VOLUME 2: CHAPTER 7 – ECOLOGY AND NATURE CONSERVATION

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7. ECOLOGY AND NATURE CONSERVATION

7.1 Introduction

This EIA Chapter provides an assessment of the potential effects of the Proposed Development on ecology and nature conservation.

This Chapter's core focus is ecology and nature conservation, however, some of the subject matter covered reaches across other technical Chapters with crossover between topics. This includes the following Chapters:

- Chapter 8 – Ornithology
- Chapter 9 – Forestry
- Chapter 10 – Geology and Soils
- Chapter 11 – Hydrology and Hydrogeology

The specific objectives of this Chapter are to:

- Describe the ecological baseline;
- Describe the potential effects, including direct, indirect and cumulative effects, on ecological features;
- Describe the mitigation measures proposed to address likely significant effects; and,
- Assess the significance of any residual effects remaining following the implementation of mitigation.

7.2 Legislation, Policy and Guidance

- The Conservation of Natural Habitats and Wild Flora and Fauna (the Habitats Directive)1992 (92/43/3EEC)[1];
- The Wildlife and Natural Environment (Scotland) Act 2011[2];
- Nature Conservation (Scotland) Act 2004[3];
- The Conservation (Natural Habitats &c.) Regulations 1994 (as amended)[4];
- The Wildlife and Countryside Act 1981 (as amended)[5];
- The Protection of Badgers Act 1992[6];
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017[7];
- The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017[8];
- Environmental Impact Assessment Directive 2014/52/EU4[9];
- Chartered Institute of Ecology and Environmental Management. (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, and Coastal[10];
- Chartered Institute of Ecology and Environmental Management. (2013). Guidelines for Preliminary Ecological Appraisals[11];

[1] https://environment.ec.europa.eu/topics/nature-and-biodiversity/habitats-directive_en#:~:text=The%20Habitats%20Directive%20%28Council%20Directive%2092%2F43%2FEEC%29%20was%20adopted,IV%2C%20both%20inside%20and%20outside%20Natura%202000%20sites. Accessed 09.08.24.
[2] https://www.legislation.gov.uk/asp/2011/6/contents/enacted Accessed 09.08.24.
[3] https://www.legislation.gov.uk/asp/2004/6/contents Accessed 09.08.24.
[4] https://www.legislation.gov.uk/uksi/1994/2716/contents/made Accessed 09.08.24.
[5] https://www.legislation.gov.uk/ukpga/1981/69/contents Accessed 09.08.24.
[6] https://www.legislation.gov.uk/ukpga/1992/51/contents Accessed 09.08.24.
[7] https://www.legislation.gov.uk/ssi/2017/101/contents/made Accessed 09.08.24.
[8] https://www.legislation.gov.uk/ssi/2017/102/contents/made Accessed 09.08.24.
[9] https://www.legislation.gov.uk/eudr/2014/52/introduction Accessed 09.08.24.
[10] https://cieem.net/resource/guidelines-for-ecological-impact-assessment-ecia/ Accessed 09.08.24.
[11] https://cieem.net/resource/guidance-on-preliminary-ecological-appraisal-gpea/ Accessed 09.08.24.

- Scottish Natural Heritage. (2013) A handbook on environmental impact assessment[12];
- NatureScot. (2023) Advising on Peatland, Carbon-Rich Soils and Priority Peatland Habitats in Development Management[13];
- NatureScot. (2024) Developing with Nature[14];
- National Planning Framework 4 (NPF4) (Scottish Government, 2023)[15]; and
- The Highland Council LDP: Policy 58 Protected Species[16].

7.3 Assessment Methodology and Significance Criteria

7.3.1 Scope of the Assessment

The ecological assessment considers the effects of the Proposed Development on designated nature conservation sites, woodland listed on the Ancient Woodland Inventory (AWI), Tree Preservation Orders (TPO), habitats and protected species. Site surveys were undertaken in October – December 2023 and later extended to encompass the wider Proposal of Application Notice (PAN) Boundary in June 2024, hence forth referred to as the 'Survey Area'. The PAN Boundary (or Survey Area) comprises a total of 577.02 Ha.

7.3.2 Extent of the Study Area

Designated sites, AWI, TPO and desk-based records of protected species were assessed within 2 km of the Survey Area (**Volume 3a Figure 7.1**). Projects with potential cumulative effects have been included up to 2 km from the Survey Area.

7.4 Consultation Undertaken to Date

Consultation undertaken is outlined in **Volume 2 Chapter 3** of this EIAR. A summary of consultation responses relevant to Ecology and Nature Conservation from Scoping is presented in **Table 7.1**.

[12] https://web.archive.org/web/20220901050635/https://www.nature.scot/sites/default/files/2018-05/Publication%202018%20-%20Environmental%20Impact%20Assessment%20Handbook%20V5.pdf Accessed 09.08.24.
[13] https://www.nature.scot/doc/advising-peatland-carbon-rich-soils-and-priority-peatland-habitats-development-management Accessed 09.08.24.
[14] https://www.nature.scot/doc/developing-nature-guidance Accessed 09.08.24.
[15] https://www.gov.scot/publications/national-planning-framework-4/ Accessed 09.08.24.
[16] https://www.highland.gov.uk/downloads/file/3026/highland_statutorily_protected_species_supplementary_guidance Accessed 09.08.24.

Table 7.1 Scoping Consultation relevant to Ecology and Nature Conservation

Consultee	Date of Consultation	Summary and Response
NatureScot (NS)	Response to Scoping: 15.04.2024	<u>Protected Areas</u> NS recognised that it has been identified that the Proposed Development has potential to result in significant impacts to nationally and internationally important sites for nature conservation. *In response, the Applicant notes:* • SSEN Transmission and our contractor, responsible for the design and build of the Proposed Development, have sought to minimise impacts on the nationally and internationally designated sites through an iterative design process as detailed in **Volume 2 Chapter 3**. Key steps in the design process have led to reductions in the footprint of the Proposed Development. The location of the Proposed Development is entirely within the Strath Carnaig and Strath Fleet Moors Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI). • Through sympathetic design, innovation and appropriate landscape management it is intended to provide a minimum 10% Biodiversity Net Gain to habitat value on within the PAN Boundary. Habitats reinstated will aim to promote the conservation objectives of the national and international sites. • Further considerations of the specific ornithological interests are detailed in **Volume 2 Chapter 8**. <u>Peatlands and Carbon-Rich Soils</u> NS recognise that preliminary ground investigations indicate that peat is present within the PAN Boundary, backed by NS's 'Carbon and peatland Map 2016', indicating that most of the PAN Boundary is underlain by mineral soils, with substantial areas of Class 3 peat also present as well as two small areas of Class 4 peat. Whilst NS recognise that these are not considered high priority peatland habitats; the use of NS guidance 'Advising on Peatland, Carbon-Rich Soils and Priority Peatland Habitats in Development Management' 2023, is advocated. *In response, the Applicant notes:* • SSEN Transmission note NS's recommendation. SSEN Transmission will consult further with NS on compensation for peatland within the PAN Boundary. Contributions to peatland restoration in the wider area are suggested as possible compensation. <u>Demonstrating Positive Effects for Biodiversity</u> NS recognise SSEN Transmission's target for all projects gaining consent to have a 10 % net gain for biodiversity. NS state that within the EIA Report, information on predicted losses, proposed compensation and delivery of additional positive effects should be clearly summarised. The information must be sufficient to allow the consenting authority and relevant stakeholders to see clearly how effects will be addressed, and compensation and enhancement delivered. NS advocate the use of their guidance 'Developing with Nature' 2024 is consulted for both examples of common measures to enhance biodiversity and for its example template in how to display the information within the EIAR.

		In response, the Applicant notes: • As part of this EIAR, SSEN Transmission have undertaken a Biodiversity Net Gain Assessment, cognisant of NS guidance, a summary of which can be found in **Volume 2 Chapter 7.** A Long-Term Habitat Management Plan is included (**Volume 4 Appendix 5.2**) to support the creation and / or enhancement of proposed post-development habitats in order to meet the proposed target conditions.
The Highland Council (THC)	Response to Scoping: 09.05.2024	THC's response to Scoping is summarised in the following points: An EIAR chapter covering ecology, habitats and ornithology will be required. This must provide a baseline survey of the flora and fauna interest within the Site. Habitat enhancement and mitigation measures should be detailed, in the contexts of both biodiversity and conservation. Details of any habitat enhancement programme (such as native-tree planting, stock exclusion, etc) for the Proposed Development should be provided. It is expected that the EIAR will address whether or not the development could assist or impede delivery elements of relevant Biodiversity Action Plans. *In response, the Applicant notes:* • The EIAR contains chapter(s) covering ecology (including habitats and species) and ornithology and these are based on appropriate baseline surveys of the area. The associated landscape management plan sets out proposals for the habitat enhancement associated with the Proposed Development and where appropriate these tie into Biodiversity Action Plans pertinent to the area. The EIAR should cover the ecological resources of the Site including protected species and species within the Highland Nature Biodiversity Action plan. It is expected that the proposals shall demonstrate compliance with NPF4 policy 3b and that using the DEFRA metric, a minimum of 10% of biodiversity enhancement overall, can be brought about. *In response, the Applicant notes:* • A BNG assessment has been undertaken, using the SSEN toolkit (based on the DEFRA metric) to inform the proposed habitat / landscape mitigation for the Proposed Development. In line with SSEN Transmission guidance this should provide a minimum 10% net gain. The EIAR should address the likely impacts on the nature conservation interests of all the designated sites in the vicinity of the Proposed Development; as well as the aquatic interests within local watercourses, including downstream interests that may be affected. *In response, the Applicant notes:* • The EIAR details the impact assessment covering topics including but not limited to ecology (this Chapter), ornithology (**Volume 2 Chapter 8**) and hydrology (**Volume 2 Chapter 11**), further to this a report to inform Habitat Regulations Appraisal accompanies the EIAR (**Volume 4 Appendix 8.3**).

