

Hurlie 400kV Substation Environmental Impact Assessment (EIA) Volume 4 | Appendix 10.2

Habitats and Vegetation Survey Report

November 2024



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LIST OF ABBREVIATIONS

EIA: Environmental Impact Assessment

EclA: Ecological Impact Assessment

ESA: Ecological Survey Area

GIS: Geographical Information System

DAFOR: D = Dominant (51-100%), A = Abundant (31-50%), F = Frequent (16-30%), O = Occasional (6-15%) and R = Rare (1-5%)

UK Hab: UK Habitat Classification

LBAP: Local Biodiversity Action Plan

NVC: National Vegetation Classification

GWDTE: Ground Water Dependent Terrestrial Ecosystem

SEPA: Scottish Environment Protection Agency

1. INTRODUCTION

1.1 The Proposals

1.1.1 This appendix presents the methods and results of the habitats surveys undertaken to inform the Ecological Impact Assessment (EclA) of the Hurlie 400 kV Substation, hereafter referred to as the Proposed Development. It should be read in conjunction with **Chapter 10: Ecology and Biodiversity** and **Chapter 3: Description of the Proposed Development (Volume 2)** of the **EIA Report** for full details of the Proposed Development.

1.1.2 This appendix supports the EclA in addition to **Appendix 10.1 Desk Study and Legal Context** and **Appendix 10.3 Protected Species Survey Report**.

1.1.3 This appendix is supported by the following figures in **EIA Report Volume 3**:

- Figure 10.1.1: The Proposed Development and Survey Area;
- Figure 10.1.2: Designated Sites within 10 km and 5 km of the Proposed Development;
- Figure 10.2.1: Habitat Survey Results; and
- Figure 10.2.2: National Vegetation Classification Survey Results.

1.1.4 In addition, images from the surveys are provided in **Annex 9.2.1: Photographs**.

1.2 Requirement for the Report

1.2.1 LUC was commissioned by the Applicant to undertake habitat surveys to aid the design process and to inform an assessment of the nature and condition of the habitats present.

1.3 Terminology and Survey Area

1.3.1 The following terminology will be used throughout this report:

- Site: All land within the planning application (red line) boundary (Figure 1.1: Site Location);
- Proposed Development: The infrastructure including the platform, bays, control buildings, access tracks, drainage and landscape features and temporary construction compounds (see Section 3.3 in **Chapter 3: Description of the Proposed Development**);
- Access Track: The existing track from Slug Road to the north and from Hill of Quithel to the southwest; and
- Ecology Survey Area (ESA): The area within the red-line boundary, plus relevant buffers (up to 250 m around the Proposed Development, and up to 50 m from the Access Track) where access was granted in which all ecology surveys were undertaken in line with good practice guidelines for all ecological features surveyed (see **Figure 10.1.1: The Proposed Development and Ecology Survey Area**).

2. METHODS

2.1 Scope

Desk Study

- 2.1.1 A desk study was undertaken to obtain historical ecological information relating to the Site and the surrounding habitats to identify any known sensitive habitats. An account of the method adopted, and findings, is provided in **Appendix 10.1 Desk Study and Legal Context** which also sets out the legislative provisions afforded to protected habitats.

Habitats

- 2.1.2 A habitat survey was conducted within the ESA as described below.

2.2 Field Survey

Overview

- 2.2.1 Surveyors classified habitats present within the ESA according to the UK Hab classification system¹ in August 2023 and April 2024. Invasive non-native species of plants were recorded where found. The methods are outlined below.
- 2.2.2 Surveys were completed during accepted survey seasons by experienced field ecologists, in appropriate weather conditions.
- 2.2.3 All survey data was collected on GIS-enabled field tablets to increase accuracy and facilitate robust interpretation. Where field evidence was recorded, photographs were taken. Photographs can be found within **Annex 10.2.1: Photographs** of this appendix.

UK Habitat Classification System

- 2.2.4 The habitat survey was undertaken, following standard methods¹, of all habitats within the ESA, by experienced ecologists. During the survey, field surveyors walked across all parts of the ESA to map the habitat types and their boundaries, noting sufficient species identification to accurately classify habitat types within each mapped area using the DAFOR² scale, and photographing habitats to aid habitat classification. Photographs are provided in **Annex 10.2.1: Photographs** of this appendix.
- 2.2.5 The UK Habitat classification system provides a means to classify all habitat types using a primary habitat code with five hierarchical levels of increasing detail. The survey results in a primary habitat code of up to four alternating letters and numbers. One primary habitat code is used for each mapped area, with up to six secondary habitat codes added where there is a requirement to capture additional information.
- 2.2.6 A habitat condition assessment was also made of each habitat type using the relevant Habitat Condition Sheets published by Natural England³.

¹ UK Hab (2020) UK Habitat Classification Version 1.1. Available online: <https://ukhab.org/>

² DAFOR scale: D = Dominant (51-100%), A = Abundant (31-50%), F = Frequent (16-30%), O = Occasional (6-15%) and R = Rare (1-5%)

³ Natural England (2022) Biodiversity Metric 3.1 Auditing and accounting for biodiversity, Technical Supplement. Annex 1: Condition Sheets. Available online: [file:///C:/Users/hutchison_/Downloads/Biodiversity%20Metric%203.1%20-%20Technical%20Supplement%20\(18.05.22\).pdf](file:///C:/Users/hutchison_/Downloads/Biodiversity%20Metric%203.1%20-%20Technical%20Supplement%20(18.05.22).pdf)

2.2.7 This habitat classification system was used across the ESA and used to identify the presence or absence of habitats of conservation concern, i.e. Annex 1 habitats⁴, habitats listed on the Scottish Biodiversity List (SBL)⁵ or Local Biodiversity Action Plan (LBAP)⁶ and potential Groundwater Dependent Terrestrial Ecosystems (GWDTEs)⁷.

National Vegetation Classification (NVC)

2.2.8 The Domin scale of cover/abundance was used following best practice guidelines⁸. Data collected in the field was assessed and NVC communities and sub-communities were assigned where appropriate to each habitat. NVC ratios were collected to record the abundance of each NVC community within the land parcels. All habitats identified in the field as being of conservation concern during the UK Hab survey were subject to NVC survey.

Ground Water Dependent Terrestrial Ecosystems (GWDTEs)

2.2.9 GWDTEs are defined by SEPA⁹ and are considered important indicators of sensitive groundwater movement. Potential GWDTEs are identified by their NVC code, which also determines, to an extent, their likely dependence on groundwater.

2.2.10 Where potential GWDTEs were identified and were not obviously surface or rainwater fed (e.g. marshy grassland on watershed slopes and ombrogenous bog systems) they were subject to detailed botanical analysis using NVC methods. **Table 2.1** below sets out a decision tool that was used to establish the level of dependency of each community.

