estimated 50,000+ day visitors. There are facilities for car parking and picnicking from where visitors can enjoy way-marked walks and cycle routes or explore the extensive network of public footpaths.

The Forestry Commission's Forest Research branch is active within Gisburn, where there are several experimental sites of national and international importance.

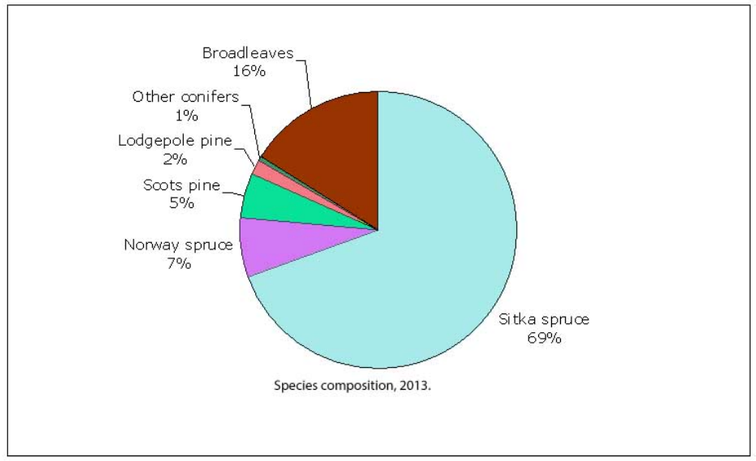
Current Woodland composition

Of the total area, 60 ha are made up of agricultural land, buildings or quarries and 1196 ha is woodland.

Of this woodland area, 88% has a tree cover, 6% is open land and 6% is felled, awaiting restocking.

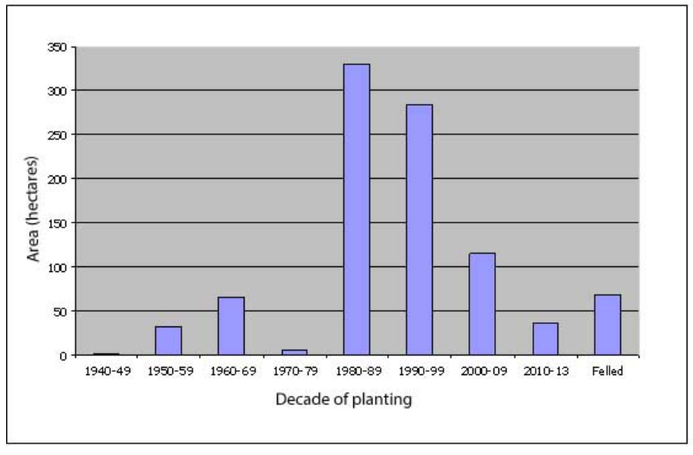
Species

Of the wooded area, 84% is conifer, predominantly Sitka spruce and 16% is broadleaved.



Species composition, 2013.

Age class



The majority of the conifers were planted within a relatively short timescale. These are second rotation crops, established after felling of the even more even aged initial afforestation.

Designated areas

Gisburn lies wholly within the Forest of Bowland Area of Outstanding Natural Beauty and is the largest single block of woodland in the AONB.

There are no SSSIs within or in close proximity to the forest.

Eight hectares of native woodland, known as Park Wood, is classified as Ancient Semi-natural Woodland (ASNW) and no areas are classified as Plantations on an Ancient Woodland Site (PAWS).

Soils and Topography

Gisburn Forest lies between 200 and 300 metres above sea level and generally has a south-westerly aspect. The soils consist mostly of gleys and peats overlying gritstone; there are occasional limestone reefs in the stream valleys.

Landscape

The forest is prominent from several minor, but well used, public highways and from numerous public footpaths. From most viewpoints the forest is large enough to dominate the wider landscape.

Gisburn Forest is within the Forest of Bowland AONB landscape character type M – Forestry and Reservoir, character area M1 - Gisburn - for which the following key characteristics are identified.