7.5 Method of Baseline Data Collation

7.5.1 Desk-based Study

The Study Area for statutory designated sites is based on the limited Zone of Influence (ZoI) considered likely as a result of the construction and operation of the Proposed Development. Any designated sites identified with no connectivity to the Proposed Development have been scoped out and are not discussed within this Chapter.

NatureScot SiteLink[17] and open-source data sets[18] were used to identify all relevant statutory designated sites.

A request for protected species, invasive non-native species (INNS) and "other species" records, as well as information on non-statutory designated sites was submitted to the Highland Biological Recording Group (HBRG) for the Study Area. Data were received on the 18th November 2022.

In addition to the above, desk-based baseline data reviewed included information from freely downloadable datasets which were searched for information on statutory and non-statutory designated sites as well any protected / notable flora and fauna. Only records within the last 25 years have been included.

7.5.2 Ecological Surveys

The Survey Area includes all habitat within the Proposal of Application Notice (PAN) boundary referred to throughout this Chapter as the PAN Boundary (**Volume 3a Figure 2.1**).

UK Habitat Classification (UKHab) surveys were undertaken by ERM within the Survey Area. Surveys were based on the methods described in the UK Habitat Classification User Manual and the Joint Nature Conservation Committee (JNCC) Handbook for Phase 1 Habitat Survey, as extended for use in Environmental Assessment. For further detail refer to **Volume 4 Appendix 7.1**.

A National Vegetation Classification (NVC) survey of habitats with the potential to support Groundwater Dependent Terrestrial Ecosystems (GWDTE) was undertaken by ERM within the Survey Area. The survey was based on the methods described in the JNCC National Vegetation Classification: Users' handbook, with communities identified by eye. For further detail refer to **Volume 4 Appendix 7.1**.

A walkover survey for protected and priority species was undertaken, which included a search for signs / sightings of species likely to occur in the locality and in those habitats which were present. Protected species are those deemed 'sensitive' and especially vulnerable to persecution or over-exploitation and are protected under legislation such as the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended), Wildlife and Countryside Act 1981 and Protection of Badgers Act 1992. Other species of priority, such as those included on the Scottish Biodiversity List (SBL)[19] which are of particular importance for the conservation of biodiversity in Scotland, were also recorded if present.

7.6 Impact Assessment

This Ecological Impact Assessment uses the methodology outlined in **Volume 2 Chapter 4** to determine Magnitude of change.

This Impact Assessment follows an approach whereby the Sensitivity of an ecological receptor has been determined and assessed against the Magnitude of the effect the activities associated with the Proposed Development may have on that receptor and the subsequent significance. The approach takes into account the CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland and refers to not significant, rather than negligible.

[17] https://sitelink.nature.scot/home Accessed 09.08.24.
[18] https://spatialdata.gov.scot/geonetwork/srv/eng/catalog.search#/home Accessed 09.08.24.
[19] Scottish Biodiversity List. Available at: https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy-and-cop15/scottish-biodiversity-list Accessed 09.08.24.

Mitigation for the Proposed Development is split into categories; design mitigation, embedded mitigation, and additional mitigation (**Section 7.6**). The Proposed Development was selected via an iterative design process as described in **Volume 2 Chapter 3**. This ensured that the mitigation hierarchy was applied and impacts to sensitive receptors were avoided where feasible. Embedded mitigation will comprise of SSEN's Transmission General Environmental Management Plans (GEMPs) a post-submission Construction Environmental Management Plan (CEMP), Construction Traffic Management Plan (CTMP) and Species Protection Plans (SPPs). Additional mitigation sets out any further mitigation required to reduce the residual impact to not significant.

Given the nature of the Proposed Development, there will be little or no effects on habitats and species in the surrounding area during the operational phase of the Proposed Development. As such the focus of the assessment is largely concentrated on the construction effects identified as a result of the Proposed Development.

7.6.1 Limitations and Assumptions

Limitations appropriate to this Chapter mainly pertain to the field survey element which is detailed in **Volume 4 Appendix 7.1** and summarised below:

- Wet, boggy ground conditions throughout the Survey Area (impeded access into discrete areas).
- Tall-grown grassland habitats and areas of heathland (impeded a clear view of the ground).
- Extent of dense vegetation, unsafe fast flowing water and steep sided margins on watercourses (impeded access to all parts for inspection).
- Density of some coniferous woodland plantations and the presence of areas of wind-blown trees (prevented access to some forestry blocks).
- Ongoing forestry operations – harvesting (prevented access to some forestry blocks).

Due to survey coverage and access being generally good across the Survey Area, good characterisation of habitats and likely species present was possible. These limitations, both individually and in combination, are therefore not considered to be significant and do not undermine the validity of the survey.

Due to natural population fluctuations in species, their distribution will move in and out of areas as numbers increase and decrease. Fluctuations may take place over short or long temporal phases. Surveys are a snap-shot and this Chapter is based on species found or likely to be found based on their known distribution, and habitat availability present within the Survey Area.

Where third party data is referred to, this is referenced and taken at face value guided by professional judgement.

The design of the Proposed Development on which this assessment has been based maybe subject to further detailed design and refinement, however a "worst case" approach has been taken in the assessment.

7.7 Sensitive Receptors

Designated sites, priority habitats[20], and protected species[21], are sensitive receptors. Assessment of sensitive receptors was undertaken as described in **Section 7.3** using the following distances from the Survey Area:

- Special Area of Conservation (SAC), SSSI and Ramsar designated sites within 2 km. Designated sites which pertain only to ornithological interest features are reported in **Volume 2 Chapter 8** Ornithology;

[20] Habitats listed on the Scottish Biodiversity List, a list of animals, plants and habitats considered to be of principal importance for biodiversity conservation in Scotland. Available at: https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy-and-cop15/scottish-biodiversity-list

[21] Certain species are afforded specific legal protections, meaning it can be illegal to disturb, harass, capture, or kill, injure animals or birds or to pick or damage certain wild plants. An overview of relevant protected species and the legal framework that applies in Scotland is available at: https://www.nature.scot/professional-advice/protected-areas-and-species/protected-species.

- Local Nature Conservation Sites (LNCS) within 2 km;
- Woodland listed on the AWI, Plantation on Ancient Woodland Site (PAWS) and TPOs within 2 km;
- Priority habitats and GWDTEs within the Survey Area**;** and
- Desk-based study of protected species records within 2 km and protected species survey data within the Survey Area.

7.8 Baseline Conditions

7.8.1 Current Baseline

Designated Sites

Statutory and non-statutory designated sites within connectivity distance of the Proposed Development are listed in **Table 7.2** and presented in **Volume 3a Figure 7.1**. Geological natural heritage designations are considered in **Volume 2 Chapter 10** Geology and Peat.

The Proposed Development lies entirely within the Strath Carnaig and Strath Fleet Moors SPA and SSSI, designated for its nature conservation importance. The River Evelix SAC, designated for its nature conservation importance, lies within 2 km of the PAN Boundary.

Table 7.2 Designated Sites for Nature Conservation relevant to the Proposed Development

Site Name and Designation	Qualifying Features	Proximity (closest point) to the PAN Boundary
Strath Carnaig and Strath Fleet Moors SPA + SSSI.	Qualifying features pertain only to ornithological interests and as such are reported in **Volume 4 Chapter 8** Ornithology.	Within
River Evelix SAC	Freshwater pearl mussel (*Margaritifera margaritifera*).	0.2 km south east
Note: Designations are listed in order of importance: Special Protection Area (SPA), SAC, Ramsar and SSSI. Sites with multiple designations within the same footprint have been combined.		

There are no Local Nature Conservation Sites within the Study Area.

There are no areas of woodland listed on the AWI[22] within the Study Area.

There are no areas of PAWS within Study Area. Areas of both Native Woodland and Open Land Habitat[23] are found within the Survey Area and Native Woodland is also found within the Study Area.

No trees with Tree Preservation Orders were identified within the Study Area[24].

Habitats

Table 7.3 and the following sections present a summary of the findings of the UKHab survey undertaken; refer to **Volume 4 Appendix 7.1** Habitat and Protected Survey Report for full details including species assemblage. Habitat mapping is presented in **Volume 3a Figure 7.2a**.

[22] Land that is currently wooded and has been continually wooded, at least since 1750.
[23] Native Woodland Survey of Scotland https://www.forestry.gov.scot/forests-environment/biodiversity/native-woodlands/native-woodland-survey-of-scotland-nwss Accessed 09.08.24.
[24] Highland Tree Preservation Orders and Conservation Areas https://highland.maps.arcgis.com/apps/webappviewer/index.html?id=13482108371d4cf288eba4b8a6cacfab Accessed 09.08.24.

