

# **Hurlie 400 kV Substation Environmental Impact Assessment (EIA) Volume 4 | Appendix 11.1**

## **Ornithology Survey Report**

**November 2024**



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## LIST OF ABBREVIATIONS

BoCC: Birds of Conservation Concern

BBS: Breeding Bird Survey

BTO: British Trust for Ornithology

EIA: Environmental Impact Assessment

FLS: Forestry Land Scotland

GIS: Geographical Information System

NBN: National Biodiversity network

OHL: Overhead powerline

RSPB: Royal Society for the Protection of Birds

SPA: Special Protection Area

SSSI: Site of special Scientific Interest

VP: Vantage watch point

WCA: Wildlife and Countryside Act, 1981 (as amended)

WeBS: Wetland Bird Survey

ZOI: Zone of project Influence

## 1. INTRODUCTION

### The Proposals

- 1.1.1 Scottish Hydro Electric Transmission plc (the Applicant) is applying to Aberdeenshire Council for full planning permission under the Town and Country Planning Act (Scotland) 1997, to install and operate a new 400 kV substation at Hurlie, near Stonehaven in Aberdeenshire, with associated earthworks, the formation of platforms, landscaping, means of access, means of enclosure, site drainage, and temporary construction compounds.
- 1.1.2 This appendix presents the methods and results of the bird surveys undertaken to inform the Ornithological Impact Assessment relevant to the Hurlie 400 kV Substation hereafter referred to as the Proposed Development.
- 1.1.3 It should be read in conjunction with **Chapter 3: Description of the Proposed Development (Volume 2)** of the Environmental Impact Assessment (EIA Report) for full details of the Proposed Development and **Chapter 11: Ornithology** for an assessment of the effects of the Proposed Development upon Ornithology. In addition, details of breeding Schedule 1 species have been transferred to: **Appendix 11.2 Ornithology Confidential Appendix**.
- 1.1.4 This appendix is supported by the following figures:
- Figure 11.1: Designated Ornithological Sites in Chapter 11 Ornithology;
  - Figure 11.2.1: Ornithology Survey Areas;

### Requirement for the Report

- 1.1.5 LUC was commissioned by the Applicant to undertake bird surveys to aid the design process and to inform an assessment of the bird resource present and determine the presence or likely absence of Special Protection Area (SPA) qualifying species, species of conservation concern and Schedule 1/Annex 1 species that may be affected by the Proposed Development.

### Terminology and Survey Area

- 1.1.6 The following terminology will be used throughout this report:
- Site: All land within the red-line boundary (as shown in **Figure 1.1: Site Location**);
- 1.1.7 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**),
- Breeding Bird Survey Area (BBS area): The Proposed Development plus a 250m buffer; and
  - Study Area: The area within which ornithology desk-based studies were undertaken (up to 20 km from the Site, as shown in **Figure 11.1: Designated Ornithological Sites**).
- 1.1.8 The above areas are all illustrated in **Figure 11.2.1: Ornithology Survey Areas**.

### Relevant Legislation

- 1.1.9 Relevant legislation and guidance documents have been reviewed and considered as part of this ornithology assessment. Of relevance are:
- The European Council Directive on the Conservation of Wild Birds 2009/147/EC (the Birds Directive);
  - The Wildlife and Countryside Act 1981 (as amended);
  - The Conservation (Natural Habitats &c.) Regulations 1994 (as amended in Scotland); ('The Habitats Regulations');
  - The Nature Conservation (Scotland) Act 2004 (as amended); and
  - The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (the 'EIA Regulations').]