2.2.11 True GWDTEs are then determined as part of a hydrological assessment, as defined in **Chapter 12: Hydrology, Hydrogeology, Geology and Soils**.

Table 2.1: GWDTE Decision Tool

Criteria	Yes	No
A. Is the GWDTE vegetation evidently influenced by groundwater (i.e base-enriched (M10, M11, M37 and/or M38) and/or discharging from an evident point source such as a spring head (M31, M32, M33)):		
If the answer to A is 'Yes' then field assessment ends at this stage and the GWDTE is treated as 'high', as per the guidance. If 'No', continue to B.		
B. Is the GWDTE polygon associated with an evident surface water feature? i.e. is the vegetation located within one of the following topographic locations:		
Watershed/ridge		
Watercourse		
Floodplain		
Ponding location, pond, loch, etc. (localised depression)		
Surface water conveyance (drain, gully, rill, etc.)		

⁴ As defined by the Habitats Directive (Council Directive 92/43/EEC), adopted in 1992. Available online: https://environment.ec.europa.eu/topics/nature-and-biodiversity/habitats-directive_en

⁵ NatureScot (2022) Scottish Biodiversity List. Available online: <https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy-and-cop15/scottish-biodiversity-list>

⁶ NESBReC (2019) Important Habitats for Biodiversity – our Local Biodiversity Action Plan. Available online: <https://www.nesbiodiversity.org.uk/biodiversity-information-for-developers/important-habitats-for-biodiversity-in-the-north-east-of-scotland/>

⁷ SEPA (2017) Land Use Planning System SEPA Guidance Note 31. Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems. Available:

⁸ Rodwell, J. S (2006) NVC User's Handbook, Peterborough. JNCC. Available online: <https://data.jncc.gov.uk/data/a407ebfc-2859-49cf-9710-1bde9c8e28c7/JNCC-NVC-UsersHandbook-2006.pdf>

⁹ SEPA (2017) Land Use Planning System SEPA Guidance Note 31: Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems. Available online: <https://www.sepa.org.uk/media/144266/lups-gu31-guidance-on-assessing-the-impacts-of-development-proposals-on-groundwater-abstractions.pdf>

Criteria	Yes	No
If the answer to B is 'Yes' then the GWDTE polygon is no more than 'moderate' and very likely to be 'low'. Additional floristic and environmental data should be collected, including photographs to allow for further, desk-based determination of the groundwater dependency. If 'No', continue to C.		
C. Is the GWDTE polygon associated with an ombrogenous system? i.e. with blanket bog or wet heath habitat. This is especially relevant to M6 and M25:		
Presence/persistence of distinctive bog habitat, species and/or associations.		
Deep peat not confined to depressions/valleys (>0.5 m visible in drains or hagged areas).		
If the answer to C is 'Yes' then the GWDTE is no more than 'moderate' and very likely to be 'low'. Additional floristic and environmental data should be collected, including photographs to allow for further, desk-based determination of the groundwater dependency.		

2.3 Constraints and Limitations

- 2.3.1 The UK Hab classification was used at the request of SSEN Transmission. This is a relatively new classification system that is being increasingly used across England; its use in Scotland is nascent and the method is understood to be less well-aligned with Scottish nature conservation policy nomenclature. Resources such as conversion tables are available for surveyors, and the survey team undertook UK Hab training prior to conducting surveys. Where potential habitats of conservation concern were encountered, the more detailed NVC system was used. As such, the use of the UK Hab system is not considered to be a substantial limitation.
- 2.3.2 Surveys in August 2023 and April 2024 were completed during the optimal survey season for habitat and vegetation studies. Weather conditions were optimal, with sunny and dry conditions. Therefore, the data gathered is considered robust for the purposes of informing the EIA Report.
- 2.3.3 The timeframe in which a survey is undertaken provides a snapshot of the vegetation assemblages present within the survey area. While surveys provide an overview of the habitats and species present, they cannot be used to determine long-term trends in habitat extents or species populations. Ecological surveys are limited by factors which affect the presence of floral species, such as season and recent weather conditions. Evidence of species is not always discovered during the survey. This does not mean that a species is absent.
- 2.3.4 Where vegetation communities were not taken to NVC sub-community level, this is not considered to constrain the assessment because habitats of conservation concern can be identified based on the NVC community and are unchanged by additional information on sub-communities.
- 2.3.5 On balance, the limitations detailed above are not considered to be a constraint to the conclusions of this report.

3. BASELINE CONDITIONS

3.1 Desk Study

Desk Study

- 3.1.1 A desk study was undertaken to inform habitat and vegetation surveys. An account of the method adopted, and findings, is provided in **Appendix 10.1: Desk Study and Legal Context** which also sets out the legislative provisions afforded to habitats, notably habitats of conservation concern. A summary of the desk study findings is provided below.
- 3.1.2 No statutory international, European or nationally designated sites were identified within the Site.
- 3.1.3 The closest statutory site is the River Dee SAC, which is located approximately 5.5 km northwest of the Site. It is designated for Atlantic salmon, otter and freshwater pearl mussel.
- 3.1.4 There are three LNCS within 5 km of the Site, the closest of which is Mergie LNCS approximately 0.4 km north of the Site. The LNCS is designated for neutral and acid grassland, broadleaved and coniferous woodland, wet heath, scrub, bracken, bog, pond, rivers and rush pasture alongside the Cowie Water, and locally important species such as lesser twayblade and bog myrtle.
- 3.1.5 A limited extent of woodland listed on the non-statutory Ancient Woodland Inventory¹⁰ is located within the Site, adjacent to the existing forestry track; Wood of Mergie, near Tillybreak, is listed as Long-Established Plantation Origin (LEPO) and comprises categories 1b and 2b¹¹.
- 3.1.6 There are a further 64 woodlands listed on the AWI within 5 km, including ten listed as Ancient Woodland (of semi-natural origin; categories 1a and 2a¹¹), one listed as Other (on the Roy map; category 3¹¹), and the remainder listed as LEPO.

