



Forestry England

# High Stand Forest Plan 2021

North England Forest District



The mark of  
responsible forestry

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



## Planning and District Context

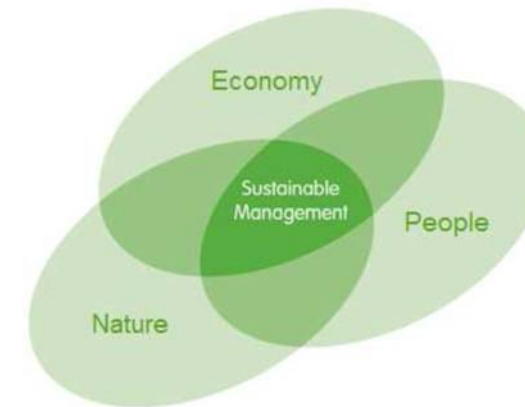
The Strategic Plan for the Nation's Forests outlines the delivery of forest policy at a national level. At a regional level there are six Forest Districts covering the country that directly oversee the implementation of policy actions in the nation's forests. North England Forest District (NEFD) is an 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 59 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 Standard;
- 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;
- we will ensure that rare and threatened habitats are protected and managed to maintain or enhance their conservation value;

## High Stand Forest Plan

This is the third revision of the High Stand Forest Plan which was last revised in 2010. There are no significant changes to the previous plan; however it has been brought up date in terms of work achieved over the last 10 years and ongoing implementation of the management objectives. The impacts and threats associated with emerging pests and diseases, particularly *Phytophthora Ramorum*, and the need to make our forests more resilient in the future has prompted changes to species composition in the restocking plan and the early felling of larch crops.

### Part 1 Background Information

#### Introduction

High Stand lies in the Eden Valley six miles south west of Carlisle between the villages of Armathwaite & Cotehill. Acquired freehold and extending to 250 hectares, the woodland originally formed part of the old Inglewood Forest and was already partially afforested when purchased by the Forestry Commission in 1954. The first Forest Plan was approved in 2002, and this plan is the third revision.

This mainly coniferous forest has been substantially restructured within the last plan review after a catastrophic storm in 2005 which caused many of the older coupes to blow over, with much of the damage to stands in the southern part of the forest. As such the age distribution of the forest is relatively young when compared to other Forestry England sites in the district, and focus for this revision is on the successful establishment of recently planted sites, with species changes reflecting the current risk to larch from *Phytophthora Ramorum*, and the continuation of improvements made in the previous revision.

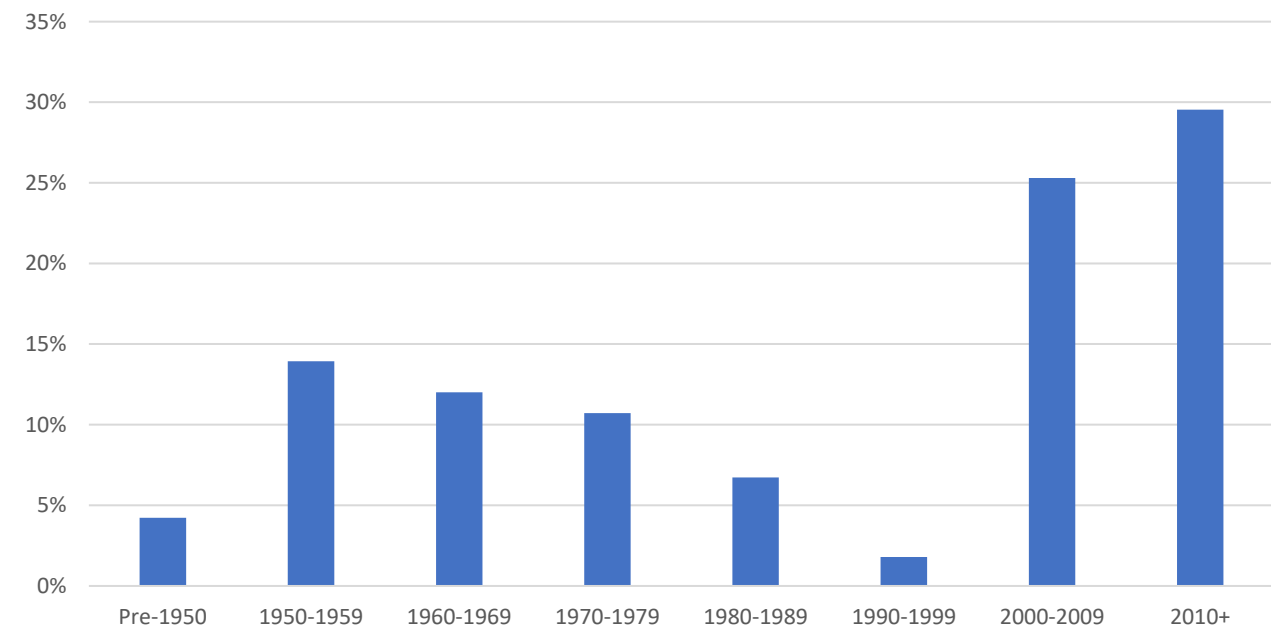
#### Current woodland composition

Of the 250ha of land that High Stand occupies, 229ha is woodland. No single species dominates High Stand, which has a mixed woodland composition, as shown in the chart opposite. The species composition reflects High Stand's position as a mixed productive forest, with over 50% of conifer crops having a yield class of over 14. Most of the lower yield classes found within the mixed broadleaf crops. Average yield class across the whole forest is 7.

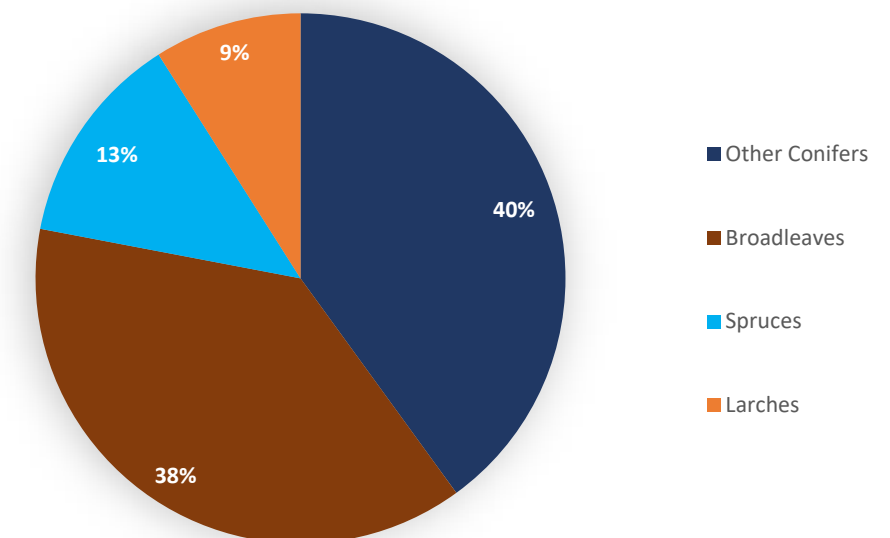
The average wind hazard class is 3, which is medium, although there are significant areas of higher risk to the west of the forest, which is all class 4. These western coupes are relatively vulnerable to high wind events, as borne out in previous storms such as that of 2005. Because of this clearfell coupes are the preferred management method for this area of the forest, with fewer options available for low impact silvicultural systems here.

While at a smaller percentage of total species than other forests in the district, larch has provided useful variety in the landscape, which is under threat from *Phytophthora Ramorum*. While not currently present in High Stand, the threat of this disease presents challenges to the future of this species here, and this plan seeks to gradually reduce the proportion of larch in the forest.

### Age Distribution of High Stand



### High Stand Current Species



## Environment and Conservation

The habitat of High Stand varies from coniferous woodland, broadleaf woodland, riparian corridors, and areas of open water. High Stand Gill runs through the north eastern part of the forest, linking to the River Eden Special Area of Conservation (SAC) and the River Eden and Tributaries Site of Special Scientific Interest (SSSI). The Gill brings benefits to the forest, providing important riparian habitats and increasing biodiversity in the forest. Forest and water guidelines will be followed to preserve this watercourse during operations, and this forest plan looks to enhance the habitat through expansion of mixed broadleaf woodland adjacent to it. A series of three ponds can be found at the southernmost extent of High Stand Gill, while the area around these ponds is managed for conservation purposes. Great crested newt has been identified in the most northerly of the ponds, and operations in this area need to be planned following legislation with consideration for this protected species.

The wide variety of habitats is reflected in the species found in the forest, such as redstart, otter, owl, bat, badger, and fox. Continued management of forest road edges over the period of the last plan have helped to maintain diverse floral and invertebrate populations, and this will continue through flailing of ground vegetation and excessive woody regrowth.

Red squirrel are present within High Stand, and this plan looks to retain select areas of mature Norway Spruce which are favoured by this species, as well as considering red squirrels during the planning of and delivery of operations.

The privately owned Fishgarth Wood to the north east of the forest is a designated Ancient Woodland and is separated from High Stand by the public road. High Stand contributes an extension of this habitat type through the area of minimum intervention and the conservation corridor which follows upstream from the ancient woodland, along High Stand Gill.

