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11. ECOLOGY

11.1 Introduction

11.1.1 This Chapter considers the potential effects of the Proposed Development on ecology. The assessment includes potential effects upon ecologically designated sites, habitats of conservation concern[1] and non-avian protected species. Evaluation of the baseline environment has been undertaken through a combination of desk-based study, consultation with statutory bodies and field surveys. This Chapter constitutes an Ecological Impact Assessment (EcIA) with its objectives as follows:

- to describe and interpret the ecological baseline (including desk-based studies and field surveys);
- to describe the assessment methodology and significance criteria used in assessing effects on ecological features;
- to describe how consultation has informed the scope of the assessment;
- to describe the mitigation measures proposed to address potential Significant effects (if required); and
- to assess the residual effects remaining, following implementation of mitigation.

11.1.2 This chapter presents information relevant to the Proposed Development. It should be read in conjunction with **Volume 1, Chapter 3: Project Description** of the EIAR for full details of the Proposed Development. This chapter should also be read alongside **Volume 2, Chapter 12: Ornithology** of the EIAR which assesses likely significance of effects in relation to avian features, and **Volume 2, Chapter 13: Hydrology, Hydrogeology, Geology and Soils** which assesses the likely significance of effects on peat and groundwater among other factors.

11.1.3 This chapter is supported by **Volume 3, Figures 11.1 – 11.8**, which are referenced throughout and introduced below:

- **Figures 11.1.1 to 11.1.23: The Proposed Development and Ecology Survey Area**
- **Figures 11.2.1 to 11.2.5: Designated Sites within 10 km, 5 km and 2 km of the Proposed Development**
- **Figures 11.3.1 to 11.3.38: Habitat Survey Results**
- **Figures 11.4.1 to 11.4.23: National Vegetation Classification Survey Results**
- **Figures 11.5.1 to 11.5.11: Areas of Guidance-Stated Potential Groundwater Dependency**
- **Figures 11.6.1 to 11.6.23: Protected Species Survey Results**
- **Figures 11.7.1 - 11.7.23: Bat Survey Results**
- See **Volume 6** for **Confidential Figures 11.8.1 to 11.8.23: Confidential Protected Species Survey Results**
- **Figures A11.5.1a to 11.5.1ai: Baseline Habitats used in BNG Assessment**

11.1.4 The following appendices (**Volume 5**) are also referred to throughout:

- **Appendix 11.1: Desk Study and Legal/Policy Context;**
- **Appendix 11.2: Habitat and Vegetation Survey Report;**
- **Appendix 11.3: Protected Species Survey Report;**
- **Appendix 11.4: Bat Survey Report;**
- **Appendix 11.5: Outline Biodiversity Enhancement Plan**; and
- See **Volume 6** for **Appendix 11.6: Confidential Protected Species Survey Report.**

11.1.5 The ecology assessment was undertaken by Land Use Consultants (LUC). This EcIA was prepared and overseen by professional and experienced ecological consultants with appropriate memberships of the Chartered Institute of

[1] Habitats of conservation concern include habitats considered conservation priorities in the Habitats Directive (Annex 1 habitats); habitats considered to indicate potential groundwater dependency; habitats included on the Scottish Biodiversity List; and habitats included in local biodiversity policy. This also includes SSEN Transmission's Irreplaceable Habitats which are ancient woodlands of semi-natural origin, ancient and veteran trees, and blanket or raised bog in good or moderate condition.

Ecology and Environmental Management (CIEEM). Field surveys and data collection were undertaken by ecologists with extensive experience and/or training in undertaking baseline ecological surveys for energy projects and in the assessment of ecological effects, in the context of Environmental Impact Assessment (EIA). Further details can be found in **Volume 5, Appendix 5.1: The EIA Team**

11.1.6 The following terminology will be referred to throughout this chapter:

- Proposed Development: Defined as the infrastructure including towers, overhead line (OHL) conductors, access tracks, and temporary working areas within the Limit of Deviation (LOD) (**Volume 3, Figures 3.1.1 to 3.1.29: Proposed Development for which Section 37 Consent (*Electricity Act, 1989*) is sought**; see **Volume 1, Chapter 3: Project Description**).
- Proposed Alignment: Defined as the centreline of the OHL (see **Volume 3, Figure 1.1: Overview of the Proposed Development**).
- Limit of Deviation (LOD): The area either side of the Proposed Alignment and ancillary works within which micrositing may take place in accordance with the conditions of the Section 37 Consent.
- Ecology Survey Area (ESA): The LOD of the Proposed Development, plus relevant buffers (up to 250 m from the LOD, with the exception of access tracks, tie-ins and tie backs for which a buffer of up to 50 m from the associated LOD was applied), in which all ecology surveys were undertaken in line with good practice guidelines for all ecological features surveyed (see **Volume 3, Figures 11.1.1 to 11.1.23: The Proposed Development and Ecology Survey Area**; details of survey guidance and methods can be found in **Volume 5, Appendices 11.2 to 11.5** and **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**).
- Section: To aid the reader in comprehension of the geographic spread of the ecology baseline data and assessment, the Proposed Development has been divided into six sections (as outlined below, defined fully in **Volume 1, Chapter 3: Project Description** and shown on all figures associated with this chapter);
  - Section A: Emmock 400 kV substation to Forfar, Towers S206 to S163;
  - Section B: Forfar to Brechin, Towers S162 to S106;
  - Section C: Brechin to Laurencekirk, Towers S105 to S52;
  - Section D: Laurencekirk to Hurlie 400 kV substation, Towers S51 to S1;
  - Section E: Hurlie 400 kV substation to River Dee, Towers N96 to N61; and
  - Section F: North of the River Dee to Kintore Substation, Towers N60 to N1.

11.2 Scope of the Assessment

Effects Assessed in Full

11.2.1 This assessment concentrates on the likely significant effects of construction and operation of the Proposed Development upon those ecological receptors identified in the Scoping Report (**Volume 5, Appendix 6.1: Scoping Report**) and informed by review of desk-based information and field surveys, project design, and embedded and applied mitigation.

11.2.2 On the basis of the desk based and field survey work undertaken and detailed within the appendices associated with this chapter, the professional judgement of the EIA team, experience from other relevant projects, policy guidance or standards, and feedback received from statutory consultees, the following effects have been identified for detailed assessment:

- effects during construction on statutory designated sites[2] with a potential impact pathway to the Proposed Development, comprising:
  - Special Area(s) of Conservation (SACs): River Tay; River South Esk; and River Dee (see also **Volume 5, Appendix 12.3: Shadow Habitats Regulations Appraisal**); and

[2] Sites designated for ornithological features are considered in **Volume 2, Chapter 12: Ornithology**.

  - Site(s) of Special Scientific Interest (SSSIs): Loch of Park;
- effects during construction on non-statutory designated sites with a potential impact pathway to the Proposed Development, comprising:
  - Local Nature Conservation Site(s) (LNCSs): Woodside; Auchleuchrie; River Dee; and Loch of Park; and
  - habitat loss, fragmentation and severance of semi-natural Ancient Woodland and long-established woodlands of plantation origin (LEPO woodland);
- effects during construction via loss or fragmentation of habitats of conservation concern[1];
- effects during construction via loss or fragmentation of habitats used by protected species[3], including:
  - bats;
  - beaver (*Castor fiber*) (in Angus Local Planning Authority only);
  - otter (*Lutra lutra)*;
  - Scottish wildcat (*Felis sylvestris*);
  - badger (*Meles meles*);
  - red squirrel (*Sciurus vulgaris*); and
  - pine marten (*Martes martes)*;
- effects during construction on Scottish wildcat as a result of construction lighting, noise, dust or visual disturbance; and
- effects during construction due to loss, fragmentation and disturbance of aquatic environments that support populations of freshwater pearl mussel (*Margaritifera margaritifera*) and/or Atlantic salmon (*Salmo salar*).

Effects Scoped Out

11.2.3 On the basis of the desk based and field survey work undertaken and detailed within the appendices associated with this chapter, the professional judgement of the EIA team, experience from other relevant projects, policy guidance or standards, and feedback received from statutory consultees, the following effects have been 'scoped out' of detailed assessment, as proposed in the EIA Scoping Report:

- effects on designated sites for which no likely impact pathways have been identified, due to a lack of either ecological or hydrological connectivity to the Proposed Development;
- effects during construction on habitats of limited ecological value that are not of conservation concern;
- effects during construction on terrestrial protected and notable species (ie. species noted to be of national[4] or local[5] importance) as a result of construction lighting, noise, dust or visual disturbance, with the exception of Scottish wildcat;
- effects during construction on fish (with the exception of Atlantic salmon);
- effects during operation on designated sites;
- effects during operation on habitats;
- effects during operation on protected and notable species;
- effects during construction and operation on notable species as a result of habitat loss or fragmentation, specifically relating to brown hare (*Lepus europaeus*), hedgehog (*Erinaceus europaeus*), water shrew (*Neomys fodiens*), amphibians and reptiles; and
- effects during construction and operation on terrestrial invertebrates.

[3] Protected species are defined as those subject to legal protection as outlined within this chapter.
[4] Species listed on the Scottish Biodiversity List (SBL); NatureScot, 2022. Scottish Biodiversity List. [Online] Available at: https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy-and-cop15/scottish-biodiversity-list [Accessed January 2025].
[5] Species listed on a Local Biodiversity Action Plan (LBAP) relevant to the Proposed Development.

11.2.4 Since the submission of the EIA Scoping Report to the Energy Consents Unit (ECU) in September 2024 (see **Volume 5, Appendix 6.1: Scoping Report**), the location of the Proposed Development has been refined and therefore effects on the following designated sites are now scoped out on the basis of there being no functional connectivity and/or their distance from the Proposed Development:

- SSSIs: Eslie Moss; and Old Wood of Drum.
- LNCSs: Barrelwell Bog; Mergie; River Dee Corridor; Old Manse Wood; Candyglirach; and Barmekin Wood.

11.2.5 Elfhill LNCS is in proximity to the LOD for an access route. A new access route is proposed across a field to the north of the minor road, north of the LNCS. There will be no direct impacts to the LNCS. In addition, there is no likely indirect impact pathway to the LNCS as the habitats for which it is designated are not reliant on the Burn of Elfhill. Thus, Elfhill LNCS remains scoped out of the assessment.

11.2.6 In addition, effects during construction and operation on water vole (*Arvicola amphibius*) have been scoped out. This is due to a paucity of desk study records and due to a lack of field evidence recorded during surveys. Standard good practice measures are proposed to be implemented, including pre-construction surveys in potentially sensitive habitats suitable for water vole and engagement of an Advisory Environmental Clerk of Works (ECoW), and thus significant effects are considered unlikely.

Consultation Regarding Scope

11.2.7 Angus Council (9 October 2024) noted the relevance of the Angus Forestry & Woodland Strategy 2024-2034[6] and requested that the EIA should include an assessment of impacts upon Woodland of High Nature Conservation Value (WHNCV; defined as woodland listed on the Native Woodland Survey of Scotland and woodland listed on the Ancient Woodland Inventory (AWI)). Consideration has been given in the impact assessment to native woodland habitats (ie those that qualify as Scottish Biodiversity List (SBL) priority habitat types) and AWI.

11.2.8 Aberdeenshire Council (15 October 2024) requested that Locally Important Species should be considered and advised that acid grassland and upland birchwoods are present within nearby LNCS in Aberdeenshire. Data regarding Locally Important Species has been sourced from North-East Scotland Biodiversity Records Centre (NESBReC); plant species are considered where they are Nationally Rare or Nationally Scarce, and mammals (specifically water shrew, a locally important species in Aberdeenshire[7]) were identified in the Scoping Report. All SBL priority habitats identified within the ESA during field surveys have been considered, including Lowland dry acid grassland and Upland birchwoods.

11.2.9 NatureScot (9 October 2024) initially agreed with the scope as proposed in the Scoping Report. However, an update was received (23 December 2024) in which they recommended further assessment of the following:

- indirect (disturbance) effects during construction on terrestrial protected and notable species;
- direct and indirect effects during construction on protected and notable species, specifically aquatic ecological features, brown hare, amphibians, reptiles and invertebrates; and
- direct and indirect effects during operation on designated sites, habitats of conservation concern, and protected and notable species.

11.2.10 Consideration was given to NatureScot's request for "assessment of indirect effects on terrestrial protected and notable species during construction, as well as Atlantic salmon and freshwater pearl mussel". However, the legislative protections afforded to protected and notable species will be included in a Construction Environmental Management Plan (CEMP), which will be secured through an appropriately worded planning condition, and adopted

[6] Angus Council (Consultation Draft January 2024): https://engage.angus.gov.uk/forestryandwoodland#:~:text=The%20Draft%20Angus%20Forestry%20and,forestry%20and%20woodlands%20in%20Angus [Accessed February 2025].
[7] North East Scotland Biodiversity Partnership, 2019. Important Habitats for Biodiversity – our Local Biodiversity Action Plan. [Online] Available at: https://www.nesbiodiversity.org.uk/biodiversity-information-for-developers/important-habitats-for-biodiversity-in-the-north-east-of-scotland/ [Accessed January 2025].

Species Protection Plans (SPPs)[8,9,10,11,12,13,14,15,16] published by SSEN Transmission (see **Volume 5, Appendix 3.2: General Environmental Management Plans (GEMPS) and Species Protection Plans (SPPs)**). Adherence to these documents is a contractual requirement of the Principal Contractors. In addition, standard mitigation measures will be delivered prior to and during construction, including pre-works surveys and engagement of an ECoW. These mitigation measures will reduce the potential for indirect effects to protected and notable species via construction disturbance. It is therefore considered that there is no likely Significant effects in EIA terms on these species as a result of construction disturbance. The exception to this is Scottish wildcat, a highly sensitive species recently reported in proximity to the Proposed Development. Full details on proposed mitigation and monitoring are detailed in this chapter (see **Section 11.7: Mitigation and Monitoring**).

11.2.11 Similarly, consideration was given to the request for "assessment of direct and indirect effects during construction on protected and notable species (aquatic ecological features, brown hare, amphibians, reptiles and invertebrates)". As above, application of the CEMP and SPPs, and standard mitigation with regards to pre-works surveys and engagement of an ECoW, will be applied to reduce the potential for direct and indirect effects during construction on these features. It is therefore considered that there are no likely Significant effects in EIA terms on these species via these impact pathways. The exception to this is considered to be Atlantic salmon; this species is a qualifying feature of the three riverine SACs that flow through the ESA and is integral to the life cycle of freshwater pearl mussel. Full details on proposed mitigation and monitoring are detailed in this chapter (see **Section 11.7: Mitigation and Monitoring**).

11.2.12 Finally, consideration was given to the request for "assessment of direct and indirect effects during operation on designated sites, habitats of conservation concern, and protected and notable species". Operation and maintenance activities associated with the Proposed Development will conform with SSEN Transmission's SPPs and General Environmental Management Plans (GEMPs)[17,18,19,20,21,22,23,24,25,26,27,28,29,30] (see **Volume 5, Appendix 3.2: General Environmental Management Plans (GEMPS) and Species Protection Plans (SPPs)**), and this will be a

[8] SSEN Transmission, 2023. Freshwater Pearl Mussel Species Protection Plan: TG-NET-ENV-500. Revision 2.00.
[9] SSEN Transmission, 2025. Badger Species Protection Plan: TG-NET-ENV-501. Revision 2.00.
[10] SSEN Transmission, 2025. Bat Species Protection Plan: TG-NET-ENV-502. Revision 2.00.
[11] SSEN Transmission, 2022. Otter Species Protection Plan: TG-NET-ENV-503. Revision 1.02.
[12] SSEN Transmission, 2022. Red Squirrel Species Protection Plan: TG-NET-ENV-504. Revision 2.00.
[13] SSEN Transmission, 2022. Water Vole Species Protection Plan: TG-NET-ENV-506. Revision 1.02.
[14] SSEN Transmission, 2022. Wildcat Species Protection Plan: TG-NET-ENV-507. Revision 1.03.
[15] SSEN Transmission, 2022. Pine Marten Species Protection Plan: TG-NET-ENV-508. Revision 1.01.
[16] SSEN Transmission, 2023. Beaver Species Protection Plan: TG-NET-ENV-529. Revision 1.00.
[17] SSEN Transmission, 2024. General Environmental Management Plans – Oil Storage and Refuelling: TG-NET-ENV-510. Revision 2.00.
[18] SSEN Transmission, 2024. General Environmental Management Plans – Soil Management: TG-NET-ENV-511. Revision 2.00.
[19] SSEN Transmission, 2024. General Environmental Management Plans – Working in or Near Water: TG-NET-ENV-512. Revision 1.02.
[20] SSEN Transmission, 2024. General Environmental Management Plans – Working in Sensitive Habitats: TG-NET-ENV-513. Revision 2.00.
[21] SSEN Transmission, 2024. General Environmental Management Plans – Working with Concrete: TG-NET-ENV-514. Revision 2.00.
[22] SSEN Transmission, 2024. General Environmental Management Plans – Watercourse Crossings: TG-NET-ENV-515. Revision 1.01.
[23] SSEN Transmission, 2024. General Environmental Management Plans – Waste Management: TG-NET-ENV-516. Revision 2.00.
[24] SSEN Transmission, 2024. General Environmental Management Plans – Contaminated Land: TG-NET-ENV-517. Revision 1.01.
[25] SSEN Transmission, 2024. General Environmental Management Plans – Private Water Supplies: TG-NET-ENV-518. Revision 1.01.
[26] SSEN Transmission, 2024. General Environmental Management Plans – Forestry: TG-NET-ENV-519. Revision 2.00.
[27] SSEN Transmission, 2024. General Environmental Management Plans – Dust Management: TG-NET-ENV-520. Revision 1.01.
[28] SSEN Transmission, 2024. General Environmental Management Plans – Biosecurity (On Land): TG-NET-ENV-521. Revision 1.02.
[29] SSEN Transmission, 2024. General Environmental Management Plans – Restoration: TG-NET-ENV-522. Revision 1.01.
[30] SSEN Transmission, 2024. General Environmental Management Plans – Bad Weather: TG-NET-ENV-523. Revision 1.01.

contractual requirement of any contractors engaged to deliver maintenance. As such, it is considered that there are no likely Significant effects in EIA terms on these designated sites, habitats of conservation concern, and protected and notable species during operation. Full details on proposed mitigation and monitoring are detailed in this chapter (see **Section 11.7: Mitigation and Monitoring**).

11.2.13 Further discussion with NatureScot was conducted via emails and a meeting on 21 January 2025. A File Note was shared with NatureScot ahead of the meeting. This provided a list of mitigation proposed to be applied to the construction and operation phases, which have been incorporated into this chapter (see **Section 11.7: Mitigation and Monitoring**). These measures underpin the impact assessment presented in this chapter. An agreement was reached with NatureScot that the following would be scoped into the assessment:

- construction effects on Scottish wildcat; and
- construction effects on Atlantic salmon.

11.2.14 It was agreed that the assessment would include a comprehensive report of baseline survey results for a wide range of ecological features, including those that were not fully scoped into the assessment, and it was agreed that the mitigation measures presented and discussed at the meeting were suitable; as such, NatureScot agreed that indirect construction effects on terrestrial protected and notable species (with the exception of Scottish wildcat), could remain scoped out. Narrative is provided in this chapter with regards to terrestrial protected and notable species, including European Protected Species, documenting the survey approach and baseline results. This provides the context that underpins the decision to scope the majority of terrestrial protected and notable species out with regards to disturbance during construction.

11.2.15 It was also agreed that the mitigation measures presented were sufficient to reduce the potential for direct and indirect effects during construction on other protected and notable species - specifically aquatic ecological features (with the exception of freshwater pearl mussel and Atlantic salmon), brown hare, amphibians, reptiles and invertebrates - and therefore these features could remain scoped out. Full details on proposed mitigation and monitoring are detailed in this chapter (see **Section 11.7: Mitigation and Monitoring**).

11.2.16 Finally, it was agreed that while maintenance activities during operation could form a pathway to impacts on designated sites, habitats of conservation concern, and protected and notable species, the application of the SPPs and GEMPs during operation and maintenance would reduce this to a level that would not be likely to result in significant impacts to conservation status of ecological feature; therefore operational effects could remain scoped out.

11.2.17 It is important to note, however, that whilst effects are scoped out of the Ecological Impact Assessment presented in this chapter because they are not considered likely to be Significant in EIA terms, the need to ensure compliance with nature conservation legislation still applies. The presence and potential presence of all species within the ESA will require consideration within an Ecological and Ornithological Management Plan (to be produced by the Principal Contractors). This will be prepared by the Principal Contractors pursuant to the terms of contract and to discharge planning conditions, including adherence to all SSEN Transmission's SPPs, GEMPs and appropriate measures that may be necessary to ensure legislative compliance.

Study Areas

11.2.18 The Study Areas adopted in the assessment and reported in this chapter vary by desk study, and by ecological feature, as defined by best practice (detailed in **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context**, **Appendix 11.2: Habitat and Vegetation Survey Report**, **Appendix 11.3: Protected Species Survey Report**, **Appendix 11.4: Bat Survey Report**, and **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**. The Study Areas for this assessment are based upon ESA plus relevant buffers of up to 10 km radius as shown in **Volume 3, Figures 11.1.1 to 11.1.23: The Proposed Development and Ecology Survey Area** and **Figures 11.2.1 to 11.2.5: Designated Sites within 10 km, 5 km and 2 km of the Proposed Development** and defined in **Table 11.1: Study Area Descriptions: Desk-Based Studies**.

Table 11.1: Study Area Descriptions: Desk-Based Studies

Ecological Feature	Designation Type	Buffer from the Ecology Survey Area
Statutory Designated Sites	• SAC; • Ramsar Sites; • SSSI; • National Nature Reserves (NNR); and • Local Nature Reserves (LNR).	10 km
Non-Statutory Designated Sites	• LNCS; • Royal Society for the Protection of Birds (RSPB) and Scottish Wildlife Trust Reserves; and • Ancient/Long-established Woodland.	5 km
Existing records of Protected and Notable Species	All native protected and notable species records post-2000.	5 km for Protected and Notable Species 10 km for Bats
Existing records of Nationally Rare and Nationally Scarce Plant Species	Records of Nationally Rare and Nationally Scarce Plant Species in Angus and Aberdeenshire, post-2000.	2 km

11.2.19 The Study Area used for field surveys is referred to as the ESA; this comprised the Proposed Development plus a 250 m buffer (refer to **Volume 3, Figures 11.1.1 to 11.1.23: The Proposed Development and Ecology Survey Area**) and a 50 m buffer (where access was available) either side of all access tracks and tie-ins and tie backs of associated infrastructure (refer to **Volume 3, Figures 3.1.1 to 3.1.29: Proposed Development for which Section 37 Consent (*Electricity Act, 1989*) is sought**), in which ecology surveys were undertaken in line with good practice guidelines for all ecological features surveyed (for details, see **Volume 5, Appendices 11.1-11.6**).

11.3 Assessment Methodology

Legislation, Policy and Guidance

Legislation

11.3.1 This assessment is carried out in accordance with the principles contained within the following legislation that creates a mechanism for designated sites, protected habitats, and protected species:

- The Conservation of Habitats and Species Regulations 2017[31];
- The Conservation (Natural Habitats, &c.) Regulations 1994[32];
- Wildlife and Countryside Act 1981 (WCA)[33];
- Protection of Badgers Act 1992[34];
- Nature Conservation (Scotland) Act 2004[35];
- Wildlife and Natural Environment (Scotland) Act 2011[36]; and

[31] UK Government, 2017. The Conservation of Habitats and Species Regulations 2017. [Online] Available at: https://www.legislation.gov.uk/uksi/2017/1012/contents [Accessed January 2025].
[32] UK Government, 1994. The Conservation (Natural Habitats, &c.) Regulations 1994. [Online] Available at: https://www.legislation.gov.uk/uksi/1994/2716/contents [Accessed January 2025].
[33] UK Government, 1981. Wildlife and Countryside Act 1981. [Online] Available at: https://www.legislation.gov.uk/ukpga/1981/69 [Accessed January 2025].
[34] UK Government, 1992. Protection of Badgers Act 1992. [Online] Available at: https://www.legislation.gov.uk/ukpga/1992/51/contents [Accessed January 2025].
[35] Scottish Government, 2004. Nature Conservation (Scotland) Act 2004. [Online] Available at: https://www.legislation.gov.uk/asp/2004/6/contents [Accessed January 2025].
[36] Scottish Government, 2011. Wildlife and Natural Environment (Scotland) Act 2011. [Online] Available at: https://www.legislation.gov.uk/asp/2011/6/contents [Accessed January 2025].

- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017[37].

11.3.2 Key elements of relevant legislation are detailed within **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context**.

Policy

11.3.3 This assessment is carried out in accordance with the principles established in the following relevant nature conservation policy or guidance that creates a mechanism for the protection of locally designated sites, habitats, and species of conservation interest:

- National Planning Framework 4[38];
- The Scottish Biodiversity List (SBL)[4];
- PAN 60: Planning for Natural Heritage (Scottish Government 2000)[39];
- Scottish Executive Circular 6/1995 as amended (June 2000)[40];
- Angus Council Local Development Plan[41];
- Aberdeenshire Local Development Plan 2023;
- Tayside Local Biodiversity Action Plan[42]; and
- North East Scotland Biodiversity Partnership Local Biodiversity Action Plan [43].

Guidance

11.3.4 This assessment is carried out in accordance with the principles contained within the following documents:

- Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine Version 1.3 (CIEEM 2024)[44];
- Good Practice Guidance for Habitats and Species, Version 3[45];
- NatureScot, Planning and Development: Standing Advice and Guidance Documents[46];
- NatureScot Guidance: Environmental Impact Assessment Handbook (2018)[47];

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[37] HM Government, 2017. The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. [Online] Available at: https://www.legislation.gov.uk/ssi/2017/101/contents/made. [Accessed January 2025].
[38] Scottish Government, 2023. *National Planning Framework 4*. [Online] Available at: https://www.gov.scot/publications/national-planning-framework-4/ [Accessed January 2025].
[39] Scottish Government, 2000. Planning Advice Note 60: natural heritage. [Online] Available at: https://www.gov.scot/publications/pan-60-natural-heritage/ [Accessed January 2025].
[40] Scottish Government, 2000. Nature Conservation: *Implementation in Scotland of EC Directives on the Conservation of Natural Habitats and of Wild flora and Fauna and the Conservation of wild Birds* (*The Habitats Directives*).
[41] Angus Council, 2016. Angus Local Development Plan. [Online] Available at: https://www.angus.gov.uk/directories/document_category/development_plan [Accessed January 2025].
[42] Tayside Biodiversity Partnership, 2016. Tayside Local Biodiversity Action Plan, 2nd Edition 2016 – 2026 Incorporating the local authority areas of Angus and Perth & Kinross. [Online] Available at: https://www.angus.gov.uk/sites/default/files/Tayside%20Local%20Biodiversity%20Action%20Plan%202016_2026.pdf [Accessed August 2024].
[43] North East Scotland Biodiversity Partnership, 2019. Important Habitats for Biodiversity – our Local Biodiversity Action Plan. [Online] Available at: https://www.nesbiodiversity.org.uk/biodiversity-information-for-developers/important-habitats-for-biodiversity-in-the-north-east-of-scotland/ [Accessed January 2025].
[44] CIEEM, 2024. Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.3. [Online] Available at: https://cieem.net/wp-content/uploads/2018/08/EcIA-Guidelines-v1.3-Sept-2024.pdf [Accessed January 2025].
[45] CIEEM, 2021. Good Practice Guidance for Habitats and Species Version 3. [Online] Available at: https://cieem.net/wp-content/uploads/2021/05/Good-Practice-Guide-April-2021-v6.pdf [Accessed January 2025].
[46] NatureScot, n.d. Planning and Development: Standing Advice and Guidance Documents. [Online] Available at: https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/planning-and-development-standing-advice-and-guidance-documents [Accessed January 2025].
[47] NatureScot, 2018. Environmental Impact Assessment Handbook – Guidance for competent authorities, consultation bodies, and others involved in the Environmental Impact assessment process in Scotland. SNH. Battleby.

- NatureScot SiteLink web pages (online information on designated sites)[48]; and
- SSEN Transmission Species Protection Plans[8,9,10,11,12,13,14,15,16].

11.3.5 Further guidance in relation to survey methods and the interpretation of ecological data is referenced in the relevant technical appendices, where appropriate.

Consultation

11.3.6 In undertaking the assessment, consideration has been given to the scoping and pre-application consultation responses, obtained during consultation undertaken from 2023 to 2025, as detailed in **Table 11.2: Summary of Consultation**. A full summary of consultation is provided in **Volume 1, Chapter 6: Scope and Consultation**.

[48] NatureScot, 2024. SiteLink website. [Online] Available at: https://sitelink.nature.scot/home [Accessed January 2025].

Table 11.2: Summary of Consultation

Consultee	Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
Statutory				
Angus Council	5 July 2023	Routeing Consultation	The environmental constraints considered as part of this process are similar to a number of the environmental constraints identified by policies of the development plan in Angus. Consultees note the potential for biodiversity enhancement.	Compliance with policy and biodiversity enhancement have been an integral part of the process. Principles of biodiversity enhancement and a BNG assessment are provided in **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan**. These principles have been applied to the development of **Volume 5, Appendix 9.6: Outline Landscape Mitigation Design Guide**.
	9 October 2024	Scoping Opinion	Environment team are satisfied with Ecology. The council's environment team notes the inclusion of the Angus Local Nature Conservation Sites into the assessment and is satisfied with the scope of the assessment. Angus Council specifically noted: The statutory Angus Forestry & Woodland Strategy 2024-2034 was approved by committee on 11 June 2024. The Strategy identifies Woodland of High Nature Conservation Value and includes the council's policies in relation to forestry and woodland. The ES should include an assessment of impacts upon Woodland of High Nature Conservation Value and any impacts upon the expansion of these as detailed in the Strategy.	Consideration has been given to woodland habitats of conservation value in this chapter, and in **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** and **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report**.
	18 November 2024	Alignment Consultation	Angus Forestry and Woodland Strategy 2024-2034 was approved by the council in June 2024. Statutory Woodland of High Nature Conservation Value are identified within and should be included within the assessment.	Consideration has been given to woodland habitats of conservation value in this chapter, and in **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** and **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report**.
Aberdeenshire Council	May 2023	Routeing Consultation	Advised to contact NESBReC for local habitat and species records to aid route selection. Consideration to forestry loss is required, including both ancient woodland and non-ancient woodland forestry loss. It is noted that compensatory planting will be required if considered under Aberdeenshire Local Development Plan 2023 (ALDP 2023). Native Woodland Survey of Scotland (NWSS) data should be used for additional detail of woodland type and species.	NESBReC were contacted with regards to the biological data and Local Nature Conservation Sites they hold for the area as summarised in **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context**. As NESBReC has not long covered the southern part of the Proposed Development, NBN Atlas was also utilised and an exercise was run to identify and remove duplicates between the two datasets, as explained in **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context.**

Consultee	Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
			Positive effects for biodiversity are required as part of the re-instatement plans. A focus on Nature Networks contributions and joining up small/isolated areas of habitat is recommended, considering not just woodland habitat types. Also need to consider other habitats and mitigation of fragmentation caused during construction.	The NWSS dataset was consulted to inform the surveys and assessment, particularly during routeing consultation. For the purposes of the impact assessment presented in this chapter, field survey data collected during ecological surveys is used as this captures up-to-date information on woodland habitat type (including SBL priority habitats), species composition and condition. Consideration of woodland loss has been taken into account, and efforts have been taken at every stage to avoid the most ecologically sensitive woodland habitats, including both woodland listed on the AWI and other types of woodland (particularly with a focus on SBL priority habitats). Habitat loss calculations have been provided in this chapter, while forestry-specific calculations and compensatory planting are discussed within the **Volume 2, Chapter 8: Forestry**. Principles for habitat restoration are outlined within **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan.** **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan** outlines principles for the delivery of biodiversity enhancement both within the Proposed Development (where possible) and in off-site areas. This includes considerations such as additionality, proximity, connectivity and heterogeneity. These principles have been applied to the development of **Volume 5, Appendix 9.6: Outline Landscape Mitigation Design Guide**.
	17 July 2023	Routeing Consultation	The LNCS maps used in the consultation report are out of date. Consider invasive non-native species early in the route selection process. Consideration of biodiversity enhancement measures should be given as part of post construction restoration, but enhancement measures are also expected to form part of the overall proposal, not just restoration.	Updated data was sourced from NESBReC and used in the assessment presented in this chapter and associated appendices. Invasive non-native species were recorded as part of the habitat surveys undertaken. Identification and management of invasive non-native species of plants is addressed within SSEN's GEMPs (Biodiversity, and Working Near Water; see **Volume 5, Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**). Further, the removal of invasive non-native species of plants has been considered as a principle for habitat restoration within the Proposed Development as detailed in **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan.**

Consultee	Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
				Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan details the biodiversity enhancement principles that apply to the Proposed Development. These principles have been applied to the development of **Volume 5, Appendix 9.6: Outline Landscape Mitigation Design Guide**.
	24 May 2024	Pre-Application Consultation	**Pre-App (May 2024):** Ecology was identified as a key issue. Various policies listed from the ALDP 2023 are listed. Consider risk of spread of INNS at watercourse crossings. Continue engagement regarding Habitats Regulations Appraisal (HRA). Highlighted a number of statutory designated sites as well as LNCS.	Further detail relating to policies can be found in **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** and **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan**. A Shadow HRA has been undertaken (see **Volume 5, Appendix 12.3: Shadow Habitat Regulations Appraisal**). Identification and management of invasive non-native species of plants is addressed within SSEN Transmission's GEMPs (Biodiversity, and Working Near Water; see **Volume 5, Volume 5, Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**). **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** lists all designated sites within 10 km, 5 km and 2 km of the Proposed Development. The Proposed Development sought to avoid designated sites wherever possible. Where this was not possible, each designated site which could not be fully avoided has been assessed within this chapter.
	23 January 2025	Pre-Application Consultation	Concerns include potential impact on Loch of Park LNCS which has been raised previously and it is understood that further survey work will be undertaken. Biodiversity - strongly urge continued discussion of potential sites and projects for implementation of required Biodiversity Net Gain.	Potential impacts upon Loch of Park SSSI and LNCS have been assessed within this chapter. Further detail regarding the SSSI is provided in **Volume 5, Appendix 13.5: Groundwater Dependent Terrestrial Ecosystem Assessment**. Principles relating to biodiversity net gain are discussed in **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan**. These principles have been applied to the development of **Volume 5, Appendix 9.6: Outline Landscape Mitigation Design Guide**.
Aberdeen City Council	22 June 2023	Consultation	Concerned that Route F1 crosses the River Dee SAC	One crossing over the River Dee SAC is proposed as shown in **Volume 3, Figures 11.2.1 to 11.2.5: Designated Sites within 10 km, 5 km and 2 km of the Proposed Development**.

Consultee	Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
				The potential for impacts on this designated site has been considered within this chapter, and a Shadow HRA has been undertaken (see **Volume 5, Appendix 12.3: Shadow Habitat Regulations Appraisal**).
NatureScot	21 March 2023	Pre-Application Consultation Meeting	LUC presented and agreed baseline ecological data collection methods with NatureScot in March 2023. The manner in which AWI sites are considered and mitigated was noted to be important, recognising the AWI sites are about soil structure and diversity, rather than trees.	Sensitive ecological receptors were taken into account at each stage of the project, including woodland listed on the AWI. **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** outlines the methods for identifying woodlands listed on the AWI. AWI woodlands that fall within 2 km of the Proposed Development are illustrated on **Volume 3, Figures 11.2.1 to 11.2.5: Designated Sites within 10 km, 5 km and 2 km of the Proposed Development**. The impact upon these features is assessed within this chapter.
	31 May 2023	Pre-Application Consultation Response to Route Selection	LUC issued a File Note on behalf of the Applicant on 2 May 2023 to summarise the ecological survey methodology proposed. In response, NatureScot provided a Pre-Application Consultation letter confirming agreement with the ecological survey methods outlined in the May 2023 File Note. NatureScot provided feedback on a range of topics as summarised below. **Protected Areas:** These must be identified and impacts avoided. Direct or indirect effects must be mitigated satisfactorily to avoid objection. Site specific plans would be required if alignment was unable to avoid a protected area. Plans must detail all aspects of construction, operation and maintenance and the mitigation needed to avoid adverse effects. **HRA:** NatureScot provided advice on completing the required HRA as the Proposed Development will cross several European sites. **Peatland and Carbon-rich Soils:** NatureScot recommended using the Carbon and Peatland 2016 mapping to identify nationally important peatland, as well as using surveys to both identify sensitive areas to avoid	**Protected Areas:** Sensitive ecological receptors were taken into account at each stage of the project, including designated sites. Designated sites within 10 km, 5 km and 2 km of the final design of the Proposed Development are identified within **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** and illustrated on **Volume 3, Figures 11.2.1 to 11.2.5: Designated Sites within 10 km, 5 km and 2 km of the Proposed Development.** Where there is a potential impact pathway to a designated site it is assessed within this chapter. **HRA:** A 'shadow' HRA has been completed; refer to **Volume 5, Appendix 12.3: Shadow Habitat Regulations Appraisal**. **Peatland and Carbon-rich Soils:** The Carbon and Peatland 2016 map was utilised during all stages of the project to aid identification of potential peatland vegetation, with information regarding peatland and carbon-rich soils within 2 km of the final Proposed Development provided in **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context**, though further information is also provided in **Volume 2, Chapter 13: Hydrology, Hydrogeology, Geology and Soils**. Field surveys sought to identify priority habitats including peatland communities; refer to **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Results** for details.

