Scottish & Southern Electricity Networks

TRANSMISSION

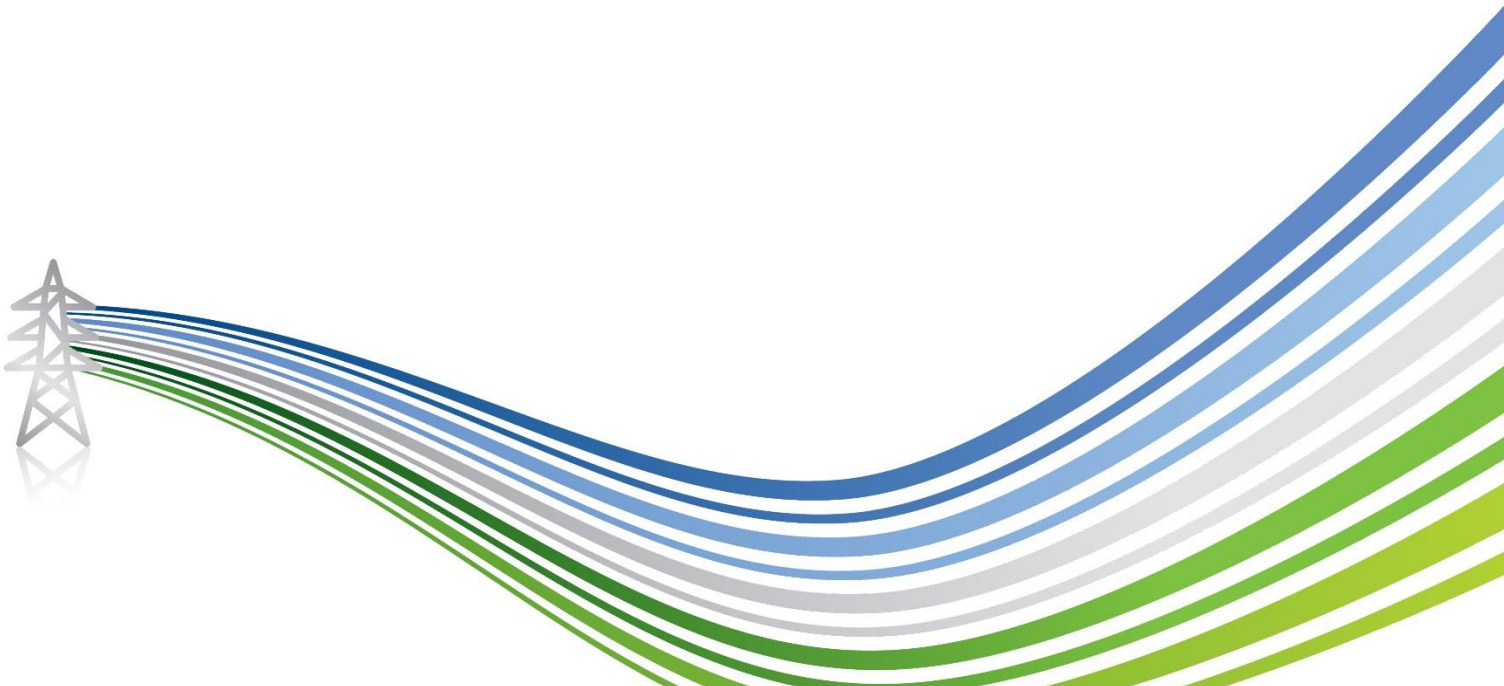
Scottish Hydro Electric Transmission plc

CLASH GOUR WIND FARM CONNECTION

LT264

Appendix F: Ornithology Technical Report

July 2022



Scottish Hydro Electric Transmission plc

Inveralmond House

200 Dunkeld Road

Perth PH1 3AQ

Tel: +44 (0)1738 456 000

www.ssen-transmission.co.uk

Scottish & Southern Electricity Networks
TRANSMISSION

CONTENTS

1. INTRODUCTION

1.1.1 This is an Appendix to the Clash Gour Eind Farm Connection Environmental Appraisal (EA) and should be read in conjunction with it.

1.1.2 The Proposed Development is in a rural area, approximately 10 km south of Forres and 22 km south-west of Elgin, Moray, at approximate National Grid Reference NJ 05038 48469 (the 'Site'). The location of the Proposed Development is provided in **Figure 1** in **Appendix A** of this ornithology technical report.

