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Over Hill Wind Farm

Ecological Appraisal

Prepared by LUC
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1 Introduction

Terms of Reference

- 1.1 In November 2013, LUC was appointed by Energiekontor to undertake an ecological appraisal of a site at Over Hill, in East Ayrshire. The appraisal was requested to inform a potential planning application to develop a wind farm at the site.
- 1.2 This ecological appraisal is based upon an Extended Phase 1 Habitat Survey which includes a high-level classification of the site's constituent habitats, and a consideration of the site's suitability to support notable faunal and floral species. These features are considered with regard to their ecological value and this evaluation is then used to determine whether protective measures are required.

Site Description

- 1.3 The Over Hill site is located in East Ayrshire 4.5km northeast of Dalmellington, to the north of the B741. It occupies a low plateau, partially defined to the west and east by the shallow valleys of an unnamed watercourse (in the west) and the Beoch Lane (a small river) in the east. A number of other watercourses drain the plateau and lead to those at the boundary.
- 1.4 The topography across and beyond the site is subdued. Across the site, which measures 4.2 km (north to south) by up to 2.5km wide, the altitudinal range is 270m to 330m. As such, the character of the semi-natural habitats within and around the site is upland but they are widely over-planted with coniferous plantation and/or improved for pastoral, agricultural purposes where drainage is possible.
- 1.5 A map of the site (and its constituent habitats) is included as **Figure 1** in **Appendix 1** and target Notes are included in **Appendix 2**.

Project Description

- 1.6 Energiekontor proposes to establish nineteen turbines on the northern half of the site, north of Northing NS11. The access and track layout have yet to be confirmed and they will be influenced by the findings of this and other environmental surveys and reports.

Policy and Legal Considerations

- 1.7 This appraisal has been prepared in cognisance of relevant legislation and policy. The following primary documents are of relevance:
 - The Wildlife and Countryside Act 1981 (as amended)
 - The Nature Conservation (Scotland) Act 2004
 - The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)
 - The Protection of Badgers Act 1992 (as amended)
 - The Scottish Biodiversity Strategy and Biodiversity List
 - The *East Ayrshire* Local Plan and Biodiversity Action Plan

2 Methods

Baseline Data Collection

Desk Study

- 2.1 To ensure the appraisal is sufficiently robust, a study of available online records was undertaken to identify sites designated for their nature conservation value, and existing records of protected or notable species of relevance to the site. A search of the following resources was undertaken, within a radius of at least 5km from the site boundary:
- SNH Sitelink¹ - to identify statutory designated sites;
 - East Ayrshire Local Plan² - to identify non-statutory designated sites;
 - National Biodiversity Network Gateway³ – to identify existing records of protected or notable species within 5km of the site.
- 2.2 Badger records are not normally provided through publicly available resources in an attempt to curb the persecution of the species. However, Scottish Badgers has been consulted for confidential records.

Field Surveys

- 2.3 An Extended Phase 1 Habitat Survey was undertaken at the site following the standard method⁴.
- 2.4 The Phase 1 Habitat Survey method is the 'base unit' of ecological surveys, providing a rapid means of classifying broad habitat types across any terrestrial site. The method was employed within the site boundary.
- 2.5 The survey was 'extended' by considering the suitability of the Study Area to support notable or protected flora or fauna. Species considered included those identified during the desk study, or those considered appropriate by the surveyor during the survey. Species so considered included:
- badger
 - bats
 - otter
 - red squirrel
 - water vole
- 2.6 Detailed surveys were not completed for these species, however based on current understanding of species ecology, consideration was given to the Study Area's ability to provide sheltering or foraging habitat while providing sufficient connectivity to allow dispersal between populations.
- 2.7 The survey was undertaken on the 26th and 27th of November, 2013 by Dr. Andy McMullen MCIEEM. Weather conditions during the survey were mild: bright and overcast with low to moderate wind speeds and occasional showers.

¹ Available at <http://gateway.snh.gov.uk/sitelink/index.jsp>. Accessed 13/01/2013.

² Available at <http://www.east-ayrshire.gov.uk/BusinessAndTrade/PlanningAndBuildingStandards/LocalAndStatutoryDevelopmentPlans/LocalPlan2010.aspx>. Accessed 13/01/2013.

³ Available at www.searchnbn.net. Accessed 13/01/2013.

⁴ Joint Nature Conservation Committee (1990). Handbook for Phase 1 Habitat Survey. NCC, Peterborough

Appraisal Method

- 2.8 The appraisal has been undertaken following best practice guidance⁵, which recommends a Study Area is assigned an 'ecological value' for each of its ecological features using a geographical context.
- 2.9 A detailed account of the qualifying criteria is provided in **Appendix 3**, however in summary, the table below summarises the geographical contexts as they relate to the Study Area.

Table 2.1: Ecological value categories

Ecological Value	Relevant Context for Study Area
International	Europe
National	UK/Scotland
Regional	Southern Scotland
County	East Ayrshire
Local	Study Area and a 5km buffer
Study Area	Study Area only

- 2.10 Ecological values are subsequently used to develop appropriate mitigation or compensation measures. Mitigation and compensation measures are considered with reference to the legal and policy context.
- 2.11 This appraisal does not constitute an Ecological Impact Assessment (EcIA) and should not be used for the purposes of Environmental Impact Assessment.

Limitations and Constraints

- 2.12 While every attempt has been made to collect accurate baseline data, all ecological surveys represent a 'snapshot' of activity. Ecological features are dynamic and often transient and it is not possible to confirm the absence of a species through survey. Ecological surveys should be repeated annually where possible and should not be used for long-term analysis of population trends.
- 2.13 The survey was limited by being undertaken eight weeks after the end of the recommended field season (April to September). However, given the perennial nature of the dominant plant species, this did not limit the characterisation of the habitats and more seasonal, floristic data will be collated during the National Vegetation Classification survey in 2014.

⁵ Chartered Institute of Ecology and Environmental Management (2013). Guidelines for Preliminary Ecological Appraisal. C IEEM, Winchester

3 Baseline Data

Desk Study

- 3.1 The findings of the desk study are presented in the tables below.

Designated sites

- 3.2 Designated sites within a 10km radius of the site boundary are listed in Table 3.1 together with an indication of their qualifying features. A total of six Sites of Special Scientific Interest are present within the prescribed area, two of which are designated for geological (rather than ecological features). There are no Natura 2000 sites, Local or National Nature Reserves, or Parks, within the 10km radius.
- 3.3 The four SSSIs designated for their ecological features include two lochs and two raised bogs, one of which each is associated with a range of additional mire types that are also qualifying features. A breeding bird assemblage and arctic char are qualifying features of the two lochs (Bogton Loch and Loch Doon respectively).

