Scottish & Southern Electricity Networks
TRANSMISSION

SSEN Transmission

Bingally 400 kV Overhead Line Tie-In

Environmental Appraisal

April 2025

CONTENTS

6. ORNITHOLOGY

6.1 Introduction

6.1.1 This EA chapter considers the potential effects of the Proposed Development on birds present on the Site and within its defined Zone of Influence (ZoI). The ZoI is the area(s) over which ecological features may be affected by the biophysical changes caused by the Proposed Development and associated activities[1]. It evaluates the existing baseline environment through a combination of desk-based study, field surveys and consultation. See Section 6.3.6 for Desk Study ZoI distances. This EA has been prepared with reference to the methodology set out in the Chartered Institute of Ecology and Environmental Management (CIEEM) (2024)[1] guidance.

6.1.2 This chapter:

- Describes the key ornithological constraints associated with construction and operation of the Proposed Development;
- Presents the desk study / survey methods that were used to generate the ornithological baseline information;
- Includes details of any consultation undertaken to date to inform the EA;
- Presents the results of the surveys; and
- Provides an outline of embedded mitigation, an appraisal of ornithological features and potential significant effects, and sets out further mitigation measures and / or recommendations.

6.2 Information Sources

6.2.1 This chapter draws on the following technical figures included within **Appendix A Figures**:

- **Figure 6-1 Special Protection Areas**;
- **Figure 6-2 Other Designated Sites with Bird Interests**; and
- **Figure 6-3 Breeding Bird Survey Results**.

Consultation

6.2.2 At the time of writing this chapter, formal consultations had been held concerning the potential ecological impacts of the Bingally 400 kV Substation Development[2] (which included the Proposed Development, the OHL tie-in) with the Scottish Raptor Study Group (SRSG), NatureScot, THC and the local landowner. Responses from these consultees are summarised in **Table 6-1** below.

Table 6-1 Consultation Responses

Consultee	Date(s) Contacted	Consultee Response
SRSG	11 Apr 2024	The SRSG was consulted regarding information of the presence of notable breeding raptors within 1 km of the Proposed Development. The SRSG responded on 12 April 2024 and stated that "*We only have one record on a Schedule 1 species which appears to be on the edge of your search area…. the site is a red kite [Milvus milvus] nest... a pair built a nest in 2022… the outcome of the breeding attempt is unknown*." The location of this record is approximately 770 m west of the Proposed Development (at the closest point).

[1] CIEEM, 2022. *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (Version 1.3, updated September 2024). Chartered Institute of Ecology and Environmental Management, Winchester.

[2] AECOM (2025) Bingally 400 kV Substation Environmental Appraisal.

Consultee	Date(s) Contacted	Consultee Response
NatureScot	7 May 2024	NatureScot was consulted regarding the scope of the proposed ornithological surveys, and responded positively by email, confirming that the surveys, including survey timings (although outwith typical survey months (i.e. in June and July only) and the proposal to carry out surveys along a single transect line along the proposed Bingally substation access track, and more widely around the proposed Bingally substation (and therefore the Proposed Development), were "*sufficient to evaluate the potential impact of the proposal on breeding birds within the vicinity of the new substation, when combined with the required pre-works checks for nesting birds.*"
NatureScot	1 Aug 2024	NatureScot was also consulted separately for information on capercaillie *Tetrao urogallus* in Glen Affric Site of Special Scientific Interest (SSSI) and National Nature Reserve (NNR). They responded on 2 August 2024 by email that NatureScot were not aware of any capercaillie sightings or leks from recent years in this area, and that there was no longer thought to be a functioning breeding population there.
THC	19 Dec 2024	THC provided pre-application advice. Relevant points made with specific regard to ornithology (and ecology generally) are briefly summarised, with responses, below: • THC expect biodiversity enhancement, with minimum 10% biodiversity net gain, for projects such as the Proposed Development – this has been addressed in the separate Biodiversity Net Gain Report[3]; • A number of designated nature conservation sites were noted as potentially relevant – these have all been considered through a combination of this chapter and **Chapter 5 Ecology and Nature Conservation**; and • Protected species noted to potentially be present – this has been addressed through a combination of this chapter and **Chapter 5 Ecology and Nature Conservation**.
The Landowner	4 Apr 2024 25 Apr 2024	Consultation feedback received from a landowner, with specific regard to ornithology, stated that "*A very impressive [black grouse* Tetrao tetrix*] lek on the old re-seeds*" was present, with the location indicated on an aerial map of the area. Following further communication on 25 April 2024, the maximum count of black grouse on this lek was stated to be 12 individuals (prior to 2023) and up to seven in recent times, plus one more bird lekking in isolation.

Legal and Policy Context

6.2.3 Full details of the legal and policy context of this chapter are set out in **Chapter 5: Ecology and Nature Conservation**.

Desk Study

6.2.4 Several data sources were used for the desk study, as set out in **Table 6-2**.

Table 6-2 Desk Study Data Sources

Data Source	Date Accessed	Data Obtained
THC website (https://www.highland.gov.uk/downloads/file/1506/proposals_map)	21 March 2024	Highland-wide Local Development Plan policies relevant to nature conservation. Local nature conservation designations.

[3] AECOM (2025). Bingally 400 kV Overhead Line Tie-In Environmental Appraisal, Appendix F Biodiversity Net Gain Report

Data Source	Date Accessed	Data Obtained
NatureScot SiteLink webpage (https://sitelink.nature.scot/home)	21 March 2024	Information on designated nature conservation sites.
National Biodiversity Network (NBN) Atlas Scotland (https://scotland.nbnatlas.org/)	21 March 2024	Commercially available records of protected and / or important bird species since 2000.
Ordnance Survey (OS) 1:25,000 maps and aerial photography (https://www.bing.com/maps/)	21 March 2024	Habitats and connectivity relevant to interpretation of planning policy and potential protected / notable species constraints.

6.3 Methodology

Scope of the Assessment

6.3.1 Important ecological features (also referred to as 'sensitive' ecological receptors) have the potential to suffer significant adverse environmental effects as a result of the Proposed Development. Although the Proposed Development is not subject to full EIA requirements due to different permitting conditions, this EA chapter assesses the likely environmental effects on important ecological features, based on the standard full EIA approach, and where necessary recommends mitigation to prevent significant residual effects.