Table 7.3 UKHab Classifications Recorded Within the Survey Area

Broad Habitat Type	UKHab Code	Habitat Name	Habitat Context	Area (Ha)
Grassland	g1b	Upland acid grassland	This habitat occurred in drier, more open areas in the north and south of the Survey Area.	9.531
	g3c	Other neutral grassland	This occurred in three locations: immediately north of the existing Loch Buidhe Substation; south of Loch Buidhe; and north west of the existing Loch Buidhe Substation.	4.418
	g3c8	Holcus-Juncus neutral grassland	Two small areas occurred west of the existing Loch Buidhe Substation.	1.536
Woodland and forest	w1h	Other woodland; mixed	This habitat occurred east of the existing Loch Buidhe Substation and had a very young age structure.	3.757
	w1h6	Other woodland; mixed; mainly conifer	This habitat occurred to the east of the existing Loch Buidhe Substation.	8.998
	w2c	Other coniferous woodland	This is the main habitat found within the Survey Area.	369.4
Heathland and shrub	h1b5	Dry heaths; upland (H4030)	Upland dry heath was present in the west of the Survey Area, occurring in mosaic with blanket bog habitat and associated with drier, more sloping or raised areas.	2.792
	h1b6	Wetland heath with cross-leaved heath; upland (H4010)	Small areas of wet heathland occurred adjacent to the unclassified Lochbuidhe road and a discrete area at the south eastern part of the Survey Area.	6.359
	h3h	Mixed scrub	Small stands of mixed scrub occurred in the west of the Survey Area.	1.012
Wetland	f1a	Blanket bog	Blanket bog does not occur directly within the Survey Area but was present along the northern and western edges of the Survey Area, south of Loch Buidhe and extending west of the unclassified Lochbuidhe road.	42.628
	f1a5	Blanket bog (H7130)		0.746
	f1a6	Degraded blanket bog	Degraded blanket bog was present throughout the Survey Area, primarily occurring within plantation forestry rides and firebreaks. A larger extent of degraded blanket bog is also present within an area of open ground, immediately to the south of Loch Buidhe.	75.25
	f2b	Purple moor grass and rush pastures	One small area occurs in the north of the Survey Area, to the south of the unclassified Lochbuidhe road.	3.161

Broad Habitat Type	UKHab Code	Habitat Name	Habitat Context	Area (Ha)
	f2c	Upland flushes, fens and swamps	Two areas of fen marsh and swamp, occurred in the north of the Survey Area, to the north and north east of the existing Loch Buidhe Substation.	11.546
Urban	u1b	Developed land; sealed surface	Impermeable habitats comprised the unclassified Lochbuidhe road, constructed from tarmac and running through the north of the Survey Area.	4.098
	u1c	Artificially unvegetated, unsealed surface	Areas of this habitat included the existing Loch Buidhe Substation, and forestry access roads within the Survey Area, comprising a predominantly gravel substrate, with little-to-no vegetation associated.	10.839
Rivers and Streams	rg1	Other standing water	A small water body was recorded north of the existing Loch Buidhe Substation. This is likely an attenuation pond associated with the substation drainage system. No submerged aquatic or emergent vegetation was observed during the survey.	0.314

Table 7.4 Potentially Groundwater Dependent NVC Communities Identified

NVC Code	NVC Community Name	Habitat Context	Groundwater Dependency
M15	*Tricophorum cespitosum* – *Erica tetralix* wet heath	M15 occurs within wet heathland and degraded blanket bog habitats located within the Survey Area and to the west. This community is considered to have moderate - high potential to be ground water dependent.	Moderate - High
M16	*Erica tetralix* – *Sphagnum compactum* wet heath	M16 occurs within wet heath habitat to the west of the Survey Area. This community is considered to have moderate potential to be ground water dependent.	Moderate
M23	Juncus effusus / acutiflorus – Galium palustre rush-pasture	One area includes M23, comprising neutral grassland adjacent to a watercourse, and is considered to have moderate potential to be ground water dependent.	Moderate
MG10	*Holcus lanatus* – *Juncus effusus* rush-pasture	This community occurs to the north of the survey area and is considered to have moderate potential to be ground water dependent.	Moderate

GWDTE

NVC habitats classified as moderate or high GWDTE that were recorded within the Survey Area during the habitat walkover are presented in **Table 7.4**.

The mapped results of the NVC survey are presented by groundwater dependency in **Volume 3a Figure 7.2b**.

Habitat types are described below, communities are listed in alphanumeric order as recorded in the classification, not in order of ecological value.

Notable Flora

No flora species of significant conservation value (e.g. Priority or SBL species) were identified during the habitat surveys. A full botanical species list for the survey can be found in **Volume 4 Appendix 7.1** Habitat and Protected Survey Report.

Protected Species

Desk-based Protected Species Records

Data purchased from the HBRC, pertinent to the Study Area can be found in **Table 7.5**.

Table 7.5 HBRC Records Within the Study Area

Scientific Name	Common Name	Location	Number of Records
Coenonympha tullia scotica	Large Heath	Within Survey Area	1
Rana temporaria	Common Frog	Within Survey Area	2
Lutra lutra	Otter	Within Survey Area	10
Arvicola amphibius	Water vole	Within Study Area	2

A search of the National Biodiversity Network Atlas[25] (NBN Atlas) for records available for commercial use (under CC-BY licence), was undertaken for the Study Area. No additional records were identified.

A search of the Saving Scotland's Red Squirrels web-site[26] sightings page, yielded no records for the Study Area. Records from 2023 / 2024 do, however, show red squirrels (*Sciurus vulgaris*) to be present in the wider area surrounding the Study Area, with sighting reported from around Lairg (north west), Bonar Bridge (south west), Dornoch (south east) and Golspie (north east). Records from the wider area suggest it is likely that red squirrels are present within the Study Area, where suitable habitat exists. The species maybe under recorded due to the remote location of the Study Area.

Protected Species Records from Surveys

The following sections describe the findings of surveys undertaken for the Proposed Development. Where relevant, survey records from other local projects have been included, e.g. Beauly – Spittal 400 kV OHL (where surveys were undertaken concurrently). The findings are illustrated in **Volume 3a Figure 7.3** and further detail can be found in **Volume 4 Appendix 7.1** Habitat and Protected Species Survey Report**.**

Badger (Meles meles)

Surveys identified a single badger footprint located at approximately OS grid reference NH 64781 97492. A second print and claw marks indicating possible exploratory digging were recorded at NH 65155 97061. No other signs of badger were recorded in the Survey Area. Coniferous woodland can support badgers, however, the underlying habitats within the Survey Area are wet and boggy and are considered unlikely to be suitable for

[25] https://nbnatlas.org/ Accessed 01.07.2024.
[26] https://scottishsquirrels.org.uk/squirrel-sightings/ Accessed 01.07.2024.

the creation of setts. Use of suitable habitat by badgers, if present, is likely to be limited to foraging and commuting.

Pine marten (Martes martes)

Areas of coniferous woodland habitat suitable for pine marten are present within the Survey Area. Two potential pine marten shelters were identified within the Survey Area, one located at NH 65066 97735, appeared old with spiders' webs across the entrance and a predated bird's egg inside it. The second potential shelter located approximately NH 65066 97720, was more exposed but had a scat within it. Further potential pine marten scats were found at locations NH 65270 97260, NH 65161 97554, NH 65047 97795 and NH 65543 97299 in prominent locations along woodland rides / edges, a characteristic of both pine marten and fox behaviour. Due to the difficulty and proven inaccuracy of pine marten scat identification in the field[27], samples of scat were sent off for deoxyribonucleic acid (DNA) analysis. Results of the scat DNA analysis were returned not successful, likely due to the age of the samples and associated degradation of the DNA or contamination of the sample(s) with an inhibiting agent. Due to the prevalence of pine marten in the north of Scotland[28], the scats and shelters are assumed to be pine marten, and pine marten are assumed to be resident within / around the Survey Area.

Otter

A single otter spraint was found during the survey, located on an unnamed watercourse east of the Allt Clach-bhuaile, where the watercourse meets Loch Buidhe. Generally, coniferous woodland is considered sub-optimal for otters on account of the drainage required for tree growth and limited associated foraging opportunities. Across the Survey Area there are limited watercourses available for use by otters, with more productive habitat located out with the Survey Area. The watercourses that do run within / adjacent to the Survey Area may be used by otters commuting between foraging habitat e.g. Loch Buidhe and Loch an Lagain. No places of shelter were identified at the time of survey.

Water vole

Surveys identified a range of water vole field signs within the Survey Area. All field signs found were restricted to the north east of the Survey Area with burrows, droppings, runs and foraging signs identified along the Allt Clach-bhuaile and the adjacent unnamed watercourse to the east. Habitats within the Survey Area comprise coniferous woodland, which is considered sub-optimal for water vole due to the drainage required for tree growth and limited plant diversity associated with understory in dense coniferous woodland, and recent clear fell. Most of the watercourses across the Survey Area were deemed unsuitable to support water vole due to their lack of steep bankside, shallow water depth, likely variation in water flows, unsuitable bank soil, watercourse width and limited plant diversity.

