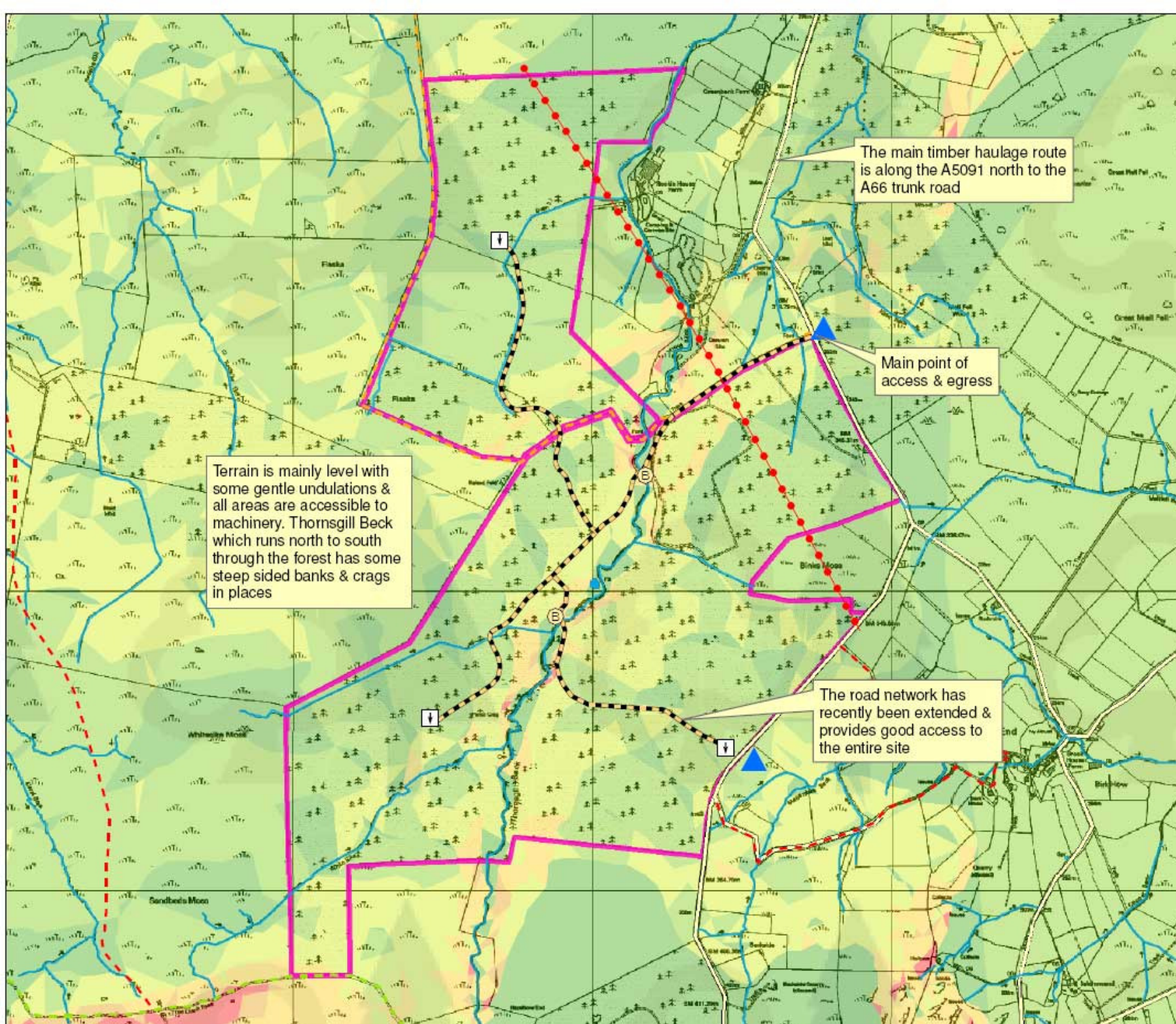




**Forestry Commission**  
North West England

Matterdale  
Forest Design Plan

## Roads & Harvesting



|                        |                        |
|------------------------|------------------------|
|                        | Turning Point          |
|                        | Bridge, Culvert, Ford  |
|                        | Access Point           |
|                        | Forest Rd - Category 2 |
|                        | Powerline Overhead     |
|                        | Bridleway              |
|                        | Drovers Road           |
|                        | Green Road             |
|                        | Public Road            |
|                        | Forest Boundary        |
| <b>Angles of Slope</b> |                        |
|                        | 0.00                   |
|                        | 0.00 - 5.00            |
|                        | 5.00 - 10.00           |
|                        | 10.00 - 19.00          |
|                        | 19.00 - 22.00          |
|                        | 22.00 - 90.00          |

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## Aerial Photo

This aerial photo was taken in 2009. It is evident that large areas of the forest have been felled & replanted in accordance with the previous forest design plan review in 2004.