3.2 Field Study

Site Description

- 3.2.1 The Site is dominated by coniferous plantation forestry which is under commercial forestry management (refer to **Chapter 7: Forestry** for further detail), and therefore of a variety of age structures are present, as well as small areas of upland heathland where the trees have been felled without replanting. Watercourses within the Site include the Cowie Water and several tributaries crossed by the Access Track, the upper reaches of the Burn of Elfhill in the southwest of the Proposed Development, the upper reaches of the Burn of Baulks in the east of the Proposed Development, and the Burn of Day in the centre of the Proposed Development. The source of the Burn of Day is within the centre of the Proposed Development and it flows to the east and out of the Site. The damp area around the Burn of Day is referred to as Hurlie Bog. Further extents of damp habitat are present in the centre of the Proposed Development, where wet heath and scattered rushes were recorded among extents of restocked plantation.
- 3.2.2 The Access Track to the Site from the A957 Slug Road is via an existing unpaved forestry track which joins the Proposed Development at its southwest boundary, near the existing Fetteresso Substation. Named watercourses cross under the existing track within the Site via either box or pipe culverts: the upper reaches of the Burn of Elfhill in the southwest; the Cowie Water, West Dumer Burn, East Dumer Burn and Irish Burn in the west; and the Black Burn in the north.
- 3.2.3 There are no buildings within the Site, although the existing Fetteresso Substation is immediately southwest of the Proposed Development. Part of the Access Track forms the southern boundary of the existing Fetteresso Substation,

¹⁰ NatureScot (2024) Ancient Woodland Inventory Map. Available online; <https://opendata.nature.scot/datasets/snh::ancient-woodland-inventory/explore>

¹¹ NatureScot (2023) A guide to understanding the Scottish Ancient Woodland Inventory (AWI). Available online: <https://www.nature.scot/doc/guide-understanding-scottish-ancient-woodland-inventory-awi>

thereby surrounding it but excluding it from the Site. The existing Fetteresso Substation is therefore within the ESA but was not subject to survey.

Habitat Descriptions

3.2.4 A total of 20 UK Hab classifications have been recorded within the Proposed Development as illustrated in **Figure 10.2.1 Habitat Survey Results**. Photographs are presented in **Annex 10.2.1: Photographs**. All habitat definitions provided below are directly provided by the UK Hab Classification System¹. The ESA covered approximately 600 ha while the Proposed Development is approximately 270 ha.

3.2.5 **Table 3.1** below outlines the habitats recorded, and the areas and percentages of each within the Site.

Table 3.1: Habitats Recorded within the Site

Habitat Name	UK Hab Code	Area within the Site (ha)	Percentage
Woodland and forest - Other coniferous woodland	w2c	253.05	86.66
Woodland and forest - Other Scot's pine woodland	w2b	0.53	0.18
Woodland and forest - Other woodland; mixed	w1h	0.29	0.10
Woodland and forest - Felled	w2	9.26	3.17
Woodland and forest - Other woodland; broadleaved	w1g	0.23	0.08
Heathland and shrub - Upland heathland	h1b	7.85	2.69
Heathland and shrub - Mixed scrub	h3h	0.34	0.12
Wetland - Upland flushes, fens and swamps	fc2	2.20	0.75
Grassland - Bracken	g1c	0.98	0.33
Grassland - Modified grassland	g4	0.52	0.18
Grassland - Other lowland acid grassland	g1d	0.56	0.19
Grassland - Upland acid grassland	g1b	0.03	<0.01
Cropland - Cereal crops	c1c	0.88	0.31
Cropland - Non-cereal crops	c1d	<0.01	<0.01
Cropland - Temporary grass and clover leys	c1b	<0.01	<0.01
Urban - Developed land; sealed surface	u1b	14.96	5.12
Urban - Suburban/mosaic of developed/natural surface	u1d	0.16	0.05
Urban - Vacant/ derelict land/ bare ground	u1 (351)	0.12	0.04
Rivers and Lakes - Natural lake or pond	r1	<0.01	<0.01
Rivers and Lakes - Rivers and streams	r2a, r2b	1.14 km	N/A
Total:		268.82 ha	100%

Woodland Habitats

3.2.6 The Site was dominated by commercial conifer forestry (w2c) comprising large areas of Sitka spruce *Picea sitchensis* which was assessed to be in poor condition. The Site included areas of felled conifer plantation which had yet to regenerate or be replanted (w2), while an area in the north was recorded as windthrown hybrid larch *Larix x marschlinii* with some Sitka spruce regeneration noted. Smaller extents of Scot's pine plantation (w2b), broadleaved woodland (w1g) and mixed woodland (w1h) were noted in coupes within the Site, including along the Access Track. In total, woodland habitats accounted for 263.36 ha (90.19%) of the Site

Wetland Habitats

3.2.7 A total of 2.20 ha of Wetland – Upland flushes, fens and swamps (f2c) was identified within the Site, specifically within the north of the Proposed Development.

- 3.2.8 Within the plantation woodland, there was an area of scattered rushes (14) along the Burn of Day, within which two NVC communities were recorded: M6 *Carex echinata-Sphagnum fallax/denticulatum* mire and M23 *Juncus effusus/acutiflorus-Galium palustre* rush-pasture. The community was dominated by sharp-flowered rush *Juncus acutiflorus* and *Sphagnum palustre*, with abundant tufted hair grass *Deschampsia cespitosa*, frequent heather *Calluna vulgaris*, *Polytrichum commune*, *Hylocomium splendens* and soft rush *Juncus effusus*, and occasional tormentil *Potentilla erecta*. The habitat had been planted with low-density native broadleaved trees, specifically alder *Alnus glutinosa*, but self-seeded Sitka spruce was extensive and so the habitat was assessed to be in poor condition due to the impacts of commercial forestry. M6 and M23 both qualify as the SBL priority habitat in upland situations.
- 3.2.9 A more extensive area of M23 rush pasture was noted along the Burn of Day on the eastern boundary of the Site, surrounded by mature Sitka spruce. This area was dominated by soft rush, with abundant tufted hair grass, Yorkshire fog and marsh thistle. The ground conditions were wet and unstable, precluding further access. Although there was no encroachment of self-seeded Sitka spruce, the habitat was noticeably species-poor and so the condition was assessed to be fairly poor.
- 3.2.10 A ride in the centre of the Site between stands of young, restocked Sitka spruce, was noted immediately east of an area of Upland heathland, and was identified as Upland flushes, fens and swamps. This area was dominated by soft rush, with abundant *Sphagnum palustre* and tufted hair grass, frequent heather, common bent *Agrostis capillaris*, Yorkshire fog *Holcus lanatus*, Sitka spruce regeneration, *Polytrichum commune*, tormentil, *Rhytidadelphus squarrosus*, and heath bedstraw *Galium saxatile*, and occasional foxglove *Digitalis purpurea*, marsh thistle *Cirsium palustre*, and *Sphagnum capillifolium*. This ride was identified as supporting a mosaic of two NVC habitats: M6 *Carex echinata-Sphagnum fallax/denticulatum* mire and M15 *Trichophorum germanicum-Erica tetralix* wet heath. The M15 community qualifies as the Annex 1 habitat Northern Atlantic wet heaths with *Erica tetralix* (H4010), although the habitat was noted to be in poor condition due to the impacts of land management.
- Heathland and Scrub Habitats*
- 3.2.11 A total of 7.85 ha of Upland heathland (h1b), was identified within the Site, entirely within the Proposed Development in rides and open unplanted areas of ground. In each case, this habitat was identified as a single NVC community: H12 *Calluna vulgaris-Vaccinium myrtillus* heath. This qualifies as the Annex 1 habitat European dry heaths (H4030) and is an SBL priority habitat.
- 3.2.12 A ride between coupes of conifer plantation in the north of the Proposed Development was identified as an Upland heathland in fairly poor condition. Species recorded included heather, brown bent, wavy hair grass, sweet vernal grass, Yorkshire fog, tormentil, heath bedstraw, blaeberry, *Hylocomium splendens*, *Pleurozium schreberi*, Sitka regeneration, gorse, soft rush, *Carex binervis*, *Carex nigra*, *Sphagnum capillifolium* in some limited areas and rarely, bell heather.
- 3.2.13 An area of Upland heathland was recorded in the centre of the Proposed Development. This area had been felled and had not been restocked; as such, it was reverting to a dry heath with some limited *Sphagnum* mosses, although scattered regeneration of Sitka spruce was noted. This area was dominated by heather, with abundant wavy hair grass, tormentil, heath bedstraw, sweet vernal grass, *Hylocomium splendens*, *Pleurozium schreberi*, *Hypnum jutlandicum*, frequent *Polytrichum commune*, heath rush, Sitka spruce regeneration, *Plagiothecium undulatum*, and occasional soft rush, bilberry, common bent, *Sphagnum fallax*, *Cladonia* sp., and *Sphagnum capillifolium*.
- 3.2.14 Further extents of Upland heathland were recorded on the eastern and western boundaries within the Proposed Development. On the western boundary, this habitat was recorded along the wayleave of an existing OHL, and the ground was disturbed in places as a result of recent works. On the eastern boundary, the habitat occurred in open ground along the upper reaches of the Burn of Baulks, between stands of Sitka spruce. In each case, the H12 community was assigned, although the habitats were noted to be modified by land management practices and so were assessed to be in fairly poor condition.
- 3.2.15 In addition to the heathland identified, 0.34 ha of mixed scrub (h3h) was identified along the Access Track, comprising broom *Cytisus scoparius* with heather and young downy birch.