Red squirrel

A single drey was found during the survey located at approximate OS grid reference NH 65362 97369. No other signs of red squirrel were identified within the Survey Area. Coniferous woodland is widespread within the Survey Area and is one of the dominant habitat types. Coniferous woodland is suitable habitat for red squirrel and does provide suitable breeding and foraging habitat. Due to the location of the Survey Area in northern Scotland it is unlikely that grey squirrels (*Sciurus carolinensis*) would be present[29] and no signs of this species were identified during the survey. Incidental records of red squirrel dreys were made known to surveyors, however, no locations were provided and as such their presence on site could not be verified; these records are hence not included further within this assessment.

[27] On the origin of faeces: morphological versus molecular methods for surveying rare carnivores from their scats. https://www.vwt.org.uk/wp-content/uploads/2015/04/davison-a-et-al-2002-on-the-origin-of-faeces-morphological-versus-molecular-methods-for-surveying-rare-carnivores-from-their-scats.pdf Accessed 03.07.24

[28] Croose, E., Birks, J.D.S., Schofield, H.W. & O'Reilly, C. 2014. Distribution of the pine marten (Martes martes) in southern Scotland in 2013. Scottish Natural Heritage Commissioned Report No. 740.

[29] https://scottishsquirrels.org.uk/squirrel-sightings/ Accessed 03.07.24.

Wildcat (Felis silvestris)

No signs of wildcat were observed during the survey and no potential wildcat shelters were identified within the Survey Area. Conifer plantations have potential to support breeding, sheltering and foraging wildcat as part of a mosaic of habitats including woodland edges, uplands with rough grazing and moorlands with limited pastures. However, habitats present within the Survey Area are predominantly wet and boggy so may be considered sub-optimal to support breeding or sheltering wildcat. The Survey Area is not located within a wildcat priority area, the closest being at Strathpeffer approximately 40 km to the south west.

Bats

Bat Roost Potential

No potential roost features were identified during survey. Most of the Survey Area was composed of commercial coniferous plantation blocks of a similar age / stage or felled plantation composed of brash and stumps. Conifer trees are generally considered to offer negligible potential to support roosting bats due to their lack of potential roosting features (PRFs)[30].

Within the coniferous plantations included in the Survey Area, most trees offered negligible bat roost potential, standing straight and unbroken with no sheltered crevices visible, including within the standing deadwood. Woodland blocks were composed of a limited number of tree species all of a similar age / stage, with blocks of trees assessed rather than individual trees.

The existing Loch Buidhe Substation building was not subject to survey as it is located in excess of 30 m from the Proposed Development and hence out with a potential disturbance distance.

Bat Habitat Assessment

Areas of woodland, standing, and running water within the Survey Area offer low foraging and commuting potential for bats. This is due to vegetation along watercourses being limited in suitability for supporting large numbers of insects, and the relative isolation of the Survey Area from more suitable habitat.

Other Fauna

Amphibians and Reptiles

A single common toad (*Bufo bufo*) was recorded, located within the Survey Area. There are areas of habitat suitable within the Survey Area to support breeding amphibian species including damp parts of upland acid grassland, coniferous woodland plantation, degraded blanket bog and standing water in the form of lochs and ditches.

No reptiles were recorded during the survey. Suitable reptile habitat was present within the Survey Area and capable of supporting basking and foraging behaviour, brash piles associated with forestry works provide suitable sheltering opportunities for reptiles. Other suitable habitat within the Survey Area includes scrub and tussocky grassland.

Other Mammals

No signs of further SBL species were identified during the surveys. Deer control is known to be practiced within the Survey Area as part of the forestry management.

Invasive Non-Native Species

No invasive non-native fauna or flora species were recorded in the Survey Area at the time of survey.

[30] Andrews H, et al (2013) Bat Tree Habitat Key. AEcol, Bridgwater

7.8.2 Future Baseline

Should the Proposed Development not proceed, the future baseline situation would be expected to remain as per the baseline survey findings. Similar populations of protected species would likely be maintained, as is currently the case, fluctuating as the commercial forestry is harvested, left fallow (approximately 4 years) and re-planted on rotation. Of particular note would be red squirrel and pine marten populations which are closely associated with woodland habitats, in this case commercial forestry. The habitats found within the Survey Area would be expected to persist as long as drainage for the commercial forestry areas remains constant and is not expanded or altered. The commercial forestry would be expected to continue to be managed in line with the associated management plans in place for the current crop.

Scotland's environment[31] predicts that the changes in climate that Scotland is already experiencing are projected to continue and intensify, noting that:

- Average temperatures will increase across all seasons;
- Typical summers will be warmer and drier;
- Typical winters will be milder and wetter;
- Intense, heavy rainfall events will increase in both winter and summer;
- Sea levels will rise;
- Reduced frost and snowfall; and,
- Weather will remain variable and may become more variable.

The potential impacts of climate change as described; wetter, warmer winters and extreme rainfall events in all seasons may lead to a reduced viability for some areas of forestry. Hotter drier summers may lead to exacerbated drying of wetland / peat forming habitats and other GWDTEs. Based on climate change predictions, actual climatic changes at the location of the Proposed Development cannot be accurately quantified, hence the future baseline is considered to remain approximately in line with the current baseline.

7.9 Assessment of Effects, Mitigation and Residual Effects

The assessment considers the potential impacts on designated sites, habitats, GWDTE, and protected species that could occur from the Proposed Development during design, construction and operation, for example:

- direct habitat loss due to permanent infrastructure, temporary facilities and peat storage;
- effects on habitats in the surrounds (e.g., from incursion by workforce, lighting, pollution / spillages, dust, effects on surface / groundwater);
- direct effects on fauna, including their killing and injury and the destruction of their places of shelter; and
- indirect effects on fauna species including disturbance / displacement.

Decommissioning is not included within the scope of this assessment as it is expected that whilst there will be a design life associated with the Proposed Development, it will be required in perpetuity with the infrastructure maintained and replaced in situ and as required.

7.9.1 Mitigation by Design

The Proposed Development was selected and developed via an iterative design process as described in **Volume 2 Chapter 3** The Site Selection Process and Alternatives. This applied the mitigation hierarchy and impacts to sensitive receptors were avoided where feasible and in balance with other competing interests.

[31] Scotland's Environment https://www.environment.gov.scot/our-environment/climate/changing-climate/#:~:text=Typical%20summers%20will%20be%20warmer,Sea%20levels%20will%20rise Accessed 19.07.24.

7.9.2 Biodiversity Net Gain

SSEN Transmission has a business commitment to ensure all projects gaining consent result in a 10% Biodiversity Net Gain (BNG). This is aligned to the Scottish Government's National Planning Framework 4 (NPF4) Policy 3 aim for proposed developments to contribute to biodiversity enhancement. A BNG assessment of the Proposed Development using the SSEN Toolkit has been undertaken. Full details will be reported in a project specific BNG report.

The approach proposed will deliver BNG for the Proposed Development and achieve positive effects for biodiversity, leaving the natural environment in a demonstrably better state than before development work began.

7.9.3 Embedded Mitigation

Embedded mitigation measures will be further implemented as both the detailed design continue and the construction phase commences, including the timing of installation and careful siting of permanent and temporary structures to avoid or minimise interaction with sensitive ecological receptors.

Compliance with project wide and site-specific environmental management procedures, with reference to the Proposed Development's CEMP will also be implemented (**Volume 4 Appendix 2.2** Construction Environmental Management Plan). This will describe the proposed approach to construction methods and environmental protection during construction of the Proposed Development, including (but not limited to) details of ecological constraints and measures (e.g., site working hours, control of light spill, noise emissions, pollution, dust management, avoiding incursion into habitats to be retained), procedures for surface water management and pollution prevention guidelines.

SSEN Transmission have established GEMPs (**Volume 4 Appendix 2.1** SSEN Transmission GEMPs and SPPs), which will be implemented through the CEMP. Based on ecologically sensitive receptors identified in this Impact Assessment, relevant GEMPs include, but are not limited to:

- Working in or Near Water;
- Bad Weather;
- Working in Sensitive Habitats;
- Forestry;
- Working with Concrete;
- Oil Storage and Refuelling;
- Waste Management;
- Soil Management;
- Dust Management;
- Biosecurity (On Land); and
- Restoration.

SSEN Transmission have well-established Species Protection Plans (SPPs) for a number of protected species, which have been developed in consultation with NatureScot and are currently being used across other SSEN Transmission projects (**Volume 4 Appendix 2.1** GEMPs and SPPs). Each SPP provides details on what actions are required should species be encountered during construction of the Proposed Development. Based on the ecologically sensitive receptors identified in this Impact Assessment, relevant protection plans include, but are not limited to:

- Badger SPP;
- Bat SPP;
- Freshwater Pearl Mussel SPP;

- Otter SPP;
- Red squirrel SPP;
- Water vole SPP;
- Wildcat SPP; and
- Pine marten SPP.