- The European Council Directive on the Conservation of Wild Birds 2009/147/EC (the Birds Directive)
- 1.1.10 The Birds Directive aims to protect all naturally occurring wild bird species present in the EU and their most important habitats. In addition to halting the decline or disappearance of bird species, the Directive aims to allow bird species to recover and thrive over the long-term.
- 1.1.11 As part of the Birds Directive, member states (including the UK) must classify SPAs as part of the 'Natura 2000' network for species listed in annex 1 of the Birds directive.
- 1.1.12 The 'Natura 2000' network extends to a Europe-wide system of sites designated for their ecological value. Sites where there is designation for birds are designated as SPAs which qualify for their assemblages of birds and/or qualifying bird species where >1% of a population uses the area for breeding, roosting and/or during migration.
- 1.1.13 Ramsar sites, which support internationally important wetland habitats, are listed under the Convention on Wetlands of International Importance as 'Waterfowl Habitat' (Ramsar Convention, 1971), and form part of the Natura 2000 network. All Ramsar sites in Scotland are also Natura 2000 sites and are protected under the relevant statutory regimes.
- 1.1.14 Considerable protection is given to SPAs through regulations 48 and 49 of the Conservation (Natural Habitats et al) Regulations 1994 as amended (the 'Habitats Regulations')<sup>1</sup> and these protections are normally reflected in national and local planning policy. Where developments have the potential to affect SPAs, an assessment process (Habitat Regulations Assessment) must first be undertaken.
- 1.1.15 In order that potential effects on the 'Natura 2000' network can be fully understood, it is important that they are considered fully in EIA desk studies.
- 1.1.16 There is no change to the protection of SPAs, as identified under the 'Natura 2000' network, because of the United Kingdom's exit from the European Union.
- The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)*
- 1.1.17 In Scotland, the European Habitats Directive (Directive 92/42/EEC) has been transposed into national legislation via the Conservation (Natural Habitats &c.) Regulations 1994 (as amended). These Regulations provide the highest level of legal protection available to ornithological and ecological features.
- The Wildlife and Countryside Act 1981 (as amended)*
- 1.1.18 The Wildlife and Countryside Act 1981 (as amended) (WCA) is UK wide legislation that gives rise to designated sites, regulates the management of invasive species and provides protections for species of national conservation importance. Important features of the legislation in relation to birds are set out below.
- 1.1.19 All wild birds are protected by law under the WCA. It is an offence to:
- Kill or injure any wild bird;
  - Capture or keep (dead or alive) any wild bird;
  - Destroy or take the eggs of any wild bird;
  - Sell or advertise for sale any wild bird or its eggs; and
  - Destroy, damage, interfere with, take or obstruct the use of the nest of any wild birds while it is in use or being built.
- 1.1.20 This legislation means that birds are fully protected in Scotland, and that any planned activity, which may affect them, requires careful consideration to ensure both compliance and no significant ecological impact.

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1 available online: [The Conservation \(Natural Habitats, &c.\) Regulations 1994 \(legislation.gov.uk\)](https://www.legislation.gov.uk)

1.1.21 In addition, certain species are offered further protection whereby it is an offence to intentionally or recklessly disturb species on Schedule 1 of the WCA during the breeding season without a licence including while building a nest, while in, on, or near a nest with eggs or young, including the dependent young of such species.

### **Scope**

#### Breeding Bird Surveys

1.1.22 Breeding bird surveys were carried out in spring 2024 within the BBS area to inform this assessment as described below.

#### Schedule 1 raptor roosting bird surveys

1.1.23 Surveys for Schedule 1 species red kite were carried out in early 2024 to inform the assessment in relation to potential roosting birds within disturbance distance of the development boundary i.e. to 1 km of the Proposed Development.

#### Schedule 1 bird Surveys

1.1.24 Surveys for target species were carried out in 2024 across the Site and beyond to 1 km of the Proposed Development to determine potential breeding Schedule 1 species.

## 2. METHODS

### Baseline data collection

#### Designated Sites

- 2.1.1 A desktop search for statutory designated nature conservation sites was conducted with 20 km and 5 km of the Site, including sites of international<sup>2</sup> and national<sup>3</sup> importance.

#### Breeding birds, Schedule 1 & SPA species

- 2.1.2 A desk study was undertaken to obtain historical ornithological information relating to the Site to identify potential breeding/site use of target species. The RSPB and local Raptor Study Group were approached for records and NBN was examined for relevant records.