Grassland Habitats

- 3.2.16 Grassland habitats identified in the Site included stands of bracken (g1c), modified grassland (g4), and acid grassland (g1b and g1d), totalling approximately 2.08 ha (0.71%) of the Site.
- 3.2.17 The areas of acid grassland (g1b and g1d) were located on the northern boundary of the Proposed Development, and along the Access Track. The northern area was identified as a mosaic of U4 *Festuca ovina*–*Agrostis capillaris*–*Galium saxatile* grassland, H12 *Calluna vulgaris*-*Vaccinium myrtillus* heath and M25 *Molinia caerulea* – *Potentilla erecta* mire. The grassland along the access track was variable in composition but in poor to fairly poor condition as a result of encroachment by Sitka spruce regeneration and bracken.

Rivers and Lakes Habitats

- 3.2.18 A small pond (r1) was noted alongside the Access Track from Hill of Quithel, while several watercourses (Rivers and Streams (r2a and r2b)) flow through the Site, both within the Proposed Development and underneath the existing Access Track. Some of these watercourses were assessed to qualify as the SBL Rivers priority habitat (r2a) on the basis of being headwaters.

Cropland and Urban Habitats

- 3.2.19 In addition to the habitats described above, cropland habitats are present on the boundaries of the Site, associated with farmland to the southeast of the Proposed Development and alongside the Access Track from Hill of Quithel. Urban habitats comprise the existing road and track network and a small number of properties alongside the Access Track.

Groundwater Dependent Terrestrial Ecosystems (GWDTEs)

- 3.2.20 Four NVC communities were recorded which, according to SEPA guidelines¹², may indicate potential groundwater dependency. These NVC communities were M6, M15, M23 and M25. The M6 and M23 communities are noted to be high potential GWDTEs, while M15 and M25 are moderate potential GWDTEs.
- 3.2.21 All potential GWDTEs were confirmed by hydrological assessment to be mainly surface water fed and are not ground water dependent. Therefore, they are not GWDTE and are not considered further.

Invasive Non-Native Species

- 3.2.22 No invasive non-native species were identified within the Site, nor within the wider ESA.

¹² SEPA (2017) Land Use Planning System SEPA Guidance Note 4; Planning guidance on on-shore windfarm developments. Available online: <https://www.sepa.org.uk/media/136117/planning-guidance-on-on-shore-windfarms-developments.pdf>

4. INTERPRETATION

4.1 Habitats of Conservation Concern

- 4.1.1 The ESA is dominated by commercial conifer plantation, and habitats are therefore modified as a result of the history of land management.
- 4.1.2 Three communities which qualify as Annex 1 habitats were identified, as were three SBL priority habitats, These habitats are summarised in **Table 4.1** below.
- 4.1.3 The Proposed Development would likely result in a loss of approximately 88 ha of habitat within the Proposed Development, of which 2.18 ha are habitats of conservation concern.
- 4.1.4 The SBL priority habitat Upland Heathland was represented on site by the M15 and H12 communities, and 1.71 ha of these habitats are expected to be lost as a result of the Proposed Development. These habitats have developed along forest rides and in areas that have been felled without subsequent restocking, and are indicative of the acidic conditions on peaty soils, with the communities developing in response to differing conditions of moisture from dry (H12) to wet (M15). As such, the condition of these habitats was poor to fairly poor.
- 4.1.5 Upland Flushes, Fens and Swamps was the second SBL priority habitat recorded, which corresponds to the M6 and M23 communities. Approximately 0.47 ha of these habitats are expected to be removed. These do not qualify as Annex 1 habitats. These communities have developed along the Burn of Day and in wet conditions along forest rides. Both have been greatly affected by the history of land management, with disturbance as a result of forestry operations and self-seeded Sitka spruce both recorded in association with these communities. The condition of these habitats was poor to fairly poor.

Table 4.1: Habitats of Conservation Concern Identified within the Site

UK Hab classification	Associated NVC Community	Area within the Site (ha)	Proportion of Site (%)	Mechanism for Habitat Conservation Concern
Upland flushes, fens and swamps (f2c)	M6 <i>Carex echinata-Sphagnum fallax/denticulatum</i> mire M23 <i>Juncus effusus/acutiflorus-Galium palustre</i> rush-pasture	2.20	0.75	SBL: Upland Flushes, Fens and Swamps NESBReC LBAP habitat
Upland heathland (h1b)	M15 <i>Trichophorum germanicum-Erica tetralix</i> wet heath H12 <i>Calluna vulgaris-Vaccinium myrtillus</i> heath	7.85	2.69	Annex 1: H4010 Northern Atlantic wet heaths with <i>Erica tetralix</i> (M15) Annex 1: H4030 European dry heaths (H12) SBL: Upland Heathland NESBReC LBAP habitat
Upland acid grassland (g1b)	U4 <i>Festuca ovina-Agrostis capillaris-Galium saxatile</i> grassland H12 <i>Calluna vulgaris-Vaccinium myrtillus</i> heath M25 <i>Juncus effusus/acutiflorus-Galium palustre</i> rush-pasture	0.03	<0.01	Annex 1: H4030 European dry heaths (H12) SBL: Upland heathland (H12) NESBReC LBAP habitat
Rivers and Streams - Rivers (r2a)	N/A - Burn of Day, Burn of Baulks, and Burn of Elfhill	0.06 km	N/A	SBL: Rivers