There is a significant area of windblow which is gradually increasing in size due to the exposed nature of the site.

These smaller fragments have been clearfelled.

This area has been recently clearfelled.

There is scattered & gradually extending windblow throughout this area which is for clearfell by 2011.

This area has been replanted according to the restocking plan from the previous forest design plan review in 2004. It is difficult to distinguish between the restock boundary & the prolific conifer regeneration occurring outside the planted areas.

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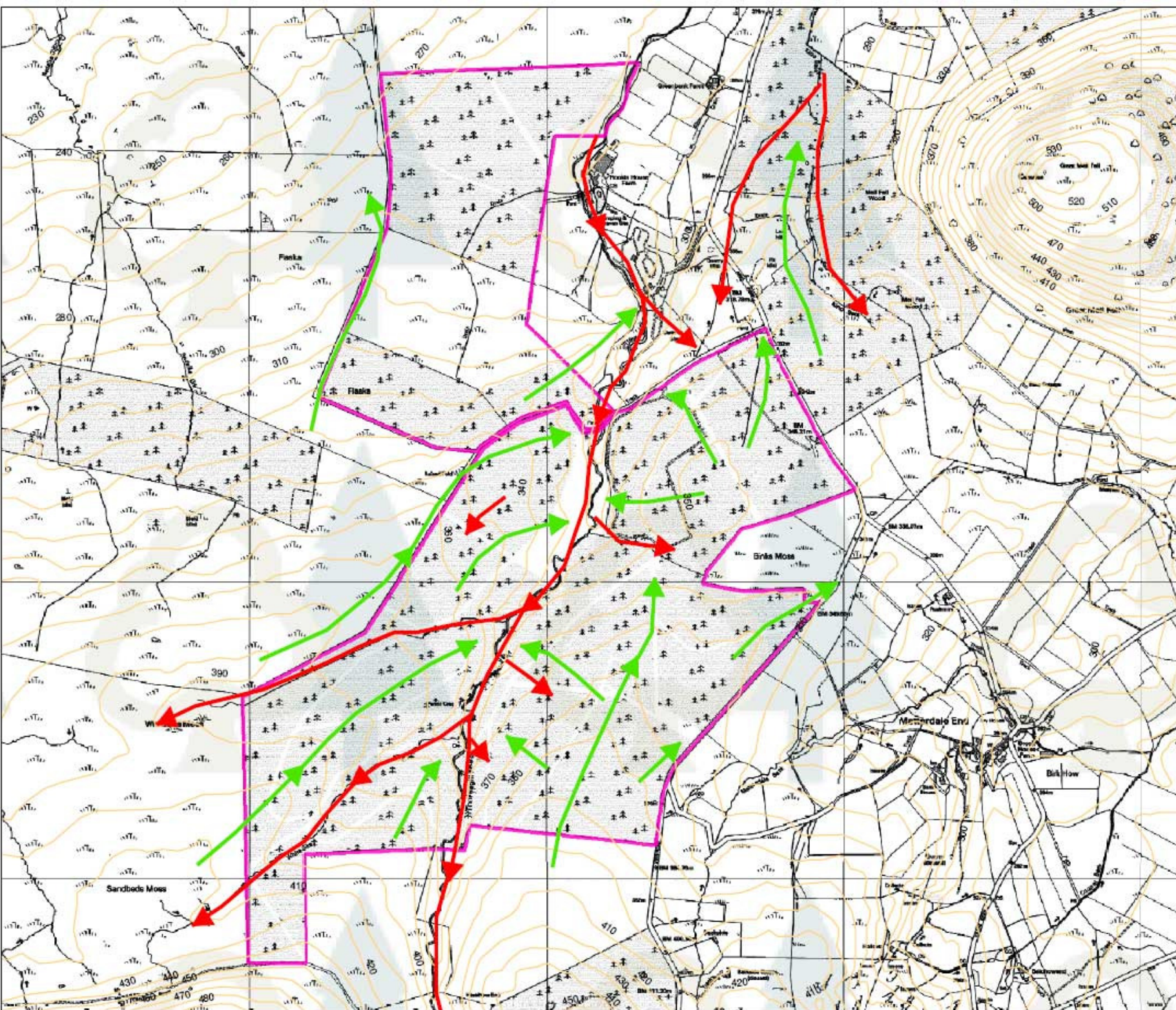
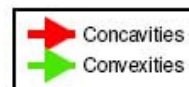
Matterdale  
Forest Design Plan

## Landform

This map illustrates the underlying landform of Matterdale. The map shows that the forest has a northerly aspect sloping down to Thornsgill Beck which runs north to south through the middle of the block.