6.3.2 CIEEM guidance[4] recommends that only those ecological features that are 'important' and that could be significantly impacted by a development require detailed assessment, stating that "*it is not necessary to carry out detailed assessment of ecological features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable*".

6.3.3 Consequently, for the purposes of the desk study, field survey, and assessment of ornithological effects, 'important' ornithological features are taken to include:

- Special Protection Areas (SPA) under *Directive 2009/147/EC on the conservation of wild birds* (the 'Birds Directive');
- Wetlands of International Importance ('Ramsar sites') designated under the *Convention on Wetlands of International Importance* (the 'Ramsar Convention');
- National designated sites (such as SSSI) with bird interests;
- Any other designated sites or nature reserves (statutory or non-statutory) with significant bird interests;
- Qualifying or notified bird species of the above designated sites;
- Annex I bird species under the EU Birds Directive*;*
- Schedule 1 bird species under the *Wildlife and Countryside Act 1981 (as amended)* (the 'WCA')*;*
- Scottish Biodiversity List (SBL) species, of principal importance for biodiversity conservation in Scotland;
- Red list species under Birds of Conservation Concern 5 (BoCC5); and
- Local Biodiversity Action Plan (LBAP) bird species.

6.3.4 Other bird species that may be rare, scarce or otherwise notable have also been included where deemed appropriate through available information and / or professional judgement.

[4] CIEEM, 2024. *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.3 – Updated September 2024*. Chartered Institute of Ecology and Environmental Management, Winchester.

Extent of the Study Area and Method of Baseline Data Collation

6.3.5 A desk study to help establish baseline conditions was completed on 30 August 2024. The desk study sought to identify ornithological features within the potential ZoI of the Proposed Development that could be significantly affected by its construction and operation.

6.3.6 A stratified approach was taken when defining the desk study area based on the likely ZoI of the Proposed Development. Accordingly, the desk study searched for:

- SPA or Ramsar sites within 10 km of the Site (**Figure 6-1, Appendix A Figures**);
- SSSI within 2 km of the Site for which birds are a designated feature (**Figure 6-2, Appendix A Figures**);
- Locally designated nature conservation sites within 2 km of the Site for which birds are a designated feature (**Figure 6-2, Appendix A Figures**); and
- Records of protected and / or important bird species within 1 km of the Site.

6.3.7 Following review of desk study information and subsequent approval by NatureScot of the proposed ornithological survey approach, the following surveys were carried out:

- Black grouse survey – two visits, following guidelines in Gilbert *et al*. (1998)[5], included a preparatory walkover of potential lek sites within 1.5 km of the Site. Surveyors then searched for lekking black grouse from walked transects covering the central and northern areas of construction for the Proposed Development (plus the proposed Bingally substation and the route of the proposed Bingally substation access track and beyond[2]) where potential lek sites were identified. Seen or audible black grouse were recorded, with notes concerning lekking or other relevant behaviour. Incidental records of waders, raptors and other notable bird species were made;
- Moorland breeding bird survey (MBBS) – three visits using walked transects in the central and northern sections of the OHL (plus along the proposed Bingally substation access track extending through the Proposed Development and proposed Bingally substation area[2]), which searched primarily for breeding waders and raptors, but also noted other species (except for meadow pipits *Anthus pratensis*, which are very numerous and recording of which would detract from searching for notable species). The results of the MBBS are shown on **Figure 6-3, Appendix A Figures**. During these surveys, inspections were also made of the lochans close by to the east of the proposed Bingally substation access track part of the Site (which would also be used during construction of the Proposed Development), to check for notable species such as divers; and
- Raptor survey – carried out during the MBBS using the same transects, searching for raptors.

6.3.8 The black grouse and MBBS / raptor surveys took place in spring / summer 2024, in accordance with the scope / methodology previously agreed with NatureScot. Surveys were conducted in the early morning (one hour before and after sunrise for black grouse lek counts) and during the daytime in the following periods:

- 22 to 25 April 2024 (Black grouse survey - Visit 1);
- 6 to 8 May 2024 (Black grouse survey - Visit 2);
- 17 to 19 June 2024 (MBBS - Visit 1);
- 1, 3 and 4 July 2024 (MBBS - Visit 2); and
- 22 to 23 July 2024 (MBBS - Visit 3).

[5] Gilbert, G., Gibbons, D.W. and Evans, J., 1998. *Bird Monitoring Methods*. The Royal Society for the Protection of Birds, Sandy.

6.3.9 The weather conditions during these surveys were largely optimal, with no hinderances to the surveys. Temperatures were generally between 9°C and 15°C, but with a minimum of 3°C recorded during surveys in April 2024. Cloud cover was between partially cloudy and full cloud cover. Wind speeds were between Beaufort 1 (light air) to 4 (moderate breeze). Conditions were mostly dry, with excellent visibility, except for a few brief and light showers with only good visibility on 3 July 2024 and heavy rain showers and poor visibility during 4 July 2024.

Limitations and Assumptions

6.3.10 Desk study information is dependent on records having been submitted for the area of interest. As such, a lack of records for particular species does not necessarily mean they are absent from the area of interest. Similarly, the presence of records for particular species does not automatically mean they still occur within the area of interest or are relevant in the context of the Proposed Development.

6.3.11 Access to the southern third of the OHL tie-in Site was restricted due to lack of landowner permission. However, views over this area were excellent from vantage points on the southern boundary of accessible land. Raptor flights would have been easily observed. Furthermore, black grouse leks can be heard up to almost 1 km distance5 (and the weather conditions during the survey were generally optimal for hearing leks). The recognised disturbance distance expected for the Proposed Development for black grouse leks is 300 - 1000 m11. Therefore, given the above, it is reasonable to presume if black grouse leks were present within the Site, these would have been heard from the closest vantage point, which was 750 m north of the furthest end of the OHL tie-in Site. Finally, on a desk-based search of aerial photography and viewing the area with binoculars in the field, there were no optimal sites identified for black grouse leks within the Site and beyond to 1 km distance.

6.3.12 The field survey for moorland breeding birds employed transects that included one transect line along the proposed Bingally substation access track, and a wider transect loop in the vicinity of the Proposed Development. The habitats within this area are dominated by heathland and blanket bog with limited value for notable species such as breeding waders, divers and raptors. The lack of access to the southern third of OHL tie-in Site was assessed as a minor limitation.

