

Netherton Hub

Environmental Impact Assessment Report

Volume 4

Technical Appendix 9.3 – Ornithology

September 2024



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1. INTRODUCTION

1.1 Background

1.1.1 Scottish and Southern Electricity Networks Transmission (hereafter referred to as 'SSEN Transmission'), operating under licence as Scottish Hydro Electric Transmission plc (SHE Transmission plc) is proposing to submit an application for planning permission in principle under the Town and Country Planning (Scotland) Act 1997¹ (as amended) for consent to construct and operate a new strategic transmission hub (The Proposed Development) including the following key elements: 400 kilovolt (kV) substation, a 132 kV substation, High Voltage Direct Current (HVDC) Switching Station, Spittal to Peterhead HVDC Link Converter Station, Eastern Green Link 3 HVDC Converter Station and an operations depot and store on a collocated site to the west of Peterhead in Aberdeenshire (the Site), to be collectively known as the 'Netherton Hub'. The Site boundary is illustrated on **Figure 9.3.1 Ornithological Survey Areas**.

1.1.2 WSP was commissioned to undertake a breeding bird survey programme to inform the assessment of potential impacts from the Proposed Development. This report details the methods and results of those surveys. High level conclusions on the ornithological value of the Site are also provided.

¹ Town and Country Planning (Scotland Act) 1997. Available at: <https://www.legislation.gov.uk/ukpga/1997/8/contents> [Accessed: August 2023].

2. METHODS

2.1 Desk Study

2.1.1 A desk-based study to identify designated sites within and surrounding the Proposed Development was undertaken during the site selection stage. The following statutory designated sites at European or International level with ornithological interests were identified within a provisional search area of 10 km beyond the Proposed Development Site Boundary. The search was extended to 20 km to account for the increased range of certain goose species (greylag goose and pink-footed goose).

- Buchan Ness to Collieston Coast Special Protection Area (SPA) (6.2 km south-east) – designated for breeding fulmar, guillemot, herring gull, kittiwake, shag and seabird assemblage;
- Loch of Strathbeg SPA and Ramsar (11.2 km north) – designated for breeding sandwich tern, and non-breeding/overwintering goldeneye, teal, greylag goose, pink-footed goose, Svalbard barnacle goose, whooper swan and waterfowl assemblage – as well as eutrophic loch habitat under the Ramsar citation; and
- Ythan Estuary, Sands of Forvie and Meikle Loch SPA (14.2 km south) – designated for breeding common tern, Sandwich and little tern, and non-breeding/overwintering eider, lapwing, redshank, pink-footed goose and waterfowl assemblage.

2.1.2 No statutory designated sites at National or Local level were identified within 2 km of the Proposed Development site.

2.1.3 Studies of the distribution of foraging geese from relevant designated sites were used to predict if important foraging assemblages could occur within an Ecological Zone of Influence (EZoI) of the Site². The EZoI was based on the predicted maximum disturbance/displacement distance relating to pink-footed goose *Anser brachyrhynchus*. Mitchell (2012)³ provides data on the distribution of pink-footed and greylag geese within 20 km of all relevant European sites. An additional study, Littlewood, and Sideris (2016)⁴ provides detailed information on the distribution of foraging geese from Loch of Strathbeg SPA/Ramsar site.

2.1.4 Information relevant to ornithology was gathered from projects with overlapping EZoI's with the Proposed Development e.g., consultation with the Royal Society for the Protection of Birds (RSPB) for the Beauly to Blackhillock to New Deer to Peterhead 400 kV Overhead Line and Surveys for the three related SSEN Transmission projects were also used to provide information on the distribution of foraging geese within a EZoI overlapping with the Site:

- Spittal to Peterhead HVDC Underground Cable;
- Eastern Green Link 3 HVDC Underground Cable; and
- Beauly to Blackhillock to New Deer to Peterhead 400 kV Overhead Line.

2.2 Breeding Bird Survey

2.2.1 Breeding bird surveys were undertaken across the Site plus an additional 100 m from the Site (the 'Breeding Bird Survey Area'). The survey was undertaken over four survey visits (at least two weeks apart) encompassing the period early-April to early July 2023 (inclusive). The survey methodology followed an adapted version of the British Trust for Ornithology (BTO) Common Bird Census (CBC)⁵ whereby the number of visits was reduced from ten to four.

² Goodship, N.M. and Furness, R.W. (MacArthur Green) Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283. <https://www.nature.scot/doc/naturescot-research-report-1283-disturbance-distances-review-updated-literature-review-disturbance#Black-throated+diver,+Gavia+arctica>.