Table 3.1: Desk study findings – designated sites

Site Name	Designation	Qualifying Features	Distance/Orientation from Study Area
Benbeoch	SSSI	• Geological	1.6km SW
Dunaskin Glen	SSSI	• Geological	4.9km W
Dalmellington Moss	SSSI	• Raised bog	5.2km SW
Bogton Loch	SSSI	• Breeding bird assemblage • Open water transition fen	5.6km SW
Barlosh Moss	SSSI	• Raised bog • Hydromorphological mire range	5.8km N
Loch Doon	SSSI	• Arctic charr (<i>Salvelinus alpinus</i>)	7.3km SW

Species

- 3.4 The results of the search for existing records of protected species located records for three species of bat and for otters. No existing records for badger or water vole were found.
- 3.5 The bat records are from the low-lying ground ($\leq 200\text{m}$) peripheral to the upstanding massif on which the site is located. As such, the records are located more than 4km from the site.
- 3.6 Otters are associated with all of the major watercourses in the area: particularly the headwaters of the River Nith and the River Doon. In the case of the former, the records lie within 1km of the southern site boundary; otherwise, the distribution of records is similar to that described for bats.

Table 3.2: Desk study findings – species records

Species Name	Data Set	Distance/Orientation from Study Area	Comment
Badger	No public data available	n.a.	n.a.
Bats			

Species Name	Data Set	Distance/Orientation from Study Area	Comment
• Daubenton's bat	Scottish Natural Heritage	8.6km W	
• Natterer's bat	Biological Records Centre	6.4km W	
• Pipistrelle bat	Various	≥4km in all directions	Records are frequent around the site at a distance of 4 km or more, particularly along the valley of the River Doon and up to the 200m contour around the site.
Otter	Various	≥1 km in all directions	The closest records are associated with the headwaters of the River Nith (≥1 km from the site) and there are also records from the River Doon (≥4.8 km from the site).
Red squirrel	Various	3.5km NW	A single record is located 3.5km to the northwest. Other records are generally located at a distance of >10km and are concentrated in more low-lying areas.
Water vole	No site-specific public data available	n.a.	Records in the wider area are included within the South West Scotland Renewables Connection Project Environmental Statement.

Field Surveys

Phase 1 Habitat Survey

Site habitat description

- 3.7 The Study Area is a plateau that falls away around its edge to shallow river valleys that define parts of the site boundary. The level plateau area is poorly drained and waterlogged so that blanket bog is extensive. However, it has been extensively planted over by coniferous plantation, principally on the better drained, marginal slopes but also in a series of small irregular coups across the centre.
- 3.8 The southernmost parts of the Study Area appear to be a derelict, pastoral farm unit with acid grassland previously used for pasture now giving way to the spread of rushes and more locally, the spread of broadleaved trees; or that has been planted across with conifers. The grassland also extends northwards, along the eastern margin, where the slopes are sufficiently steep to have prevented the establishment of blanket bog.
- 3.9 Less significant areas of habitat include the poorly-defined watercourses that drain the plateau; areas of self-sown, broadleaved, scattered trees that locally form small thickets; and acid flush.

Habitat descriptions

- 3.10 The individual habitats are described below. Reference should also be made to the Phase 1 Habitat Map presented in **Figure 1, Appendix 1** and to the Target Notes in **Appendix 2**. Photographs taken at in the Study Area are also provided in **Appendix 2**.
- 3.11 The table below summarises the habitats identified during the survey and demonstrates their relative cover.

Table 3.3: Habitat summary

Code	Habitat Type	Absolute Area (ha)	Relative Area (%)
A1.1.1	Semi-natural broad-leaved woodland	6.29	0.95
A1.1.2	Broad-leaved plantation	1.24	0.19
A1.2.2	Coniferous plantation	305.83	46.35
A1.3.1	Scattered broad-leaved trees	8.21	1.24
A3.2	Scattered coniferous trees	27.86	4.22
B1.2	Semi-improved acid grassland	38.34	5.81
B1.2/B5	Semi-improved acid grassland / marshy grassland mosaic	5.58	0.85
B5	Marshy grassland	2.72	0.41
E1.6.1	Blanket bog	257.52	39.03
E1.7	Wet modified bog	23.34	3.54
E1.8	Dry modified bog	17.99	2.73
E2.1	Acid / neutral flush	0.96	0.15
TOTAL:		659.81ha	105.47% ⁶

A1.1.1 Semi-natural broad-leaved woodland

- 3.12 A small area of hazel wood has established itself on a slope in the centre of the southern portion of the Study Area. The trees are mature but they have yet to develop a cover of epiphytes; and the field layer is derived from the acid grassland with abundant creeping buttercup, soft rush, tufted hair-grass and Yorkshire fog; and frequent to occasional creeping thistle and rough meadow grass. This species-poor assemblage reflects the relative isolation and size of this area of broadleaved woodland, as well as the rarity of the habitat in the wider area. It is in effect, little more than a canopy of hazel above a species-poor, acid grassland.
- 3.13 No management of this woodland area is undertaken and the composition of the field layer is unlikely to prove particularly attractive to grazing animals such as deer with more productive stands available in the area. It is also unlikely offer shelter to deer (because of its deciduous nature). However, it is likely to support a small number of common bird species.

A1.1.2 Broad-leaved plantation

- 3.14 Small areas of broad-leaved plantation have recently been established, particularly in the east of the Study Area, where the drainage associated with the slope provides conditions conducive to the growth of trees. The trees within this habitat have either been planted as blocks, in clearings between the conifers, or as a peripheral band along the plantation edge, up to a few trees wide ($\leq 15\text{m}$). In this latter instance, the planted trees are mapped as A1.3.1 (scattered broad-leaved trees) because they are widely-spaced within blanket bog habitat. When planted in blocks, the trees are more closely spaced and their growth is such that a continuous canopy is developing so they are mapped as plantation. In almost all cases, the trees are birches but identification was limited by the unseasonal timing of the survey.

⁶ Number exceeds 100% because of the overlay of scattered trees on the blanket bog and acid grassland habitats.

A1.2.2 Coniferous plantation

- 3.15 Coniferous plantation is widespread across the Study Area and beyond, forming an extensive block of monotonous habitat composed of only a few species. Scots pine and spruce are dominant and generally mature (up to 10-12m high) and some felling has commenced around the Study Area. Beneath the dense canopy formed by the serried ranks of conifers, the ground is covered in leaf litter and this, combined with the deep shade, limits any vegetation cover to occasional mats of common and widespread moss species.
- 3.16 Continuous extents of vegetation are only present in clearings, and in rides or firebreaks. Across most of the Study Area, this is relict blanket bog vegetation, usually dominated by hare's-tail bog-cotton and typically with a high frequency but low total cover and number of *Sphagnum* species. In the east, acid grassland has been planted over and this habitat persists into the open, between the coups of planted trees.
- 3.17 No current management of the conifer crop is apparent in the Study Area but it is evidently reaching maturity and felling has begun on similar-sized/aged stands beyond the site boundary.