1. A textured landscape, set against the smoother, muted backdrop of Moorland Hills
2. Expanses of open water of reservoirs, with associated wetland birds
3. An 'engineered character' as a result of the influence of reservoir(s) and plantation woodland(s)

Principle landscape objectives within the AONB are to:

- Promote sustainable land management practices to help conserve and enhance the AONB landscape (based on 'guidelines for managing landscape change' within the Forest of Bowland AONB Landscape Character Assessment [2009])

- Encourage habitat creation and buffering of existing habitats in line with Biodiversity 2020 outcomes (and appropriate to landscape character), aiming to create more, bigger and more connected habitats

The Forest of Bowland AONB Management Plan (2014 – 2019) includes several landscape and woodland management related actions and objectives summarized below:

Objective 1.1 Landscape
Recognise the founding principles of the European Landscape Convention and implement the AONB Landscape Character Assessment as an integrated approach to managing landscape change.

Action 1.1F Develop plan for managing landscape change due to loss of woodland and veteran trees through increased incident of tree disease (e.g. Phytophthora ramorum, Chalara fraxinea).

Objective 1.3 Habitats
Support the delivery of 'Biodiversity 2020: a Strategy for England's Wildlife and Ecosystem Services' outcome 1A, 1B & 1D, with particular focus on peatland, blanket bog and other wet habitats, species rich grasslands and woodlands.

Action 1.3G Support creation of new native woodland in appropriate sites and the expansion of existing woodlands to reduce habitat fragmentation
Action 1.3H Conserve and enhance native woodland through appropriate management (e.g. small-scale, traditional coppice techniques), aiming to maintain good structure and biodiversity

Objective 2.1 Farming and Land Management
Promote and implement sustainable land management and farming practices that conserve and enhance the natural beauty of the landscape

Action 2.1H Support the development of local woodfuel economy, linked to improved woodland management and focusing on smaller and less accessible sites

Biodiversity

The forest comprises a range of habitat types that support varied wildlife. Some locations within the forest are of regional importance and are classified as Biological Heritage Sites (BHS). The Forestry Commission is committed to safeguarding all sites within the forest that are of specific biological interest. We will also explore opportunities to enhance and/or expand the area of interest where it is appropriate to do so. We aim to maintain and develop contact with neighbours and other organisations where sites and species can be managed in partnership.

One of the BHS sites, known as Park Wood, can be found on slopes above Bottoms Beck and is also included within English Nature's provisional Inventory of Ancient Woodland in Lancashire. It covers an area of approximately 10 hectares. Since the last plan a buffer/ habitat expansion zone has been created along one edge of the woodland. A young crop of Norway spruce was cleared from within a mixture of birch to leave thicket stage birch woodland. It is anticipated that other tree species will establish themselves in due course.

A further BHS within the vicinity of Bottom Laithe contains a lime flush and an area of bog. This small site is home to a rich range of flora and fauna.

There are further BHS along the upper reaches of Bottoms Beck, where the stream is partially formed from the outlet of Ash Clough Swamp and progressively becomes known as Brown Hill Beck then Dob Dale Beck.

These sites are of floral and faunal interest.

The wider forest area includes plantation conifer, locally native broad-leaves, unimproved pasture and fragments of wilder grassland, moorland and bog. These varying habitats support a range of wildlife and noteworthy are the wide range of bird species including important raptors such as Hen Harrier and Short-Eared Owl.

Communities and recreation

Forestry Commission policy aims 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.

In agreement with our lessors, United Utilities, the Forestry Commission has been able to operate a "right to roam" policy in the forest for many years. Over the last decade Gisburn Forest has become a justifiably popular recreation resource. It attracts regular visitors from local communities and many day visitors from further afield, particularly from the numerous towns of Lancashire and West Yorkshire. The forest makes a valuable contribution to the wider recreation and tourism infrastructure of the Forest of Bowland AONB.

There are three car parks/picnic sites within the forest, one of which is managed by United Utilities. It is also possible to park in nearby villages and either cycle or walk to the forest. The local villages have a limited service of public transport.