ANNEX 10.2.1 – PHOTOGRAPHS

Table 10.2.1: Photographs

Photographs of the Site	
	
<p>View of existing track through dense Sitka spruce plantation in the west of the Proposed Development</p>	<p>Regeneration of Sitka spruce on Upland Heathland in the north of the Proposed Development</p>
	
<p>Larch forestry with windthrow in the northeast of the Proposed Development</p>	<p>Upland flushes, fens and swamps comprising M23 <i>Juncus effusus/acutiflorus-Galium palustre</i> rush-pasture in the east of the Proposed Development</p>
	
<p>View across the Proposed Development showing the variety of habitats present</p>	<p>View from centre of the Proposed Development, east, showing the mosaic of NVC M6 <i>Carex echinata-Sphagnum fallax/denticulatum</i> mire and M15</p>

Photographs of the Site

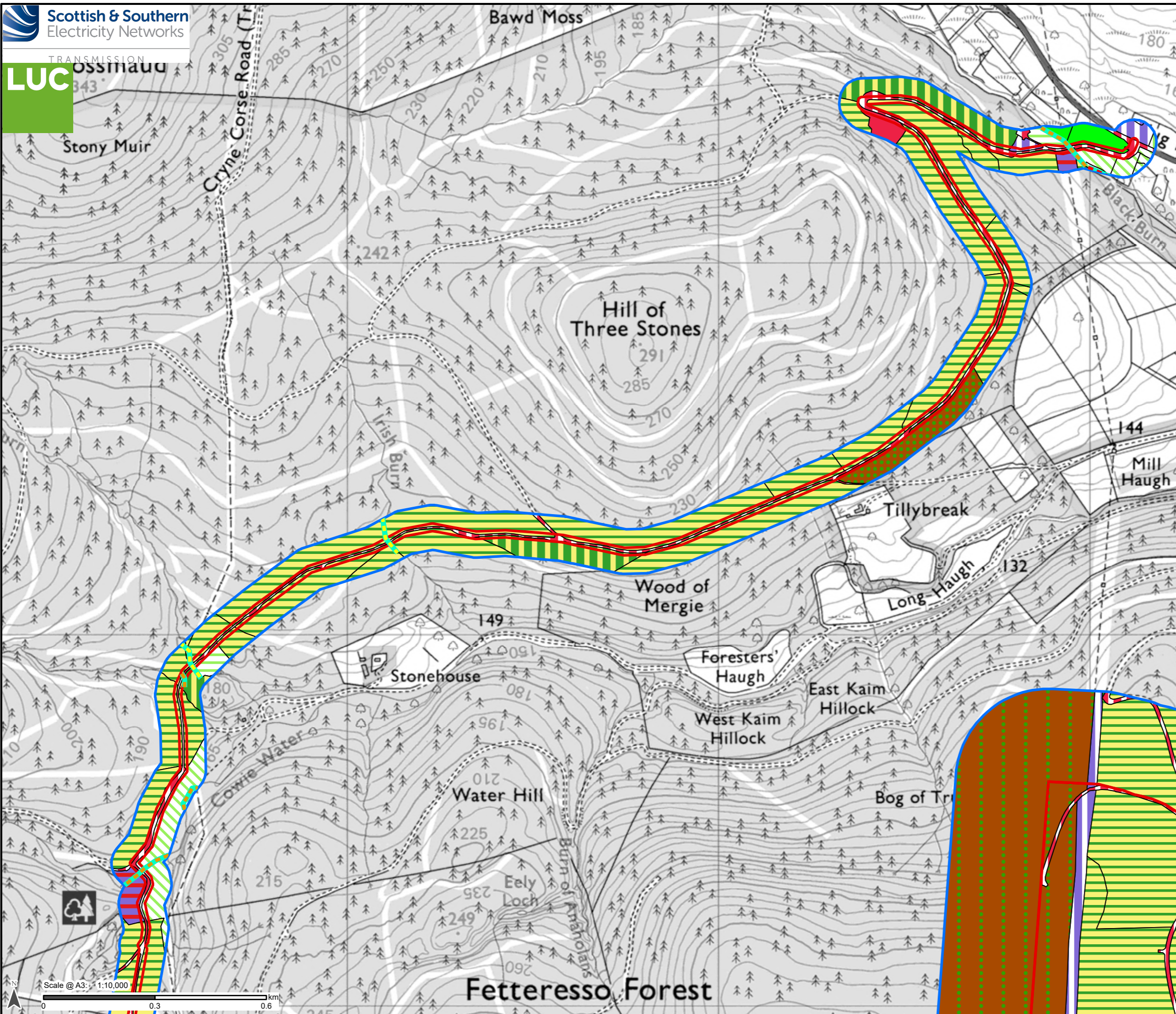
Trichophorum germanicum-Erica tetralix wet heath through a forest ride



Planted alder trees with Sitka spruce regeneration in the northeast of the Proposed Development along the Burn of Day



Example of habitats along the existing Access Track in the west of the Site



- Hurlie red line boundary
- Hurlie survey area (250m from red line boundary and 50m from access track)
- UKHab habitat linear**
 - Other rivers and streams (High)
 - Other rivers and streams (Medium)
 - Rivers (Priority Habitat; Medium)
- UKHab habitat area**
 - Bracken
 - Modified grassland
 - Other lowland acid grassland
 - Upland acid grassland
 - Mixed scrub
 - Upland Heathland
 - Developed land; sealed surface
 - Vacant/derelict land/bareground
 - Felled
 - Other Scot's Pine woodland
 - Other coniferous woodland
 - Other woodland; mixed