A1.3.1 Scattered broad-leaved trees

- 3.18 Scattered broadleaved trees are mapped in two contexts: those that have been deliberately planted around the plantation edge in the north of the Study Area, and those that have naturally spread onto the area of grassland of the abandoned infield area in the south. In both cases, the 'scattered broad-leaved trees' habitat classification is adopted because the trees are relatively recent colonists and have yet to form a habitat in their own right (i.e. broad-leaved plantation or semi-natural woodland).
- 3.19 In the north of the Study Area the deliberate plantings are evident in their growth tubes and location as a linear band, along lengths of coniferous plantation margin, including within firebreaks. Birch has been planted in these situations.
- 3.20 South of Upper Beoch/Northing 10, the scattered broad-leaved trees are birches, hazels and willows that have self-sown onto abandoned agricultural land. The density of recolonisation is quite variable and thickets have developed locally. These retain an acid grassland field layer in which Yorkshire fog and common bent are becoming dominant beneath the shade of the canopy.
- 3.21 No ongoing management of either type of 'scattered broad-leaved trees' habitat is apparent but a lack of grazing pressure is evident in the density of scrub regeneration in the south of the Study Area.

A3.2 Scattered coniferous trees

- 3.22 Scattered coniferous trees have established across the blanket bog habitat from seed shed by the plantation. Spruce and Scots pine are therefore the dominant species. The trees are up to 4m tall and are present at a low density. As such, they have yet to have a marked effect upon the blanket bog vegetation and their inability to do so will be continued into the medium term, until they start to form thickets. However, this may be limited by the weight of the trees causing them to sink and 'drown' within the wet conditions of the soft peat and their spread onto some areas will be limited by this in the medium to long-term.

B1.2 Semi-improved acid grassland

- 3.23 Semi-improved acid grassland is widespread on the slopes to the south of the Study Area that are too steep to support extensive blanket bog and that were previously used as pasture, before being abandoned. The habitat is marginal in character between neutral and acid grassland with elements of both present. However, it has been mapped as semi-improved acid grassland on account of the persistent presence of frequent to occasional: heath bedstraw, mat grass, red and sheeps fescue and sorrel. Less distinctive species include: common bent, creeping buttercup, creeping thistle, *Rhytidiadelphus squarrosus*, tufted hair-grass and Yorkshire fog (which can be locally abundant and indicative of more neutral conditions). Soft rush is abundant everywhere within the semi-improved acid grassland so that its presence is only rarely indicative of marshy grassland.
- 3.24 No current management or grazing of the acid grassland is ongoing, except, perhaps, occasional light grazing by deer. However, limited evidence of their presence was located. As a result of this, coniferous and especially broad-leaved trees are spreading onto the grassland and locally

forming thickets. Despite the shade beneath these, there is a limited effect upon the underlying vegetation, other than an increase in the cover of Yorkshire fog.

B1.2/B5 Semi-improved acid grassland / marshy grassland mosaic

- 3.25 The classification has characteristics of both of the habitats and is used to indicate areas where their juxtaposition is too finely scaled or complex to accurately map.

B5 Marshy grassland

- 3.26 Scattered small areas of marshy grassland are present in the south and east, on the lowermost parts of the Study Area. The habitat is often indicated by the dominance of soft rush but at Over Hill this plant is so widespread within the semi-improved acid grassland that the detection of marshy grassland is necessarily based on an assessment of the underlying field layer and the situation (such as within depressions or along ditches).
- 3.27 As well as the dominant soft rush, within the vegetation there is also frequent to occasional: *Brachythecium rivulare*, *Calliergonella cuspidata*, creeping buttercup, cuckoo flower, meadow grasses (*Poa* spp.) and Yorkshire fog. The latter may be especially abundant in transitions to acid grassland.
- 3.28 There is no management of these areas of habitat but they would have been grazed by sheep and/or cattle in the past when their evident improvement (most notably the spread of Yorkshire fog) would have taken place.

E1.6.1 Blanket bog

- 3.29 The blanket bog habitat is extensive across the level northernmost parts of the Study Area. It is absent only from the southern slopes south of Northing 10 (approximately) where it gives way to better-drained, cultivated land that has evidently formed part of an infield. It is also apparently absent from large areas in the north of the Study Area where it has been over-planted with coniferous plantation, principally on the western and eastern edges where the slope permits effective drainage. In the centre of the Study Area, the level, plateau-like surface limits drainage and planting has taken place in small coups (of up to and around one hectare) on areas that are partially raised.
- 3.30 Given the size of the Study Area, and the range of environmental conditions conducive to the growth and/or persistence of blanket bog habitat, there is an equally wide range of variation within the vegetation. Across much of the surface there is a relatively even assemblage of cross-leaved heath, heather, sedges (including common and hare's-tail bog-cotton and deer-grass) and mosses (with *Sphagnum* widely abundant to locally frequent). Hare's-tail bog-cotton becomes dominant towards the plantation edges, especially where there is also shade, and it is largely replaced by heather in well-drained areas at the heads of the watercourses or on upstanding hags.
- 3.31 Other vascular plants that are frequent to occasional, at least locally, within the blanket bog vegetation include common bilberry and bog rosemary. (The latter is a species of Least Concern in the IUCN Red List).
- 3.32 The moss layer is generally well-developed, even and relatively species-rich (for the habitat). *Sphagnum capillifolium*, *S. papillosum* and *S. fallax* are always frequent and in places, abundant to dominant. *S. magellanicum*, *S. palustre*, *S. tenellum*, and the semi-aquatics *S. cuspidatum* and *S. denticulatum* are frequent to occasional across the bog surface; and the latter two can be locally dominant in wet depressions and pools. *Pleurozium schreberi* is dominant on the tops of hummocks; and other mosses include frequent to occasional: *Hylocomium splendens*, *Hypnum jutlandicum*, *Plagiothecium undulatum*, *Polytrichum commune*, *P. juniperinum*.
- 3.33 A distinctive form of vegetation dominated by purple moor-grass is associated with the eastern side of the site where it occurs to the north, and in the southernmost parts, of the coniferous plantation, on moderately steep slopes, that are approaching a marginal angle for the persistence of blanket bog. It retains all of the species listed above but none of them are more than locally frequent including *S. capillifolium* and *S. fallax* whose frequent appearance delimits this active blanket bog from 'wet modified bog' habitat (according to the standard definition⁴). This vegetation and the other blanket bog sub-/communities present will be distinguished and mapped during the National Vegetation Classification survey.

- 3.34 Aside from the drainage associated with, and largely internal to, the coniferous plantation, the remaining area of blanket bog is largely undisturbed. A localised area of peat hagg was located in the vicinity of Target Note 20 but this has recovered and the associated vegetation is now indistinct from that surrounding it. Some threat is posed by the scattered conifers that have established across some of the unplanted areas of blanket bog. These are up to 8m tall, but are nowhere especially dense. Their continued presence will affect the blanket bog vegetation through shading (in the direct vicinity of the trees) and by increasing rates of water loss from the bog (through evapotranspiration).