Research shows that we look at mountainous landscapes in a certain way. Our vision is naturally drawn to follow the concavities up onto the ridges & then our eyes follow the convexities back down again.

Forest design works best when felling & restocking boundaries do not cross these 'lines of force' at right angles. The forest should flow up & down these lines to encourage rather than block our eyes from following these natural landscape features.



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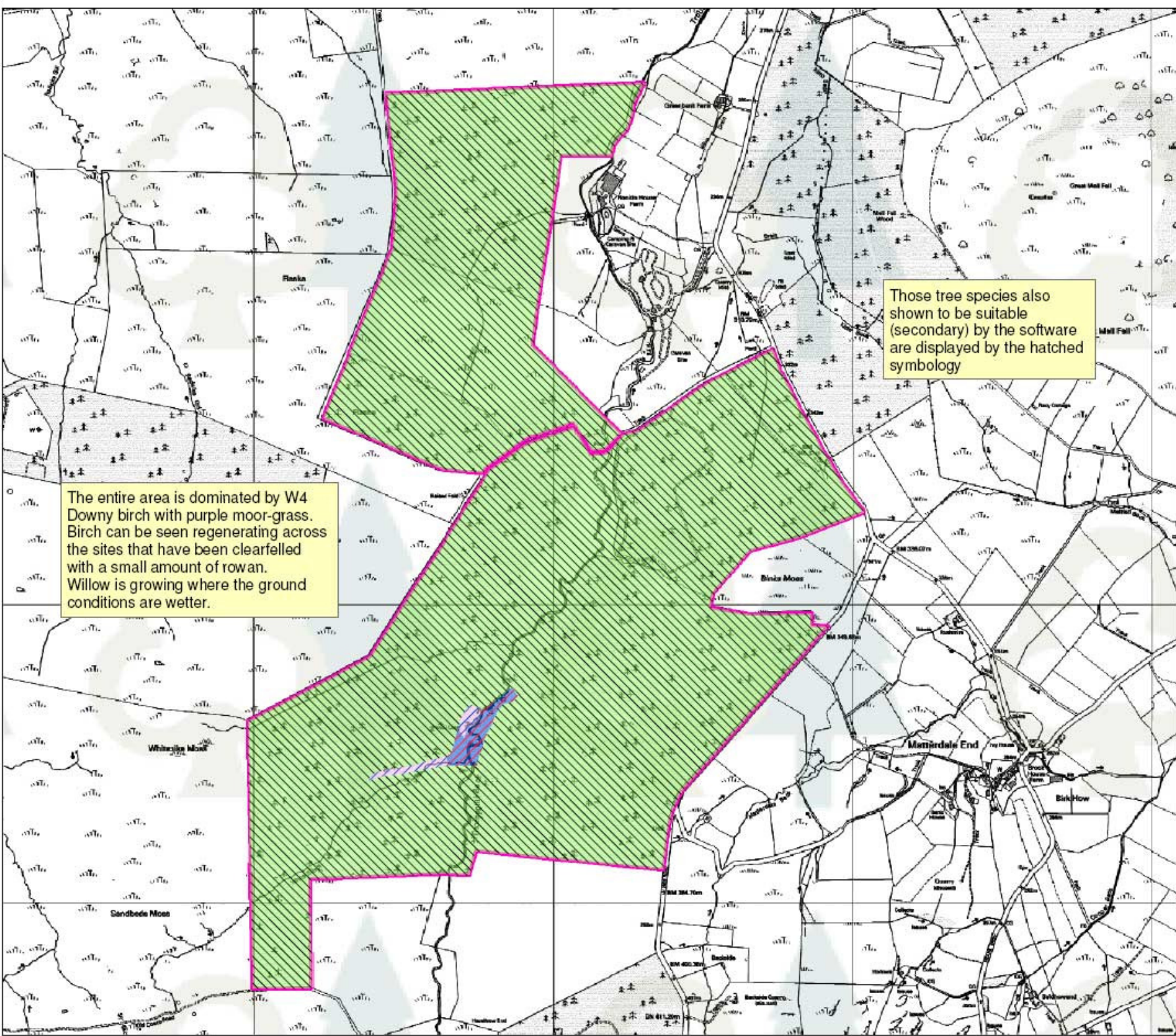
**Forestry Commission**  
North West England

Matterdale  
Forest Design Plan  
**Ecological Site  
Classification  
Native Species**

This map illustrates the outputs from running the Forestry Commission's ecological site classification software based on soil classification & geology.