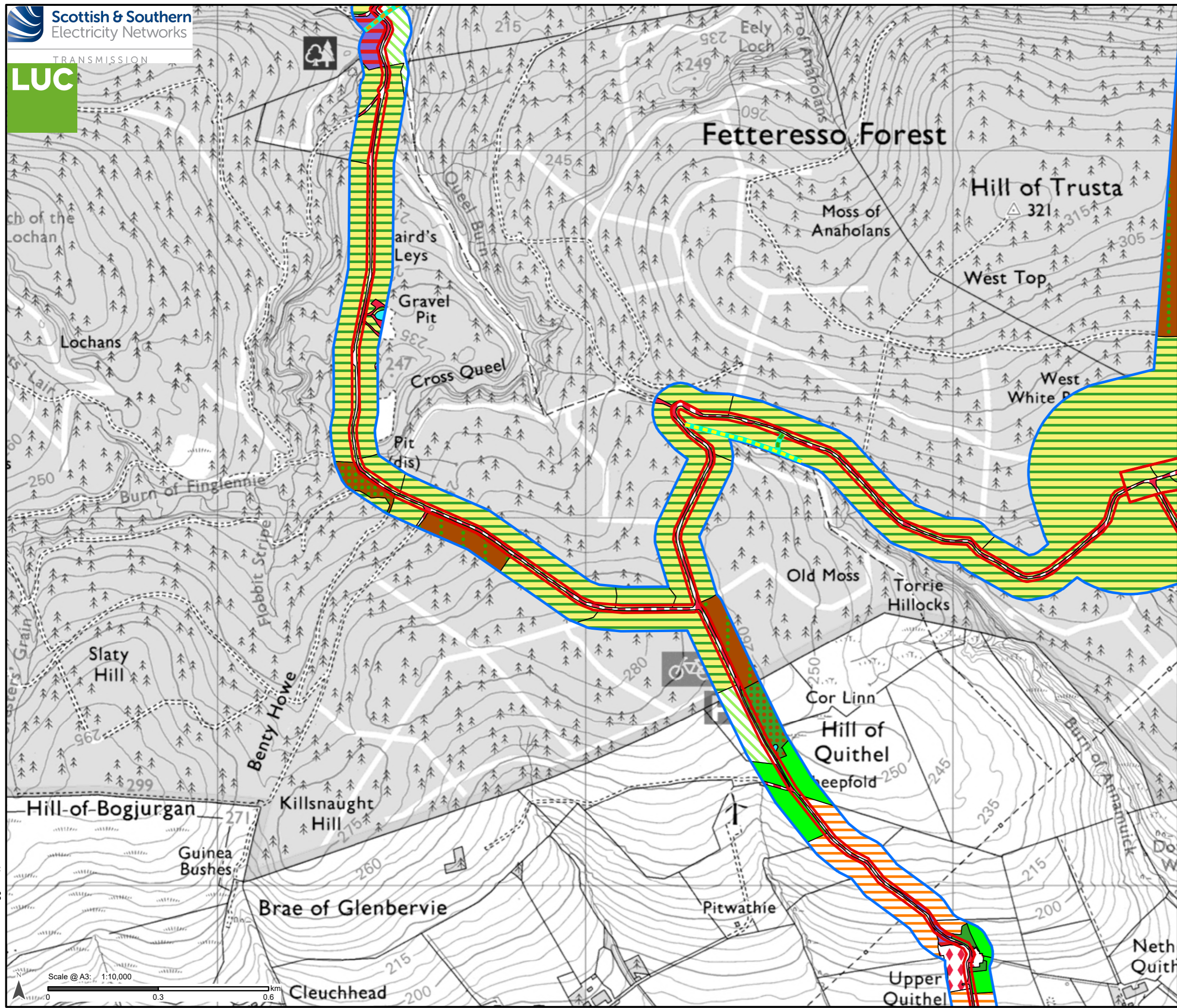
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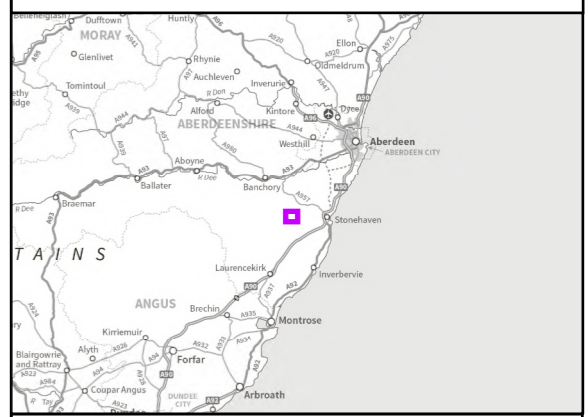
Title:
Habitat Survey Results

Drawn by: PS Date: 18/10/2024

Figure: 10.2.1a



- Hurlie red line boundary
- Hurlie survey area (250m from red line boundary and 50m from access track)
- UKHab habitat linear**
- Other rivers and streams (Medium)
- Other rivers and streams (Low)
- Rivers (Priority Habitat; Medium)
- UKHab habitat area**
- Cereal Crops
- Modified grassland
- Other lowland acid grassland
- Mixed scrub
- Natural lake or pond
- Artificial unvegetated, unsealed surface
- Developed land; sealed surface
- Suburban/mosaic of developed/natural surface
- Vacant/derelict land/bareground
- Woodland
- Felled
- Other coniferous woodland
- Other woodland; broadleaved
- Other woodland; mixed



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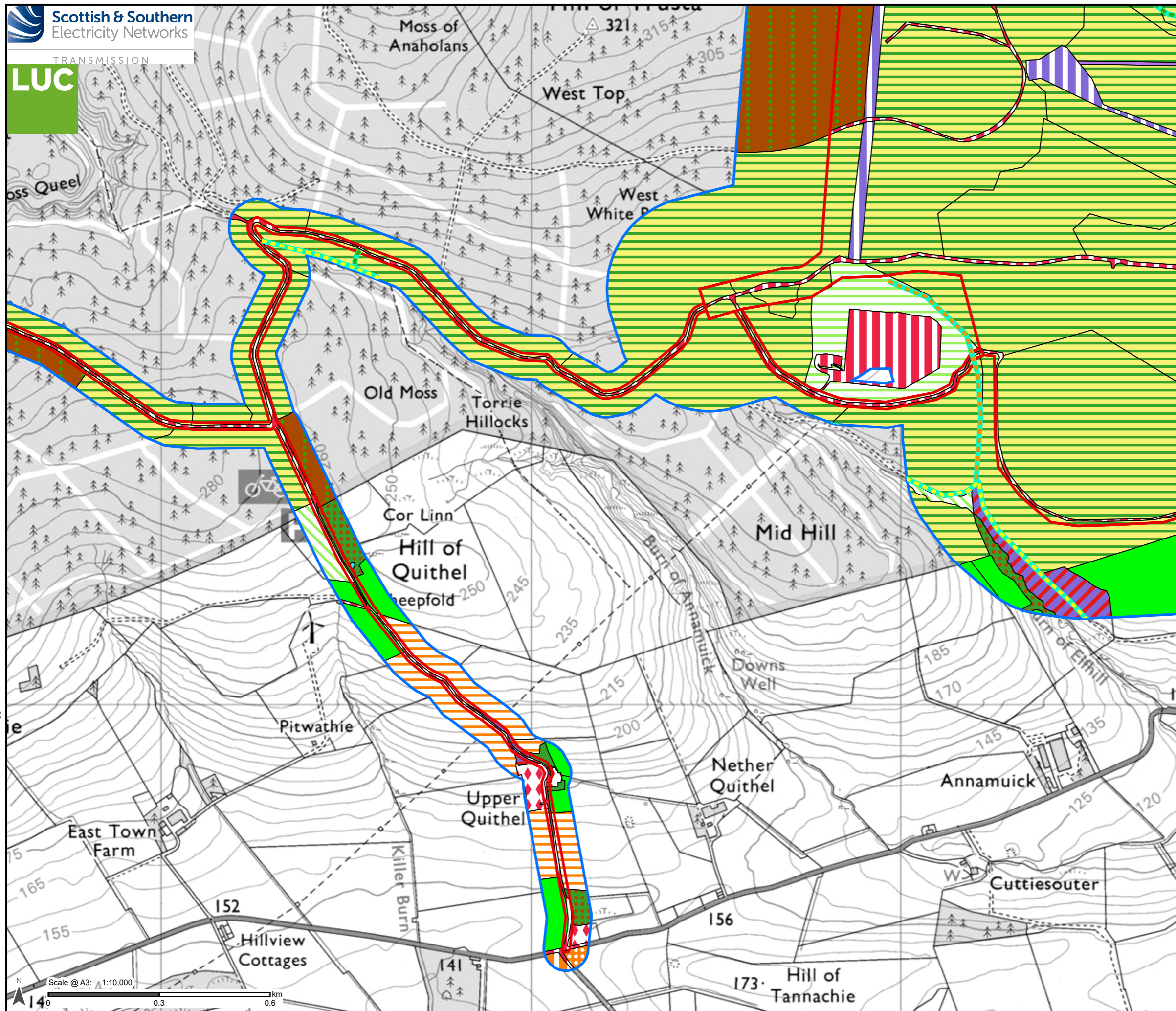
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Habitat Survey Results