6.3.13 The exact route of the transect necessarily changed slightly in certain areas, for example the vicinity of the proposed Bingally substation, for reasons of safety. However, this is not considered at all likely to have affected the robustness of the findings and conclusions of this chapter, since the range of notable breeding birds is limited and the area around the proposed Bingally substation is in large part felled plantation of apparent (and expected) little value to breeding birds.

6.3.14 Baseline conditions are increasingly liable to change with increased elapsed time since the surveys informing this chapter were completed. For example, notable bird species may alter their local distribution. This assessment is based on the information collected during the desk study and field surveys. In line with NatureScot guidance[6], if construction will take place more than five years after the date of surveys informing this assessment, re-survey for birds is recommended.

6.3.15 In late May to early June 2023 a large wildfire damaged extensive areas of land around Cannich[7] which included RSPB Corrimony Nature Reserve and land within the wider Site. At the time of survey, most burnt habitats were already showing signs of recovery, and

[6] NatureScot, 2024. *Developing with Nature guidance* [online]. [Accessed 30 August 2024]. Available at: https://www.nature.scot/doc/developing-nature-guidance

[7] Forrester, R. & Andrews, A., 2007. *The Birds of Scotland*. Scottish Ornithologists' Club.

rarely habitats showed signs of severe impacts (e.g., bare earth, proliferation of purple moorgrass *Molinia caerulea* or bracken *Pteridium aquilinum*, altered hydrology, death of trees, etc.). The state of the habitats within the Site affected by fire have been taken as part of the baseline conditions that support ornithological interests. It is predicted that these habitats (for the greater part) will recover in the long-term.

6.4 Baseline Environment

Statutory Designated Sites

6.4.1 Statutory sites relevant to ornithology within the ZoI of the Proposed Development comprise one SPA, one SSSI and one NNR, as shown on **Figure 6-1 and Figure 6-2, Appendix A Figures** and detailed in **Table 6-3** below.

Table 6-3 Statutory Designated Nature Conservation Sites (in order of decreasing proximity)

Site Name	Reason for Designation	Relationship to the Proposed Development
Glen Affric NNR	Mosaic of native pinewoods, lochs and moorland with various notable birds including osprey *Pandion haliaetus*, red-throated diver *Gavia stellata* and black-throated diver *Gavia arctica*. Since the NNR overlaps large parts of the SSSI and SPA listed below in this table, the ornithological interests mentioned below are presumed also to be present in the NNR.	At closest c. 200 m southwest of the Site, but c. 300 m from the nearest actual construction activity; the NNR is a very large site, with intervening streams, moorland and woodland.
Glen Affric SSSI	Numerous interests, but including the breeding bird assemblage, which the citation states includes crested tit *Lophophanes cristatus*, Scottish crossbill *Loxia scotica*, black grouse and (reportedly in the citation) capercaillie *Tetrao urogallus*.	At closest c. 1.2 km northwest of the Site; the SSSI is a large site, with intervening woodland, pasture and large river (River Glass).
Glen Affric to Strathconon SPA	Golden eagle *Aquila chrysaetos.*	The SPA is an extremely large site, at closest c. 1.5 km northwest of the Site, beyond the River Glass, and mostly much more distant.

Non-statutory Designated Sites

6.4.2 There is one relevant non-statutory designated site with ornithological interests, as detailed in **Table 6-4** and shown on **Figure 6.2, Appendix A Figures**.

Table 6-4 Non-statutory Designated Nature Conservation Sites

Site Name	Reason for Designation	Relationship to the Proposed Development
Corrimony RSPB Reserve	A mosaic of moorland, woodland, wetland, and montane habitats, managed by the RSPB to maintain and enhance the black grouse population.	The reserve is located 3 km northeast of the Site. The proposed Bingally substation access track is not part of the Proposed Development; however, it is understood that the proposed Bingally substation access track would be used for the construction of the Proposed

Site Name	Reason for Designation	Relationship to the Proposed Development
		Development and passes through the reserve.

Desk Study Records of Important Bird Species

6.4.3 The desk study identified 748 records of 24 important bird species within 1 km of the Site, presented in **Table 6-5** below. The majority of records are located outside the Site, with only the four records of wood warbler *Phylloscopus sibilatrix* directly within it.

Table 6-5 Notable Bird Species Identified by the NBN Atlas Data Search

Common Name	Scientific Name	No. of Records	Designation*
Barn Owl	*Tyto alba*	2	Sch1; SBL
Brambling	*Fringilla montifringilla*	2	Sch1; SBL
Bullfinch	*Pyrrhula pyrrhula*	12	SBL
Common Crossbill	*Loxia curvirostra*	2	Sch1
Dunnock	*Prunella modularis*	124	SBL
Grasshopper Warbler	*Locustella naevia*	5	Red list; SBL
Greenfinch	*Chloris chloris*	76	Red list
House Martin	*Delichon urbicum*	21	Red list
House Sparrow	*Passer domesticus*	182	Red list; SBL
Lapwing	*Vanellus vanellus*	1	Red list; SBL; LBAP
Lesser Redpoll	*Acanthis cabaret*	19	SBL
Redwing	*Turdus iliacus*	4	Sch1; SBL
Reed Bunting	*Emberiza schoeniclus*	1	SBL
Scottish Crossbill	*Loxia scotica*	2	Sch1; Annex I; SBL; LBAP
Siskin	*Spinus spinus*	124	SBL
Song Thrush	*Turdus philomelos*	17	SBL
Spotted Flycatcher	*Muscicapa striata*	26	Red list; SBL
Starling	*Sturnus vulgaris*	9	Red list; SBL
Swift	*Apus apus*	5	Red List; SBL; LBAP
Tree Pipit	*Anthus trivialis*	13	Red list; SBL
Twite	*Linaria flavirostris*	1	Red list; SBL
Whinchat	*Saxicola rubetra*	7	Red List
Wood Warbler	*Phylloscopus sibilatrix*	31	Red list; SBL
Yellowhammer	*Emberiza citrinella*	62	Red list; SBL

* Sch1 – listed on Schedule 1 of the Wildlife and Countryside Act (1981); Annex I – listed on Annex I of the EU Birds Directive; Red list – listed on the Red list of BoCC5 (Birds of Conservation Concern 5); SBL – priority species listed on the Scottish Biodiversity List; LBAP – listed on THC BAP.