Consultee	Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
			and identify opportunities for peatland restoration as part of the Proposed Development. **Ecological interests not associated with protected areas:** NatureScot referred to its standing advice and guidance to minimise impacts on nature and secure the benefits that nature can provide. NatureScot also highlighted the NPF4 requirements, particularly with reference to Policy 3, and referred to its Planning and development: Enhancement Biodiversity guidance page. Note that NatureScot's consultation responses in relation to Ornithology and Landscape and Visual interests have been summarised and addressed in **Chapter 12: Ornithology** and **Chapter 9: Landscape and Visual Amenity** respectively.	**Ecological interests not associated with protected areas:** NatureScot's standing advice has been used to inform the programme of surveys and impact assessment presented throughout this chapter and all associated technical appendices.
	6 March 2024	Pre-Application Consultation	NatureScot stated they were likely to object if effects on designated sites will be adverse and cannot be mitigated satisfactorily. Site specific plans for each affected area spanning the lifetime of infrastructure should be produced. River Dee SAC - to avoid harm/disturbance to species and habitats from pollution/biosecurity. Temporary infrastructure should be considered. NatureScot highlighted concerns about Loch of Park SSSI but they asked for more detail needed before commenting. Areas with the potential for peatland restoration should be identified and considered. With regards to environmental enhancement, NatureScot referred to its standing guidance, and that all biodiversity enhancement should be in line with NPF4.	Sensitive ecological receptors were taken into account at each stage of the project, including designated sites. Designated sites within 10 km, 5 km and 2 km of the Proposed Development are identified within **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** and illustrated on **Volume 3, Figures 11.2.1 to 11.2.5: Designated Sites within 10 km, 5 km and 2 km of the Proposed Development**. Where there is a potential impact pathway to a designated site it is assessed within this chapter, including the River Dee SAC and Loch of Park SSSI. A list of embedded and applied mitigation is presented within this chapter. A Shadow HRA has been undertaken (see **Volume 5, Appendix 12.3: Shadow Habitat Regulations Appraisal**). Impacts to peatland habitats have been considered in this assessment and none are anticipated. NatureScot's standing guidance has been utilised at each stage of the project and is referred to throughout this chapter and associated appendices. **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** details the sections of NPF4 relevant to the ecological impact assessment. The principles for biodiversity enhancement set out in **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan** are guided by the standing advice and NPF4, among other relevant guidance and policies. Detailed NVC and hydrological survey was undertaken at Loch of Park SSSI in September 2024, and is reported in

Consultee	Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
				Volume 5, Appendix 13.5: Groundwater Dependent Terrestrial Ecosystems (GWDTE), Annex 13.5.1: Kintore to Tealing 400 kV Overhead Line (OHL) Project – Loch of Park Site Visit – File Note. This File Note was provided to NatureScot and discussed at a meeting on 30 October 2024. The File Note confirms that Loch of Park SSSI is surface water dominated, with Low groundwater dependency.
	30 April 2024	Change in Route Options Consultation	Consultation with NatureScot was sought for new routes proposed for Sections D to F. Much of the feedback was the same as given on 31 May 2023 (this is not repeated). Only new consultation responses are provided. **Peatland and Carbon-rich Soils:** NatureScot highlighted the potential issue with Section F1.3 which included an area of nationally important peatland but otherwise referred to the Carbon and Peatland 2016 mapping and surveys focussing not only on avoidance, but on opportunities for peatland restoration to be undertaken as part of the Proposed Development. **Woodland:** NatureScot noted that the Scottish Government's policy on control of woodland removal should be adhered to. Development should not result in the loss of ancient woodland, nor adversely impact upon the ecological condition of these features, directly or indirectly. Opportunities should be taken to deliver enhancement to woodlands and to increase habitat connectivity. **Biodiversity Enhancement:** NatureScot noted they are aware SSEN Transmission is exploring opportunities to achieve NPF4 Policy 3, including restoring degraded habitats and building and strengthening nature networks and the connections between them. Biodiversity enhancement needs to be an integral part of the project.	**Peatland and Carbon-rich Soils:** The Carbon and Peatland Map 2016 was utilised at all stages of the project to identify areas of potential peatland. Impacts to peatland habitats have been considered in this assessment and none are anticipated. **Woodland:** Control of woodland removal is covered within **Volume 2, Chapter 8: Forestry**. Semi-natural ancient woodland (categories 1a and 2a on the AWI) is considered an Irreplaceable Habitat by SSEN Transmission, thus every effort has been made to avoid this habitat. **Biodiversity Enhancement:** Principles and policies relating to biodiversity enhancement are provided in **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan**. These principles have been applied to the development of **Volume 5, Appendix 9.6: Outline Landscape Mitigation Design Guide**.
	6 May 2024	Bats Consultation	NatureScot requested that all survey work should be undertaken in accordance with the BCT Guidelines (4th edition), though where a bespoke approach is taken to adapt to certain circumstances, this must be explained and justified, with any limitations made clear.	The approach to bat surveys and assessment that have been undertaken are detailed within **Volume 5, Appendix 11.4: Bat Survey Report**, where detail is provided on the species and numbers of calls recorded by static detectors deployed in key locations along the Proposed Development, as well as the

Consultee	Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
			NatureScot asked that radio-tracking be considered, relating to Table 6.3 of the BCT guidelines which states this method may be useful where large numbers of trees will be affected along nationally significant infrastructure projects. NatureScot agreed that should the EIA be submitted in early 2025, survey data collected in 2023 and 2024 would remain valid, but also noted that post-consent, additional bat survey work and pre-construction surveys will be required to ensure sufficient detail is gathered to inform any licensing requirements. Reference was made to the Bat SPP. It is important to understand which bat species are likely to be affected, the magnitude of that impact, whether this could impact on local populations and distributions, and if rare or exceptional roosts are likely to be affected. If potential roosting habitat will be lost, it will be important to understand what bat activity levels suggest the value of that resource to be. If rare species are detected it is likely that more detail will be required. NatureScot recognised efforts to align with the mitigation hierarchy, but also asked that mitigation and enhancement was incorporated, including opportunities to retain, create and sensitively manage edge habitats through wayleave maintenance, with a phased approach to avoid loss of habitats across large sections at any particular time. The creation of woodland edges along the lines of new wayleaves may provide some additional edge habitat for bats. Low shrub planting and / or shrub retention, such as birch, in appropriate locations within the wayleave would also provide habitat for bats and other protected species.	assessment of bat roost potential of each woodland block. An impact assessment on bats is presented in this chapter. It was confirmed that radio-tracking surveys were not proposed. The technique is not commonly used in Scotland and the guidance recommends it when there are likely to be roosts of high conservation significance. Given that much of the Proposed Development is within agricultural land and affects generally small numbers of individual trees or isolated blocks of low quality habitat, the technique was not considered necessary. NatureScot subsequently confirmed that they were content with the approach for the project. The Bat SPP ensures updated pre-construction surveys will be undertaken. The mitigation hierarchy has been followed at each stage with the aim being to avoid direct and indirect impacts on ecologically sensitive receptors. Where this was not possible, impacts were reduced as far as possible. On-site habitat restoration and compensation opportunities are presented in **Volume 5, Appendix 9.6: Outline Landscape Mitigation Design Guide**. Principles that will underpin the delivery of habitat restoration and compensation, and biodiversity enhancement, are presented within **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan**. One such consideration is the softening of woodland edges where the operational corridor passes through woodland areas, as presented in **Volume 5, Appendix 9.6: Outline Landscape Mitigation Design Guide**.
	8 May 2024	Freshwater Pearl Mussel Consultation	NatureScot confirmed acceptance of the proposed approach for surveys. It was noted that if there is a possibility that this species or their habitat could be adversely affected by silt-laden run-off, surveys of a minimum 100 m upstream and 500 m downstream, following NatureScot's standing advice on freshwater pearl mussel surveys, should be undertaken to inform construction and any further works. NatureScot shared details of the location of the freshwater pearl mussel populations within the northeast of Scotland; these are confidential and are not detailed here.	Potential impacts on FWPM have been considered, with an assessment of habitat suitability within the ESA presented at key locations in **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**.

Consultee	Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
	9 October 2024	Scoping Opinion	NatureScot agreed with topics scoped in/out. Refer applicants to standing advice and guidance documents. OHLs may impact upon protected areas but NatureScot agreed to work with SSEN Transmission to try to avoid significant negative effects.	NatureScot's standing advice for planning and development[46] was utilised and followed where appropriate and relevant, and NatureScot was engaged in the process as illustrated by this table.
	21 November 2024	Alignment Consultation	Feedback was provided on a number of ecological receptors, including designated sites and peatland. Note that only ecological feedback relevant to the (scoped-in) receptors is provided here. **Designated Sites** The alignment options cross the River Tay SAC where qualifying features, Atlantic salmon, otter and brook lamprey, are likely to be present, and the River South Esk SAC where qualifying features including freshwater pearl mussel may be present and the River Dee SAC where qualifying features Atlantic salmon, otter and freshwater pearl mussel are likely to be present. Careful placement of infrastructure outside the SAC and watercourse boundary is expected to avoid direct effects. Given the scale of the Proposed Development, long-term impacts are not anticipated provided standard mitigation measures are followed, including compliance with both project-wide and site-specific environmental management procedures, as detailed within GEMPs, the CEMP and SPPs. The potential alignment crosses the eastern edge of the Loch of Park SSSI. Advice provided by NatureScot is in line with NPF4 Policy 4(c). NatureScot identified two potential main impacts of the Proposed Development on Loch of Park SSSI: • Disruption to the quality and quantity of the water supplying the eastern side of Loch of Park SSSI through construction and maintenance operations. This may result in a change to the vegetation communities for which the site is designated. Careful micro-siting of infrastructure will be needed. • Disruption to groundwater dependent wetland communities which occur within Loch of Park SSSI through construction and maintenance operations. This could also result in a change to the vegetation	Potential impacts to designated sites identified within **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** have been assessed in this chapter. This included the River Tay SAC, River South Esk SAC, River Dee SAC, Loch of Park SSSI and others. An HRA has been undertaken with regards to the three SACs, detailing the potential impacts pre-mitigation and all mitigation measures which will be employed to avoid impacting the qualifying features. Impacts to peatland habitats have been considered in this assessment and none are anticipated.

Consultee	Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
			communities for which the site is designated. Careful micro-siting of infrastructure will be needed. NatureScot also referred to SEPA's Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems; this must be followed to ensure that there are no impacts on groundwater dependent wetland communities within Loch of Park SSSI. **Class 1 and 2 Peatland** The Carbon and Peatland Map 2016 gives an indication as to the areas where both carbon-rich soils and peatland habitats are likely to be present, thus peat depth surveys must be undertaken. It is important to note that development may have direct or indirect impacts on carbon-rich soils which do not currently support peatland habitats but may need to be taken into consideration when assessing the broader impacts of the proposal.	
	23 December 2024	Scoping Opinion	NatureScot provided an update to its Scoping Opinion from 9 October 2024, and stated that the following should be scoped in: • Impacts on protected and notable species as a result of disturbance during construction; • Aquatic ecological features (with the exception of freshwater pearl mussel) and brown hare, amphibians, reptiles and invertebrates during construction; and • Operational impacts on designated sites, habitats of conservation concern, and protected and notable species	A File Note dated 15 January 2025 was shared with NatureScot ahead of a meeting on 21 January 2025. This provided a list of detailed mitigation measures that would underpin the impact assessment presented in this chapter. It was agreed that impacts on protected and notable species as a result of disturbance during construction would remain scoped out, with the exception of effects of disturbance during construction on Scottish wildcat. It was also agreed that potential impacts on Atlantic salmon should be scoped in (with freshwater pearl mussel already scoped in), but all other aquatic ecological features, in addition to brown hare, amphibians, reptiles and invertebrates during construction would remain scoped out. Given the embedded and applied mitigation, and design of the Proposed Development, it was also agreed that operational impacts relating to designated sites, protected and notable species would remain scoped out.
Scottish Forestry	15 June 2023	Routeing Consultation	Felling and/or fragmentation the preferred routes will adversely impact Ancient Woodland, Native woodland, Annex 1 Woodland Habitats and Plantations on Ancient Woodland Sites (PAWS).	The design has sought to avoid the most sensitive ecological receptors in the landscape, including but not limited to woodland listed on the AWI, native woodland (with a focus on areas of Annex 1 and SBL priority habitats confirmed through recent field survey). PAWS are not considered separately as

Consultee	Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
				these are captured by the consideration of AWI. Designated sites identified within 10 km, 5 km and 2 km of the Proposed Development are detailed in: • **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context**; • illustrated in **Volume 3, Figures 11.2.1 to 11.2.5: Designated Sites within 10 km, 5 km and 2 km of the Proposed Development**; and • Annex 1 habitats identified by field surveys are detailed within **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Results**. The potential impacts of the Proposed Development on these receptors is presented in this chapter. For further detail on felling and forestry fragmentation, refer to **Volume 2, Chapter 8: Forestry**.
SEPA	21 June 2023	Routeing Consultation	SEPA detailed areas of concern including flood extents, main and tributary waterways and blanket bog.	Habitat surveys identified areas of important habitat including blanket bog and watercourses. Survey results pertaining to the ESA of the Proposed Development are provided within **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Results** and illustrated on **Volume 3, Figures 11.3.1 to 11.3.38: Habitat Survey Results** and **Volume 3, Figures 11.4.1 to 11.4.23: National Vegetation Classification Survey Results**. Flood extents and concerns regarding waterways are further detailed within **Volume 2, Chapter 13: Hydrology, Hydrogeology, Geology and Soils**.
	25 April 2024	Pre-Application Consultation	SEPA requests careful consideration of infrastructure location and access for wide future flood extents for the Luther Water and River Dee. SEPA highlighted the high priority for riparian planting along Bervie Water, Luther Water, Cowie Water, and River Dee (all routes). Investigate provision of riparian planting along watercourses in BNG opportunities. SEPA also requested a Peat Management Plan be submitted with the application.	SEPA's recommended riparian corridors have been utilised in the design of the Proposed Development. This is further detailed within **Volume 2, Chapter 13: Hydrology, Hydrogeology, Geology and Soils**. Principles relating to biodiversity enhancement, including relating to potential for riparian planting, are provided in **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan**. These principles have been applied to the development of **Appendix 9.6: Outline Landscape Mitigation Design Guide**.

Consultee	Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
				An Outline Peat Management Plan has been submitted (see **Volume 5, Appendix 13.4: Outline Peat Management Plan**).
	14 June 2024	Pre-Application Consultation	Development proposals must: • Avoid peat greater than one metre depth; • Avoid other peatland and carbon rich soils where carbon-rich soils are absent; • Minimise volume of peat excavated; and • Use suitable materials. • Suitable evidence of appropriate disposal will also be required.	Consideration of peat is detailed within **Volume 2, Chapter 13: Hydrology, Hydrogeology, Geology and Soils**.
	7 August 2024	Consultation - hydrology	SEPA 50 m buffer guidance has always been for windfarm developments. The recommended riparian corridors can be followed for these transmission works. SEPA would permit temporary access tracks running alongside drainage ditches, depending on site specific circumstances and whether the tracks were floated. Ten metres is the recommendation in most circumstances – relaxation for drains rather than natural watercourses may be acceptable.	SEPA's recommended riparian corridors have been utilised in the design of the Proposed Development. This is further detailed within **Volume 2, Chapter 13: Hydrology, Hydrogeology, Geology and Soils**.
	8 August 2024	Meeting	SEPA confirmed 50 m buffer guidance is for wind farms and that riparian corridor data and buffers should be used. For more natural watercourses, a larger buffer is advised but for more unnatural watercourses (e.g. drainage ditches etc) a smaller buffer is more likely to be acceptable. Should show avoidance of peat as a requirement of NPF4 mitigation hierarchy. Peat excavation should be minimised, if peat has to be reused for reinstatement, then has to be in a way allowing for it to function as a peatland afterwards.	SEPA's recommended riparian corridors have been utilised in the design of the Proposed Development. This is further detailed, along with consideration of peat, within **Volume 2, Chapter 13: Hydrology, Hydrogeology, Geology and Soils**.
	9 October 2024	Scoping Opinion	SEPA highlighted the Scottish Wetland Inventory GIS layer, that should inform EIA and possible future surveys.	Full details of the ecological surveys undertaken and results (including NVC) are presented in **Volume 5, Appendix 11:2: Habitat and Vegetation Survey Results**. Surveys were undertaken throughout the ESA, with particular attention paid to areas with potential to support habitats of conservation concern, including wetland priority habitats. The Scottish Wetland Inventory is of restricted coverage and variable level of detail. As such, field data collected to inform the Proposed

Consultee	Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
				Development is considered the most up-to-date and comprehensive and is used in the assessment presented in this chapter.
	27 February 2025	Gate Check 1	SEPA highlighted LUPS 31 Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems (reference no.50 in the Gate Check Report); this has been updated and replaced by two separate documents which are now available to view on SEPA's website.	The guidance recently issued by SEPA relating to GWDTEs has been used within this chapter, **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report** and **Volume 5, Appendix 13.5: Groundwater Dependent Terrestrial Ecosystem Assessment**.
Westhill and Elrick Community Council (WECC)	19 June 2023	Routeing Consultation	Route Section F impacts on a residential area and important woodland within WECC boundaries.	The proposed route no longer goes through this community council's area. However, priority habitats, including woodlands, are identified in **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context, Appendix 11:2: Habitat and Vegetation Survey Results**, and **Volume 3, Figures 11.2.1 to 11.2.5: Designated Sites within 10 km, 5 km and 2 km of the Proposed Development, Figures 11.3.1 to 11.3.38: Habitat Survey Results, Figure 11.4.1 to 11.4.23: National Vegetation Classification Survey Results** and **Figures 11.5.1. to 11.5.11: Areas of Guidance-Stated Potential Groundwater Dependency**.
Glamis and Area Community Council	21 June 2023	Routeing Consultation	Glamis and Area Community Council highlighted the importance of biosecurity.	Biosecurity measures were implemented during ecological surveys in line with SSEN Transmission policies, and will continue to be implemented throughout the construction phase as outlined in SSEN Transmission's Biodiversity GEMP (see **Volume 5, Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**).
Aberlemno and District Community Council	22 June 2023	Routeing Consultation	Residents raised concerns regarding pollution impacts and removal of trees. River South Esk (SAC) contains protected species - impacts to habitats of nesting birds, and removal of trees etc for building work may not fully restore.	Measures to reduce the potential for pollution are detailed within SSEN Transmission's GEMPs (see **Volume 5, Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**). The impact upon a range of ecological features, including priority woodland habitats, are assessed within this chapter and **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** and **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report**. Impacts to birds are considered in **Volume 2, Chapter 12: Ornithology**. The River South Esk

Consultee	Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
				SAC has been subject to an HRA presented in **Volume 5, Appendix 12.3: Shadow Habitat Regulations Appraisal**.
	9 October 2024	Scoping	Need to identify species in the area and address potential disruption to breeding/feeding/routes.	The potential for impacts upon a range of ecological and ornithological receptors have been assessed within this chapter and for birds in **Volume 2, Chapter 12: Ornithology**.
Crathes Drumoak & Durris Community Council	22 June 2023	Routeing Consultation	Noted concern for wildlife.	The potential for impacts upon a range of ecological and ornithological receptors have been assessed within this chapter and for birds in **Volume 2, Chapter 12: Ornithology**.
	30 April 2024	Pre-Application Consultation	Object to the destruction of Fetteresso Forest and noted concern of a lack of evidence to ensure environment 'thrives' and actions undertaken following completion of project.	The potential for impacts upon a range of ecological and ornithological receptors, including Fetteresso Forest and those receptors within it, have been assessed within this chapter and **Volume 2, Chapter 12: Ornithology**. Felling of this forest is also further discussed within **Volume 2, Chapter 8: Forestry**.
	8 October 2024	Scoping	Atlantic salmon are sensitive to EMF Contributory impacts of the same project should be included in cumulative	An assessment of potential EMF effects on migratory fish was conducted with the results reported in **Annex 12.3.2** of **Volume 5, Appendix 12.3: Shadow Habitat Regulations Appraisal**. The potential for impacts upon a range of ecological and ornithological receptors including but not limited to Atlantic salmon have been assessed within this chapter and **Volume 2, Chapter 12: Ornithology**. Each chapter includes a cumulative impact assessment which considers the potential for in-combination effects with other developments.
Arbuthnott Community Council	16 July 2023	Routeing Consultation	Noted concern for biodiversity	The potential for impacts upon a range of ecological and ornithological receptors, and associated mitigation required, have been assessed within this chapter and **Volume 2, Chapter 12: Ornithology**. Principles relating to biodiversity enhancement are provided in **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan**.
Culter Community Council	25 July 2023	Routeing Consultation	Noted concern for wildlife population and nature conservation sites.	The potential for impacts upon a range of ecological and ornithological receptors including international, national, regional and local nature conservation sites, have been assessed within this chapter and **Volume 2, Chapter 12: Ornithology**.

Consultee	Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
Mearns Community Council	28 July 2023	Routeing Consultation	Noted concern for ecology and wildlife.	The potential for impacts upon a range of ecological and ornithological receptors have been assessed within this chapter and **Volume 2, Chapter 12: Ornithology**.
St Cyrus Community Council	2 July 2023	Routeing Consultation	Concerned regarding environmental impact.	The potential for impacts upon a range of ecological and ornithological receptors have been assessed within this chapter and **Volume 2, Chapter 12: Ornithology**.
Feughside Community Council	28 July 2023	Routeing Consultation	Noted concern regarding effects on wildlife, peat and trees.	The potential for impacts upon a range of ecological and ornithological receptors have been assessed within this chapter and **Volume 2, Chapter 12: Ornithology**. Refer to **Volume 2, Chapter 13: Hydrology, Hydrogeology, Geology and Soils** for an assessment of potential impacts upon peat and to **Volume 2, Chapter 8: Forestry** for further detail regarding the potential for impacts to trees.
Stonehaven Community Council	29 April 2024	Pre-Application Consultation	Noted concern regarding preservation of ancient woodland and impact on wildlife.	The potential for impacts upon a range of ecological and ornithological receptors, including but not limited to ancient woodlands, have been assessed within this chapter and **Volume 2, Chapter 12: Ornithology**.
Inveresk Community Council	15 October 2024	Scoping	Concern regarding badger setts, and there being no comprehensive assessment of wildlife in the EIA. Noted that Angus is a stronghold for several highly protected species, including Pine Martens and Scottish Wildcats	The potential for impacts upon a range of ecological and ornithological receptors, including but not limited to badger, have been assessed within this chapter and **Volume 2, Chapter 12: Ornithology**.
Tealing Community Council	20 November 2024	Alignment Consultation	Concern regarding a bat population in woodlands near Coldstream and badger setts within the area.	The potential for impacts upon a range of ecological receptors, including bats and badger, have been assessed within this chapter.
Forfar Community Council	15 November 2024	Alignment Consultation	Noted concerns regarding amphibians in the area	Amphibians were scoped out of the assessment, in agreement with NatureScot, as embedded and applied mitigation measures will ensure impacts upon amphibians are minimised to a negligible level.
Non-Statutory				
Dee District Salmon Fishery Board (DSFB)	27 July 2023	Routeing Consultation	The salmon stocks are of concern within the River Dee, thus the Dee District Salmon Fishery Board request that the route selection doesn't impact the Dee SAC, its habitats and its connected floodplain. Where there is any impact to the riparian habitats and woodland associated with the River Dee SAC and its tributaries the board would expect there to be an	The River Dee SAC is proposed to be crossed by the Proposed Development, as discussed in **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context**, shown in **Volume 3, Figures 11.2.1 to 11.2.5: Designated Sites within 10 km, 5 km and 2 km of the Proposed**

Consultee	Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
			appropriate offset mitigation proposed and would be pleased to discuss this further with SSEN Transmission. The Dee DSFB would like to discuss with SSEN Transmission the potential for BNG by their existing habitat restoration programme consisting of native broadleaved tree planting, restoring access to the catchment, creating habitat refuges and developing natural flood management.	**Development**, and the impacts of this are discussed within the chapter. Designated sites have been taken into account at each stage of the process and mitigation for the final design is provided within this chapter. Further, an HRA has been produced which includes consideration of the River Dee SAC; refer to **Volume 5, Appendix 12.3: Shadow Habitat Regulations Appraisal** for further detail.
	20 November 2024	Alignment Consultation	Request full engagement with fishery owners. Request assessment of potential EMF effects on migratory fish. Request that the importance and vulnerability of Atlantic salmon and sea trout be highlighted in the EIA Report and mitigation for these species during and post construction be outlined. Biodiversity Enhancement: developing a catchment wide restoration plan for the Culter Burn catchment to enhance biodiversity and improve resilience to climate change. Developed a detailed design to restore the Bo Burn at Loch of Park. Request further discussions with SSEN Transmission to look at potential support for this work.	An assessment of potential EMF effects on migratory fish was conducted with the results reported in **Annex 12.3.2** of **Volume 5, Appendix 12.3: Shadow Habitat Regulations Appraisal**. Atlantic salmon is included in the impact assessment provided in this chapter. NatureScot agreed to scope out all other fish species from the impact assessment, thus sea trout (*Salmo trutta*) is not included. Principles relating to biodiversity enhancement are provided in **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan**. This includes processes by which off-site biodiversity projects and partners will be identified.
Esk Rivers Fishery Trust	26 March 2024	Routeing Consultation	Strongly suggest juvenile salmonid and invertebrate surveys are conducted where the OHL interacts with rivers and burns pre, peri, and post-construction for aquatic habitat impacts. Concern with River South Esk crossing due to salmonid spawning habitat and important nursery and juvenile salmonid habitat. Riverbanks are well wooded. Removal may cause erosion and increase fine sediment input into river, with de-stabilisation of banks and altering of geomorphology, degradation or loss of spawning, nursery and juvenile habitat.	Impacts upon Atlantic salmon have been considered within the impact assessment presented within this chapter, and a Shadow HRA has been undertaken (see **Volume 5, Appendix 12.3: Shadow Habitat Regulations Appraisal**); however, the design has sought to avoid the need for in-channel works by oversailing watercourses. Where watercourse crossing points are required, embedded and applied mitigation will further reduce the potential for impacts to fish. Further information is available within the impact assessment in this chapter and in **Volume 2, Chapter 13: Hydrology, Hydrogeology, Geology and Soils**.
Esk District Salmon Fishery Board	20 November 2024	Alignment Consultation	Location 3: Justinhaugh • raise concerns over the potential impact on salmon fishing for the 3a alignment as it would cross at the	The potential for impacts upon a range of ecological receptors including Atlantic salmon, freshwater pearl mussel, important habitats and designated sites have been assessed within this chapter, and a Shadow HRA has been undertaken (see **Volume 5, Appendix 12.3: Shadow Habitat Regulations**

Consultee	Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
			lower end of the Inshewan Fishing Beat, an important fishing beat for the river. • concerned about the loss of mature trees and vegetation on the steep south bank of the river crossing point, which may lead to erosion and an increase in the levels of fine sediments entering the river. • These fine sediments have the potential to smother juvenile salmon habitat and negatively impact on Fresh Water Pearl Mussels. Location 4: Careston • Alignment routes 4a, 4b, and 4d concerns are limited to mitigation against excess fine sediments entering the watercourse. • route 4c would cross the river where there are important salmon and sea trout spawning and juvenile habitats.	**Appraisal**). With the agreement of NatureScot, potential impacts upon sea trout have not been assessed. Impacts to the aquatic environment have been assessed in **Volume 2, Chapter 13: Hydrology, Hydrogeology, Geology and Soils**.
RSPB	14 June 2023	Consultation	Preferred route (A1) and alternative route (A1.1) intersect the River Tay SAC at Douglastown, designated for Atlantic salmon, 3 species of lamprey and otter. Need to protect the integrity of the SAC. Section B intersects the River South Esk SAC at multiple points between Oathwood and Brechin, designated for Atlantic salmon and Freshwater Pearl Mussel. Section C1 (Brechin to Laurencekirk) route runs close to Eslie Moss SSSI, and the final route alignment should be sited as far from this feature as possible. Peat depth and habitat surveys should be undertaken along the preferred route to inform the final alignment deviation choices. The proposal needs to offer 'significant biodiversity enhancements' that can be 'secured within a reasonable timescale and with reasonable certainty'. Any plans need to clearly set out what elements are proposed as mitigation, compensation and what is considered enhancement.	The design process sought to identify and avoid designated sites as far as feasible. The River Tay SAC, River South Esk SAC and River Dee SAC are each crossed by the Proposed Development. The assessment within this chapter takes into account the potential for the Proposed Development to adversely impact these and other designated sites. Further, an HRA has been produced which includes consideration of the River Tay SAC and River South Esk SAC; refer to **Volume 5, Appendix 12.3: Shadow Habitat Regulations Appraisal** for further detail. For a full list of designated sites within 10 km, 5 km and 2 km of the Proposed Development refer to **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** and **Volume 3, Figures 11.2.1 to 11.2.5: Designated Sites within 10 km, 5 km and 2 km of the Proposed Development**. Principles relating to biodiversity enhancement are provided in **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan**.
Scottish Water	30 May 2023	Routeing Consultation	Scottish Water would prefer that refuelling of vehicles and plant takes place out with the catchments and that there are mitigations in place to prevent and reduce the risk of	Works near water have been avoided through design wherever possible, to avoid accidental spills from activities such as refuelling. Details of works within watercourse buffers

Consultee	Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
			hydrocarbon leaks and spills, and mitigations to collect run off.	are discussed in **Volume 2, Chapter 13: Hydrology, Hydrogeology, Geology and Soils** and **Volume 5, Appendix 13.1: Watercourse Crossing and Buffer Assessment**. SSEN Transmission's GEMPs (Working in or Near Water; see **Volume 5, Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**) include consideration of refuelling.
Woodland Trust	9 October 2024	Scoping Response	Recommend an Arboricultural Impact Assessment is undertaken ahead of the full planning application. Applicant should review the Ancient Tree Inventory (ATI) in addition to identifying other ancient or veteran trees that may not be recorded on the ATI (live database). Acknowledge potential impacts on ancient woodland and veteran trees and request that these are fully assessed and appropriate mitigations put in place as design is finalised.	The design sought to avoid woodland listed on the AWI as far as possible, particularly with regards to semi-natural woodland (categories 1a and 2a), as this is considered to be an irreplaceable habitat. An impact assessment of the Proposed Development on woodland listed on the AWI has been provided within this chapter, with further detail in **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context**. Detailed consideration of woodland and trees is provided in **Volume 2, Chapter 8: Forestry**, and the associated appendices including a suite of Woodland Reports.

Desk Based Research and Data Sources

11.3.7 A desk study was undertaken to identify known ecological features within the Study Areas as described in **Table 11.1: Study Area Descriptions: Desk-Based Studies**. Searches were made for those habitats and species agreed through consultation. The following data sources informed the assessment:

- NatureScot SiteLink[48];
- Scotland's Environment Mapping Services[49];
- The Ancient Woodland Inventory (AWI)[50];
- Native Woodland Survey Scotland data[51];
- The Carbon and Peatland Map[52];
- North East Scotland Biological Records Centre (NESBReC)[53]; and
- National Biodiversity Network (NBN) Atlas Scotland, under OGL and CC-BY licences[54].

Field Survey

11.3.8 The Study Areas adopted for field survey vary by the type of survey as defined by best practice (detailed in **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report**, **Appendix 11.3: Protected Species Survey Report**, **Appendix 11.4: Bat Survey Report**, and **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**).

11.3.9 The following field surveys were carried out to inform the assessment:

- Habitat survey following the UK Habitat (UK Hab) Classification[55] system, and condition assessments[56];
- National Vegetation Classification (NVC) to provide detailed survey of potential habitats of conservation concern[1];and
- Protected species surveys, including the following species/taxa:
  - bats;
  - beaver;
  - otter;
  - Scottish wildcat;
  - badger;
  - red squirrel;
  - pine marten;
  - freshwater pearl mussel habitat survey; and
  - fish habitat survey.

[49] Scottish Government, n.d. Scotland's Environmental Mapping Service website. [Online] Available at: https://map.environment.gov.scot/sewebmap/ [Accessed January 2025].
[50] Scottish Government, n.d. Ancient Woodland Inventory. [Online] Available at: : https://spatialdata.gov.scot/geonetwork/srv/api/records/A091F945-F744-4C8F-95B3-A09E6EF6AE33 [Accessed January 2025].
[51] Native Woodland Survey of Scotland – Data Explorer website. [Online] Available at: https://experience.arcgis.com/experience/aa6b4ff901294dea84dcff3205d48fab [Accessed January 2025].
[52] Scottish Government, n.d. Carbon and Peatland Map website. [Online] Available at: https://soils.environment.gov.scot/maps/thematic-maps/carbon-and-peatland-2016-map [Accessed January 2025].
[53] North East Scotland Biological Records Centre (NESBReC), 2024. [Online] Available at: https://nesbrec.org.uk/ [Data received January 2025].
[54] NBN, n.d. NBN Atlas website. [Online] Available at: https://nbnatlas.org/ [Accessed January 2025].
[55] UK Habitat Classification system (2020) version 1.1.
[56] Panks, S. *et al*, 2022. *Biodiversity metric 3.1: Auditing and accounting for biodiversity – User Guide. Natural England*.

11.3.10 Incidental observations of other species of conservation concern[57], including those scoped out of assessment through the Scoping process, were also recorded. In addition, opportunities for restoration and enhancement were considered and noted during the field surveys.

11.3.11 Ecology field surveys were undertaken between June 2023 and March 2025 in appropriate conditions. Detailed accounts of survey dates, rationale, methods, weather conditions, limitations and findings are provided in **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report**, **Appendix 11.3: Protected Species Survey Report**, **Appendix 11.4: Bat Survey Report**, and **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**. Example photographs are provided in **Annex 11.2.1: Habitats and Vegetation Survey Photographs, Annex 11.3.1: Protected Species Survey Photographs, Annex 11.4.1: Bat Survey Photographs** and **Volume 6, Annex 11.6.1: Confidential Protected Species Survey Photographs.**

Approach to GWDTEs

11.3.12 The term Groundwater Dependent Terrestrial Ecosystems or 'GWDTE' refers to wetland habitats that rely on groundwater for their function and viability. The concept evolved from the *Water Framework Directive*, transposed in Scotland through the *Water Environment and Water Services (Scotland) Act 2003* (WEWS), and subsequent SEPA guidance[58].

11.3.13 SEPA guidance[58] sets out those vegetation communities that at least potentially rely upon groundwater. Classification as a GWDTE does not convey any ecological value on a habitat; indeed, many GWDTE habitats are common and widespread across Scotland (e.g. rush mire). However, although GWDTE habitats are not necessarily of specific ecological value, WEWS and consequent guidance require GWDTEs to be protected wherever possible.

11.3.14 SEPA guidance[58] requires potential effects on GWDTEs to be fully assessed and where necessary, mitigated. It is important to understand this context because to focus the assessment solely on the ecological value of GWDTEs is not appropriate. The assessment of potential effects should focus on GWDTEs as a proxy for groundwater movement, ie the assessment should focus on the effect of the Proposed Development upon the quality and quantity of groundwater supporting the GWDTE. Notwithstanding this, the ecological value of GWDTEs in their own right must also be considered.

11.3.15 A short account of the identification methodology for potential GWDTEs is presented in **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report**. Detailed assessment of GWDTEs and potential effects on them is provided in **Volume 2, Chapter 13: Hydrology, Hydrogeology, Geology and Soils**.

Assessing Significance

11.3.16 The EcIA undertaken in this chapter is based on good practice methods described in CIEEM's '*Guidelines for Ecological Impact Assessment in the UK and Ireland – Terrestrial, Freshwater, Coastal and Marine*'[44] (The CIEEM Guidelines).

11.3.17 The CIEEM Guidelines recommend that the 'Ecological Importance' of a given site or study area in relation to each of its ecological features is determined within a defined geographical context. The geographical context, as it relates to the Proposed Development, is described in **Table 11.3: Ecological Importance Criteria**.

[57] Species of conservation concern are defined as those subject to legal protection and policy priority (such as SBL or LBAP priority species) as outlined within this chapter.
[58] Scottish Environmental Protection Agency, 2024. Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems (GWDTE). [Online] Available at: https://www.sepa.org.uk/media/i2cnr03k/guidance-on-assessing-the-impacts-of-developments-on-groundwater-dependent-terrestrial-ecosystems.docx [Accessed March 2025].

Table 11.3: Ecological Importance Criteria

Ecological Importance	Qualifying Criteria	Relevant Context
International	A site is considered of International ecological importance when it supports: • An internationally designated site or candidate site (Special Protection Areas (SPAs), potential SPA, SAC, candidate SAC, possible SAC, Ramsar sites, proposed Ramsar sites or Biogenetic Reserve) or an area which NatureScot has determined meets the published selection criteria for such designations, irrespective of whether or not it has been notified; • A viable area of habitat type listed in Annex 1 of the *Habitats Directive*[59], or smaller areas of such habitat which are essential to maintaining the viability of that ecological resource at an international scale; and • >1% of the European resource of an internationally important species, ie listed in Annex 2 or 4 of the *Habitats Directive*[60,61].	Europe
UK/National	A site is considered of UK/National ecological importance when it supports: • A nationally designated site (SSSI, NNRs, Marine Nature Reserve) or a discrete area which NatureScot has determined meets the published selection criteria for national designation, irrespective of whether or not it has yet been notified; • A viable area of a priority habitat referenced in the UK Post-2010 Biodiversity Framework or SBL, or smaller areas of such habitat which are essential to maintaining the viability of that ecological resource at a national scale; and • >1% of the National resource of a regularly occurring population of a nationally important species ie a priority species listed in the SBL and/or Schedules 1, 5 (Section 9 (1, 4a, 4b)) or 8 of the *Wildlife and Countryside Act 1981*.	UK/Scotland
Regional	A site is considered of Regional ecological importance when it supports: • Non-statutory designated sites that represent a scale, or habitat/species assemblage, of value across a number of counties which are recognised in a regional context; • Non-designated sites that the designating authority has determined meet the published ecological selection criteria for designation, particularly large or representative habitat or species assemblages of importance at a regional level; • Viable and extensive areas of legally protected habitat/habitat identified in Regional Biodiversity Action Plan (BAP) or County BAP, or smaller areas of such habitats that are essential to maintaining the viability of the resource at a regional scale; • Any regularly occurring populations of an internationally/nationally important species or a species in a relevant policy which is important for the maintenance of the regional meta-population; and • Semi-natural ancient woodland greater than 0.25 hectares (ha.)	Northeast Scotland
County	A site is considered of County ecological importance when it supports: • County sites and other sites which the designating authority has determined meet the published ecological selection criteria for designation, e.g. LNCS; • Viable areas of legally protected habitat/habitat identified in Council BAP or smaller areas of such habitats that are essential to maintaining the viability of the resource at a county scale; • Any regularly occurring population of an internationally/nationally important species of species in a relevant UK/Council BAP which is important for the maintenance of the county meta-population; • Semi-natural ancient woodland smaller than 0.25 ha; and	Angus or Aberdeenshire

[59] A list of Annex 1 habitats is available online: https://sac.jncc.gov.uk/habitat/ [Accessed June 2025].
[60] A list of Annex 2 species is available online: https://sac.jncc.gov.uk/species/ [Accessed June 2025].
[61] A list of Annex 4 species is available online: https://www.gov.uk/government/publications/list-of-annex-iv-a-species [Accessed June 2025].

Ecological Importance	Qualifying Criteria	Relevant Context
	• Networks of species-rich hedgerows.	
Local	A site is considered of Local ecological importance when it supports: • Commonplace and widespread semi-natural habitats, e.g. scrub, poor semi-improved grassland, coniferous plantation woodland, intensive arable farmland, etc which despite their ubiquity, contribute to the ecological function of the local area (habitat networks etc); • Isolated or species poor stands of habitat of conservation interest which contribute to the viability of the resource at a local level; and • Very small, but viable, populations of internationally/nationally important species or a species in a relevant UK/Council BAP which is important for the maintenance of the local meta-population.	Study Area plus a 5 km radius
Study Area	A site is considered of Study Area ecological value when it supports: • Habitats of limited ecological value, e.g. amenity grassland, but which contribute to the overall function of the application site's ecological functions.	Study Area

11.3.18 Following the assessment of ecological importance, likely effects are identified. This process involves the study of the construction and operational methods and timescales, with a view to identifying the pathways by which ecological features may be impacted. Potential effects can be grouped into the following broad types:

- habitat loss (including both permanent and temporary loss or damage of habitat);
- fragmentation (disruption of ecological processes through fragmentation, isolation and barriers);
- mortality (loss of life experienced by faunal species, either individual animals or populations, through direct contact or following pollution events, etc); and
- disturbance (disruption to ecological processes through increased human presence, noise, vibration, etc).

11.3.19 To determine significance, effects are considered with reference to the following parameters:

- Beneficial or adverse (ie positive or negative);
- Extent – the spatial or geographical area over which the effect may occur;
- Magnitude – the size, amount, intensity or volume of the effect (e.g. the percentage of an ecological feature affected);
- Duration – the timeframe over which an effect may occur in relation to the ecological characteristic of the relevant feature;
- Frequency – the number of times that an effect may occur; and
- Reversibility – an indication of whether recovery from an effect is possible within a reasonable timeframe.

11.3.20 A degree of confidence, based on professional judgement, is used to assess the likelihood of an effect occurring. The following scale is referred to:

- Certain/Near-certain: probability estimated at ≥ 95%;
- Probable: probability estimated at 50 – 90%;
- Unlikely: probability estimated at 5 – 50%; and
- Extremely unlikely: probability estimated at ≤ 5%.

11.3.21 Based on the combination of these parameters listed above, an effect is then considered to be either Significant or Not Significant in the context of the EIA Regulations[37]. An effect is considered to be Significant if it is assessed to support or undermine the integrity of a designated site or habitat, or the conservation status of a species. Technical definitions of integrity and conservation status follow the CIEEM Guidelines[44].

11.3.22 The significance of a potential effect is considered, using professional judgement, within the context of the geographically-based ecological importance of the feature. For example, the significance of a potential effect on a habitat of Local ecological importance is considered to be Significant, or Not Significant, at a Local level. In some

cases, where only a small part of an ecological feature is affected, the potential effect may be Significant at a lower geographical level; for example, an effect on a feature of Local ecological importance may be only considered Significant at the Study Area level.

11.3.23 The ecological features identified have been assigned an Ecological Importance as per **Table 11.3: Ecological Importance Criteria**. To aid in understanding of the Proposed Development, baseline results are presented with reference to Sections (A to F), while the impact assessment is presented in the context of each of the two local planning authorities (LPAs) that cover the Proposed Development. Sections A, B and the southern half of Section C to the River North Esk are in Angus, with the northern half of Section C and all of Sections D-F in Aberdeenshire. This approach does not preclude an impact being assessed to be Significant at a geographic level higher than County.

11.3.24 The EIA process typically requires that the significance of an effect is described as either 'Major, 'Moderate', 'Minor' or 'Negligible/None'. However, best practice guidance in relation to EcIA does not support this approach, due to the complexities of ecological processes.

11.3.25 To allow the potential effects identified in this EcIA to be considered alongside those addressed in other topic chapters, a 'translation' from EcIA significance to EIA significance has been undertaken, as described in **Table 11.4: Matrix for Determination of Significance of Effects**. The translation relates the geographically based significance of ecological effects (identified through the EcIA process) to the standard terminology for significance presented in other chapters (following the EIA process), therefore allowing direct comparison. Effects assessed to occur at a relatively lower geographical level are not considered Significant in EIA terms because they would not undermine the integrity or conservation status of a feature.

11.3.26 Major and Moderate effects are considered Significant in the context of the EIA Regulations.

Table 11.4: Matrix for Determination of Significance of Effects

EIA Significance Terminology	Corresponding EcIA Effect Significance Terminology
Major	International/European
	UK/National
Moderate	Regional
	County
Minor	Local
	Study Area
Negligible	Not Significant

Habitats Regulations Appraisal Screening

11.3.27 The potential for functional connectivity between the Proposed Development and the designated sites in **Table 11.5: Statutory Designated Sites with an Impact Pathway to the Proposed Development** and **Table 11.6: Non-statutory Designated Sites with an Impact Pathway to the Proposed Development** is considered. As such, in relation to SACs the relevant steps of The Conservations of Habitats and Species Regulations 2017 ('the Habitats Regulations 2017')[62] need to be adhered to in addition to consideration under the EIA Regulations.

11.3.28 The method for assessing the significance of effects on a SAC under the Habitats Regulations 2017 is different from that employed for wider-countryside ecological interests. Regulation 63 includes a number of stages to be taken by the competent authority before granting consent (these are referred to here as a Habitats Regulations Appraisal 'HRA'). An important difference between consideration for EIA and HRA purposes is that mitigation which has as its purpose mitigation of the effects on a SAC cannot be taken into account in considering the likely significant effects (ie scoping out effects).

[62] https://www.legislation.gov.uk/uksi/2017/1012/contents [Accessed June 2025].