E1.8 Dry modified bog

- 3.35 The mapped area of dry modified bog habitat (unmapped areas are also present and described below) is located in the extreme north of the Study Area, on a water-shedding slope. As such, the relatively dry nature of the bog habitat here is not directly attributable to anthropogenic disturbance, such as drainage. Narrow, linear areas of dry modified bog are also associated with the upslope margins of the coniferous plantation. These linear areas are not mapped because of their narrowness (<10m) but they are described below.
- 3.36 The habitat is identified at Over Hill according to the presence of a plant assemblage that is dominated by species typical of blanket bog habitat, but in the dry conditions, primarily those of the hummocks. The scarcity of *Sphagna*, defined in the guidance as 'little or no[ne]' is particularly diagnostic.
- 3.37 Wavy hair-grass is the most distinctive species within the mapped area of dry modified bog in the north of the Study Area. Its abundance lends the vegetation a grassland-like appearance from a distance because it overtops the canopy of more typical blanket bog vegetation that includes abundant hare's-tail bog-cotton and frequent to occasional: cross-leaved heath, heather and *Plagiothecium undulatum*. Abundant *Polytrichum commune*, often in association with *Aulacomnium palustre*, occupies the wetter depressions and *Hylocomium splendens* is abundant on the tops of taller hummocks. Otherwise, *Pleurozium schreberi* is abundant to locally dominant in the moss layer and in some places, it is responsible for the formation of large hummocks (≤70cm in height).
- 3.38 Similar vegetation is associated with the dry modified bog habitat within 10m of the upslope margins of the coniferous plantation. Large *Pleurozium schreberi* hummocks are especially prominent here and they lend the vegetation distinctive, golden-orange coloration. Other species, as listed in the preceding paragraph, are occasional to frequent in their appearance although tussocks of hare's-tail bog-cotton may be locally abundant [to dominant], particularly in the transition to more typical blanket bog habitat away from the plantation edge.
- 3.39 No active management of these areas of habitat is ongoing although some lengths along the plantation margin receive light pressure from the occasional passage of an argocat. Here, the presence of the habitat is evidently a consequence of the adjacent plantation whose trees act like fountains, by removing water from the bog and releasing it to the atmosphere. In the case of the mapped area in the north of the Study Area, there is no evident indication of why the vegetation has become dry and (possibly) lost its *Sphagnum* cover. It is possible for blanket bog peat to accumulate beneath vegetation poor or lacking in *Sphagnum*. So, employment of the 'little or no' *Sphagnum* criteria in this case may identify an area *unmodified* dry bog.

G1 Standing water

- 3.40 A number of small 'ponds' were located during the survey. These are generally connected with the drainage of the more agriculturally productive parts of the Study Area and are consequently subject to marked variations in water level. Furthermore, they are generally in the latter stages of terrestrialisation and consequently shallow and rather small. As such, they are not considered to be valuable habitat in their own right (because of their ephemeral nature) although they may support small populations of common amphibians (such as frogs).
- 3.41 A number of areas with frequent to occasional bog pools are present across the blanket bog surface. In all cases, these are almost completely vegetated, with limited open water and they are consequently unlikely to support a diverse and/or productive invertebrate fauna.

G2 Rivers & streams

- 3.42 The watercourses on the plateau are little more than broad, vegetated hags with abundant purple moor-grass and soft rush in the base, and little or no evidence of a discrete water channel – most flow taking place as seepage through the vegetation. On the eastern flanks, the burns are on steep slopes and they flow by a series of cascades and riffles to the Beoch Lane which is the only water course sizable and stable enough to provide habitat for fish. However, even the slow-flowing sections of this peat-based burn lack vegetation cover and other distinctive habitat features of value to wildlife so that it is considered to be unproductive and capable of supporting only a small population of fish. Access by anadromous salmonids (such as salmon) is not considered possible because of the small size of the watercourses and/or their unsuitable, peaty substrate.

Protected and Notable Species

- 3.43 This section of the report relates the findings of the extended component of the Phase 1 habitat Survey by considering direct and indirect evidence for the definite or potential presence of protected species.

Badger

- 3.44 No signs of badger activity were located during the survey and the Study Area is not considered to be especially suitable for badgers for the following reasons:
- The limited availability and diversity of foraging resources;
 - The wet/waterlogged ground conditions that prevent sett-establishment;
 - The upland nature of the Study Area; and
 - The lack of connectivity as a result of the Study Area's location within an area that is being quarried or covered with coniferous plantation.
- 3.45 However, these preliminary observations do not preclude the potential use of the site by badgers or the potential presence of a sett.

Bats

- 3.46 The survey was not undertaken at a time of year when bats are regularly active; and no sightings were made during the two dawn and dusk periods when the surveyor was on site.
- 3.47 The environment of the Study Area does not appear to be very suitable for bats. There are no built or natural structures, for example, that would provide roosting opportunities. Only the extensive plantation edges offer some resource for bats, in the form of foraging opportunities. However, the exploitation of this resource is likely to be limited by the widespread presence of coniferous plantation and quarry workings around the Study Area, and the consequent unattractiveness of the wider area to bats.
- 3.48 However, South West Scotland is notable for its population of Leisler's bats that are particularly susceptible to turbine collision because of their foraging behaviour. As such, the potential presence of this species requires particular consideration during the planned, 2014 survey work.

Otter

- 3.49 No significant watercourses are present on the Study Area and those that are, are little more than heavily vegetated drains or hags, except in the east, where a series of small (<0.5m wide), steeply-inclined, spate burns are present, draining into the Beoch Lane. With exception to the Beoch Lane, none of these watercourses are likely to provide resources for anything more than transient use by otters. The Beoch Lane is suitable for brown trout but its size and likely productivity means that it too is unlikely to provide sufficient foraging resources or cover for more than transient use by otters which are known to be in the area, from existing public records. Their potential use of the Beoch Lane and other watercourses will be established more fully in 2014.

Red squirrel

- 3.50 No evidence of red squirrel activity was located during the survey, in the form of foraging remains or dreys. Their use of the site is likely to be limited by the limited availability and diversity of appropriate resources.

Water vole

- 3.51 The water courses are not suitable for water vole because they are either too small, indiscrete and/or lost amongst rank vegetation; or more permanent and obvious, but steep and fast-flowing. No signs of water vole activity were apparent either. Numerous signs of the related but unprotected field vole were located in the areas of semi-improved acid grassland on the east of the Study Area and less frequently, within areas of blanket bog.