6.4.4 The most notable of the species listed in **Table 6-5** are the Schedule 1 species, which are afforded special protection and are scarce as breeding species. However, the following can be stated, bearing in mind that Schedule 1 status is concerned with breeding:

6.4.5 Barn owl – there is no suitable nesting habitat (suitably accessible buildings with substantial internal ledges, or large trees with large holes) at or near the Site;

- Crossbills – common crossbill, despite Schedule 1 status, is common in Scotland and not notable. Scottish crossbill is highly localised in Scotland and certainly notable. Both species breed in established conifer woodland, which is very extensive in Glen Affric, but little to none of which is liable to be impacted by the Proposed Development; and
- Redwing and brambling – these species are widespread wintering species (excepting very rare occurrences of breeding birds in the far north of Scotland), that are not dependent on particular wintering sites and for which the Site would not be of any importance.

6.4.6 Of the other species listed in **Table 6-5**, the only ones with potential to breed in or close to the Site (given the habitats present – see the field survey results below) are:

- Red-listed species – grasshopper warbler, greenfinch, lapwing, spotted flycatcher, starling, tree pipit, twite, whinchat, wood warbler and yellowhammer; and
- SBL-only species – bullfinch, dunnock, lesser redpoll, reed bunting, siskin and song thrush.

6.4.7 The following species will not, or are very unlikely to, nest in the Site owing to lack of suitable habitat: house martin, house sparrow and swift.

6.4.8 Regarding the ornithological interests of the designated sites, the following should be noted:

- Black grouse – although not part of the Proposed Development, the northern part of the proposed Bingally substation access track (the proposed new section, as opposed to existing access track) runs through the outer northwestern part of Corrimony RSPB Reserve, where there is the potential for disturbance. Black grouse (a Red-listed and SBL priority species) is known to breed within and is the main interest of the Reserve, and is therefore likely (even without field survey to confirm) to occur at times within the Site (as found during field survey – see below);
- Golden eagle *Aquila chrysaetos* – although it is probable that golden eagles associated with Glen Affric to Strathconon SPA occasionally fly over, or perhaps forage, in the vicinity of the Site, there is no likelihood of golden eagles nesting in or near it. This is because golden eagle nests in remote and inaccessible places, mostly on suitably secure and large rock ledges, and are very sensitive to disturbance, whereas the Site lacks suitable nesting sites (and is liable to some existing disturbance, e.g., from forestry operations);
- Capercaillie – this species, if still present (given that the now-dated SSSI citation mentions very low numbers, and Scottish populations have further declined), is unlikely to occur outside of established conifer woodland, mainly established Scots pine *Pinus sylvestris*, and is therefore very unlikely to occur in the Site, which is largely open or (to the north, furthest from Glen Affric SSSI) locally contains Sitka spruce plantation;
- Crested tit *Lophophanes cristatus* – this species is dependent on pinewood, and may occur adjacent to the Site but is extremely unlikely to nest within it, and would never occur in the open habitats (the majority) of the Site;
- Scottish crossbill – this species is discussed in **Section 6.4.4**;
- Osprey *Pandion haliaetus* – this species is unlikely to occur in the Site except whilst flying over to forage at lochs and lochans; there is little likelihood of it nesting in or close to the Site and no evidence of it doing so (see field survey results in **Section 6.4.19**); and

- Diver species – there is no habitat for diver species within the Site, and nearby lochans do not appear favourable for nesting and there is no evidence of nesting (see field survey results in **Section 6.4.19**).

6.4.9 All habitats (with the exception of existing bare ground tracks) in the Site are capable of supporting breeding populations of common and widespread birds, as found during the field survey.

Field Survey – Black Grouse

6.4.10 All black grouse were recorded approximately 2.5 km north east of the Site near the central existing access track and proposed Bingally substation access track, and within 500 m of the four lochans found here (Loch Caorireach, Loch Fruimh, Loch na Beinn Mòire and Loch a' Ghreidlein) (see **Figure 6-2, Appendix A Figures** for the locations of these lochans near the Corrimony RSPB Reserve and **Figure 6-3, Appendix A Figures** for the main black grouse sighting).

6.4.11 The following observations were made during the first lek survey, from north to south:

[1] Between the existing access track and the northern tip of Loch na Beinne Mòire 3 km northeast of the Site – one bird heard (presumed male) on 24 April 2024 but not seen, and another seen lekking alone on 25 April 2024, at closest 200 m from the track;

[2] Just east of the northern tip of Loch na Beinne Mòire (approximately 3 km northeast of the Site), lekking sounds heard on 24 and 25 April 2024;

[3] A single male very close to the existing access track west of Loch na Beinne Mòire approximately 2 km northeast of the Site on 24 April 2024, near the intersection of tracks and next to the proposed Bingally substation access track; no observed lekking behaviour; and

[4] Approximately 80 m southeast of the existing access track and 350 m southwest of Loch a' Ghreidlein and therefore approximately 1.7 km northeast of the Site, six males seen each morning on 23, 24 and 25 April 2024, clearly lekking (with behaviours including displays, calling, singing and fighting) (see insert, **Figure 6-3, Appendix A Figures**).

6.4.12 The following observations were made during the second lek survey, on 8 May 2024, from north to south:

[5] A single male lekking between Loch na Beinne Mòire and the northern-most lochan, approximately 350 m east of the existing access track and 3 km northeast of the Site. Black grouse droppings were also seen nearby, with a dead predated female closer to the northern tip of Loch na Beinne Mòire;

[6] A single male lekking west of Loch na Beinne Mòire, approximately 340 m east of the existing access track, 3 km northeast of the Site, which was thought likely to be the same bird from observation [5]. Several black grouse droppings were also seen nearby;

[7] Two males lekking near the existing access track intersection west of Loch na Beinne Mòire, close to observation [3] location, and next to the proposed Bingally substation access track, thus 2 km northeast of the site. One of these birds could have been the same bird observation [5] or [6]; and

[8] Six males lekking at the same location as observation [4], with a female bird beside the existing access track within 50 m to the north (see insert, **Figure 6-3, Appendix A Figures**).