1.2 Scope of report

1.2.1 This report documents the methodologies used and the results of the ornithological survey and desk study.

1.2.2 The key objectives of this technical report are to identify the ornithological baseline of the Site and wider area (as applicable) and potential ornithological constraints associated with the Proposed Development, sufficient to inform an Environmental Appraisal (EA) for the Proposed Development.

1.3 Relevant legislation and policy

1.3.1 The technical report has been compiled with reference to the following relevant nature conservation legislation, planning policy and the Scottish Biodiversity Strategy from which the protection of sites, habitats and species is derived in Scotland. The context and applicability of each item is explained as appropriate in the relevant sections of the report.

Legislation

- The Conservation (Natural Habitats etc.) Regulations 1994 (as amended in Scotland) (Habitats Regulations);
- The Wildlife and Countryside Act 1981 (as amended) (WCA);
- The Nature Conservation (Scotland) Act 2004 (as amended); and
- The Wildlife and Natural Environment (Scotland) Act 2011 (WANE Act).

Policy

- The UK Post-2010 Biodiversity Framework (2011-2020) (JNCC and DEFRA, 2012[1]);
- Scottish National Planning Framework 3 (NPF3) (2014[2]);
- Moray Local Development Plan (Moray Council, 2020[3]); and
- North East Scotland Biodiversity Action Plan (NELBAP) (North east Scotland Biodiversity Partnership, 2021[4]).

---

[1] Joint Nature Conservation Committee and Department for Environment, Food and Rural Affairs (2012). The UK Post-2010 Biodiversity Framework (2011-2020). Available at: https://hub.jncc.gov.uk/assets/587024ff-864f-4d1d-a669-f38cb448abdc#UK-Post2010-Biodiversity-Framework-2012.pdf [Accessed: November 2021].

[2] NPF3 is anticipated to be superseded by the National Planning Framework 4 in 2021. Consultation on Scotland's National Planning Framework (NPF4) is currently seeking information on ways in which the planning system can protect biodiversity, in line with the Planning (Scotland) Act 2019 and Nature Conservation (Scotland) Act 2004. As a result, it is anticipated that Biodiversity Net Gain will be mandated in Scotland in the foreseeable future.

[3] Moray Council (2020). Moray Local Development Plan. Available: http://www.moray.gov.uk/moray_standard/page_133431.html [Accessed: November 2021].

[4] North east Scotland Biodiversity Partnership (2021). Our Biodiversity. Available: https://www.nesbiodiversity.org.uk/feedback-for-north-east-scotland-biodiversity-partnership/ [Accessed: November 2021].

2. METHODS

2.1 Overview

2.1.1 This report has been prepared with reference to current good practice guidance published by the Chartered Institute for Ecology and Environmental Management (CIEEM), including Guidelines for Ecological Report Writing (CIEEM, 2017[5]). This report also takes account of guidance from NatureScot[6,7] regards ornithological survey methods and assessment.

2.1.2 Specifically, the following work was undertaken during September/November 2021:

- an ornithological desk study of the Site and its 2 km buffer zone (increased to 20 km for European and International sites) (the study area, **Figure 1** in **Appendix A**); and
- supplementary bird surveys of the Site and an additional 500 m buffer (the ornithological survey area).

2.2 Desk study

Clash Gour Wind Farm Environmental Impact Assessment (EIA)

2.2.1 The main source of the data gathered for the ornithological desk study were the results of ornithological surveys to inform the EIA for the proposed Clash Gour Wind Farm[8] which has an overlapping study area with the Proposed Development. This data was collected between 2013 and 2018 and includes three years of data that would be considered valid (within five years old) based on NatureScot's guidance on the age validity of data used for assessing impacts to ornithological receptors[7].

2.2.2 The study area for the proposed Clash Gour Wind Farm is considerably larger than that for the Proposed Development, and only certain records from the Wind Farm study area were considered relevant to the very localised footprint of the Proposed Development using a Zone of Influence based on guidance[7].

2.2.3 Flight Activity Surveys to inform the Clash Gour Wind Farm EIA were undertaken during 2013 to 2018 inclusive. Those records prior to 2016 are not considered here (with some specifically referenced exceptions) as they would exceed NatureScot's recommendations on age validity of data.

2.2.4 Two Vantage Point (VP) locations used to collect flight activity data to inform the Cash Gour Wind Farm EIA were relevant to the study area for the Proposed Development. All the relevant records were recorded during the breeding season (March-August inclusive) 2018 and mostly from 30 hours of observation time at a single VP location.