4 Interpretation and Appraisal

Interpretation of Baseline

- 4.1 The habitats are a combination of those that are semi-natural and those that are, or have been managed for forestry and farming. The latter are therefore of limited interest to nature conservation because of their domination by species assemblages of limited richness and evenness; the presence of non-native species within the plantation; their lack of distinctiveness and resources; current/past management and easy reproducibility.
- 4.2 The semi-natural habitat is blanket bog that has been unproductive; and/or resilient and/or robust to management activity. This is, in part, a consequence of its location upon a level plateau that is resistant to drainage. Parts of the plateau surface have, however, been planted with conifer plantation, as well as its flanks, down which the blanket bog also extends. Despite this, the remaining bog surface retains a high degree of integrity evidenced in the frequent appearance of extensive lawns of *Sphagnum* and frequent bog pools. It is also notable for the frequent appearance of bog rosemary (included in the IUCN Red List as a Species of Least Concern i.e. it is not considered to be 'threatened').
- 4.3 In the active form present at Over Hill (i.e. *Sphagnum*-rich and capable of accumulating peat) the blanket bog qualifies as a Priority Habitat within Annex I of the Habitats Directive. This habitat appears to be widespread in the local area although much of it is planted over with coniferous plantation, but there are a number of Special Areas of Conservation in the wider East Ayrshire area that have been designated for the presence of blanket bog (amongst other features). No other Annex I habitats are present.
- 4.4 None of the local (<10km) Sites of Special Scientific Interest are designated for blanket bog habitat.
- 4.5 At the county level, the following habitats that are present at Over Hill were included in the Ayrshire Biodiversity Action Plan⁷:
- Rivers and streams; and
 - Conifer plantations.
- 4.6 Rivers and streams at Over Hill tend to be small, species-poor and often no more than broad, heavily vegetated hags without an evident watercourse. As such, they are indistinctive. The conifer plantation is also indistinctive and dominated by a few close-planted species that are collectively proving detrimental to the blanket bog habitat over which they have been planted; as well as neighbouring areas, through increased rates of evapotranspiration and the spread of trees onto 'naturally' open bog habitat.

Species

- 4.7 The Study Area is considered to be of limited value for protected animal species. This is because of the limited number of species and individuals that the limited resources available across much of the Study Area are able to support. Habitat conditions are considered to be suitable only for foraging bats and otters, and possibly badgers.

⁷ Ayrshire Joint Planning Steering group Ayrshire Biodiversity Action Plan 2007–2010. The Conservation and Enhancement of Ayrshire's Biodiversity. Available for download from: http://www.ayrshire-jsu.gov.uk/biodiversity_action_plan.html.

Appraisal and Valuation

Habitats and Vegetation

Geographical value

- 4.8 The historical and ongoing management of the Study Area for farming and forestry respectively have resulted in considerable modification and simplification of the original habitats. This results in the evaluation of those directly affected or created by management at a Local ($\leq 5\text{km}$ from the site) or Study Area level. The remaining semi-natural habitat, the blanket bog, is valued at the County level because of the presence of a relatively extensive, viable area of habitat with a variety of structural and vegetation features.

Table 4.1: Geographical valuation of the habitats at Over Hill and the reasoning for their value.

Habitat	Geog. Value	Reasoning
A1.1.1 Semi-natural broad-leaved woodland	Local	- Recently established habitat of low species richness, evenness, distinctiveness and structure. - A rare habitat in the local area with some value as a resource for cover and as a seed source.
A1.1.2 Broad-leaved plantation	Study Area	- Recently established habitat of low species richness, evenness, distinctiveness and structure. - A rare habitat in the local area with some value as a resource for cover. In its situations adjacent to the blanket bog its functions as a seed source when the trees mature may lead to the undesirable spread of trees.
A1.2.2 Coniferous plantation	Study Area	- Common and widespread, easily-reproducible, anthropogenic habitat. - Dominated by monocultures of non-native species with limited value to wildlife.
A1.3.1 Scattered broad-leaved trees	Local	- Recently established habitat of low species richness, evenness, distinctiveness and structure. - A rare habitat in the local area with some value as a resource for cover and as a seed source (if it is acceptable for the acid grassland to be lost to a woodland cover).
A3.2 Scattered coniferous trees	Study Area	- Established across the blanket bog, the scattered coniferous trees have a negative influence on the former's integrity. - In their own right they offer potential for nesting and as vantage points for birds, although in the latter case, they can encourage species such as crows that may predate on ground-nesting species distinctive to the blanket bog habitat.
B1.2 Semi-improved acid grassland	Local	- Common and widespread habitat composed of common and widespread species. - Affected by historical management including drainage and grazing. - In the process of becoming dominated by soft rush and replaced by scrub/woodland.
B1.2/B5 Mosaic	Local	As for individual habitats.
B5 Marshy grassland	Local	Small, generally linear areas of a common and widespread habitat composed of a few common and widespread species.
E1.6.1 Blanket bog	County	- Extensive, viable area of Priority Habitat. - Connected to adjacent areas of blanket bog although most of the local area ($< 5\text{km}$) is under coniferous plantation.

Habitat	Geog. Value	Reasoning
		- Distinctive range of microforms, vegetation and plant species present. - Relatively undisturbed where it has not been overplanted with trees.
E1.8 Dry modified bog	Local	- Small part of a more distinctive area of blanket bog habitat. - Retains a distinctive assemblage of species although the microforms and general character of the vegetation are atypical.
E2.1 Acid/neutral flush	Study Area	- Small, linear areas of species-poor and uneven vegetation. - Indistinctive and widespread.

Groundwater Dependent Terrestrial Ecosystems

- 4.9 The marshy grassland and acid flush habitats are groundwater dependent and their vegetation respectively accords with the National Vegetation Classification's M23 and M6 mire communities that are classified in the relevant guidance⁸ as Groundwater Dependent Terrestrial Ecosystems. Their identity and groundwater dependency will be more fully determined by the National vegetation Classification survey.

Species

- 4.10 The Study Area is not considered to be of more than Local value for any of the species considered in Table 4.2 because of the absence of resources that would allow any of them to persist wholly within its boundary. As such, the resources available on the Study Area are only likely to form part of a wider resource base that is itself limited by the widespread presence of coniferous plantation. This is apparent in the distribution of species records, from the larger river valleys on the margins of the upland area in which the Study Area is situated (at a distance of over 4.0km, for species other than otter).

Table 4.2: Geographical valuation of the species at Over Hill and the reasoning for their value.

Habitat	Geog. Value	Reasoning
Badger	Study Area	- Limited area of ground suitable for sett excavation or foraging. - Limited connectivity between populations. - No signs of badger on the Study Area nor records within 5km (at least).
Bats – all species	Local	- Low to moderate risk due to concentration of turbines at interface of forestry and blanket bog habitat. - No suitable roosts available on the Study Area. - Limited foraging opportunities along the plantation edges.
Otter	Study Area	- No signs located. - Foraging opportunities are limited to the Beoch Lane on the eastern boundary and the few shallow, small ponds. - Other resources are limited in variety and availability.
Water vole	Study Area	No preliminary evidence or suitable habitat on Study Area.

⁸ Land Use Planning System 2012 SEPA Guidance Note 4: Planning guidance on windfarm developments. Available for download from <http://www.sepa.org.uk/planning.aspx>. Accessed 23/12/2013.

5 Recommendations and Conclusions

Additional Surveys

5.1 Additional surveys are considered to be required for the following features:

- semi-natural, Annex I blanket bog habitat;
- Groundwater Dependent Terrestrial Ecosystems;
- Protected Species including
 - Badgers;
 - Bats;
 - Otters;
 - Red squirrels (habitat assessment only); and
 - Water vole.