In 1996 the Forestry Commission revamped its three existing way marked walks and constructed three new, way-marked cycle routes. This project was undertaken in partnership with Lancashire County Council, Ribble Valley Borough Council and the then Rural Development Commission.

The way-marked walks start at an interpretative panel located next to United Utilities Stocks car park. They are of varying lengths, pass through diverse woodland scenery and have good views over Stocks reservoir. From this car park it is also possible to access some of United Utilities' facilities which include a picnic area, a bird viewing hide and a round the reservoir walk.

Walkers can also choose to explore the many public footpaths and other tracks that dissect the forest. The Forestry Commission works in partnership with Lancashire County Council and the Ramblers Association to ensure that all public footpaths within the forest are open for use.

The forest has a broad range of more specialist users. At the quieter end of the scale are local horse riders, husky training and orienteering courses. The forest also hosts a variety of events, including management training, cycle trail quest and down hill and cross country cycling. The meadows at Stephen Park have been the venue for a number of successful forest events such as the 'Cloudspotting Festival', Picnic cinema and outdoor theatre.

Since the last plan the FC has helped found the Upper Hodder Valley partnership; this group includes representatives from United Utilities, Lancashire County Council, Ribble Valley Borough Council and local Parish Councils. In 2004 the partnership published the "Tourism and Recreation Development Plan for the Upper Hodder Valley". This document was formulated following extensive consultation with local communities, businesses and visitors. It sets out the partnerships aspirations and objectives for the co-ordinated development of recreation / tourism opportunities and the provision of information about facilities and the history of the area. The Forestry Commission is committed to maintaining and developing the recreation interest at Gisburn in line with objectives in the Forest of Bowland AONB Management Plan. Where possible and appropriate this should be in partnership with other interested organisations.

Development of 'The Gisburn Hub' at Stephen Park has improved visitor facilities with the provision of car parking, toilet facilities and a cafe at the cycle trailhead. One of the major targets within the plan was to undertake a review of facilities for off road cycling within the forest. It was found that there is a popular demand with local riders for the provision of more challenging and interesting cross country routes and family friendly trails. There has been significant development of new cycle routes ranging in grade from the 10km Bottom's Beck blue route, the 19km 'The 8' red route which incorporates harder black graded sections to just under 1km of orange bike park.

Feedback from users suggests that there is also demand for an additional easy graded green trail for family cycling, pushchairs and bike trailers and all ability users and a potential route following the track bed of the old light railway from Tosside linking to Bottom's Beck and Stephen Park has been identified for possible future development.

The buildings at Stephen Park are let to a charity "To Inspire" who provides outdoor activity particularly to disadvantaged children and families.

Heritage

There are several man made features of interest within the forest. The oldest known site are two barrows on the banks of Dob Dale Beck. These are scheduled ancient monuments, though they may originally have been formed through glacial action. Earlier tree encroachment on the most northerly barrow has now been removed and the sites will now be maintained free of tree cover.

More recent are numerous features associated with previous farming land use. There are three farmstead clusters and nine other barns/buildings within the forest. There were once many more and the remnants of these can still be found. The remaining buildings should be kept watertight and in good structural condition. Associated with these buildings are numerous walls, gate posts old hedge lines, tracks and limekilns.

Even more recently the construction of the dam that created Stocks reservoir was aided by a light railway part of which passed through what is now the forest. It is possible to trace the track bed from Brock Thorn down to, and over, Bottoms Beck and along Eggberry road towards the dam.

Timber potential

The productive capacity of the land is mostly good with Sitka spruce growing especially well. Evidence from the Forest Research plots has shown that Sitka spruce / Scots pine mixtures on this site are capable of producing higher yield classes than either pine or spruce in monoculture where protection from browsing can be guaranteed by deer fencing.