## Designated areas

High Stand is adjacent to the River Eden Special Area of Conservation (SAC) and the River Eden and Tributaries Site of Special Scientific Interest (SSSI). High Stand is linked to these features through the watercourse, High Stand Gill, which feeds into the River Eden.

SAC name	SSSI name	SAC key features	Comments	Appropriate Assessment required?
River Eden	River Eden and Tributaries	Rivers with floating vegetation often dominated by water-crowfoot, clear-water lakes with aquatic vegetation and poor to moderate nutrient levels, alder woodland on floodplains, presence of crayfish, sea lamprey, brook lamprey, river lamprey, Atlantic salmon, bullhead and otter.	Management of coupes surrounding High Stand Gill will be through LISS which prevents clearfelling.  UKFS guidelines to be followed as per standard operational practice.	No

## Landscape and Topography

The woodland occupies gentle slopes on either side of High Stand Gill, and spans altitudes between 100 to 170 metres with a full range of aspects. Southerly and easterly areas of the woodland are more sheltered with better soils compared to the western half of the forest where the soils are predominantly wetter peaty gleys, and exposure is greater to the prevailing westerly winds.

High Stand does not form a major landscape feature externally. Broadleaves on the edges of the woodland mimic the hedgerows and fragmented woodlands of the wider environment, and this plan continues to build on these broadleaves through more extensive acceptance of broadleaf regeneration, and expansion of broadleaf planting areas in order to expand the conservation area, and increase diversity in the commercial crops.

The addition of new open ground outlined in this plan, will puncture the afforested areas, and enhance the internal landscape, while continued retention of mature trees will provide much needed age diversity. While the age distribution within the forest is weighted towards younger stands, the provision of new areas of Low Impact Silvicultural Systems (LISS) will work towards increasing this diversity in the future.

High Stand is in the 'Type 10: Sandstone Ridge' Landscape Character Area (Cumbria County Council 2011). The areas characteristics are noted to include commercial conifer blocks and mixed woodlands. Guidelines for change encourage diversifying species, creation of open spaces, and identifying broadleaved species for long term retention. This forest plan delivers against these goals, helping to improve High Stand's position in the landscape.

## Heritage

High Stand is the site of 13 undesignated heritage features. These range from simple cropmarks hinting to the presence of archaeology below the ground to the ponds, quarry workings and tramways associated with the industrial past of High Stand. These historic features present within the forest will be routinely protected during operations, and opportunities will be taken to enhance their siting when appropriate, such as thinning trees around the quarry ponds to create areas of light along the edges and opening up views.

There are no designated heritage features in High Stand.

## Communities and recreation

High Stand is primarily used for quiet and informal recreational purposes. A particular use of the forest is for walking by members of the local community, as well as visitors to the area. While there are no formal Forestry England trails in the woodland, the forest road network and a handful of informal tracks in the southern part of the forest are complimented by one public footpath in the north, which is utilised by locals and visitors from the adjacent caravan park. In addition, the entire forest is dedicated under The Countryside and Rights of Way Act 2000 as open access, which enables extensive use of the forest by walkers.

There is a modest car park along the south eastern boundary, which has been the site of antisocial behaviour in the past. This forest plan aims to continue and expand the Low Impact Silvicultural Systems (LISS) management of the trees adjacent to the car park to enable continued thinning around it. Through making the car park more exposed to the road and increasing visibility, it is hoped that incidents of antisocial behaviour will reduce.

## Pests and diseases

Roe deer have a small population in High Stand and have damaged trees through rubbing in the past. Deer are culled by Forestry England wildlife staff, and to aid their efforts this plan continues to incorporate the management of existing deer glades from which safe wildlife management can be undertaken. These glades are particularly important for continued management as the flat topography of the forest does not easily lend itself to natural opportunities for control. It is necessary to control deer numbers so that they do not compromise other objectives of management, particularly the promotion of natural regeneration.

Grey squirrels are present throughout the woodland, and as well as posing a threat for red squirrels, they also have the potential to cause damage to mature trees, with recent bark damage to birch trees noted.

In the west of the county, Larch is under threat from the disease *Phytophthora Ramorum*. High Stand has not yet been the site of an infection; however, it is important we work to reduce the effects should an outbreak occur. If outbreaks were to occur, they would require swift response work following the issuing of Statutory Plant Health Notices by the Forestry Commission. These notices enforce the felling of infected trees to reduce the spread of the disease within the forest and to neighbouring woodland.

To reduce the chance of an infection in High Stand, larch crops will be subject to periodic thinning to increase spacing between individual trees and reduce the overall quantity of larch in the forest. As well as reducing the risk of infection, this gradual reduction of larch will reduce the impact of future infections. In addition, the rhododendron control programme started in previous years will continue to reduce the amount of rhododendron in the forest, a species which is a proven vector for *Phytophthora Ramorum*.

Consequently, there will be no future restocking of larch and there will need to be ongoing vigilance from staff in thinned areas of continuous cover where larch occurs as natural regeneration. Larch is an important species in the landscape in terms of providing seasonal changes in colour and texture across the forest. As part of our strategy to deal with the impact of the disease, Forestry England is actively seeking the use of alternative species which provide a positive outcome in terms of increasing opportunity for diversification and improved future resilience.

## Access and roading

The most direct timber haulage route onto the A6 is the minor road to Low Hesketh which avoids the nearby villages of Armathwaite, Cotehill, Cumwhinton and Wetheral.

Forest road and terrain classification is good throughout and generally poses no problems for harvesting. The main forest road passes through the middle of the forest serving most of the woodland area, with road extensions created during the last plan period into the western area supplementing this. No new roading requirements have been identified as necessary to serve the forest in this plan period.

## Part 2 Analysis and Concept

The factors outlined in Part 1 present various opportunities and constraints. These are summarised below:

Factor	Opportunities	Issues
Management type	Expansion of Low Impact Silvicultural Systems (LISS) to include some previous clearfell coupes.  Presumption to thin all areas not in minimum intervention management.	Owing to high windthrow hazard, as borne out in the 2005 storm, LISS is not appropriate for the south western areas of the forest, requires management through clearfell coupes in areas of high windthrow risk.
Biodiversity and heritage	Protection of features including veteran/feature trees, deadwood, or ground flora during operations to benefit biodiversity.  Expansion of conservation corridor south to include more areas beyond High Stand Gill, including linking the most southern pond to the existing conservation area.	Geographic distribution of older crops in High Stand is not particularly diverse. Currently there are few older trees in the south and west areas of the forest.
Access/Roading	Good internal network of roads with all current operations areas served well.	
Pests and disease	Potential for planting of new species to replace larch threatened by <i>P. Ramorum</i> .	<i>P. Ramorum</i> in the west of the county has the potential to infect larch crops in High Stand. Presence of Rhododendron, a known vector of <i>P. Ramorum</i> in forest.
Future Species	Retention of current productive conifer species in south west of forest, transition away from larch species through proactive thinning regime and underplanting, or clear felling where plant health notices are issued.	Larch is not viable in the long term due to disease risk.  Majority of productive area is young and restructuring for increased diversity is a few periods away.

	Continued acceptance of native regeneration, particularly birch, in areas designated as future mixed woodland.	Potential for broadleaf regeneration to encroach on areas designated as open habitat unless managed.
Landscape	LISS management in larch crops provide gradual change with limited landscape impact.	Clearfells associated with <i>P. Ramorum</i> health notices have potential to cause larger short term landscape impacts.
Current species	Retention of productive conifer species generally growing well which will provide a sustainable yield throughout plan period.	Presence of larch which is at risk from <i>P. Ramorum</i> will need regular monitoring.
Public access	Informal recreational use by local walkers and visitors, valued local asset for community.	Ongoing anti-social behaviour associated with car park site.  Broadleaf regeneration has potential to block permitted paths.

### Appraisal of Opportunities and Constraints

1. Expansion of the conservation corridor surrounding High Stand Gill provides an opportunity to create a much larger area of conservation interest. The expansion will link the three ponds already in the conservation area with the southerly pond currently outside of it. This will create a larger area of continuous conservation management. Restocking in the expansion area has relied heavily on natural birch regeneration which is progressing well and in time will help create a corridor of mostly broadleaf species across the north east of the forest, providing connectivity along the riparian habitat, from the heart of High Stand to the neighbouring ancient woodland area.
2. The west and east productive areas both contain stands of larch which presents a future disease risk. To mitigate the impacts of potential infection, it is proposed to take the opportunity to thin these areas, reducing the larch component and over time and under planting with alternative broadleaf and conifer species. This will allow for a gradual transition away from larch species in High Stand, although it must be remembered that any plant health notice following confirmed infection will require felling.
3. Anti-social issues at the main car park have continued to occur during the last plan period, with problems regarding littering and fly tipping, including abandoned vehicles, being a continued issue. This plan revision looks to reduce the opportunity for anti-social behaviour

by promoting heavier thinning around the car park, increasing visibility of the car park from the public road.