5.2 A National Vegetation Classification survey of the Annex I blanket bog habitat and Groundwater Dependent Terrestrial Ecosystems is required to identify more precisely the nature of the vegetation present. This will permit a more detailed and accurate assessment of the relevant habitat and/or ecosystem characteristics (in relation to their respective, conservation status or groundwater dependency).

5.3 The surveys of the protected species are required to demonstrate more unequivocally their very probably, limited usage of the Study Area. This is inferred from the low diversity and availability of requisite resources but requires to be confirmed by more direct means.

Mitigation and Compensation

Habitats and Vegetation

5.4 The low value of the habitats in the south of the Study Area, where existing access routes are located, and the location of turbines in the north of the Study Area means that mitigation will be required primarily for the blanket bog habitat. The low ecological value of the associated coniferous plantation means that ecological mitigation will not be required for this habitat but replanting may be required for forestry-management reasons.

5.5 The main effects on the blanket bog habitat from potential impacts associated with the development of the wind farm include:

- Direct habitat loss;
- The potential for indirect habitat loss or change through drainage and other forms of disturbance;
- Loss of connectivity.

5.6 Connectivity is only likely to be slightly effected, if at all; and indirect habitat losses may be mitigated through careful design and management of the development, in all of its stages, as well as adoption of environmental best practice and/or guidance (as developed by the Scottish

Environment Protection Agency⁹ and Scottish Natural Heritage¹⁰. The direct habitat loss associated with the development may be mitigated by this means too and through minimisation of the wind farm footprint. The minimisation of peat excavation should also be considered such disturbance of the underlying, peat may influence other characteristics of the habitat.

- 5.7 Compensation for the loss of blanket bog may be offered through the removal and ongoing control of the spread of self-sown, coniferous trees. The restoration of areas of bog that are currently under coniferous plantation is also an option. This would be relatively straightforward on the plateau area because of the absence of significant drains. This area would also be expected to regenerate vigorously and to be relatively resistant to recolonisation by trees because of its wetness. The marginal slopes, especially in the east, would require consideration of drainage, as well as the removal of trees, and may prove more difficult to rehabilitate in the medium to long-term because of the presence of the existing drains and planting furrows that will facilitate the return of trees.

Protected Species

- 5.8 Limited, specific mitigation for protected species is considered to be required, at this stage.

Enhancement Opportunities

- 5.9 Habitat enhancement options in the area include:
- The restoration of blanket bog habitat that is currently under coniferous plantation.
 - The assistance of scrub/woodland regeneration on the abandoned farm unit including management to maintain open areas.
 - The establishment of resource-rich, broad-leaved woodland on areas of semi-improve acid grassland within the plantation on the east of the Study Area.
- 5.10 Opportunities are generally limited by the low number of habitats that are present (most of the Study Area is blanket bog, much of it over-planted with conifers) and the low value of those affected by past or ongoing farming or forestry management (particularly the acid grassland pasture that is now either over-planted with conifers or succumbing to the spread of broad-leaved scrub).

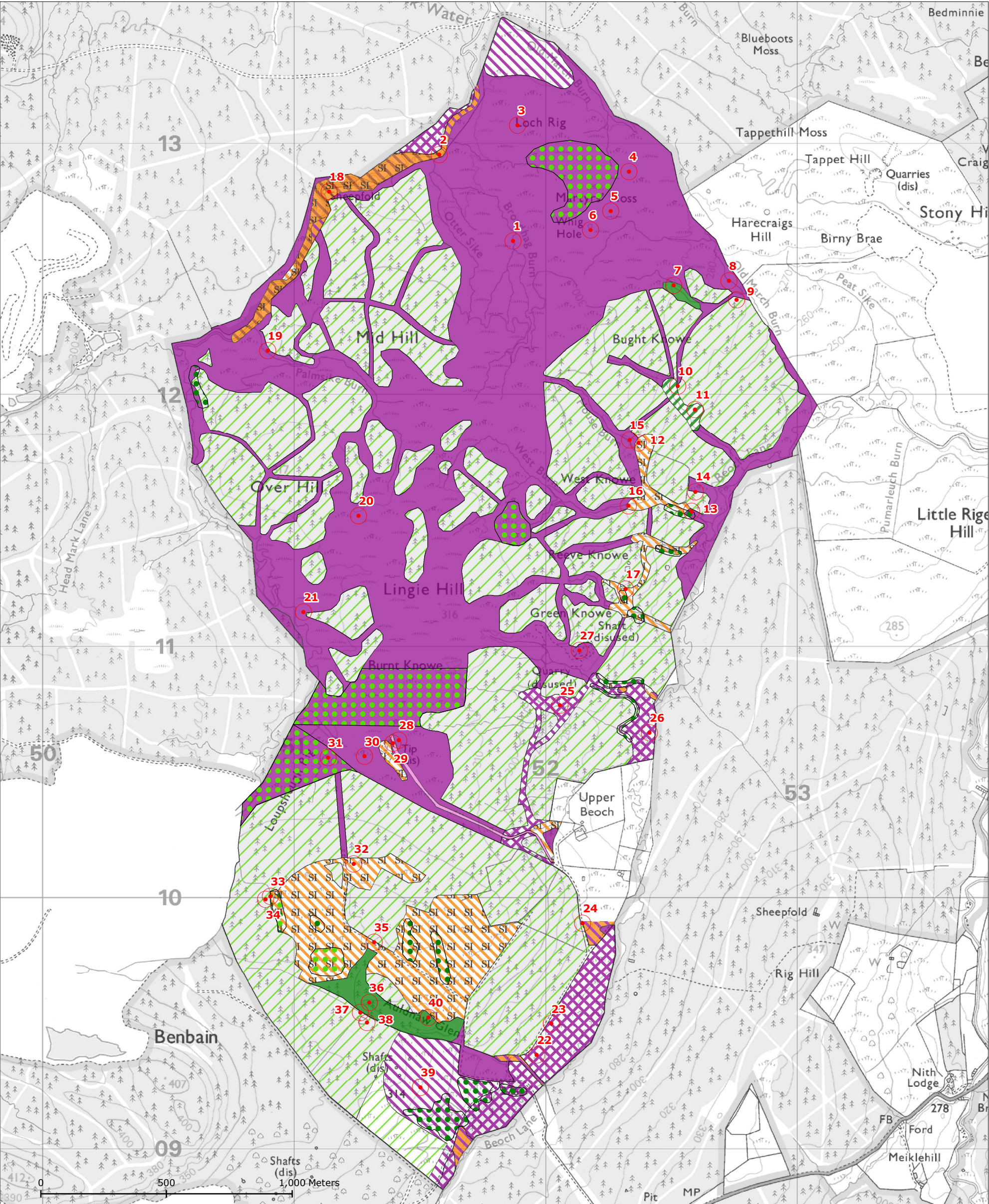
Conclusions

- 5.11 The north of the Study Area (north of Northing 10) is blanket bog, much of which has been planted with coniferous plantation; and to the south, the habitats are derived from an area of abandoned pasture and they include: semi-improved acid grassland, coniferous plantation, scattered scrub/trees and more mature, recently established broad-leaved woodland.
- 5.12 The blanket bog habitat is valued at the County level and the remaining habitats of are less value, at the level of Study Area to local.
- 5.13 Mitigation and compensation options are limited by the range and extent of the habitats that are present but a number of options are proposed to mitigate effects on blanket bog; and to enhance this habitat and those of the abandoned pasture. These focus on the implementation of standard best practice and the removal of coniferous planation to the benefit of blanket bog habitat.