2.2.5 Flight activity data was considered relevant to the desk study where flights crossed the Site or were within 500 m of the Site. Flights recorded within this study area were considered at potential risk of collision with the Proposed Development if they were recorded time within three of a total of five height bands used to collect data to inform the Clash Gour Wind Farm EIA:

- 0-20 m
- 21-40 m

---

[5] CIEEM (2017b). Guidelines for Ecological Report Writing. CIEEM, Winchester.

[6] SNH (2016). Assessment and mitigation of impacts of power lines and guyed meteorological masts on birds.

[7] SNH (2017). Recommended bird survey methods to inform impact assessment of onshore wind farms

[8] MacArthur Green (2018). Clash Gour Wind Farm Environmental Statement. Technical Appendix 9.1: Ornithology. Available: Vol 4b Technical Appendices 8.5-9.1 low.pdf (force9energy.com) [Accessed October 2021]

- 41-100 m

2.2.6 Those flights recording time in height bands four and five were significantly higher than the height of the Proposed Development comprising proposed OHL towers of up to 60 m and therefore there would be no theoretical collision risk to those flights from the Proposed Development.

2.2.7 The relevant study areas for other ornithological survey methods: breeding bird survey and scare breeding bird survey (incorporating records of capercaillie and black grouse) were 500 m and 2 km respectively. For the breeding bird survey relevant records within the last five years have been used. For scarce breeding bird records, all records within the relevant study area have been used, including those exceeding NatureScot's recommendations on age validity of data. This is to provide context as there is a relative lack of records of target species within the relevant study area derived from these surveys. The year of these observations is mentioned under individual species accounts in Section 3 Results.

2.2.8 Taking account of the extensive ornithological data already available, the data's validity and the relatively small scale of the Proposed Development, a full suite of ornithological surveys were not undertaken. This approach was agreed in consultation with NatureScot[9].

Designated Sites

2.2.9 Freely downloadable datasets (including those available from NatureScot (2021)[10]) were consulted for information regarding the presence of the following features:

- statutorily designated sites with ornithological qualifying interests of European or international conservation importance[11] occurring within 10 km (extending to 20 km where qualifying species include geese) of the Site;
- non-statutorily designated sites with ornithological qualifying interests of European or international conservation importance occurring within 10 km (extending to 20 km where qualifying species include geese) of the Site: Important Bird Areas (IBAs)[12];
- statutorily designated sites with ornithological qualifying interests of local and/or national conservation importance[13] occurring within 2 km of the Site; and
- non-statutorily designated sites with ornithological qualifying interests of local conservation importance[14] occurring within 1 km of the Site.

2.3 Supplementary Ornithological Survey

2.3.1 While seeking agreement with NatureScot that a full suite of ornithological surveys was not required to inform assessment of the Proposed Development, a short-term program of flight activity surveys was undertaken on a once monthly basis from September to November 2021 inclusive.

2.3.2 Observations were made from a single Vantage Point (VP) (**Figure 2** in **Appendix A**) overlooking the ornithological survey area as defined in Section 2.1. The flight activity survey comprised a total of six

[9] Email correspondence on 08/11/2021

[10] https://sitelink.nature.scot/home [Accessed October 2021]

[11] Special Protection Areas (SPA), Ramsar sites.

[12] IBAs are considered by BirdLife International to represent places of international significance for the conservation of birds and other biodiversity. http://www.birdlife.org/worldwide/programme-additional-info/important-bird-and-biodiversity-areas-ibas: accessed November 2021.

[13] Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR) Local Nature Reserves (LNR).

[14] Local Nature Reserves (LNR) and Local Nature Conservation Sites (LNCS).

hours watch time each month which was undertaken in a single day and divided into three-hour watches with a minimum of half an hour break between the two watches.

2.3.3 Flight activity was recorded for target species: species of elevated conservation importance whose size and flight behaviour predisposes them to the risk of collision with OHLs. The choice of target species was informed through the desk study and comprised birds of prey listed within Schedule 1 of the WCA, geese, wading birds, black grouse *Lyrurus tetrix* and capercaillie *Tetrao urogallus*.

2.3.4 For each observation of a target species the following parameters were captured on a recording form:

- number of birds;
- estimated flight height in two height bands (0-60 m, 60 m+). 0-60 m represented collision risk height based on the height of the four proposed steel lattice towers; and
- time (in seconds) spent in each height band.

2.3.5 Each target species flight line was drawn on a corresponding map.

2.3.6 Additional species of lower conservation importance that were judged as predisposed to risk of collision with OHLs were recorded as secondary species. Activity from these species was summarised for every five-minute interval of each three-hour watch on a secondary species recording form e.g., was the species flying or perched and the minimum number of birds for each five-minute interval. For secondary species no flight heights were recorded, flights were not timed, and flight lines were not drawn on a corresponding map.