### Field surveys

#### Breeding Bird Surveys

- 2.1.3 Breeding bird surveys were carried out on 24 April and 14 May 2024.
- 2.1.4 All survey data was collected on GIS-enabled field tablets to increase accuracy and facilitate robust interpretation. The methods are outlined below.
- 2.1.5 In 2024 a search of the BBS area was completed on two occasions, in April and May 2024. Given the nature of plantation habitat, existing access tracks across the site were used to sample the bird resource with records as presence/absence and whether birds were considered breeding only noted – no attempt to map territories was carried out. This is consistent with NatureScot guidelines where it is considered that survey of woodland passerines, especially in commercial conifer forest is generally not required<sup>4</sup>.
- 2.1.6 The following criteria were used to establish whether birds were breeding:
- 2.1.7 For all birds:
- Presence of nest, eggs and/or chicks;
  - Alarm calling indicative of nest, young or territory;
  - Displaying or in song-flight;
  - Performing a distraction display;
  - Birds aggressively defending territories; and
  - Birds seen carrying food to nest or young.
- 2.1.8 For all raptors:
- If a pair was attached to a territory.
- 2.1.9 For all passerines:
- Birds singing or alarm calling.
- 2.1.10 All other behaviour was considered as being indicative of non-breeding activities.

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<sup>2</sup> i.e. Special Protection Areas (SPA)

<sup>3</sup> i.e. Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), RSPB reserves etc.

<sup>4</sup> NatureScot 2016 Recommended bird survey methods to inform impact assessment of onshore wind farms. SNH Battleby. Available online:

<https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms>

Schedule 1 bird Surveys

- 2.1.11 Scarce raptor surveys were undertaken in April 2024 across focal areas of suitable habitat for species within 1 km of the Site and as informed by Desk Study/FLS records. Based on guidance given in Raptors: a field guide to survey and monitoring (Hardey et al. 2005) and Bird monitoring methods (Gilbert et al. 1998), the approach allowed for identifying the presence and location of species of breeding diurnal raptors that may be present within the study area. Based on NatureScot guidance for those species that may be present, the distance beyond the Development for which surveys for breeding nest site locations were completed was 1 km<sup>5</sup>. Target raptor species included all Schedule 1/Annex 1 species with potential breeding species at the Proposed Development considered by professional judgement and desk studies to be goshawk *Accipiter gentilis*.
- 2.1.12 The presence of breeding goshawk within the survey area is further discussed in Appendix 11.2 Ornithology Confidential Appendix.

Schedule 1 raptor roosting bird surveys

- 2.1.13 Surveys were carried from 23<sup>rd</sup> January until 18<sup>th</sup> March 2023 for potential roosting Schedule 1 species, notably in relation to red kite *Milvus milvus* – a Schedule 1A species for which protection out with the breeding season (i.e. making it an offence to intentionally or recklessly harass them at any time).
- 2.1.14 Surveys involved watches from one of 3 Vantage points surrounding the forestry at Fetteresso – refer **Figure 11.2.1: Ornithology survey areas**.

**Limitations**

- 2.1.15 No access was granted to the site from 20<sup>th</sup> June until 15<sup>th</sup> September 2024. As such, a planned third site visit in late June was not carried out. Given that NatureScot does not consider survey of woodland passerines, especially in commercial conifer forest, as required for commercial developments (e.g. wind farms), this is not considered as a limitation to survey assessment for breeding passerines and waders.
- 2.1.16 Prior to this, from 16<sup>th</sup> May 2024, FLS requested that no access to an area near to a potential Schedule 1 species be entered. The species, considered as goshawk in this assessment is included in the Confidential Annex. Given that the presence of a requested survey buffer is consistent with breeding, this does not affect the assessment and is not a limitation to conclusions drawn.
- 2.1.17 Information gaps have been identified; however, it is considered that there is sufficient information to enable an informed decision to be taken in relation to the identification and assessment of likely significant environmental effects on ornithology. Where information is not available due to the access issues identified above, the 'worst-case' scenario is assumed

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<sup>5</sup> Survey distance of 1 km for northern goshawk



### 3. BASELINE CONDITIONS

#### Designated Sites

3.1.1 The following designated ornithological sites are present within 20 km of the Development:

- Fowlsheugh SPA.