³ Mitchell, C. (2012). Mapping the distribution of feeding Pink-footed and Iceland Greylag Geese in Scotland. Wildfowl & Wetlands Trust / Scottish Natural Heritage Report, Slimbridge. 108pp.

⁴ Littlewood, N.A. & Sideris, K. (2016). A survey of the feeding distribution of geese around the Loch of Strathbeg. Scottish Natural Heritage Commissioned Report No. 937. Available at: <https://www.nature.scot/sites/default/files/Publication%202016%20-%20SNH%20Commissioned%20Report%20937%20-%20A%20survey%20of%20the%20feeding%20distribution%20of%20geese%20around%20the%20Loch%20of%20Strathbeg.pdf>.

⁵ Marchant, J.H (1983). Common Birds Census Instructions. BTO, Tring.

2.2.2 During the survey, the surveyor walked the Breeding Bird Survey Area so that all areas of habitat, particularly field boundaries, were approached within 50 m. Observations of birds were recorded on survey maps using BTO species and behavioural codes.

2.3 Scarce Breeding Bird Survey

2.3.1 A Scarce Breeding Bird Survey (SBBS) was undertaken extending up to 2 km from the Site (the 'Scarce Breeding Bird Survey Area'). The SBBS was undertaken concurrently with the breeding bird survey described above. The SBBS focused on potentially suitable nesting habitat for scarce breeding birds potentially present in the wider survey area, particularly red kite *Milvus milvus*, common crane *Grus grus*, barn owl *Tyto alba* and breeding waders.

2.3.2 Surveys comprised watches of suitable habitat and searches of areas of suitable habitat as appropriate following methodology outlined in Gilbert *et al* (1998)⁶ and Hardey *et al* (2009)⁷.

2.4 Breeding Bird Territory Analysis

2.4.1 The objective of the breeding bird surveys was to identify the presence and locations of breeding territories held by species of conservation concern. Such species are referred to as 'target species' and were based on the following legislative or conservation lists:

- Annex I of the EU Directive on the Conservation of Wild Birds 79/409/EEC (the 'Birds Directive') (Annex I);
- Schedule 1 (including Schedule 1A and/or A1) of the Wildlife and Countryside Act (1981) (Schedule 1);
- 'Red' or 'Amber' on BoCC⁸; and
- Scottish Biodiversity List (SBL)⁹.

2.4.2 Breeding bird survey records were entered into ArcMap Geographical Information System (GIS) software. These were then analysed to identify the minimum number of probable or confirmed breeding territories for all target species recorded. This was done following the CBC methods. This either involves the identification of clusters of registrations of birds of the same species displaying breeding characteristics (e.g., singing, alarm calling, nest building, mating) or food provisioning in the same general area over successive survey visits (probable breeding), or the discovery of an active nest (e.g., containing eggs or chicks) (confirmed breeding). Given that the surveys comprised four visits over the breeding season, the minimum requirement for a cluster, and hence a probable breeding territory, to be defined was at least two registrations conforming to the above criteria recorded on separate survey visits conducted at least ten days apart.

2.4.3 Non-target species (e.g., listed as 'Green' on BoCC) were identified as being present within the Breeding Bird Survey Area but territory analysis was not conducted on these species.

2.5 Assumptions and Limitations

2.5.1 The breeding bird survey represents an adapted version of the CBC methodology with fewer survey visits undertaken. Four survey visits are considered sufficient to provide an estimate of breeding territories to enable

6 Gilbert, G., Gibbons, D, W and Evans, J (1998). Bird Monitoring Methods.

7 Hardey, J., Crick, H., Wernham, C., Riley, H. & Thompson, D (2009): Raptors: a field guide to survey and monitoring. 2nd Edition.

8 Stanbury, A.J., Eaton, M.A., Aebischer, N.J., Balmer, D., Brown, A.F., Douse, A., Lindley, P., McCulloch, N., Noble, D.G. & Win, I (2021). Birds of Conservation Concern 5: 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.

9 The Scottish Biodiversity List is a list of animals, plants and habitats that Scottish Ministers consider to be of principal importance for biodiversity conservation in Scotland. For the complete list please visit: <https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy-and-cop15/scottish-biodiversity-list>.

an assessment of effects of the Proposed Development to be undertaken. The number and location of breeding territories is an estimate based on the species and behaviours recorded.