## Part 3 Objectives and Proposals

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

Forest District Strategic Goal	How Forest Plan delivers
<p><b>ECONOMIC</b></p> <p><i>'we will optimise 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>	<p>Harvesting plan provides a sustainable yield of timber into the future through thinning and clearfell operations.</p> <p>Clearfell sites of productive conifers to be restocked with similar species.</p>
<p><b>NATURE, HERITAGE and LANDSCAPE</b></p> <p><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></p> <p><i>'we will ensure that rare and threatened habitats are protected and managed to maintain or enhance their conservation value'</i></p>	<p>Age class of High Stand is weighted towards the second rotation crops of the last 20 years. Retain stands of older crop where physically possible to help increase structural diversity in the forest and to provide landscape and environmental benefits.</p> <p>The nature conservation area around High Stand Gill is recognised as an important habitat and will be expanded in this forest plan revision.</p> <p>Historic features will be identified and protected during our planning and implementation of forest operations.</p>
<p><b>PEOPLE</b></p> <p><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></p> <p><i>'we will provide public access to all our forests and woodlands where there are no legal or safety restrictions...'</i></p>	<p>Increased landscape diversity through new species planting will improve the visual appeal of the forest for visitors.</p> <p>Encourage existing low-key recreational use in High Stand suited for walking, utilising the existing infrastructure.</p>

## Part 4 Monitoring plan

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

Objective	Criteria for success	Assessment
<p><b>ECONOMIC</b></p> <p>Wood production</p>	<p>Marketable parcels of timber on offer to the market. Maintain timber harvesting access and infrastructure</p>	<p>Contract and sales records</p>
<p>Sustainable economic regeneration</p>	<p>Successful restock sites and under planting operations with minimised pest damage</p>	<p>Five year Forest Plan review</p>
<p><b>NATURE, HERITAGE and LANDSCAPE</b></p> <p>Enhance and expand the conservation area centred around High Stand Gill</p>	<p>Increased size of area managed for conservation around High Stand Gill. Reduction of non-native species in this area.</p>	<p>Five year Forest Plan review</p>
<p>Retain older stands where possible under LISS management to increase diversity</p>	<p>Greater areas of LISS management and increased age distribution in the forest</p>	<p>Five year Forest Plan review</p>
<p>Continued programme of rhododendron control</p>	<p>Reduction of rhododendron, particularly where this is sited close to larch species</p>	<p>Five year Forest Plan review</p>
<p><b>PEOPLE</b></p> <p>Visual enhancement to visitors.</p>	<p>Expansion of the LISS areas to increase diversity, diversity in planting to replace lost larch areas</p>	<p>Five year Forest Plan review</p>
<p>Implement measures to reduce anti-social behaviour at the car park</p>	<p>Restructuring of forest around car park through use of thinning to increase visibility from the road</p>	<p>Five year Forest Plan review</p>
<p>Continue to provide opportunities for low key recreational use</p>	<p>Continued provision of informal paths for walkers</p>	<p>Five year Forest Plan review</p>
	<p>Provide alternative routes during necessary closures for forest management</p>	<p>Ongoing during operations</p>

## Part 5 Forest Plan Maps for High Stand

- Location - 1:50,000 scale showing location in context of other woodland in the local area.
- Current Species - species composition in 2020.
- Yield Class - representing the productivity of the current species.
- Wind Hazard Class - indicating the windiness of the sites.
- Planting Year - representing the age class distribution of the woodlands.
- Conservation and Heritage - statutory and non-statutory conservation and heritage features.
- Access and recreation - formal public rights of way, FC access and local services.
- Hazards and Constraints - operational hazards and constraints.
- Design Concept - broad management prescriptions and zoning of the woodlands.
- Operations Proposals - showing felling proposals, areas managed under Low Impact Silvicultural Systems and area of minimum intervention.
- Future Species - representing the 20-year vision for future species composition.