2.3.7 Any observations of perched target species were also entered on the secondary species form to help inform of potential effects to target species from the Proposed Development which were not related to collision risk e.g., displacement from foraging or roosting sites during the construction phase.

2.4 Limitations

2.4.1 The height of the four proposed steel lattice towers has subsequently been refined after completion of the ornithological desk study and supplementary ornithology surveys. Maximum indicative heights including Limit of Deviation (LOD) are in the range of 51 to 64 m. This does not have implications for the assessment of collision risk as a precautionary approach was taken to assessing flight activity from the Clash Gour Wind Farm EIA relevant to the Proposed Development; a broad range of height band data from a minimum of 0 up to a maximum of 100 m was used to inform the desk study, therefore the maximum height considered was above that of the updated indicative heights of the proposed steel lattice towers. Furthermore, the only target species flights recorded during the supplementary ornithological surveys were above 60m. There is minor overlap with the updated predicted maximum height of the proposed steel lattice towers (64 m) but given the difficulties of judging flight heights in increments at this small scale it is highly likely that the target species flights recorded were well above the indicative maximum tower height.

3. RESULTS

3.1 Desk Study

Clash Gour Wind Farm EIA

3.1.1 Ornithological survey extents (relevant to the Proposed Development) and activity from target species recorded for the proposed Clash Gour Wind Farm are illustrated in **Figure 2** and **Figure 3** in **Appendix A**. Table 1 below summarises survey effort and results for the Clash Gour Wind Farm considered relevant to the Proposed Development using a Zone of Influence based on guidance[7].

Table 1 - Designated sites with ornithological qualifying interests up to 20 km from the Site

Survey Type	Years of Survey Relevant to Desk Study	Search Radius from the Proposed Development	Relevant Records
Flight Activity Surveys	2015, 2016, 2017, 2018.	500 m	Curlew *Numenius arquata*: two flights involving two birds. Both flights were within a height band range which could potentially result in collision risk from the Proposed Development. Golden plover *Pluvialis apricaria*: one flight involving 320 birds. This flight was within a height band range which could potentially result in collision risk from the Proposed Development. Lapwing *Vanellus vanellus*: eight flights involving 29 birds. All flights were within a height band range which could potentially result in collision risk from the Proposed Development. Flight activity was associated with breeding activity immediately south of the Site. Oystercatcher *Haematopus ostralegus*: one flight involving two birds. The flight was within a height band range which could potentially result in collision risk from the Proposed Development.
Breeding Bird Survey	2015, 2016	500 m	Territories for curlew, oystercatcher and lapwing identified within 500 m of the Site. There was a distinct cluster of activity immediately alongside the southern end of the Site.
Scarce Breeding Birds	2013, 2014, 2015, 2016, 2017, 2018	2 km	There were single observations of barn owl *Tyto alba*, short-eared owl *Asio flammeus* and goshawk *Accipiter gentilis* within 500 m of the Site and single observations of hen harrier *Circus cyaneus* and merlin *Falco columbarius* within 2 km of the Proposed Development, none of the observations related to birds in proximity to nest sites. The short-eared owl observation was in 2013 and hen harrier and barn owl observations in 2014, out with the data validity period recommended by NatureScot (data of a maximum of five years old) but are included here for completeness taking account of the lack of records of scarce breeding birds across the entire survey period.

Survey Type	Years of Survey Relevant to Desk Study	Search Radius from the Proposed Development	Relevant Records
Black grouse and capercaillie surveys	2013, 2014, 2015, 2016	2 km	No capercaillie leks were identified. There was a single incidental capercaillie observation during scarce breeding bird survey effort in 2013 which was approximately 2 km from the Proposed Development. Black grouse were recorded lekking at six locations within the study area for the proposed Clash Gour Wind Farm. No black grouse leks or black grouse observations were recorded within 2 km of the Proposed Development.

Designated Sites

3.1.2 There are no statutory or non-statutory designated sites within the Site and no statutory or non-statutory designated sites within 2 km of the Site.

3.1.3 Designated sites identified within the 20 km and 10 km search radius and of ornithological interest are presented in Table 2, below, alongside their qualifying interests. The location of each environmental designation in relation to the Site are shown on **Figure 1** in **Appendix A**.