6.4.13 In view of the above observations, the leks are considered to comprise (during the surveys) the following:

- One consistent major lek of six males, about 80 m east of the existing access track and proposed Bingally substation access track, located approximately 1.4 km northeast of the Site;
- One consistent minor lek of up to two males beside the proposed Bingally substation access track at the existing access track intersection, approximately 2 km northeast of the Site; and

- Intermittent minor leks of single males more distantly east of the existing access track and proposed Bingally substation access track, near Loch na Beinne Mòire, and further intermittent leks more than 600 m east of the existing access track and proposed Bingally substation access track, east of Loch na Beinne Mòire. These are located approximately 3 km northeast of the Site.

6.4.14 In total, there are likely eight (or possibly nine) male birds in the area surveyed (excluding any additional birds, if these are separate, heard to the east of Loch na Beinne Mòire during the first lek survey). This closely matches recent observations reported by the landowner of up to seven birds at the major lek and one elsewhere at the same time.

Field Survey – Schedule 1 Species

6.4.15 The following specially protected Schedule 1 species were recorded:

- Greenshank *Tringa nebularia* – single birds recorded twice in April 2024, on moorland northeast of the Site, about 700 m apart. Although greenshank was not recorded subsequently, this does not necessarily mean they did not breed, since they can move around within a fairly large territory and may simply have been beyond alert distance during later surveys. The habitat (mainly wet heath, with areas of blanket bog, occasional rocks, and several substantial scattered lochans) appears ideal habitat for this species, and the geographical location is well within the known occurrence of this scarce breeding species. Therefore, it is assumed on a precautionary basis that two pairs of greenshank may have bred in the area;
- Red kite – single bird recorded once only, just flying over the Site. No evidence was found of red kite nesting in or near the Site; and
- Crossbill *Loxia* sp. – single birds recorded twice in April 2024, near the middle of the Site, within or flying over conifer plantation (see **Figure 6-3, Appendix A Figures**). The Site is located within the zone of occurrence of Scottish crossbill *Loxia scotica*, a scarce species, however it cannot be reliably determined without sound analysis whether the observed birds were that species or common crossbill.

Field Survey – Red list / SBL species

6.4.16 The following BoCC5 Red-listed species were recorded – these are also priority SBL species with the exception of mistle thrush *Turdus viscivorus* and whinchat:

- Cuckoo *Cuculus canorus* – six observations, in approximately 3 km north of the Site, although near the access track, all in April 2024. This is a brood parasite, and the host was likely, given its abundance on the open moorland, meadow pipit;
- Curlew *Numenius arquata* – one bird was observed, well outside the Site in pasture beside the road near Fasnakyle Bridge, assumed to represent one possible territory;
- Lesser redpoll – 17 observations involving 18 birds, generally seen to the north east of the Site; however, this species forages widely from the nest and does not form individual territories but rather nests in small groups at a fairly low height in trees and shrubs, for which they could utilise occasional scattered shrubs[8] (although there was no recorded evidence of definite nesting);
- Skylark *Alauda arvensis* – 21 observations of single birds, 19 singing which were sufficiently distant (100 m or more, mostly considerably more) to treat as likely 19 separate territories;
- Tree pipit – 14 observations, of which one was a juvenile close to previously-recorded adults, and three were groups of three to five individuals in early June 2024 (probably family groups); other than the juvenile bird, the other observations were sufficiently far

[8] Forrester, R. & Andrews, A., 2007. *The Birds of Scotland*. Scottish Ornithologists' Club.

apart as to represent probable territories, therefore there are estimated to be 13 territories in the survey area (defined in **Section 6.3.7**);

- Mistle thrush – seven observations including five flights, all but one along the northern part of the proposed Bingally substation access track; two of the flights were of flocking individuals in later July 2024 which may not have been breeding-related and / or may have included birds from beyond the immediate area; however, it seems likely that there were at least two territories in the vicinity of the northern part of the proposed Bingally substation access track; and
- Whinchat – one pair of birds (male / female) only was observed, near the northeastern edge of the Site; although not subsequently recorded, on a precautionary basis one territory is assumed.

6.4.17 A small number of species that are priority SBL species but not Red-listed were also recorded, of which the most notable is golden plover *Pluvialis apricaria*:

- Golden plover – one observation of a singing individual over 800 m east of the existing access track, in the edge of Corrimony RSPB Reserve, approximately 3.5 km northeast of the Site;
- Kestrel *Falco tinnunculus* – two observations, one north of Loch na Beinne Mòire, the other near Kerrow; there was no recorded evidence of nesting, nor are there any trees / structures that would likely be used by nesting kestrel within the Site or near it; and
- Other recorded species that are SBL – only comprised one or two observations each of bullfinch, dunnock and song thrush, and six of siskin; however, it should be noted that all these species are still widespread and relatively common (to very common) in this region of Scotland, and that they would all nest in trees / shrubs to which there would be minimal impact.

Field Survey – other species

6.4.18 Three other more common waders were recorded:

- Oystercatcher *Haematopus ostralegus* – one sighting of a family in the pasture near Fasnakyle Bridge, well beyond the Site, and assumed to represent a single possible territory;
- Snipe *Gallinago gallinago* – six observations, mostly drumming and in one case chipping, and all considered territorial – given separation distances of 300 m or more, they are taken as six separate probable territories located south of and within the Corrimony RSPB Reserve, 3 to 3.5 km northeast of the Site; and
- Common sandpiper *Actitis hypoleucos* – one observation at Loch a' Ghreidlein, taken as one possible territory.

6.4.19 Other recorded species are common and widespread in both the region and Scotland as a whole:

- Water birds – one little grebe *Tachybaptus ruficollis* breeding territory (at Loch a' Ghreidlein); a group of three greylag geese *Anser anser* (once on Loch na Beinne Mòire in April 2024, and not breeding); mallard *Anas platyrhynchos* (a single male on a small pond west of the existing access track, with no other mallards recorded and therefore not likely to have been breeding); one flight of goosander *Mergus merganser* (not stopping in the Site and not recorded again);
- Raptors – six buzzard *Buteo buteo* observations, mostly flying, with no evidence of nesting in the Site;
- Gamebirds – one observation of non-native red-legged partridge *Alectoris rufa*;

- Corvids – two ravens *Corvus corax* seen once together (a probable pair), to the east of the Site; two small groups of hooded crow *Corvus cornix* seen in widely-separate parts of the Site; there is no evidence of these breeding in the Site; and
- Small passerines – various species that are very common in this part of Scotland; the most abundant were meadow pipit (which as described above, was not actively recorded since it is so abundant both on-site and throughout upland Scotland), willow warbler *Phylloscopus trochilus*, wren *Troglodytes troglodytes*, stonechat *Saxicola rubicola*, chaffinch *Fringilla coelebs*, robin *Erithacus rubecula* and coal tit *Peripatus ater*; less frequently-recorded but also common and widespread species comprise long-tailed tit *Aegithalos caudatus*, blackcap *Sylvia atricapilla*, blackbird *Turdus merula*, chiffchaff *Phylloscopus collybita*, goldcrest *Regulus regulus*, great tit *Parus major*, blue tit *Cyanistes caeruleus*, pied wagtail *Motacilla alba*, wheatear *Oenanthe oenanthe*, whitethroat *Sylvia communis* and treecreeper *Certhia familiaris*.