Embedded measures to protect biodiversity will include a pre-construction site survey of the PAN Boundary by a suitably qualified Ecological Clerk of Works (ECoW), focussing on habitats and species to be directly and indirectly impacted by the Proposed Development. The purpose of the survey would be to confirm any changes to, and update of the baseline, to confirm the data on which this Impact Assessment is based, are still true. Should a new species be identified, the appropriate SPPs (included within the CEMP) would be followed during construction of the Proposed Development and an assessment undertaken to understand the impacts the Proposed Development may have on that species, as well as any further measures that should be put in place, for example, protected species licencing.

A Construction Traffic Management Plan (CTMP) for the Proposed Development is also in draft (**Volume 4 Appendix 2.3** Construction Traffic Management Plan) and will be updated iteratively in advance of the start of construction and throughout the construction phase. Whilst it is not an ecology-focused plan it will help to avoid / manage effects on ecological features in the surrounds of the areas to be directly affected, for example to prevent spillages, discharges, and unnecessary incursion into habitats, as well as implementing speed limits etc. which may avoid or reduce direct mortality of species associated with vehicle collisions.

7.9.4 Assessment – Construction Effects

Designations

No sites of international or national importance, designated for their nature conservation value (excluding ornithological features assessed in **Volume 2 Chapter 8**) will be directly affected by the Proposed Development. The nearest site for non-ornithological features is the River Evelix SAC (High Sensitivity), located approximately 0.2 km to the south east of the PAN Boundary. The River Evelix is designated for populations of freshwater pearl mussel. Whilst the PAN Boundary is approximately 200 m from the SAC (at closest point) the construction footprint is located over 2 km from the SAC (at closest point). The closest area of works associated with the Proposed Development will involve peat storage for the purposes of peatland restoration (storage location D, **Volume 3a Figure 2.1**). The excavation, transport and deposition of peat, as well as a proposed design for storage areas is detailed in the Peat Management Plan (**Volume 4 Appendix 10.2** Peat Management Plan). A Peat Slide Risk Assessment has been undertaken, including for peat storage locations, and can be found in **Volume 4 Appendix 10.**1 Peat Slide Risk Assessment. Peat storage location D is situated approximately 10 m from an unnamed watercourse that has hydrological connectivity to the SAC. On account of the distance between peat storage location D and the SAC (approx. 2 km), with a minimum 10 m buffer to the nearest watercourse (GEMP – Soil Management; GEMP – Working in or Near Water), it is considered likely that particulate matter / chemical pollutants, if they reached the watercourse, would drop out of the water column or become sufficiently dilute before reaching the River Evelix SAC, such that smothering / toxic effects would be unlikely to affect the freshwater pearl mussels.

Further to the measures detailed, a standoff of 10 m between all watercourses and peat storage / deposition locations will be implemented and the riparian vegetation retained (GEMP – Working in or Near Water). Works around watercourses with hydrological connectivity to the River Evelix SAC will be undertaken in line with the SPP - Freshwater Pearl Mussel. Best practice pollution prevention controls will be implemented to prevent release of chemical pollutants such as fuel or oil, as per the GEMP on ‘Oil Storage and Refuelling’. Best practice will also be applied to prevent runoff from the peat storage area during construction as per the GEMPs on ‘Soil Management’, ‘Working in Sensitive Habitats’, ‘Restoration’ and ‘Bad Weather’.

Best practice measures shall be maintained until a sustainable layer of vegetation has developed over the peat to prevent erosion, this shall be monitored through routine inspection to ensure pollution prevention measures are still functional and planting / seeding of the restoration areas is maturing (**Volume 2 Chapter 16** E1).

With consideration of the deployment of embedded mitigation measures detailed above the Magnitude of effects is considered to be Negligible and as such **No significant impacts** are predicted to designated sites of international or national importance (excluding ornithological features).

Habitats

The following section presents the construction phase impacts to habitats from the Proposed Development. A summary of permanent and temporary habitat impacts is presented in **Table 7.6**.

Permanent loss of woodland habitat caused by the Proposed Development will occur from the creation of the substation platform upon which the substation infrastructure will be built. Further to this, permanent loss of woodland will be required to accommodate access tracks, Sustainable Drainage Systems (SuDS) and peatland restoration areas. It is currently anticipated that a single main construction compound will be required, the location of which is presented in **Volume 3a Figure 2.1**. The construction compound and earthworks associated with the construction of the substation platform will result in temporary habitat loss. The Principal Contractor will be responsible for removing the compound and reinstatement of habitat following completion of construction, including planting of the earthworks denuded of habitat during the construction phase.

Within the footprint of the Proposed Development area(s) of habitat classed as having moderate and moderate - high GWDTE (High Sensitivity) will be lost due to the construction of the Proposed Development. Within this habitat, NVC surveys identified M15 *Trichophorum cespitosum – Erica tetralix* wet heath and M16 *Erica tetralix – Sphagnum compactum* wet heath. Other areas of potential GWDTE include M23 *Juncus effusus / acutiflorus – Galium palustre* rush-pasture and MG10 *Holcus lanatus – Juncus effusus* rush-pasture.

Standard embedded mitigation measures will be implemented during the construction work including changes to work activities and mitigation during wetter periods and careful siting of permanent and temporary structures to avoid or minimise interaction with sensitive receptors.

A relatively small area of locally frequent GWDTE habitat[32] is to be permanently lost. Along with the implementation of embedded mitigation, the Magnitude of the effects on GWDTE from the Proposed Development are predicted to be Negligible and **no significant effects** are predicted.

The permanent[33] and temporary[34] loss of the habitats due to the construction of the Proposed Development and peatland restoration are shown in **Table 7.6.**

[32] Joint Nature Conservation Committee. National Vegetation Classification: Field Guide to Mires and Heaths. Joint Nature Conservation Committee, Peterborough. 2001.

[33] Permanent habitat loss – the permanent footprint of any component of the Proposed Development which will not be restored following construction.

[34] Temporary habitat loss – any component of the Proposed Development that will be restored following construction, for example temporary works area and temporary access tracks.

Table 7.6. Permanent, Temporary and Peatland Habitat Impacts

Broad Habitat Type	Habitat Classification	Assessment	Substation - Permanent Habitat Loss (ha)	Substation – Temporary Habitat Loss (ha)	Area proposed for Peatland Restoration (ha)
Grassland	Upland acid grassland	This habitat may be impacted on account of peatland restoration activities associated with the Proposed Development. This will not derive from the physical removal of habitat rather the reinstatement of conditions necessary for peat forming habitats and species to re-develop e.g. wetting of the soils through blocking of existing drainage. As upland acid grassland covers 9.5 ha within the PAN Boundary this represents a potential loss of approximately 38%. In upland areas this is a common habitat (Low Sensitivity) and on account of the habitat loss not being certain (Low Magnitude) a minor impact is assigned and therefore **no significant impact** is anticipated.	0	0	3.615
	Other neutral grassland	No impact identified. **No significant impact**.	0	0	0
	Holcus-Juncus neutral grassland	No impact identified. **No significant impact.**	0	0	0
Woodland	Other woodland; mixed; mainly conifer	No impact identified. **No significant impact.**	0	0	0
	Other coniferous woodland	Loss of commercial coniferous plantation will occur as a result of the Proposed Development (both permanent and temporary loss) but also as a result of peatland restoration activities. It is proposed that losses of forestry to the Proposed Development will be subject to compensatory planting both as part of the designed landscape, replanting by the landowner and off-site compensatory planting (**Volume 2 Chapter 16** E2). Coniferous plantations tend to be of low species richness both in terms of the species grown and the understory (Low Sensitivity). The area of commercial plantation to be lost to the Proposed Development within the PAN Boundary is approximately 48% with a much greater extent of plantation woodland outside the PAN Boundary (Medium Magnitude) as such a Minor	21.556	1.110	156.071

Broad Habitat Type	Habitat Classification	Assessment	Substation - Permanent Habitat Loss (ha)	Substation – Temporary Habitat Loss (ha)	Area proposed for Peatland Restoration (ha)
		impact is assigned and therefore **no significant impact** is anticipated.			
Heathland and shrub	Wet heathland with cross-leaved heath; upland	Annex I habitat[35], Scottish Biodiversity List[36], Local Biodiversity Action Plan (LBAP)[37] priority to allow natural regeneration. Relatively small areas of this habitat will be lost (permanent and temporary) to the construction of the Proposed Development (approx. 3%). Potential impacts maybe realised through the restoration of peatland habitats, however, it is likely this habitat will tolerate such activities on account of it being a wet upland peat forming habitat and it is hoped that this habitat will expand. Due to the designations associated with this habitat (High Sensitivity) and the relatively small area impacted by the Proposed Development (Negligible Magnitude) **no significant impact** is anticipated. The promotion of this habitat through peatland restoration on site is anticipated to at least maintain current land cover levels of this habitat.	0.206	0	0.600
	Mixed scrub	No impact identified. **No significant impact**.	0	0	0
	Dry heath; upland (H4030)	Annex I habitat, Scottish Biodiversity List, LBAP priority to allow natural regeneration. No impact identified. **No significant impact**.	0	0	0
Wetland	Blanket bog	Annex I habitat, Scottish Biodiversity List, LBAP priority to restore peatlands, wetlands, bogs, mires, wet grasslands. Relatively small areas of this habitat will be lost (permanent and temporary) to the construction of the Proposed Development (approx. 0.5%). It is anticipated that through the peatland restoration proposed on site (approx. 191.34 Ha) most of this area will be converted from	0.221	0	3.181