11.3.29 Following scoping consultation with NatureScot (refer **Table 11.2: Summary of Consultation**) the Proposed Development has been identified for HRA purposes in relation to certain SACs as having a Likely Significant Effect (LSE) prior to mitigation on the qualifying features of the certain SACs. As such, there is a requirement for the competent authority to conduct an Appropriate Assessment. A Shadow HRA is provided in **Volume 5, Appendix 12.3: Habitat Regulations Appraisal (HRA)**.

Assessment Assumptions and Limitations

Assessment Assumptions

11.3.30 All ecological surveys represent a snapshot of the faunal and floral assemblages of any given site. While surveys provide an overview of the habitats and species present, they cannot be used in isolation to determine long-term trends in species and habitat populations or behaviours. Where appropriate, the assessment therefore considers the likely long term trends based on field survey results, as well as other data sources (see for example **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context**), current good practice and professional judgment.

11.3.31 Methods adopted during the surveys of the ESA represent current good practice, but the data collected cannot be used to confirm the absence of a species from the ESA. Faunal and floral assemblages are dynamic and can change over short periods of time. To that end, in addition to direct searches for evidence, the suitability of the ESA to support protected and notable species is considered, and 'likely absence' may be inferred where appropriate and supported by a range of data sources.

Assessment Limitations

11.3.32 It is the policy of SSEN Transmission to use UK Hab for the broad classification of habitats. This is a relatively newer classification system that is being increasingly used. Resources are available for surveyors to aid understanding of UK Hab categories and translation from other broad classification systems, and the survey team undertook UK Hab training prior to conducting surveys. Where potential habitats of conservation concern were encountered, the more detailed NVC system was used. As such, the use of the UK Hab system is not considered to be a substantial limitation (see **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report**).

11.3.33 Surveys were undertaken where access was available. Where there were challenges to arranging access with landowners, aerial imagery was used to assess the potential for ecological features, such as habitats of conservation concern, to be present. Areas of potential sensitivity were then prioritised for further negotiation regarding access, with a particular focus on possible habitats that may be directly impacted by the Proposed Development. In the majority of instances, this ensured that habitats of potential sensitivity were accessed and surveyed. There were a limited number of locations for which access could not be arranged and/or where cattle precluded safe access. In such instances, survey was undertaken from adjacent land where possible, including the use of binoculars from neighbouring landholdings and public roads; a conservative assessment was then made of the likely sensitivity of habitats present, with this information used to inform the Proposed Development.

11.3.34 Survey from adjacent land was not possible in all cases and/or within the optimal survey season for habitat and vegetation studies (generally considered to be April to September inclusive), resulting in some limited gaps in the coverage of survey data (see **Volume 3, Figures 11.3.1 to 11.3.38: Habitat Survey Results**). Where necessary, to inform the emerging design of the Proposed Development and the assessment presented in this chapter, aerial imagery was further examined to consider the potential of these areas to support important ecological features. These areas largely coincided with habitats of limited ecological value (such as cropland and modified grassland), were associated with existing access tracks (therefore works would be limited to upgrades), and/or were within the ESA but outwith the LOD (therefore would not be directly impacted). On balance, it is considered that a robust assessment has therefore been possible, and this is not considered to be a substantial limitation.

11.3.35 Access to Durris and Fetteresso Forest was restricted from 20 June 2024 until 16 September 2024. This meant that the Summer deployment of the ground-level static bat detectors could not go ahead; however, inferences from the successfully collected Spring and Autumn data have been drawn. Access to complete habitat and protected species surveys was available to the northern section of Durris Forest from October 2024, and access to the southern

section available in February 2025; thus habitat data for this area was collected and used to inform this assessment of impacts. This is not, therefore, considered to be a substantial limitation.

11.3.36 Surveys were undertaken to aid identification of the preferred corridor, route, then alignment. Access tracks however were identified at a later date as the final design emerged, and in some cases, there are small gaps in survey data within the 50 m buffer around them. These gaps are relatively limited, as illustrated in **Volume 3, Figures 11.3.1 to 11.3.38: Habitat Survey Results**. Further, the access tracks typically use existing tracks, thus movement is unlikely. Best practice will be followed regarding pre-construction surveys to fully survey the gaps. Overall, it is considered unlikely that the gaps have affected the impact assessment within this chapter.

11.3.37 Limitations pertaining to the confidential protected species are not discussed here, refer to **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**.

11.3.38 Whilst some potential information gaps have been identified, as detailed above, it is considered that an appropriate level of data has been collected to enable an informed decision to be taken in relation to the identification and assessment of likely significant environmental effects on ecology. As such, none of the limitations identified are considered to be substantial limitations to the assessment.

Limit of Deviation

11.3.39 The horizontal limit of deviation (LOD) is up to 100 m either side of the centre of the alignment (suspension towers would move a maximum of 55 m from their current position), up to 200 m radius around the tension towers (which would move a maximum of 100 m from their current position), up to 100 m either side of new temporary and permanent access tracks, and up to 25 m either side of existing access tracks which require upgrading. There are some areas at which the horizontal LOD has been reduced to exclude identified sensitive areas from the micrositing zone, such as through Lochty Wood and close to the Loch of Park SSSI. Detailed information relating to the LOD is provided in **Volume 1, Chapter 3: Project Description** and shown on **Volume 3, Figures 3.1.1 to 3.1.29: Proposed Development for which Section 37 Consent (*Electricity Act, 1989*) is sought.**

11.4 Baseline Conditions

Summary of Baseline - Desk Study

Designated Sites

11.4.1 **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** details all statutory designated sites identified within 10 and 5 km of the ESA (for International and National/Local sites respectively), and all non-statutory designated sites identified within 2 km of the ESA. These sites are shown on **Volume 3, Figures 11.2.1 to 11.2.5: Designated Sites within 10 km, 5 km and 2 km of the Proposed Development**.

11.4.2 SPAs, which are designated for their ornithological interests are not listed here but are detailed in **Volume 2, Chapter 12: Ornithology**. Similarly, SSSIs for which only ornithological interests qualify are listed within **Volume 2, Chapter 12: Ornithology**, while those designated only for geological qualifying interests are detailed in **Volume 2, Chapter 13: Hydrology, Hydrogeology, Geology and Soils**.

11.4.3 Table 11.5: Statutory Designated Sites with an Impact Pathway to the Proposed Development below identifies statutory designated sites within the ESA, while **Table 11.6: Non-statutory Designated Sites with an Impact Pathway to the Proposed Development** below identifies the non-statutory designated sites within the ESA. For details of statutory and non-statutory designated sites which are within 10, 5 and 2 km of the Proposed Development, but for which no likely impact pathway has been identified, refer to **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context**.

Table 11.5: Statutory Designated Sites with an Impact Pathway to the Proposed Development

Site Name	Designation	Qualifying Feature(s)	Geographic Location	Tower Numbers	Interaction
Section A					
River Tay	SAC	Otter River lamprey (*Lampetra fluviatilis*) Brook lamprey (*Lampetra planeri*) Sea lamprey (*Petromyzon marinus*) Atlantic salmon Clear-water lakes or lochs with aquatic vegetation and Poor to Moderate nutrient levels	Upper Hayston to Nether Drumgley	S168 to S167	The Kerbet Water is oversailed by the Proposed Development.
				S165 to S164	The Dean Water is oversailed by the Proposed Development.
Section B					
River South Esk	SAC	Freshwater pearl mussel Atlantic salmon	Woodside to Baldoukie	S143 to S142	The River South Esk is oversailed by the Proposed Development.
			Baldoukie to Weiris Wood	S131 to S130	The Noran Water is oversailed by the Proposed Development.
Section C					
No statutory designated sites.					
Section D					
No statutory designated sites.					
Section E					
River Dee	SAC	Otter Freshwater pearl mussel Atlantic salmon	Meikledams to West Park	N68-N67	The Burn of Sheeoch is oversailed by the Proposed Development.
				N62-N61	The River Dee is oversailed by the Proposed Development.
Section F					
Loch of Park	SSSI	Woodland: Wet woodland Fens: Basin Fen	West Park to Newhall	N56-N53	The SSSI is located adjacent to the west of the LOD.

Table 11.6: Non-statutory Designated Sites with an Impact Pathway to the Proposed Development

Site Name	Designation	Qualifying Feature(s)	Geographic Location	Tower Numbers	Interaction
Section A					
Unnamed Woodland	AWI	Long-Established (of Plantation Origin)	Ironside to Upper Hayston	S193, S178-S177	Woodland blocks are located within the LOD.

Site Name	Designation	Qualifying Feature(s)	Geographic Location	Tower Numbers	Interaction
Section B					
Woodside	LNCS	Birch woodland Semi-improved acid grassland	Neither Drumgley to Woodside	S151- S150	The LNCS is located within the LOD; no infrastructure is proposed within the LNCS.
Auchleuchrie	LNCS	Lowland birch woodland	Northwest of Craigeassie	Track to S141	The LNCS is located within the LOD of an existing access track.
Unnamed Woodland	AWI	Ancient (of Semi-Natural Origin)	Along the Noran Water	S130	Woodland block overlaps with the LOD.
Unnamed Woodlands, Forestmuir Wood, Oak/Redford Wood, Boggie Wood, Duns Wood, Lochty Wood	AWI	Long-Established (of Plantation Origin)	Various throughout Section B	S155, S150, S147, S141, S140-S139, S133, S126, S121, S115-S113, S112-S111	Woodland blocks overlap with the LOD.
Section C					
Unnamed Woodlands, Keeper's/Belliehill Woods, Little Brechin Wood, Bankhead Wood, Capo Plantation, Cleary Wood, Inverury Wood, Lady Jane's Plantation (Pitgarvie/Lower Thorton Wood), Greenbottom Wood,	AWI	Long-Established (of Plantation Origin)	Various throughout Section C	S104-S102, S101, S98, S82, S79, S78, S77-S73, S65-S63, S60, S58	Woodland blocks overlap with the LOD.
Section D					
Unnamed Woodland, Cammackmuir Plantation, Woods of Redhall, Den Wood, Jacksbank Wood	AWI	Long-Established (of Plantation Origin)	Various throughout Section D	S47-S46, S34, S31-S29, S16, S14	Woodland blocks overlap with the LOD.
Section E					
River Dee	LNCS	Series of glacial and fluvio-glacial landforms and sediments. Oak, birch and wet woodland, shingle banks and species rich grasslands. Rich in invertebrates. Good assemblage of birds.	Meikledams to West Park	N62-N61	The River Dee LNCS is oversailed by the Proposed Development.

Site Name	Designation	Qualifying Feature(s)	Geographic Location	Tower Numbers	Interaction
Unnamed Woodland, Kirkton Wood	AWI	Ancient (of Semi-Natural Origin)	Mergie, Kirkton of Durris	N87, N67, N66	Woodland blocks overlap with, or are adjacent to, the LOD.
Unnamed Woodlands, Wood of Mergie, Funach/Free Church Wood	AWI	Long-Established (of Plantation Origin)	Fetteresso Forest, Kirkton of Durris	N89, N87, N67	Woodland blocks overlap with the LOD.
Section F					
Loch of Park	LNCS	Fen and wet woodland with acid grassland, heath, rush pasture, bog, swamp, coniferous woodland and reedbed. A high diversity of plants including some locally important species such as coralroot orchid (*Corallorhiza trifida*) and lesser butterfly orchid (*Platanthera bifolia*).	West Park to Newhall	N56-N49	The LNCS is located within the LOD; no infrastructure is proposed within the LNCS.
Unnamed Woodlands, Collonach/Coldstream Plantation, Backstrip Wood, Marketmuir Wood, North Kirkton Wood, Myriewell Wood, Tillybrig/Scaur Wood, Corskie Wood,	AWI	Long-Established (of Plantation Origin)	Various throughout Section F	N54, N52-N51, N36, N34, N33-N32, N30, N21, N19, N18, N16	Woodland blocks overlap with, or are adjacent to, the LOD.

11.4.4 Given the presence of the designated sites identified within Table 11.5: Statutory Designated Sites with an Impact Pathway to the Proposed Development and Table 11.6: Non-statutory Designated Sites with an Impact Pathway to the Proposed Development above, their qualifying features and their potential for ecological connectivity with the Proposed Development, the potential for effects on designated sites as a result of construction of the Proposed Development has been included in the assessment.

11.4.5 Woodlands listed on the AWI are located within the ESA and comprise 566.1 ha; some of these woodlands will be subject to felling to facilitate the Proposed Development (refer to **Volume 2, Chapter 8: Forestry** for more detail of proposed felling). As such, effects as a result of construction have been included in this assessment.

Existing Records of Protected Species

11.4.6 A desktop search for protected species was conducted using publicly available biological records post-2000, within 5 km of the Proposed Development (and 10 km for bat species), using both NESBReC[63] and NBN Atlas[64].

[63] North East Scotland Biological Records Centre (NESBReC), 2024. [Online] Available at: https://nesbrec.org.uk/ [Data received January 2025].
[64] NBN, n.d. NBN Atlas website. [Online] Available at: https://nbnatlas.org/ [Accessed January 2025].

11.4.7 An exercise was completed by Geographical Information System (GIS) Specialists to identify and remove duplicates from the two datasets.

11.4.8 **Table 11.7: Desk Study Records** below provides a summary of the desk study records identified, with a full breakdown provided in **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context**.

Table 11.7: Desk Study Records

Species	Total Number of Records Identified	Present in Section(s)	Most Recent Record
European Protected Species			
Bats	3,875	All	2024
Otter	199	All	2024
Beaver	1,415	A and B (See **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** for notes)	2023
Scottish Wildcat	See **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**.		
Wildlife and Countryside Act Schedule 5 Species			
Pine marten	467	A, C, D, E and F	2024
Red squirrel	9,291	All	2024
Mountain hare (*Lepus timidus*)	5	B and D	2021
Freshwater Pearl Mussel	See **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**.		
Water vole	8	A, D, E and F	2024
Adder (*Vipera berus*)	1	E	2009
Grass snake (*Natrix natrix*)	0	None	-
Other Protected Species			
Badger	See **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**.		
Notable Species (Scottish Biodiversity List)			
Atlantic salmon	169	A, C, D, E and F	2021
Brown hare	293	All	2024
Brown/sea trout	439	A, D, E and F	2010
European eel (*Anguilla anguilla*)	132	A, D, E and F	2021
Hedgehog	124	All	2023
Notable Species (Local Biodiversity Action Plan)			
Water shrew (*Neomys fodiens*)	22	E and F	2021
Common frog (*Rana temporaria*)	1	B	2023
Common toad (*Bufo bufo*)	68	A, C, D, E and F	2024
Palmate newt (*Lissotriton helveticus*)	0	None	-
Common lizard (*Zootoca vivipara*)	62	D, E and F	2023
Slow worm (*Anguis fragilis*)	2	F	2023
Invasive Non-Native Species within 5 km			

Species	Total Number of Records Identified	Present in Section(s)	Most Recent Record
American mink (*Neogale vison*)	12	E and F	2015
American skunk cabbage (*Lysichiton americanus*)	94	A, B, C and E	2023
Giant hogweed (*Heracleum mantegazzianum*)	365	B, C, D, E and F	2023
Himalayan balsam (*Impatiens glandulifera*)	78	All	2024
Japanese knotweed (*Fallopia japonica*)	110	C, D, E and F	2023
Piri-piri bur (*Acaena novae-zelandiae*)	6	D and E	2017
Rhododendron (*Rhododendron ponticum*)	216	C, D, E and F	2015
White butterbur (*Petasites albus*)	26	D, E and F	2020
Nationally Rare/Scarce Plants within 2 km			
Coralroot orchid (*Corallorhiza trifida*)	4	D	2014

Additional Records of Protected Species

11.4.9 In requesting land access for surveys, the Applicant was made aware of additional Scottish wildcat records in two locations. Further details of these are provided in **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**.

Summary of Baseline - Field Study

11.4.10 A summary of field study findings is presented in **paragraphs 11.4.11 to 11.4.99** below. Detailed accounts of methods adopted, survey findings and interpretation can be found within the relevant appendices for this Chapter (see **Volume 5, Appendices 11.2-11.6**).

ESA Description

11.4.11 The ESA extends from Tealing in Angus in the south (and the location of the proposed Emmock substation), to the existing Kintore Substation in Aberdeenshire in the north.

11.4.12 In Angus, the ESA passes over the Sidlaw Hills north of Tealing, then into a landscape dominated by farmland, stretching approximately northeast from Forfar to Edzell. It crosses the River South Esk north of Forfar, and the River North Esk (and into Aberdeenshire) southeast of Edzell. The farmland landscape of Angus is dominated by arable farming, with pockets of woodland and forest which are relatively small and/or isolated. The exception to this pattern of land-use and habitats is where the ESA crosses the Sidlaw Hills, southeast of Glamis; the habitats in this location are dominated by heathland with evidence of grouse moor management.

11.4.13 The ESA continues into Aberdeenshire approximately northeast of the area near Fordoun; this stretch continues to be dominated by arable farmland with relatively small pockets of woodland, the exception to which are the forestry plantations of Capo Plantation, Inverury Wood and Lady Jane's Plantation. From Fordoun, the ESA continues in a more northerly direction through an area of farmland west of Glenbervie that exhibits increasing livestock farming and relatively smaller field sizes. Northeast of Glenbervie, the ESA enters the forestry plantation of Fetteresso Forest and the location of the proposed Hurlie substation. The ESA continues north over the upland fringe habitats of Craigneil and into the forestry plantation of Durris Forest. North of Durris Forest, the ESA descends into a landscape of mixed farmland south and north of the River Dee, crossing the river near Kirkton of Durris. The ESA continues

approximately north of the River Dee, passing east of Echt and west of Dunecht, before turning north-northeast towards the existing Kintore Substation. The landscape north of Durris Forest exhibits relatively smaller field sizes, with increased livestock farming and a more extensive network of woodland (relative to the stretch in Aberdeenshire from the River North Esk to Fordoun). There are further extents of forestry plantation forming a mosaic with fields of pasture and arable.

Habitats and Vegetation

11.4.14 Detailed UK Hab descriptions are provided in **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report**. A UK Hab habitats map is provided in **Volume 3, Figures 11.3.1 to 11.3.38: Habitat Survey Results**.

11.4.15 A total of 39 UK Hab classifications have been recorded within the ESA for area-based habitats. In addition, 11 linear habitats were recorded in the ESA. **Table 11.8: UK Habitat Classifications and Proportions** provides a summary of the UK Hab habitats within the ESA, with their absolute area and relative proportions.

11.4.16 The most commonly occurring habitat within Sections A-D and F was Cropland - Cereal Crops. Cropland habitats together accounted for 4443.8 ha (52.2%) of the total ESA. Grassland - Modified Grassland accounted for a further 1,157.9 ha (13.6%) of the total ESA. The exception to this pattern of land management was in Section E, where Cropland habitats comprised only 81.5 ha (7.3% of the Section E ESA), while Modified Grassland comprised 109.9 ha (9.8% of the Section E ESA).

11.4.17 Within the broad habitat type of Croplands, Arable Field Margins was recorded in Sections A and B, comprising 4.3 ha (0.4% of the Section A ESA) and 0.5 ha (<0.1% of the Section B ESA) respectively. This habitat types were recorded at:

- Section A: south of the Dean Water (NO 41216 49148; within the LOD).
- Section B: near the King's Burn (NO 44589 55120).

11.4.18 Extents of semi-natural grasslands were relatively limited across the ESA. Excluding Modified Grassland, Grassland habitats comprised 333.8 ha (3.9% of the total ESA). Lowland Dry Acid Grassland was recorded in limited areas of Sections B and F, comprising a total of 5.6 ha (0.1% of the total ESA). This habitat was recorded at:

- Section B: Woodside LNCS (NO 43573 54029; within the LOD).
- Section F: Braigies Moss (NJ 75700 04635; within the LOD) and Firley Moss (NJ 75934 12829; outwith the LOD).

11.4.19 The pattern of land management was very different in Section E compared to the other Sections and, instead of farmland, the Section was dominated by woodland habitats associated with the large forestry plantations of Fetteresso Forest and Durris Forest. Thus, woodland in Section E comprised 644.5 ha (7.6% of the total ESA / 57.3% of the Section E ESA); this was dominated by forms of plantation woodland, notably those associated with non-native conifer species such as Sitka spruce (*Picea sitchensis*).

11.4.20 Overall, Woodland and Forest - Other Coniferous Woodland and Woodland and Forest - Felled accounted for 904.8 ha (10.6%) of the total ESA. Within Sections A-D, these woodland types generally occurred in relatively smaller pockets, associated with small stands within a landscape otherwise dominated by farmland.

11.4.21 Some areas of plantation woodland were planted with Scots pine (*Pinus sylvestris*), and this habitat accounted for 84.8 ha (1.0% of the total ESA), with the greatest extent noted in Section F (55.0 ha, 2.9% of the Section F ESA).

11.4.22 Within Section F, the total extent of woodland (258.0 ha, 13.8% of the Section F ESA) was greater than Sections A-D, as the land use tended towards relatively smaller fields with a greater woodland cover; that said, Sections C and D had woodland cover of 170.1 ha (12.1% of the Section C ESA) and 162.8 ha (11.8% of the Section D ESA) respectively. Sections A and B had the lowest extent of woodland cover, comprising 34.4 ha (3.0% of the Section A ESA) and 136.0 ha (8.7% of the Section B ESA) respectively.

11.4.23 Extents of semi-natural woodlands, comprising SBL priority habitats of Lowland Mixed Deciduous Woodland, Upland Birchwoods, Upland Mixed Ashwood, and Wet Woodland, were scattered throughout the ESA. These habitat types collectively comprised 122.0 ha (1.4% of the total ESA). Notable examples include:

- Lowland Mixed Deciduous Woodland:
  - Section B: Mosside of Ballinshoe (NO 42699 52591; within the LOD).
  - Section E: Free Church Wood (NO 77351 95242; within the LOD).
  - Section F: north of Culfosie (NJ 73529 07762; outwith the LOD), and west of Kintore Substation (NJ 76496 14269; outwith the LOD).
- Upland Birchwoods:
  - Section A: Hayston Hill (NO 40371 45190; within the LOD)
  - Section B: Mosside of Ballinshoe (NO 42288 52640; within the LOD), Woodside LNCS (NO 43617 53907; within the LOD), Forestmuir Wood (NO 43290 54063 and NO 44018 54845; outwith the LOD), Knowehead (NO 46995 59386; within the LOD), and Lochty Wood (between NO 53018 61992 and NO 53732 62088; within the LOD).
  - Section C: Belliehill Wood and Little Brechin Wood (NO 56916 63088 and NO 57370 63074; within the LOD).
  - Section D: Cammackmuir Plantation (NO 70804 74580; within the LOD).
  - Section E: South of Slug Road (NO 79377 89029; outwith the LOD), along the Burn of Sheeoch (NO 77440 94895; within the LOD), and at Kirkton Wood (NO 77384 95462; outwith the LOD).
  - Section F: Loch of Park (NO 77242 99026; outwith the LOD), Braigies Moss and Backstrip Wood (NJ 75614 04744 and NJ 75649 04529; within the LOD), and Skene Moss (NJ 75254 10986; outwith the LOD).
- Upland Mixed Ashwoods:
  - Section B: in an Ancient Woodland (of semi-natural origin) near Noran Water, west of Wellford (NO 47855 60163; within the LOD), and on the southern side of Bog Burn, within Den of Baldoukie (NO 47051 58520; outwith the LOD).
  - Section E: Adjacent to the Burn of Sheeoch (NO 77229 94784; within the LOD).
- Wet Woodland:
  - Section B: Near Padanaram (NO 42267 51923; within the LOD), near Nether Bow (NO 43206 53225; within the LOD), along the King's Burn (NO 44481 55340; within the LOD), on the banks of the River South Esk (NO 45982 57442; outwith the LOD), and Lochty Wood (NO 53281 61883; within the LOD).
  - Section C: West of West Water (NO 60486 66044; within the LOD), Cleary Wood (NO 63171 67700; within the LOD), and Haughhead (NO 68341 72704; within the LOD).
  - Section D: in the north of Den Wood (NO 74518 78672; outwith the LOD), and near the Bervie Water (NO 75475 81269 and NO 75753 81312; outwith the LOD).
  - Section E: South and north of Slug Road (NO 79290 89243 and NO 79004 89479; outwith and within the LOD respectively).
  - Section F: Loch of Park SSSI (NO 77205 98814; outwith the LOD), to the east of Loch of Park (NO 77308 98637; within the LOD), Braigies Moss (NJ 75545 04617; within the LOD), the eastern side of Firley Moss (NJ 75902 12877; outwith the LOD), and west of Kintore Substation (NJ 76576 14359; outwith the LOD).

11.4.24 The remaining non-SBL woodlands (Other Woodland; Broadleaved and Other Woodland; Mixed) comprised 294.1 ha (3.5% of the total ESA).

11.4.25 Notable areas of heathland habitat were present in Section A (145.6 ha, 12.5% of the Section A ESA; associated with Ironside Hill and Finlarg Hill) and Section E (143.8 ha, 12.8% of the Section E ESA; associated with Craigneil, north of Slug Road). At Ironside Hill and Finlarg Hill, these habitats were unfenced, comprised Upland Heathland, and exhibited evidence of grouse moor management. At Craigneil, the lower slopes of the hill were enclosed, therefore a mosaic of habitats was recorded from Lowland Heathland in enclosed areas near Slug Road, to Upland Heathland on the open ground of higher slopes. This area also exhibited evidence of grouse moor management.

11.4.26 In upland areas of Section E, Blanket Bog was recorded (0.4 ha, <0.1% of the Section E ESA), as was Upland Flushes, Fens and Swamps (2.8 ha, 0.2% of the Section E ESA). These habitats were recorded at:

- Blanket Bog: South of Slug Road (NVC code M17), outwith the LOD (NO 79307 89234).
- Upland Flushes, Fens and Swamps: Fetteresso Forest in a ride within a Sitka spruce plantation (NO 79541 86741; within the LOD), along the Burn of Day (NO 80105 86785; outwith the LOD), and in Durris Forest in a clearing to the west of Little Shiel Hill (NO 79461 91534; within the LOD).

11.4.27 Wetland habitats were recorded occasionally scattered within lowland areas across all Sections of the ESA, and included Purple Moor Grass and Rush Pastures, and Lowland Fens. These habitats generally comprised relatively limited areas within a landscape otherwise dominated by farmland, and comprised 32.8 ha (0.4%) and 5.2 ha (<0.1%) of the total ESA respectively. These habitats were recorded at:

- Purple Moor Grass and Rush Pastures:
  - Section B: near Nether Bow farm north of Padanaram (NO 43320 53131; within the LOD), and in Lochty Wood near the Weiris Burn (NO 53097 61836; outwith the LOD).
  - Section D: East of the Nursery Burn in two small pockets of woodland (NO 74872 78724 and NO 75054 78912; within and outwith the LOD respectively), and to the south and east of Droop Hill (NO 75427 81209, NO 75682 81271 and NO 75970 81538; within the LOD).
  - Section E: Fetteresso Forest (NO 79400 87811; outwith the LOD), south of Slug Road (NO 79255 89262 and NO 79373 89136; outwith the LOD), along the existing track into Fetteresso Forest (NO 79013 89290; within the LOD) and west of Craigneil Hill (NO 78888 90461; within the LOD).
  - Section F: Loch of Park (NO 77395 98831; within the LOD), Quartains Moss (NJ 77303 02031 within the LOD), north of the Gormack Burn (NJ 77326 02340; within the LOD), Little Finnercy (NJ 76318 03660; within the LOD), near Westerton (NJ 76032 03386; outwith the LOD), Braigies Moss (NJ 75501 04649; within the LOD), Bogendinnie (NJ 74905 10887; within the LOD), adjacent to the Bogendinny Burn (NJ 75066 10731 and NJ 75141 10745; outwith the LOD), Firley Moss (NJ 75799 12821; outwith the LOD), and east of Drum Hill (NJ 76463 12621; within the LOD).
- Lowland Fens:
  - Section B: West of Boggie Wood (NO 50008 61664; within the LOD).
  - Section C: A farm pond at Haughhead (NO 68390 72682; within the LOD).
  - Section D: Near the Bervie Water (NO 75163 81120; outwith the LOD) .
  - Section F: Loch of Park (NO 77260 98915; outwith the LOD), Braigies Moss (NJ 75386 04955 and NJ 75489 04730; within the LOD), and to the west of Kintore Substation (NJ 76489 14247; outwith the LOD).

11.4.28 Ponds (priority habitat) were recorded in Section E north of the River Dee (NO 76946 96980; within the LOD).

11.4.29 Hedgerows were recorded scattered along field boundaries throughout the ESA. These ranged from non-native hedgerows (such as beech) to native hedgerows some of which were considered to be species-rich and thereby qualify as the Hedgerows priority habitat according to the definition of the SBL[65].

11.4.30 Treelines were present throughout the ESA, often forming field boundaries. These range from being comprised of non-native species, including mature beech trees, to treelines with relatively more scattered native trees. Some of these treelines were assessed to be 'Ecologically Valuable' as per the UK Hab categorisation, and this included mature beech treelines that had potential to support a range of wildlife.

11.4.31 Watercourses within the ESA that qualify as the Rivers priority habitat type according to the definition of the SBL[66] are:

- Section A:

[65] NatureScot, no date. Hedgerows. [Pdf available from NatureScot]
[66] NatureScot, no date. Rivers. [Pdf available from NatureScot]

  - Kerbet Water and Dean Water (designated as part of the River Tay SAC);
- Section B:
  - River South Esk (designated as an SAC);
  - Noran Water (designated as part of the River South Esk SAC);
- Section C:
  - West Water (high hydromorphological/ecological status[67]);
- Section E:
  - Cowie Water (high hydromorphological/ecological status[67]);
  - Burn of Sheeoch (designated as part of the River Dee SAC); and
  - River Dee (designated as an SAC).

11.4.32 The remaining watercourses do not quality as the SBL priority habitat. Watercourses were noted throughout the ESA, ranging from man-made field drains to relatively small named watercourses (many of which had been canalised), to larger watercourses such as the Bervie Water and River North Esk.

Table 11.8: UK Habitat Classifications and Proportions[68]

UK Habitat Classification	Extent within ESA	
	Absolute (ha / km)	Relative % (Area-Based Habitats)
Area-Based Habitats (ha)		
Cropland - Arable field margins	4.72	0.06
Cropland - Cereal Crops	3,371.86	39.61
Cropland - Horticulture	16.05	0.19
Cropland - Non-cereal crops	564.70	6.63
Cropland - Temporary grass and clover leys	486.47	5.71
Grassland – Bracken	66.95	0.79
Grassland – Lowland dry acid grassland	5.59	0.07
Grassland – Modified grassland	1,157.93	13.60
Grassland – Other lowland acid grassland	8.20	0.10
Grassland – Other neutral grassland	182.34	2.13
Grassland – Upland acid grassland	70.68	0.83
Heathland and shrub – Gorse scrub	30.69	0.36
Heathland and shrub – Hawthorn scrub	1.61	0.02
Heathland and shrub - Lowland heathland	0.80	0.01
Heathland and shrub - Mixed scrub	14.69	0.17
Heathland and shrub - Upland heathland	289.03	3.40
Wetland – Blanket bog	0.37	0.00
Wetland – Lowland fens	5.23	0.06
Wetland – Other swamps	0.02	0.00
Wetland – Purple moor-grass and rush pastures	32.75	0.38
Wetland – Upland flushes, fens and swamps	2.81	0.03

[67] SEPA, 2023. Water Classification Hub. [Online] Available at: https://informatics.sepa.org.uk/WaterClassificationHub/ [Accessed June 2025]

[68] Rows highlighted in green indicate SBL Priority Habitat types.

UK Habitat Classification	Extent within ESA	
	Absolute (ha / km)	Relative % (Area-Based Habitats)
Woodland and forest - Felled	253.11	2.97
Woodland and forest – Lowland mixed deciduous woodland	4.17	0.05
Woodland and forest - Other coniferous woodland	651.65	7.65
Woodland and forest - Other Scots pine woodland	84.79	1.00
Woodland and forest - Other woodland; broadleaved	151.14	1.77
Woodland and forest - Other woodland; mixed	142.92	1.68
Woodland and forest – Upland birchwoods	81.51	0.96
Woodland and forest – Upland mixed ashwoods	0.74	0.01
Woodland and forest – Wet woodland	35.55	0.42
Rivers and Lakes - Natural lake or pond	2.71	0.03
Rivers and Lakes - Ponds (Priority habitat)	0.14	0.00
Urban: various[69]	493.69	5.80
No Access	297.56	3.50
Total for Area-Based Habitats	8513.17	100.00
Linear Habitats (km)		
Rivers and Lakes – Rivers (Priority Habitat)	12.97	n/a
Rivers and lakes – Other rivers and streams	131.68	n/a
Line of Trees	15.60	n/a
Line of Trees - Associated with bank or ditch	5.48	n/a
Line of Trees (Ecologically Valuable)	3.98	n/a
Line of Trees (Ecologically Valuable) - with Bank or Ditch	0.90	n/a
Native Hedgerow	11.08	n/a
Native Hedgerow with trees	7.50	n/a
Native Species Rich Hedgerow	1.61	n/a
Native Species Rich Hedgerow with trees	0.24	n/a
Hedge Ornamental Non Native	2.86	n/a

11.4.33 Within the UK Hab habitats recorded, a total of 34 NVC communities were identified. Detailed NVC descriptions are provided in **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report** and mapped in **Volume 3, Figures 11.4.1 to 11.4.23: National Vegetation Classification Survey Results**.

11.4.34 NVC is a more detailed and precise means of describing vegetation communities than UK Hab nomenclature. NVC was assessed where potential habitats of conservation concern[1] were identified, and where the extent and species assemblage of NVC habitats was of sufficient quality to identify and map. Habitats of conservation concern identified within the ESA include:

- habitats considered conservation priorities in the *Habitats Directive* (ie Annex 1 habitats);
- habitats considered to be potentially groundwater dependent;

[69] The figures for Urban habitats incorporate a range of habitat types, including both vegetated and unvegetated land, and developed land such as associated with farms and houses. These areas were not surveyed to a consistent level of detail, as they comprised private ground associated with businesses and dwellings, therefore the figures are amalgamated for the purposes of reporting.

- habitats included on the Scottish Biodiversity List (SBL); and
- habitats included in a Local Biodiversity Action Plan relevant to the Proposed Development.

11.4.35 As described in **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report,** and illustrated in **Volume 3, Figures 11.4.1 to 11.4.23: National Vegetation Classification Survey Results**, not all habitats identified using UK Hab have a corresponding NVC code. Habitats of likely conservation concern were therefore subject to NVC and are summarised in **Table 11.9: UK Habitat Classifications** and Corresponding NVC Plant Communities below.

Table 11.9: NVC Plant Communities and Corresponding UK Habitat Classification

NVC Community	Corresponding UK Habitat Classification	Mechanism for Conservation Concern	Area within ESA	
			Absolute (ha)	Relative (%)
H9 *Calluna vulgaris-Avenella flexuosa* heath	Lowland heathland / Upland heathland	Annex 1: H4030 European dry heaths SBL: Lowland Heathland / Upland Heathland	0.27	0.00
H10 *Calluna vulgaris-Erica cinerea* heath			121.13	1.42
H12 *Calluna vulgaris-Vaccinium myrtillus* heath			49.97	0.59
H22 *Vaccinium myrtillus-Rubus chamaemorus* heath			22.83	0.27
M6 *Carex echinata-Sphagnum fallax/denticulatum* mire	Lowland fens / Upland flushes, fens and swamps	SBL: Lowland Fens / Upland Flushes, Fens and Swamps High Potential GWDTE (M6)	0.16	0.00
M15 *Trichophorum germanicum-Erica tetralix* wet heath	Lowland heathland / Upland heathland	Annex 1: H4010 Northern Atlantic wet heaths with *Erica tetralix* SBL: Lowland Heathland / Upland Heathland Moderate potential GWDTE	4.31	0.05
M17 *Trichophorum germanicum-Eriophorum vaginatum* blanket mire	Blanket bog	Annex 1: H7130 Blanket bog SBL: Blanket Bog	66.65	0.78
M19 *Calluna vulgaris-Eriophorum vaginatum* blanket mire			0.44	0.01
M23 *Juncus effusus/acutiflorus-Galium palustre* rush-pasture	Purple Moor Grass and Rush Pastures	SBL: Purple Moor Grass and Rush Pastures Moderate Potential GWDTE (M23)	0.09	0.00
M25 *Molinia caerulea-Potentilla erecta* mire			24.08	0.28
M27 *Filipendula ulmaria-Angelica sylvestris* mire	Lowland fens	SBL: Lowland Fens Moderate Potential GWDTE (M27)	1.61	0.02
MG1 *Arrhenatherum elatius* grassland	Other neutral grassland	Moderate Potential GWDTE (MG9, MG10)	2.40	0.03
MG9 *Holcus lanatus-Deschampsia cespitosa* grassland			0.41	0.00
MG10 *Holcus lanatus-Juncus effusus* rush-pasture			5.46	0.06
MG13 *Agrostis stolonifera-Alopecurus geniculatus* grassland			4.28	0.05
S5 *Glyceria maxima* swamp	Lowland fens	SBL: Lowland Fens	0.29	0.00

NVC Community	Corresponding UK Habitat Classification	Mechanism for Conservation Concern	Area within ESA	
			Absolute (ha)	Relative (%)
S9 *Carex rostrata* swamp			0.49	0.01
S10 *Equisetum fluviatile* swamp			0.34	0.00
S28 *Phalaris arundinacea* tall-herb fen			0.03	0.00
U2 *Avenella flexuosa* grassland	Lowland dry acid grassland	SBL: Lowland Dry Acid Grassland	22.97	0.27
U4 *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland			0.63	0.01
U20 *Pteridium aquilinum-Galium saxatile* community	Bracken	N/A	75.26	0.88
W1 *Salix cinerea-Galium palustre* woodland	Wet woodland	Annex 1: H91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (W6, W7) SBL: Wet Woodland High Potential GWDTE (W4, W7) Moderate Potential GWDTE (W1, W2, W6)	7.97	0.09
W2 *Salix cinerea-Betula pubescens-Phragmites australis* woodland			0.74	0.01
W4 *Betula pubescens-Molinia caerulea* woodland			1.97	0.02
W6 *Alnus glutinosa-Urtica dioica* woodland			10.53	0.12
W7 *Alnus glutinosa-Fraxinus excelsior-Lysimachia nemorum* woodland			0.95	0.01
W9 *Fraxinus excelsior-Sorbus aucuparia-Mercurialis perennis* woodland	Upland mixed ashwoods	Annex 1: H9180 *Tilio-Acerion* forests of slopes, screes and ravines SBL: Upland Mixed Ashwood	16.77	0.20
W10 *Quercus robur-Pteridium aquilinum-Rubus fruticosus* woodland	Lowland mixed deciduous woodland	SBL: Lowland Mixed Deciduous Woodland	3.37	0.04
W11 *Quercus petraea-Betula pubescens-Oxalis acetosella* woodland	Upland birchwoods	SBL: Upland Birchwoods	2.46	0.03
W16 *Quercus* spp.-*Betula* spp.-*Avenella flexuosa* woodland			15.75	0.19
W17 *Quercus petraea-Betula pubescens-Dicranum majus* woodland			52.57	0.62
W21 *Crataegus monogyna-Hedera helix* scrub	Hawthorn scrub	N/A	6.27	0.07
W23 *Ulex europaeus-Rubus fruticosus* scrub	Gorse scrub	N/A	83.51	0.98
		Total	**606.96**	**7.13**

Groundwater Dependent Terrestrial Ecosystems (GWDTE)

11.4.36 Eleven NVC communities were recorded which, according to SEPA guidance[58], may indicate groundwater dependency (see **Volume 3, Figures 11.5.1 to 11.5.11: Areas of Guidance-Stated Potential Groundwater Dependency Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report**). **Table 11.10: Potential Groundwater Dependency of NVC Communities** summarises the NVC communities of those potential GWDTEs. The right-hand column notes the potential groundwater dependency according to the guidance.

Table 11.10: Potential Groundwater Dependency of NVC Communities

NVC Community	Potential Groundwater Dependency
M6 *Carex echinata - Sphagnum fallax/denticulatum* mire	High
M15 *Trichophorum germanicum - Erica tetralix* wet heath	Moderate
M23 *Juncus effusus/acutiflorus - Galium palustre* rush-pasture	Moderate
M27 *Filipendula ulmaria-Angelica sylvestris* mire	Moderate
MG9 *Holcus lanatus - Deschampsia cespitosa* grassland	Moderate
MG10 *Holcus lanatus - Juncus effusus* rush-pasture	Moderate
W1 *Salix cinerea - Galium palustre* woodland	Moderate
W2 *Salix cinerea - Betula pubescens - Phragmites australis* woodland	Moderate
W4 *Betula pubescens - Molinia caerulea* woodland	High
W6 *Alnus glutinosa - Urtica dioica* woodland	Moderate
W7 *Alnus glutinosa – Fraxinus excelsior – Lysimachia nemorum* woodland	High

11.4.37 Hydrogeological assessment confirmed that the majority of NVC communities recorded as potential GWDTE and potentially affected by the Proposed Development are not groundwater dependent. Eight areas were confirmed as GWDTEs through hydrogeological assessment, as detailed in **Volume 2, Chapter 13: Hydrology, Hydrogeology, Geology and Soils**, and **Volume 5, Appendix 13.6: Groundwater Dependent Terrestrial Ecosystems (GWDTE) Assessment**.