Future Baseline

6.4.20 It is very unlikely that the current ornithological baseline, as described above, would be significantly different at the time of construction, given that there is no likelihood of habitats supporting birds in and around the Site appreciably changing, or regional bird distribution substantially altering, prior to that time.

Issues Scoped Out

6.4.21 The following designated sites with ornithological interests are not considered further because it is clear that there can be no appreciable effect upon them:

- Glen Affric NNR – the nearest proposed construction activity for the Proposed Development within the Site is over 300 m away in the open, with intervening burns and moorland. The burns do not flow into the NNR, therefore there is no possibility of waterborne pollution reaching the NNR from the construction area even in the absence of mitigation;
- Glen Affric SSSI – for similar reasons given for Glen Affric NNR above, there is no likelihood of adverse effects on this SSSI, owing to separation distance (minimum 1.2 km from the Site), separation by the River Glass, and that extant notified bird species could not be subject to disturbance at this distance. Therefore, this SSSI or its interests are not considered further; and
- Glen Affric to Strathconon SPA – this is at closest, 1.5 km from the Site, and mostly very much further owing to the exceptionally large size of this SPA. Disturbance distance for golden eagle, the sole qualifying feature, is known to potentially extend to 1 km from nest sites[9], which additionally are very unlikely to be located at the periphery of the SPA, since this species is very sensitive to human presence and favours remote mountainous locations.

6.4.22 The following bird species are also excluded from further consideration, because again there is no likelihood of an appreciable adverse effect upon them:

- Waders:
  - Greenshank – the recorded locations of this species, recorded 3 to 3.5 km northeast of the Site, are a minimum of 400 m from the proposed Bingally substation access track, which would be used for construction and operational maintenance of the Proposed Development, although shielded from it by raised ground. The disturbance distance for greenshank is 300-500 m[9], when approached by a pedestrian; however, the screening topography precludes

[9] NatureScot, 2020. *Disturbance Distances in selected Scottish Bird Species – NatureScot* Guidance [online]. Available from: https://www.nature.scot/doc/disturbance-distances-selected-scottish-bird-species-naturescot-guidance

disturbance at 500 m, and therefore this species was scoped out of the assessment;

- Golden plover – this species was only heard once and distantly, within Corrimony RSPB Reserve, therefore there is no possibility of disturbance, due to distance from the Site;
- Curlew – this species was only seen once in a pasture in the valley of the River Glass, more than 1 km from the Site, therefore there is no likelihood of disturbance;
- Snipe – the six assumed territories are located at various distances from the Site; however, snipe is also relatively common in the uplands including this region;
- Common sandpiper – the one possible territory at Loch a' Ghreidlein is outside the Site and therefore very unlikely to be affected; and
- Oystercatcher – the one observed occurrence of a family was in pasture in the valley of the River Glass, more than 1 km from the Site.

- Raptors:
  - Golden eagle – as noted for Glen Affric to Strathconon SPA above, there is no possibility of a significant adverse effect on golden eagles associated with that SPA, there is no suitable nesting habitat at or near the Site, and the Proposed Development would not have a perceptible effect on prey resources;
  - Red kite – a Schedule 1 species, was only seen once flying over the Site, with no confirmation of nesting in the vicinity; and
  - Other raptors and owls – the only other raptors recorded during the field surveys are buzzard and kestrel. Buzzard is a very common species and therefore not 'important' under CIEEM criteria. Kestrel remains common and widespread, despite declines, and there is no evidence of kestrel nesting in or near the Site. Osprey is known from desk study information to occur in Glen Affric NNR, but there is no evidence of nesting osprey near the Site. In addition, there is no suitable nesting habitat for owls in or near the Site;
- Divers – as noted for Glen Affric NNR above, there is no possibility of adverse effects on divers within Glen Affric NNR, and there is no evidence of divers using the lochans near the Site;
- Capercaillie – as noted in **Table 6-1**, there is no longer thought to be a functioning breeding population of capercaillie in Glen Affric, therefore there is no likelihood of an adverse effect on this species;
- Crested tit – this very localised species breeds in established pinewood, which would not be impacted by the Proposed Development, and does not use at all the open habitats (including felled plantation) that dominate the Site;
- Crossbill species – these will utilise both pine woodland / plantation and Sitka spruce plantation; however, pinewood is abundant in Glen Affric (for which it is well-known) and the Proposed Development would not impact pinewood, or only negligibly;
- Other Schedule 1 species – the special protection afforded by Schedule 1 concerns breeding. Whilst there are desk study records of redwing and brambling, they would not breed in or near the Site (if they breed at all, it is only in the very far north of Scotland);
- Other BoCC5 Red list and SBL species, with the exception of black grouse – given the limited habitat impact of the Proposed Development and its distance from the records of these species), there is likely to be little to no impact on breeding Red list / SBL passerine species; and
- Common and widespread bird species – these are by definition not 'important' under CIEEM guidance and would not require detailed assessment.