The results are used to help understand what native species are expected to regenerate or what species to plant & are built into the Future Woodland Species proposals.

The map shows the most suitable primary & secondary species for each combination of soils & geology.



Those tree species also shown to be suitable (secondary) by the software are displayed by the hatched symbology

The entire area is dominated by W4 Downy birch with purple moor-grass. Birch can be seen regenerating across the sites that have been clearfelled with a small amount of rowan. Willow is growing where the ground conditions are wetter.

| Most Suitable |                                       |
|---------------|---------------------------------------|
|               | W4 Downy birch with purple moor-grass |
|               | W11 Oak with birch & wood sorrel      |
|               | W19 Juniper with wood sorrel          |
|               | W17 Birch with oak & rowan            |
|               | W16 Oak with birch & wavy hair-grass  |
|               | W19 Juniper with wood sorrel          |
|               | Plan Boundary                         |

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**Forestry Commission**  
North West England

Matterdale  
Forest Design Plan  
**Ecological Site  
Classification  
Conifer Species**

This map illustrates the outputs from running the Forestry Commission's ecological site classification software based on soil classification & geology.

The results are used to help understand what native species are expected to regenerate or what species to plant & are built into the Future Woodland Species proposals.

The map shows the most suitable primary & secondary species for each combination of soils & geology.

| Most Suitable   |                                       |
|---|---------------------------------------|
|  | Sitka spruce                          |
|  | Pines                                 |
|  | L pine, N spruce, W hemlock & R cedar |
|  | L pine, Noble fir, N spruce           |
|  | S spruce, W hemlock & R cedar         |
|  | Plan Boundary                         |

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Across most of the forest, Lodgepole pine is shown to be the most suitable species. However, Sitka spruce is chosen as the primary conifer species because on the whole, the software shows it as being the higher yielding species.

Those tree species also shown to be suitable (secondary) by the software are displayed by the hatched symbology

The small area suitable for pine species is a riparian zone & therefore not for restock with conifer species.

Sitka spruce - S Spruce  
Lodgepole pine - L pine  
Norway spruce - N spruce  
Western hemlock - W hemlock  
Western red cedar - R cedar