Table 2- Designated sites with ornithological qualifying interests up to 20 km from the Survey Area

Site Name	Designation	Qualifying feature	Distance & Direction from Site
Darnaway and Lethen Forest	SPA	Darnaway and Lethen Forest SPA qualifies under Article 4.1 by regularly supporting a breeding population of European importance of capercaillie.	5.8 km north-west of the Site
Moray and Nairn Coast	Ramsar	Designated for supporting an internationally important wintering population of greylag geese *Anser anser*: 3023 individuals.	12 km north of the Site
Moray and Nairn Coast	SPA	Designated for regularly supporting populations of European importance of the migratory species: pink-footed goose *Anser brachyrhynchus* (1988/89 to 1992/93, winter peak mean of 7,538 individuals, 4% of the Eastern Greenland/Iceland/UK biogeographic population); greylag goose (1988/89 to 1992/93, winter peak mean of 3,023 individuals, 3% of the Iceland/UK/Ireland biogeographic population). In addition to geese, the Moray and Nairn Coast Ramsar/SPA is designated for populations of European importance of osprey *Pandion haliaetus*, redshank *Tringa totanus* and bar-tailed godwit *Limosa lapponica*. Furthermore, the designated site supports more than 20,000 waterfowl in the winter period	12 km north of the Site

3.2 Ornithological Survey Results

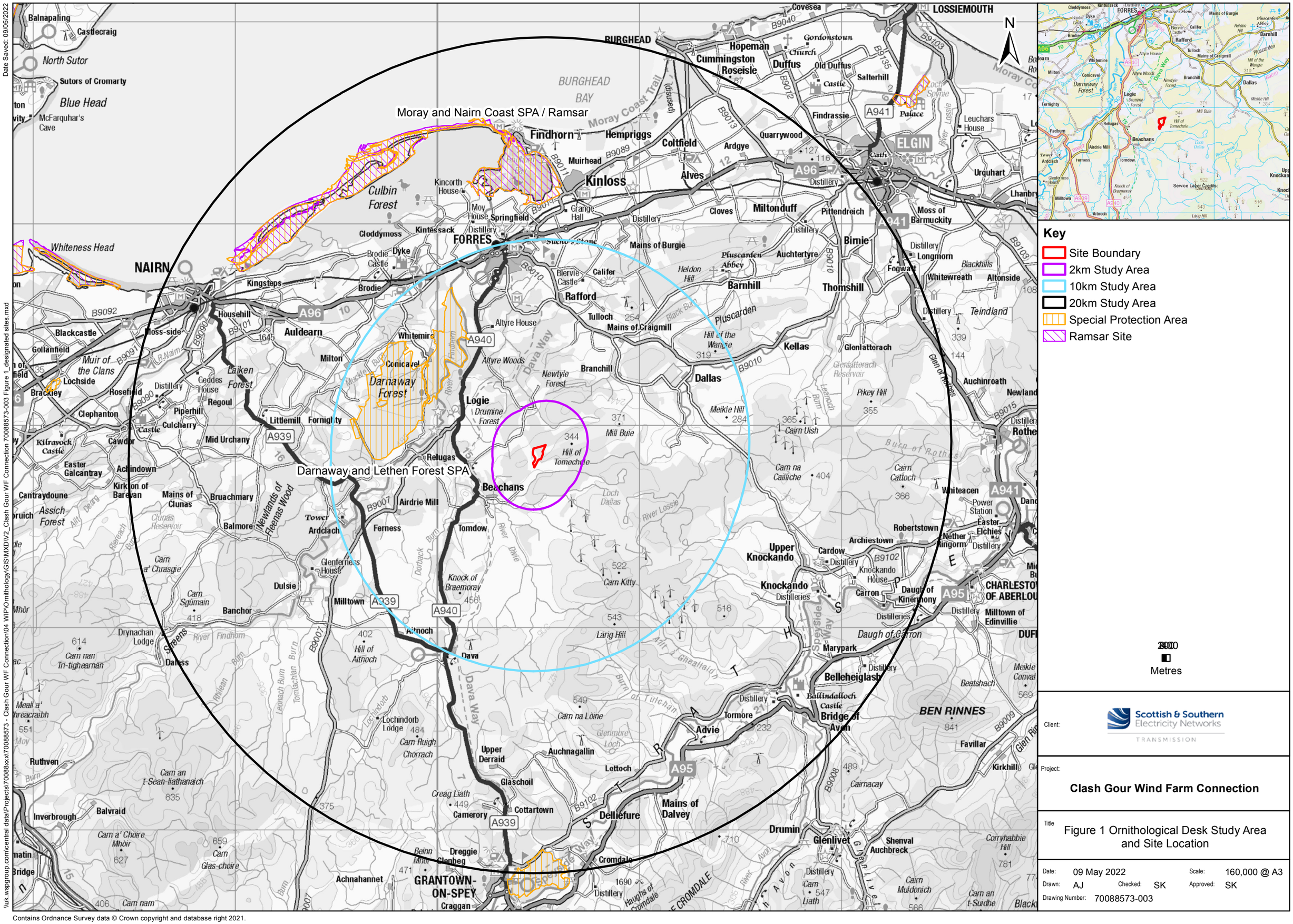
3.2.1 The results of the flight activity surveys undertaken in September-November 2021 are discussed here and illustrated on **Figure 2** in **Appendix A**.