[35] https://www.nature.scot/doc/habitats-and-species-habitats-directive-which-occur-scotland-and-which-special-areas-conservation Accessed 23.07.24

[36] https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy-and-cop15/scottish-biodiversity-list Accessed 23.07.24

[37] https://www.highlandenvironmentforum.info/wp-content/uploads/2022/01/Highland-Nature-Biodiversity-Action-Plan-2021-2026-_compressed-.pdf Accessed 23.07.24

Broad Habitat Type	Habitat Classification	Assessment	Substation - Permanent Habitat Loss (ha)	Substation – Temporary Habitat Loss (ha)	Area proposed for Peatland Restoration (ha)
		coniferous plantation to blanket bog. Due to the designations associated with this habitat (High Sensitivity) and the relatively small area impacted by the Proposed Development (Negligible Magnitude) **no significant impact** is anticipated. The promotion of this habitat through peatland restoration within the PAN Boundary is anticipated to significantly increase the current land cover of this habitat, establishing a mosaic of functional peatland habitats up to 191 ha (Medium Magnitude) resulting in a Major beneficial impact, a **significant beneficial impact**.			
	Degraded blanket bog	Degraded raised bogs still capable of natural regeneration are considered to be Annex I habitats. Relatively small areas of this habitat will be lost (permanent and temporary) to the construction of the Proposed Development (approx. 2.18%) relative to the existing cover in the PAN Boundary (Low Magnitude). Without intervention, and as per the future baseline (**Section 7.8.2**) degraded blanket bog will not regenerate (Low Sensitivity), as such a Minor impact is identified resulting in **no significant impact**. With the anticipated restoration of peatland within the PAN Boundary, 21.638 ha of degraded blanket bog is likely to regenerate to blanket bog habitat (Medium Magnitude) resulting in a Low beneficial impact, **no significant impact**.	1.531	0.115	21.638
	Purple moor-grass and rush pastures	Scottish Biodiversity List habitat. Approximately 1.67% of this habitat found within the PAN Boundary will be affected by peatland restoration activities only. Given this is a wetland habitat and the predominant effect of restoring the wetland is likely to be wider wetting of the ground conditions it is not anticipated that this habitat will be lost. However adopting a precautionary approach and	0	0	0.053

Broad Habitat Type	Habitat Classification	Assessment	Substation - Permanent Habitat Loss (ha)	Substation – Temporary Habitat Loss (ha)	Area proposed for Peatland Restoration (ha)
		assuming loss of this habitat within restoration areas, its listing as a Scottish Biodiversity List habitat (Medium Sensitivity) and a relatively small proportion of loss (Negligible Magnitude) would suggest **no significant impact**.			
	Upland flushes, fens and swamps	Scottish Biodiversity list habitat. Approximately 32.49% of this habitat found within the PAN Boundary will be affected by peatland restoration activities only. Given this is a wetland habitat and the predominant effect of restoring the wetland is likely to be wider wetting of the ground conditions it is not anticipated that this habitat will be lost. However adopting a precautionary approach and assuming loss of this habitat within restoration areas, its listing as a Scottish Biodiversity List habitat (Medium Sensitivity) and a relatively small proportion of loss (Low Magnitude) would suggest **no significant impact**.	0	0	3.752
Urban	Developed land; sealed surface	No impact identified on account of a human made surface. **No significant impact**.	0.0003	0	0.930
	Other developed land	No impact identified on account of a human made surface. **No significant impact**.	0	0	0
	Artificial unvegetated, unsealed surface	No impact identified on account of a human made surface. **No significant impact**.	0.003	0	0
Rivers and lakes	Rivers and streams	Scottish Biodiversity List, LBAP priority to work at water catchment level to create healthy ecologically diverse freshwater systems. No impact identified. **No significant impact**.	0	0	0

Protected Species

Badger

Two badger prints and no setts were recorded during the protected species walkover surveys. Suitable foraging habitat for badger is present across some of the Survey Area. However, much of the site in unsuitable for badger sett creation. Following pre-construction surveys (**Volume 2 Chapter 16** E3), should a badger sett be identified, if avoidance is not possible, a development licence would be sought to disturb and / or destroy the sett. Combined with SSEN Transmission's embedded mitigation measures, including the SPP - Badger, effects on badgers, a common and widespread protected species in Scotland (Low Sensitivity) from the Proposed Development are predicted to be of Negligible Magnitude and therefore **no significant impacts** are predicted.

Pine Marten

Two potential pine marten shelters were identified within the Survey Area. One located at NH 65066 97735, appeared old with spiders' webs across the entrance and a predated bird's egg inside it. The second potential shelter located approximately NH 65066 97720, was more exposed but had a scat within it. Further potential pine marten scats were found at NH 65270 97260, NH 65161 97554, NH 65047 97795 and NH 65543 97299, in prominent locations along woodland rides / edges, a characteristic of both pine marten and fox behaviour. In the absence of a conclusive DNA result it is assumed that the scats found are pine marten.

Pine marten places of shelter are protected from disturbance, damage and destruction and as such a derogation licence will be required in order to undertake any works within 30 m of their place of shelter. Where pine marten shelters are to be lost they should be replaced in advance destruction of their existing shelter using artificial pine marten boxes mounted on trees to be retained or on wood poles situated within woodland planting.

To inform any derogation licence application, shelters should be camera monitored to confirm use by the target species. Further to this a repeat survey of areas to be impacted by construction (+30 m) should be undertaken to identify any new shelters that may have become occupied (**Volume 2 Chapter 16** E3).

SSEN Transmission will utilise embedded mitigation measures, including their SPP - Pine Marten and GEMPs (e.g. forestry) as standard to minimise the effects on any pine marten using the surrounding area.

As a result of the measures described, effects on pine martens, a common and widespread protected species in the north of Scotland (Low Sensitivity) from the Proposed Development are predicted to be of Medium Magnitude resulting in a Minor Impact and therefore **no significant impacts** are predicted.

Otter

A single otter spraint was found during the survey, located on an unnamed watercourse east of the Allt Clach-bhuaile, where the watercourse meets Loch Buidhe. No holts or resting places were observed during surveys.

Watercourses within the Survey Area were considered sub-optimal for otters, primarily due to limited foraging opportunities. However, they may be used by otters commuting between nearby, higher quality foraging habitat, e.g. Loch Buidhe and Loch an Lagain.

Pre-construction surveys of all watercourses within 200 m of construction works (up and downstream) shall be undertaken to identify any changes to the baseline conditions (**Volume 2 Chapter 16** E3). Following pre-construction surveys, should an otter shelter be identified, if avoidance is not possible, there is potential for an offence to be caused and a development license would be required to disturb and / or destroy the shelter.

SSEN Transmission will utilise embedded mitigation measures, including their SPP - Otter and GEMPs (e.g. working in or Near Water) to minimise the impacts on any otters using the surrounding area and as a result, effects on otter (Medium Sensitivity) from the Proposed Development are predicted to be of Negligible Magnitude therefore **no significant impacts** are predicted.

Water vole

Surveys identified a range of water vole field signs within the Survey Area. All field signs found were restricted to the north east of the Survey Area with burrows, droppings, runs and foraging signs identified along the Allt Clach-bhuaile and the adjacent unnamed watercourse to the east. Most other watercourses across the Survey Area were deemed unsuitable to support water vole due to their lack of steep bankside, shallow water depth, likely variation in water flows, unsuitable bank soil, watercourse width and limited plant diversity.

Pre-construction surveys of all watercourses within 30 m of construction works (up and downstream) shall be undertaken to identify any changes to the baseline conditions (**Volume 2 Chapter 16** E3). Following pre-construction surveys, should water vole burrows be identified, if avoidance is not possible, there is potential for an offence to be caused and a development license would be required to disturb and / or destroy the burrows.

Reduction of forestry cover and reinstatement of wetland / bog habitats associated with peatland restoration may allow water voles to expand their range in the area through provision of new habitat.

Combined with SSEN Transmission's embedded mitigation measures, including their SPP – Water Vole and GEMPs (e.g. working in or near water), effects on water vole (Medium Sensitivity) from the Proposed Development are predicted to be of Negligible Magnitude and therefore **no significant impacts** are predicted.

Red squirrel

A single red squirrel drey was found during the protected species survey, located at approximate OS grid reference NH 65362 97369. No other signs of red squirrel were identified within the Survey Area.

Suitable red squirrel habitat will be lost during construction, but this area will be small in comparison to the abundance of suitable alternative habitat in the wider area. Red squirrels are capable of traversing open ground and migrating to new woodland blocks. Following pre-construction surveys (**Volume 2 Chapter 16** E3), should red squirrel dreys be identified, if avoidance is not possible, there is potential for an offence to be caused, and a development license would be required to disturb and / or destroy the drey. Where squirrel dreys are to be lost they should be replaced in advance of destruction of their existing shelter using artificial red squirrel boxes mounted on trees to be retained or on wood poles situated within woodland planting.

The current land use of the Survey Area is commercial forestry, as such a forestry plan is in place and woodland blocks are planted and felled in rotation, often with a number of years (approximately four) where the ground is left fallow to reduce the commercial pest burden; much of the Survey Area, although classified as plantation woodland, is in fact in a state of clear fell as part of this rotation and therefore not currently used by squirrels as habitat.