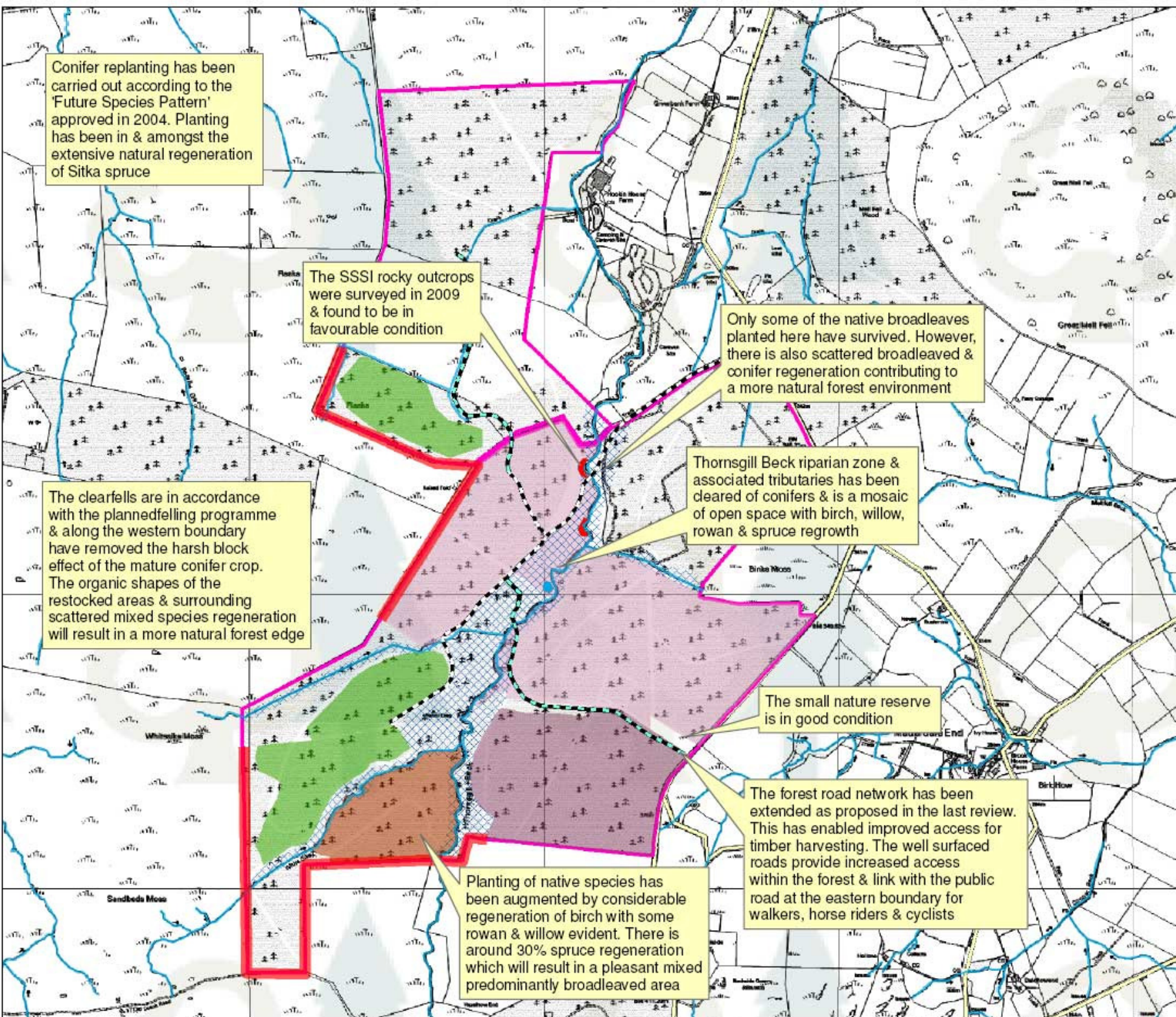


Forestry Commission  
North West England

Matterdale  
Forest Design Plan

## Achievements

This map tries to illustrate the main achievements since the Forest Design Plan was last approved in 2004



Conifer replanting has been carried out according to the 'Future Species Pattern' approved in 2004. Planting has been in & amongst the extensive natural regeneration of Sitka spruce

The SSSI rocky outcrops were surveyed in 2009 & found to be in favourable condition

Only some of the native broadleaves planted here have survived. However, there is also scattered broadleaved & conifer regeneration contributing to a more natural forest environment

Thornsgill Beck riparian zone & associated tributaries has been cleared of conifers & is a mosaic of open space with birch, willow, rowan & spruce regrowth

The clearfells are in accordance with the planned felling programme & along the western boundary have removed the harsh block effect of the mature conifer crop. The organic shapes of the restocked areas & surrounding scattered mixed species regeneration will result in a more natural forest edge

The small nature reserve is in good condition

The forest road network has been extended as proposed in the last review. This has enabled improved access for timber harvesting. The well surfaced roads provide increased access within the forest & link with the public road at the eastern boundary for walkers, horse riders & cyclists

Planting of native species has been augmented by considerable regeneration of birch with some rowan & willow evident. There is around 30% spruce regeneration which will result in a pleasant mixed predominantly broadleaved area

- Red line: Removal of Harsh Conifer Boundary
- Green dashed line: Extension to Forest Road Network
- Black dashed line: Forest Road
- Blue hatched area: Riparian Zone
- Red shaded area: SSSI Geological Outcrop
- Brown shaded area: Broadleaf Planting
- Green shaded area: Conifer Planting
- Pink shaded area: Clearfell Achieved
- Purple shaded area: Clearfell Underway
- Blue line: Watercourse
- Magenta line: Plan Boundary

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## Review Issues

This map tries to identify the main issues that have emerged since the plan was last reviewed & need to be resolved for the plan to successfully deliver the Forest District Strategic Plan.



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Extension of the forest road into the crop has opened up the trees to the prevailing south westerly winds. The resulting area of windblow is gradually increasing

This section of path links in with the Drovers Road that continues northward along the forest boundary but is little used or maintained

This small area of broadleaf planting was not too successful but it forms part of an area of open space & scattered mixed tree cover with birch, willow, rowan & spruce regrowth

Areas left unplanted to improve the appearance of external forest margins are regenerating with spruce & native broadleaves. Whilst resulting in a naturally graded forest edge the prolific spruce regrowth may result in the reformation of the original geometric forest boundaries especially noticeable at corners & at the most southern end

This clearfell coupe also has scattered windblow that is gradually extending through the standing crop but this area is due to be harvested by 2011