3.2.2 The only target species observation during the three survey visits were two skeins of pink-footed geese (40 and 80 birds respectively) flying across the Proposed Development at height band two (above collision risk height) on 14th October. Only one of these flights crossed directly over the location of the four proposed new OHL towers. In addition, two secondary species were observed: kestrel *Falco tinnunculus* (single birds during the September and November visits) and buzzard *Buteo buteo* (a single bird during the October visit).

APPENDIX A: FIGURES

Date Saved: 09/05/2022

\\uk.wspgroup.com\central data\Projects\70088xx\70088573 - Clash Gour WF Connection\04 WIP\Ornithology\GIS\MXD\V2_Clash Gour WF Connection 70088573-003 Figure 1_designated sites.mxd



Client: Scottish & Southern Electricity Networks TRANSMISSION

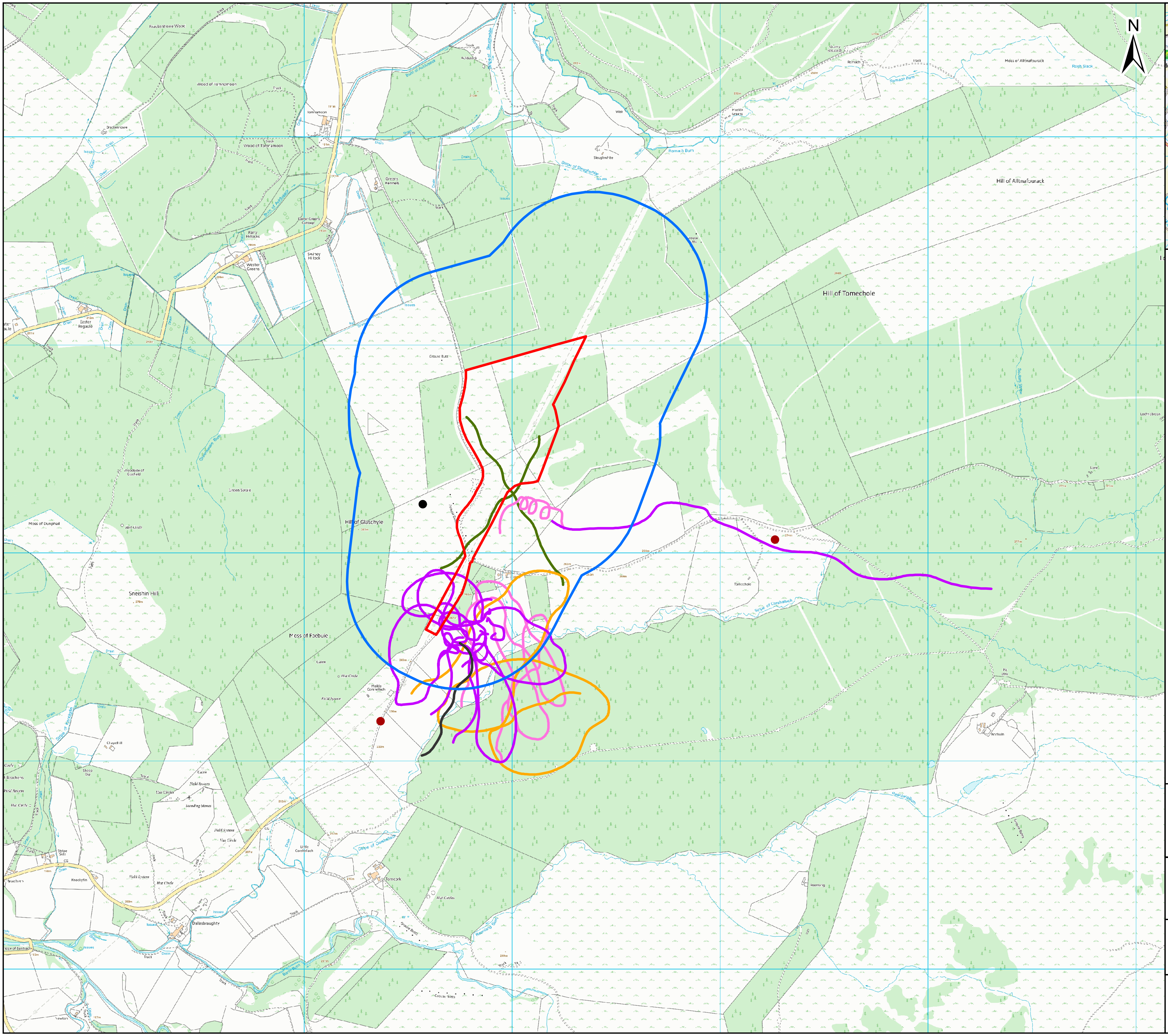
Project: **Clash Gour Wind Farm Connection**