Permanent woodland lost to the Proposed Development will be subject to compensatory planting as close to the area of loss as possible. Where possible compensatory planting will be situated in areas where there is connectivity to existing woodland. Temporary woodland loss will either be subject to replanting by the landowner in line with the existing forestry plan or by the Applicant in the form of mitigation planting (**Volume 2 Chapter 16** E4).

SSEN Transmission will utilise embedded mitigation measures, including their SPP – Red Squirrel and GEMPs (e.g. forestry) as standard to minimise the effects red squirrel using the surrounding area. As a result, effects on red squirrel (Medium Sensitivity) from the Proposed Development are considered to be of Low Magnitude and therefore no significant impacts are predicted.

Wildcat

No signs of wildcat were observed during the protected species survey and no potential wildcat shelters were identified within the Survey Area.

Suitable wildcat habitat is present throughout the Study Area. Following preconstruction surveys (**Volume 2 Chapter 16** E3), should a wildcat den be identified, If avoidance is not possible, there is potential for an offence to be caused and a development license would be required to disturb and / or destroy the den.

Combined with SSEN Transmission's embedded mitigation measures, including their SPP - Wildcat, effects on wildcat (High Sensitivity) from the Proposed Development are predicted to be of Negligible Magnitude and therefore **no significant impacts** are predicted.

Bats

Commuting and Foraging Habitat Assessment

Areas of woodland, standing, and running water within the survey area offer low foraging and commuting potential for bats. This is due to vegetation along watercourses being limited in suitability for supporting large numbers of insects, and the relative isolation of the Survey Area from more suitable habitat.

Preliminary Bat Roost Assessment

No potential roost features were identified during survey. Most of the Survey Area was composed of open habitat or commercial conifer plantation; comprising blocks of a similar age / stage or felled plantation composed of brash and stumps.

Within the coniferous plantation included in the Survey Area, most trees offered negligible bat roost potential, standing straight and unbroken with no sheltered crevices visible, including within the standing deadwood. Woodland blocks were composed of a limited number of tree species of a similar age / stage, with blocks of trees assessed rather than individual trees.

Prior to felling all trees should be assessed (individually) for their potential to support roosting bats by an appropriately qualified and experienced person. Where a tree possesses negligible bat roost potential it shall be clearly marked and approved for felling (**Volume 2 Chapter 16** E3).

Should a tree be identified as low, moderate or high bat roosting potential then appropriate survey effort should be undertaken in line with Bat Conservation Trust (BCT) guidelines prior to felling. Where necessary a licence may be required to remove and replace the roost. An Ecological Clerk of Works (ECoW) shall be in attendance for any tree felling or delimbing and will supervise soft-felling as required (**Volume 2 Chapter 16** E5) whilst also ensuring the implementation of SSEN Transmission's SPP - Bat.

There are no buildings within the Survey Area that are suitable for roosting bats and at risk of disturbance by the proposed works.

Combined with SSEN Transmission's embedded mitigation measures, including their bat SPP, effects on bats (High Sensitivity) from the Proposed Development (Negligible Magnitude) are therefore **no significant impacts** are predicted.

Amphibians and Reptiles

No reptiles were recorded during the survey. Suitable reptile habitat was present within the Survey Area and capable of supporting suitable basking and foraging behaviour. Brash piles associated with forestry works provide suitable sheltering opportunities for reptiles. Other suitable habitat within the Survey Area includes scrub and tussocky grassland.

Whilst reptiles were not recorded within the Survey Area, it is likely they are widespread and in low numbers in the wider area.

There are no licensing provisions to allow for the killing or injuring of reptiles and so measures must be put in place to minimise the risk of this happening and avoid an offence being committed. Timing works to avoid vegetation clearance and soil stripping during the period when reptiles may be hibernating (October – March inclusive) will minimise direct mortality (**Volume 2 Chapter 16** E6). Pre-clearance checks of areas of vegetation, to be removed, by an appropriately qualified and experienced ECoW will reduce the likelihood of direct mortality (**Volume 2 Chapter 16** E5).

Where avoidance is not possible, mitigation measures can be deployed such as fencing to prevent reptiles (and amphibians) from moving into areas where they could be killed or injured. Staged strimming of areas earmarked for development / disturbance can minimise risks to reptiles (and amphibians) by making existing habitat less

favourable (**Volume 2 Chapter 16** E6). By stacking the arisings away from work areas it is possible to create refuges for reptiles (and amphibians) to draw them away from work areas. Reptiles (and amphibians) can also be caught and translocated to suitable habitat so as not to be affected by the Proposed Development.

Implementation of measures to avoid the killing of reptiles will confer protection to amphibian species.

Combined with SSEN Transmission's embedded mitigation measures, effects on reptiles (and amphibians) (Low Sensitivity) from the Proposed Development are considered to be of Negligible Magnitude and therefore **no significant impacts** are predicted.

7.9.5 Operational Phase

Designations

During operation of the Proposed Development, no impacts are predicted upon sites designated for their international, national or local nature conservation importance (excluding ornithological features). Impacts on designated sites from operation are predicted to be **not significant**.

Habitats

Operational impacts on habitats present within the Proposed Development are predicted to be **not significant** as the habitat lost has been accounted for within the construction phase assessment. Monitoring and maintenance of the habitats planted / reinstated will be necessary so they meet their target condition and will be undertaken in line with the Habitat Management Plan (**Volume 4 Appendix 5.2** Outline Landscape and Ecological Management Plan) (**Volume 2 Chapter 16** E7). Habitat maintenance will be Low impact and as such operational maintenance is predicted to be **not significant**.

Protected Species

During operation, site visits for operation and maintenance will be infrequent and in keeping with the levels of activity currently experience at the existing Loch Buidhe Substation. Activities associated with routine habitat maintenance may yield temporary disturbing effects to protected species, which will be minimised through adherence to the appropriate SPP and GEMPs.

Following the implementation of all proposed mitigation, significant effects on protected species which may be present during operation are predicted to be **not significant**.

Bats

During operation and maintenance of the proposed substation, substation building(s) may become occupied by roosting bats, The presence of bat roosts within substation buildings may constrain some routine maintenance works which may need to be undertaken under licence. Inspections of substation building(s) should be undertaken in advance of any maintenance works which may lead to the disturbance or damage of a bat roost or the killing of bats. Works should adhere to the bat SPP and be undertaken in line with BCT guidance (**Volume 2 Chapter 16** E8).

Following the implementation of all proposed mitigation, significant effects on protected bat species which may be present during operation are predicted to be **not significant**.

Reptiles and Amphibians

During operation, activities associated with routine habitat maintenance may lead to the direct mortality of reptiles; implementation of safeguarding measures such as pre-works checks and phased strimming of ground vegetation shall reduce the likelihood of killing reptiles (and amphibians) (**Volume 2 Chapter 16** E6).

Following the implementation of all proposed mitigation, significant effects on protected reptile species which may be present during operation are predicted to be **not significant** and therefore **no significant effects** are predicted.

7.10 Cumulative Effects

Cumulative effects include the total effects resulting from the Proposed Development in combination with other similar developments within a ZoI. As the Proposed Development will result in the permanent loss of a relatively small area of habitat (not including commercial forestry) that is of low ecological value, a ZoI for the Proposed Development of 2 km was determined to be appropriate. All relevant current and planned developments within this 2 km ZoI are included below and presented on **Volume 3a Figure 4.1**.

7.10.1 Communications Mast 22/05825/FUL

The application seeks planning permission for the installation of a 25 m tall lattice, telecommunications tower and ancillary development including, construction of approximately 230 m of access track, cabinets, gantries, solar arrays and back-up generator, all enclosed within a timber fenced compound. Planning permission was granted in July 2023 with a condition that the development must commence within three years.

Assuming a worst case, where construction of the Proposed Development and the communications mast overlap, it is anticipated the duration of overlap would be limited and likely occur during preparatory works / site setup for the Proposed Development. Construction of the communications mast has a relatively small footprint in an area already subject to disturbance from forestry and no protected species impacts have been identified outside of ornithological interests.

Habitats lost to the communications mast and associated track will be coniferous plantation woodland and degraded blanket bog, the volume of which will be negligible by comparison to the extent of these habitats present in the wider context. Following completion of the development a condition has been applied requiring the applicant to reinstate to heather moorland, further limiting the area of habitat to be impacted.

Given the limited size of the communication mast development (estimated at approximately 0.14 ha), the disturbed nature of the ground due to forestry operations and the widespread nature of the habitats to be impacted, **no cumulative impacts** are predicted.

7.10.2 Acheilidh (Lairg III) Wind Farm

Acheilidh (Lairg III) Wind farm is a generating station consisting of the erection, operation and subsequent decommissioning of up to 12 wind turbines and associated infrastructure. It is likely the wind farm would provide approximately 79.2 MW of generating capacity with an additional 5 MW of battery energy storage. The name was originally proposed as Lairg III Wind Farm but is now known as Acheilidh Wind Farm. The Acheilidh Wind Farm is approximately 2 km north of the Proposed Development and south of the A839, in an area identified as Cambusmore Common Grazing.
An Application for Consent for the Acheilidh Wind Farm was submitted on the 7th of May 2024. Included within the consent application is a request for extension to the deemed planning permission as follows:

"*Deemed planning permission is sought to permit a period of ten years between the date of the Decision Notice and expiry of consent (should works not be commenced) rather than the usual three years*."