Bats

11.4.38 The desk study returned 3,875 publicly held records of bats within 10 km of the ESA, as discussed further in both **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** and **Appendix 11.4: Bat Survey Report**.

11.4.39 The ESA was found to provide a range of habitats suitable for foraging and commuting bats. Agricultural land which dominates the landscape does not provide suitable habitat for roosting bats, and provides very limited opportunities for foraging and commuting bats. Woodlands are generally small and isolated in the south, with larger blocks of woodland, typically commercial forestry, in the north. Thus, habitat connectivity and opportunities for commuting bats may be more limited in the south, than in the north of the ESA.

11.4.40 Daytime Bat Walkover Surveys concluded that over half of woodlands within the ESA are classified as PRF-I meaning they may provide suitable habitat for individual or small numbers of roosting bats on an occasional basis. Sixteen woodlands within the ESA were classified as PRF-M (comprising High potential woodlands and some Moderate potential woodlands; see **Volume 3, Figures 11.7.1 to 11.7.23: Bat Survey Results** and **Volume 5, Appendix 11.4: Bat Survey Report**) meaning they may provide suitable habitat for larger numbers of roosting bats on a more regular basis; the majority of these woodland habitats were in Section B.

11.4.41 Nineteen static bat detectors were deployed in 14 woodlands considered to be either PRF-I woodlands (one considered to provide low bat roost potential, and three considered to provide Moderate bat roost potential) or PRF-M woodlands (comprising 12 woodlands considered to provide Moderate bat roost potential). All of the detectors confirmed bats utilising these woodlands. Of these 19 static bat detectors, four were focussed within the woodland where the Hurlie Substation is proposed. A further two static bat detectors were deployed outwith the ESA, and their

data was included in the analysis to provide a better understanding of how bats utilise the wider landscape (refer to **Volume 5, Appendix 11.4: Bat Survey Report** and **Volume 3, Figures 11.7.1 to 11.7.23: Bat Survey Results**).

11.4.42 Almost 50 woodlands were classified as PRF-I and therefore provide limited potential for individual or small numbers of roosting bats. Three static bat detectors were deployed in woodlands classified as PRF-I, and again all of these detectors confirmed bats utilising the surveyed woodlands. The remaining woodlands predominantly comprised stands of Sitka spruce plantation, with Negligible potential for roosting bats.

11.4.43 Species recorded included common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Nathusius pipistrelle (*Pipistrellus nathusii*) and unknown pipistrelle (*Pipistrellus* sp,), *Myotis* sp., brown long eared bats (*Plecotus auritus*) and Noctule bats (*Nyctalus noctula*). Analysis is conducted at the genus level due to the difficulty of identifying *Myotis* sp. to species level; refer to **Volume 5, Appendix 11.4: Bat Survey Report** for further detail.

11.4.44 Pipistrelle bats were the most prevalent genus, typically accounting for over 90% of calls regardless of location or season, and accounting for over 97% of all calls recorded. They were present throughout the Route, though a greater number of calls were recorded by more detectors in the south than in the north. Only one detector recorded no pipistrelles, specifically F_3 (located at Backstrip Wood, southeast of Echt) in the Autumn survey period, though this had recorded a relatively high number of pipistrelle calls in Summer.

11.4.45 *Myotis* sp. was the next most common genus, accounting for less than 3% of all calls recorded, and were more prevalent in Angus than in Aberdeenshire.

11.4.46 *Plecotus* sp. accounted for 0.19% and was mostly recorded in the south in the Summer. Within Aberdeenshire, *Plecotus* sp. was not recorded in Autumn and was only recorded by detector F_4 (southwest of Dunecht) in the Summer.

11.4.47 Only two *Nyctalus* sp calls were recorded across the whole survey, meaning they accounted for 0.001% of all calls recorded. One call was recorded by detector F_2 (southeast of Schoolhill) in Summer and the other by detector H_1 (within Fetteresso Forest) in Autumn; both detectors were located in Aberdeenshire.

11.4.48 A small number of confirmed roosts were reported to be present in buildings within the ESA by local residents, but no further details of the species, numbers or use of each roost is known. Buildings within the ESA include numerous built structures associated with farms and cottages, with further structures throughout the ESA also considered likely to support roosting bats.

11.4.49 The surveys indicate that habitats were varied across the ESA and while agricultural fields dominate, the ESA ultimately provides a reasonably good range of foraging and commuting habitats for bats. It is considered likely that bat roosts are present in trees both within and outwith the LOD, and in buildings outwith the LOD.

Beaver

11.4.50 The desk study returned 1,415 publicly held records of beaver within 5 km of the Proposed Development. All desk study records were located within Sections A and B as discussed further within both **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** and **Volume 5, Appendix 11.3: Protected Species Survey Report**.

11.4.51 Habitats within the ESA ranged widely from unsuitable for beaver to optimal. All of the main watercourses within Section A and most within Section B were found to be unsuitable for beaver while one, the River South Esk, was considered suitable and three, the King's Burn, King's Burn Tributary and the Noran Water, were considered sub-optimal. The Burn of Elfhill in Section D and Cowie Water and Black Burn in Section E were also considered suitable for beaver, while the Bervie Water in Section D was considered sub-optimal. The only watercourse within the ESA considered optimal for beaver was the Burn of Sheeoch in Section E (which is not connected to the watercourses where desk study records were identified and is over 30 miles north). For further detail on the suitability of all watercourses for beaver, refer to **Volume 5, Appendix 11.3: Protected Species Survey Report** and **Volume 3, Figures 11.6.1 to 11.6.23: Protected Species Survey Results**.

11.4.52 No evidence of beaver on any watercourse within the ESA was identified through the field surveys.

11.4.53 While neither desk nor field surveys identified evidence of beaver within Sections C, D, E and F, their population is known to be expanding in a northeasterly direction[70]. As field surveys identified watercourses with suitable habitat for beaver, it is conceivable that beaver could be present in these sections in the future.

11.4.54 To ensure a conservative assessment, it is therefore considered likely that the ESA provides suitable habitat for beaver; however, it is unlikely to form a core part of a beaver territory.

Otter

11.4.55 The desk study returned 199 publicly held records of otter within 5 km of the Proposed Development. The River Tay SAC and River Dee SAC are designated for otter, as well as other features, refer to **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** and **Appendix 11.3: Protected Species Survey Report** for more detail.

11.4.56 Habitats within the ESA provide a wide variety of habitats, many with the potential to support otter as discussed in detail in **Volume 5, Appendix 11.3: Protected Species Survey Report** and illustrated within **Volume 3, Figures 11.6.1 to 11.6.23: Protected Species Survey Results**. Watercourses considered to provide optimal habitat for otter included the River South Esk, Bog Burn and Noran Water in Section B, West Water and River North Esk in Section C, Bervie Water in Section D, Cowie Water, Burn of Sheeoch and River Dee in Section E. Evidence of otter was found on all these watercourses except the River Dee, which is the only one of these watercourses designated for otter. Resting sites (and potential resting sites) were identified on the River South Esk, West Water, River North Esk and Bervie Water. The resting site on the West Water was classified as a holt.

11.4.57 The above-named watercourses in Sections B, C, D and E, particularly those where resting sites were found, are therefore considered likely to constitute part of an otter's core territory; however the LOD only crosses a small section of this core territory in each case.

11.4.58 Watercourses providing suitable and sub-optimal habitat for otter were identified throughout the ESA, and included a number of minor named and un-named watercourses. It is considered less likely that these watercourses form a core part of an individual otter's territory, although they may be used on a regular basis as part of a wider network of foraging or commuting habitat.

11.4.59 Numerous watercourses within the ESA were considered unsuitable for otter, with no evidence of otter recorded during the surveys. These watercourses were typically narrow and heavily canalised, and/or part of extensive field drain networks. While these may be used on an occasional basis by a commuting or foraging otter, they are unlikely to form part of a core territory, and extremely unlikely to be utilised by breeding otter.

Scottish Wildcat

11.4.60 The desk study identified records of Scottish wildcat within 5 km of the Proposed Development. The nearest Wildcat Priority Area (Angus Glens) is located approximately 1.9 km northwest of an access track upgrade LOD for the Proposed Development and approximately 3.16 km northwest of the LOD for the overhead line.

11.4.61 Habitats within the ESA were found to provide some suitable Scottish wildcat habitat in two Sections, as illustrated on **Volume 6, Figures 11.8.1 to 11.8.23: Confidential Protected Species Survey Results**, though each area was generally not well connected to any other, and each area of suitable habitat was very small compared to the territory requirements of a Scottish wildcat. No confirmed Scottish wildcat resting sites were identified.

11.4.62 Walkover surveys of a woodland location where a possible Scottish wildcat sighting had been reported identified feline footprints, though it was not possible to determine whether these were of a Scottish wildcat, hybrid or a domestic cat. The closest works proposed are located approximately 120 m northwest in an area of crop fields. This area, discussed in greater detail and specificity in **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**, did provide habitat with sub-optimal suitability for Scottish wildcat as it provided temporary sheltering and limited hunting opportunities, with limited connectivity to another block of woodland within the wider landscape via a narrow strip of woodland. Camera trap surveys of this woodland identified extremely regular

[70] IUCN/CPSG, 2022. Scotland's Beaver Strategy 2022-2045. IUCN SSC Conservation Planning Specialist Group, MN, USA.

domestic (black) cat presence, and one instance of a tabby coloured cat with black stripes. The tabby coloured cat could not be entirely ruled out as being a potential Scottish wildcat due to the colouration it displayed, though it was not possible to determine a pelage score from the three photographs available (due to the angle of the animal). It is therefore likely the footprints discovered during the walkover belonged to a domestic cat and it is considered that any Scottish wildcat in this area is highly likely to be a hybrid Scottish wildcat. However, taking a cautious approach, it is assumed for the purposes of the assessment that a true Scottish wildcat could be present in this area. This woodland is within the ESA, but is outwith the LOD of the Proposed Development.

11.4.63 Walkover surveys of a further location where a possible wildcat sighting had been reported identified no field evidence of any feline species. Two towers are proposed to be built within this woodland, with one proposed access track. This area is discussed in greater detail and specificity in **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**. No potential permanent resting sites were identified, though there is limited potential for temporary resting sites and limited hunting opportunities for Scottish wildcat. The woodland is relatively well connected to larger blocks of woodland within the wider landscape, outside the ESA, and has well-used paths known to be used by local residents, for example for dog walking. Due to the sensitivity of Scottish wildcat to disturbance, it is therefore considered to be of low suitability for Scottish wildcat. Camera trapping surveys of this woodland identified only deer, fox, small rodents, brown hare and pheasants. No cats, domestic or potentially Scottish wildcat, were recorded.

11.4.64 For further detail of the Scottish wildcat surveys, refer to **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**.

11.4.65 The ESA is considered unlikely to form part of a Scottish wildcat's core territory, as the woodlands identified for targeted surveys were generally small and isolated, with limited connectivity to larger, more suitable habitat, and providing both limited hunting opportunities and limited potential for permanent resting sites. Further, where suitable habitat was identified, domestic cats, humans and dogs were utilising these areas, reducing the potential for true Scottish wildcat within these habitats.

Badger

11.4.66 The desk study returned records of badger within 10 km of the Proposed Development.

11.4.67 Habitats within the ESA provide a range of suitable habitats for foraging and commuting badger, as well as opportunities for sett excavations within all six Sections.

11.4.68 The majority of the ESA is comprised of agricultural fields which badger utilise for foraging and commuting. Badger may also utilise habitats such as woodlands, scrub, hedgerows and rough grasslands for foraging and commuting, as well as for sett excavation.

11.4.69 Several badger setts were identified within the ESA, as detailed within **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**, ranging from disused single-entrance outlier setts to very active multi-entrance main setts which are likely to be used for breeding. Five of the setts identified within the LOD were active, multi-entrance setts, with suitability for breeding badger. Of the other nine setts identified within the LOD, one was an active single-entrance setts, three were multi-entrance but part-used setts and one was a part-used sett with two entrances, all unlikely to be used for breeding.

11.4.70 For further detail, refer to **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**.

Red Squirrel

11.4.71 The desk study returned 9,291 publicly held records of red squirrel within 5 km of the Proposed Development as discussed further within both **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** and **Volume 6, Appendix 11.3: Protected Species Survey Report**.

11.4.72 The majority of woodlands within the ESA were considered to provide suitable or sub-optimal habitat for red squirrel. These woodlands are spread relatively evenly throughout the Proposed Development and offer a range of woodland compositions and sizes, with some connectivity to other woodland blocks providing suitable or above habitat for red squirrel within the wider landscape.

11.4.73 Less than one fifth of all woodland blocks within the ESA were considered to provide unsuitable habitat for red squirrel. These were typically very small, isolated patches of woodland with a monoculture or few food plant species present. Again, these woodlands were spread relatively evenly throughout the Proposed Development.

11.4.74 Only Fetteresso Forest and Durris Forest (in Sections D and E) were considered optimal for red squirrel, largely due to the scale of these woodlands, diversity of food plant species, diversity of age structures and the connectivity to more varied and suitable woodland within the surrounding landscape. Section E in Aberdeenshire supported large extents of woodland (although the smallest number of woodlands in total due to the dominance of large forestry areas), though all were considered to be at least suitable for red squirrel. This is due in part to the presence of much larger blocks of woodland, including Durris Forest.

11.4.75 Squirrel feeding remains were identified in unconnected woodlands within Sections A, B, C and F. A small number of sightings of red squirrel were recorded by surveyors and reports of red squirrel were received from members of the public throughout the ESA. When combined with the extensive desk study records of red squirrel, and fewer desk study records of grey squirrel, this illustrates the likely presence of red squirrel throughout the ESA where suitable habitat exists, albeit likely in low densities. Full results of the red squirrel surveys are provided in **Volume 5, Appendix 11.3: Protected Species Survey Report** and illustrated within **Volume 3, Figures 11.6.1 to 11.6.23: Protected Species Survey Results**.

Pine Marten

11.4.76 The desk study returned 467 publicly held records of pine marten within 5 km of the Proposed Development as discussed further within both **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** and **Appendix 11.3: Protected Species Survey Report**.

11.4.77 Similarly to red squirrel, the majority of woodlands within the ESA were considered to provide suitable or sub-optimal habitat for pine marten.

11.4.78 These woodlands are spread relatively evenly throughout the Proposed Development, offering a range of woodland compositions and sizes, with some connectivity to other woodland blocks with suitable or above habitat for pine marten within the wider landscape.

11.4.79 Less than one fifth of all woodland blocks within the ESA were considered unsuitable for pine marten. These were typically very small, isolated patches of woodland within intensively managed agricultural land with a monoculture of tree species and/or with limited foraging and sheltering potential. Again, these woodlands were spread relatively evenly throughout the Proposed Development.

11.4.80 Only Fetteresso Forest and Durris Forest (in Sections D and E) were considered optimal for pine marten, largely due to the scale of these woodlands, diversity of age structures, potential hunting grounds within the woodlands and open, felled areas, with connectivity to more varied and suitable woodland in the surrounding landscape. Section E in Aberdeenshire had the smallest number of woodlands in total, though all were considered to be at least suitable for pine marten. This is due in part to the presence of much larger blocks of woodland including Durris Forest. Other than these examples, mature broadleaf woodlands with notably large trees suitable for denning pine marten, multi-layered woodland canopies, and/or rocky cairns were generally absent from the ESA.

11.4.81 Pine marten scats were identified in unconnected woodlands within Sections C, D and E illustrating their presence in the ESA within Aberdeenshire where suitable habitat exists, likely in low densities. While limited evidence of pine marten was identified within Angus, habitat with the potential to support this species is present within the ESA and wider landscape, and based on the desk study results, pine marten is assumed present. Full results of the pine marten surveys are provided in **Volume 5, Appendix 11.3: Protected Species Survey Report** and illustrated within **Volume 3, Figures 11.6.1 to 11.6.23: Protected Species Survey Results**.

Freshwater Pearl Mussel

11.4.82 Consultation with NatureScot, the Esk Rivers Salmon Fishery Board and the Dee District Salmon Fishery Board confirmed records of freshwater pearl mussel within 5 km of the Proposed Development. Watercourses were

selected for assessment of habitat suitability according to a risk assessment method agreed with NatureScot and detailed in **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**.

11.4.83 The watercourses assessed varied in their suitability for freshwater pearl mussel from optimal to unsuitable, as detailed within **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report** and illustrated on **Volume 6, Figures 11.8.1 to 11.8.23: Confidential Protected Species Survey Results**. Surveys concluded that optimal conditions for freshwater pearl mussel were present within the River South Esk SAC and River Dee SAC. Optimal watercourses exhibited a good matrix of substrates providing opportunities for all life stages of freshwater pearl mussel and their host salmonid fish species, with limited extents of silt and good water quality, wide riparian buffers providing shading to keep water temperatures cool, and with moderate flow rates. Sub-optimal and suitable habitats were noted on a small number of the surveyed watercourses.

11.4.84 Half of the watercourses surveyed were found to be unsuitable for freshwater pearl mussel. Unsuitable watercourses generally exhibited excessive quantities of silt that smothered other substrates. The majority of the ESA comprises agricultural fields, and so these watercourses were often canalised, with narrow strips of bankside vegetation. Cropland was often present close to the edge of these watercourses, with implications for water quality. Barriers to fish movement, such as culverts, were noted on several of the unsuitable watercourses.

11.4.85 The survey results indicate that opportunities for freshwater pearl mussel are limited within the ESA, as the majority of watercourses are impacted by historical and/or current land management, thereby reducing their suitability for this species.

11.4.86 For further detail of the freshwater pearl mussel habitat surveys, refer to **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**.

Atlantic Salmon

11.4.87 The desk study returned 169 publicly held records of Atlantic salmon within 5 km of the Proposed Development as discussed further within both **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** and **Volume 5, Appendix 11.3: Protected Species Survey Report**.

11.4.88 With the exception of the Noran Water, the watercourses assessed during the habitat suitability surveys in Sections A-B were noted to be affected by factors such as barriers to fish movement, extensive quantities of silt and lack of suitable spawning substrate, and pressures from adjacent intensive agricultural land use. Where clear barriers to fish movement were identified, Atlantic salmon was assessed to be likely absent, although the potential for this species to be present was not ruled out on the Kerbet Water, Dean Water, and Kings Burn.

11.4.89 Of the watercourses assessed, the Noran Water in Section B and the Burn of Sheeoch in Section E provide habitat conditions with potential to support Atlantic salmon. These watercourses are of a width and depth with an associated flow speed that provides suitable conditions for Atlantic salmon, with extensive areas of substrate suitable for spawning and with only limited areas of silt. These watercourses also support a wide riparian vegetation strip that buffers the watercourse from adjacent land uses and provides shade to maintain cool water temperatures. Atlantic salmon was assessed to be likely present on these watercourses.

11.4.90 The remaining watercourses subject to habitat suitability assessment were considered to have limited suitability for Atlantic salmon due to factors such as a lack of suitable substrates, barriers to fish movement, bankside erosion affecting water quality, and/or pressures from adjacent land use.

11.4.91 In addition to the watercourses identified for habitat suitability assessment, as a result of the risk assessment process undertaken (see **Volume 5, Appendix 11.3: Protected Species Survey Report** for details), Atlantic salmon is known or considered likely to be present on other major watercourses which flow through the ESA, including the mainstem of the River South Esk, West Water, River North Esk, Bervie Water, Cowie Water, and the mainstem of the River Dee. The River Dee SAC is designated for Atlantic salmon. These watercourses

11.4.92 For further detail of the Atlantic salmon habitat surveys, refer to **Volume 5, Appendix 11.3: Protected Species Survey Report**.

Other Protected and Notable Species

11.4.93 Details of desk study and survey findings are presented in **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context** and **Appendix 11.3: Protected Species Survey Report**; survey results are presented on **Volume 3, Figures 11.6.1 to 11.6.23: Protected Species Survey Results**.

11.4.94 The desk study identified eight records of water vole between 2010 and 2024 within 5 km of Sections A, D, E and F. Records were located on the embankments of the Carron Water, and the tributaries of the River Dee, both of which are hydrologically connected to the Proposed Development. One record from 2014 was located within the Loch of Park SSSI/LNCS and is therefore ecologically connected to the Proposed Development. No evidence of water vole was identified during the field surveys and no watercourse within the ESA was considered to provide suitable habitat for water vole; watercourses within the ESA typically comprised very large rivers, rocky streams or dredged field drains. With no suitable habitat and very few desk study records, it is considered that water vole are likely absent from the ESA, or if present they occur in very low numbers.

11.4.95 The desk study identified five records of mountain hare between 2012 and 2021, with two records within 5 km of Section B and three records within 5 km of Section D, though none were located within the Proposed Development. Habitats within the ESA provide some potential for mountain hare within the heathland habitats present. No evidence of mountain hare was identified during the field surveys; however, it is assumed that this species is present in low densities where suitable upland habitat exists.

11.4.96 The desk study identified 293 records of brown hare between 2001 and 2024, distributed within 5 km of all Sections of the Proposed Development, and with slightly more records relating to Sections C to E than to Sections A and B. Habitats within the ESA provide suitable habitat within the lowlands, typically agricultural fields, rough grasslands and woodland edges. Brown hare sightings during surveys were reported in Sections A, B, E and F and suitable habitat is present throughout the ESA; thus, it is assumed that brown hare is present in low to medium densities in lowland habitats throughout the ESA.

11.4.97 The desk study identified 124 records of hedgehog between 2001 and 2023 within 5 km of all Sections, with records typically occurring within woodland blocks, lowland habitats and urban areas, though none were recorded within the Proposed Development. Lowland areas within the ESA provide suitable habitat for hedgehog, typically comprising broadleaf and mixed woodlands and hedgerows. No evidence of hedgehog was reported during the field surveys; however given the mosaic of habitats within the ESA, it is considered likely that this species is present in low densities in suitable habitats throughout the ESA.

11.4.98 The desk study identified the following records of amphibians within the ESA: one record of a common frog northeast of Tannadice in 2023, and 68 records of common toad concentrated around Durris Forest and the River Dee tributaries. The field survey identified a range of habitats suitable for amphibians, including: wetlands, ponds, heathlands, woodland edge and hedgerows. Eleven records of amphibians were recorded during field surveys in Sections A, B and F, including common frogs, common toads and eggs or tadpoles. Habitats with potential to support common species of amphibian are present throughout the ESA, therefore, it is considered likely that this group are present throughout.

11.4.99 The desk study identified the following records of reptiles within the ESA: one record of an adder within Fetteresso Forest (2009), but not within the Proposed Development; 62 records of common lizard with two identified within Fetteresso Forest and the Proposed Development; and two records of slow worm located along the River Dee, south of Banchory. The field survey identified a range of habitats suitable for common species of reptiles such as heathland, rough grassland and woodland edges. Eight records of common lizard and two records of adder were reported in Sections A, B, C, E and F during field surveys, illustrating that this group are present, likely at low densities, within suitable habitats throughout the ESA.

Future Baseline in the Absence of the Proposed Development

11.4.100 Ecological features are rarely static in their extent, distribution and condition. Habitats and species populations are dynamic and so the prediction of future baseline is complex.

11.4.101 Current land use within the ESA is predominantly intensively managed farmland and commercial plantation woodland, with upland heathland also subject to regular management practices such as muirburn. In the absence of the Proposed Development, these habitats are anticipated to remain largely unchanged, though changes in farming and land management practices driven by policy and/or climate change may affect the appearance and potential for protected and notable species within these landscapes.

11.4.102 Many of the watercourses are also managed and have been straightened and canalised; these would likely remain relatively unchanged, while the more natural watercourses are largely unlikely to change, due to stony, rocky and boulder substrates and banks, as well as pressures from surrounding land management practices. Changes in rainfall will change the volume of water within many of the watercourses, with more flooding possible in places.

11.4.103 Many of the woodlands and hedgerows within the ESA are small and isolated and are therefore considered more likely to remain as they currently are or be lost due to pressures from surrounding land uses, than they are to expand.

11.4.104 Settlement is likely to change the nature of the ESA, particularly in proximity to existing large towns and cities, creating pressure for new housing as the population increases.

11.4.105 Despite this, the constituent habitats and most species present within the ESA, their current range and distribution are likely to stay broadly similar to the existing baseline, as significant changes are not anticipated with the exception of beaver, which is known to be expanding through the River Tay catchment and may move into new watercourses as the population grows.

Implications of Climate Change for Baseline Conditions

11.4.106 With so much of the ESA under intensive management, the predicted effects of climate change are likely to have a limited bearing on the ecological status of the ESA. The UK Climate Projections (most recently UKCP18)[71] generally predicts hotter, drier summers and milder, wetter winters, with an increase in the number of heavy rain days and the frequency of winter storms.

11.4.107 The ESA covers two local councils: Angus and Aberdeenshire. The Angus Council Local Climate Impacts Profile (LCLIP)[72] and Aberdeenshire Council LCLIP[73] both highlight the vulnerability of the region to severe weather events and the impact it has on infrastructure. The most frequently experienced severe weather in both council areas were storms and high winds, excessive rainfall, extreme low temperatures / snow and ice – all of which have the potential to cause significant damage to infrastructure. Damage to infrastructure, which includes roads, railways and communications networks, was noted as the second largest affected service. The damage includes structural and access issues as a result of fallen trees/ windblown forestry and damage to road surfaces.

11.4.108 These predicted changes may result in changes to the vegetation assemblages in the wider landscape through severe storms, flooding and/or drought. Given the range of habitats present within the ESA, the impacts of climate change are likely to vary, although overall it is considered unlikely that climate change will have a significant bearing on the structure and function of the habitats present within the ESA, due to the dominance of intensively managed agriculture. Rather, the distribution and condition of habitats of conservation concern, which are scattered within the ESA, are likely to be affected by policy drivers and incentives relating to nature management and restoration.

11.4.109 Individual species may be adversely affected by the predicted changes in the climate, if climatic conditions and associated changes in weather affect the survival rate of animals at a critical life stage, such as at hibernation or during breeding. Distribution changes of species within the region as a result of climate change is difficult to predict.

[71] Met Office *(2018) UK Climate Projections (UKCP). Available online: https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/index. Accessed February 2025.
[72] Angus Council (2012) Angus Council Local Climate Impacts Profile. [Online] Available at: https://www.angus.gov.uk/sites/default/files/LCLIPv2_0.pdf [Accessed February 2025].
[73] Aberdeenshire Council (2024) Local Climate Impact Profile (LCLIP) 2019 – 2022. Available online: https://aberdeenshirestorage.blob.core.windows.net/acblobstorage/4209a2d3-9811-419f-a171-5614962cce76/lclip-2019---2022.pdf Accessed February 2025.

However, considering the habitats within the ESA, it is considered unlikely that protected and notable species would utilise the ESA to a greater extent in the future as a result of climate change.

11.5 Ecological Importance Assessment

11.5.1 **Table 11.11: Ecological Importance Assessment** provides an interpretation of the Ecological Importance of the ESA for those designated sites, habitats and species scoped into the assessment. A detailed account of these ecological features is provided in the relevant appendices.

11.5.2 As common and widespread habitats have been scoped out, only habitats of conservation concern[1] are included in the assessment. For ease of assessment, habitats are grouped by 'conservation interest type', using the highest level of importance (ie Annex 1 classification supersedes SBL-listed). Note that the habitats and protected species listed on the SBL, and also in either the Tayside BAP or the Aberdeenshire BAP, are not repeated in the table below.

11.5.3 Further, as explained in **Section 11.3: Assessment Methodology**, the Ecological Importance has been assessed with regards to the entire Proposed Development. Commentary is provided regarding the presence and importance of each ecological feature within the perspective of each of the LPAs; Angus and Aberdeenshire. This is in order to aid the reader, ensure that the context and/or variability of each ecological feature is presented, and capture any differences between the LPAs (for example, beaver is currently absent from Aberdeenshire).

Table 11.11: Ecological Importance Assessment

Ecological Feature	Ecological Importance of the Designated Site or Ecological Feature	Rationale
Statutory Designated Sites		
River Tay SAC	Study Area	**Angus**: This SAC is a very large network of watercourses present in Angus, but absent from Aberdeenshire. The Proposed Development will oversail the Kerbet Water and Dean Water west of Forfar, both of which are designated as part of this SAC, but which do not form the main stem of this designated watercourse. Field surveys concluded these watercourses were canalised with minimal bankside vegetation at the proposed oversail locations due to the proximity of intensive arable agriculture. No qualifying species were identified utilising these watercourses during field surveys. See **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report** and **Appendix 11.3: Protected Species Survey Report** for further details. The SAC as a whole is recognised to be of International importance for its qualifying features. However, the sections of these watercourses (Kerbet Water and Dean Water) within the ESA were considered unlikely to provide suitable habitat to the qualifying features of the SAC (which are listed in **Table 11.5: Statutory Designated Sites with an Impact Pathway to the Proposed Development**). Thus, the ESA is considered to be of no more than Study Area importance in relation to the River Tay SAC.
River South Esk SAC	County	**Angus**: This SAC is a large network of watercourses present in Angus, but absent from Aberdeenshire. The Proposed Development will oversail the River South Esk (the main stem of the watercourse) and Noran Water (a tributary), both of which are designated as part of this SAC. See **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report**, **Appendix 11.3: Protected Species Survey Report** and **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report** for further details. Field surveys concluded these watercourses were large, natural watercourses with diverse riparian woodland habitats and are therefore assumed to provide suitable habitat for both qualifying features of the SAC (as listed in **Table 11.5: Statutory Designated Sites with an Impact Pathway to the Proposed Development**). Desk study and field survey confirmed the presence of qualifying species downstream of the proposed crossing points. The SAC as a whole is recognised to be of International importance for its qualifying features. However, only a limited portion of the SAC occurs within the ESA. The populations of qualifying features are considered to be important for the maintenance of the county meta-population. Thus, the ESA is considered to be of County importance in relation to the River South Esk SAC.
River Dee SAC	County	**Aberdeenshire**: This SAC is a very large network of watercourses present in Aberdeenshire, but absent from Angus. The Proposed Development will oversail the Burn of Sheeoch (a tributary) and River Dee (the main stem of the watercourse), both of which are designated as part of this SAC. See **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report**, **Appendix 11.3: Protected Species Survey Report** and **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report** for further details. Field surveys concluded both the Burn of Sheeoch and the River Dee were large, natural watercourses with blocks of riparian woodland present at the proposed oversail locations and thus were considered suitable to support the qualifying features of the SAC (as listed in **Table 11.5: Statutory Designated Sites with an Impact Pathway to the Proposed Development**). Desk study and field survey confirmed the presence of qualifying species downstream of the proposed crossing points. The SAC as a whole is recognised to be of International importance for its qualifying features. However, only a limited portion of the SAC occurs within the ESA. The populations of qualifying features are considered to be important for the maintenance of the county meta-population. Thus, the ESA is considered to be of County importance in relation to the River Dee SAC.

Ecological Feature	Ecological Importance of the Designated Site or Ecological Feature	Rationale
Loch of Park SSSI	County	**Aberdeenshire**: This SSSI is located entirely within Aberdeenshire. The Proposed Development is located immediately east of the SSSI. Field surveys concluded that the adjacent habitats within the ESA were comprised of wet woodland, one of the designated SSSI features (as listed in **Table 11.5: Statutory Designated Sites with an Impact Pathway to the Proposed Development**). See **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report** for further details. This SSSI contains the best example of the qualifying (wet woodland) habitats in Aberdeenshire and there is potential for connectivity between the Proposed Development and SSSI due to proximity. Thus, the ESA is considered to be of County importance in relation to the Loch of Park SSSI.
Non-Statutory Designated Sites		
Woodside LNCS	Local	**Angus**: This LNCS is located entirely within Angus. The Proposed Development will oversail the centre of the LNCS. Field surveys concluded that habitats within the LNCS are a mosaic of dry acid grassland, scattered scrub and upland birchwood, both of which are designated features of this LNCS. The area is grazed also by cattle. See **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report** for further details. Given the habitats present within the LNCS, the ESA is considered to be of Local importance in relation to Woodside LNCS.
Auchleuchrie LNCS	Local	**Angus**: This LNCS is located entirely within Angus. An existing access track passes through the birch woodland. Given the habitats present within the LNCS, the ESA is considered to be of Local importance in relation to Auchleuchrie LNCS.
Loch of Park LNCS	Local	**Aberdeenshire**: This LNCS is located entirely within Aberdeenshire and while it underpins the Loch of Park SSSI, the boundaries are different. The Proposed Development will oversail the very eastern edges of this large LNCS in three locations, with small extents of tree removal proposed on the eastern edge of the LNCS. Field surveys identified the following habitats within the east of the LNCS: purple moor grass and rush pastures, neutral grassland with scattered trees, wet woodland, bracken and an upland birchwood with a dense understory of rhododendron *Rhododendron ponticum.* Some of the aforementioned habitats are designated features of the LNCS. See **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report** for further details. As this is a large LNCS, the majority of which is outwith the ESA, the Proposed Development will only affect a very small area of the LNCS. The ESA is therefore considered to be of Local importance in relation to the Loch of Park LNCS.
River Dee LNCS	Local	**Aberdeenshire**: This LNCS is located entirely within Aberdeenshire and follows the same boundaries as the River Dee SAC where occurring within the ESA. The Proposed Development will oversail the River Dee LNCS. Field surveys concluded this was a large, natural watercourse with riparian woodland habitat within the ESA. Given the habitats present within the LNCS, the ESA is considered to be of Local level importance in relation to the River Dee LNCS.
AWI (including semi-natural origin, LEPO and Roy map woodlands)	Local	**Angus**: Woodland recorded on the AWI as semi-natural, Long-Established Plantation Origin (LEPO) or on the Roy maps are present throughout Angus, typically in small, isolated blocks. Approximately 2.0 ha of Ancient Woodland and 177.9 ha of LEPO was present within the ESA in Angus. Ancient Woodland (of semi-natural origin) has been identified via field survey as extending through the LOD where it crosses the Noran Water. There are no woodlands mapped on the Roy maps within the LOD. **Aberdeenshire**: Woodlands recorded on the AWI as semi-natural, Long-Established Plantation Origin (LEPO) or on the Roy maps are present throughout Aberdeenshire, typically in slightly larger blocks than those designated within Angus. Approximately 14.7 ha of Ancient

Ecological Feature	Ecological Importance of the Designated Site or Ecological Feature	Rationale
		Woodland and 371.6 ha of LEPO was present within the ESA in Aberdeenshire. Notably semi-natural woodland identified near Mergie House (Tower N87) has been avoided, though due to the density of designated woodland at this location, it means some loss of the adjacent LEPO woodland is necessary. Similarly while the alignment crosses through LEPO woodland, some loss of an adjacent semi-natural woodland at Towers N68 and N67 is required, partially for management felling, due to the density of designated woodlands at this location. Also due to the larger size of some designated woodlands within Aberdeenshire, wayleaves through a small number of LEPO woodlands are required. AWI is relatively common within the wider landscape across Scotland, but makes up only a small proportion of the habitats within the ESA. As this designated habitat has been avoided wherever possible, the ESA is considered to be of Local importance for AWI.
Habitats of conservation concern		
Annex I		
Northern Atlantic wet heaths with *Erica tetralix* (H4010)	Study Area	**Angus**: This habitat type was not recorded in Angus. **Aberdeenshire**: Extents of NVC community M15 (totalling 66.7 ha) were recorded in Section E (at Rickarton, north of Slug Road) and Section F (in an open area of Braigies Moss). In Section E, quality of the habitat was affected by management of the land for livestock and grouse, while the area in Section F was a minor component of an area of low-lying land affected by numerous drains. This habitat type is common in Scotland, and these extents therefore make up only a very small proportion of the wider resource. The ESA is therefore considered to be of Study Area importance for this habitat type.
European dry heaths (H4030)	Study Area	**Angus**: Areas of NVC communities H9 and H12 were noted in Section A (120.4 ha; between Ironside Hill and Kincaldrum Hill). The quality of the habitat was affected by management of the land for livestock and grouse. **Aberdeenshire**: Areas of NVC communities H9, H10, H12 and H22 were noted in Section E (73.8 ha). These were concentrated at Rickarton (north of Slug Road), and in rides in Fetteresso Forest and Durris Forest. The quality of the habitat at Rickarton was affected by management of the land for livestock and grouse, while the habitat in Fetteresso Forest and Durris Forest is restricted to forest rides and impacted by management of the adjacent conifer plantations. This habitat type is common in Scotland, and these extents therefore make up only a very small proportion of the wider resource. The ESA is therefore considered to be of Study Area importance for this habitat type.
Blanket bog (H7130)	Study Area	**Angus**: This habitat type was not recorded in Angus. **Aberdeenshire**: Limited extents of NVC community M17 were recorded in Section E (0.4 ha; at Rickarton, north of Slug Road). The quality of the habitat was affected by management of the land for livestock and grouse. There are further, higher quality extents of this habitat type in the wider landscape, and the area noted makes up only a very small proportion of the wider resource. The ESA is therefore considered to be of Study Area importance for this habitat type.
Tilio-Acerion forests of slopes, screes and	Local	**Angus**: NVC community W9 was recorded at two locations in Section B (totalling 0.2 ha): in Ancient Woodland along the Noran Water near Wellford, and in the Den of Baldoukie near Tannadice. In both cases, the extent of the woodland was limited. The woodland along the Noran Water is well connected to further woodland of various types along the watercourse. It occurs on steep slopes of moist, brown soils above the watercourse. The woodland at Den of Baldoukie also occurs on steep slopes above a smaller watercourse, the Bog Burn, although it is more

Ecological Feature	Ecological Importance of the Designated Site or Ecological Feature	Rationale
ravines (H9180)		isolated within the landscape. In both cases, non-native tree species such as beech (*Fagus sylvatica*) and sycamore (*Acer pseudoplatanus*) were noted to be present, thereby reducing the quality of the habitat. **Aberdeenshire**: A narrow extent (0.5 ha) of this habitat type was recorded in Aberdeenshire, comprising a narrow strip along the Burn of Sheeoch. The woodland is well-connected along the watercourse into Kirkton Wood and Free Church Wood. This habitat type is relatively uncommon in the local area, thus although it is of limited extent, the ESA is considered to be of Local importance for this habitat type.
Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (H91E0)	Local	**Angus**: This habitat type was recorded in Section B and Section C as NVC communities W6 and W7 (totalling 52.8 ha). The W6 community is commonly dominated by alder (*Alnus glutinosa*), although occasionally willows are the dominant species. It was recorded at two locations in Section B: a shallow basin dominated by goat willow (*Salix caprea*) surrounded by arable fields near Haughs of Ballinshoe; and a small area of alder woodland along the King's Burn. NVC community W7 is also alder-dominated, and was recorded in two locations in Section B: lining the banks of the River North Esk near Justinhaugh Bridge; and as a stand of woodland within Lochty Wood. W6 was recorded in Section C as a small stand of alder adjacent to the West Water near Inchbare. This habitat type is scattered within the local area, often comprising limited extents of woodland in areas that are too wet for agriculture. Although it is of limited extent, it is considered to provide diversity to the landscape, and the ESA is considered to be of Local importance for this habitat type. **Aberdeenshire**: This habitat type was recorded in Section C (in Aberdeenshire), Section D and Section F, comprising NVC communities W6 and W7 (totalling 15.5 ha). NVC community W6 was recorded in Section C adjacent to the West Water, at Cleary Wood, and at Haughhead where a small area of willow-dominated vegetation was noted in the footprint of a farm pond with a broken sluice. NVC communities W6 and W7 were recorded in Section D at Den Wood and near the Bervie Water as small extents of willow-dominated vegetation that exhibited a varied damp ground flora. NVC community W6 was recorded in Section F at Loch of Park, with stands of willow-dominated W6 on drier ground outwith the SSSI. NVC community W7 was recorded in Section F at Braigies Moss, comprising willow-dominated stands with a ground flora dominated by sedges (*Carex* spp.). This community was also recorded north of Kintore Substation, comprising downy birch (*Betula pubescens*) and grey willow (*Salix cinerea*) along a small burn, with a varied damp ground flora. This habitat type is scattered within the local area, often comprising limited extents of woodland in areas that are too wet for agriculture. Although it is of limited extent, it is considered to provide diversity to the landscape, and the ESA is considered to be of Local importance for this habitat type.
SBL		
Arable Field Margins	Study Area	**Angus**: Arable field margins comprise herbaceous vegetation managed for wildlife, forming strips up to 12 m wide around the edges of arable fields, on deep, fertile, well-drained soils in the enclosed agricultural lowlands. This habitat type (4.7 ha) was recorded in Section A (south of the Dean Water) and Section B (adjacent to the Kings Burn). It is likely to be present in other locations and Sections, and in different growing seasons, but may not be recorded due to its short cultivation rotation.