⁹ Various guidance documents are available from <http://www.sepa.org.uk/planning.aspx>. Accessed 23/12/2013.

¹⁰ Good practice during windfarm construction. Available for download from <http://www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/good-practice-during-windfarm-const/>. Accessed 23/12/2013.

Appendix 1
Figures



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Phase 1 habitat classification

- A1.1.1: Broadleaved woodland - semi-natural
- A1.1.2: Broadleaved woodland - plantation
- A1.2.2: Coniferous woodland - plantation
- A3.1: Broadleaved scattered trees
- A3.2: Coniferous scattered trees
- A3.1 / A3.2: Broadleaved / coniferous scattered trees mosaic

- B1.2: Acid grassland - semi-improved
- B1.2 / B5: Acid grassland - semi-improved and marshy grassland mosaic
- B5: Marshy grassland
- E1.6.1: Blanket sphagnum bog
- E1.7: Wet modified bog
- E1.8: Dry modified bog
- E2.1: Acid / neutral flush
- Target note

Map Scale @ A3: 1:15,000

Over Hill Ecology

Phase 1 Habitats - 2013 Survey

Figure 1

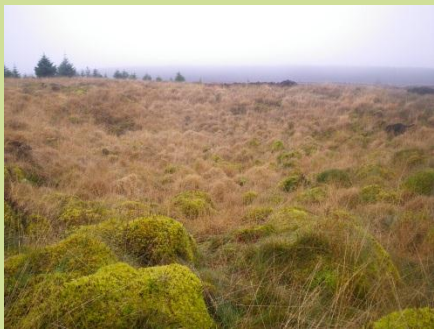


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EnergieKontor

Appendix 2
Target Notes

Target No. & Grid Ref	Description	Photograph
1 51871 12611	The dendritic watercourse network in the vicinity of the target note is a series of 'broad hags' (as is the name of the watercourse – 'Broadhag Burn') whose bases are dominated by purple moor-grass with frequent soft rush in the wettest areas. There is little open water apparent and no well-defined channel in the uppermost reaches at least.	
2 51578 12954	This spate burn was in spate at the time of survey and this limited detailed examination of its bed and flora. It flows via a series of pools and riffles in a steep-sided channel with no distinctive riparian zone.	
3 51889 13071	Numerous spruce trees up to 4m tall are spreading onto the bog surface within and to the east of the Study Area boundary.	
4 52332 12887	A series of linear hags lead from the vicinity of the target note to the March Burn. There is little open water and no distinct channel within the base of the hags that are dominated by tussocks of purple moor-grass.	
5 52259 12731	Very wet area of mire with numerous bog pools. <i>Sphagnum cuspidatum</i> is dominant to abundant in the centre of the pools, with frequent to occasional cross-leaved heath, hare's-tail bog-cotton, <i>Polytrichum juniperinum</i>, <i>S. capillifolium</i> and <i>S. papillosum</i> in the margins.	

Target No. & Grid Ref	Description	Photograph
6 52179 12655	Whig Hole. A depression c. 25m across that presumably derives from mining activity. No evidence of deep peat despite the position within the bog so it may be an area where the bedrock/substrate comes to the surface in a small 'island', or has been lined. The internal slopes are dominated by swollen masses of the moss <i>Pleurozium schreberi</i> and an open sward of wavy hair-grass. Purple moor-grass is dominant in the wetter base.	
7 52510 12435	The burn is lost amongst abundant soft rush and mounds of the moss <i>Polytrichum commune</i> in a narrow (5m) band.	
8 52729 12453	The watercourse is lost amongst dominant soft rush in a 2m deep, steep-sided, hagg-like channel 8m to 10m wide.	
9 52760 12378	Scattered, possibly self-sown birches are present along the edge of the plantation.	
10 52526 12034	Birches have been planted here, over an area of c. 2ha. The field layer is acid grassland that is dominated by common bent and wavy hair-grass.	

Target No. & Grid Ref	Description	Photograph
11 52595 11941	Drystane dyke sheep fold. Crustose and thallose lichens are dominant with occasional <i>Hypnum lacunosum</i> and <i>Racomitrium affine</i> .	
12 52370 11809	Drystane dyke sheep fold. Same flora as described for Target Note 12.	
13 52581 11535	Numerous field vole burrows are present within the areas of acid grassland.	
14 52596 11614	Spate burn 2m wide and in a 1m deep, box-section channel. It flows via a series of riffles and pools through peat.	
15 52334 11819	The burn is c. 30cm wide and it flows via a series of cascades and pools over a bed of sand, gravel and peat with occasional cobbles.	

Target No. & Grid Ref	Description	Photograph
16 52329 11557	Narrow (<20cm wide) burn constrained in a large V-shaped channel, 5m deep and up to 15m wide, that is being undercut.	
17 52318 11226	Drystane dyke sheep fold. The humid conditions I the base of a shallow valley, next to a burn results in a dense covering of thallose lichens and mosses including: <i>Dicranum scoparium</i> , <i>Polytrichum piliferum</i> , <i>Racomitrium affine</i> and <i>R. heterostichum</i> .	
18 51140 12808	Drystane dyke sheep fold with a partial turf cap. Crustose lichens are domain with frequent to occasional mosses and liverworts including: <i>Diplophyllum albicans</i> , <i>Lophozia ventricosa</i> and <i>Racomitrium lanuginosum</i> .	
19 50895 12176	The burn is within a narrow (20cm wide) channel flanked by blanket bog and a narrow, discontinuous band of soft rush.	
20 51256 11518	An area of historical hagg that has regenerated its vegetation cover. Some burning also appears to have taken place in the area. The depressions support small bog pools dominated by <i>Sphagnum cuspidatum</i> .	

Target No. & Grid Ref	Description	Photograph
21 51038 11135	Recent felling of the coniferous plantation within the coup leaving much brash and chippings.	
22 51965 09373	Plantings of birch extend all the way long the plantation edge and there are occasional, self-sown spruce.	
23 52023 09498	Small area of swamp c. 10m x 15m fed by an iron-stained watercourse/flush. Reed mace is dominant with frequent sharp-flowered rush and soft rush.	
24 52148 09898	Small (c. 6m x 8m) pond. Common water-starwort in the open water and marginal creeping bent. Fed by a drain/modified watercourse and evidently in the process of terrestrialising. The base is composed of fine, suspended organic sediment. Whirligig beetles and water boatmen were active at the time of survey.	
25 52057 10763	Burn flowing through a steep-sided, gorge via a series of cascades and pools. Flanked by acid and marshy grassland. The base is composed of clay, sand, gravel and occasional cobbles. There are also numerous vole signs (presumed to be field vole).	