Pests and diseases

The forest has two resident deer species: Roe and Sika. There is great potential for damage to both tree crops and other habitat types through grazing and browsing. In order to maintain the deer populations at an acceptable level an annual cull is taken by Forestry Commission rangers. Currently it is considered impractical to grow broadleaves or the softer conifers, e.g. Scots pine, without protection in the form of tubes or deer fencing.

There are only limited amounts of larch in Gisburn. Currently, this species is under serious threat from *Phytophthora ramorum* and premature felling of larch may be required if infection is identified. Extensive felling of larch already necessary in other parts of the district could have an effect on the harvesting programme in Gisburn.

Access and roading

The forest is well served by internal roads and there are no significant restrictions on access to the public road network. No forest road extensions or upgrades are proposed.

Water Catchment

Gisburn Forest lies wholly within the catchment for Stock Reservoir managed by United Utilities. Stocks reservoir provides public drinking water predominantly to the Flyde area of Lancashire. Adherence to FC Forest and Water guidelines and best practice are observed during forest operations.

Part 2 Analysis and Concept

The factors outlined in Part 1 present some opportunities and issues. These are summarised below:

Factor	Opportunities	Issues
Soils	The soils over most of the plateau areas are best suited to commercial conifers, principally spruce. Better soils occur in the valley sides and bottoms, and there is more potential for diversity with alternatives to spruce such as pines, cedars and firs.	Establishment of alternative conifer species would require deer fence protection from deer. Where pines are planted in mixture with spruces establishment may be possible without the need for fencing but this would need to be kept under review.
Landscape	Further opportunities exist for landscape improvement through diversification of the age class structure, incorporation of broadleaves into conifer woodland	The relatively narrow age class structure of the second rotation crops places constraints on the restructuring process. Introducing smaller coupe sizes to diversify the age structure may increase the risk of wind damage as it is difficult to fell to wind firm boundaries. Coupe size and boundaries will be reviewed through the 5 yearly plan review process.
Biodiversity	There is great potential for further extending the Ancient Semi-natural woodland into the more sheltered and fertile valleys.	Management of conifer regeneration. Away from the core ASNW area a pragmatic approach will need to be taken regarding the % of conifer regeneration depending on available resources.
Recreation	Significant investments in the recreation infrastructure have recently been made. Opportunities for further development exist including the potential for an All Ability/family friendly 'green' route.	
Current species	Sitka spruce currently performs favourably as a commercial species given the underlying soil and site conditions. However, climate change models predict that spruce will be less favourable into the following rotation. Experimentation with alternative conifer species will help indicate future opportunities for species diversity.	Establishment of alternative conifer species or broadleaves will require fencing to protect from deer browsing.
Windthrow hazard		High DAMS scores mean that there are limited opportunities for thinning over much of the forest. Some early wind damage to crops planting in the early 1980's is of concern. Coupe sizes and boundaries may need to be reviewed in the future.
Phytophthora ramorum		Coupes originally scheduled to be felled in the current period have been delayed due to the volume of larch being felled elsewhere in the district.
Water Catchment	Establishment of broadleaf woodland adjacent to river and stream corridors will provide a good buffer. Livestock free part of the wider catchment.	Risks associated with pollution to public water supply from extreme weather and forest operations.

Part 3 Objectives and Proposals

The following key objectives have been identified for Gisburn Forest based on FC England National Policy and the North England Forest District Strategic Plan