- 2.5.2 During the survey period fields contained crops (i.e., oil seed rape and maize) which were tall and inaccessible to walk across. This was not considered to be a significant limitation as the ornithologist was able to record bird species from ad-hoc viewpoints within accessible areas of land and from the minor road network.
- 2.5.3 Bird survey data is typically valid if collected within the last five years or within three years if the populations of key species are known to be changing rapidly, for example, if conditions are likely to change more quickly due to ecological processes or anticipated changes in management.
- 2.5.4 Following an incidental observation of a barn owl just within the Site boundary, it was proposed that a barn owl survey should be undertaken. This was due to the presence of farm buildings within the Site which are potentially suitable for breeding/roosting barn owl, and which are proposed for demolition to facilitate construction of the Proposed Development. However, due to health and safety concerns, access to these buildings and immediate surrounding area was not possible, which included a lack of opportunities to undertake Vantage Point watches from a distance. Therefore, a precautionary approach to the Environmental Impact Assessment (EIA) has been undertaken where barn owl is assumed to be using the buildings at the Site.

3. SURVEY RESULTS

3.1 Desk Study

3.1.1 The following statutory designated sites at European or International level with ornithological interests were identified within the search area:

- Buchan Ness to Collieston Coast Special Protection Area (SPA) (6.2 km south-east) – designated for breeding fulmar, guillemot, herring gull, kittiwake, shag and seabird assemblage;
- Loch of Strathbeg SPA and Ramsar (11.2 km north) – designated for breeding sandwich tern, and non-breeding/overwintering goldeneye, teal, greylag goose, pink-footed goose, Svalbard barnacle goose, whooper swan and waterfowl assemblage – as well as eutrophic loch habitat under the Ramsar citation; and
- Ythan Estuary, Sands of Forvie and Meikle Loch SPA (14.2 km south) – designated for breeding common tern, Sandwich and little tern, and non-breeding/overwintering eider, lapwing, redshank, pink-footed goose and waterfowl assemblage.

3.1.2 No statutory designated sites at National or Local level were identified within 2 km of the Proposed Development site.

3.1.3 Consultation with RSPB for the related Beaully to Blackhillock to New Deer to Peterhead 400 kV overhead line indicated that they held few records of sensitive species within a potentially overlapping EZol with the Proposed Development. Breeding common crane are known from the wider area but were considered unlikely to be within a EZol of the Proposed Development. As a precaution, the bird survey design discussed in Section 2.3 considered this species.

3.1.4 Two studies relevant to the foraging distribution of geese potentially forming qualifying populations of the Loch of Strathbeg SPA and Ramsar and Ythan Estuary, Sands of Forvie and Meikle Loch SPA and Ramsar have been used to assess the importance of the Site and surrounding area for foraging geese in conjunction with survey effort for the related projects discussed below.

3.1.5 The distribution map in Mitchell (2012) for foraging pink-footed geese within 20 km of the Loch of Strathbeg SPA/Ramsar site shows there is some limited potential for foraging pink-footed geese from the European site to use the Site and surrounding area. However, far more dense clusters of foraging activity are indicated to the north of the Site. This is further supported by the Littlewood and Sideris study (2016) which notes favoured areas for foraging geese north and south of St Fergus Gas Terminal, >6 km from the Site boundary and therefore out with the predicted maximum EZol for disturbance of 1 km for geese.

3.1.6 The distribution map in Michell for foraging pink-footed goose shows that there is some limited potential for foraging pink-footed geese from the Ythan Estuary, Sands of Forvie and Meikle Loch SPA and Ramsar site to use the Site and surrounding area. However, far more dense clusters of foraging activity are indicated to the south-west of the Proposed Development, out with the predicted maximum EZol for disturbance to geese.

3.1.7 Data from goose field use surveys for related projects recorded three flocks of foraging geese within the maximum predicted Zol for disturbance and displacement from the Proposed Development (1 km):

- 38 Pink-footed geese foraging in a field approximately 430 m south of the Site boundary in November 2023.
- Greylag geese present at a small pond just south of Longside in November and December 2023, 46 and 320 birds respectively. Approximately 900 m north-west of the Site boundary.

3.2 Breeding Bird Survey

3.2.1 A total of six bird species were recorded between April and July 2023. Three species were only recorded in flight across/ near the Site: curlew (flock of 26 birds), oystercatcher (one bird), and buzzard (three birds). A summary of the results for each target species is provided below in Error! Reference source not found. and their distribution illustrated in **Figure 9.3.2 Ornithological Survey Results**.