The construction start date for the Proposed Development is expected to start at the latest January 2026 (**Volume 2 Chapter 2** Project Description), as such it is unlikely that the construction phases of these proposals will overlap and as such cumulative effects resulting from construction of the developments are unlikely.

The EIA for Acheilidh Wind Farm, following the application of mitigation identifies the following impacts:

- Peatlands and related Habitat – Direct loss: **Not Significant**.
- Peatlands and related Habitat – Indirect effects: **Not Significant**.
- Lochan na Faolaig and Allt Garbh-airigh mesotopes – Change to hydrological connectivity: **Not Significant**.
- GWDTEs (M11 Communities) – Indirect effect of construction: **Not Significant**.

- Wetlands and related Habitats – Indirect effect of construction: **Not Significant**.
- Otter – Disturbance from Site Clearance and works: **Not Significant**.
- Bats – Direct Mortality due to operations: Permanent, negative impact. **Significant at Local** (site) **Level**, **Negligible** effect on the **regional** species populations.

The EIAR for Acheilidh Wind Farm concluded that **no significant impacts** upon sensitive receptors were predicted[38] during the construction phase. A permanent negative impact on bats due to operational mortality has been identified as significant at local level, however the Proposed Development has identified no such significant impact during operation, accounting for the proposed mitigation, as a result, **no cumulative impacts** are predicted.

7.10.3 Balblair Wind Farm

The proposed Balblair Wind Farm will comprise up to nine wind turbines with maximum 180 m blade tip height. Associated infrastructure will include:

- a means of access from the public road to the Site;
- turbine foundations crane hard standings;
- transformer / switchgear housings located adjacent to turbines;
- internal access tracks (use of existing, upgrade of existing or new as required);
- watercourse crossings (upgrade of existing or new as required) and associated drainage;
- underground electrical cabling;
- permanent anemometer mast or LiDAR compound;
- temporary wind farm construction compound area;
- laydown areas and car parking;
- substation compound with a control building with closed-circuit television mast(s) and communication mast(s);
- energy (battery) storage;
- borrow pit search areas; and,
- forestry works (if required).

Ancillary development will include:

- health and safety and other directional site signage;
- aviation warning lighting to comply with Article 222 of the UK Air Navigation Order (ANO 2016); and,
- proposals for habitat management and enhancements.

Pre-application (Scoping) Consultation was submitted on the 20th February 2024 and was determined on the 27th June 2024 with studies and assessment ongoing.

The Scope of the proposed wind farm's EIAR is to include the following, in common with the Proposed Development:

- Protected Species – Construction, operation and decommissioning: "*Protected species … cannot be scoped out until the planned infrastructure and activities associated with the proposed development are fully understood. Potential impacts during construction and operation will be fully considered once all the above information is available*."
- Habitats on Annex I to the Habitats Directive; UK Biodiversity Action Plan (UKBAP) or Scottish Biodiversity List (SBL) Priority Habitats – Construction, operation and decommissioning: "*Annex I habitats dominate*

38 https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00004528 Accessed 09.08.24.

within the red line boundary. As such, they cannot be scoped out until the planned infrastructure and activities associated with the proposed Development are fully understood."

The proposed Balblair Wind Farm would likely lead to a loss of blanket bog and wet dwarf shrub heath, as the site is largely formed of these habitats. Protected species identified during surveys to inform Scoping broadly reflect the protected species assemblage identified or assumed to be present within the PAN Boundary.

Construction and operation of the Proposed Development, including for application of the mitigation measures detailed, has concluded **no significant impacts** on protected species.

Impacts to habitat by the Proposed Development include a permanent loss of 0.172 ha of blanket bog and 0.044 ha of wet heath with cross leaved heath, upland. However, the restoration of peatland on site with 191.34 ha identified will likely have a net positive impact on this habitat type.

It is therefore anticipated that the Proposed Development in combination with Balblair Wind Farm is predicted to yield **no cumulative impacts**.

7.10.4 Associated Development: Beauly – Spittal 400 kV Overhead Line

Referred to as the Spittal to Loch Buidhe to Beauly 400 kV OHL Project and will pass through the local planning authority area of Highland. The development comprises the following elements:

- construction of approximately 95 km of a new 400 kV double circuit steel lattice OHL between the new substation sites proposed at Spittal (Banniskirk 400 kV Substation) and Loch Buidhe (Carnaig 400 kV Substation);
- construction of approximately 75 km of a new 400 kV double circuit steel lattice OHL between the new substation sites proposed at Loch Buidhe (Carnaig 400 kV Substation) and Beauly (Fanellan 400 kV Substation);
- rationalisation and crossings of the existing transmission network; and
- associated ancillary works.

The Beauly to Spittal OHL is not currently known to the planning system, other than through public consultations undertaken by SSEN Transmission.

Key impacts that are anticipated to arise for the proposed OHL potentially include impacts on protected species, including loss of habitat and loss of places of shelter. Further to this, loss of habitats are likely to arise within the footprint of the steel lattice towers and a loss of woodland / forestry within the operational corridor of the OHL, assumed to be an 80 m wide corridor. Access to each steel lattice tower will be required whereby a temporary access track with associate loss of habitat will likely be required. Given the presence of the existing Loch Buidhe Road, existing substation access road and associate forestry tracks, the area of habitat lost to access tracks is anticipated to be relatively low in the vicinity of the Proposed Development.

Standard mitigation as applied for the Proposed Development will also apply to the Beauly to Spittal OHL, minimising the potential impacts on species (through implementation of SPPs) and the effects of more environmentally hazardous construction activities (through implementation of GEMPs).

Habitat loss as part of the Proposed Development will include large areas of conifer plantation which will be cumulative when considered in combination with the Beauly to Spittal OHL. However woodland cover lost to both schemes will be subject to compensatory planting, where possible in the local area.

The permanent loss of 0.172 ha of blanket bog and 0.044 ha of wet heath with cross leaved heath, upland will be offset by the return of large areas of former forestry to peatland habitats including blanket bog.

It is therefore anticipated that the Proposed Development in combination with Beauly to Spittal OHL is predicted to yield **no cumulative impacts**.

7.10.5 Associated Development: Carnaig 400 kV – Loch Buidhe 275 kV UGC

The proposed UGC will be installed under the Applicants Permitted Development rights and as such is not known to the planning system.

The proposed cable will be approximately 200 m long with an assumed method of installation being cut and fill trench of 0.55 m width. The assumed working width for installation of the cable is 30 m. It is assumed that installation of the cable will be undertaken concurrently with the Proposed Development and as such impacts south of the forestry track will have been accounted for through assessment of the Proposed Development. North of the forestry track mixed woodland planting associated with the existing Loch Buidhe Substation will be lost. Assuming a 30 m working width for construction of the UGC and a 16 m stand off for the operational cable an assumed 0.16 ha permanent loss of mixed woodland will occur as a result of the operational cable, with the remaining area cleared temporarily. On account of the planting being immature and the area to be lost to the development being relatively small there is anticipated to be no significant impact.

The Proposed Development includes extensive landscape planting in the form of broadleaf woodland and compensatory coniferous planting, designed to tie in with the surrounding habitats (including the existing Loch Buidhe Substation landscape planting). Further to this landscape planting for the Proposed Development has allowed clearance for the UGC within areas of woodland.

It is therefore anticipated that the Proposed Development in combination with Carnaig 400 kV – Loch Buidhe 275 kV UGC is predicted to yield **no cumulative impacts**.

7.11 Mitigation

Mitigation for the Proposed Development is split into three categories, mitigation by design, embedded mitigation and additional mitigation.

7.11.1 Mitigation by Design

Details of mitigation by design are provided in **Volume 2 Chapter 3** The Site Selection process and alternatives.

7.11.2 Embedded Mitigation

Details of embedded mitigation measure are provided in **Section 7.9.3**.

7.11.3 Additional Mitigation

Additional / specific mitigation is detailed within **Section 7.9.4 – 7.9.5** and sets out any further measures required to reduce the residual impact to not significant. A summary of all additional mitigation measures is provided in **Volume 2 Chapter 16** Schedule of Mitigation**.**

7.12 Summary

This Chapter has considered the potential effects of the Proposed Development on ecological receptors. Direct observations and field signs confirmed the presence or likely presence of protected species within the footprint of the Proposed Development and habitats present within the footprint of the Proposed Development that have the potential to support protected species.

The Proposed Development has followed the mitigation hierarchy to avoid harm to ecological features through careful site selection and mitigating effects through design, embedded and additional mitigation to ensure there are no residual significant effects.

Compensation for the permanent loss of habitat due to the Proposed Development has been considered and is evidenced through the use of SSEN Transmission's Biodiversity Net Gain metric. Measures such as reinstatement of peatland, woodland edge, bog / mire and grassland habitats will limit the impacts of the Proposed Development on the local ecology of the area.

Following the implementation of the proposed mitigation measures outlined throughout this Chapter, **no significant residual impacts** on sensitive receptors are predicted as a result of the Proposed Development.