Forest District Strategic Goal	How Gisburn FDP delivers	Plan Objectives
ECONOMIC <u>Wood Production</u> – ‘*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’*	Establish mixed spruce/pine species composition at the northern area around Fairhill and Brownhills. Optimise economic value of recent clearfelling and existing conifer plantations through implementation of the harvesting and restocking plan. Target establishment of alternative conifer species to most appropriate sites with freely draining better soils. Delivery of felling and restocking plans. Continue restocking Sitka spruce through at least one more rotation. Seek to silviculturally thin crops with a Dams score less than 17 and where good access permits thinning to be undertaken with no net forest cost loss or the net cost can be outweighed by the resulting improvement in the timber quality of the final crop.	Optimise the economic potential of conifer regeneration in Cmpt 117 with further enrichment planting to achieve a mixed spruce/pine species composition. Bring forward felling Cmpt.112 into 2012-2016 periods to optimise timber value due to increasing amounts of windblow. In the five year period, 2017 – 2021, 70 ha will be felled. Most of this is mature Sitka spruce, although some stands in the south west section are being felled slightly earlier than their economic optimum in order to widen the age class distribution. Mixed conifer restocking in targeted areas to also limit disruption to cycle and walking trails. In addition to the planned 2017 – 2021 felling, approximately 80 ha are currently felled and awaiting restocking, giving a total of 150 ha of restocking. This will be restocked in the following proportions principally by planting: Conifers: 75% Broadleaves: 25% The main conifer species to be planted will be Sitka spruce. Where possible, this will be planted in combination with other conifer species such as Scots pine, but only where deer protection can be guaranteed through either fencing or deer management. Much of Gisburn is too exposed for thinning, although some of the more sheltered areas on the more stable sites have been successfully thinned in the past. A pragmatic approach to thinning will be taken, with opportunities taken where possible.
<u>Economic Regeneration</u> – *‘we will utilise the land and resources at our disposal to assist communities close to our forests and woodlands to help regenerate their economies’…forest land may be of value to sustainable developments which can help sustain local economies as well as mitigating climate change.*	Continued working with Upper Hodder Valley partnership.	Identify opportunities to enhance/improve visitor experience. E.g. family orientated ‘green’ route. To create new recreation opportunities and support local tourism-based businesses.
NATURE *‘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’* *‘we will ensure that rare and threatened habitats are protected and managed to maintain or enhance their conservation value’* *‘work with others to achieve common objectives’*	Environmental improvements will be delivered through forest restructuring achieved through forest planning, felling, restocking and open space management. Expansion of new native mixed broadleaved woodland throughout the forest. Park Wood and Bottom Laithe BHS. Contribute to objectives of the Forest of Bowland AONB Management Plan; Increase the significance of woodland and trees, and manage existing tree cover to provide a range of benefits, including helping to assimilate new infrastructure, restore lost habitats and landscape features, store carbon, reduce soil erosion, enhance water quality and provide timber, fuel and recreational opportunities. Exploring opportunities to modify the overall structure of conifer plantations to create softer outlines, a more organic shape that responds to topography, and higher broadleaved	Delivery of felling and restocking plans in line with FDP. Native mixed broadleaved planting linking Bottom’s Beck to Dobdale in the north of the forest to create a continuous habitat corridor. Maintain features of designation. Keep Bottom Laithe free from natural regeneration. Delivery of FDP Delivery of felling plan which aims to break up the even aged structure of the forest. Areas of clearfelling and restocking contribute texture to the landscape. In addition to more

	content. Soil carbon is also high under areas of woodland, and carbon storage and sequestering is also provided by the woodland itself. Expanding the potential for plantation-type forestry to be managed to accommodate recreational interests, including improvements to the rights of way network, to allow public participation, understanding and enjoyment of the natural environment.	extensive expansion of mixed broadleaved woodland pockets of broadleaves will be included within the conifer plantations to improve visual and ecological diversity. Expansion of native broadleaved woodland and management of existing ASNW. Low Intervention Management. Continued management and development of the Gisburn Hub working with the Upper Hodder Valley partnership.
PEOPLE *'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'* *'we will provide public access to all our forests and woodlands where there are no legal or safety restrictions…'*	Improve the internal and external attractiveness of the woodland through restructuring and species choice.	Native mixed broadleaf planting adjacent to valley bottom and external boundaries to enhance visual impact of the forest from public right of way and along the trail network. Species diversity through planting alternative conifers such as pines, cedars and firs. Future opportunity to promote family and all abilities orientated access.