3.1.2 The qualifying features of the named designated sites are noted in Table 11.1: **Statutory Designated Sites Associated with the Proposed Development and their qualifying features** as well as in Volume 2 Chapter 11: Ornithology.

**Table 11.1. Statutory Designated Sites Associated with the Proposed Development and their qualifying features**

Site Name	Qualifying Features	Distance from Proposed Development at its closest point	Connectivity with Proposed Development
Fowlsheugh SPA and SSSI	SPA: Supporting in excess of 20,000 individual seabirds: migratory species common guillemot ( <i>Uria aalge</i> ), black-legged kittiwake ( <i>Rissa tridactylis</i> ) and breeding razorbill ( <i>Alca torda</i> ), northern fulmar ( <i>Fulmaris glacialis</i> ) and herring gull ( <i>Larus argentatus</i> ). SSSI/Ramsar: Additionally – breeding bird assemblage.	7.8 km east of the Proposed Development	Potential connectivity with qualifying species due to distance from Proposed Development (gull mean foraging to 10.5 km from their breeding sites <sup>60</sup> ). However, Site habitat of plantation woodland unsuitable for foraging herring gull.

#### *Herring gull (SPA qualifying feature)*

3.1.3 Herring gull (also Red-listed on BoCC) are likely to forage to a similar distance as related species. As such, birds may range on average 10.5 km from breeding sites with some foraging flights potentially to greater distances<sup>6</sup>. The Fowlsheugh SPA was cited as holding 3,190 pairs (2% of the then UK population). WeBS counts of St. Cyrus to Stonehaven section provides an average count of 104 individuals during the winter months only<sup>7</sup>; the larger WeBS section Stonehaven to Aberdeen has not received survey input, however.

#### Desk Study

3.1.4 No Schedule 1 breeding bird records were noted in the RSPB data request of April 2023 for the Study area.

3.1.5 No response has yet been received from the local Raptor Study Group following data requests in 2023 and 2024.

3.1.6 NBN data search provided the following list of target species and Birds of Conservation Concern (BoCC<sup>8</sup>) Red and Amber-listed species within the last 10 years and within 2 km of the Site (refer **Table 11.2 Breeding birds recorded on survey visits**).

3.1.7 Forestry Land Scotland (FLS) supplied data of nesting Schedule 1 species goshawk – refer **Appendix 11.2 Ornithology Confidential Appendix**.

<sup>6</sup> Thaxter, C. B. et al. (2019) Avian vulnerability to wind farm collision through the year: Insights from lesser black-backed gulls (*Larus fuscus*) tracked from multiple breeding colonies. *Journal of Applied Ecology*, 56(11), p.2410-2422.

<sup>7</sup> BTO webs data available here- <https://app.bto.org/webs-reporting/numbers.jsp?locid=LOC649454>

<sup>8</sup> Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds* 114: 723-747. Available online at <https://britishbirds.co.uk/content/status-our-bird-populations>

Breeding bird surveys

3.1.8 Breeding bird survey results are presented in **Table 11.2: Presence of breeding birds: all NCI moderate sensitivity species** outlines Scottish biodiversity list and BoCC Red-list species recorded as showing signs of breeding on Site (refer **Section 2.2**). This table also details the presence of species from NBN records.