# High Stand Location



High Stand Location

05/11/2020

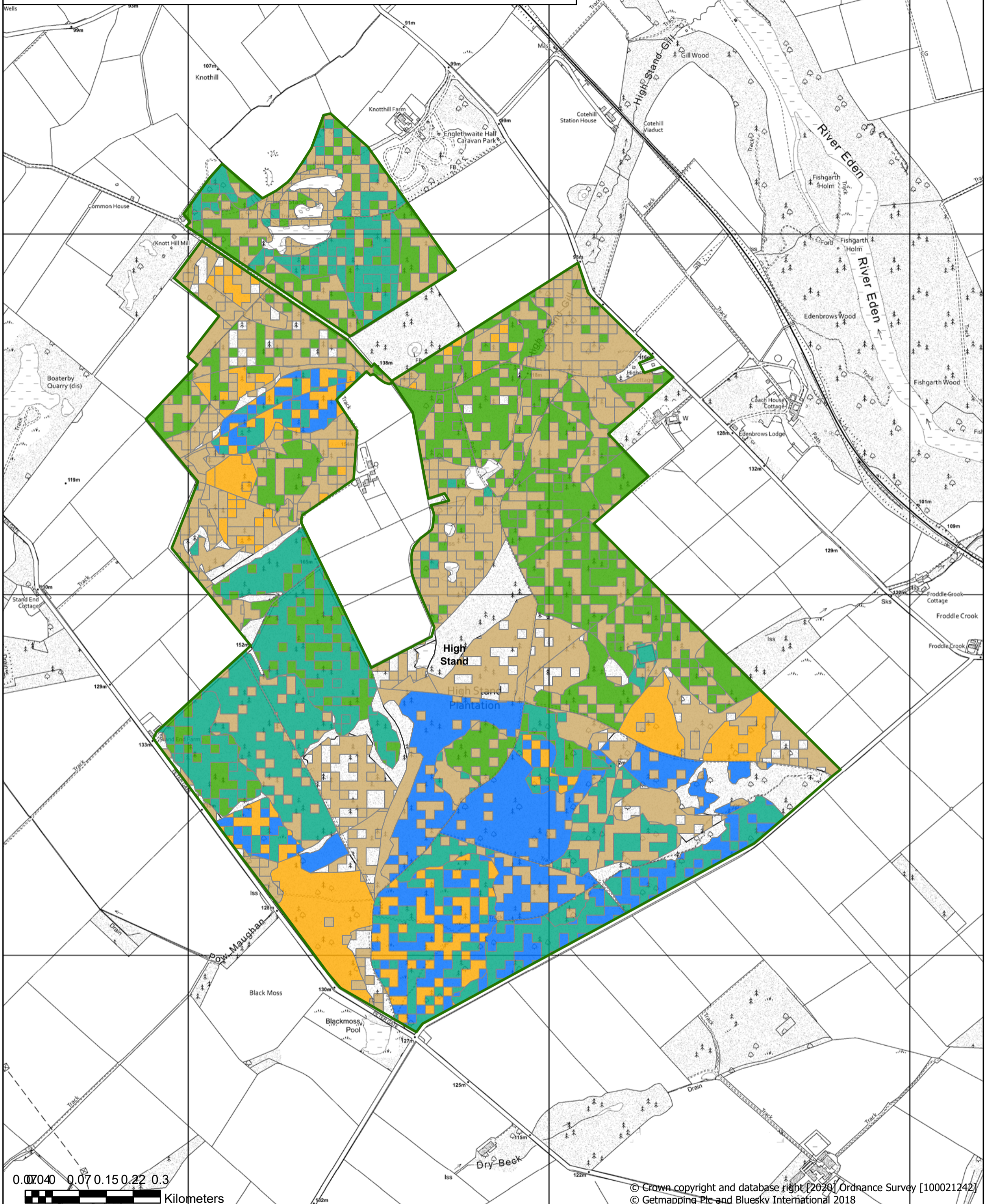
Scale: 1:50,000

 High Stand

 Other Forestry England Woodland



# High Stand Current Species

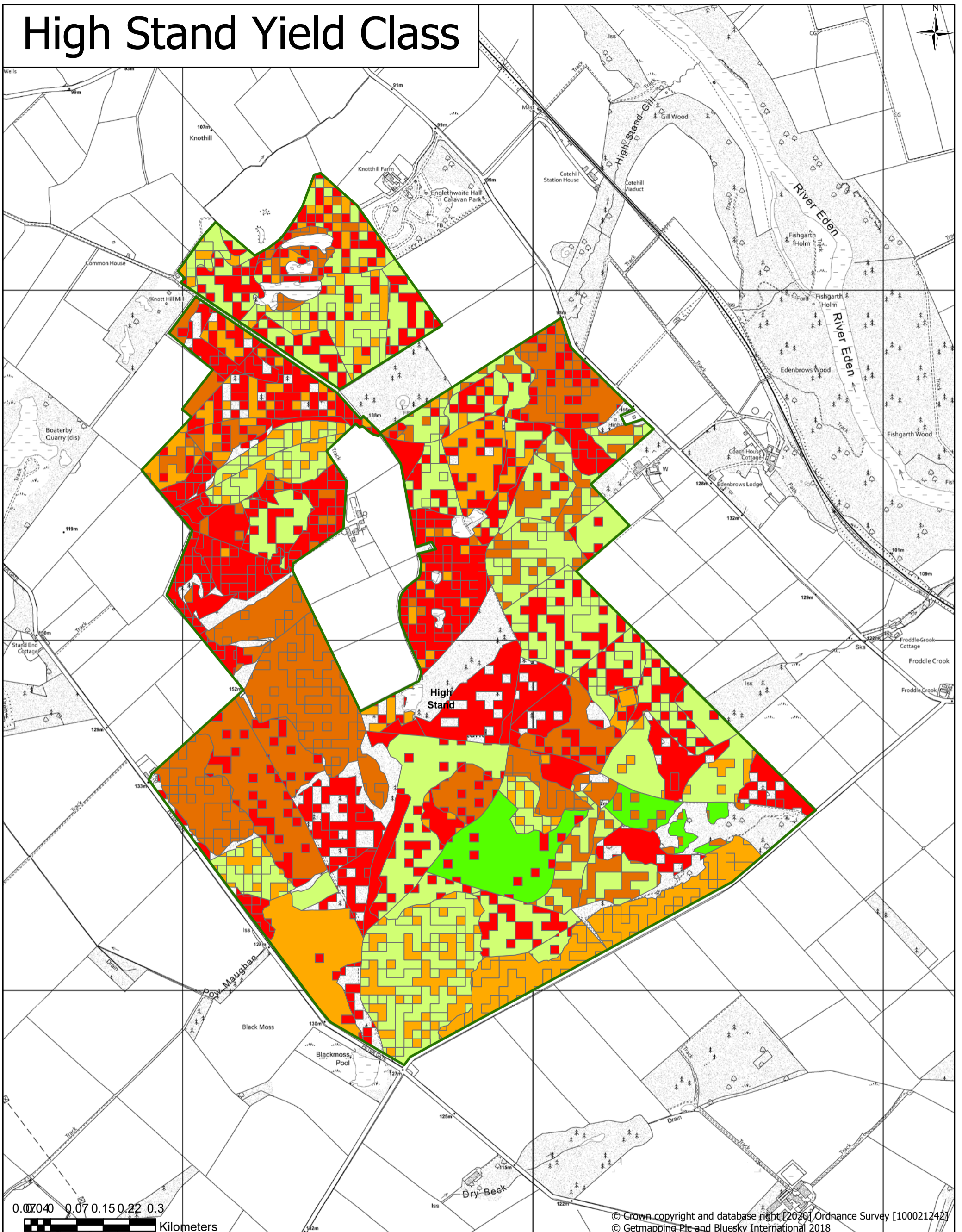


<p>Forestry England</p> <p>High Stand Current Species</p> <p>05/11/2020</p> <p>Scale: 1:10,000</p>	High Stand	Sitka Spruce
	Open/Recently Felled	Mixed Broadleaves
Larches	Pines	
Other Conifers	Douglas Fir	

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# High Stand Yield Class



0.07040 0.07 0.15 0.22 0.3

Kilometers

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## High Stand Yield Class

12/01/2021  
Scale: 1:10,000



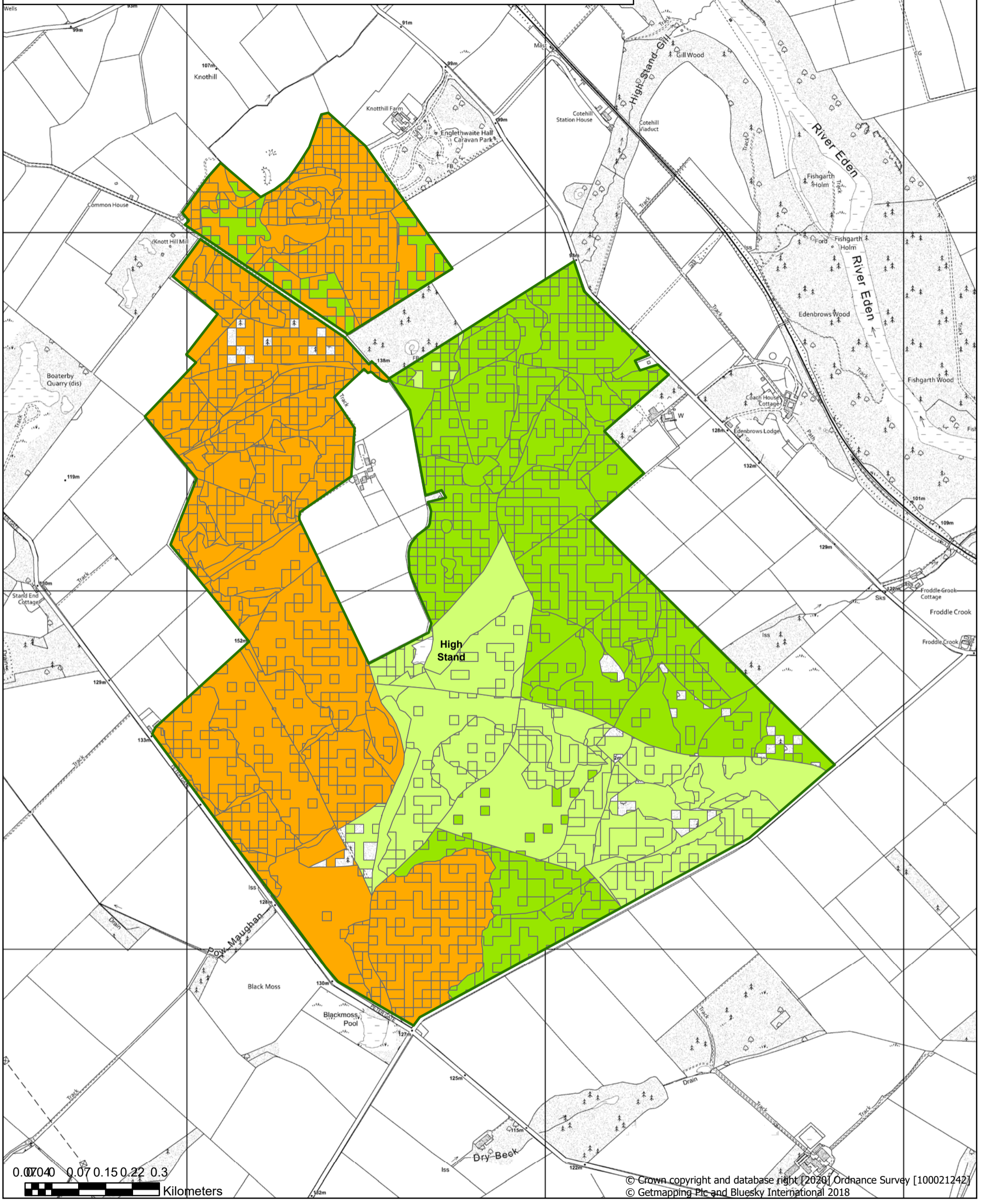
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### Yield Class