Table 1 Breeding Bird Survey Results – All species

| Species | Scientific name | Count | Annex I | Schedule 1 | BoCC ⁸ | SBL ⁹ |
|----------------|------------------------------|-------|---------|------------|-------------------|------------------|
| Corn bunting | <i>Emberiza calandra</i> | 2 T | - | - | Red | Yes |
| Curlew | <i>Numenius arquata</i> | 26 F | - | - | Red | Yes |
| Grey partridge | <i>Perdix perdix</i> | 1 I | - | - | Red | Yes |
| Yellowhammer | <i>Emberiza citrinella</i> | 3 T | - | - | Red | Yes |
| Oystercatcher | <i>Haematopus ostralegus</i> | 1 F | - | - | Amber | - |
| Buzzard | <i>Buteo buteo</i> | 3 F | - | - | Green | - |

Key to Count Codes. T: Number of estimated territories I: Number of individuals. F: Number of individuals seen in flight only

3.2.2 It was noted that the landscape was dominated by agricultural crops (i.e. oil seed rape and maize), which is reflective of the distribution of the farmland bird assemblage and opportunistic foraging wader species recorded in Error! Reference source not found..

3.3 Scarce Breeding Bird Survey

3.3.1 During the scarce breeding bird surveys between April and July 2023, there were no observations of highly sensitive species such as Schedule 1 raptors or common crane in a survey area extending to 2 km from the Site. The only additional notable record beyond the breeding bird survey area, i.e., beyond 100 m from the Site, was a pair of oystercatcher seen on one date in May near Longside.

3.4 Incidental Barn Owl Record

3.4.1 There was an incidental sighting recorded for barn owl during the ecology surveys to inform the Proposed Development. The bird was disturbed from a roost site in a hedge along the Site boundary (location shown on **Volume 5, Figure 9.3.3 Confidential Barn Owl**). The roost site was not suitable for breeding although buildings within the Site are potentially suitable for breeding barn owl. Although green listed within BoCC5, barn owls receive elevated protection under Schedule 1 of the Wildlife and Countryside Act (1981).

4. CONCLUSIONS

- 4.1.1 The assemblage of breeding birds recorded within the Study Area is typical of the agricultural habitat and the densities of all species was low.
- 4.1.2 Two species of elevated conservation concern (red-listed BoCC5, SBL) were found to be holding breeding territories within the Site, corn bunting and yellowhammer. A third species, grey partridge, may have been breeding within the Site but the species was only observed on one visit and its breeding status was not confirmed.
- 4.1.3 Another three species were recorded in flight only.
- 4.1.4 There was an incidental record of a roosting barn owl. Suitable buildings for breeding barn owl are present within the Site. Due to health and safety concerns, access to these buildings and immediate surrounding area was not possible, which included a lack of opportunities to undertake Vantage Point watches from a distance. Therefore, a precautionary approach to the Environmental Impact Assessment (EIA) has been undertaken where barn owl is assumed to be using the buildings at the Site.
- 4.1.5 Foraging geese were recorded in low numbers within the Proposed Developments EZoI from surveys for related projects with overlapping study areas.