Target No. & Grid Ref	Description	Photograph
26 52413 10656	Spate burn flowing via series of riffles and pools over a bed of cobbles, gravel and occasionally, sand. The moss <i>Fontinalis antipyretica</i> occurs on the few stable, fixed boulders.	
27 52135 10982	Abandoned quarry pit. Now clothed with acid grassland. Common bent and wavy hair-grass are abundant as are mounds of <i>Hylocomium splendens</i> and <i>Pleurozium schreberi</i>.	
28 51416 10626	Linear, acid flush that is presumed to be a neglected ditch because of its linearity. Soft rush and <i>Sphagnum fallax</i> are abundant to dominant. <i>Polytrichum commune</i>, purple moor-grass, velvet bent are frequent.	
29 51394 10613	Small pond (c. 5m diameter). Fringed with soft rush and a quaking mat of <i>Sphagnum fallax</i>, <i>S. palustre</i> and hare's-tail bog-cotton. The open water is vegetated with bog pondweed and algal mats. No invertebrate activity was observed at the time of survey.	
30 51281 10561	A network of narrow, acid flushes/soakways (vegetation as described for Target Note 28) drain from here towards the watercourse on the western boundary.	

Target No. & Grid Ref	Description	Photograph
31 51135 10556	Broad open hagg/watercourse with acid flush vegetation (as described for Target Note 28) in the base.	
32 51237 10134	In this part of the Study Area, the grassland tends towards neutral. Soft rush is dominant with abundant Yorkshire fog and <i>Rhytidiadelphus squarrosus</i> . Common chickweed, ragwort and tufted hair-grass are frequent to occasional in the species-poor and uneven 'grassland' vegetation that locally, can be little more than an open sward of soft rush above a sward of <i>Rhytidiadelphus squarrosus</i> .	
33 50906 10004	Partially revegetated drain with purple moor-grass, soft rush and the moss <i>Calliergonella cuspidata</i> abundant in the base. Open water is therefore rare and the flow sluggish.	
34 50887 09992	An area of dense, impenetrable willow scrub within the plantation. The field layer is suppressed by the dense canopy above. Soft rush is occasional within a sward of abundant <i>Hylocomium splendens</i> . Broad buckler fern, <i>Polytrichum formosum</i> and purple moor-grass are occasional.	
35 51318 09823	Turbid area of track run-off storage that is evidently ephemeral in its water content because other than rare flöte grass, there is no other vegetation.	

Target No. & Grid Ref	Description	Photograph
36 51299 09582	A mix of birch, hazel and willow establishing over the grassland habitat. As the canopy closes, Yorkshire fog becomes dominant; and common bent, creeping thistle, soft rush and become frequent.	
37 51264 09543	The drains are heavily re-vegetated but remain active. Articulated rush and soft rush, tufted hair-grass and the moss <i>Calliergon cuspidatum</i> are abundant to frequent; and cuckoo flower and marsh bedstraw are occasional. The water flow is sluggish as a consequence of the vegetation.	
38 51290 09503	Shallow pond in the latter stages of terrestrialisation. Common water-starwort is the only aquatic within the dense fringe of emergent, articulated rush, common spike-rush and water horse-tail. <i>Calliergon giganteum</i> forms a dense sward beneath these vascular species.	
39 51503 09245	Numerous hazel and birches have established over the acid grassland in this area. Their recent establishment means that the field layer grassland remains little-altered from its original form, other than a slight increase in the abundance of Yorkshire fog.	
40 51534 09523	Hazel woodland with occasional to rare birch and willow. It is evidently of recent origin but the trees are mature. The underlying field layer is derived from the acid grassland and has been somewhat improved by the presence of the trees so that it is more neutral in character. Creeping buttercup, soft rush, tufted hair-grass and Yorkshire fog are abundant with frequent to occasional creeping thistle and rough meadow grass.	

Appendix 3
Appraisal criteria

Value	Site designations or habitats and species assessment criteria		
	Sites	Habitat	Species
International	- Designated, candidate or proposed SACs, SPAs and Ramsar sites; - Biosphere Reserves; - Biogenetic Reserves; - European Diploma Sites (Category A or C); or (Ecological) World Heritage Sites.	- Any viable area of habitat included in Annex I of the EC Habitats Directive; - Any habitat area that is critical for a part of the life cycle of an internationally important species that is Critically Endangered to Vulnerable in the UK.	- European Protected Species; - Any regularly occurring, nationally significant population of an internationally Vulnerable to Critically Endangered Red Data Book species. - IUCN Data Deficient or Uncategorized species of global conservation concern.
National / UK	- SSSIs; - National Nature Reserves; and - Limestone Pavement Orders.	- A viable area of priority habitat listed in the UKBAP; - An area of habitat fulfilling the criteria for designation as an ASSI/SSSI. - Any habitat area that is critical for a part of the life cycle of a species that is Critically Endangered to Vulnerable in the UK.	- Any regularly occurring, Red Data Book species that is/are Vulnerable to Critically Endangered in the UK. - Any assemblage of regularly occurring species that is/are Rare in the UK (<15 10 km grid squares)¹¹; or that are included in the UK or NI BAP; or that are classed as Data Deficient or Uncategorized in/by the Red Data Books/IUCN. - Any Schedule 1 (birds) Schedule 5 (animal) and Schedule 8 (plant) species included in the Wildlife and Countryside Act 1981. - Badgers (the Protection of Badgers Act, 1992).
Regional	- Regional Parks - Areas of Great Landscape Value	- A viable area of priority habitat listed in the Regional BAP; - Habitats with a significance greater than the county level but not sufficient for SSSI designation.	- Any regularly occurring species that is/are Nationally Scarce' (present in 16-100 10km grid squares); - A significant assemblage of regionally scarce species.
County	The designations should be valued at the level of the criteria or the governing body that declared them (e.g. County, District or Local Council).	- County BAP habitats noted as requiring protection; - Semi-natural, ancient woodland >0.25ha in extent; - A viable area of habitat included within the County BAP.	- Any regularly occurring, locally significant population which is included within the County BAP; - A significant assemblage of species that are scarce at the county level.
District		- Semi-natural, ancient woodland <0.25ha in extent; - Areas of viable habitat identified in the District LBAP (if available); - Diverse or ecologically valuable hedgerow network.	Any regularly occurring, locally significant population which is included within the County BAP or which occurs in 70-176 10km grid squares;
Local		- Habitats that are unique in or of some other significance in the local area; - Areas of habitat that contribute to the local ecological resource (e.g. species-rich hedgerows, verges, ponds, woodlands etc.).	A locally significant assemblage of species.
Low		No designations.	Common, often anthropogenic habitats.
			Common, frequently ruderal or alien species.

¹¹ The presence of one such species may make the site nationally important for that species but not nationally important in itself.