**Table 11.2 Breeding birds recorded on survey visits**

Species	BoCC (RAG)	Desk Records	Surveys	Presence (s-singing; c-calling; v-sight only)	Scottish population <sup>9</sup>
House martin <i>Delichon urbicum</i>	R	Y			84,500-116,500
Mistle thrush <i>Turdus viscivorus</i>	A	Y	Y	S	50,000 pairs
Bullfinch <i>Pyrrhula pyrrhula</i>	A	Y	Y	C	290,000-557,000
Song thrush <i>Turdus philomelos</i>	A	Y	Y	S	250,000 pairs
Crossbill <i>Loxia curvirostra</i>	Schedule 1	Y	Y	C/S	5,000-50,000 pairs
Willow Warbler <i>Phylloscopus trochilus</i>	A	Y	Y	S	540,000-590,000
Wren <i>Troglodytes troglodytes</i>	A	Y	Y	S	1.5 million pairs
Dunnock <i>Prunella modularis</i>	A	Y	Y	S	400,000 pairs
Great tit <i>Parus major</i>	G	Y	Y	C	300,000-450,000 pairs
Blue tit <i>Cyanistes caeruleus</i>	G	Y			750,000 pairs
Coal tit <i>Periparus ater</i>	G	Y	Y	S/C	200,000-400,000 pairs
Blackbird <i>Turdus merula</i>	G	Y	Y	S	600,000-1 million pairs
Robin <i>Erithacus rubecula</i>	G	Y	Y	S	1.25 million pairs

<sup>9</sup> The Birds of Scotland (2007). Forrester R.W. and Andrews I.J eds.

Species	BoCC (RAG)	Desk Records	Surveys	Presence (s-singing; c-calling; v- sight only)	Scottish population <sup>9</sup>
Chiffchaff <i>Phylloscopus collybita</i>	G	Y			50,000 pairs
Goldcrest <i>Regulus regulus</i>	G	Y	Y	S	300,000-750,000 pairs
Long-tailed tit <i>Aegithalos caudatus</i>	G	Y			30,000-45,000 pairs
Wood pigeon <i>Columba palumbus</i>	G	Y	Y	C	600,000 pairs
Great-spotted woodpecker <i>Dendrocopos major</i>	G	Y			10,000 pairs
Swallow <i>Hirundo rustica</i>	G	Y			80,000-120,000 pairs
Jackdaw <i>Coloeus monedula</i>	G	Y			80,000-120,000 pairs
Carrion crow <i>Corvus corone</i>	G	Y	Y	C	100,000-200,000 pairs
Goldfinch <i>Carduelis carduelis</i>	G	Y			40,000-60,000 pairs
Chaffinch <i>Fringilla coelebs</i>	G	Y	Y	S	Up to 1.5 million pairs
Siskin <i>Spinus spinus</i>	G	Y	Y	C	Up to 3.5 million

3.1.9 The BBS area supports an assemblage of species that would be expected from a site which is predominantly commercial forestry plantation with blocks of different ages. **Table 11.2: Breeding birds recorded on survey visits** provides a summary of the bird resource recorded in the BBS area. Given the nature of plantation habitat, existing access tracks across the site were used to sample the bird resource with records as presence/absence and whether birds were considered breeding only noted – no attempt to map territories was carried out. This is consistent with NatureScot guidelines where it is considered that survey of woodland passerines, especially in commercial conifer forest is generally not required<sup>10</sup>.

3.1.10 Notable of the species recorded was crossbill (likely common crossbill *L. curvirostra*). This is a BoCC green list, Schedule 1 species. Birds were recorded in April and May 2024 visits to the site. As per NatureScot guidelines for wind farm developments, crossbill may need to be taken into account for proposals in commercial forestry in relation to species protection plans but any survey required would be undertaken prior to construction after consent for the proposal.

<sup>10</sup> NatureScot 2016 Recommended bird survey methods to inform impact assessment of onshore wind farms. SNH Battleby. Available online:

<https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms>

### Schedule 1 bird Surveys

3.1.11 Survey visits were made on the 3<sup>rd</sup> April and 27<sup>th</sup> April 2024 to determine the presence of breeding goshawk up to 1 km of the Proposed Development. Surveys were carried out at the times outlined in **Table 11.3** below together with associated weather conditions at the time. Searches were focussed on parts of the forestry that had suitably aged trees in blocks of woodland likely to provide goshawk with sufficient shelter and nesting provision.