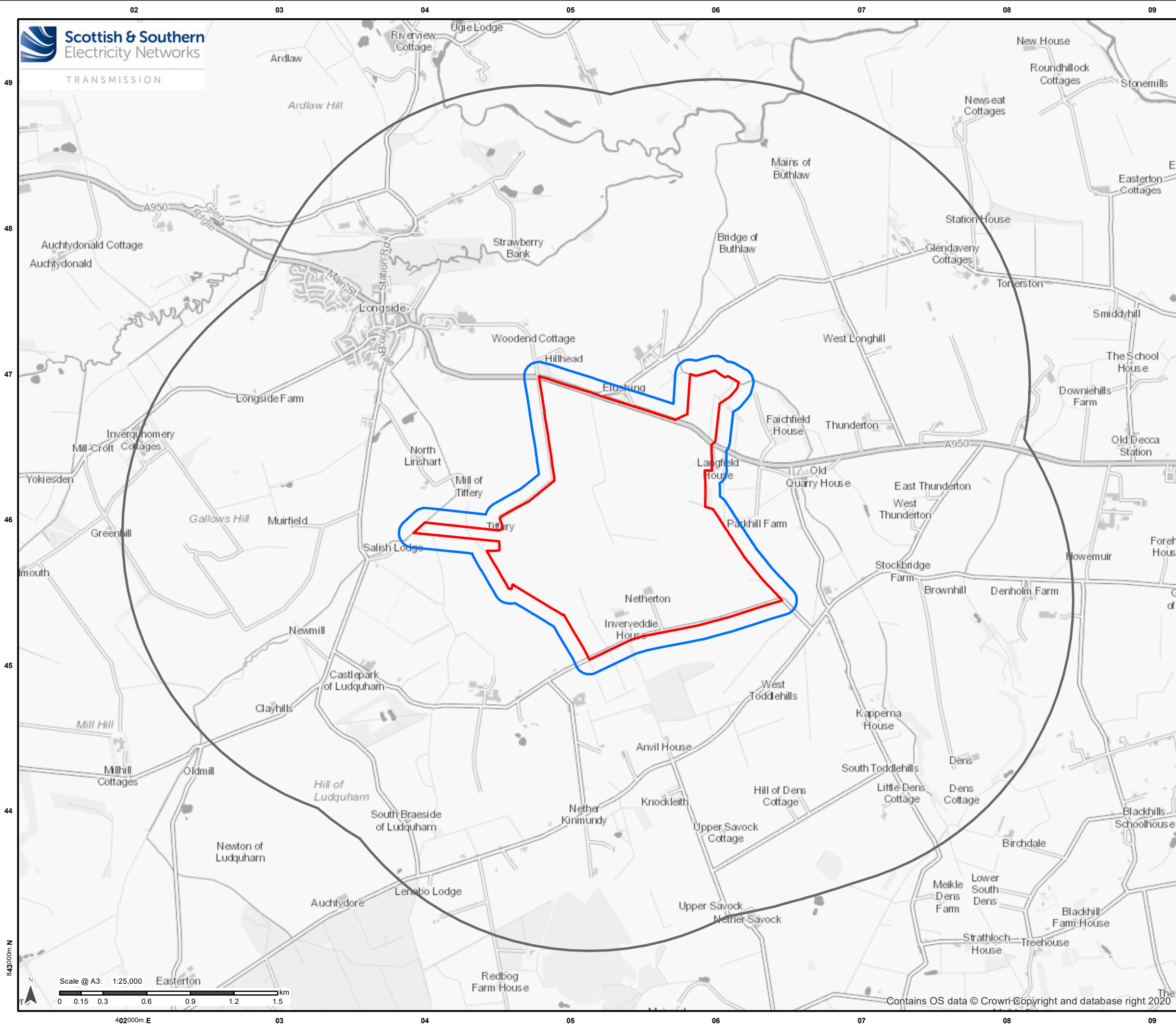


ANNEX A

Figure 9.3.1 Ornithological Survey Areas

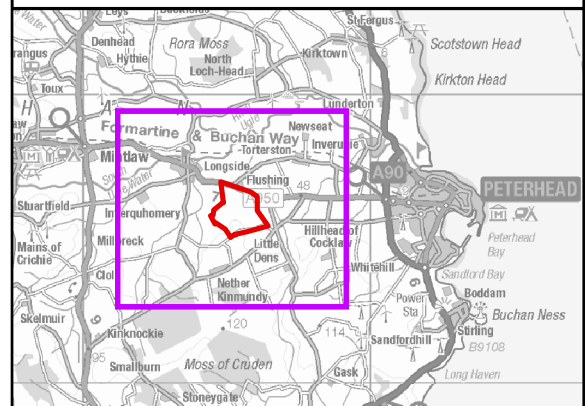
Figure 9.3.2 Ornithological Survey Results

Figure 9.3.3 Confidential Barn Owl (see Volume 5)