- 0-4
- 6-8
- 10-12
- 14-16
- 18-22
- 24+

# High Stand Wind Hazard Class



 Forestry England

**High Stand Wind Hazard Class**

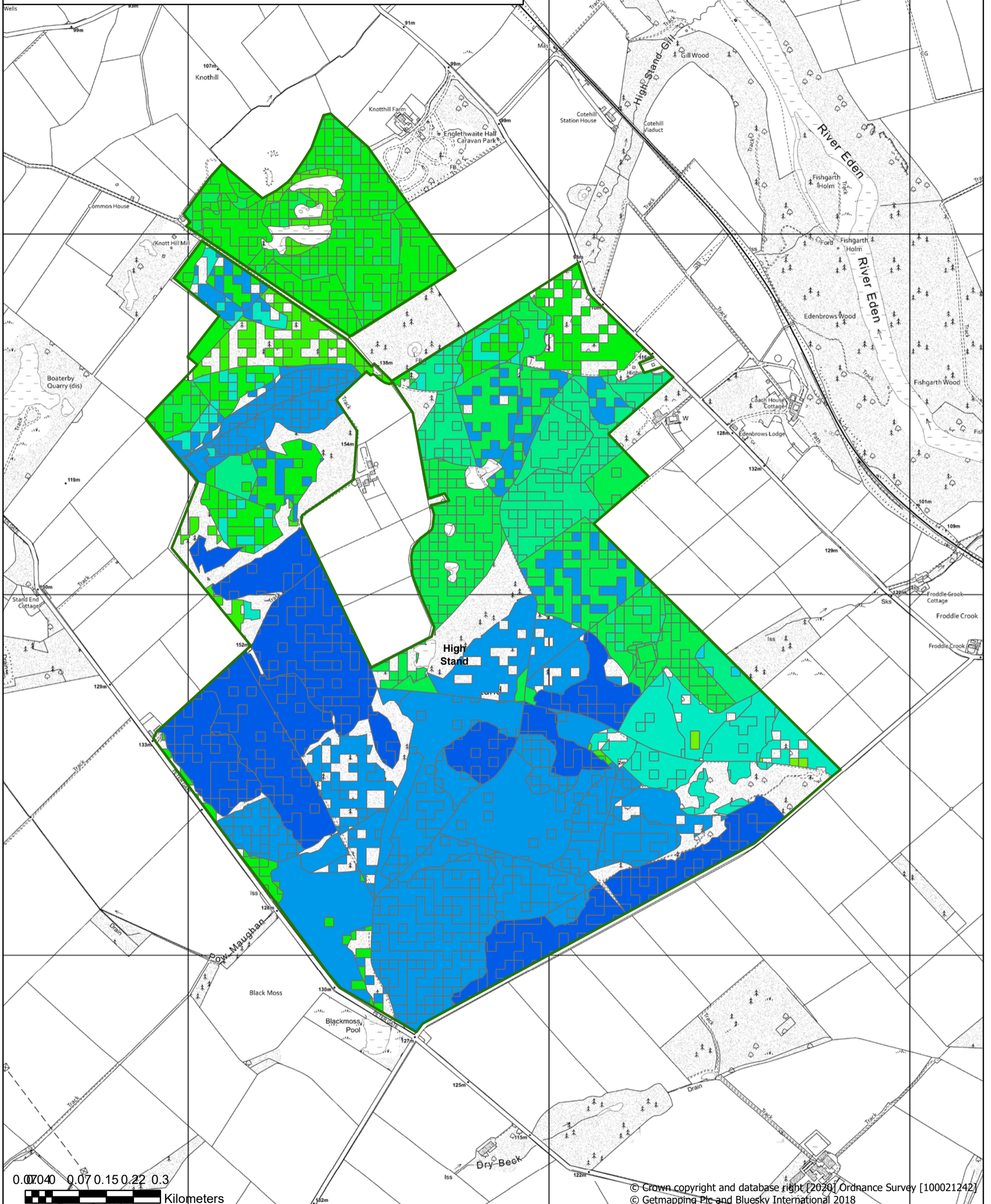
05/11/2020  
Scale: 1:10,000




**Wind Hazard Class**

	1
	2
	3
	4
	5
	6

# High Stand Planting Year



## High Stand Planting Year

05/11/2020  
Scale: 1:10,000

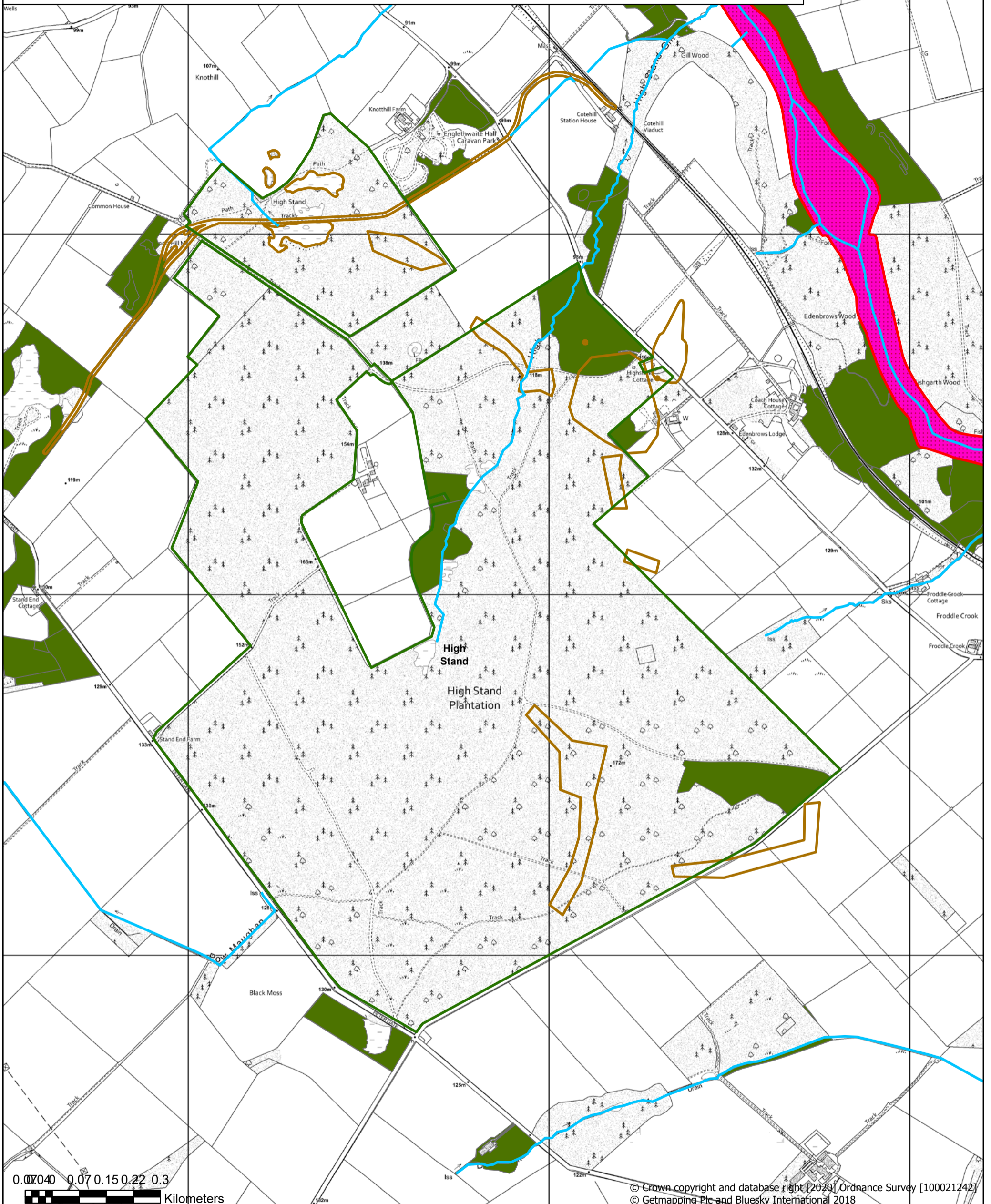


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Planting Year	Color
Pre 1700	Red
1701-1800	Orange
1801-1850	Yellow-Orange
1851-1900	Yellow
1901-1920	Light Green
1921-1930	Green
1931-1940	Light Blue
1941-1950	Blue
1951-1960	Dark Blue
1961-1970	Lightest Green
1971-1980	Light Green
1981-1990	Medium Green
1991-2000	Dark Green
2001-2010	Light Blue
2011-2020	Dark Blue

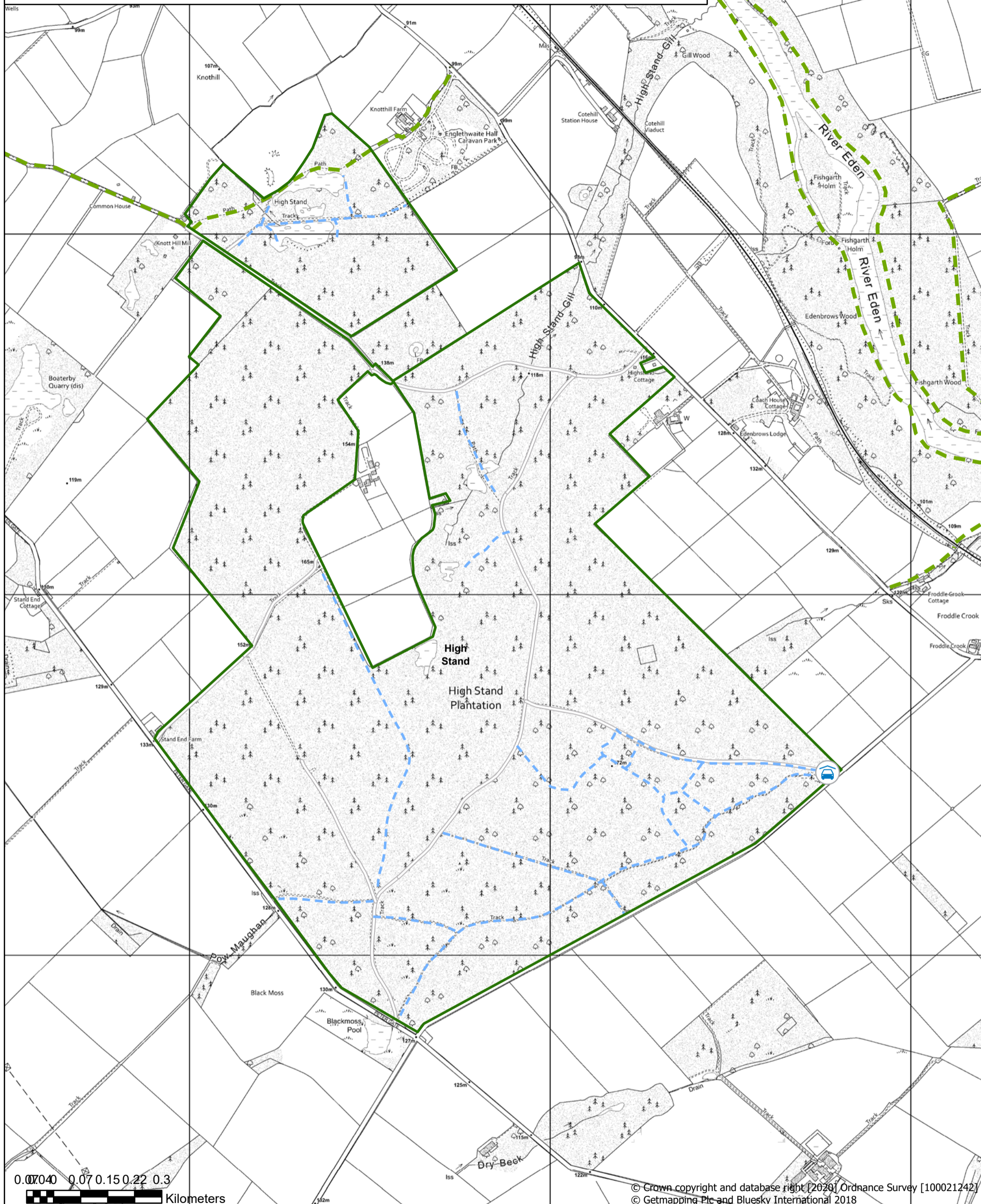
# High Stand Conservation and Heritage



<p>Forestry England</p> <p><b>High Stand Conservation and Heritage</b></p> <p>10/11/2020 Scale: 1:10,000</p>	High Stand
	Watercourses
	Sites of Special Scientific Interest
	Special Areas of Conservation
	Heritage Feature
	Priority Habitat