Drawn by: PS Date: 18/10/2024

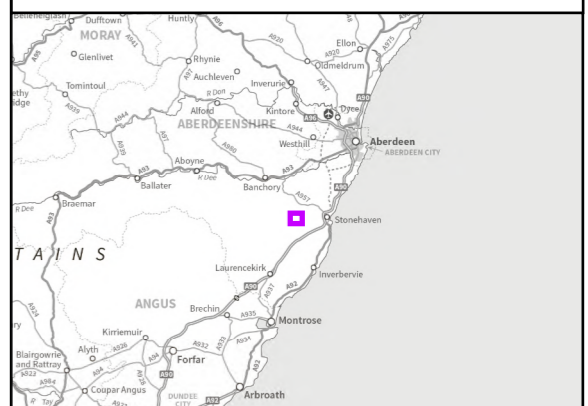
Figure: 10.2.1b

785000m N

Scale @ A3: 1:10,000
0 0.3 0.6 km



- Hurlie red line boundary
- Hurlie survey area (250m from red line boundary and 50m from access track)
- UKHab habitat linear**
- Other rivers and streams (Medium)
- Other rivers and streams (Low)
- Rivers (Priority Habitat; Medium)
- UKHab habitat area**
- Cereal Crops
- Non-cereal crops
- Temporary grass and clover leys
- Bracken
- Modified grassland
- Other lowland acid grassland
- Gorse scrub
- Mixed scrub
- Upland Heathland
- Natural lake or pond
- Developed land; sealed surface
- Suburban/mosaic of developed/natural surface
- Vacant/derelict land/bareground
- Woodland
- Upland flushes, fens and swamps
- Felled
- Other coniferous woodland
- Other woodland; broadleaved



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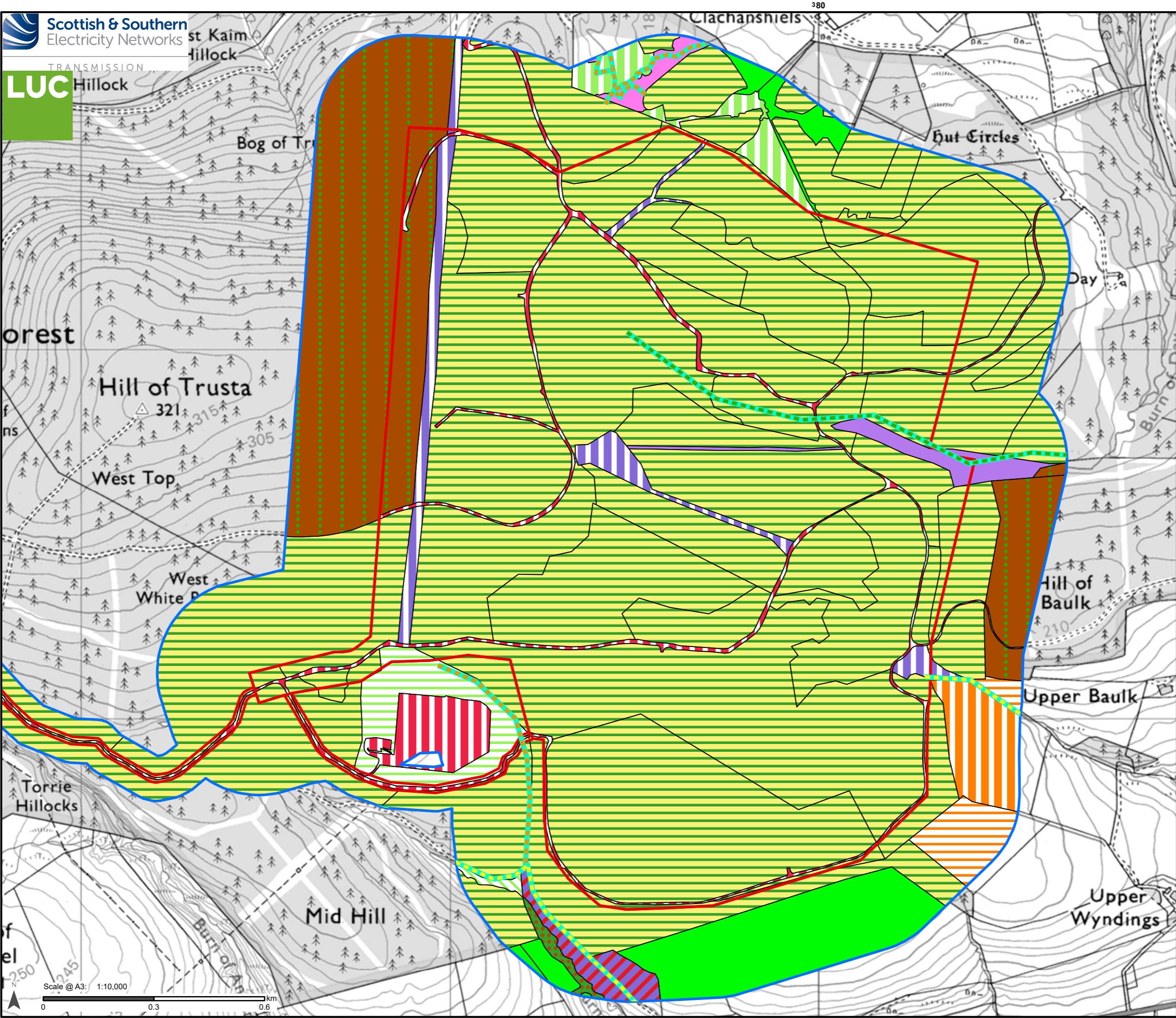
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Habitat Survey Results