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	Marketable parcels of timber on offer to the trade. Improved timber harvesting access and infrastructure	Production forecast and sales records Harvesting facilitated according to the felling plan
Sustainable economic regeneration	Successful establishment of crops.	OGB4 assessment at year 5
NATURE		
Restructuring	Delivery of FDP felling and restocking proposals	Five yearly FDP review
New native woodland	Establishment	Visual assessment and monitoring in line with district policy and 5 yearly FDP review
Statutory protection	No adverse affects to ASNW and BH sites	Five yearly FDP review. Re-survey of ASNW according to National Policy with potential for partnership collaboration e.g. LWT
PEOPLE		
Explore opportunities to enhance access and facilities to woodland.		Evidence of discussion with partners.
Visual enhancement to visitors.	Establishment of new native woodland and ongoing restructuring of the plantations.	Five year FDP review.

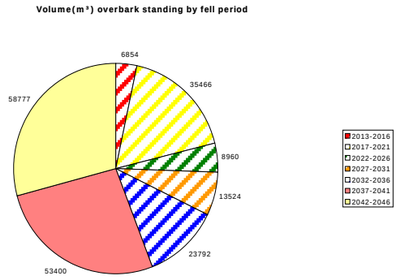
Longer term management proposals

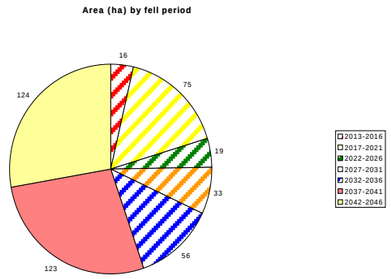
The proposals in this plan will lead to a more diverse and resilient woodland, with a greater range of species and habitats as it moves into its next rotation. By the end of this rotation, it is anticipated that a substantial area of native broadleaved woodland will have been established, and the range of conifer species will have been extended. Depending on the mix of objectives at that time, there will be a wider range of management options available. These will include a continuation of timber production from mixed stands but the presence of seed-bearing stands of broadleaves will also offer the possibility of further extension of the native woodland resource through natural regeneration.

Part 6 Forest Plan Outcomes

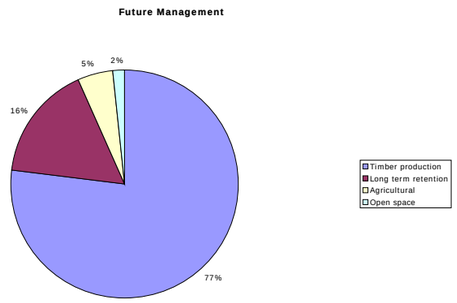
Timber production

Estimated timber volume and area for each felling period of the plan is listed below:

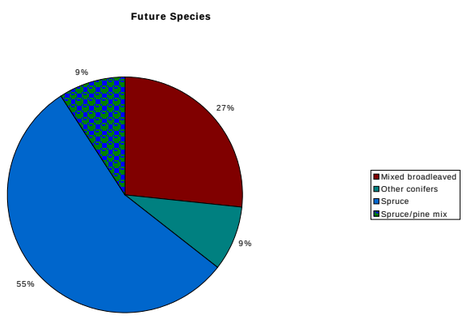




Future area by Management Type



Future area by Species Composition



Productive Capacity Analysis

The graph below shows the relative productive capacity (m³/year) of the forest as a comparison between the following four scenarios;