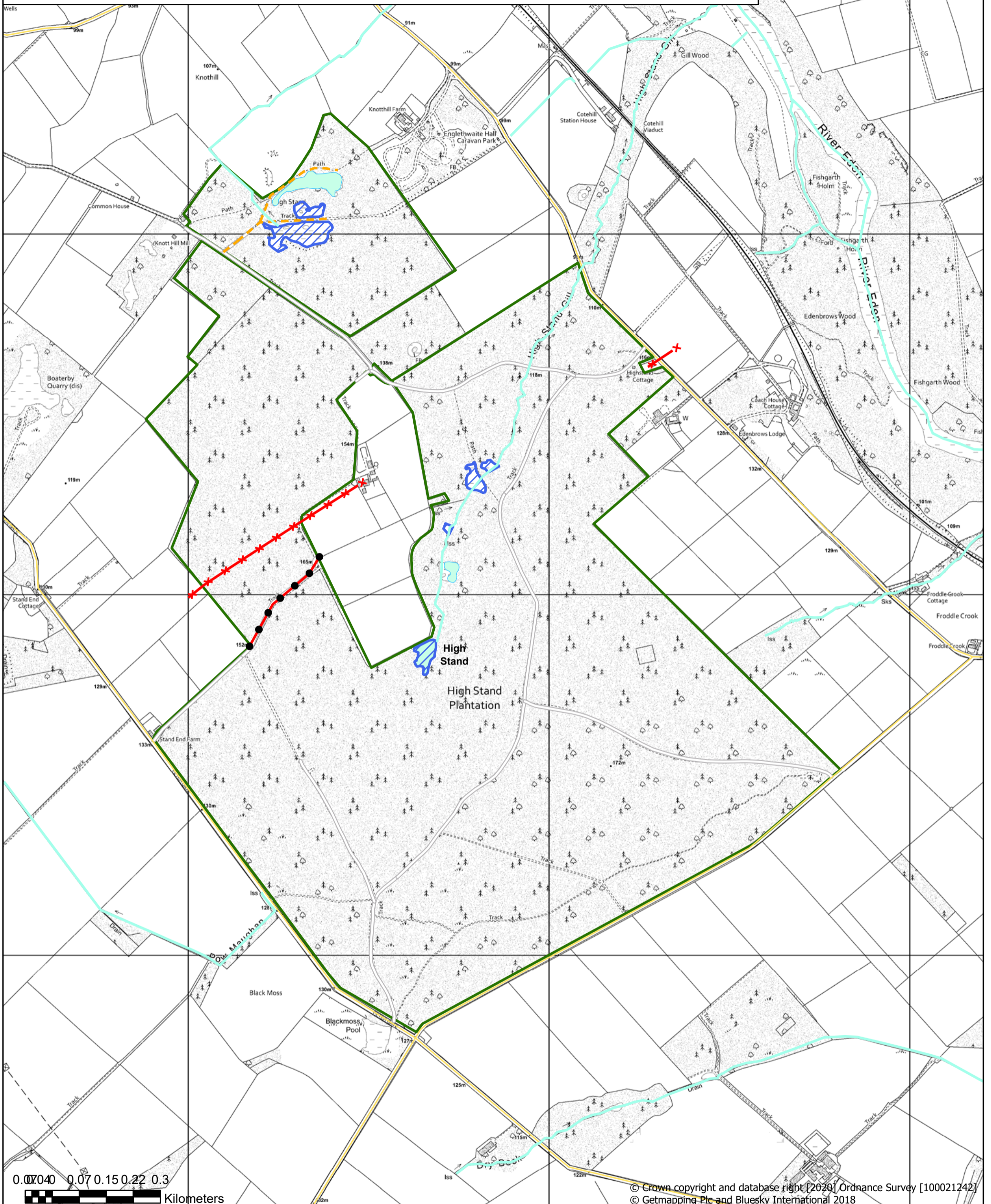
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# High Stand Access and Recreation



<p>Forestry England</p> <p>High Stand Access and Recreation</p> <p>10/11/2020</p> <p>Scale: 1:10,000</p>	High Stand
	Car Park
	Public Right of Way
	Other Trails
	Forest Road

# High Stand Hazards and Constraints



Forestry England

**High Stand Hazards and Constraints**

10/11/2020  
Scale: 1:10,000

High Stand	A Road
Water Supply Points	Minor Road
Masts/Aerials	Forest Road
Watercourses	Reservoirs
Third Party Access	Open Water
Overhead powerline	
Underground powerline	
Overhead telephone or fiberoptic	
Water Pipelines	

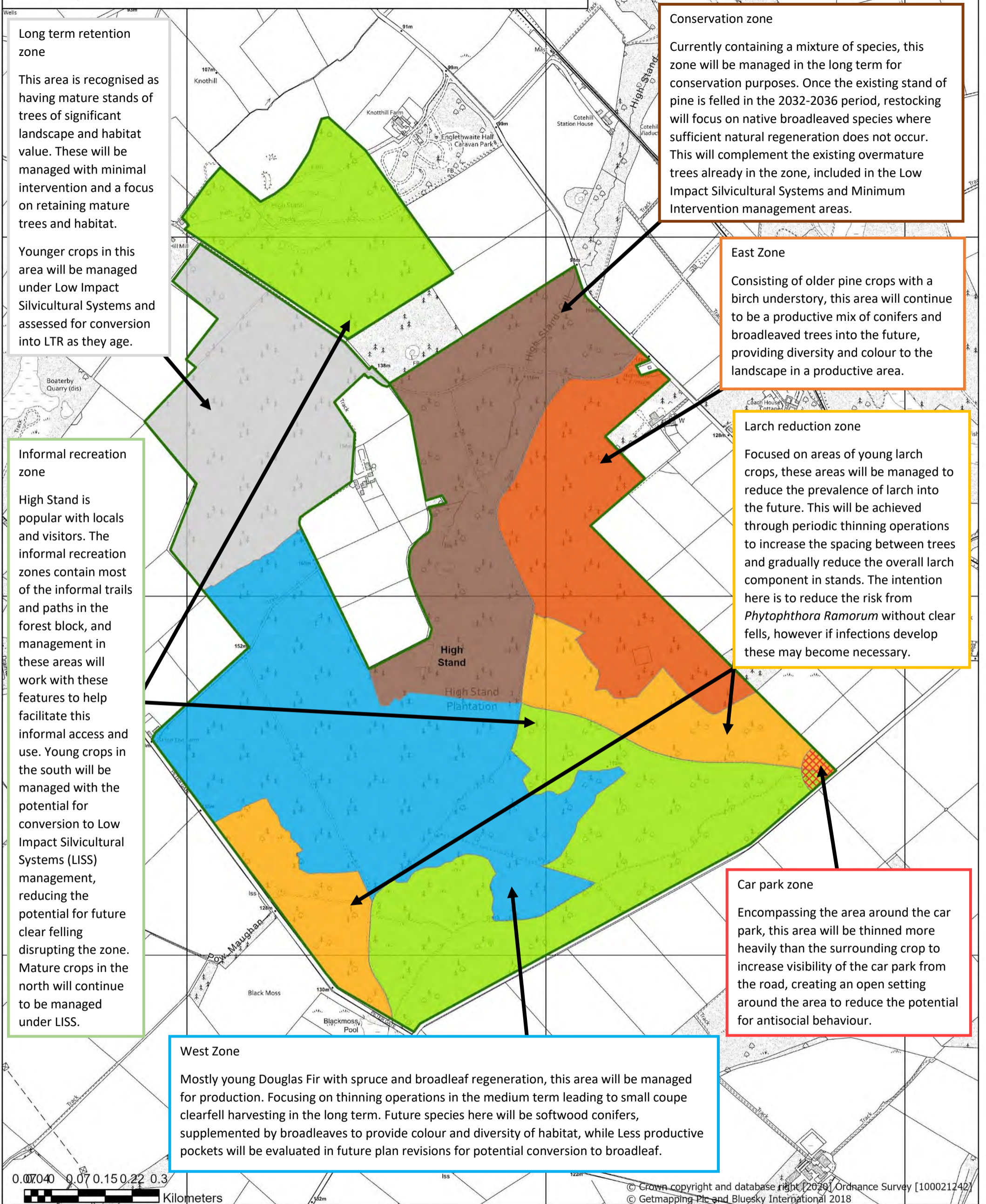
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PEFC

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# High Stand Design Concept



**Long term retention zone**

This area is recognised as having mature stands of trees of significant landscape and habitat value. These will be managed with minimal intervention and a focus on retaining mature trees and habitat.