6.5 Embedded Mitigation

6.5.1 A range of measures that are standard good practice for development of this type, and which are required to comply with environmental protection legislation, would be implemented. These are well-developed and have been successfully implemented on infrastructure projects across the country, and there is a high degree of confidence in their success. They can therefore be treated as embedded mitigation. Embedded mitigation, or 'mitigation by design', comprises the following, which are taken into account during the ornithological appraisal:

- The proposed Bingally substation access track (which would be used by construction vehicles for the Proposed Development) makes use of and follows the existing access track, except where it passes through the outer northwestern part of Corrimony RSPB Reserve. Consequently, habitat losses would be kept to a minimum;
- A Construction Environment Management Plan (CEMP), referencing relevant SPP and SSENT's GEMPs, would be prepared and its requirements fulfilled. The plan would include details of pollution control measures during construction, as required by statutory authorities, and stipulating adherence to Scottish Environment Protection Agency (SEPA) Guidance on Pollution Prevention (GPP);
- Construction runoff would be controlled as per an authorisation at the appropriate level (e.g., licence) that is granted by SEPA (e.g. to safeguard wetlands with importance to black grouse chicks); and
- The design incorporates Sustainable Drainage Systems (SuDS) that would ensure runoff during operation is adequately controlled, according to industry best practice (e.g. to minimise pollution to habitats that support ornithological interests).

6.6 Appraisal

Important Ornithological Features

6.6.1 The ornithological features that have been identified and require further detailed assessment are Corrimony RSPB Reserve and black grouse, the latter known to lek, and possibly nest close to the proposed Bingally substation access track. Although the Corrimony RSPB Reserve and black grouse are not within the Site, they are close to the proposed Bingally substation access track which would be used to access the Site during construction and operational phases.

6.6.2 For these features, the geographical scale of importance (equivalent to 'sensitivity', as per CIEEM Guidance) is as follows:

- Corrimony RSPB Reserve – on a precautionary basis, and assuming the black grouse population within it is significant, this site is considered to be important at the National scale, equating to High importance; and
- Black grouse – black grouse are a rather scarce species that has declined, but has a relative stronghold in this vicinity, with black grouse a feature of Glen Affric NNR / SSSI, and significant populations known to occur in the wider region (e.g. near Drumnadrochit). Therefore, the black grouse in the vicinity of the Site are considered to be of Regional importance, equating to Medium importance.

Potential Significant Effects

6.6.3 The potential significant effects from construction and operation of the Proposed Development on Corrimony RSPB Reserve and black grouse are limited to:

- Permanent or temporary loss of habitat supporting black grouse, in or outside Corrimony RSPB Reserve;
- Loss of black grouse nests, in or outside Corrimony RSPB Reserve;

- Temporary disturbance and / or displacement of black grouse during construction, potentially associated with Corrimony RSPB Reserve;
- Disturbance and / or displacement of black grouse during operation, potentially associated with Corrimony RSPB Reserve; and
- Direct mortality of black grouse during construction or operation, potentially associated with Corrimony RSPB Reserve (e.g., as a result of increased vehicular traffic, or as a result of pollution incident).

Corrimony RSPB Reserve – loss of habitat supporting associated black grouse

6.6.4 The proposed Bingally substation access track cuts through the outer northwestern part of Corrimony RSPB Reserve, noting that although this is not part of the Proposed Development, it would be used to access the Site during construction. No black grouse were seen in this area during the field survey; nevertheless, this does not preclude possible future occurrence. However, the extent of construction works associated with the Proposed Development would not take place within or close to the Reserve, and therefore the effect is considered not significant.

Corrimony RSPB Reserve – disturbance of black grouse

6.6.5 Similar to the previous effect, black grouse could in future occur in the northwestern outer part of Corrimony RSPB Reserve, and Proposed Development-related traffic and construction activities could result in disturbance to this species including during the lekking season (March to mid-May), where they display during the day from early morning. If black grouse were present here during construction and were lekking, then construction activities during this period could result in disturbance of lek sites and possible reduction in breeding success. Therefore, considering its High sensitivity (National importance), the effect of possible disturbance of lekking black grouse nests in Corrimony RSPB Reserve is on a precautionary basis also treated as of Moderate, which is significant.

Black grouse – loss of habitat outside Corrimony RSPB Reserve

6.6.6 All recorded black grouse occurrences (including those reported anecdotally by the landowner) are near the central section of the proposed Bingally substation access track. Construction of the Proposed Development would not result in loss of habitat likely to be used by black grouse outside Corrimony RSPB Reserve.

Black grouse – disturbance outside Corrimony RSPB Reserve

6.6.7 As found directly from field survey and from consultation responses there is a consistent major lek (used by at least six male black grouse) close to the proposed Bingally substation access track. There is also a minor lek (known to be used by at least two males) very close to it at an existing access track intersection (with other more distant and inconsistently utilised leks elsewhere).

6.6.8 It is therefore possible, during construction of the Proposed Development, that a major lek and a minor lek could be disturbed by construction traffic using the proposed Bingally substation access track, if works were undertaken in the breeding season. Therefore, disturbance of leks during construction is, on a precautionary basis, may have a Moderate impact and is therefore a potentially significant effect.

Operational Phase

6.6.9 There are not considered to be any appreciable operational adverse effects on ornithological features. This is primarily because operation of the Proposed Development would require only infrequent maintenance attendance that would not be liable to cause significant disturbance to black grouse or other birds either within or beyond Corrimony RSPB Reserve.

6.7 Cumulative Effects

6.7.1 A list of developments which are programmed to be under construction or operational at the same time as the Proposed Development are included in **Chapter 3 Methodology** (**Table 3-2**). In summary these are:

- The proposed Bingally 400 kV substation – The objective of the Proposed Development is to connect to this substation, via installation of two new towers (including a temporary diversion requiring two temporary towers) to facilitate the tie-in of the existing Beauly-Denny OHL. This includes works to upgrade and realign the existing access track that extends from the A831 to the Proposed Bingally substation site;
- Bingally to Fasnakyle UGC / OHL connection - The installation of an UGC / OHL to connect the proposed Bingally substation to the existing Fasnakyle Substation;
- Tomchrasky Wind Farm OHL connection - The installation of an OHL connection from Tomchrasky Wind Farm to the proposed Bingally substation;
- Fiodhag Wind Farm – The construction of wind farm comprising 46 turbines (height to blade tip 149.9 m) – the proposed windfarm overlaps with a large area of the Site from the central area to the south;
- Fasnakyle Energy Storage - A Battery Energy Storage System BESS facility comprising access track, compound of battery and electrical equipment, stores, meter building, water tank, ancillary structures, fencing, security cameras, landscaping bunds and new trees;
- Kerrow Farm BESS - comprising, multiple containerised storage units, associated infrastructure, control buildings, switch room, lights and associated works;
- Chrathaich Wind Farm - Erection and operation of a wind farm for a period of 30 years, comprising of 14 wind turbines with a maximum blade tip height of 149.9m, access tracks, borrow pits, substation, control building, and ancillary infrastructure;
- Erection of OHL - Erection of small two span spur and free-standing pole for communications mast on the 33 kVA OHL by Benevean Dam, Tomich; and
- Cnoc Farasd Wind Farm - A wind farm consisting of 9 turbines up to 220m tip height, battery storage and associated infrastructure.