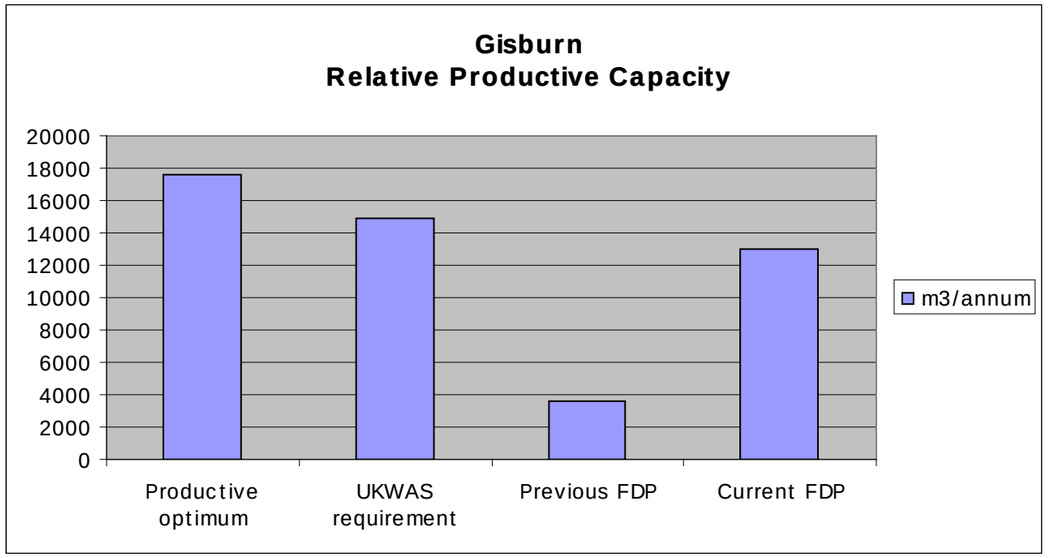
1. Productive optimum – productive capacity assuming that the total productive area is planted with the optimum commercial species suited to the site (i.e. Sitka spruce).

2. UKWAS delivery – productive capacity achievable through minimum UKWAS compliance with a species percentage mix comprising 65% primary species (SS), 20% secondary species (MC), 5% broadleaved and 10% open space.

3. Previous FDP – productive capacity based on the percentage species mix and open land from the previous Forest Design Plan.

4. Current FDP – productive capacity based on the percentage species mix and open land from this plan.

Note: The difference between UKWAS delivery and FDP 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.

The Gisburn Forest Plan is able to demonstrate that relevant aspects of sustainable forest management have been considered and the stated objectives in Part 3 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 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 graph.
Structure	Future species composition; 27% mixed broadleaved, 64% spruce/spruce/pine mixture, 9% mixed conifer exceeds UKFS minimum requirements. Long term structure will improve through linking of permanent broadleaved and open habitats (7%) and long term retention (LTR) (16%).
Silvicultural	Clearfelling is the principal system but continuous cover principles will be adopted at Stephen Park and LTR of areas of broadleaved woodland. Implementation of harvesting and restocking plans will introduce further age class diversity.
Biodiversity	Priority habitats and species are considered during the planning phase. Ecological connectivity will be enhanced by extending and linking areas of native broadleaved woodland and open space ensuring that a minimum of 15% of the area is managed with conservation and biodiversity as a major objective.
Climate change	Long term retention and continuous cover areas will minimise soil disturbance. Forest resilience will be enhanced over time through greater species diversity, particularly establishment of alternative conifers (9%), with age and stand structure diversification to help mitigate wind, fire and disease/pest outbreaks.
Landscape	The planning process refers to the Local Landscape Character Assessment to inform the forest design. Visual sensitivity is analysed in the landscape appraisal with consideration to visibility and the importance and nature of views of the woodland from several 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, upper forest edge design and coupe design.
Historic	English Heritage consulted with regard to the two Scheduled Ancient Monuments in the forest. Advice will be incorporated into operational management and 20m open area adjacent to features maintained.
People	The Forest Plan has been consulted with individuals, the local community and organisations with an interest in the management of the forest. Access, interpretation and provision of facilities for visitors are well managed. Partnership working has delivered positive benefits.
Water	Broadleaved woodland establishment and management of existing native woodland along Bottom’s Beck river corridor and adjacent streams will improve opportunities to reduce nutrient leaching and sediment delivery. Over the next 10 years 8% of the wooded area will be clearfelled which is within the UKFS acidified catchment threshold.