Younger crops in this area will be managed under Low Impact Silvicultural Systems and assessed for conversion into LTR as they age.

**Conservation zone**

Currently containing a mixture of species, this zone will be managed in the long term for conservation purposes. Once the existing stand of pine is felled in the 2032-2036 period, restocking will focus on native broadleaved species where sufficient natural regeneration does not occur. This will complement the existing overmature trees already in the zone, included in the Low Impact Silvicultural Systems and Minimum Intervention management areas.

**East Zone**

Consisting of older pine crops with a birch understory, this area will continue to be a productive mix of conifers and broadleaved trees into the future, providing diversity and colour to the landscape in a productive area.

**Larch reduction zone**

Focused on areas of young larch crops, these areas will be managed to reduce the prevalence of larch into the future. This will be achieved through periodic thinning operations to increase the spacing between trees and gradually reduce the overall larch component in stands. The intention here is to reduce the risk from *Phytophthora Ramorum* without clear fells, however if infections develop these may become necessary.

**Informal recreation zone**

High Stand is popular with locals and visitors. The informal recreation zones contain most of the informal trails and paths in the forest block, and management in these areas will work with these features to help facilitate this informal access and use. Young crops in the south will be managed with the potential for conversion to Low Impact Silvicultural Systems (LISS) management, reducing the potential for future clear felling disrupting the zone. Mature crops in the north will continue to be managed under LISS.

**Car park zone**

Encompassing the area around the car park, this area will be thinned more heavily than the surrounding crop to increase visibility of the car park from the road, creating an open setting around the area to reduce the potential for antisocial behaviour.

**West Zone**

Mostly young Douglas Fir with spruce and broadleaf regeneration, this area will be managed for production. Focusing on thinning operations in the medium term leading to small coupe clearfell harvesting in the long term. Future species here will be softwood conifers, supplemented by broadleaves to provide colour and diversity of habitat, while Less productive pockets will be evaluated in future plan revisions for potential conversion to broadleaf.



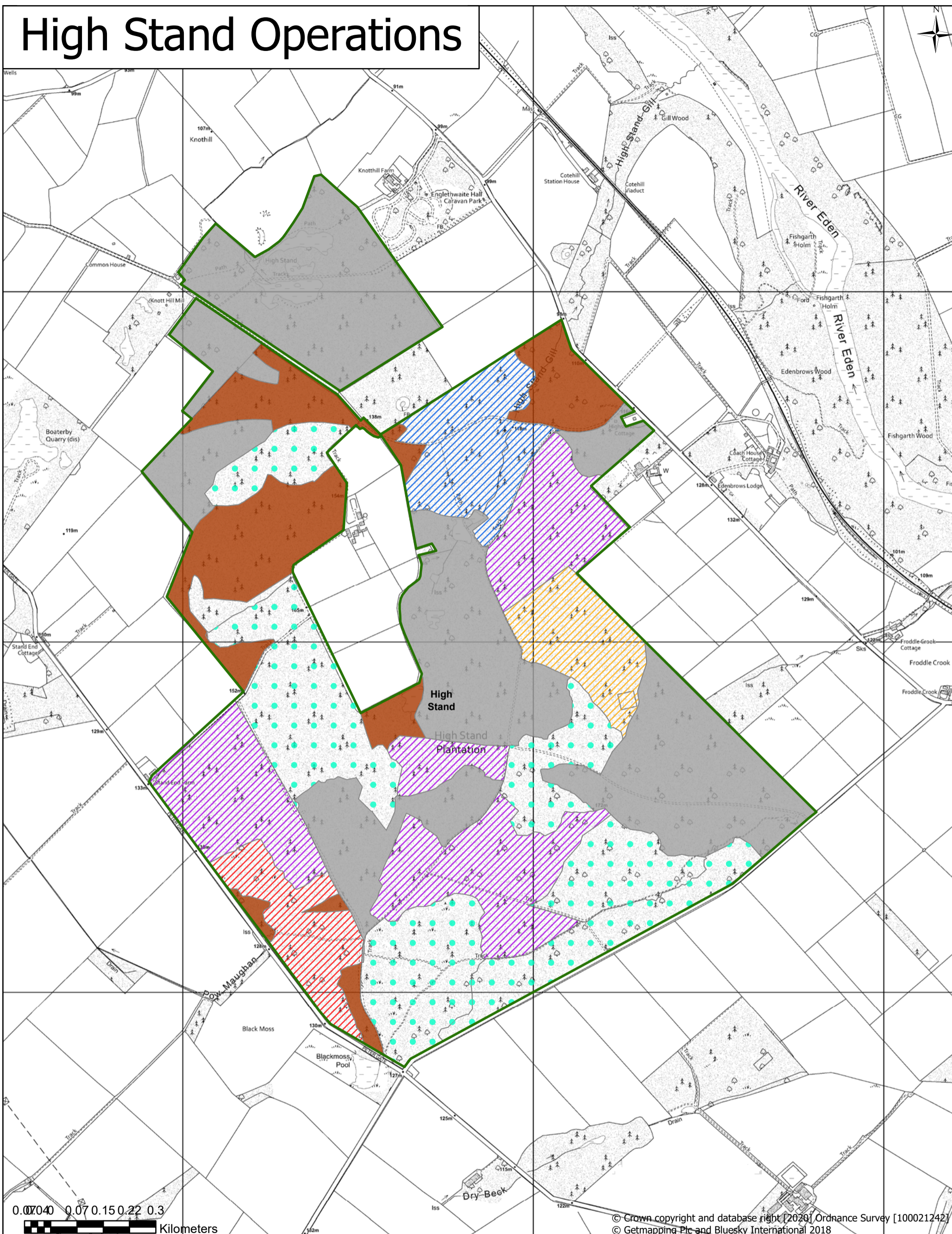
## High Stand Design Concept

03/12/2020  
Scale: 1:10,000



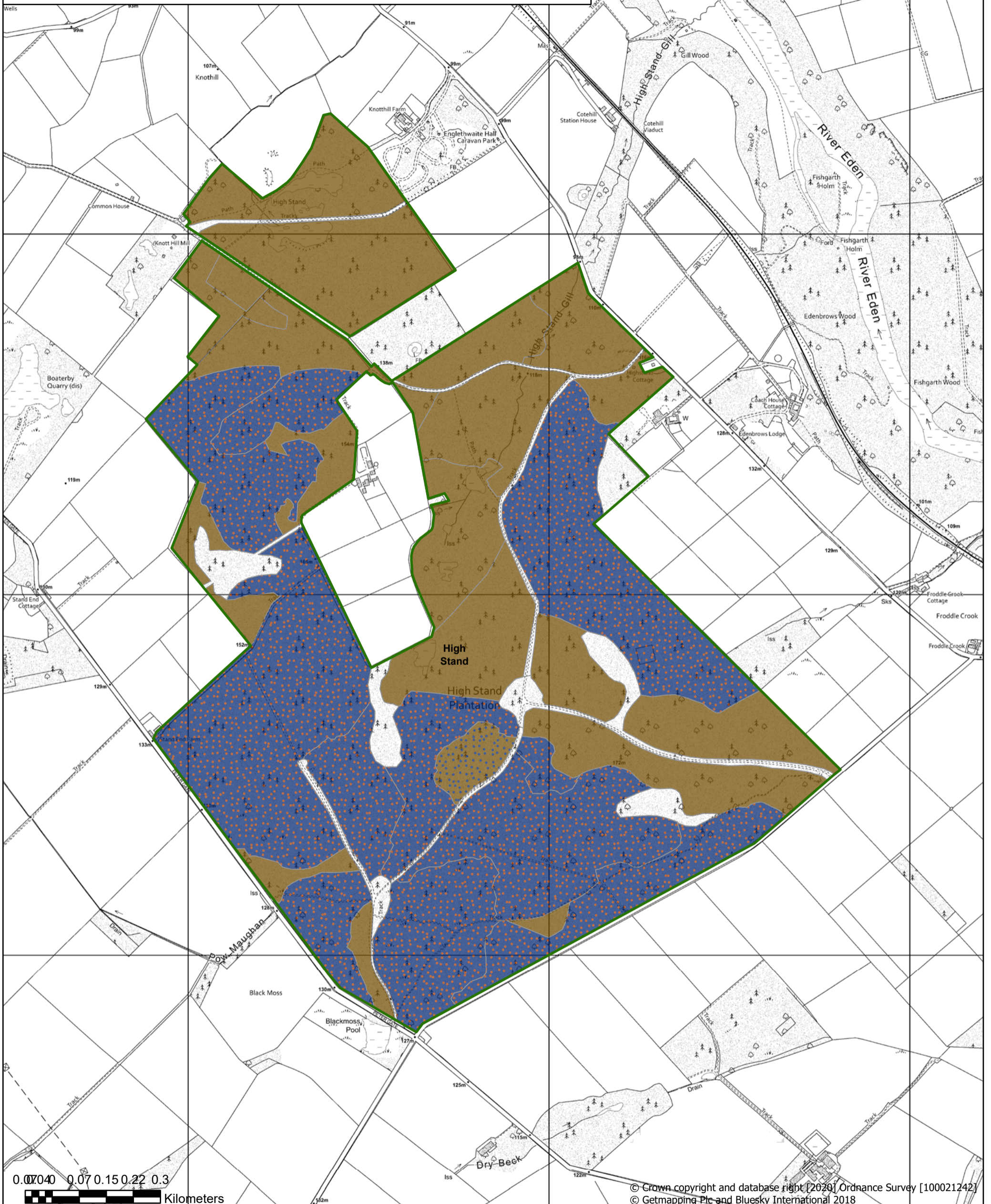
- Conservation zone
- West zone
- East Zone
- Informal recreation zone
- Larch reduction zone
- Long term retention zone
- Car park zone