Ecological Feature	Ecological Importance of the Designated Site or Ecological Feature	Rationale
		Aberdeenshire: This habitat type was not recorded in Aberdeenshire. Although it is likely to be present in different growing seasons, field surveys form a snapshot of condition, and this habitat may not be recorded due to its short cultivation rotation. The ESA is therefore considered to be of Study Area importance for this habitat type.
Lowland Dry Acid Grassland	Study Area	**Angus**: NVC community U4 was noted as a component of the vegetation within Woodside LNCS in Section B (3.6 ha). The acid grassland component of the LNCS is retained as no infrastructure is proposed within the grassland area. **Aberdeenshire**: NVC communities U2 and U4 were noted in Section F at Braigies Moss and Firley Moss (totalling 3.1 ha). In each case, the extent was limited to drier areas of unmanaged grassland in mosaic with birch woodland. This habitat type comprises common species, indicative of acidic conditions, and is present in localised areas within the wider landscape. The ESA is therefore considered to be of Study Area importance for this habitat type.
Lowland Heathland	N/A - considered above under Annex I habitat types.	
Upland Heathland		
Blanket Bog		
Lowland Fens	Local	**Angus**: NVC community S28 was recorded in Section B (totalling 0.3 ha) west of Boggie Wood, and in an area dominated by M23 (see Purple Moor Grass and Rush Pastures). The community is dominated by reed canary grass (*Phalaris arundinacea*) and occurred as a localised damp area at the end of a field drain. It is not an extensive or high-quality example of this habitat type. **Aberdeenshire**: Lowland fens (totalling 5.0 ha) were noted scattered within Aberdeenshire in Section C, Section D and Section F. NVC community S28 was noted at Haughhead (Section C) in the footprint of a farm pond. NVC community M27 was noted near the Bervie Water (Section D), occurring on a damp slope above the watercourse to the east. NVC communities M6 and S10 were recorded in Section F at Loch of Park, Braigies Moss and west of Kintore Substation. These habitats were scattered within the ESA, associated with low-lying damp areas of ground, in mosaic with other woodland and wetland habitat types. The locations are relatively isolated and affected by adjacent agricultural and/or forestry management. However, they provide diversity to the wider landscape, and therefore the ESA is considered to be of Local importance for this habitat type.
Purple Moor Grass and Rush Pastures	Local	**Angus**: NVC community M23 was noted at two locations in Section B (0.9 ha), including in a low-lying area in a field north of Padanaram, and near the Weiris Burn in Lochty Wood. The example near Padanaram occurred in mosaic with W6 (Wet Woodland) and the S28 community (Lowland Fens). **Aberdeenshire**: The M23 community was recorded in Section D (east of the Nursery Burn, and at Droop Hill), Section E (in Fetteresso Forest, and north and south of Slug Road), and Section F (various locations, including Loch of Park, Quartains Moss, Gormack Burn, Little Finnercy, Braigies Moss and Firley Moss). NVC community M25 was also noted in Section E in association with M23. These communities totalled approximately 25.4 ha in Aberdeenshire.

Ecological Feature	Ecological Importance of the Designated Site or Ecological Feature	Rationale
		This habitat type is relatively uncommon in the lowland landscape, although the NVC communities themselves are common in the wider landscape in upland areas. It largely occurs in the lowlands as relatively isolated features, in damp acidic areas. As such, it provides diversity to the lowland landscape, and therefore the ESA is considered to be of Local importance for this habitat type.
Upland Flushes, Fens and Swamps	Study Area	**Angus**: This habitat type was not recorded in Angus. **Aberdeenshire**: NVC community M6 was recorded in Section E within a Sitka spruce plantation (0.5 ha). It comprised a damp forest ride through areas of restock. NVC community M23 was recorded in a clearing in Durris Forest (2.1 ha), comprising an area of rush-pasture at the head of a small burn. This habitat type is common in the wider upland landscape. The examples in Fetteresso Forest and Durris Forest are not high-quality as they have been affected by the history of forestry land management. The ESA is therefore considered to be of Study Area importance for this habitat type.
Lowland Mixed Deciduous Woodland	Local	**Angus**: NVC community W10 (5.5 ha) was recorded in Section A (northwest of Kirkton), and Section B (north of Mosside of Ballinshoe, north of Tannadice, and in an Ancient Woodland on the north bank of Noran Water). In Section A, the canopy included non-native beech. **Aberdeenshire**: NVC community W10 (0.8 ha) was recorded in Section E at Free Church Wood in an area of LEPO, and in Section F north of Culfosie where it comprised a small area of Ancient Woodland on the slopes above a small watercourse, and was dominated by mature pedunculate oak *Quercus robur* and silver birch *Betula pendula*. This habitat type was restricted to relatively small and/or isolated extents. However, it was not common in the lowland landscape around the ESA, and some of the examples recorded were of good quality despite the pressures of adjacent land used. The ESA is therefore considered to be of Local importance for this habitat type.
Upland Birchwoods	Local	**Angus**: NVC community W11 (68.4 ha) was recorded in Section A (south of Upper Hayston), Section B (Mosside of Ballinshoe, Woodside LNCS, Forestmuir Wood, Knowehead, and Lochty Wood), and Section C (Belliehill Wood and Little Brechin Wood). The example in Section A comprised a mature woodland dominated by oak with a grassy understorey; it was bound to the north and west by arable land, and to the east and south by conifer plantation. The other examples were dominated by birch. The upland birchwoods of Lochty Wood varied from a relatively dense semi-mature woodland on the west to a more mature open woodland at its eastern extent, and occurred in mosaic with extents of Wet Woodland and open glades of acid grassland. The example in Little Brechin Wood occurred in mosaic with other woodland types, including conifer plantation, and the wider woodland was noted to be affected by rhododendron. **Aberdeenshire**: NVC community W11 (27.6 ha) was recorded in Section D (Cammackmuir Plantation), Section E (south of Slug Road, along the Burn of Sheeoch, and Kirkton Wood), and Section F (Loch of Park, Braigies Moss, Backstrip Wood, and Skene Moss). The example in Section D was noted to be grazed by cattle. The birchwoods in Section E occurred in mosaic with a range of upland fringe habitats associated with the Rickarton estate. The stands in Section F were limited, and occurred on the edge of a wider plantation of Scots pine. However, upland birchwoods were recorded in several further locations in the wider landscape around Section F, outwith the ESA. This habitat type is not uncommon in the wider landscape, particularly in upland areas, although it was also noted throughout the lowlands of Aberdeenshire outwith the ESA. The woodlands within the ESA were often isolated and/or limited in extent, occurring in conjunction with other woodland types and affected by adjacent land uses. Nevertheless, some high-quality examples were noted, and this habitat type is considered to contribute to the diversity of habitats within the ESA. The ESA is therefore considered to be of Local importance for this habitat type.

Ecological Feature	Ecological Importance of the Designated Site or Ecological Feature	Rationale
Upland Mixed Ashwoods	N/A - W9 NVC community considered under Annex I habitat type (H9180).	
Wet Woodland	Local	**Angus**: Wet woodland was recorded comprising NVC communities W1, W6 and W7. NVC communities W6 and W7 were recorded in Section B and Section C and are considered under Annex I habitat type (H91E0). The W1 community (5.6 ha) was recorded in Section B as small stands of willow-dominated vegetation along a small watercourse near Padanaram, and as stands of grey willow in Lochty Wood near Brechin. The wet woodland habitat type is scattered within the local area, often comprising limited extents in areas that are too wet for agriculture. Although it is of limited extent, it is considered to provide diversity to the landscape, and the ESA is considered to be of Local importance for this habitat type. **Aberdeenshire**: Wet woodland was recorded in Section D, Section E and Section F, comprising NVC communities W1, W2, W4, W6 and W7. NVC communities W6 and W7 were recorded in Section D and Section F, and are considered under Annex I habitat type (H91E0). Communities W1, W2 and W4 comprised 8.2 ha in Aberdeenshire. NVC community W1 was recorded in Section D, comprising small stands of eared willow (*Salix aurita*) north of the Bervie Water. NVC community W4 was recorded either side of Slug Road in Section E. It comprised stands of birch-dominated vegetation, with a damp ground flora of purple moor grass (*Molinia caerulea*) and elements of wet heath such as cross-leaved heath (*Erica tetralix*), common cottongrass (*Eriophorum angustifolium*) and *Sphagnum* spp. NVC community W2 was recorded in Section F at Loch of Park, with a form of W2 comprising the bulk of the alder- and willow-dominated vegetation in the basin of the Loch of Park SSSI. The wet woodland habitat type is scattered within the local area, often comprising limited extents in areas that are too wet for agriculture. Although it is of limited extent, it is considered to provide diversity to the landscape, and the ESA is considered to be of Local importance for this habitat type. The ESA is therefore considered to be of Local importance for this habitat type.
Protected Species		
Bats	Local	**Angus:** Agricultural land dominates Angus, though the majority of woodlands present were considered to have the potential for roosting bats. Approximately half of all woodlands were considered to provide PRF-I suitability for roosting bats while approximately one quarter offered PRF-M suitability for roosting bats. Evidence of bat activity was recorded in all woodlands where static bat detectors were deployed. Bat species recorded included those from the *Pipistrellus*, *Myotis* and *Plecotus* genera. **Aberdeenshire:** Agricultural land also dominates the Aberdeenshire part of the Proposed Development though woodland blocks were often larger. Approximately two thirds of the woodlands present were considered to provide PRF-I suitability for roosting bats while approximately 10% offered PRF-M suitability for roosting bats. Evidence of bat activity was recorded in all woodlands where static bat detectors were deployed. Bat species recorded included those from the *Pipistrellus*, *Myotis, Plecotus* and *Nyctalus* genera. The ESA is located within the northeast of Scotland where the bat species identified are common and widespread. The static bat detectors did not identify any species of bat which is uncommon or rare within this part of the country, and the ESA is likely to support only small

Ecological Feature	Ecological Importance of the Designated Site or Ecological Feature	Rationale
		populations of bats (see **Volume 5, Appendix 11.4: Bat Survey Report** and **Volume 3, Figures 11.7.1 to 11.7.23: Bat Survey Results** for details). Thus, the ESA as a whole is considered to be of no more than Local level importance for bats.
Beaver	Study Area	**Angus:** Evidence of beaver were reported through the desk study on the Kerbet Water and Dean Water in Section A, and on the Gairie Burn in Section B. No evidence of beaver within the ESA was identified during field surveys while watercourses were generally found to be unsuitable. Refer to **Volume 5, Appendix 11.3: Protected Species Survey Report** for further detail on the suitability for beaver of each watercourse. **Aberdeenshire:** No desk study records nor field survey evidence of beaver was identified within Aberdeenshire, thus it is considered this species is likely absent from this area at this time. The ESA is located within the northeast of Scotland, where beaver are currently present in the catchment of the River Tay. Their population is expanding along watercourses near Forfar. However, field evidence suggests that the ESA is not currently used by beaver on a regular basis, and it is likely that the very south of the ESA only supports very small numbers of beaver. Thus, the ESA is considered to be of no more than Study Area importance for beaver.
Otter	Local	**Angus:** Evidence of otter was identified on Bog Burn, Noran Water, Cruick Water, West Water and River North Esk. Otter were also reportedly present on the Dean Water through consultation. Evidence of otter identified through field surveys included spraint, feeding remains, and temporary resting sites. It is considered likely that the many of the natural watercourses and their riparian habitats may provide potential resting sites. **Aberdeenshire:** Evidence on Luther Water, Bervie Water, Burn of Sheeoch, Gormack Burn and Corksie Burn. Otter were also reportedly present on the Black Burn through consultation. Evidence of otter identified through field surveys included spraint. It is considered likely that the majority of the natural watercourses and their riparian habitats may provide potential resting sites. The ESA spans an area where otter are known to be present, with further detail on their known presence and the habitat suitability within the ESA provided in **Volume 5, Appendix 11.3: Protected Species Survey Report**. Spraints ranging from old to very fresh were noted on watercourses, indicating that otter are utilising the ESA on a regular basis, but given the size and location of the ESA it is considered likely that the ESA supports only small numbers of otter. Thus, the ESA is considered to be of Local importance for otter within both Angus and Aberdeenshire.
Scottish Wildcat	County	**Angus:** A small number of woodlands were considered suitable and sub-optimal for Scottish wildcat as described within **Volume 6, Appendix 11.6: Confidential Protected Species Survey Results**. Photographic evidence of assumed Scottish wildcat was provided to the Applicant from two locations over recent years. In addition, small numbers of Scottish wildcat records were identified through the desk study. Walkover and camera trap surveys did not identify any evidence of Scottish wildcat. Surveys did however identify very frequent presence of a domestic cat, humans and dogs within several of the woodlands which reduces the habitat suitability and potential for true Scottish wildcat though disturbance effects. **Aberdeenshire:** Three woodlands were considered to offer sub-optimal suitability to support Scottish wildcat within Aberdeenshire, with further detail provided within **Volume 6, Appendix 11.6: Confidential Protected Species Survey Results**. The desk study identified evidence of their presence within the ESA, but no photographic evidence was reported. The walkover and camera trap surveys did not identify any evidence of Scottish wildcat, while disturbance was typically related to commercial forestry, with humans and dogs known to frequent these woodlands on an occasional basis making these habitats less suitable for Scottish wildcat.

Ecological Feature	Ecological Importance of the Designated Site or Ecological Feature	Rationale
		Wildcat are rare within Scotland and the UK and the ESA is located outwith the Wildcat Priority Areas (WPA) in Scotland[74]. The nearest WPA is the Angus Glens which lies approximately 2 km northwest of the LOD of a proposed access track (existing to be upgraded, to tower S141), and approximately 3 km northwest of the LOD of the nearest tower (S141); however the locations of reported sightings are at greater distance (>10 km) and these areas lack connectivity to the Angus Glens WPA due to extensive arable farmland, roads and discontinuous woodland cover. It is assumed from the photographs provided by landowners that Scottish wildcat are present within the ESA at a low and infrequent level, though field evidence collated from targeted walkover and camera trapping surveys identified no Scottish wildcat, suggesting that the area is not regularly used by Scottish wildcat. Thus taking a precautionary approach, the ESA is considered to be of no more than County level importance for Scottish wildcat in both Angus and Aberdeenshire.
Badger	Local	**Angus:** The ESA within Angus provides a variety of habitats suitable for badger, though the area is dominated by agricultural land, making the area more suitable for foraging and commuting badger, than for sett excavation. There were however some opportunities for sett excavation within areas of woodland, scrub, rough grasslands and hedgerows, with a range of setts identified in these habitats. **Aberdeenshire:** The ESA within Aberdeenshire also provides a wide variety of habitats suitable for badger foraging and commuting, with more opportunities for sett excavation within areas of woodland, scrub, rough grasslands and hedgerows. A large number and wide range of setts were identified within the ESA in Aberdeenshire. Badger are distributed widely across the northeast of Scotland where the mosaic of habitats present are generally suitable to optimal. Some of the setts within the ESA are likely to be used for breeding, though there are also opportunities for further setts, as well as foraging and commuting within the wider landscape. This suggests that the ESA likely plays a role in maintaining the local meta-population of badger. Thus, the ESA is considered to be of Local level importance for badger in both Angus and Aberdeenshire.
Red Squirrel	Local	**Angus:** Half of the woodland blocks within Angus were considered to provide suitable habitat for red squirrel. Many of the blocks were coniferous woodland plantation with some, albeit limited, connectivity to more suitable woodlands within the wider landscape. Roughly a quarter of the woodlands were considered to provide sub-optimal habitat suitability for red squirrel, while no woodlands were considered to provide optimal habitat. A quarter of all woodlands were considered unsuitable for red squirrel, typically due to lack of suitable food plants and connectivity to other woodland blocks. Evidence of squirrel feeding remains were identified in four woodlands; given the extensive desk study records, reports of red squirrel to survey teams from members of the public, and small number of sightings of red squirrel, and the relatively fewer similar records/reports of grey squirrel, these signs are assumed to be associated with red squirrel. See **Volume 5, Appendix 11.3: Protected Species Survey Report** for further details. **Aberdeenshire:** Two woodlands within Aberdeenshire (Fetteresso Forest and Durris Forest) were considered to provide optimal habitat for red squirrel, given the scale and diversity of the commercial forestry present. Approximately one third of the woodlands were considered to provide sub-optimal habitat for red squirrel while another third were considered to provide suitable habitat. One fifth of woodlands were considered to provide unsuitable habitat typically due to the lack of connectivity, small size and monoculture or felled condition. See **Volume 5, Appendix 11.3: Protected Species Survey Report** for further details.

[74] Littlewood, N.A., Campbell, R.D., Dinnie, L., Gilbert, L., Hooper, R., Iason, G., Irvine, J., Kilshaw, K., Kitchener, A., Lackova, P., Newey, S., Ogden, R. & Ross, A. 2014. Survey and scoping of wildcat priority areas. Scottish Natural Heritage Commissioned Report No. 768. [Online] Available at: https://www.nature.scot/doc/naturescot-commissioned-report-768-survey-and-scoping-wildcat-priority-areas [Accessed June 2025]

Ecological Feature	Ecological Importance of the Designated Site or Ecological Feature	Rationale
		The northeast of Scotland is known to be a stronghold for red squirrel[75]. The woodlands present in the ESA are typically only partially within the ESA, and generally extend outwith it. Further, most of these have some connectivity to other woodlands in the wider landscape outside the ESA. Thus, while red squirrel are likely to be present within the ESA in low densities, specifically in wooded locations, the ESA is considered to be of Local importance to red squirrel.
Pine Marten	Local	**Angus:** Half of the woodland blocks within Angus were considered suitable habitat for pine marten. Many of the blocks comprised coniferous woodland plantation with some, albeit limited, connectivity to more suitable woodlands within the wider landscape. Roughly a quarter of the woodlands were considered to provide sub-optimal habitat suitability for pine marten, while no woodlands were considered to provide optimal habitat. A quarter of all woodlands were considered unsuitable for pine marten, typically due to them being small and isolated, and due to a lack of suitable food plants for them and/or their prey in dense coniferous plantations. Evidence of pine marten scats were identified in six woodlands. See **Volume 5, Appendix 11.3: Protected Species Survey Report** for further details. **Aberdeenshire:** Two woodlands within Aberdeenshire (Fetteresso Forest and Durris Forest) were considered to provide optimal habitat for pine marten given the scale and diversity of the commercial forestry present. Approximately one third of the woodlands were considered to provide sub-optimal habitat for pine marten while another third were considered to provide suitable habitat. One fifth of woodlands were considered to provide unsuitable habitat typically due to the lack of connectivity, small size and monoculture or felled condition. See **Volume 5, Appendix 11.3: Protected Species Survey Report** for further details. The northeast of Scotland is an important area for pine marten[76]. The woodlands present in the ESA are typically only partially within the ESA, and generally extend outwith it. Further, most of these have some connectivity to other suitable habitat in the wider landscape. Thus, while pine marten are likely to be present within the ESA in low densities, generally in wooded locations, the ESA is considered to be of Local importance to pine marten.
Freshwater Pearl Mussel	County	**Angus:** Optimal and sub-optimal habitat conditions for freshwater pearl mussel were identified on watercourses forming part of the River South Esk SAC, which is designated for this species. The other watercourses surveyed were typically found to provide unsuitable conditions. No evidence of freshwater pearl mussel was identified during the field surveys. See **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report** for further details. **Aberdeenshire:** One watercourse in Aberdeenshire was subject to a bankside survey for freshwater pearl mussel and was considered to provide optimal habitat suitability, though no evidence of their presence was identified. The desk study identified that the River Dee SAC within Aberdeenshire is designated for its freshwater pearl mussel population. See **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report** for further details. The ESA spans an area of Scotland where freshwater pearl mussel populations are known within distinct rivers and river networks. These watercourses are extensive, but the Proposed Development will intersect each watercourse and associated riparian habitats at narrow points, oversailing the watercourse and keeping infrastructure out of the watercourse and most floodplains; as such, only very small numbers of freshwater pearl mussel are likely to be present within the ESA. On a cautious basis, therefore, as freshwater pearl mussel may be present in

[75] Forestry Commission Scotland, 2012. Managing forests as red squirrel strongholds. Practice Note. [Online] Available at: https://www.forestry.gov.scot/publications/22-managing-forests-as-red-squirrel-strongholds [Accessed June 2025]
[76] NESBiP, no date. The Big 5. [Online] Available at: https://www.nesbiodiversity.org.uk/our-biodiversity-in-the-north-east-of-scotland/the-north-east-scotland-big-5/ [Accessed June 2025]

Ecological Feature	Ecological Importance of the Designated Site or Ecological Feature	Rationale
		select watercourses intersected by the Proposed Development, the ESA is considered to be of County level importance for freshwater pearl mussel in both Angus and Aberdeenshire.
Atlantic Salmon	County	**Angus:** The watercourses surveyed for Atlantic salmon in Angus were typically considered unsuitable with only the watercourses forming part of the River South Esk SAC considered likely to support this species. It is assumed that Atlantic salmon could be present in many of the watercourses within Angus, particularly the major rivers, and smaller, more natural watercourses present throughout, but is less likely to be present in field drains and canalised watercourses. No evidence of Atlantic salmon was identified during the field surveys. See **Volume 5, Appendix 11.3: Protected Species Survey Report** for further details. **Aberdeenshire:** One watercourse in Aberdeenshire was subject to a bankside survey for Atlantic salmon and was considered to provide suitable habitat for this species, though no evidence of their presence was identified. Similarly to Angus, it is assumed that Atlantic salmon could be present in many of the watercourses, particularly the major rivers and smaller, more natural watercourses present throughout, but less likely to be present in field drains and canalised watercourses. See **Volume 5, Appendix 11.3: Protected Species Survey Report** for further details. The ESA spans an area of Scotland where Atlantic salmon is present. The number of watercourses is vast, but the Proposed Development will intersect each watercourse and the associated riparian habitats at narrow points, crossing above the watercourse. This mobile species is therefore likely to pass through the ESA. Given the importance of the main watercourses intersected by the ESA for Atlantic salmon, the ESA is considered to be of County level importance for Atlantic salmon in both Angus and Aberdeenshire.

11.6 Likely Effect Pathways

11.6.1 Potential effects associated with the construction and operation of the Proposed Development have been identified through consideration of information provided in **Volume 1, Chapter 3: Project Description**, standard guidance, industry guidelines and the professional judgement of the assessor.

11.6.2 **Table 11.12: Identification of Likely Effects** related the ecological features to potential effects, effect pathways and development activities. For ease of reference, the table is set out by ecological feature, listing the development activity which has been identified as having the potential to impact each feature, then listing the pathway identified. The likely effect(s) are then identified which are assessed later in this chapter.

Table 11.12: Identification of Likely Effects

Ecological Feature	Development Activity	Likely Effect Pathway	Likely Effect
Designated Sites	• surface vegetation clearance during construction. • excavation for construction of tower bases and infrastructure. • construction of tower bases and associated infrastructure, including access tracks; and • presence of fuelled plant.	• physical removal of habitat; • changes in water quality and hydrological conditions; and • accidental pollution event.	• habitat loss; • habitat fragmentation; and • disturbance (specifically of statutory designated sites).
Habitats of conservation concern	• surface vegetation clearance during construction; • excavation for construction of tower bases and infrastructure; • construction of tower bases and associated infrastructure, including access tracks; and • presence of fuelled plant.	• physical removal of habitat; • changes in water quality and hydrological conditions; and • accidental pollution event.	• habitat loss; and • habitat fragmentation.
Bats	• surface vegetation clearance (felling of woodland) during construction.	• removal of woodland vegetation (sheltering and foraging habitat).	• habitat loss; and • habitat fragmentation.
Beaver	• loss of short section of riparian woodland; • construction of towers and associated infrastructure, including access tracks, on watercourse floodplains; • use of cementitious materials for tower bases, access tracks and construction compounds or storage area; • presence of fuelled plant; and • excavation for construction of tower bases and infrastructure.	• removal of foraging and commuting habitat; • changes in water quality and hydrological conditions; • accidental pollution event; and • accidental entrapment in site excavations.	• habitat loss; and • habitat fragmentation.
Otter	• loss of short section of riparian woodland; • construction of towers and associated infrastructure, including access tracks, on watercourse floodplains; • use of cementitious materials for tower bases, access tracks and construction compounds or storage area; • presence of fuelled plant; and • excavation for construction of tower bases and infrastructure.	• removal of foraging and commuting habitat; • changes in water quality and hydrological conditions; • accidental pollution event; and • accidental entrapment in site excavations.	• habitat loss; and • habitat fragmentation.

Ecological Feature	Development Activity	Likely Effect Pathway	Likely Effect
Wildcat	• surface vegetation clearance during construction, including for access tracks; • installation of security lighting during construction; • presence of construction staff and vehicles; and • excavation for construction of tower bases and infrastructure.	• removal of woodland, scrub and rough grassland vegetation (sheltering and foraging habitat); • accidental entrapment in site excavations; • light spill on foraging and commuting habitat; and • accidental disturbance from construction staff and vehicles.	• habitat loss; • habitat fragmentation; and • disturbance.
Badger	• surface vegetation clearance during construction, including for access tracks; and • excavation for construction of tower bases and infrastructure, including access tracks.	• removal of woodland, scrub and rough grassland vegetation (sheltering and foraging habitat); and • accidental entrapment in site excavations.	• habitat loss; and • habitat fragmentation.
Red Squirrel	• surface vegetation clearance (felling of woodland) during construction, including for access tracks; and • excavation for construction of tower bases and infrastructure.	• removal of woodland (sheltering and foraging habitat); and • accidental entrapment in site excavations.	• habitat loss; and • habitat fragmentation.
Pine Marten	• surface vegetation clearance during construction (felling of woodland), including for access tracks; and • excavation for construction of tower bases and infrastructure.	• removal of woodland (sheltering and foraging habitat); and • accidental entrapment in site excavations.	• habitat loss; and • habitat fragmentation.
Freshwater Pearl Mussel	• loss of short section of riparian woodland; • construction of towers and associated infrastructure, including access tracks, on watercourse floodplains; and • presence of fuelled plant on land surrounding the watercourses.	• changes in water quality and hydrological conditions; and • accidental pollution event.	• habitat loss; • habitat fragmentation; and • disturbance.
Atlantic Salmon	• loss of short section of riparian woodland; • construction of towers and associated infrastructure, including access tracks, on watercourse floodplains; and • presence of fuelled plant on land surrounding the watercourses.	• changes in water quality and hydrological conditions; and • accidental pollution event.	• habitat loss; • habitat fragmentation; and • disturbance.

11.7 Mitigation and Monitoring

11.7.1 The design process was informed by desk study and field survey data to first identify, and then avoid wherever possible, the most ecologically sensitive receptors. Where likely significant effects are identified, mitigation measures are proposed to alleviate their significance as far as is possible. Effects are re-assessed on the basis that mitigation measures will be applied, and a residual significance identified. An important part of this step is the identification of the likely success, or confidence in, the proposed mitigation measure.

Embedded Mitigation

11.7.2 Topic specific embedded mitigation (mitigation achieved through design) is outlined below. A comprehensive schedule of embedded mitigation is provided in **Volume 1, Chapter 4: The Routeing Process and Alternatives.**

11.7.3 It should be noted that the mitigation hierarchy has been followed throughout the project. As such, the preference has been to avoid impacts to important ecological receptors wherever possible. Where avoidance was not possible, the following steps were taken until the impacts were considered to have reached an acceptable level by qualified ecologists: avoid, mitigate (reduce, restore), compensate. In addition, consideration has been given to opportunities for enhancement.

11.7.4 The following mitigation measures are considered to be embedded as they formed part of the design process and are therefore committed:

- EC1: Avoidance of statutory designated sites. The Proposed Development has been designed to avoid direct impacts on statutory designated sites and these sites have been excluded from the LOD wherever possible. Where the Proposed Development intersects with statutory designated sites, this is limited to crossings of three riverine SACs which require to be oversailed (to avoid impacts where possible).
- EC2: Avoidance of non-statutory LNCS. The Proposed Development has been designed to, wherever possible, avoid direct impacts on LNCS that are located within proximity to the Proposed Development. No permanent infrastructure is proposed within the boundaries of a LNCS. Where the Proposed Development intersects with a LNCS, this is limited to the following:
  - Woodside LNCS: oversail of acid grassland habitats and removal of limited number of birch trees;
  - Auchleuchrie LNCS: upgrade of an existing track bound on either side by birch woodland of the LNCS;
  - River Dee LNCS: oversail the watercourse and removal of limited number of bankside trees; and
  - Loch of Park LNCS: oversail grassland habitats and removal of a limited number of broadleaved trees.
- EC3: Avoidance of sensitive areas of woodland. The Proposed Development has been designed to avoid impacts to woodland listed on the AWI and SBL priority woodland habitats where possible. Where Ancient Woodland (categories 1a and 2a) are within proximity to the Proposed Development, ie within the standard LOD distances applied to the infrastructure of the Proposed Development, the LOD has been amended to exclude these woodlands from the Proposed Development.
- EC4: Reduction of the LOD in areas of ecological constraint (such as designated sites and Ancient Woodland). In order to reduce/remove the potential for micrositing into sensitive habitats, the LOD has been reduced in key locations. This includes adjustment of the LOD to ensure retention of sensitive habitats at locations such as Loch of Park SSSI, and within woodland listed on the AWI at Lochty Wood.
- EC5: Design of watercourse crossings to ensure flows are not obstructed or reduced, and maintain passage for fish and aquatic species. Watercourse crossings will minimise risk to aquatic species populations and sensitive watercourse habitats via the following approach:
  - Use of single span crossings wherever possible;
  - Retention/recreation of natural stream beds;
  - Closed pipes used as a last resort; and
  - Commitment to set any pipe culverts below the existing watercourse bed and to make use of natural bed material.

11.7.5 In addition to the measures above, embedded mitigation measures that have been developed to address other topics are also relevant to the protection of ecological features including:

- avoidance of development within the 200-year + climate change floodplain (HG1);
- maintaining watercourse buffers in accordance with guidance (HG3);
- minimising the number of new watercourse crossings (HG4);
- avoiding areas of Class 1 and Class 2 peatland (HG5); and
- methodology to allow greater tree retention as detailed in the Woodland Retention Plan with a focus on where Ancient Woodland, LEPO and native woodland removal can be reduced (F5).

Applied Mitigation

11.7.6 The Applicant is committed to the implementation of Applied Mitigation during construction of the Proposed Development. It is expected that Applied Mitigation will be secured by conditions attached to the Section 37 Consent, with both Angus Council and Aberdeenshire Council consulted where relevant during the Section 37 process. Proposed Applied Mitigation is summarised in **Table 11.13: Applied Mitigation**.

11.7.7 Applied Mitigation relevant to ecological features includes implementation of the following documents and procedures:

General Environmental Management Plans

11.7.8 GEMPs have been developed by the Applicant. The GEMPs considered relevant for this project are provided in **Volume 5, Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**.

Species Protection Plans

11.7.9 SPPs have been developed by the Applicant and have been agreed with NatureScot (formerly Scottish Natural Heritage (SNH)). This full suite is provided in **Volume 5, Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**.

11.7.10 The SPPs in cover the protected and notable species considered in this assessment, and will be implemented to monitor species during construction and operation. This includes pre-construction survey updates which will be undertaken to ensure baseline survey data being relied upon during construction is not more than 12 months old or as per best practice guidelines[77] and is obtained in the season immediately prior to construction (particularly for mobile species).

11.7.11 The following is a general overview of measures that are common to SSEN Transmission's range of SPPs:

- Toolbox talks will brief site operatives on protected species, including findings of surveys undertaken, exclusion buffers, and emergency measures should suspected protected features be encountered.
- Works will be planned to avoid sensitive times of year (such as breeding seasons), or sensitive times of day (such as dawn/dusk).
- Update pre-construction surveys will be undertaken in the appropriate survey season and/or immediately prior to works (depending on the species/feature/habitat).
- Survey and monitoring will be undertaken during works affecting habitats supporting features with potential to be used as resting sites for an appropriate period of time and with appropriate methods. This monitoring will seek to confirm the status of the feature prior to works commencing, and will inform any requirement for exclusion buffers, other mitigation measures and/or licensing.
- The mitigation hierarchy will be applied to avoid, mitigate (reduce, restore) or compensate effects.

[77] CIEEM, 2024. Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.3. [Online] Available at: https://cieem.net/wp-content/uploads/2018/08/EcIA-Guidelines-v1.3-Sept-2024.pdf [Accessed January 2025].

- Infrastructure will be micro-sited to avoid and retain confirmed protected features (such as setts, resting sites, roosts) wherever possible.
- Infrastructure will be micro-sited to maintain the required exclusion buffer and reduce the need for engagement of the licensing process wherever possible.
- Where it is not possible to avoid destruction or disturbance of a protected feature, a licence will be sought from NatureScot.
- Protected features will be monitored throughout the period of construction works within the area, with regular visits by the ECoW and associated reporting to relevant stakeholders.
- An emergency procedure will be implemented by site workers in the event that a protected species or protected resting site is unexpectedly encountered.
- An exceptional circumstance procedure will be implemented in the event that mitigation options prove to be unsatisfactory in a particular case, with all works halted whilst a suitable approach is determined.

Construction Environmental Management Plan

11.7.12 A contractual management requirement of the Principal Contractors would be the development and implementation of a CEMP. This document would detail how the Principal Contractors would manage the construction of the Proposed Development in accordance with all commitments and mitigation detailed in the EIAR, statutory consents and authorisations, and industry best practice and guidance. **Volume 2, Chapter 17: Schedule of Mitigation** provides a summary of all mitigation measures included in this EIAR.

11.7.13 The CEMP would also reference the aforementioned GEMPs and SPPs. A suitably qualified and experienced Advisory ECoW[78] would be on-site to advise on the implementation of the CEMP, with support from other environmental professionals as required.

11.7.14 Where pre-construction surveys find evidence of new protected features (e.g. resting sites), amendment of the proposals will attempt to avoid effects (such as through micro-siting). If this is not possible during construction, the Principal Contractor will make the necessary protected species licence applications. The CEMP will therefore be a 'live' document, and will be updated in light of new findings, for example if pre-construction surveys identify a requirement for site- and species-specific mitigation measures.

11.7.15 An Outline CEMP is included in Volume 5, Appendix 3.4: Outline Construction Environmental Management Plan (CEMP).

11.7.16 Implementation of these plans will be secured as conditions of the Principal Contract between the Applicant and the Principal Contractors. Further, the Principal Contractors would prepare additional plans, as a requirement of the Principal Contract, including an Ecological and Ornithological Management Plan.

Advisory Environmental Clerk of Works

11.7.17 The requirement for an Advisory ECoW, as defined in **Volume 1, Chapter 3: Project Description**, is provided for in the Outline CEMP (**Volume 5, Appendix 3.4: Outline Construction Environmental Management Plan (CEMP)**) and under the Applicant's Consents and Environmental Specification. The Principal Contractors will each appoint a minimum of one Environment Manager and two roles of Advisory ECoW. The Advisory ECoW will support the design and implementation of mitigation.

[78] Note that terminology relating to the role of ECoWs is in the process of development (see: AEnvCoW, n.d. The Role of an Environmental Clerk of Works Position Statement. [Online] Available at: https://associationofenvcows.org/published-documents/position-statements/the-role-of-an-environmental-clerks-of-works/download/6-the-role-of-an-environmental-clerks-of-works [Accessed June 2025]). For the purposes of this assessment, the role of ECoW is defined as "Advisory" using the terminology that precedes the AEnvCoW position statement; the role advises on the design and implementation of mitigation, and this includes advising on and monitoring compliance with the environmental requirements of the Proposed Development, reporting to the Principal Contractors and Applicant. This role does not encompass the responsibilities of an ECoW defined as "Auditing"; an Auditing ECoW independently monitors and reports on compliance, but does not provide advice on design or implementation of mitigation.

11.7.18 The Advisory ECoW will be on-site during construction, and will provide advice on and monitor compliance with the CEMP, GEMPs, SPPs, the environmental requirements that the Applicant places upon the Principal Contractors, and relevant legislation. Although the Advisory ECoW will be appointed by the Principal Contractor, they will report directly to the Applicant where immediate remediation or correction is required.

11.7.19 The Advisory ECoW will provide regular reporting which will be made available to all relevant site staff including the Applicant. An outline of the role has been set out in **Volume 1, Chapter 3: Project Description** and in the Outline CEMP (**Volume 5, Appendix 3.4: Outline Construction Environmental Management Plan (CEMP)**). However, a detailed Scope of Works for the role will be developed and agreed in consultation with stakeholders, including NatureScot, Angus Council and Aberdeenshire Council, before construction commences.

Summary of Applied Mitigation

11.7.20 The applied mitigation measures in **Table 11.13: Applied Mitigation** have been developed to address potential impacts to a range of ecological features.