**Table 11.3 Hurlie Schedule 1 raptor survey dates and weather**

Session	Surveyor	Date	Start time	End time	Cloud cover (tenths)	Cloud base (m)	Wind force (Beaufort scale)	Wind direction	Precipitation
240403_ROS_DW	DW	03/04/2024	06:00	08:15	10	800	4	SE	Intermittent heavy rain
240403_ROS_JND	JND	03/04/2024	05:50	08:10	10	800	4	SE	Intermittent heavy rain
240427_ROS_JND	JND	27/04/2024	04:55	07:00	8	1000	3	ESE	Intermittent light rain

3.1.12 Breeding sites of goshawk within the survey area are further discussed in the appended **Appendix 11.2 Ornithology Confidential Appendix**.

### Schedule 1 raptor roosting bird surveys

3.1.13 Winter roosting surveys were undertaken with the survey times, survey periods and associated weather conditions as shown in **Table 11.4: Vantage Point hours and weather conditions during watches**. (refer **Figure 11.2.1: Ornithology Survey Areas for Vantage Point sites**).

3.1.14 A total of 14 hours 20 minutes of watch time was carried out between 17<sup>th</sup> January 2024 and 27<sup>th</sup> March 2024, the majority of which (10 hours 20 minutes) at times until sunset.

3.1.15 No target species were recorded during the roost surveys i.e. no goshawk or red kite appeared during the Vantage point surveys within the watch point viewsheds. Raptor species, sparrowhawk *Accipiter nisus* and buzzard *Buteo buteo* were noted during survey, however.

**Table 11.4 Vantage Point hours and weather conditions during watches**

Session	Vantage Point	Surveyor	Date	Start time	End time	Cloud cover (tenths)	Cloud base (m)	Wind force (Beaufort scale)	Wind direction	Precipitation
240117_ROS_JND	KT3	JND	17/01/2024	14:00	16:20	1	1000	2	SE	Clear – snow on ground
240227_ROS_DW	KT2	DW	27/02/2024	16:10	18:10	1	1800	1	SSW	Dry
240227_ROS_JND	KT2	DW	27/02/2024	16:10	18:10	1	1500	1	SSW	Dry
240307_ROS_DW	KT3	DW	07/03/2024	16:25	18:25	10	550	2	S	Dry
240307_VP_JND	KT2	JND	07/03/2024	16:15	18:15	10	650	2	S	Dry
240327_KT1_AM	KT1	AM	27/03/2024	05:20	07:20	8	1200	3	ENE	Continuous heavy rain
240327_ROS_DW	KT2	DW	27/03/2024	05:20	07:20	10	1000	3	NE	Continuous heavy rain

3.1.16 Herring gull (SPA species) was not recorded as foraging in fields during the winter surveys. Occasional flights of the species were recorded during the breeding bird and winter surveys; however, no birds were recorded as using the Site.