Drawn by: PS Date: 18/10/2024

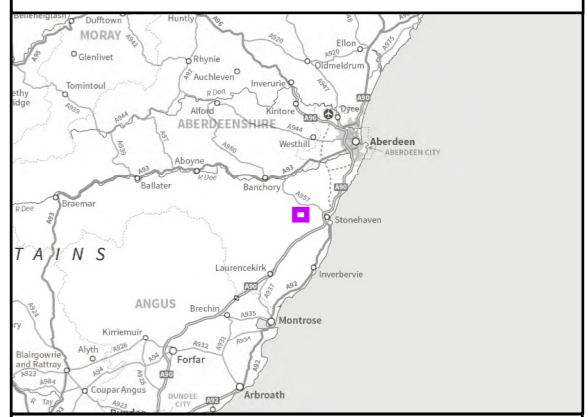
Figure: 10.2.1c

785000m N

Scale @ A3: 1:10,000
0 0.3 0.6 km



- Hurlie red line boundary
- Hurlie survey area (250m from red line boundary and 50m from access track)
- UKHab habitat linear**
- Other rivers and streams (Medium)
- Other rivers and streams (Low)
- Rivers (Priority Habitat; Medium)
- UKHab habitat area**
- Cereal Crops
- Temporary grass and clover leys
- Bracken
- Modified grassland
- Other lowland acid grassland
- Upland acid grassland
- Gorse scrub
- Upland Heathland
- Developed land; sealed surface
- Purple moor grass and rush pastures
- Upland flushes, fens and swamps
- Felled
- Other coniferous woodland
- Other woodland; broadleaved



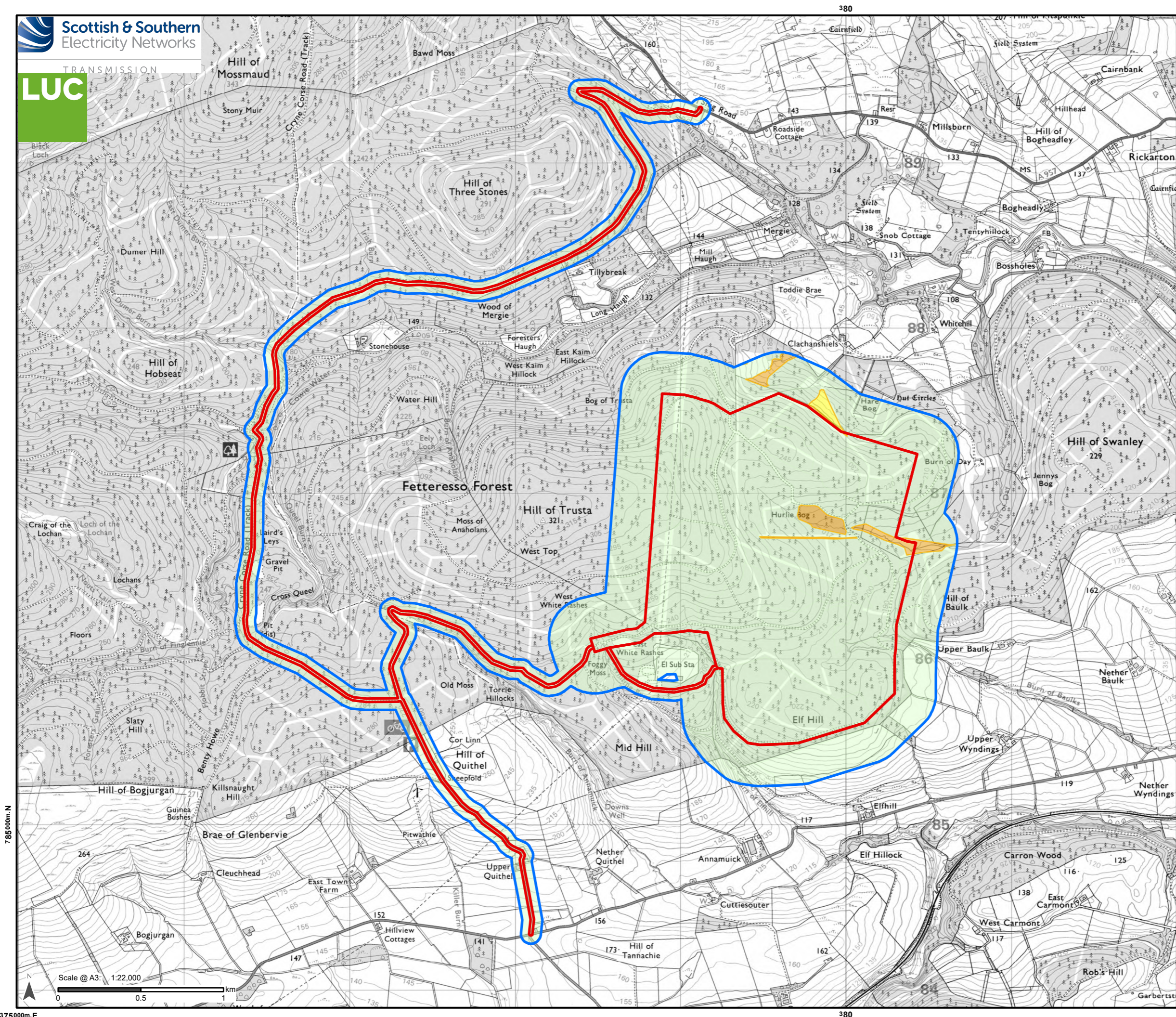
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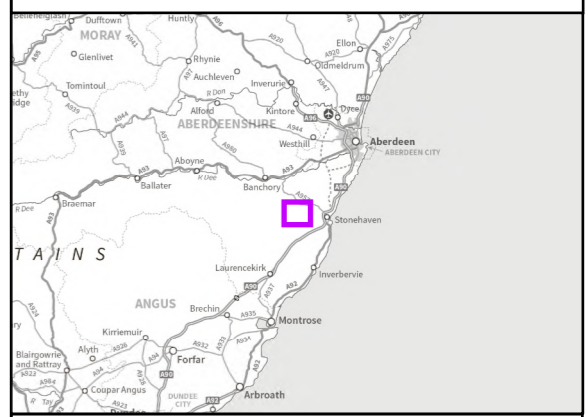
Title:
Habitat Survey Results

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Figure: 10.2.1d



- ▬ Hurlie red line boundary
- ▬ Hurlie survey area (250m from red line boundary and 50m from access track)
- GWDTE**
- High
- Moderate
- Non-GWDTE habitat



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Title:
Ground Water Dependent Terrestrial Ecosystems (GWDTE) Results

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Figure: 10.2.3