6.7.2 These listed developments are considered to be of importance to the cumulative appraisal concerning important ornithological features, as they are developments which are located within the local area to the Proposed Development that could potentially give rise to cumulative effects.

6.7.3 However, with the exception of black grouse, during the appraisal process, there were no impacts identified that could possibly result in a residual effect[10] of greater than Negligible. Consideration during this cumulative appraisal would only be given to those impacts where a residual effect of significance was concluded for the Proposed Development.

6.7.4 All ornithological construction and operational effects are rendered Negligible with the specific black grouse mitigation outlined below in place and adhered to. As such, the Proposed Development offers essentially no ornithological adverse effects with which there could be in-combination effects, either between aspects of the Proposed Development itself or with other plans or developments.

6.7.5 It is concluded that the Proposed Development would not act cumulatively to give rise to significant adverse effects on ecological features. This relies on the mitigation described in this chapter to avoid or minimise the risk on important ornithological features, and on the proposals also doing the same (e.g. managed through project-specific CEMPs).

[10] As described in CIEEM guidance. CIEEM, 2022. Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.2 – Updated April 2022. Chartered Institute of Ecology and Environmental Management, Winchester.

6.8 Recommendations and Mitigation

Construction Mitigation

6.8.1 To ameliorate the above non-negligible effects, specific mitigation would be required to avoid:

- Disturbance to known black grouse leks outside Corrimony RSPB Reserve.

6.8.2 This mitigation would be set out in greater detail in a Black Grouse Species Protection Plan (SPP), which would contain the following basic measures:

- Appointment of an Ecological Clerk of Works (ECoW);
- Carry out pre-construction survey by the ECoW, which is taken to mean black grouse survey including lek survey in the breeding season prior to construction (or during construction if deemed relevant);
- If possible, undertake construction works outwith the black grouse breeding season, starting March to mid-May (lekking) and subsequent nesting into August;
- Apply the following where construction works within 1 km of leks[11] (as confirmed by the above pre-construction survey) cannot avoid the breeding season:
  - Works would be restricted to starting at least two hours after dawn in the lekking season, taken as March to mid-May, inclusive;
  - Where works would impact possible black grouse nesting habitat in the breeding season (to circa the end of August), the ECoW would conduct checks for active black grouse nests in the vicinity of works. In the event that the ECoW identifies active black grouse nest(s) in the path of construction or close enough to likely be abandoned, the ECoW would establish an exclusion zone of appropriate size from which works, materials and entry would not be allowed until the ECoW judges that the breeding attempt(s) have finished[12].
  - Passage of vehicular construction traffic (and pedestrian passage if relevant) past the leks in the breeding season would also be subject to the above morning time restriction; and
  - The ECoW would monitor black grouse during the breeding season and may reduce the above distance of 1 km to a shorter distance if there is evidence of (for example) black grouse moving and lekking closer to the works without any apparent ill effect. The ECoW may also be able to reduce restrictions for passage of construction traffic past active leks within two hours of dawn if the ECoW finds that black grouse are approaching and lekking nearer the active access route without ill effect.

6.8.3 Note that the Proposed Development works are well over 1 km from known black grouse leks, and this is unlikely to change following the pre-construction survey, since information supplied by the landowner points to the leks being in the same vicinity over a prolonged period. Therefore, the Proposed Development works are unlikely to themselves be subject to black grouse restrictions, although they may be impacted by the above restrictions affecting the proposed Bingally substation access track works and their subsequent use during construction.

<u>Construction mitigation – unrelated to black grouse</u>

6.8.4 Although no significant adverse impacts have been predicted for species other than black grouse, legal obligations arising from the Wildlife and Countryside Act 1981 (as amended)

[11] Goodship, N.M. and Furness, R.W., 2022. *Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species*. NatureScot Research Report 1283. NatureScot.

[12] Note that this would be a legal requirement under the general protection of active nests of wild birds set out in the Wildlife and Countryside Act 1981 (as amended), regardless of the high conservation status of black grouse;

mean that standard nesting bird mitigation is still required, since it applies to all active nests of wild birds regardless of how common they are.

6.8.5 Where any vegetation requires to be cleared (since all such vegetation in the Site is suitable for general nesting birds, including felled plantation), this should, as far as possible, be cleared outside the breeding bird season (taken to be March to August, inclusive). Where this is not possible, then the ECoW (or other appropriately experienced ecologist) would carry out checks for active nests no more than 48 hours prior to clearance of the relevant vegetation. In the event that the ECoW finds active nest(s), then the ECoW would establish exclusion zone(s) of appropriate size around the nest(s) from which works, material and entry would be prohibited until the ECoW judges that the breeding attempt(s) have finished.

6.8.6 Note that inspection of large areas of vegetation for active nests is likely to require a great deal of time and effort and if active nest(s) are found then significant project delays may be incurred since the exclusion zone(s) may need to be in place for several weeks at least. For these reasons, it is highly advisable to carry out clearance of vegetation outside the breeding bird season.

Residual construction effects

6.8.7 With the above specific mitigation in place and adhered to, all construction effects (that are not already Negligible) would become Negligible in magnitude and would therefore become not significant.

Operational Phase

6.8.8 There are not considered to be any appreciable operational adverse effects on ornithological features, primarily because operation of the Proposed Development would require only infrequent maintenance attendance that would not be liable to cause significant disturbance to black grouse or other birds either within or beyond Corrimony RSPB Reserve.

6.9 In-Combination Climate Change Impacts

6.9.1 Climate change impacts could result in drier summers on average (drought) and an increased risk of wildfires. This could result in a reduction in black grouse foraging habitat (e.g. wetland invertebrates to feed black grouse chicks) and, if there are impacts on black grouse breeding as a result of the Proposed Development from disturbance, this could therefore have effects in combination with climate change, resulting in reduced breeding success for this species.

6.9.2 Overall, the potential effects of in-combination climate change impacts on black grouse are likely to be not significant.