

# Kilpatrick Hills Forest Design Plan Appendices

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Scottish Lowlands Forest District

**Kilpatrick Hills**

Forest Design Plan – Appendix VII Bog & Peatland Habitats

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## Appendix VII(i) – Afforestation & Deep Peat

Following the acquisition of the central area of the site (covering Gavinburn and Dumbarton Muir), a peat depth survey was commissioned covering all the open ground north of Loch Humphrey. (The remaining areas were deemed unlikely to have significant areas of deep peat based on an assessment of the topography and vegetation on the southern slopes, in combination with a desktop analysis of soil and geology data). Peat depth samples were taken at all points on a 100m grid, with GIS-based analysis used to interpolate peat depth across the site (see **Map 3.1.1. – Peat Depth**).

This analysis suggests that approx. 480 of the 840 ha surveyed consists of deep (i.e. 0.5m+) peat. Although the indicative outline areas for the proposed potential native woodland planting areas includes some small overlaps with areas identified by the extrapolated data as deep peat, this is essentially an artefact arising from the indicative nature of the maps. Given the open nature of the woodland in these areas (depending on location, anything between 30-70% open ground is likely), and the fact that (given the scale of the site) the precise ground make up can only be determined during the operational phase, **the UK Forest Standard guidelines for the avoidance of planting on deep peat will be followed.**

## Appendix VII(ii) – Bog Transition Plan

At Knockupple, the growth of the current crop is generally poor, with areas of the site in check due to the wet conditions, and some windblow occurring as a result of shallow rooting due to the high level of the water table. Furthermore, this block fragments the existing open wetland habitat surrounding the wood, and the adjacent SSSI blanket bog on the neighbouring ground to the west precludes the possibility of restocking with native woodland. On this basis, and given the continued presence of blanket bog and upland heathland vegetation within the forest, the decision has been taken to clearfell the forest and revert to open habitat.

### Current Conditions

Although the site was deep-forest ploughed and extensively drained (see **Map Appendix VII(ii) Knockupple Drainage**) when originally planted, a lack of active management over the past decades has resulted in a marked reduction in the effectiveness of the original drainage network.

Currently, the surviving bog vegetation is of variable quality – generally good in rides and open spaces, but ranging from fairly good under canopy in areas where the crop

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is checked through to poorer in places (particular on some steeper slopes to the southwest) where tree growth has been better. However, specific vegetation makeup is likely to be less important than localised hydrological conditions post-felling in terms of reverting the top layer to active peat-forming species.

## Felling Operations

Although Knockupple will be felled during the course of the design plan, this will likely be 2017 at the earliest, due to the need to first build a forest road into the block (currently scheduled for 2016/17). It is not clear at the time of writing exactly how much of the timber will be suitable to extract, and how much will need to be felled to waste or mulched, due to the variable nature of the crop – a clearer assessment will only be possible at the detailed site-planning stage.

However, based on assessments of aerial photography in conjunction with Production Forecast projections, it is estimated that where the mean tree volume is forecast to be less than 0.15 m<sup>3</sup> it will not be economical to harvest the timber commercially. On this basis, it is anticipated that approximately 1/3<sup>rd</sup> of the standing timber crop will be of sufficient size to harvest commercially and remove off site.

## Restoration & Monitoring

Where the timber crop has been too small to harvest economically, it will be felled to waste or mulched, with any material used to use in packing the furrows and drains. Any conifer regeneration occurring across the site will be controlled where appropriate, and a herbicide application will be applied to broadleaf stumps and any regrowth.