Table 11.13: Applied Mitigation

Mitigation Measure	Project Stage/Timing	Responsibility
EC6: Adherence to SSEN Transmission's Standard GEMPs and SPPs (see **Volume 5, Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**), during pre-construction and construction phases. Implementation would be overseen by a suitably experienced Advisory ECoW as part of an outline Construction Environment Management Plan (see below).	Prior to and during construction	Principal Contractor
EC7: Preparation and implementation of CEMP. This will incorporate an Ecological and Ornithological Management Plan pursuant to the contractual requirements of the Principal Contractor.	Prior to and during construction	Principal Contractor
EC8: The mitigation hierarchy will be applied in relation to sensitive habitats. As such, the priority will be to avoid removal of vegetation in sensitive habitats. This includes woodlands, wetlands and riparian corridors, and avoidance wherever possible, for example through micro-siting, of these and other sensitive habitats. Where vegetation removal is required in sensitive habitats (such as Annex I or SBL priority habitats), this will be reduced wherever possible to the removal of trees only where there is potential for interference with the conductors of the Proposed Development. Native trees that are slow- and/or low-growing will be retained in situ where possible, and particularly where they are close to the edge of the required Operational Corridor (and therefore relatively more distant from the conductors). Restoration and compensation measures will be applied to habitats impacted by construction of the Proposed Development, in accordance with the principles outlined in **Volume 5, Appendix 3.3: Outline Site Restoration Plan**, **Volume 5, Appendix 9.6: Outline Landscape Mitigation Design Guide** and **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan**.	Prior to, during and following construction	Principal Contractor Applicant (post-construction)
EC9: Techniques for tree and vegetation removal in riparian locations will be tailored to the sensitivity of the site to minimise the mobilisation of soils and impacts on water quality. Appropriate procedures and methods of vegetation and tree removal will be employed to minimise disturbance to sensitive riparian habitats including banksides of watercourses, limit the potential for bankside erosion, and rectify any bankside issues noted in works areas. Felling methods will be assessed on case-by-case basis, dependent on the sensitivity of the location and ground conditions. The appropriate methodology will be selected to minimise ground disturbance. This will be strictly adhered to for works within 250 m of the following key locations:	Prior to, during and following construction	Principal Contractor Applicant (post-construction)

Mitigation Measure	Project Stage/Timing	Responsibility
• River Tay SAC; • River South Esk SAC; • River Dee SAC; and • Loch of Park SSSI. Mitigation planting proposed in the **Volume 5, Appendix 9.6 Outline Landscape Mitigation Design Guide** will complement the retained riparian vegetation.		
EC10: Where the Proposed Development crosses watercourses, removal of adjacent riparian vegetation will be limited to trees that have potential to interfere with the conductors. Felling methods will be assessed on case-by-case basis, dependent on the sensitivity of the location and ground conditions. The appropriate methodology will be selected to minimise ground disturbance. Native trees that are slow- and/or low-growing will be retained in situ wherever possible, and particularly where they are close to the edge of the required operational corridor (and therefore more distant from the conductors). This principle will be applied to all watercourses, and will be strictly adhered to for works adjacent to the following key locations: • River Tay SAC; • River South Esk SAC; and • River Dee SAC, Mitigation planting proposed in the **Volume 5, Appendix 9.6 Outline Landscape Mitigation Design Guide** will complement the retained scrub and trees.	Prior to, during and following construction	Principal Contractor Applicant (post-construction)
EC11: Detailed site-specific plans of proposed works (including felling and vegetation clearance) will be produced for all construction-related works within 250 m of the following locations: • River Tay SAC; • River South Esk SAC; • River Dee SAC; and • Loch of Park SSSI. Felling methods will be assessed on case-by-case basis, dependent on the sensitivity of the location and ground conditions. The appropriate methodology will be selected to minimise ground disturbance. These site-specific plans will be submitted for agreement with stakeholders, to ensure the protection of these statutory designated sites.	Prior to, during and following construction	Principal Contractor Applicant (post-construction)
EC12: Where the Proposed Development requires felling within a LNCS or within woodlands listed on the AWI, felling will be selective to achieve necessary safety clearances. Felling methods will be assessed on case-by-case basis, dependent on the sensitivity of the location and ground conditions. The appropriate methodology will be selected to minimise ground disturbance. Native trees that are slow- and/or low-growing will be retained in situ where possible, and particularly where they are close to the edge of the required operational corridor (and therefore relatively more distant from the conductors). Mitigation planting proposed in the **Volume 5, Appendix 9.6 Outline Landscape Mitigation Design Guide** will complement the retained scrub and trees.	Prior to, during and following construction	Principal Contractor Applicant (post-construction)
EC13: Appropriate methods of construction work will be employed in sensitive habitats. This will include measures to reduce soil compaction and damage to vegetation in sensitive habitats through methods such as bog-matting and low-pressure vehicles.	Prior to and during construction	Principal Contractor

Mitigation Measure	Project Stage/Timing	Responsibility
Methods will be assessed on case-by-case basis, dependent on the sensitivity of the location and ground conditions. The appropriate methodology will be selected to minimise ground disturbance. Appropriate methods will be employed in the following key locations: • within 250 m of the River Tay SAC, River South Esk SAC or River Dee SAC; • within 250 m of Loch of Park SSSI; • within Woodside LNCS; • within Auchleuchrie LNCS; • in areas of Ancient Woodland (categories 1a and 2a); • in areas of LEPO noted to support SBL priority habitat types; and • in areas of SBL priority habitat types identified by baseline surveys and/or the ECoW.		
EC14: Ecological survey updates will be undertaken, to ensure survey data being relied upon during construction is not more than 12 months old, or as per best practice guidelines. Surveys will be undertaken in the species-specific survey season immediately prior to construction. Where surveys find evidence of new protected features (eg resting sites), micrositing will attempt to avoid effects. If this is not possible, the licensing mechanism will be engaged as per SSEN Transmission's standard SPPs (see **Volume 5, Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**).	Prior to, during and following construction	Principal Contractor Applicant (post-construction)
EC15: Micrositing will take into consideration the recommended buffer distances to protected features identified during pre-construction surveys. With these precautions and procedures in place, should micrositing be utilised, then the significance of effect on ecological receptors will not be greater than those predicted within the ecological impact assessment as presented in this chapter. As referred to in **Volume 1, Chapter 3: Project Description**, prior to any change being made to the Proposed Development within the LOD, a change control process would be undertaken to ensure that there is no unacceptable increase in adverse impacts as a result of the change. This process is managed via the Applicant's internal process 'Change Request Procedure for Project Design Parameters Controlled by Consent Limitations (*PR-NET-ENV-503*)'.	Prior to and during construction	Applicant and Principal Contractor
EC16: Security lighting will be designed to minimise light-spill on sensitive habitat features such as watercourses, waterbodies, and woodland edges.	During construction	Principal Contractor
EC17: Works within watercourse buffers will be undertaken under the advice and, where necessary, supervision of the Advisory ECoW.	During construction	Principal Contractor
EC18: The mitigation hierarchy will be applied in relation to protected species and their confirmed resting sites, and as such the priority will be given to avoiding impacts, followed by reducing impacts where they are unavoidable. Where it is not possible to avoid the loss of features confirmed to be used by protected species, compensation is required, and this will be provided in accordance with licensing requirements and SSEN Transmission's SPPs (see **Volume 5, Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**), for any features confirmed to be used by protected species (for example, trees confirmed to be used by roosting bats, confirmed pine marten dens, confirmed red squirrel dreys). Compensation will be provided through agreement with landowners. Priority will be given to securing compensation in areas that are adjacent to or in proximity to the location of impact, for example on the nearest suitable retained tree where possible, with consideration given	Prior to, during and following construction	Principal Contractor Applicant (post-construction)

Mitigation Measure	Project Stage/Timing	Responsibility
to the connectivity of compensatory features to features that have been lost. Where compensation is not possible within or adjacent to the Proposed Development, alternative options will be secured in the wider area, for example making use of off-site biodiversity project locations (see also **Volume 5, Appendix 3.3: Outline Site Restoration Plan**, **Volume 5, Appendix 9.6: Outline Landscape Mitigation Design Guide** and **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan**).		
EC19: The mitigation hierarchy will be applied in relation to protected species and features with potential to be used, and as such the priority will be given to avoiding impacts, followed by reducing impacts wherever possible. Where it is not possible to avoid the loss of features that have potential to be used by protected species (such as trees with bat roost potential), due to vegetation clearance or infrastructure installation, compensation will be provided. This will include, for example, bat boxes for loss of trees that are confirmed at pre-felling checks to have potential for roosting bats, pine marten boxes for trees/features that are confirmed at pre-works checks to have potential to be used as dens, and red squirrel nest boxes in woodlands where this species is confirmed to be present and potential (unconfirmed) dreys are lost. Compensation will be provided through agreement with landowners. Priority will be given to securing compensation in areas that are adjacent to or in proximity to the location of impact, for example on the nearest suitable retained tree where possible, with consideration given to the connectivity of compensatory features to features that have been lost. Where compensation is not possible within or adjacent to the Proposed Development, alternative options will be secured in the wider area, for example making use of off-site biodiversity project locations (see also **Volume 5, Appendix 3.3: Outline Site Restoration Plan, Appendix 9.6: Outline Landscape Mitigation Design Guide** and **Appendix 11.5: Outline Biodiversity Enhancement Plan)**.	Prior to, during and following construction	Principal Contractor Applicant (post-construction)
EC20: Update surveys for Scottish wildcat will be undertaken in works areas containing suitable Scottish wildcat woodland and edge habitat, a maximum of 12 months prior to works commencing. A programme of detailed pre-works survey is proposed in specific confidential locations that will be discussed and agreed with NatureScot. Additional locations will be considered as necessary, should further specific information be received to indicate a requirement. The details of the pre-works survey will be agreed with NatureScot, but are anticipated to include: Update detailed survey of woodland and edge habitats in key locations to a minimum of 200 m from working areas, including access tracks. Survey will be extended further than this where habitat connectivity and/or local information indicates that this is appropriate. Monitoring of potential den sites identified during update detailed survey (under a survey licence), using paired camera traps for a minimum of 1 month, and/or searches for scats and hairs at potential den sites that can be submitted for DNA testing. Paired camera trapping in key locations (under a survey licence as necessary), such as where scats or tracks are found away from possible den sites, with consideration given to the use of bait. Where presence of Scottish wildcat cannot be ruled out, pre-works surveys will also be undertaken a maximum of three weeks prior to works as per the SSEN Transmission SPP[14].	Prior to, during and following construction	Principal Contractor Applicant (post-construction)
EC21: In confidential locations that have been identified as potentially sensitive, and depending on the results of update Scottish wildcat survey, works will be planned to avoid sensitive times of year (January-August), and to minimise the length of the construction period in	During construction	Principal Contractor

Mitigation Measure	Project Stage/Timing	Responsibility
sensitive locations. In addition, works will avoid key times of day, ceasing at least 1 hour before sunset and not starting within 1 hour of sunrise.		
EC22: Pre-construction fish habitat surveys will be undertaken at watercourse crossings to provide the habitat baseline within a buffer of up to 100 m upstream and downstream and to allow micrositing of crossings away from potentially sensitive habitats wherever possible.	Prior to and during construction	Principal Contractor
EC23: Pre-construction freshwater pearl mussel surveys will be undertaken at confidential locations agreed with NatureScot, to provide the baseline within a buffer of up to 100 m upstream and 500 m downstream and to allow micrositing of crossings away from populations and/or potentially sensitive habitats wherever possible.	Prior to and during construction	Principal Contractor
EC24: Where conductors are required to cross watercourses, methods will be used to ensure that conductors do not come to ground, and therefore watercourses and associated habitats will be protected via methods appropriate to their size and conservation status.	During construction	Principal Contractor
EC25: Soils which are extracted as a result of the Proposed Development and which are within sensitive habitat (such as areas listed on the AWI and/or SBL priority habitats), will be retained, appropriately stored, and re-used as close to the source location as possible.	During construction	Principal Contractor
EC26: On-site and off-site measures will be implemented to deliver habitat restoration and compensation (to offset habitat losses), and further to deliver biodiversity enhancement. These measures will be in accordance with the principles outlined in **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan**. Proposals will deliver no less than a 10% net gain in biodiversity (as measured by the SSEN Transmission Biodiversity Toolkit), and will be underpinned by sound ecological principles, designed to deliver qualitative and quantitative enhancement for a range of ecological features.	During construction and pre-energisation as defined in **Volume 1, Chapter 3: Description of the Proposed Development**	Principal Contractor Applicant (post-construction)
EC27: Site restoration and landscaping proposals, including delivery of on-site habitat restoration, compensation and biodiversity enhancement, will be developed in accordance with the principles outlined in **Volume 5, Appendix 3.3: Outline Site Restoration Plan**, **Volume 5, Appendix 9.6: Outline Landscape Mitigation Design Guide**, and **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan**.	During construction and pre-energisation as defined in **Volume 1, Chapter 3: Description of the Proposed Development**	Principal Contractor Applicant (post-construction)

Further Survey Requirements and Monitoring

11.7.21 A detailed CEMP will be produced ahead of the commencement of works (see Mitigation Measure Reference EC7, and **Volume 5, Appendix 3.4: Outline Construction Environmental Management Plan (CEMP)**), and will be supported by SSEN Transmission's SPPs (see Mitigation Measure Reference EC6, and **Volume 5, Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**) which set out the approach to the survey and monitoring of protected species during construction. This will include a programme of re-survey to ensure mobile species are protected during works. The SPPs also detail proposals for longer-term monitoring. The level of survey effort and the scope of SPP is proportionate and cognisant of the limited evidence of protected species identified during the baseline field surveys.

11.7.22 Pre-construction update surveys will be undertaken within the 12 months prior to any construction works as per the requirements of the SPPs (see Mitigation Measure Reference EC6, and **Volume 5, Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**); these surveys will confirm the current status of the Proposed Development with regards to the protected and notable species identified in this assessment.

11.7.23 Post-construction habitat surveys and monitoring will be undertaken to ensure that mitigation measures are effective, potentially sensitive habitats are retained, and to identify any requirement for improvement or remedial works. These monitoring measures are summarised in **Table 11.14: Ecological Monitoring**.

Table 11.14: Ecological Monitoring

Monitoring Measure	Project Stage/Timing	Responsibility
EC28: Survey and monitoring will be undertaken to ensure the ongoing efficacy of mitigation measures and identify any requirement for further intervention. The duration and extent of monitoring will depend on the ecological feature under consideration and the level of impact. Monitoring will be designed by an ecologist suitably experienced in the relevant ecological feature (and licensed where relevant), and in accordance with relevant best practice guidelines in place at the time. Key locations where monitoring will be undertaken include (but are not limited to): • River Tay SAC; • River South Esk SAC; • River Dee SAC; and • Loch of Park SSSI.	Prior to, during and following construction	Principal Contractor during pre-construction and construction phases. Applicant assumes responsibility following demobilisation of the Principal Contractor.
EC29: Where sensitive streambed habitats are identified during pre-construction fish habitat and/or freshwater pearl mussel surveys, post-construction surveys and monitoring will be undertaken to ensure that mitigation measures are effective, that crossings maintain fish passage, and that sensitive streambed habitats and freshwater pearl mussel populations (if present) have been retained, and to identify any requirement for improvements or remedial works. Monitoring will be designed by a specialist, suitably experienced in aquatic ecology (and licensed where relevant), and in accordance with relevant best practice guidelines. Key locations where monitoring will be undertaken include (but are not limited to): • River Tay SAC; • River South Esk SAC; and • River Dee SAC.	Prior to, during and following construction	Principal Contractor during pre-construction and construction phases. Applicant assumes responsibility following demobilisation of the Principal Contractor.

Compensation and Enhancement

11.7.24 An Outline Biodiversity Enhancement Plan (Outline BEP) has been produced for the Proposed Development (**Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan**). This document details the ecological value of the baseline, and outlines the principles that will be implemented within the Proposed Development and associated with off-site biodiversity enhancement projects to "conserve, restore and enhance biodiversity" in accordance with NPF4 policy 3(b). The purpose of the Outline is BEP to demonstrate how the Applicant will meet the requirements of national and local planning policy and deliver enhancement of biodiversity in relation to the Proposed Development.

11.7.25 The Outline BEP is underpinned by sound ecological principles that aim to deliver meaningful biodiversity enhancement, thereby addressing national and local planning policy. As part of delivering ecological enhancement, the Applicant is committed to delivering 10% BNG on all projects gaining consent[79]. The principles have therefore been developed with reference to existing and emerging BNG best practice.

11.7.26 The Outline BEP covers the following key elements:

[79] SSEN Transmission, 2024. Sustainability Strategy: Pathway to 2030. [Online] Available at: https://www.ssen-transmission.co.uk/about-us/sustainability/sustainability-strategy/ [Accessed June 2025].

- An overview of national, local and SSEN Transmission policy specific to biodiversity enhancement, and how it integrates with the EIA process.
- A description of the desk-based and field-based approaches that underpin the baseline understanding of the ecological context of the Proposed Development.
- A description of the assumptions and parameters of the post-development target habitats and condition used (for the purposes of calculating post-development biodiversity in the SSEN Transmission Biodiversity Toolkit).
- An outline of the approach to identifying and securing off-site projects and partners for delivery of biodiversity enhancement (including off-site BNG).
- An outline of best practice and principles that guide delivery of biodiversity enhancement (including BNG).
- An outline of principles that will be applied to on-site habitat restoration and enhancement.
- A summary of BNG calculations including baseline, post-development (on-site), and required off-site delivery.
- An overview of the habitat creation or enhancements required to achieve biodiversity enhancements, both on and off-site, and a qualitative assessment of how these enhancements will meet the ecological principles set out in this appendix.

11.7.27 As noted, the Outline BEP covers principles applied to the consideration of biodiversity, and this incorporates measures to deliver restoration, compensation, and enhancement. The Outline BEP therefore seeks to address the requirement to deliver restoration and compensation (where unavoidable impacts occur), as well as the requirement of NPF4 to achieve biodiversity enhancement. The principles have been developed in collaboration with other specialists to deliver across topic areas. The document should therefore be read in conjunction with **Volume 5, Appendix 3.3: Outline Site Restoration Plan** and **Volume 5, Appendix 9.6: Outline Landscape Mitigation Design Guide**.

11.7.28 The Outline Site Restoration Plan (**Volume 5, Appendix 3.3: Outline Site Restoration Plan**) provides an overview of the restoration procedures which are to be adhered to during the pre-construction, construction and reinstatement of the Proposed Development. The overall aim of these procedures is to facilitate the restoration of landform, habitats, vegetation and forestry which have the potential to be disturbed as a result of the proposed works. The Outline Site Restoration Plan includes principles for the restoration and, where possible, enhancement of pre-construction habitat types and across all disturbed areas, the restoration of vegetation types reflective of existing conditions, and avoidance of unstable bare ground where erosion could occur. Measures outlined within the document include the identification during the pre-construction phase of important ecological features which are to be protected or restored, outline methods of material extraction and storage during construction (necessary to facilitate successful restoration), principles of reinstatement of materials during the reinstatement phase, and post-reinstatement monitoring to ensure the effectiveness of habitat reinstatement and (where relevant) enhancement measures. The general principles outlined in the document are intended to act as a basis for more detailed plans to be developed during the post-consent and pre-construction phase of the Proposed Development, including site-specific restoration plans and the detailed Biodiversity Enhancement Plan.

11.7.29 The Outline Landscape Mitigation Design Guide (**Volume 5, Appendix 9.6: Outline Landscape Mitigation Design Guide**) sets out methods of best practice and aspirational approaches that would guide the mitigation and restoration of landscape features associated with the Proposed Development. The recommended approaches aim to ensure that landscape elements, which often coincide with important ecological features such as woodlands and hedgerows, are restored to the pre-development condition or, where possible, to provide an improvement. The Operational Corridor would be the main focus for the proposals, in addition to any areas disturbed temporarily to carry out the construction of the OHL (for example, temporary access track and working areas). Proposals seek not only to create a visually sensitive and appropriate development within the local landscape but also to encourage ecological benefits, through new planting and enhancement of existing vegetation. As such, the principles have been developed in conjunction with the Outline BEP (**Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan**). The approaches are therefore designed to contribute towards the parallel aim of habitat restoration and compensation, and where possible enhancement.

11.8 Assessment of Likely Significant Effects - Construction

11.8.1 The assessment of effects discussed below, considers the features of ecological importance listed in **Table 11.11: Ecological Importance Assessment**, the pathways identified in **Table 11.12: Identification of Likely Effects**, and the proposed mitigation and monitoring presented above. The assessment is based on the project description as outlined in **Volume 1, Chapter 3: Project Description**. Potential effects are grouped into four broad types as described in the **Assessing Significance** section (see paragraph 11.3.18); each effect is considered in relation to a range of parameters (paragraph 11.3.19) and the degree of confidence (paragraph 11.3.20). This informs the structure of the assessment of potentially significant effects below. Unless otherwise stated, potential effects identified are considered to be adverse.

Predicted Construction Effects

Statutory Designated Sites

11.8.2 Likely effects on statutory designated sites during construction have been identified as:

- habitat loss;
- habitat fragmentation through severance of designated habitats; and
- disturbance as a result of construction activities.

11.8.3 The desk study identified the following statutory designated sites within the LOD:

- River Tay SAC in Angus;
- River South Esk SAC in Angus;
- River Dee SAC in Aberdeenshire[80]; and
- Loch of Park SSSI in Aberdeenshire[81].

11.8.4 There will be no direct loss of riparian habitat along the Kerbet Water and Dean Water, both of which are part of the River Tay SAC. No works are proposed in the recommended riparian buffers outlined in mitigation measure HG3 (see **Chapter 13: Hydrology, Hydrogeology, Geology and Soils**, and **Volume 5, Appendix 13.1: Watercourse Crossing and Buffers Assessment**), and the adjacent habitats will be oversailed. Removal of riparian vegetation will be limited wherever possible to trees that may interfere with the conductors (EC10) and methods will be tailored to the sensitivity of these locations (EC9). Stringent pollution prevention measures will be implemented during construction as per mitigation measures EC6, EC7, and EC17 (see also **Volume 5, Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**), and mitigation measures HG9-HG14 (**Chapter 13: Hydrology, Hydrogeology, Geology and Soils**). The mitigation measures will ensure no impacts that could undermine the conservation objectives of the SAC or the integrity of the qualifying features.

11.8.5 There will be localised removal of vegetation to maintain the required clearance corridor where the Proposed Development crosses the River South Esk SAC, specifically across the main stem west of Craigeassie, and at the crossing of the Noran Water west of Wellford. However, this will be restricted to a limited number of trees where they are of a species/height capable of interfering with the conductors (EC10). Bankside vegetation removal and soil disturbance will be kept to a minimum, and the methods used will be tailored to the sensitivity of these locations (EC9, EC11). The method of passing the conductors over the watercourses will ensure no direct impacts to the bankside vegetation or in-stream habitats and that the conductors do not come to ground (EC24). At the crossing of the Noran Water, the watercourse is down in a steep-sided gully, and so vegetation removal will be limited to trees near the top of the slopes, with woodland vegetation retained on the lower slopes closer to the watercourse. Stringent pollution prevention measures will be implemented during construction (EC6, EC7, and EC17, and HG9-

[80] Note that the boundary of the non-statutory River Dee LNCS matches the SAC boundary within the ESA, and thus the LNCS is not assessed separately from the River Dee SAC.
[81] Note that the boundary of the non-statutory Loch of Park LNCS does not match the boundary of the SSSI within the ESA, and thus the LNCS is assessed separately from the Loch of Park SSSI.

HG14; see also **Chapter 13: Hydrology, Hydrogeology, Geology and Soils**). The mitigation measures will ensure no impacts that could undermine the conservation objectives of the SAC or the integrity of the qualifying features.

11.8.6 There will be localised removal of vegetation to maintain the required clearance corridor where the Proposed Development crosses the River Dee SAC, specifically across the Burn of Sheeoch and the main stem near Kirkton of Durris. However, this will be restricted to a limited number of trees where they are of a species/height capable of interfering with the conductors (EC10). Bankside vegetation removal and soil disturbance will be kept to a minimum, and the methods used will be tailored to the sensitivity of these locations (EC9, EC11). The method of passing the conductors over the watercourses will ensure no direct impacts to the bankside vegetation or in-stream habitats, and that the conductors do not some to ground (EC24). Stringent pollution prevention measures will be implemented during construction (EC6, EC7, and EC17, and HG9-HG14; see also **Chapter 13: Hydrology, Hydrogeology, Geology and Soils**). The Woodland Retention Plan will have a particular focus on where Ancient Woodland, LEPO and native woodland removal can be reduced (F5). The mitigation measures will ensure no impacts that could undermine the conservation objectives of the SAC or the integrity of the qualifying features.

11.8.7 There will be no direct habitat loss within the Loch of Park SSSI. Some removal of trees will be undertaken outwith the SSSI to the east, including extents of wet woodland (although these are not the same woodland NVC community as those that make up the majority of the qualifying features of the wet woodland in the SSSI). Appropriate procedures and methods of vegetation removal will be employed given the proximity to the SSSI (EC9, EC11). Stringent pollution prevention measures will be implemented during construction (EC6, EC7, and EC17, and HG9-HG14; see also **Chapter 13: Hydrology, Hydrogeology, Geology and Soils**). The mitigation measures will ensure no impacts that could undermine the conservation objectives of the SSSI or the integrity of the qualifying features.

11.8.8 Habitats that are affected by the Proposed Development, and which are adjacent to statutory designated sites, will be subject to on-site habitat restoration and compensation measures where possible, and off-site habitat compensation and enhancement measures as appropriate, as outlined in **Volume 5, Appendix 3.3: Outline Site Restoration Plan**, **Appendix 9.6: Outline Landscape Mitigation Design Guide**, and **Appendix 11.5: Outline Biodiversity Enhancement Plan** (EC26, EC27)

11.8.9 In considering the above, the significance of potential effects on statutory designated sites is detailed in **Table 11.15: Assessment of Significance of Likely Construction Effects – Statutory Designated Sites**. Significance is assessed within the context of the Ecological Importance of the ESA for Statutory Designated Sites (see **Table 11.11: Ecological Importance Assessment**).

Table 11.15: Assessment of Significance of Likely Construction Effects – Statutory Designated Sites

Parameter	Likely Effect		
	Habitat Loss	Habitat Fragmentation	Disturbance
Extent	Localised habitat loss where the Proposed Development crosses the riverine SACs, resulting in some removal of bankside trees. No direct habitat loss of in-stream habitats, nor within the Loch of Park SSSI. **Angus**: • River Tay SAC • River South Esk SAC **Aberdeenshire**: • River Dee SAC	Localised habitat fragmentation where the Proposed Development crosses the riverine SACs and some removal of bankside trees is required. No habitat fragmentation of in-stream habitats. **Angus**: • River Tay SAC • River South Esk SAC **Aberdeenshire**: • River Dee SAC • Loch of Park SSSI	No in-water works are proposed in the riverine SACs, and no works are proposed within the Loch of Park SSSI. However, there is potential for disturbance via an accidental pollution event localised to specific areas at which the Proposed Development crosses the SACs and passes close to the Loch of Park SSSI. **Angus**: • River Tay SAC • River South Esk SAC **Aberdeenshire**: • River Dee SAC • Loch of Park SSSI

Parameter	Likely Effect		
	Habitat Loss	Habitat Fragmentation	Disturbance
Magnitude	Riparian habitat loss is limited to small areas of woodland removal on either side of the River South Esk SAC and River Dee SAC. There will be no change to the conservation status or the integrity of the qualifying features of the SACs and SSSI as a result of habitat loss during the construction process.	Riparian habitat fragmentation is limited to small areas of woodland removal on either side of the River South Esk SAC and River Dee SAC. There will be no change to the conservation status or the integrity of the qualifying features of the SACs and SSSI as a result of habitat fragmentation during the construction process.	With stringent pollution prevention measures in place during construction, there will be no change to the conservation status or the integrity of the qualifying features of the SACs and SSSI as a result of disturbance during the construction process.
Duration	Permanent	Permanent	Intermittent/temporary during construction phase
Frequency	One-off event during construction	One-off event during construction	Potentially repeated during construction phase
Reversibility	Irreversible	Irreversible	Reversible
Likelihood	Certain	Certain	Unlikely
Significance (EclA)	Significant at Study Area level	Significant at Study Area level	Significant at Local level
Significance (EIA)	Minor, Not Significant	Minor, Not Significant	Minor, Not Significant

Non-Statutory Designated Sites

11.8.10 Likely effects on non-statutory designated sites during construction have been identified as:

- habitat loss; and
- habitat fragmentation through severance of designated habitats.

11.8.11 Woodside LNCS is designated for birch woodland and semi-improved acid grassland habitats, and the Site comprises a mosaic of these habitat types. There is no permanent infrastructure proposed within the LNCS. However, removal of a limited number of birch trees (less than 0.5 ha) is required to maintain the clearance requirements of the conductors. It is anticipated that this will result in the localised establishment of acid grassland. Therefore, while there will be a loss of birch woodland, this will serve to slightly change the balance between the qualifying woodland and grassland habitats, rather than result in permanent loss of ground within the LNCS. In addition, it would be expected that birch would naturally regenerate below the OHL, although for operational reasons any regeneration would require occasional maintenance to reduce the height of the trees and therefore a mature birch woodland would not re-establish within this area. Appropriate procedures and methods of vegetation removal will be employed within the LNCS to reduce the vegetation removal required and to limit the ground disturbance (EC12, EC13).

11.8.12 Auchleuchrie LNCS is designated for lowland birch woodland dominated by downy birch. An existing access track passes through the woodland in the east of the LNCS, although the track itself is not within the footprint of the LNCS which is split into separate blocks either side of the track. This track will be upgraded, and this may require removal of a narrow extent of woodland or limited number of trees alongside to facilitate movement of construction vehicles. Removal of trees will be limited wherever possible. As the existing track does not itself fall within the boundaries of the LNCS, it is anticipated that any tree removal either side of the track will revert to birch woodland. Therefore, while there will be a removal of woodland during construction, this is unlikely to result in permanent loss of ground within the LNCS. Appropriate procedures and methods of vegetation removal will be employed within the LNCS to reduce the vegetation removal required and to limit the ground disturbance (EC12, EC13).

11.8.13 Ancient Woodland (of semi-natural origin) along the Noran Water extends into the east of the LOD where the Proposed Development crosses the Noran Water; this woodland also qualifies as the Annex I habitat type *Tilio-Acerion* forests of slopes, screes and ravines (H9180). However, the AWI is a provisional guide only, and historical mapping[82] indicates that the woodland habitats that extend west along the steep-sided gully of the watercourse may also qualify as Ancient Woodland. The woodland on the lower slopes of the steep-sided gully will be retained. The top of the slopes comprises a mosaic of unmanaged grassland, bracken and scrub, with mature trees such as silver birch *Betula pendula*, rowan *Sorbus aucuparia*, wild cherry *Prunus avium* and wych elm *Ulmus glabra*. As such, some trees at the top of the slopes, on the edge of the adjacent fields, will require to be felled in order to maintain the operational corridor. However, as this location is alongside the River South Esk SAC, removal of trees will be restricted wherever possible to a limited number of trees where they are of a species/height capable of interfering with the conductors (EC10, EC11). Appropriate procedures and methods of vegetation removal will be employed within the woodland to limit the ground disturbance (EC9, EC13). In addition, no permanent infrastructure is proposed within this woodland, and there is no permanent loss of ancient woodland soils. It is therefore expected that low- and slow-growing tree and scrub species would be retained at the top of the slopes.

11.8.14 A further area of woodland listed as Ancient Woodland (of semi-natural origin) will be removed to the west of the Burn of Sheeoch at Free Church Wood (0.94 ha of infrastructure felling and 1.68 ha of management felling). However, this woodland was noted during surveys to comprise a Sitka spruce plantation, with limited ground flora. No permanent infrastructure is proposed within this area of woodland, and therefore there will be no loss of ancient woodland soils. As it does not support a native woodland type, it is not considered to be an Irreplaceable Habitat. Appropriate procedures and methods of vegetation removal will be employed within the woodland to limit the ground disturbance (EC13). The removal of non-native Sitka spruce from this location has potential to deliver benefits for biodiversity.

11.8.15 The boundaries of the Loch of Park LNCS extend beyond those of the Loch of Park SSSI, which is therefore considered separately in the previous section. The easternmost corner of the LNCS overlaps with the LOD, and some felling of woodland is required to the northwest of Lochwood Cottage within the LNCS; this comprises extents of alder and willow woodland, as well as a mixed woodland with extensive rhododendron around the King's Well. The LNCS also overlaps the LOD within Collonach Plantation, which is a Scots pine plantation, where removal of a small number of trees is currently proposed. As previously noted, appropriate procedures and methods of vegetation removal will be employed given the proximity to the SSSI (EC9, EC11, EC13). Stringent pollution prevention measures will be implemented during construction (EC6, EC7, and EC17, and HG9-HG14; see also **Chapter 13: Hydrology, Hydrogeology, Geology and Soils**). The Woodland Retention Plan will have a particular focus on where Ancient Woodland, LEPO and native woodland removal can be reduced (F5).

11.8.16 In addition to the specific locations noted above, woodland listed on the AWI as LEPO will be removed where it intersects with the operational corridor of the Proposed Development. **Table 11.16: Proposed Felling of Woodland Listed on the AWI** summarises the extent of removal of woodland listed on the AWI.

Table 11.16 Proposed Felling of Woodland Listed on the AWI

Category	Infrastructure Felling		Management Felling		Total	
	Extent (ha)	% within ESA	Extent (ha)	% within ESA	Extent (ha)	% within ESA
Ancient Woodland (1a)	0.00 ha	0.00 %	0.00 ha	0.00 %	0.00 ha	0.00 %
Ancient Woodland (2a)	1.42 ha*	11.19 %	1.68 ha	13.24 %	3.10 ha	24.44 %†
LEPO	0.19 ha	1.64 %	0.00 ha	0.00 %	0.19 ha	1.64 %

[82] https://maps.nls.uk/geo/find/

Category	Infrastructure Felling		Management Felling		Total	
	Extent (ha)	% within ESA	Extent (ha)	% within ESA	Extent (ha)	% within ESA
(1b)						
LEPO (2b)	36.17 ha	6.72 %	8.23 ha	1.53 %	44.40 ha	8.25 %
Total	37.78 ha	6.67 %	9.91 ha	1.75 %	47.69 ha	8.42 %

Notes

* 0.94 ha will be removed to the west of the Burn of Sheeoch at Free Church Wood (see also **Volume 2, Chapter 8: Forestry**). However, as previously noted, an additional 0.48 ha of woodland along the Noran Water is considered likely to be Ancient Woodland (of semi-natural origin) as the AWI is a provisional guide only. The total provided here therefore includes the woodland along the Noran Water where infrastructure felling is required.

† This figure includes 2.62 ha proposed for felling to the west of the Burn of Sheeoch at Free Church Wood. As noted, the proposed felling does not comprise native woodland as it is dominated by a Sitka spruce plantation. This figure therefore does not represent the removal of semi-natural, native Ancient Woodland.

11.8.17 Non-statutory designated sites that are affected by the Proposed Development will be subject to on-site habitat restoration and compensation measures where possible, and off-site habitat compensation and enhancement measures as appropriate, as outlined in **Volume 5, Appendix 3.3: Outline Site Restoration Plan**, **Appendix 9.6: Outline Landscape Mitigation Design Guide**, and **Appendix 11.5: Outline Biodiversity Enhancement Plan** (EC26, EC27).

11.8.18 In considering the above, the significance of potential effects on non-statutory designated sites are detailed in **Table 11.17: Assessment of Significance of Likely Construction Effects – Non-Statutory Designated Sites**. Significance is assessed within the context of the Ecological Importance of the ESA for Non-Statutory Designated Sites (see **Table 11.11: Ecological Importance Assessment**).

Table 11.17: Assessment of Significance of Likely Construction Effects – Non-Statutory Designated Sites

Parameter	Likely Effect	
	Habitat Loss	Habitat Fragmentation
Extent	Localised habitat loss in areas where the Proposed Development intersects with non-statutory designated sites that support woodland habitats. **Angus**: • Woodside LNCS • Auchleuchrie LNCS • 0.48 ha Ancient Woodland on the Noran Water • 5.79 ha of LEPO **Aberdeenshire**: • Loch of Park LNCS • 2.62 ha of Ancient Woodland at the Burn of Sheeoch • 38.80 ha of LEPO	Localised habitat fragmentation in areas where the Proposed Development intersects with non-statutory designated sites that support woodland habitats. **Angus**: • Woodside LNCS • Auchleuchrie LNCS • Ancient Woodland on the Noran Water • Areas of LEPO woodland intersected by the Proposed Development: Ballinshoe Woods, Belliehill Wood, Little Brechin Wood, and Lochty Wood. **Aberdeenshire**: • Loch of Park LNCS Areas of LEPO woodland intersected by the Proposed Development: Capo Plantation, Inverury Wood, Lady Jane's Plantation, Woods of Redhall, Fetteresso Forest, Free Church Wood, Coldstream Plantation, North Kirkton Wood, Myriewell Wood, and Corskie Wood.
Magnitude	The proposed habitat loss will be limited and localised in nature, therefore is extremely unlikely to have an effect on the conservation status of the LNCS, nor of the woodlands listed on the AWI within the ESA.	A commitment to ensure that removal of woodland is kept to a minimum, particularly in non-statutory designated sites, as well as the use of sensitive forestry methods in sensitive woodland habitats, and the retention of

Parameter	Likely Effect	
	Habitat Loss	Habitat Fragmentation
	Sensitive felling methods will be used in the Ancient Woodland on the Noran Water. There will be no removal of soils and therefore no permanent loss of Ancient Woodland soils in this location. Similarly, sensitive felling methods will be employed in areas of LEPO noted to support SBL priority habitat types, and thus disturbance of these soils will be reduced. Felling methods will be assessed on case-by-case basis, dependent on the sensitivity of the location and ground conditions. The appropriate methodology will be selected to minimise ground disturbance.	habitats and trees that do not impede the operational corridor. Felling methods will be assessed on case-by-case basis, dependent on the sensitivity of the location and ground conditions. The appropriate methodology will be selected to minimise ground disturbance. This will ensure that habitat fragmentation is limited.
Duration	Permanent	Permanent
Frequency	One-off event during construction	One-off event during construction
Reversibility	Irreversible	Irreversible
Likelihood	Certain	Certain
Significance (EcIA)	Significant at Local level	Significant at Local Level
Significance (EIA)	Minor, Not Significant	Minor, Not Significant

Habitats of conservation concern

11.8.19 Likely effects on habitats of conservation concern[1] during construction have been identified as:

- habitat loss as a result of land-take for the Proposed Development; and
- habitat fragmentation through severance of habitats of conservation concern[1].

11.8.20 Many of the habitats of conservation concern recorded within the ESA occur as relatively limited areas that are isolated within a landscape dominated by agriculture and/or conifer plantation. This is particularly the case for habitats such as Lowland Dry Acid Grassland, Purple Moor-Grass and Rush Pastures, Upland Flushes, Fens and Swamps, and Lowland Fens. These habitats are scattered throughout the ESA, and many of them have been avoided through design; losses to permanent infrastructure have in this way been reduced.

11.8.21 Woodland priority habitats listed on the SBL are scattered throughout the ESA. The Proposed Development avoids many stands of higher-quality woodland through design, but there are some locations at which the Proposed Development intersects with these habitats, resulting in losses of woodland in order to maintain clearance of trees from the conductors.

11.8.22 Notable habitat losses occur where infrastructure is proposed at the following locations[83]:

- Angus:
  - Upland heathland at Ironside Hill and Finlarg Hill (9.97 ha, 6.85% of the Angus ESA resource; also Annex I).
  - Lowland mixed deciduous woodland at Mosside of Ballinshoe (0.06 ha, 4.13% of the Angus ESA resource).

[83] Note that the calculation of habitat losses presented in Table 11.18 utilise the parameters and assumptions applied to the data for the purposes of assessing BNG. As such, areas of habitats are assumed to be impacted where they are within the footprint of the proposed works, or within a specified buffer (for example adjacent to proposed access tracks). The list of locations highlighted here comprise areas where losses are expected with greater probability, for example where towers are proposed within the habitat area and/or where felling of trees is required to facilitate the operational corridor.

  - Upland birchwoods at Mosside of Ballinshoe, Woodside LNCS, and Lochty Wood (1.29 ha, 2.43 % of the Angus ESA resource).
  - Upland mixed ashwood along the Noran Water (0.48 ha, 34.5% of the Angus ESA resource; also Annex I).
  - Wet woodland near Nether Bow, along Kings Burn, and Lochty Wood (0.16 ha, 1.24% of the Angus ESA resource).
- Aberdeenshire:
  - Upland heathland north of Slug Road, and in Durris Forest (6.06 ha, 4.22% of the Aberdeenshire ESA resource; also Annex I).
  - Purple moor grass and rush pasture adjacent to the Gormack Burn, and at Bogendinnie (0.88 ha, 2.77% of the Aberdeenshire ESA resource).
  - Upland birchwoods at Cammackmuir Plantation, and along the Burn of Sheeoch (0.03 ha, 0.10% of the Aberdeenshire ESA resource).
  - Wet woodland at Haughhead, north of Slug Road, and near Loch of Park (0.18 ha, 0.80% of the Aberdeenshire ESA resource).

11.8.23 Areas of Annex I heathland habitats such as Northern Atlantic wet heaths with *Erica tetralix* (H4010), European dry heaths (H4030) are restricted to specific areas, such as at Ironside Hill (Section A) and Rickarton (Section E). However, the conditions that support these habitats are more extensive, therefore the habitats cannot be entirely avoided, and permanent infrastructure will result in habitat losses as noted in the list above. These habitats also qualify in these locations as the SBL priority habitat type Upland Heathland. Areas of Blanket bog (H7130) have been avoided through design.

11.8.24 The Annex I Woodland *Tilio-Acerion* forests of slopes, screes and ravines (H9180) is affected by the Proposed Development where it occurs along the Noran Water. This woodland has been considered in the context of being an Ancient Woodland (see previous section). The woodland at Den of Baldoukie is within the ESA but outwith the LOD of the Proposed Development, and so no impact pathway has been identified.

11.8.25 The Annex I woodland Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (H91E0) occurs scattered throughout the ESA. Many stands are avoided but stands at Nether Bow (Section B) and Loch of Park (Section F) will require felling of woodland to facilitate the operational corridor of the Proposed Development as noted in the list above.

11.8.26 Although watercourse habitats overlap with the Proposed Development, and in some cases new or upgraded watercourse crossings are proposed, no actual losses of lengths of watercourse are anticipated.

11.8.27 Some losses of Native Species Rich Hedgerows, and Lines of Trees noted to be 'ecologically valuable' are anticipated. While hedgerow habitats overlap with the Proposed Development, and assumptions and parameters have been applied to the elements of the Proposed Development in order to quantify the potential losses (see **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan**), it is likely that in many instances it will not be necessary to remove the full extent of the hedgerow where it overlaps with the assumed working areas. This is particularly the case for proposed new or upgraded access tracks which have often been designed to follow field boundaries; these therefore represent locations at which potential hedgerow losses have been identified in accordance with the assumptions on access track widths, but where hedgerows are, in fact, likely to be retained. This situation also applies to treeline habitats, although losses of treeline habitats within the operational corridor have been captured as removal will be required to facilitate the clearance distances from conductors (while hedgerows are assumed to be oversailed).

11.8.28 Further detail on habitat losses within Angus and Aberdeenshire are presented in **Table 11.18: Habitat Losses by Local Planning Authority**.

Table 11.18: Habitat Losses by Local Planning Authority[68]

Habitat	Angus: Habitat Loss (ha/km)	% of Resource within Angus ESA	Aberdeenshire: Habitat Loss (ha/km)	% of Resource within Angus ESA
Area-Based Habitats (ha)				
Cropland - Arable field margins	0.00	0.01	0.00	N/A
Cropland - Cereal Crops	64.17	3.70	66.74	4.08
Cropland - Horticulture	0.00	N/A	1.13	7.02
Cropland - Non-cereal crops	10.33	5.66	17.41	4.56
Cropland - Temporary grass and clover leys	7.58	3.38	11.64	4.44
Grassland - Bracken	3.89	7.20	0.35	2.69
Grassland - Lowland dry acid grassland	0.01	0.37	0.02	0.63
Grassland - Modified grassland	18.78	4.62	40.95	5.45
Grassland - Other lowland acid grassland	0.00	N/A	0.31	3.77
Grassland - Other neutral grassland	4.46	5.71	7.30	6.99
Grassland - Upland acid grassland	5.39	8.62	0.44	5.47
Heathland and shrub - Gorse scrub	0.07	0.81	1.60	7.28
Heathland and shrub - Hawthorn scrub	0.00	0.00	0.00	N/A
Heathland and shrub - Lowland Heathland	0.50	N/A	0.00	0.00
Heathland and shrub - Mixed scrub	1.05	10.26	0.21	4.75
Heathland and shrub - Upland Heathland	9.97	6.85	6.06	4.22
Rivers and Lakes - Natural lake or pond	0.06	3.09	0.26	29.35
Rivers and Lakes - Ponds (Priority habitat)	0.00	N/A	0.00	0.00
Wetland - Blanket bog	0.00	N/A	0.00	0.00
Wetland - Lowland fens	0.01	5.21	0.03	0.52
Wetland - Other swamps	0.00	N/A	0.17	789.48
Wetland - Purple moor grass and rush pastures	0.00	0.00	0.88	2.77
Wetland - Upland flushes, fens and swamps	0.00	N/A	0.00	0.01
Woodland and forest - Felled	2.04	53.33	11.74	4.71
Woodland and forest - Lowland mixed deciduous woodland	0.06	4.13	0.00	0.00
Woodland and forest - Other coniferous woodland	0.09	0.27	27.15	4.38
Woodland and forest - Other Scot's Pine woodland	0.22	2.19	1.88	2.52
Woodland and forest - Other woodland; broadleaved	2.27	4.47	5.10	5.07
Woodland and forest - Other woodland; mixed	1.25	3.03	2.96	2.92
Woodland and forest - Upland birchwoods	1.29	2.43	0.03	0.10

Habitat	Angus: Habitat Loss (ha/km)	% of Resource within Angus ESA	Aberdeenshire: Habitat Loss (ha/km)	% of Resource within Angus ESA
Woodland and forest - Upland mixed ashwoods	0.48	34.5	0.00	0.00
Woodland and forest - Wet woodland	0.16	1.24	0.18	0.80
Urban & Unsurveyed Areas[69]	5.67	2.24	21.02	3.91
Total	139.80	-	225.56	-
Linear Habitats (km)				
Rivers and Lakes – Rivers (Priority Habitat)*	N/A	-	N/A	-
Rivers and lakes – Other rivers and streams*	N/A	-	N/A	-
Line of Trees	3.17	-	3.57	-
Line of Trees - Associated with bank or ditch	1.18	-	1.58	-
Line of Trees (Ecologically Valuable)	2.01	-	1.11	-
Line of Trees (Ecologically Valuable) - with Bank or Ditch	0.00	-	0.33	-
Native Hedgerow†	3.12	-	3.41	-
Native Hedgerow with trees†	1.10	-	2.67	-
Native Species Rich Hedgerow†	0.34	-	0.36	-
Hedge Ornamental Non Native†	1.57	-	0.24	-

Notes:
* No losses of lengths of watercourse are anticipated (see text above table for details).
† Figures for hedgerows and treelines are expected to be an over-estimate (see text above table for details).