Legend

- Site Boundary
- 100m BBS Survey Area
- 2km SBBS Survey Area



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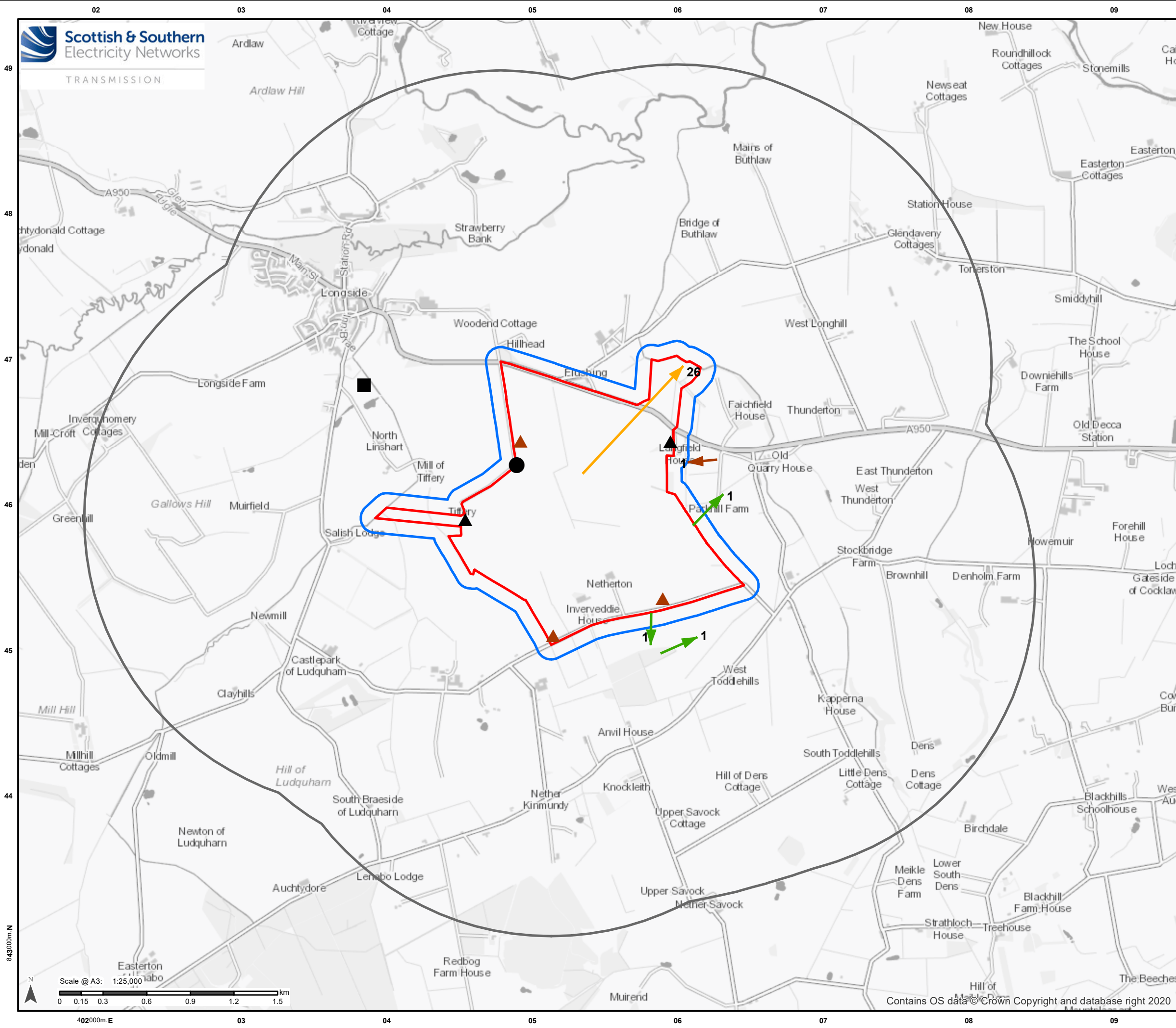
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Figure 9.3.1 - Ornithological Survey Areas

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Key

- Site Boundary
- 100m BBS Survey Area
- 2km SBBS Survey Area

Estimated Territories

- ▲ Corn Bunting
- ▲ Yellowhammer

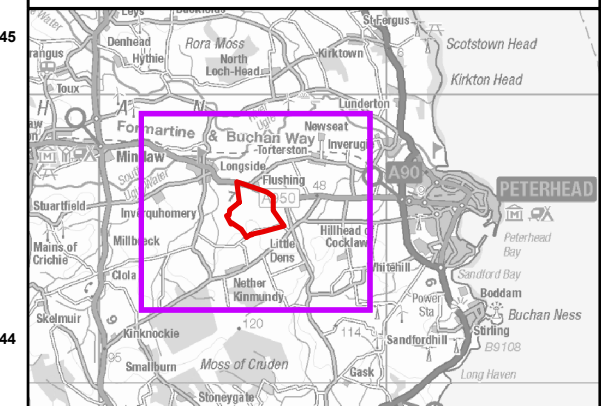
Single Observation Not Confirmed Territory

- Grey Partridge
- Oystercatcher

Species observed in flight

- Buzzard (3)
- Curlew (1)
- Oystercatcher (1)

Note: The numbers in brackets correspond to the number of individuals recorded for each flight



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Title: Figure 9.3.2 - Ornithological Survey Results

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