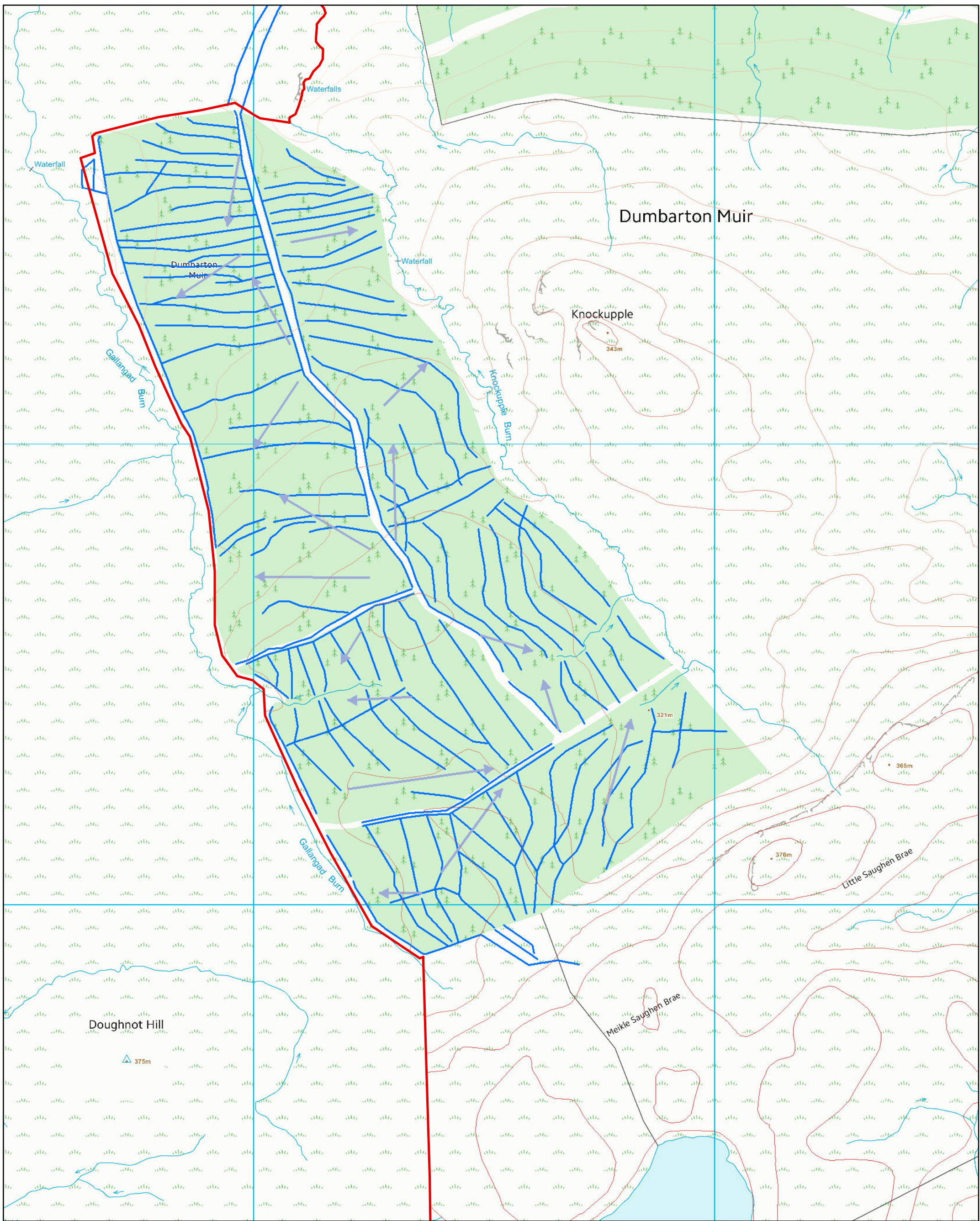
The area will be monitored to assess the recovery over the remainder of the plan period. Monitoring will be driven by the Environmental Business Systems (Tactical Planner), and will trigger periodic visits by the FC Environment Ranger to assess bog condition, hydrology, presence of regeneration etc.

3-4 years after felling, a survey will be undertaken by an ecologist to assess the potential need for additional action to restore the site, made on the basis of its recovery status and suitability for reversion to upland heathland or blanket bog.

Measures which might be required could include:

- Further drain blocking through the use of peat and/or composite dams
- Mulching furrows (to remove regeneration and furrows/drains)
- Ground smoothing/cross tracking (to remove regeneration and furrows/drains)





**Legend**

- Kilpatrick Hills
- Original drain
- ➔ General direction of flow

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**Scale: 7,500 @ A3**



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**Forestry Commission Scotland**  
Coimisean na Coilltearachd Alba

**Kilpatrick Hills FDP**  
Scottish Lowlands Forest District

**Appendix VII(ii) Knockupple Drainage**