11.8.29 Appropriate procedures and methods of vegetation removal will be employed in areas of habitats of conservation concern (EC8, EC9, EC10, EC13). Stringent pollution prevention measures will be implemented during construction (EC6, EC7, and EC17, and HG9-HG14; see also **Chapter 13: Hydrology, Hydrogeology, Geology and Soils**). The Woodland Retention Plan will have a particular focus on where Ancient Woodland, LEPO and native woodland removal can be reduced (F5).

11.8.30 Habitats that are affected by the Proposed Development will be subject to on-site habitat restoration and compensation measures where possible, and off-site habitat compensation and enhancement measures as appropriate, as outlined in **Volume 5, Appendix 3.3: Outline Site Restoration Plan**, **Appendix 9.6: Outline Landscape Mitigation Design Guide**, and **Appendix 11.5: Outline Biodiversity Enhancement Plan** (EC26, EC27).

11.8.31 In considering the above, the significance of potential effects on habitats of conservation concern are detailed in **Table 11.19: Assessment of Significance of Likely Construction Effects – Habitats of Conservation Concern**). Significance is assessed within the context of the Ecological Importance of the ESA for Habitats of Conservation Concern (see **Table 11.11: Ecological Importance Assessment**).

Table 11.19 Assessment of Significance of Likely Construction Effects – Habitats of Conservation Concern

Parameter	Likely Effect	
	Habitat Loss	Habitat Fragmentation
Extent	Habitat loss is limited to a small proportion of the habitats of conservation interest within the ESA, many of which are in	Habitat fragmentation is limited to a small proportion of the habitats of conservation

Parameter	Likely Effect	
	Habitat Loss	Habitat Fragmentation
	localised areas. However of note is the following: **Angus**: • Upland heathland: 9.97 ha, 6.85% of the Angus ESA resource (also Annex I). • Lowland mixed deciduous woodland: 0.06 ha, 4.13% of the Angus ESA resource. • Upland birchwoods: 1.29 ha, 2.43 % of the Angus ESA resource. • Upland mixed ashwood: 0.48 ha, 34.5% of the Angus ESA resource (also Annex I). • Wet woodland: 0.16 ha, 1.24% of the Angus ESA resource. **Aberdeenshire**: • Upland heathland: 6.06 ha, 4.22% of the Aberdeenshire ESA resource (also Annex I). • Purple moor grass and rush pasture: 0.88 ha, 2.77% of the Aberdeenshire ESA resource. • Upland birchwoods: 0.03 ha, 0.10% of the Aberdeenshire ESA resource. • Wet woodland: 0.18 ha, 0.80% of the Aberdeenshire ESA resource.	interest within the ESA, many of which occur in localised areas. The majority of non-woodland habitats of conservation concern have been avoided for the purposes of infrastructure, and/or are oversailed; thus fragmentation will not occur in these instances. Where non-woodland habitats of conservation concern are subject to habitat losses, there may be some resultant fragmentation of the remaining resource. The effects would be localised, and it is considered likely that the function of the remaining resource would remain (for example, Upland heathland in Angus and Aberdeenshire, and Purple moor grass and rush pastures in Aberdeenshire). Removal of extents of woodland habitats of conservation concern will result in fragmentation of the remaining resource. The effects would be localised. In some cases the removals are on the edges of woodland blocks (such as at Cammackmuir Plantation, north of Slug Road, and near Loch of Park), or the areas affected are already isolated (such as near Nether Bow, and Haughhead). In other instances, the woodland affected creates a connecting feature (such as along watercourses including the Noran Water, Kings Burn, and Burn of Sheeoch), or connectivity within larger woodland extents is affected (such as at Mosside of Ballinshoe, Woodside, Lochty Wood).
Magnitude	The habitats of conservation concern will persist in the wider landscape. It is anticipated that semi-natural habitats such as wet and dry heath and acid grassland will re-establish where commercial conifers are removed from upland fringe locations within the operational corridor. The majority of wetland habitats are avoided and therefore retained.	Commitment to use existing access tracks and to restrict the removal of vegetation in sensitive habitats wherever possible, will ensure that habitat fragmentation is limited. There will be no change to the structure of function of habitats of conservation concern within the ESA as a result of habitat fragmentation during construction.
Duration	Permanent	Permanent
Frequency	One-off event during construction	One-off event during construction
Reversibility	Irreversible	Irreversible
Likelihood	Certain	Certain
Significance (EcIA)	Significant at Local level	Significant at Local level
Significance (EIA)	Minor, Not Significant	Minor, Not Significant

Bats

11.8.32 Likely effects on bats during construction have been identified as:

- habitat loss in relation to suitable sheltering, commuting and foraging habitat; and
- habitat fragmentation through severance of commuting and foraging routes.

11.8.33 The most ecologically valuable woodlands, ie those listed on the AWI as well as mature stands of broadleaf woodland, were identified and avoided where possible during the design process (EC3, EC4, EC8); due to their age

and/or composition, these woodland types have increased likelihood of supporting roosting bats. The design also sought to avoid fragmenting blocks of woodland (EC8) including broadleaf, coniferous and mixed stands, thus direct impacts are generally limited to the edges of woodland, with the exception of areas such as Fetteresso Forest and Durris Forest, both of which are coniferous plantation woodlands with limited bat roost potential (refer to **Volume 3, Figures 11.7.1 to 11.7.23: Bat Survey Results**. The LOD has been refined in certain places to further avoid impacts to select woodlands, including Loch of Park which is a designated site (EC1, EC2, EC4).

11.8.34 Riparian woodland on the Noran Water is designated on the AWI as a woodland of semi-natural origin. The mapped area has been avoided, while works to the west have been designed to reduce the requirement for riparian tree felling (EC1, EC3, EC8, EC9, EC10).

11.8.35 Where wayleaves are required through blocks of woodland such as Fetteresso Forest and Durris Forest, these have been designed to be limited to the felling required to facilitate the Operational Corridor during construction works and maintain the required clearance during operation (EC8, EC18, EC19).

11.8.36 The design process sought to upgrade existing access tracks wherever possible, rather than to create new access tracks, which reduces the overall loss of habitat with the potential to support bats (EC8).

11.8.37 Some loss of linear features which bats use for commuting purposes through the landscape will occur, such as removal of hedgerows and lines of trees. However, these losses are generally small, local and the majority will be reinstated once works are complete (EC8, EC26, EC27), meaning the impact is temporary. Furthermore, not all linear features across the ESA will be removed at the same time and the small and temporary gaps will remain passable to foraging and commuting bats, thus potential for impacts to commuting bats through habitat loss have been reduced where possible (EC8).

11.8.38 Buildings and built structures have also been avoided, thus reducing the potential for the Proposed Development to impact directly on roosting bats using these habitats (EC18, EC19).

11.8.39 As such, any requirement for removal of woodland and linear features such as hedgerows and lines of trees has been minimised through design, and the habitat potential for commuting, foraging and roosting bats is broadly maintained within the Site.

11.8.40 The assessment below is cognisant of the survey limitations encountered such as access restrictions, and the difficulty of surveying large areas for potential bat roosts. Furthermore, applied mitigation includes adherence to the existing Bat SPP[10] (EC6, EC14-16, EC18) as part of the CEMP (EC7), adherence to all relevant GEMPs (EC6), update pre-construction surveys (EC6, EC15) and engagement of an Advisory ECoW (EC6, EC17).

11.8.41 In considering the above, the significance of potential effects on bats is detailed in **Table 11.20: Assessment of Significance of Likely Construction Effects – Bats**. Significance is assessed within the context of the Ecological Importance of the ESA for bats (see **Table 11.11: Ecological Importance Assessment**).

Table 11.20: Assessment of Significance of Likely Construction Effects – Bats

Parameter	Likely Effect	
	Habitat Loss	Habitat Fragmentation
Extent	Total habitat loss of 56.42 hectares is anticipated to be comprised of approximately 9.08 hectares broadleaf woodland, 43.13 hectares of coniferous woodland plantations (predominantly within Durris and Fetteresso Forest) and 4.21 hectares of mixed woodland. Of these, many of the woodlands to be lost provide no or limited bat roost potential (refer to **Volume 3, Figures 11.7.1 to 11.7.23: Bat Survey Results**), thus it is mainly foraging and commuting habitat that will be altered. Woodland loss can result in increased edge habitat for foraging and commuting so the effect is not always negative.	Habitat fragmentation cannot be quantified in the same way as habitat loss, though an illustration is provided in **Volume 3, Figures 11.7.1 to 11.7.23: Bat Survey Results.** Key, but localised habitat fragmentation is anticipated at the following woodlands: **Angus:** • Woodside LNCS between S151 and S150; • Riparian woodland along the eastern bank of the River South Esk SAC between S143 and S142;

Parameter	Likely Effect	
	Habitat Loss	**Habitat Fragmentation**
	Key areas in which localised habitat loss will be required to facilitate a wayleave, towers and/or access tracks, is anticipated at the following woodlands: **Angus:** • Woodside LNCS between S151 and S150, the width of the Operational Corridor; • A narrow corridor of riparian woodland along the eastern bank of the River South Esk SAC between S143 and S142; • Noran Water (also part of the River South Esk SAC) riparian woodland the width of the Operational Corridor between S131 and S130; • Duns Wood the width of the Operational Corridor between S116 and S113; • Lochty Wood, the width of the Operational Corridor between S112 and S111; • A section through Belliehill Wood between S103 and S102, the width of the Operational Corridor; • The northern tip of Little Brechin Wood at S101; • Uunnamed West Water riparian woodland the width of the Operational Corridor between S90 and S89; and • Riparian woodland on the west bank of the River North Esk at S83, the width of the Operational Corridor. **Aberdeenshire:** • A section through the north of Capo Plantation the width of the Operational Corridor between S80 and S78; • Northern trees within Inverury Wood between S76 and S75 the width of the Operational Corridor; • A section through Lady Jane's Plantation the width of the Operational Corridor between S65 and S63; • A section through an unnamed woodland between S57 and S56 the width of the Operational Corridor; • A section through the Woods of Redhall between S35 and S34, the width of the Operational Corridor; • A section through Dens Wood between S31 and S30, the width of the Operational Corridor; • A section through Fetteresso Forest, the width of the Operational Corridor between S4 and N89 and between N87 and N86; • A section through Durris Forest the width of the Operational Corridor between N81 and N70; • Narrow sections of Free Church Wood including the riparian woodland, Kirkton Wood, of the Burn of Sheeoch (part of the River Dee SAC) between N68 and N64;	• Noran Water (also part of the River South Esk SAC) riparian woodland between S131 and S130; • Duns Wood between S116 and S113; • Lochty Wood between S112 and S111; • Belliehill Wood and Little Brechin between S103 and S101; • Unnamed West Water riparian woodland between S90 and S89; and • Riparian woodland on the west bank of the River North Esk at S83. **Aberdeenshire:** • Capo Plantation and Cleary Wood between S80 and S78; • Inverury Wood between S76 and S75; • Lady Jane's Plantation between S65 and S63; • Unnamed woodland between S57 and S56; • Woods of Redhall between S35 and S34; • Unnamed wood between S22 and S21; • Dens Wood between S31 and S30; • Fetteresso Forest between S4 and N89 ; • Durris Forest between N81 and N70; • Free Church Wood and Kirkton Wood along the Burn of Sheeoch (part of the River Dee SAC) between N68 and N64; • River Dee SAC and LNCS riparian woodland between N62 and N61; • Coldstream Plantation between N53 and N51; • North Kirkton Wood between N33 and N32; and • Myriewell Wood at N30.

Parameter	Likely Effect	
	Habitat Loss	Habitat Fragmentation
	• A section of the River Dee SAC and LNCS riparian woodland between N62 and N61, the width of the Operational Corridor; • Unnamed woodland at N61, the width of the Operational Corridor; • Woodland within the east of the Loch of Park SSSI and LNCS, between N56 and N54; • Coldstream Plantation, the width of the Operational Corridor between N53 and N51; • Unnamed woodland between N47 and N45; • A section through North Kirkton Wood between N33 and N32, the width of the Operational Corridor; • A section through Myriewell Wood between N30 and N29, the width of the Operational Corridor; • Eastern reaches of Scaur Wood between N20 and N18, the width of the Operational Corridor and a small area of management felling to the east; • Eastern section of Corskie Wood between N17 and N16, the width of the Operational Corridor and a small area of management felling to the west; and • Northern tip of an unnamed woodland and scrub between N10 and N7.	
Magnitude	The proposed habitat loss is considered unlikely to affect the integrity and viability of local bat populations as the woodlands affected are predominantly those which were identified as having low potential for roosing and foraging bats and typically were classified as Negligible or PRF-I.	The proposed habitat fragmentation is considered unlikely to affect the integrity and viability of local bat populations as the woodlands affected are predominantly those which were identified as having low potential for roosing and foraging bats and typically were classified as Negligible or PRF-I.
Duration	Permanent	Permanent
Frequency	One-off event during construction	One-off event during construction
Reversibility	Irreversible, though the operational corridor will be smaller than the LOD, thus some replanting will occur which will reverse some of the habitat loss.	Irreversible fragmentation of several woodland blocks are anticipated; however, the habitats which will be retained or planted within the operational corridor will create edge habitat. Bats prefer to use edge habitat[84] than to commute or forage in dense commercial coniferous plantation woodland, thus with time the effects of habitat fragmentation through coniferous woodland plantations are anticipated to be reversible.
Likelihood	Certain	Certain
Significance (EcIA)	Significant at a Study Area level	Significant at a Study Area level

[84] Bat Conservation Trust (undated webpage) Commuting habitats. Available online; https://www.bats.org.uk/about-bats/where-do-bats-live/bat-habitats/commuting-habitats#:~:text=Many%20people%20don't%20realise,protected%20areas%20like%20nature%20reserves. Accessed June 2025.

Parameter	Likely Effect	
	Habitat Loss	Habitat Fragmentation
Significance (EIA)	Minor, Not Significant	Minor, Not Significant

Beaver

11.8.42 Likely effects on beaver during construction have been identified as:

- habitat loss in relation to suitable sheltering, commuting and foraging habitat; and
- habitat fragmentation through severance of commuting and foraging routes.

11.8.43 Field surveys did not identify any evidence of beaver within the ESA, though the desk study identified beaver within watercourses in Sections A and B. The main watercourses within Sections A and B were considered to be unsuitable for beaver at the time of the surveys as detailed in **Volume 5, Appendix 11.3: Protected Species Survey Report** and illustrated within **Volume 3, Figures 11.6.1 to 11.6.23: Protected Species Survey Results**, with the exception of the King's Burn, King's Burn Tributary and the Noran Water which were considered to be sub-optimal and the River South Esk which was considered to be suitable. Several watercourses within Sections C to F were considered suitable or sub-optimal, with the Burn of Sheeoch considered to be optimal for beaver, and while beaver are understood to be expanding in a northeast direction, these watercourses are outside the species current range[85].

11.8.44 The design development process sought to avoid direct impacts to watercourses as far as practical (EC8). Towers, access tracks and associated infrastructure have been sited outside the watercourse buffers and outside most floodplain areas (EC2, EC5, HG1, HG3, HG4). Further, the watercourse crossings points have taken into account the riparian habitat and sought to avoid the most sensitive riparian woodland habitats (EC5, EC9-11, EC13), which in turn will protect the associated watercourse and its potential to support beaver. The design has also minimised the loss of riparian woodland habitat, with oversailing of these sensitive areas wherever possible (EC9). Restoration and compensation measures will be applied to habitats impacted by construction of the Proposed Development, in accordance with the principles outlined in **Volume 5, Appendix 3.3: Outline Site Restoration Plan, Appendix 9.6: Outline Landscape Mitigation Design Guide** and **Appendix 11.5: Outline Biodiversity Enhancement Plan** (EC8, EC26, EC27).

11.8.45 Where access tracks are required to cross watercourses, existing bridges and crossing points are preferred, with passable bottomless arch or single-span bridges the most favoured design (EC5).

11.8.46 Where conductors are required to cross watercourses, methods will be used to ensure that conductors do not come to ground, and therefore watercourses and their associated habitats will be protected via methods appropriate to the size and conservation status of the watercourse and beaver will be protected from electrocution (EC24).

11.8.47 The assessment below is cognisant of the survey limitations encountered such as access restrictions. Furthermore, embedded mitigation includes adherence to the existing Beaver SPP[16] (EC6, EC14-19) as part of the CEMP (EC7), adherence to all relevant GEMPs (EC7), update pre-construction surveys (EC6, EC15) and engagement of an Advisory ECoW (EC6, EC17).

11.8.48 In considering the above, the significance of potential effects on beaver is detailed in **Table 11.21: Assessment of Significance of Likely Construction Effects – Beaver**. Significance is assessed within the context of the Ecological Importance of the ESA for beaver (see **Table 11.11: Ecological Importance Assessment**).

[85] IUCN/CPSG, 2022. Scotland's Beaver Strategy 2022-2045. IUCN SSC Conservation Planning Specialist Group, MN, USA.

Table 11.21: Assessment of Significance of Likely Construction Effects – Beaver

Parameter	Likely Effect	
	Habitat Loss	Habitat Fragmentation
Extent	Habitat losses will be localised to the riparian habitats of the watercourses listed below where habitat loss is required to facilitate the operational corridor: **Angus:** • Unnamed watercourse between S156 and S155; • Unnamed watercourse between S151 and S150; • Unnamed Lemno Burn tributary between S138 and S137; • Two unnamed Lemno Burn tributaries between S147 and S146 • River South Esk between S143 and S140; • Bog Burn between S136 and S135; • Noran Water between S131 and S130; • Coe Burn between S112 and S111; • Cruick Water between S106 and S105 and between S102 and S101; • West Water between S90 and S89; and • River North Esk at S83. **Aberdeenshire:** Beaver is considered likely absent from Aberdeenshire. No in-water works are proposed in any of the major watercourses where beaver are likely to be present.	Very limited habitat fragmentation is anticipated, as this species uses the watercourse to commute, and no construction works are proposed on watercourses which are known to support this species. Thus, watercourses will continue to be available to beaver throughout the construction period.
Magnitude	The proposed habitat loss is considered unlikely to affect the integrity and viability of the local beaver population, as the watercourses affected will not be subject to in-water works and no evidence of beaver was identified suggesting at the time of writing. that this species may not have extended its range to habitats in the vicinity of Proposed Development. Riparian habitat loss will occur, but the area of this is very small within any one watercourse.	The proposed habitat fragmentation is considered unlikely to affect the integrity and viability of the local beaver population, as the watercourses affected will not be subject to in-water works; thus commuting and foraging corridors through the landscape will be retained throughout the construction period. Riparian habitat fragmentation will occur, but the area of this is very small within any one watercourse.
Duration	Permanent	Permanent
Frequency	One-off event during construction	One-off event during construction
Reversibility	Irreversible, though the operational corridor will be smaller than the LOD, thus some replanting will occur which will reverse some of the habitat loss.	Reversible; construction will not affect the watercourse directly. It is the watercourse which is used as a connecting habitat for this species, thus fragmentation is at most temporary during the construction phase.
Likelihood	Certain	Certain
Significance (EclA)	Not Significant at Study Area level	Not Significant at Study Area level
Significance (EIA)	Negligible, Not Significant	Negligible, Not Significant

Otter

11.8.49 Likely effects on otter during construction have been identified as:

- habitat loss in relation to suitable sheltering, commuting and foraging habitat; and

- habitat fragmentation through severance of commuting and foraging routes.

11.8.50 Evidence of otter, in the form of varying ages of spraint and feeding remains, was identified on River South Esk, Bog Burn, Noran Water, the West Water, the River North Esk, Bervie Water, the Cowie Water, Burn of Sheeoch and the River Dee, with resting sites found on the West Water, River South Esk and River North Esk as discussed in detail in **Volume 5, Appendix 11.3: Protected Species Survey Report** and illustrated in **Volume 3, Figures 11.6.1 to 11.6.23: Protected Species Survey Results**.

11.8.51 Otter was also reported to be present on the Dean Water through consultation. This watercourse was considered sub-optimal for otter, though no evidence of their presence was identified during the field surveys.

11.8.52 The design has sought to avoid direct impacts to watercourses as far as practical (EC8). Towers, access tracks and associated infrastructure have been sited outside the watercourse and outside most floodplain areas (EC2, EC5, HG1, HG3, HG4). Further, the watercourse crossings points have taken into account the riparian habitat and sought to avoid the most sensitive riparian woodland habitats (EC5, EC9-11, EC13), which in turn will protect the associated watercourse and its potential to support otter. The design has also minimised the loss of riparian woodland habitat as far as possible and riparian woodlands will be oversailed wherever possible (EC9). Restoration and compensation measures will be applied to habitats impacted by construction of the Proposed Development, in accordance with the principles outlined in **Volume 5, Appendix 3.3: Outline Site Restoration Plan, Appendix 9.6: Outline Landscape Mitigation Design Guide** and **Appendix 11.5: Outline Biodiversity Enhancement Plan** (EC8, EC26, EC27).

11.8.53 Where access tracks are required to cross watercourses, existing bridges and crossing points are preferred, with passable bottomless arch or single-span bridges being the most favoured (EC5).

11.8.54 Where conductors are required to cross watercourses, methods will be used to ensure that conductors do not come to ground, and therefore watercourses and their associated habitats will be protected via methods appropriate to the size and conservation status of the watercourse and otter and their food sources will be protected from electrocution (EC24).

11.8.55 The assessment below is cognisant with the survey limitations encountered such as access restrictions, and difficulty of surveying large watercourses safely for otter. Furthermore, embedded mitigation includes adherence to the existing Otter SPP[11] (EC6, EC14-19) as part of the CEMP (EC7), adherence to all relevant GEMPs (EC7), update pre-construction surveys (EC6, EC15) and engagement of an Advisory ECoW (EC6, EC17) .

11.8.56 In considering the above, the significance of potential effects on otter is detailed in **Table 11.22: Assessment of Significance of Likely Construction Effects – Otter**. Significance is assessed within the context of the Ecological Importance of the ESA for otter (see **Table 11.11: Ecological Importance Assessment**).

Table 11.22: Assessment of Significance of Likely Construction Effects – Otter

Parameter	Likely Effect	
	Habitat Loss	Habitat Fragmentation
Extent	Localised to the riparian habitats of the watercourses listed below, where habitat loss is required to facilitate a wayleave: • Unnamed watercourse between S156 and S155; • Unnamed watercourse between S151 and S150; • Unnamed Lemno Burn tributary between S138 and S137; • Two unnamed Lemno Burn tributaries between S147 and S146 • River South Esk between S143 and S140; • Bog Burn between S136 and S135; • Noran Water between S131 and S130;	Very limited habitat fragmentation is anticipated in that this species uses the watercourse to commute while no construction works are proposed within main or natural watercourses. Thus, watercourses will continue to be available to otter throughout the construction period.

Parameter	Likely Effect	
	Habitat Loss	Habitat Fragmentation
	• Coe Burn between S112 and S111; • Cruick Water between S106 and S105 and between S102 and S101; • West Water between S90 and S89; and • River North Esk at S83. **Aberdeenshire:** • River North Esk at S83; • Unnamed watercourse between S46 and S45; • Nursery Burn between S32 and S31; • Bervie Water Tributary between S24 and S23; • Bervie Water at S23; • Carron Water tributary at S11; • Burn of Elfhill between S5 and S4; • Cowie Water between N90 and N89; • Black Burn between N87 and N86; • Unnamed watercourse between N82 and N81; • Clash Burn between N76 nad N75; • Unnamed watercourse between N71 and N70; • Burn of Sheeoch between N86 and N87; • River Dee between N62 and N61; • Unnamed watercourse between N19 and N18; and • Park Burn between N6 and N4. No in-water works are proposed in any of the major watercourses where otter are likely to be present.	
Magnitude	The proposed habitat loss is considered unlikely to affect the integrity and viability of the local otter population, as the watercourses affected will not be subject to in-water works. Riparian habitat loss will occur; however this will be very localised within any one watercourse.	The proposed habitat fragmentation is considered unlikely to affect the integrity and viability of the local otter population, as the watercourses affected will not be subject to in-water works; thus otter commuting and foraging corridors through the landscape will be retained throughout the construction period. Riparian habitat fragmentation will occur; however, this will be very localised within any one watercourse.
Duration	Permanent	Permanent
Frequency	One-off event during construction	One-off event during construction
Reversibility	Irreversible, though some replanting will occur which will reverse some of the habitat loss.	Reversible; construction will not affect the watercourse directly. It is the watercourse which is used as a connecting habitat for this species, thus fragmentation is at most temporary during the construction phase.
Likelihood	Certain	Certain
Significance (EcIA)	Significant at a Study Area level	Significant at a Study Area level
Significance (EIA)	Minor, Not Significant	Minor, Not Significant

Wildcat

11.8.57 Likely effects on Scottish wildcat during construction have been identified as:

- habitat loss in relation to suitable sheltering, commuting and foraging habitat;
- habitat fragmentation through severance of commuting and foraging routes; and
- disturbance to Scottish wildcat as a result of construction activities.

11.8.58 No evidence of Scottish wildcat presence within the ESA was identified during walkover surveys; however, one instance of a tabby coloured cat, presumed to be a Scottish wildcat on a cautious basis, was observed through camera trapping surveys (refer to **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report** for further detail). Photographs of presumed Scottish wildcats within the ESA were provided by two landowners on three dates, and following NatureScot guidance[86], despite the full pelage not being visible, these sightings are being treated as true Scottish wildcats. The results of the walkover surveys identified a small number of woodlands with sub-optimal habitat suitability for Scottish wildcat, though these were found to be frequented by a domestic cat or dog walkers, which vastly reduces the potential for true Scottish wildcat to be present. The woodlands were also generally not well-connected to others within the ESA, nor the wider landscape.

11.8.59 Several woodlands with the potential to support Scottish wildcat may be subject to a small amount of habitat loss which has been minimised as far as possible (EC8); however none will be fully lost. This habitat provides only hunting and commuting potential for Scottish wildcat, with temporary resting opportunities. It is not considered likely that any of the woodlands surveyed for Scottish wildcat provide permanent shelter as discussed further within **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**. Further, as Scottish wildcat prefer woodland edge habitat for commuting and hunting, this loss of woodland cover may actually increase habitat suitability.

11.8.60 The design has considered the potential for Scottish wildcat within the ESA and has sought to reduce habitat loss as far as possible throughout the length of the Proposed Development (EC8).

11.8.61 Some loss of linear features which Scottish wildcat may use for commuting purposes through the landscape will be lost, such as hedgerows and lines of trees. However, these losses are generally small, localised, and the majority of habitats will be reinstated once works are complete, meaning the impact is temporary (EC8, EC26, EC27). Furthermore, not all linear features across the ESA will be removed at the same time and the small and temporary gaps will remain passable to foraging and commuting Scottish wildcat, thus impacts to commuting Scottish wildcat have been reduced (EC8).

11.8.62 Where wayleaves are required through blocks of woodland these have been designed to be limited to the felling required to facilitate the Operational Corridor during construction works and maintain the required clearance during operation (EC8, EC18, EC19).

11.8.63 The assessment below is cognisant of the survey limitations encountered such as access restrictions and difficulty of identifying Scottish wildcat evidence or potential denning sites. Furthermore, embedded mitigation includes adherence to the existing Wildcat SPP[14] (EC14-21) as part of the CEMP (EC7), adherence to all relevant GEMPs (EC6), update pre-construction surveys (EC6, EC15) and engagement of an Advisory ECoW (EC6).

11.8.64 In considering the above, the significance of potential effects on Scottish wildcat is detailed in **Table 11.23: Assessment of Significance of Likely Construction Effects – Scottish Wildcat**. Significance is assessed within the context of the Ecological Importance of the ESA for Scottish wildcat (see **Table 11.11: Ecological Importance Assessment**).

[86] NatureScot, 2023. Definition of a Wildcat – Updated Guidance. [Online] Available at: https://www.nature.scot/doc/definition-wildcat-updated-guidance#:~:text=This%20method%20gives%20a%20score,are%20classified%20as%20a%20wildcat. [Accessed February 2025].

Table 11.23: Assessment of Significance of Likely Construction Effects – Scottish Wildcat

Parameter	Likely Effect		
	Habitat Loss	Habitat Fragmentation	Disturbance
Extent	Localised to 11 woodlands in two Sections of the Proposed Development in both Angus and Aberdeenshire.	Localised to three woodlands within two Sections of the Proposed Development in both Angus and Aberdeenshire.	Localised to 11 woodlands in two Sections of the Proposed Development in both Angus and Aberdeenshire.
Magnitude	Limited to relatively small areas, typically the edge of an existing woodland. Note that in all cases, the majority of each affected woodland will be retained.	Limited to three locations, though in all cases, if Scottish wildcat are present, this fragmentation severs only a small section of woodland from a larger area.	Limited to isolated construction events
Duration	Permanent	Permanent	During construction within select areas
Frequency	One-off event during construction	One-off event during construction	Limited number of events during construction
Reversibility	Where habitat loss occurs during the construction phase, non-wooded habitat will take its place. This edge habitat is preferred by Scottish wildcat, thus with time the effects of habitat loss will be reversible.	Three areas suitable for Scottish wildcat will be fragmented, however the habitats which will be retained or planted within the operational corridor will create edge habitat. Wildcat prefer edge habitat to dense commercial coniferous plantation woodland, thus with time the effects of habitat fragmentation are considered to be reversible.	Reversible
Likelihood	Certain	Certain	Certain
Significance (EclA)	Significant at a Local level	Not Significant at a Local level	Significant at a Local level
Significance (EIA)	Minor, Not Significant	Minor, Not Significant	Minor, Not Significant

Badger

11.8.65 Likely effects on badger during construction have been identified as:

- habitat loss in relation to suitable sheltering, commuting and foraging habitat; and
- habitat fragmentation through severance of commuting and foraging routes.

11.8.66 As a full badger survey of the surrounding landscape was not undertaken and not every sett was identified and given the presence of a number of setts considered suitable for breeding badger within the LOD, a cautious approach has been taken in assessing the impact of the Proposed Development on badger. Methods and results however have been provided in **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report**.

11.8.67 The design has sought to reduce woodland loss as much as possible throughout the length of the Proposed Development by placing towers predominantly in fields (EC8) and loss of the most ecologically valuable woodlands reduced (EC3, EC4, EC8). Further, the habitat loss will be reinstated outwith permanent infrastructure in line with **Volume 5, Appendix 11.5: Outline Biodiversity Enhancement Plan** (EC8, EC18, EC19, EC26, EC27) Where wayleaves are required through blocks of woodland such as Fetteresso Forest and Durris Forest, these have been designed to be limited to the felling required to facilitate the Operational Corridor during construction works and maintain the required clearance during operation (EC8, EC18, EC19). While the majority of towers are proposed to

be placed in fields, many of which may provide foraging habitat for badger, existing access tracks within fields will be utilised as far as possible thus reducing the loss of potential foraging habitat for badger within the ESA.

11.8.68 Almost 40 setts were identified within the ESA, ranging from disused single-entrance setts with no signs of current use by badger, to very large, active setts where it was considered likely that badger were breeding. A further eight setts were identified outwith the ESA which are included in the results presented in **Volume 6, Appendix 11.6: Confidential Protected Species Report** to aid understanding of badger within the wider landscape. Habitats throughout the Proposed Development offer a variety of habitats suitable for foraging and commuting badger, as well as a range of opportunities for sett excavation. Most setts identified were located outside the LOD and working corridor. Of the four setts identified within the LOD which are considered likely to be suitable for breeding badger, only one sett is within an Environmental Protection Zone (EPZ) working area, and one other sett is on the edge of the Operational Corridor. These setts, along with one other (which is located outwith all working areas), are located within the same area and are likely part of the same highly active badger clan. The fourth sett within the LOD is likely to be oversailed as it is outside all working areas. The location of badger setts is confidential and as such are discussed in more detail in **Volume 6, Appendix 11.6: Confidential Protected Species Report** and illustrated on **Volume 6, Figures 11.8.1 to 11.8.23: Confidential Protected Species Survey Results**.

11.8.69 The assessment below is cognisant of the survey limitations encountered such as access restrictions. Furthermore, embedded mitigation includes adherence to the existing Badger SPP[9] (EC6, EC14-19) as part of the CEMP (EC7), adherence to all relevant GEMPs (EC6), update pre-construction surveys (EC6, EC15) and engagement of an Advisory ECoW (EC6). Further, where necessary works will be undertaken outwith the most sensitive times of year and where required, a licence will be sought from NatureScot (EC18).

11.8.70 In considering the above, the significance of potential effects on badger is detailed in **Table 11.24: Assessment of Significance of Likely Construction Effects – Badger**. Significance is assessed within the context of the Ecological Importance of the ESA for badger (see **Table 11.11: Ecological Importance Assessment**).

Table 11.24: Assessment of Significance of Likely Construction Effects – Badger

Parameter	Likely Effect	
	Habitat Loss	Habitat Fragmentation
Extent	Limited and localised to areas of construction activities, e.g. tower bases and temporary working areas, vegetation clearance, access tracks and scaffolding platforms.	Limited and localised to areas of construction activities, e.g. tower bases and temporary working areas, vegetation clearance, access tracks and scaffolding platforms.
Magnitude	Badger utilise a wide range of habitats for foraging and commuting, as well as sett excavation. Overall, habitat loss will be minimal as the towers have been sited predominantly in agricultural land while existing access tracks have been utilised as far as possible.	Habitat fragmentation for badger will be minimal as once construction is complete, the fields will be available for foraging and commuting once more, and sett excavation potential within the wider landscape will not be reduced. Even the permanent access tracks are not considered likely to form a barrier to badger movement through the landscape.
Duration	Permanent	Temporary during the construction phase
Frequency	One-off event during construction	One-off event during construction
Reversibility	Reversible	Reversible
Likelihood	Certain	Certain
Significance (EcIA)	Significant at a Study Area level	Significant at a Study Area level
Significance (EIA)	Minor, Not Significant	Minor, Not Significant

Red Squirrel

11.8.71 Likely effects on red squirrel during construction have been identified as:

- habitat loss in relation to suitable sheltering, commuting and foraging habitat; and
- habitat fragmentation through severance of commuting and foraging routes.

11.8.72 The design has sought to reduce woodland loss as much as possible throughout the length of the Proposed Development, by placing towers predominantly in fields and avoiding old or mature broadleaf and mixed woodland (EC3, EC4, EC8). Where felling is required, it has been minimised as far as possible (EC8, EC9). The majority of woodlands which will be subject to felling are Sitka spruce dominated coniferous woodland (approximately 43.13 hectares of coniferous plantation is to be lost across the ESA), much of which, with the exception of Durris and Fetteresso Forests, is generally not considered suitable habitat for red squirrels due to their being small, isolated and comprised of a single species and age class as discussed further in **Volume 5, Appendix 11.3: Protected Species Survey Report** and illustrated in **Volume 3, Figures 11.6.1 to 11.6.23: Protected Species Survey Results**.

11.8.73 Where wayleaves are required through blocks of woodland these have been designed to be limited to the felling required to facilitate the Operational Corridor during construction works and maintain the required clearance during operation (EC8, EC18, EC19).

11.8.74 No dreys were identified during the surveys, though squirrel feeding remains were noted in at least one woodland in each Section, and the desk study confirms red squirrel is likely present within the ESA where suitable habitat is present. Surveys concluded that approximately one quarter of the woodlands offered unsuitable habitat, a third offered suitable habitat and over a third offered sub-optimal habitat for red squirrel as detailed within **Volume 5, Appendix 11.3: Protected Species Survey Report** and illustrated within **Volume 3, Figures 11.6.1 to 11.6.23: Protected Species Survey Results**. Only two woodlands were considered to provide optimal habitat for red squirrel; Fetteresso Forest (in Sections D and E) and Durris Forest (Section E). Most of the woodlands within the northern Sections were considered to offer sub-optimal habitat for red squirrel, while most of the woodlands in the southern Sections were considered to provide only suitable or unsuitable habitat for red squirrels. Overall, however, it is considered likely that red squirrel are present within the whole of the ESA, and LOD, in low numbers, typically living within woodlands and utilising tree lines and hedgerows for foraging and commuting through the landscape.

11.8.75 Some loss of linear features which red squirrel may use for commuting purposes through the landscape will be lost, such as hedgerows and lines of trees. However, these losses are generally small, local and the majority will be reinstated once works are complete, meaning the impact is temporary (EC8, EC26, EC27). Furthermore, not all linear features across the ESA will be removed at the same time and the small and temporary gaps will remain passable to foraging and commuting red squirrel; thus impacts to commuting red squirrel have been reduced where possible. Removal of trees and hedgerows will be minimised wherever possible (EC8), and on-site measures will be implemented (subject to landowner agreement) to restore habitats in accordance with **Volume 5, Appendix 3.3: Outline Site Restoration Plan**, **Appendix 9.6: Outline Landscape Mitigation Design Guide**, and **Appendix 11.5: Outline Biodiversity Enhancement Plan** (EC18, EC19, EC26, EC27).

11.8.76 Where wayleaves are required through blocks of woodland such as Fetteresso Forest and Durris Forest, these have been designed to be limited to the felling required to facilitate the Operational Corridor during construction works and maintain the required clearance during operation (EC8, EC18, EC19). The LOD has also been refined in certain places to further avoid impacts to select woodlands (EC1, EC2, EC4) In this way, habitat loss and fragmentation will be reduced.

11.8.77 The assessment below is cognisant of the survey limitations encountered, such as the difficulty of fully surveying dense conifer plantations, and access restrictions. Furthermore, embedded mitigation includes adherence to the existing Red Squirrel SPP[12] (EC6) as part of the CEMP (EC7), adherence to all relevant GEMPs (EC6), update pre-construction surveys (EC6, EC15) and engagement of an Advisory ECoW (EC6).

11.8.78 In considering the above, the significance of potential effects on red squirrel is detailed in **Table 11.25: Assessment of Significance of Likely Construction Effects – Red Squirrel**. Significance is assessed within the context of the Ecological Importance of the ESA for red squirrel (see **Table 11.11: Ecological Importance Assessment**).