# High Stand Operations



<p>Forestry England</p> <p>High Stand Operations</p> <p>03/12/2020</p> <p>Scale: 1:10,000</p>	<p><b>Felling Year</b></p> <ul style="list-style-type: none"> <li> 2022-2026</li> <li> 2027-2031</li> <li> 2032-2036</li> <li> 2037-2041</li> <li> 2042-2046</li> <li> 2046+</li> <li> LISS</li> </ul>	<ul style="list-style-type: none"> <li> Minimum Intervention</li> <li> Open</li> </ul>
	<p>Forestry England forests and woodlands have been certified in accordance with the UK Woodland Assurance Standard (UKWAS)</p>	

# High Stand Future Species



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<p>Forestry England</p> <p><b>High Stand Future Species</b></p> <p>03/12/2020</p> <p>Scale: 1:10,000</p>	<p>Forestry England forests and woodlands have been certified in accordance with the UK Woodland Assurance Standard (UKWAS)</p> <p>PEFC</p>	<p><b>Future Species</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 15px; border: 1px solid black; background-color: white; margin-right: 5px;"></span> Open</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #8B4513; margin-right: 5px;"></span> Mixed broadleaves</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #654321; margin-right: 5px;"></span> Mixed broadleaves/conifer</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #4682B4; margin-right: 5px;"></span> Mixed broadleaves/pine</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #00008B; margin-right: 5px;"></span> Other conifers</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #00008B; border: 1px dotted orange; margin-right: 5px;"></span> Other conifers/spruces</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #00008B; border: 1px dotted blue; margin-right: 5px;"></span> Other conifers/broadleaves</li> <li><span style="display: inline-block; width: 15px; height: 15px; border: 2px solid green; margin-right: 5px;"></span> Pine</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 15px; border: 2px solid green; margin-right: 5px;"></span> Pine/other conifers</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #00008B; margin-right: 5px;"></span> Spruces</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #00008B; border: 1px dotted blue; margin-right: 5px;"></span> Spruces/other conifers</li> </ul>
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## Part 6 Forest Plan Outcomes

### Restructuring

High Stand will undergo a gradual change during the plan period, with the forest having a slightly higher percentage of broadleaf species than set out in the previous plan. As the age structure of High Stand is weighted towards younger crops, the plan period will mostly be consist of regular management operations and thinning, with no large interventions planned. The potential for *Phytophthora Ramorum* infection will be reduced through larch thinning operations, however it is always possible that felling notices may be issued if infections are detected in the future. Increased areas under Low Impact Silvicultural Systems management will be of benefit to the future of the forest through increased age, species, and structural diversity. Over time the expanded area managed as part of the conservation zone will become integrated into the existing conservation area, to the benefit of the habitats found here. The restructuring of the area around the car park, through targeted thinning to open views into and out of the area will lead to a less enclosed space, reducing opportunities for antisocial behaviour.

### Timber production

The harvesting of timber remains a key element to the management of High Stand as a productive forest. In the life of the plan, the majority of timber production will come from thinning operations, with some clearfells supplementing this. In the longer term continuation of this thinning and small coupe clearfell regime will provide a sustainable yield of timber for the future.

Over the ten year period of this forest plan, it is forecast that approximately 3,500m<sup>3</sup> of timber will be harvested from High Stand.

The restock proposals in this plan are estimated to produce approximately 1950m<sup>3</sup> of timber per year, this productive capacity is calculated using the average yield class across the restock species identified in this plan.

### Natural Capital

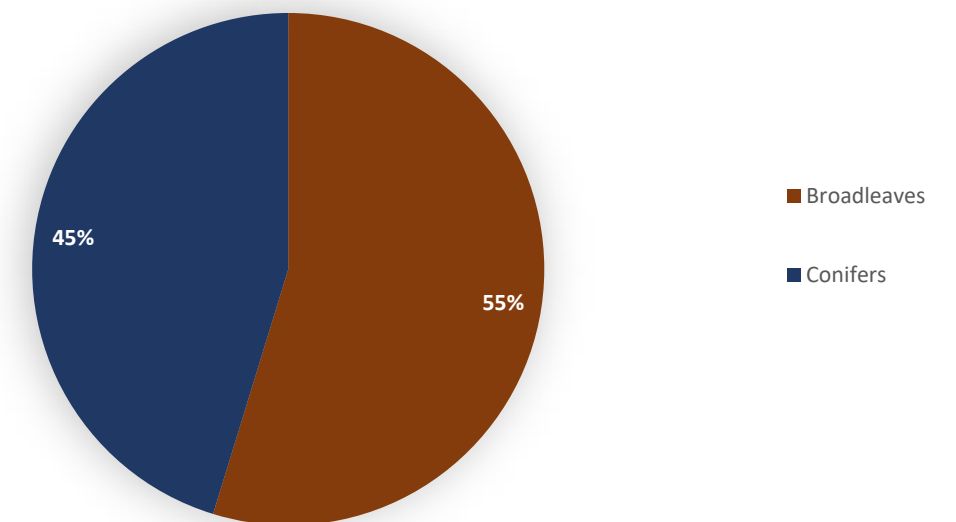
Timber represents only one of the products of a successfully managed forest. Natural Capital refers to the stock of all natural assets upon which the economy and society is built. Natural capital produces value for people in the form of 'goods' such as timber or minerals and 'services' such as climate regulation and air purification. To realise the benefits of some natural assets, humans need to intervene (e.g. harvesting timber) but in other instances natural capital produces value through natural processes (e.g. trees reducing flooding). The High Stand forest plan delivers ecosystem services and other non-market benefits included in biodiversity, climate change mitigation, water, people and landscape including public health and well-being, productivity through increased carbon sequestration, species diversification

and climate change resilience, landscape enhancement and increased native woodland and priority habitats.

### Future Species

The future species of High Stand show in the maps section can be illustrated as a pie chart. This is shown below and represents how the composition could be in 20 years' time based on the restock proposals contained in this plan.

High Stand Future Species



### UKWAS Compliance Table

	Forest Plan Area (ha)	Forest Plan Percentage	Forest District Area (ha)	Forest District Percentage
Total area	250	100.0%	85888	100%
Total wooded area	233	93%	58069	67.61%
Area of conservation value*	115	46%	11322	13.18%
Long-term Retentions and Low Impact Silvicultural Systems	86	34%	10449	12.17%
Open space	17	7%	27819	32.39%
Natural Reserves	29	11%	873	1.02%

\*Area of conservation value is the sum of designated areas including any Ancient Woodland, Long-Term Retentions, Low Impact Silvicultural Systems, and areas of Natural Reserve.

## 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 High Stand 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	Productive potential is optimised through the delivery of the thinning and clearfell programme, ecosystem services and other non-market benefits included in biodiversity, climate change mitigation, water, people and landscape.
Structure	Long term future species composition: 51% broadleaf species and 6% open ground meets UKWAS and UKFS requirements. Long term structure will improve through expansion and linking of permanent broadleaved and open habitats.
Silvicultural	Low Impact Silvicultural Systems (LISS) principles will be continued and expanded, as will while areas of long-term retention (LTR), to encompass additional broadleaved woodland. This will improve species and age class diversity over time.
Biodiversity	Ecological connectivity enhanced extending and linking areas of native broadleaved woodland (such as those in the north east of the forest linking to the external area of Ancient Woodland) and open space will be enhanced ensuring that the area is managed with conservation and biodiversity as a major objective.
Climate change	Increase of LISS areas will minimise soil disturbance. Utilising natural regeneration to restock where possible and increased species diversification will benefit forest resilience.
Landscape	The planning process refers to the Local Landscape Character Assessment to inform the appropriate woodland management and design.
Historic	Non-designated historic features are recognised, and their safeguard will be 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 area.
Water	Quality will be protected through adherence to Forest and Water guidelines as a minimum during any harvesting and forest management operations.

## Longer term management proposals

The proposals in this plan continue to build on the success of previous plans to support the management of High Stand, and future management will continue to evaluate the opportunity for increasing areas of LISS as crops age into the future, as well as diversifying the range of species within the forest for increased resilience, while continuing to provide timber to markets in the region. As this plan period comes to a close, it will be prudent to once again evaluate the role of larch species in the forest and determine if continued thinning is appropriate management of these stands into the future. Public access and low-key recreational use will remain a major objective for High Stand.