Forestry Commission
England

Gisburn Forest Location

1:200,000

N

Legend

Gisburn

Forestry Commission
England

Forest of Bowland Area of Outstanding Natural Beauty

1:140,000

N

Legend

- Forest of Bowland AONB
- Gisburn
- Other FC Woodland
- Non FC Woodland

Forestry Commission
North England

Gisburn Forest
Current Species and Land Use

Scale: 1:16,500

N

Key

- Agricultural
- Open Land
- Felled
- Pine
- Spruce
- Larch
- Other Conifer
- Broadleaves

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

FSC

PEFC

Forestry Commission
North England

Gisburn Forest
Contours and landform

1:16,500

N

Exposed plateau areas

Bottoms Beck is an important topographic feature running from north to south through the forest.

Series of minor watercourses flow into Bottoms Beck

Exposed plateau areas

Exposed plateau areas

Forestry Commission
North England

Gisburn Forest
Windthrow Hazard

Scale: 1:16,500

N

DAMS (Detailed Aspect Method) scores are an indication of the windiness of the site. Areas with high DAMS scores are much more restricted in the type of management, especially thinning, that can be carried out

Key

DAMS score

- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18

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

Forestry Commission England

Gisburn Forest Soils

N

1:16,500

Legend

- Ironpan
- Ground water gley
- Peaty surface water gley
- Surface water gley
- Blanket bog

Forestry Commission England

Gisburn Forest Heritage and Conservation

1:16,500

N

Key

- Heritage Features
- Biological Heritage Sites
- Gisburn
- Low Intervention

Forestry Commission
North England

Gisburn Forest
Roads and access

Scale: 1:16,500

N

Key

- Public rights of way
- FC Roads
- Gisburn Forest

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Forestry Commission England

Gisburn Forest Recreation

1:16,500

N

Cycling
The 8 Red - 19km
Bottoms Beck Blue route - 10.8km
Bike Park Orange route - 0.9km
Black Severe routes - 1km

Walking
Easy Green route - 2.2km
Moderate Blue route - 3.6km
Difficult Red route - 5.5km
Extensive PROW network

Car Park

Access to forest walks from United Utilities car park

Potential to create new easy grade green route for all abilities/family cycling

Stephen Park
Outdoor centre
Location for outdoor events

Gisburn Forest Hub
Trailhead car park
Public toilets
Cafe/information
All ability trail

Cocklett Hill car park

Key

WALKING
- Easy
- Moderate
- Difficult

CYCLING
- Green - Easy
- Blue - Moderate
- Red - Difficult
- Orange - Bike Park
- Black - Severe
- Car Park
- Cafe/Information
- CROW Access
- PROW
- Proposed Green Route

Forestry Commission
North England

Gisburn concept

Scale: 1:16,500

N

Timber production zone 1a

The dominant species will be sitka spruce with other conifers such as scots pine planted in mixture of varying proportions.

Native woodland expansion zone

Major expansion of native woodland linking up existing semi-natural areas.

Timber production zone 1b

The main species here will be Sitka spruce. Pockets of native broadleaves will be used to soften edges, introduce diversity and act as a future seed source for the following rotation.

Ancient Woodland Zone

This ancient semi-natural woodland has been designated as a Natural Reserve and management will primarily focus on maintaining the ecological interest

Timber production zone 2

These areas are more heavily used for recreation. Timber production will remain a priority, using a wider range of conifer species targeted to free draining sites and where fencing will have least impact to cycle and walking routes.

Key

- Primarily timber production
- Native woodland expansion
- Ancient semi-natural woodland
- Timber production/high recreation use
- Agricultural land

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Forestry Commission England

Gisburn Forest Management

1:16,500

N

Key

FELLING_YEAR

- Open
- 2015-2016
- 2017-2021
- 2022-2026
- 2027-2031
- 2032-2036
- 2037-2041
- 2042-2046
- 2047 onwards
- Recently felled
- Continuous Cover
- Low Intervention

Forestry Commission England

Gisburn Forest Future Habitat and Species

1:16,500

N

Key

- Open
- Mixed Broadleaves
- Mixed Broadleaves/Spruce
- Mixed Conifer
- Mixed Conifer/Mixed Broadleaves
- Spruces
- Spruces/Pines
- Scattered mixed woodland