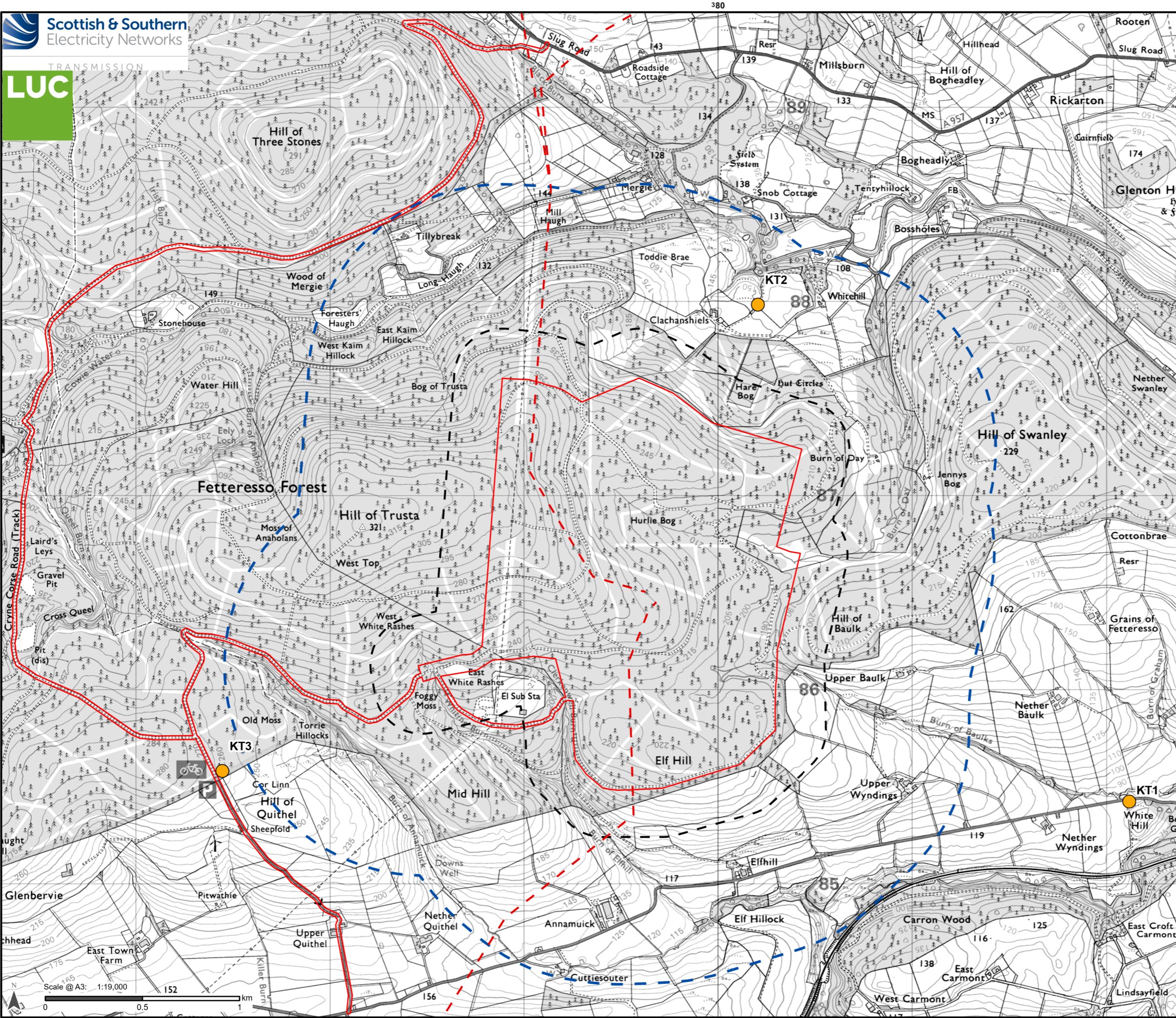
## 4. SUMMARY

### Designated sites and their qualifying features

- 4.1.1 The Site does not present suitable foraging for Fowlsheugh SPA qualifying species herring gull, with the majority of the area plantation forestry.

### Schedule 1 Species

- 4.1.2 Breeding Schedule 1 species goshawk and crossbill are present within the study area (to 1 km from the Site with regards to target raptors). Further details of the former are noted within **Appendix 11.2 CONFIDENTIAL Ornithology Appendix**.
- 4.1.3 The Fetteresso forest area (to at least 1 km from the Site) was not used by red kite as a roosting site.



- Hurlie red line boundary
- - Kintore to Tealing 400 kV OHL
- - - Ornithology survey area (1km buffer from red line boundary with tracks removed)
- - - Breeding bird survey area
- Red Kite vantage point



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Project No: LT486  
Project: Hurlie 400 kV Substation

Title:  
Ornithology Survey Area

Drawn by: IB Date: 17/10/2024

Figure: 11.2.1