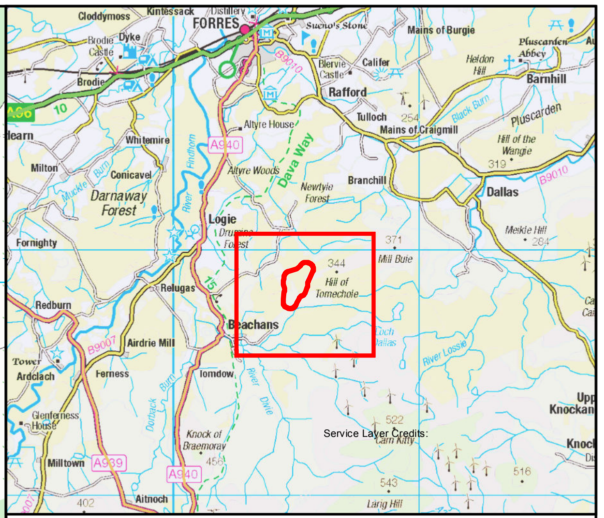
Title: Figure 1 Ornithological Desk Study Area and Site Location

Date:	09 May 2022			Scale:	160,000 @ A3
Drawn:	AJ	Checked:	SK	Approved:	SK
Drawing Number:	70088573-003				

Date Saved: 30/06/2022

\\uk.wspgroup.com\central data\Projects\70088xxx\70088573 - Clash Gour WF Connection\04 WIP\Ornithology\GIS\MXD\V2_Clash Gour WF Connection 70088573-003 Figure 2_flights.mxd





Key

▭ Site Boundary
▭ 500m Flight Activity Survey Area
● VP Location - Clash Gour Windfarm EIA
● VP Location - WSP Surveys 2021

Flight Activity Desk Study Data: Clash Gour Windfarm EIA

— Curlew - 2 Flights
— Golden Plover - 1 Flight
— Lapwing - 8 Flights
— Oystercatcher - 1 Flight

Flight Activity Survey Results: WSP Survey Data September-November 2021

— Pink-footed Goose - 2 Flights

0 200 400
Metres

Client: Scottish & Southern Electricity Networks TRANSMISSION

Project:

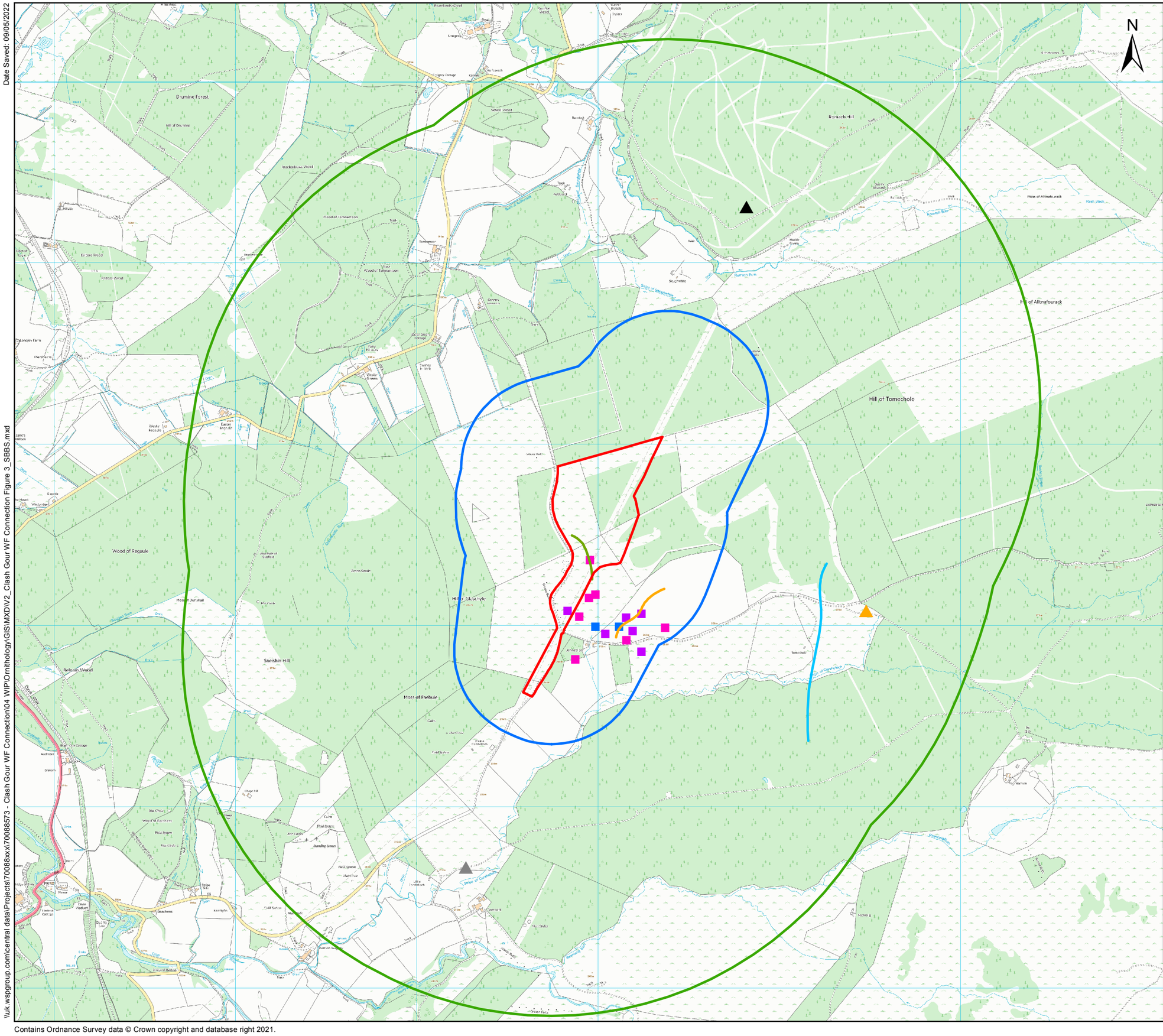
Clash Gour Wind Farm Connection

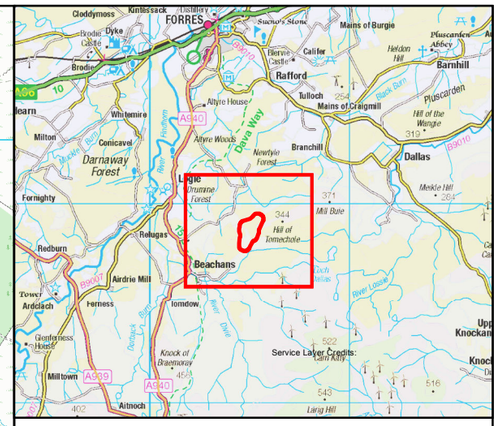
Title

Figure 2 Vantage Point Survey Results

Date: 30 June 2022		Scale: 0 @ A3	
Drawn: AJ	Checked: SK	Approved: SM	
Drawing Number: 70088573-003			

Date Saved: 09/05/2022





Key

- Site Boundary
- 500m Scarce Breeding Bird Survey Area
- 2km Breeding Bird Survey Area

Scarce Breeding Bird Survey Observations of Individuals Not Nest Sites

- Barn Owl
- Capercaillie
- Merlin

Scarce Breeding Bird Survey: Flights

- Goshawk
- Hen Harrier
- Short-eared Owl

Breeding Bird Survey: Points

- Curlew
- Lapwing
- Oystercatcher

0 400 800

Metres

Client: Scottish & Southern Electricity Networks TRANSMISSION

Project:

Clash Gour Wind Farm Connection

Title

Figure 3 Desk Study Results
Scarce Breeding and Breeding Bird Surveys

Date: 30 June 2022 Scale: 20,000 @ A3

Drawn: AJ Checked: SK Approved: SM

Drawing Number: 70088573-003

\\uk.wspgroup.com\central data\Projects\70088xx\70088573 - Clash Gour WF Connection\04 WIP\Ornithology\GIS\MXD\V2_Clash Gour WF Connection Figure 3_SBBS.mxd