Table 11.25: Assessment of Significance of Likely Construction Effects – Red Squirrel

Parameter	Likely Effect	
	Habitat Loss	**Habitat Fragmentation**
Extent	Total habitat loss of 56.42 hectares, of 1,405.58 hectares within the ESA, is anticipated to be comprised of approximately 9.08 hectares broadleaf woodland, 43.13 hectares of coniferous woodland plantations (predominantly within Durris and Fetteresso Forest) and 4.21 hectares of mixed woodland. This localised habitat loss within select areas is required to facilitate a wayleave, towers and/or access tracks. Key locations where habitat loss is anticipated are: **Angus:** • Woodside LNCS between S151 and S150, the width of the Operational Corridor; • A narrow corridor of riparian woodland along the eastern bank of the River South Esk SAC between S143 and S142; • Noran Water (also part of the River South Esk SAC) riparian woodland the width of the Operational Corridor between S131 and S130; • Duns Wood the width of the Operational Corridor between S116 and S113; • Lochty Wood, the width of the Operational Corridor between S112 and S111; • A section through Belliehill Wood between S103 and S102, the width of the Operational Corridor; • The northern tip of Little Brechin Wood at S101; • Uunnamed West Water riparian woodland the width of the Operational Corridor between S90 and S89; and • Riparian woodland on the west bank of the River North Esk at S83, the width of the Operational Corridor. **Aberdeenshire:** • A section through the north of Capo Plantation the width of the Operational Corridor between S80 and S78; • Northern trees within Inverury Wood between S76 and S75 the width of the Operational Corridor; • A section through Lady Jane's Plantation the width of the Operational Corridor between S65 and S63; • A section through an unnamed woodland between S57 and S56 the width of the Operational Corridor; • A section through the Woods of Redhall between S35 and S34, the width of the Operational Corridor; • A section through Dens Wood between S31 and S30, the width of the Operational Corridor; • A section through Fetteresso Forest, the width of the Operational Corridor between S4 and N89 and between N87 and N86; • A section through Durris Forest the width of the Operational Corridor between N81 and N70;	Habitat fragmentation cannot be quantified in the same way as habitat loss, though an illustration is provided in **Volume 3, Figures 11.6.1 to 11.6.23: Protected Species Survey Results.** Key, but localised habitat fragmentation is anticipated at the following woodlands: **Angus:** • Woodside LNCS between S151 and S150; • Riparian woodland along the eastern bank of the River South Esk SAC between S143 and S142; • Noran Water (also part of the River South Esk SAC) riparian woodland between S131 and S130; • Duns Wood between S116 and S113; • Lochty Wood between S112 and S111; • Belliehill Wood and Little Brechin between S103 and S101; • Unnamed West Water riparian woodland between S90 and S89; and • Riparian woodland on the west bank of the River North Esk at S83. **Aberdeenshire:** • Capo Plantation and Cleary Wood between S80 and S78; • Inverury Wood between S76 and S75; • Lady Jane's Plantation between S65 and S63; • Unnamed woodland between S57 and S56; • Woods of Redhall between S35 and S34; • Unnamed wood between S22 and S21; • Dens Wood between S31 and S30; • Fetteresso Forest between S4 and N89; • Durris Forest between N81 and N70; • Free Church Wood and Kirkton Wood along the Burn of Sheeoch (part of the River Dee SAC) between N68 and N64; • River Dee SAC and LNCS riparian woodland between N62 and N61; • Coldstream Plantation between N53 and N51;

Parameter	Likely Effect	
	Habitat Loss	Habitat Fragmentation
	• Narrow sections of Free Church Wood including the riparian woodland, Kirkton Wood, of the Burn of Sheeoch (part of the River Dee SAC) between N68 and N64; • A section of the River Dee SAC and LNCS riparian woodland between N62 and N61, the width of the Operational Corridor; • Unnamed woodland at N61, the width of the Operational Corridor; • Woodland within the east of the Loch of Park SSSI and LNCS, between N56 and N54; • Coldstream Plantation, the width of the Operational Corridor between N53 and N51; • Unnamed woodland between N47 and N45; • A section through North Kirkton Wood between N33 and N32, the width of the Operational Corridor; • A section through Myriewell Wood between N30 and N29, the width of the Operational Corridor; • Eastern reaches of Scaur Wood between N20 and N18, the width of the Operational Corridor and a small area of management felling to the east; • Eastern section of Corskie Wood between N17 and N16, the width of the Operational Corridor and a small area of management felling to the west; and • Northern tip of an unnamed woodland and scrub between N10 and N7.	• North Kirkton Wood between N33 and N32; and • Myriewell Wood at N30.
Magnitude	The proposed habitat loss is considered unlikely to affect the integrity and viability of the local red squirrel population as the woodlands affected are predominantly of limited suitability for red squirrel.	The proposed habitat fragmentation is considered unlikely to affect the integrity and viability of the local red squirrel population as the woodlands affected are predominantly of limited suitability for red squirrel.
Duration	Permanent	Permanent
Frequency	One-off event during construction	One-off event during construction
Reversibility	Irreversible, though the operational corridor will be smaller than the LOD, thus some replanting will occur which will reverse some of the habitat loss.	Reversible as the wayleaves will be vegetated providing red squirrel some ground cover to commute between fragmented blocks of woodland.
Likelihood	Certain	Certain
Significance (EclA)	Significant at a Study Area level	Significant at a Study Area level
Significance (EIA)	Minor, Not Significant	Minor, Not Significant

Pine Marten

11.8.79 Likely effects on pine marten during construction have been identified as:

- habitat loss in relation to suitable sheltering, commuting and foraging habitat; and
- habitat fragmentation through severance of commuting and foraging routes.

11.8.80 The design has sought to reduce woodland loss as much as possible throughout the length of the Proposed Development by placing towers predominantly in fields, and to avoid old or mature broadleaf and mixed woodland

(EC3, EC4, EC8). Where felling is required, it has been minimised as far as possible (EC8, EC9). The majority of woodlands which will be subject to felling are Sitka spruce dominated coniferous woodland (approximately 43.13 hectares of coniferous plantation is to be lost across the ESA), much of which, with the exception of Durris and Fetteresso Forests, is generally not considered suitable habitat for pine marten due to their being small, isolated and comprised of a single species and age class as discussed further in **Volume 5, Appendix 11.3: Protected Species Survey Report** and illustrated in **Volume 3, Figures 11.6.1 to 11.6.23: Protected Species Survey Results**.

11.8.81 No pine marten dens were identified during the surveys, though scats were noted in a number of locations, and the desk study confirms they are likely present within the ESA where suitable habitat exists, refer to **Volume 5, Appendix 11.3: Protected Species Survey Report** and **Volume 3, Figures 11.6.1 to 11.6.23: Protected Species Survey Results** for more details. Similarly to red squirrel, surveys concluded that approximately one third of the woodlands offered unsuitable habitat, a third offered suitable habitat and a third offered sub-optimal habitat for pine marten. Only two woodlands were considered to provide optimal habitat for pine marten; Fetteresso Forest (in Sections D and E) and Durris Forest (Section E). Most of the woodlands within the northern Sections were considered to offer sub-optimal habitat for pine marten, while most of the woodlands in the southern Sections were considered to provide only suitable or unsuitable habitat for pine marten. Overall, however, it is considered likely that pine marten are present within the whole of the ESA, and LOD, in low numbers, typically denning within old growth woodlands and utilising non-wooded habitat types to commute through the landscape.

11.8.82 Some linear features which pine marten may use for commuting purposes through the landscape will be lost, such as hedgerows and lines of trees. However, these habitat losses are generally small, local and the majority will be reinstated once works are complete, meaning the impact is temporary (EC8, EC26, EC27). Furthermore, not all linear features across the ESA will be removed at the same time and the small and temporary gaps in linear features will remain passable to foraging and commuting pine marten which will traverse some open ground, thus impacts to commuting pine marten have been reduced where possible. Removal of linear features such as hedgerows and trees will be minimised wherever possible (EC8), and on-site measures will be implemented (subject to landowner agreement) to restore habitats in accordance with **Volume 5, Appendix 3.3: Outline Site Restoration Plan**, **Appendix 9.6: Outline Landscape Mitigation Design Guide**, and **Appendix 11.5: Outline Biodiversity Enhancement Plan** (EC18, EC19, EC26, EC27).

11.8.83 Where wayleaves are required through blocks of woodland such as Fetteresso Forest and Durris Forest, these have been designed to be limited to the felling required to facilitate the Operational Corridor during construction works and maintain the required clearance during operation (EC8, EC18, EC19). The LOD has been refined in certain places to further avoid impacts to select woodlands (EC1, EC2, EC4) In this way, habitat loss and fragmentation will be reduced.

11.8.84 The assessment below considers the difficulty of identifying pine marten field signs and is cognisant of the survey limitations encountered. Furthermore, embedded mitigation includes adherence to the existing Pine Marten SPP[15] (EC6, EC14-16) as part of the CEMP (EC7), adherence to all relevant GEMPs (EC6), update pre-construction surveys (EC6, EC15) and engagement of an Advisory ECoW (EC6).

11.8.85 In considering the above, the significance of potential effects on pine marten is detailed in **Table 11.26: Assessment of Significance of Likely Construction Effects – Pine Marten**. Significance is assessed within the context of the Ecological Importance of the ESA for pine marten (see **Table 11.11: Ecological Importance Assessment**).

Table 11.26: Assessment of Significance of Likely Construction Effects – Pine Marten

Parameter	Likely Effect	
	Habitat Loss	Habitat Fragmentation
Extent	Total habitat loss of 56.42 hectares, of 1,405.58 hectares within the ESA, is anticipated to be comprised of approximately 9.08 hectares broadleaf woodland, 43.13 hectares of coniferous woodland plantations (predominantly within Durris	Habitat fragmentation cannot be quantified in the same way as habitat loss, though an illustration is provided in **Volume 3, Figures 11.6.1 to 11.6.23: Protected Species Survey Results.** Key, but

Parameter	Likely Effect	
	Habitat Loss	**Habitat Fragmentation**
	and Fetteresso Forest) and 4.21 hectares of mixed woodland. This localised habitat loss within select areas is required to facilitate a wayleave, towers and/or access tracks. Key locations where habitat loss is anticipated are: **Angus:** • Woodside LNCS between S151 and S150, the width of the Operational Corridor; • A narrow corridor of riparian woodland along the eastern bank of the River South Esk SAC between S143 and S142; • Noran Water (also part of the River South Esk SAC) riparian woodland the width of the Operational Corridor between S131 and S130; • Duns Wood the width of the Operational Corridor between S116 and S113; • Lochty Wood, the width of the Operational Corridor between S112 and S111; • A section through Belliehill Wood between S103 and S102, the width of the Operational Corridor; • The northern tip of Little Brechin Wood at S101; • Unnamed West Water riparian woodland the width of the Operational Corridor between S90 and S89; and • Riparian woodland on the west bank of the River North Esk at S83, the width of the Operational Corridor. **Aberdeenshire:** • A section through the north of Capo Plantation the width of the Operational Corridor between S80 and S78; • Northern trees within Inverury Wood between S76 and S75 the width of the Operational Corridor; • A section through Lady Jane's Plantation the width of the Operational Corridor between S65 and S63; • A section through an unnamed woodland between S57 and S56 the width of the Operational Corridor; • A section through the Woods of Redhall between S35 and S34, the width of the Operational Corridor; • A section through Dens Wood between S31 and S30, the width of the Operational Corridor; • A section through Fetteresso Forest, the width of the Operational Corridor between S4 and N89 and between N87 and N86; • A section through Durris Forest the width of the Operational Corridor between N81 and N70; • Narrow sections of Free Church Wood including the riparian woodland, Kirkton	localised habitat fragmentation is anticipated at the following woodlands: **Angus:** • Woodside LNCS between S151 and S150; • Riparian woodland along the eastern bank of the River South Esk SAC between S143 and S142; • Noran Water (also part of the River South Esk SAC) riparian woodland between S131 and S130; • Duns Wood between S116 and S113; • Lochty Wood between S112 and S111; • Belliehill Wood and Little Brechin between S103 and S101; • Unnamed West Water riparian woodland between S90 and S89; and • Riparian woodland on the west bank of the River North Esk at S83. **Aberdeenshire:** • Capo Plantation and Cleary Wood between S80 and S78; • Inverury Wood between S76 and S75; • Lady Jane's Plantation between S65 and S63; • Unnamed woodland between S57 and S56; • Woods of Redhall between S35 and S34; • Unnamed wood between S22 and S21; • Dens Wood between S31 and S30; • Fetteresso Forest between S4 and N89 ; • Durris Forest between N81 and N70; • Free Church Wood and Kirkton Wood along the Burn of Sheeoch (part of the River Dee SAC) between N68 and N64; • River Dee SAC and LNCS riparian woodland between N62 and N61; • Coldstream Plantation between N53 and N51; • North Kirkton Wood between N33 and N32; and • Myriewell Wood at N30.

Parameter	Likely Effect	
	Habitat Loss	Habitat Fragmentation
	Wood, of the Burn of Sheeoch (part of the River Dee SAC) between N68 and N64; • A section of the River Dee SAC and LNCS riparian woodland between N62 and N61, the width of the Operational Corridor; • Unnamed woodland at N61, the width of the Operational Corridor; • Woodland within the east of the Loch of Park SSSI and LNCS, between N56 and N54; • Coldstream Plantation, the width of the Operational Corridor between N53 and N51; • Unnamed woodland between N47 and N45; • A section through North Kirkton Wood between N33 and N32, the width of the Operational Corridor; • A section through Myriewell Wood between N30 and N29, the width of the Operational Corridor; • Eastern reaches of Scaur Wood between N20 and N18, the width of the Operational Corridor and a small area of management felling to the east; • Eastern section of Corskie Wood between N17 and N16, the width of the Operational Corridor and a small area of management felling to the west; and • Northern tip of an unnamed woodland and scrub between N10 and N7.	
Magnitude	The proposed habitat loss is considered unlikely to affect the integrity and viability of the local pine marten population as the woodlands affected are predominantly of limited suitability for pine marten.	The proposed habitat fragmentation is considered unlikely to affect the integrity and viability of the local pine marten population as the woodlands affected are predominantly of limited suitability for pine marten, and this species will likely utilise vegetated wayleaves within woodland blocks to move through the landscape.
Duration	Permanent	Permanent
Frequency	One-off event during construction	One-off event during construction
Reversibility	Irreversible, though the operational corridor will be smaller than the LOD, thus some replanting will occur which will reverse some of the habitat loss.	Reversible as the wayleaves will be vegetated providing pine marten with some ground cover to commute between fragmented blocks of woodland.
Likelihood	Certain	Certain
Significance (EcIA)	Significant at a Study Area level	Not Significant at a Study Area level
Significance (EIA)	Minor, Not Significant	Minor, Not Significant

Freshwater Pearl Mussel

11.8.86 Likely effects on freshwater pearl mussel during construction have been identified as:

- habitat loss in relation to suitable sheltering habitat;
- habitat fragmentation through severance of commuting and foraging routes for their host salmonid species; and

- disturbance to freshwater pearl mussel as a result of construction activities.

11.8.87 Freshwater pearl mussel are either known or assumed to be present within the River South Esk and River Dee, as both rivers are designated as SACs for their populations of this species. It is also assumed that freshwater pearl mussel are present within any tributaries that are designated as part of the River South Esk SAC and River Dee SAC. The field surveys did not identify any unknown populations and most of the watercourses surveyed were considered unsuitable for freshwater pearl mussel, usually due to the dominance of silty substrates. One watercourse was subject to three distinct survey locations, of these, two were considered to provide sub-optimal habitat suitability for freshwater pearl mussel while one provided optimal habitat suitability. One other unconnected watercourse, described in more detail in **Volume 6, Appendix 11.6: Confidential Protected Species Survey Report** to maintain confidentiality, was considered to provide optimal habitat suitability for freshwater pearl mussel.

11.8.88 The design has sought to avoid direct impacts to watercourses as far as practical (EC8). Towers, access tracks and associated infrastructure have been sited outside watercourse buffers and most floodplain areas (EC2, EC5, HG1, HG3, HG4). Further, watercourse crossings points have considered riparian habitats and sought to avoid the most sensitive riparian woodlands (EC5, EC9-11, EC13), which in turn will protect the associated watercourse and its potential to support freshwater pearl mussel. The design has also minimised the loss of riparian woodland habitat as far as possible, and riparian woodlands will be oversailed wherever possible (EC9). Restoration and compensation measures will be applied to habitats impacted by construction of the Proposed Development, in accordance with the principles outlined in **Volume 5, Appendix 3.3: Outline Site Restoration Plan, Appendix 9.6: Outline Landscape Mitigation Design Guide** and **Appendix 11.5: Outline Biodiversity Enhancement Plan** (EC8, EC26, EC27).

11.8.89 Where access tracks are required to cross watercourses, existing bridges and crossing points are preferred, with passable bottomless arch or single-span bridge designs being the most favoured (EC5).

11.8.90 Where conductors are required to cross watercourses, methods will be used to ensure that conductors do not come to ground, and therefore watercourses and their associated habitats will be protected via methods appropriate to the size and conservation status of the watercourse and freshwater pearl mussel will be protected from electrocution (EC24).

11.8.91 The assessment below is cognisant of the survey limitations encountered, such as access restrictions and difficulties of detecting freshwater pearl mussel. Furthermore, embedded mitigation includes adherence to the existing Freshwater Pearl Mussel SPP[8] (EC6, EC14-19) as part of the CEMP (EC7), adherence to all relevant GEMPs (EC7), update pre-construction surveys (EC6, EC15, EC23) and engagement of an Advisory ECoW (EC6, EC17).

11.8.92 In considering the above, the significance of potential effects on freshwater pearl mussel is detailed below in **Table 11.27: Assessment of Significance of Likely Construction Effects – Freshwater Pearl Mussel**. Significance is assessed within the context of the Ecological Importance of the ESA for freshwater pearl mussel (see **Table 11.11: Ecological Importance Assessment**).

Table 11.27: Assessment of Significance of Likely Construction Effects – Freshwater Pearl Mussel

Parameter	Likely Effect		
	Habitat Loss	Habitat Fragmentation	Disturbance
Extent	No in-water works are proposed in any watercourse where freshwater pearl mussel is known or assumed likely to be present. However, loss of riparian woodland habitat to facilitate construction may result in extremely localised bank erosion and therefore increased sediment runoff into the watercourse. Increased sediment runoff has potential to pollute the watercourse, causing some loss of	No in-water works are proposed in watercourses known or likely to support freshwater pearl mussel. However, loss of riparian woodland habitat may result in extremely localised bank erosion and therefore increased sediment runoff into the watercourse. This sediment runoff has the potential to pollute the watercourse causing some fragmentation of freshwater pearl mussel habitat in localised areas.	No in-water works are proposed in watercourses known or assumed likely to support freshwater pearl mussel. However, there is potential for disturbance via a pollution event localised to specific areas at which the Proposed Development crosses suitable watercourses. In addition, pollution effects on smaller watercourses upstream of sensitive locations (for

Parameter	Likely Effect		
	Habitat Loss	Habitat Fragmentation	Disturbance
	freshwater pearl mussel habitat in localised areas.		example as a result of construction and use of watercourse crossings) may travel downstream, although the potential for effects would be reduced with increasing distance from freshwater pearl mussel populations and habitats.
Magnitude	The proposed loss of riparian woodland habitat is considered unlikely to affect the integrity and viability of the freshwater pearl mussel population, as the watercourses with suitable conditions for this species will not be subject to in-water works. Riparian habitat loss will be very small and localised within any one watercourse and is therefore considered highly unlikely to alter the watercourse conditions to the extent that freshwater pearl mussel, or host fish species, would be affected to the extent of impacting their population's viability.	Small scale and localised riparian habitat fragmentation is considered unlikely to affect the integrity and viability of the freshwater pearl mussel population, as the watercourses with suitable conditions for this species will not be subject to in-water works. Riparian habitat fragmentation will be very limited within any one watercourse and it is therefore considered highly unlikely to alter the watercourse conditions to the extent that freshwater pearl mussel, or host fish species, would be affected to the extent of impacting their population's viability.	With stringent pollution prevention measures in place during construction, there will be no change to the conservation status of freshwater pearl mussel as a result of disturbance during the construction process.
Duration	One-off event during construction	One-off event during construction	Intermittent during construction phase
Frequency	Bankside erosion may be prolonged until ground cover/low-level vegetation regrowth occurs.	Bankside erosion may be prolonged until ground cover/low-level vegetation regrowth occurs.	Potentially repeated during construction phase
Reversibility	Should direct habitat loss, or bankside erosion, occur within a watercourse supporting a population of freshwater pearl mussel, impacts could be irreversible due to the highly pollution-sensitive nature of this species.	Should habitat fragmentation, or bankside erosion, occur within a watercourse supporting a population of freshwater pearl mussel, the impacts could be irreversible due to the highly pollution-sensitive nature of this species.	Should a pollution event occur within a watercourse supporting a population of freshwater pearl mussel, the impacts could be irreversible due to the highly pollution-sensitive nature of this species.
Likelihood	Extremely unlikely: No in-water works are proposed in watercourses where freshwater pearl mussel are known, or assumed likely to be present. With appropriate methods of work in sensitive areas, the likelihood of bankside erosion will be minimised. Thus, no loss of habitat with the potential to support freshwater pearl mussel is anticipated.	Extremely unlikely: No in-water works are proposed in watercourses where freshwater pearl mussel are known or assumed likely to be present. With appropriate methods of work in sensitive areas, the likelihood of bankside erosion will be minimised. Thus, habitat fragmentation is not anticipated.	Unlikely: No in-water works are proposed in watercourses where freshwater pearl mussel are known, or assumed likely to be present. With stringent pollution prevention measures in place, the likelihood of disturbance to freshwater pearl mussel is minimised.
Significance (EcIA)	Significant at a Local level	Significant at a Local level	Significant at a Local level
Significance (EIA)	Minor, Not Significant	Minor, Not Significant	Minor, Not Significant

Atlantic Salmon

11.8.93 Likely effects on Atlantic salmon during construction have been identified as:

- habitat loss in relation to suitable sheltering, commuting and foraging habitat;
- habitat fragmentation through severance of commuting and foraging routes; and
- disturbance to Atlantic salmon as a result of construction activities.

11.8.94 Field surveys for Atlantic salmon were undertaken on eight watercourses, in ten locations per watercourse as detailed within **Volume 5, Appendix 11.3: Protected Species Survey Report** and illustrated within **Volume 3, Figures 11.6.1 to 11.6.23: Protected Species Survey Results**. No field surveys were undertaken on the mainstem rivers of designated sites where Atlantic salmon is a qualifying features as this species is assumed to be present in these locations. Several of the surveyed watercourses were considered to be unsuitable for this species due to low water quality, silty substrates and barriers to fish movement downstream. Fish were present in the King's Burn and Noran Water which were each subject to a bankside survey; therefore, both watercourses are assumed to be suitable for Atlantic salmon. No fish were reported within the Burn of Sheeoch; however, this watercourse is otherwise of good quality with no known barriers to fish movement, thus it is assumed to provide suitable habitat for Atlantic salmon.

11.8.95 The design has sought to avoid direct impacts to watercourses as far as practical (EC8). Towers, access tracks and associated infrastructure have been sited outside watercourse buffers and most floodplain areas (EC2, EC5, HG1, HG3, HG4). Further, watercourse crossings points have considered riparian habitats and sought to avoid the most sensitive riparian woodlands (EC5, EC9-11, EC13), which in turn will protect the associated watercourse and its potential to support Atlantic salmon. The design has also minimised the loss of riparian woodland habitat as far as possible and riparian woodlands will be oversailed wherever possible (EC9). Restoration and compensation measures will be applied to habitats impacted by construction of the Proposed Development, in accordance with the principles outlined in **Volume 5, Appendix 3.3: Outline Site Restoration Plan, Appendix 9.6: Outline Landscape Mitigation Design Guide** and **Appendix 11.5: Outline Biodiversity Enhancement Plan** (EC8, EC26, EC27).

11.8.96 Where access tracks are required to cross watercourses, existing bridges and crossing points are preferred, with passable bottomless arch or single-span bridge design being the most favoured (EC5).

11.8.97 Where conductors are required to cross watercourses, methods will be used to ensure that conductors do not come to ground, and therefore watercourses and their associated habitats will be protected via methods appropriate to the size and conservation status of the watercourse and Atlantic salmon will be protected from electrocution (EC24).

11.8.98 The assessment below is cognisant of the survey limitations encountered such as access restrictions. Furthermore, embedded mitigation includes adherence to the existing Atlantic Salmon SPP (EC6, EC14-17) as part of the CEMP (EC7), adherence to all relevant GEMPs (EC7), update pre-construction surveys (EC6, EC15, EC22) and engagement of an Advisory ECoW.

11.8.99 In considering the above, the significance of potential effects on Atlantic salmon is detailed below in **Table 11.28: Assessment of Significance of Likely Construction Effects – Atlantic Salmon**. Significance is assessed within the context of the Ecological Importance of the ESA for Atlantic salmon (see **Table 11.11: Ecological Importance Assessment**).

Table 11.28: Assessment of Significance of Likely Construction Effects – Atlantic Salmon

Parameter	Likely Effect		
	Habitat Loss	Habitat Fragmentation	Disturbance
Extent	No in-water works are proposed in major watercourses where Atlantic salmon are known, or assumed likely to be present; thus, no loss of habitat with the	No in-water works are proposed in major watercourses where Atlantic salmon are known, or assumed likely to be present. Thus, no habitat fragmentation is anticipated.	No in-water works are proposed in watercourses known or assumed likely to support Atlantic salmon. However, there is potential for disturbance via a pollution event localised to specific

Parameter	Likely Effect		
	Habitat Loss	Habitat Fragmentation	Disturbance
	potential to support Atlantic salmon is anticipated. Some extremely localised removal of riparian habitat is required to facilitate the operational corridor across major watercourses in both Angus and Aberdeenshire. This is not expected to affect Atlantic salmon, either via a change in conditions, or indirectly via bankside erosion, (given the small scale and localised nature of proposed riparian habitat loss on each watercourse).	Some extremely localised fragmentation of riparian habitat is required to facilitate the operational corridor across major watercourses in both Angus and Aberdeenshire. This is not expected to affect Atlantic salmon either via a change in conditions, or indirectly via bankside erosion, given the small scale and localised nature of proposed riparian habitat fragmentation on each watercourse.	areas where the Proposed Development crosses suitable watercourses. In addition, pollution effects on smaller watercourses upstream of rivers supporting Atlantic salmon (for example as a result of construction and use of watercourse crossings) may travel downstream; although the potential for effects would be reduced with increasing distance from Atlantic salmon rivers.
Magnitude	The proposed loss of riparian woodland habitat is considered unlikely to affect the integrity and viability of the Atlantic salmon population, as the watercourses with suitable conditions for this species will not be subject to in-water works. Riparian habitat loss will be very small and localised within any one watercourse, and this is unlikely to be at a scale to impact the integrity and viability of the local Atlantic salmon population.	The proposed riparian habitat fragmentation is considered unlikely to affect the integrity and viability of the Atlantic salmon population as the watercourses with suitable conditions for this species will not be subject to in-water works. Riparian habitat fragmentation will be very small and localised on any one watercourse, and this is unlikely to be at a scale to impact the integrity and viability of the local Atlantic salmon population.	With stringent pollution prevention measures in place during construction, there will be no change to the conservation status of Atlantic salmon, as a result of disturbance during the construction process.
Duration	One-off event during construction	One-off event during construction	Intermittent during construction phase
Frequency	Bankside erosion may be prolonged until ground cover/low-level vegetation regrowth occurs.	Bankside erosion may be prolonged until ground cover/low-level vegetation regrowth occurs.	Potentially repeated during construction phase
Reversibility	Should direct habitat loss occur within a watercourse with a population of Atlantic salmon, the impacts are anticipated to be fully reversible.	Should habitat fragmentation occur within a watercourse with a population of Atlantic salmon, the impacts are anticipated to be fully reversible.	Should a pollution event occur within a watercourse supporting Atlantic salmon, the impacts are anticipated to be fully reversible.
Likelihood	Extremely unlikely: No in-water works are proposed in any of the major watercourses. With appropriate methods of work in sensitive areas, the likelihood of bankside erosion will be minimised. No loss of habitat for Atlantic salmon is anticipated.	Extremely unlikely: No construction works are proposed in any of the major watercourses. With appropriate methods of work in sensitive areas, the likelihood of bankside erosion will be minimised. No fragmentation of habitat for Atlantic salmon is anticipated.	Unlikely: No in-water works are proposed in the major watercourses known to support Atlantic salmon. With stringent pollution prevention measures in place, the likelihood of disturbance to Atlantic salmon is minimised.
Significance (EcIA)	Significant at a Local level	Significant at a Local level	Significant at a Local level
Significance (EIA)	Minor, Not Significant	Minor, Not Significant	Minor, Not Significant

Additional Mitigation

11.8.100 The assessment has not identified any likely Significant effects. The Proposed Development has sought to implement the mitigation hierarchy in relation to effects on habitats and protected species.

11.8.101 Construction will be conducted in accordance with the embedded and applied mitigation described in the prior sections. This includes the Applicant's GEMPs and SPPs (see **Volume 5, Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**) and a CEMP, including an Ecological and Ornithological Management Plan, and with supervision of an Advisory ECoW. As no Significant effects were identified, no additional mitigation measures are proposed.

Residual Construction Effects

11.8.102 Subject to adherence with all embedded and applied mitigation, no Significant residual effects in EIA terms (see **Table 11.4: Matrix for Determination of Significance of Effects**) as a result of construction of the Proposed Development are anticipated on the important ecological features identified.

11.9 Assessment of Likely Significant Effects - Operation

11.9.1 All operational effects on important ecological features as a result of the Proposed Development have been scoped out of assessment.

11.10 Assessment of Likely Significant Effects - Decommissioning

11.10.1 Decommissioning effects are unclear given the Proposed Development's operational life and the manner in which ecological features at the Site could change over such a long period. A new ecological impact assessment will be required prior to decommissioning to determine the potential for Significant impacts on ecological features and identify necessary mitigation measures. However, it is considered unlikely that the significance of effects experienced during decommissioning will be greater than those assessed for the construction phase, assuming the correct environmental controls are put in place. Decommissioning is discussed further within **Volume 5, Appendix 3.6 Outline Decommissioning Mitigation Strategy**.

11.11 Assessment of Residual Cumulative Effects

11.11.1 In this section, the potential cumulative effects of the Proposed Development and other developments in planning within a defined radius are considered. The approach to the cumulative ecological impact assessment follows the methodology outlined in CIEEM EcIA guidance[43,] whereby cumulative impacts and effects may be additive/incremental or associated/connected. Consideration was therefore given to the developments that should be considered with regards to the topic of ecology.

11.11.2 The standard approach defined in **Volume 1, Chapter 5: EIA Process and Methodology** is to consider project proposals of National Importance within 3 km of the Proposed Development, and local development proposals within 2 km and for which an EIA is required, with the option for technical disciplines to apply a variation to this radius as considered appropriate.

11.11.3 No Significant residual effects are anticipated on important ecological features as a result of the Proposed Development. Significant additive effects are considered unlikely to occur on the important ecological features at a distance of over 3 km. Intra (Associated) Developments and Inter Developments are located within 3 km and are considered in the assessment presented below. Potential cumulative effects have not been identified at a distance greater than 3 km from the Proposed Development. Thus, a 3 km search area is considered appropriate for the cumulative assessment presented in this Chapter.

11.11.4 Operational developments are not considered in this cumulative assessment of effects, because the baseline context and conditions at the Site have already been influenced by the existing developments in operation within the 3 km radius. Thus, assessing the cumulative effects of operational developments along with the effects anticipated for the Proposed Development would equate to double counting.

Findings of the Cumulative Assessment

11.11.5 The potential for significant cumulative environmental effects of the Proposed Development has been considered with reference to two groups of reasonably foreseeable developments. The assessments are presented in the following tables:

- **Table 11.29: Cumulative Assessment: Intra (Associated) Developments** provides a cumulative assessment of the Proposed Development with the Intra (Associated) Developments defined in **Volume 2, Chapter 16: Cumulative Effects**. These are the substation proposals at Emmock and Hurlie which would be directly connected with the proposed OHL.
- **Table 11.30: Cumulative Assessment: Inter Developments** provides a cumulative assessment of the Proposed Development and Intra (Associated) Developments with other reasonably foreseeable SSEN Transmission and third party developments (collectively, referred to as Inter Developments) as defined in **Volume 2, Chapter 16: Cumulative Effects.** Terminology varies between projects, therefore the effects summarised below are aligned with the terminology used within this Chapter as necessary; for example, an effect reported to be significant at "Site level" is assumed to be Minor, not significant in accordance with the methodology defined in Table 11.4: Matrix for Determination of Significance of Effects. It should be noted that in-isolation effects considered to be Negligible result in changes that are essentially non-detectable, and therefore any such effects have no potential to contribute to a cumulative effect; nevertheless these Negligible effects are noted below. However, where an effect is considered to be Minor or above, this is taken into account both additively and synergistically in line with best practice guidelines[87].

11.11.6 A brief commentary is then provided following Table 11.30 on the predicted cumulative effects of the Proposed Development in combination with the Intra and Inter projects considered in the assessment.

[87] CIEEM, 2024. Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.3. [Online] Available at: https://cieem.net/wp-content/uploads/2018/08/EcIA-Guidelines-v1.3-Sept-2024.pdf [Accessed January 2025].

Table 11.29: Cumulative Assessment: Intra (Associated) Developments (SSEN-Transmission Development required to connect the Proposed Development)

Project	Construction	Operation
Emmock 400 kV substation	Emmock Substation, to the very south of the Proposed Development, is proposed within an area of intensively managed farmland. Thus, only effects during construction (including cumulative effects) as a result of habitat loss or fragmentation on bats, otter, beaver and badger were scoped into the assessment. Subject to adherence with all embedded and applied mitigation, no significant residual effects as a result of construction of the Emmock Substation were considered likely on the important ecological features identified.	All operational effects were scoped out of assessment on the basis of the desk and field survey work undertaken, the professional judgement of the EIA team, experience from other relevant projects and policy guidance or standards, and feedback received from statutory consultees.
Hurlie 400 kV substation	Hurlie Substation is proposed within an area of commercial forestry plantation, linking towers S1 and N96 of the Proposed Development. The EIA Scoping process, baseline conditions and professional judgement identified the following effects for detailed assessment: • Habitat loss during construction on Mergie LNCS; • Habitat loss and fragmentation during construction on habitats of conservation concern1; • Habitat loss and fragmentation during construction affecting bats, otter, Scottish wildcat, badger, red squirrel, and pine marten; and • Cumulative effects during construction on important ecological features. Subject to adherence with all embedded and applied mitigation, no significant residual effects as a result of construction of the Hurlie Substation were anticipated on the important ecological features identified.	All operational effects were scoped out of assessment on the basis of the desk and field survey work undertaken, the professional judgement of the EIA team, experience from other relevant projects and policy guidance or standards, and feedback received from statutory consultees.
Overall Intra Cumulative Assessment Summary	No likely significant cumulative effects are predicted from the Proposed Development and the Emmock and Hurlie substations.	

Table 11.30: Cumulative Assessment: Inter Developments (Other SSEN-T Developments and Third Party Developments)

Project	Summary of Effects Scoped In / Out of Assessment
The Proposed Development	Effects scoped into the EIA were concluded as follows: • Minor, not significant effects on non-statutory designated sites, habitats of conservation concern, bats, otter, badger, red squirrel and pine marten for habitat loss and habitat fragmentation. • Minor, not significant effects on statutory designated sites, Scottish wildcat, freshwater pearl mussel and Atlantic salmon for habitat loss, habitat fragmentation and disturbance. • Negligible, not significant effects on beaver for both habitat loss and habitat fragmentation.
Emmock and Tealing Overhead Line Tie-Ins and Tie-Backs	Ecological impacts were scoped out of the EIA report associated with the tie-in proposals. Thus, no cumulative effects have been identified from the Proposed Development and the Emmock and Tealing Overhead Line Tie-Ins and Tie-Backs.
Alyth to Tealing 275 kV OHL Upgrade to 400kV	Effects scoped into the EIA[88] were concluded as follows: • Negligible, not significant effects on statutory designated sites (River Tay SAC and Auchterhouse Hill SSSI), non-statutory designated sites, waterbodies and watercourses outside the River Tay SAC, LEPO woodland, non-AWI woodlands and other SBL priority habitats, Annex I habitats and GWDTEs, bats, otter, beaver, badger, pine marten, red squirrel and Atlantic salmon for all effects assessed for the construction phase. • Negligible, not significant effects on all important ecological features at operational phase. Thus, no cumulative effects have been identified from the Proposed Development and the Alyth to Tealing 275 kV OHL Upgrade.
Tealing to Westfield 275 kV OHL Upgrade to 400kV	Effects scoped into the EIA[89] were concluded as follows: • LEPO (effects associated with tree loss) assessed to have a permanent adverse effect of Local significance (assumed to be Minor), not significant. • LEPO (all other effects) were considered to be Negligible, not significant. • Negligible, not significant effects on statutory and non-statutory designated sites, other SBL priority habitats, Annex I Habitats and GWDTEs, bats, otter, beaver (foraging habitat loss, movement and mortality), badger (habitat loss, movement, injury and mortality), pine marten and red squirrel. • Beaver (loss of resting sites) and badger (loss of resting sites) were considered to have a temporary adverse effect of Site significance (assumed Minor), not significant. The potential for cumulative effects is considered in the summary at the end of this table. Further to the above, Tealing to Westfield scoped in a number of ecological features for impact assessment which were scoped out of the impact assessment undertaken in relation to the Proposed Development: • Negligible, not significant effects on waterbodies and watercourses outside the River Tay SAC, non-AWI woodland and scattered and great created newt (habitat loss, habitat fragmentation and pollution).

[88] SSEN Transmission (2024) Alyth to Tealing 275 kV OHL Upgrade to 400 kV EIAR Volume 2 – Chapter 7 – Ecology. Available online: https://www.ssen-transmission.co.uk/projects/project-map/alyth---tealing-overhead-line-upgrade/. [Accessed August 2025].
[89] SSEN Transmission (2024) Tealing – Westfield Overhead Line 400 kV Upgrade EIAR Volume 2 – Chapter 8 – Ecology. Available online: https://www.ssen-transmission.co.uk/projects/project-map/tealing---westfield-overhead-line-upgrade/#:~:text=Upgrading%20existing%20overhead%20power%20lines,and%20net%20zero%20energy%20future. [Accessed August 2025].

Project	Summary of Effects Scoped In / Out of Assessment
	• Great crested newt (mortality) was considered to have a permanent adverse effect of Local significance (assumed to be Minor), not significant. As these ecological features and pathways were scoped out of the impact assessment presented in this Chapter, these have been noted, but no cumulative effects are identified from the Proposed Development and the Tealing to Westfield 275 kV OHL Upgrade.
Fithie Energy Park	A Screening Request was submitted in February 2024, but the results are unknown[90] though it is assumed that a planning application for this energy park will be submitted later in 2025. Thus, no cumulative effects have been identified from the Proposed Development and the Fithie Energy Park.
Balnuith Battery Energy Storage System (BESS)	No EIA was required of this proposed development[91] although the summary of the "Phase 1 Ecology Report" (not directly available online) suggests impacts to ecological receptors were identified and avoided via design and additional mitigation as is standard for non-EIA projects. Thus, no cumulative effects have been identified from the Proposed Development and the Balnuith BESS.
Myreton BESS	This proposed BESS is located within arable farmland habitat, likely to be of very limited ecological value. A screening request has been submitted to the ECU at this time, thus more information regarding this development and its potential ecological impacts is unknown. Thus, no cumulative effects have been identified.
Ark Hill Wind Farm Extension	Ark Hill Wind Farm Extension scoped in bats to the EIA, with all other features scoped out[92]. Effects on bats were concluded to be Negligible, not significant at construction phase, and negative, long-term but of low magnitude, and not significant in terms of the EIA Regulations at operational phase. Thus, no cumulative effects have been identified from the Proposed Development and the Ark Hill Wind Farm Extension.
Glendye Wind Farm	Effects scoped into the EIA[93] were concluded as follows: • Habitats of conservation concern (M19a blanket bog; habitat loss) and bats (habitat loss and mortality), were considered significant at Site level (assumed to be Minor, not significant). • Negligible, not significant effects on habitats of conservation concern (habitat fragmentation), bats (fragmentation and disturbance) and otter (fragmentation and disturbance), water vole (habitat loss, fragmentation and disturbance), freshwater pearl mussel (mortality), and fish (mortality and habitat fragmentation). The potential for cumulative effects is considered in the summary at the end of this table. Further to the above, Glendye Wind Farm scoped in additional features and concluded effects to water vole (habitat fragmentation) to be significant at Site level (assumed to be Minor, not significant). An impact assessment of the proposed wind farm on bats at operational phase concluded effects were considered Negligible, not significant (mortality and fragmentation).

[90] Scottish Government Energy Consents Unit (2025). Available online: https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00005034&T=5. [Accessed August 2025].
[91] AAH Consultants (2023) Planning Design and Access Statement; Section 36 of the Electricity Act 1989 for the Construction and Operation of a Battery Energy Storage Facility for the Storage of up to 100 MW of Electricity together with Associated Infrastructure, Substation, Security Fencing, CCTVC, Security Lighting and Landscaping On Land at Balnuith, Myreton of Claverhouse, Tealing, DD3 0PY. Available online: https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00004887&T=5. [Accessed August 2025].
[92] GreenCat Renewables (2021) Ark Hill Wind Farm Extension EIAR Chapter 11 Ecology. Available online: https://planning.angus.gov.uk/online-applications/files/7A8814230A2A7B78E106AB9EFAD72DBA/pdf/21_00765_EIAL-CHAPTER_11_ECOLOGY-3222994.pdf. [Accessed August 2025].
[93] Agent – Coriolis Energy Ltd (2022) Glendye Wind Farm, EIAR Volume 001 – Chapter 008 – Ecology. Available online: https://www.dpea.scotland.gov.uk/CaseDetails.aspx?id=121949&T=66. [Accessed August 2025].

Project	Summary of Effects Scoped In / Out of Assessment
	As these ecological features and pathways were scoped out of the impact assessment presented in this Chapter, these have been noted, but no cumulative effects are identified from the Proposed Development and the Glendye Wind Farm.
Laurencekirk Residential Development	An Ecological Survey Report[94] concluded the habitats were predominantly intensively managed arable ground with limited ecological value. Otter were found to be present within the Site, but there was no resting potential and habitats provided such limited opportunities for protected species that no direct impacts were anticipated as a result of this development. Thus, no cumulative effects have been identified from the Proposed Development and the Laurencekirk Residential Development.
Glendye Wind Farm Grid Connection	The Scoping Report submitted in November 2024[95] noted that potential impacts identified on designated sites, habitats of conservation concern and protected species; however, design, planning and implementation of stages was anticipated to avoid significant effects during the construction phase on all important ecological receptors. Thus, no cumulative effects have been identified from the Proposed Development and the Glendye Wind Farm Grid Connection.
Glenbervie BESS	A Proposal of Application Notice[96] was submitted in December 2024; as such, there is little information regarding this proposed BESS development, and no information regarding its potential impacts on ecological features. Thus, no cumulative effects have been identified from the Proposed Development and the Glenbervie BESS.
Quithel BESS	The Screening Opinion[97] produced in 2023 indicates that a Preliminary Ecological Appraisal had not been undertaken, thus the potential impacts are unknown. The desk study undertaken by Aberdeenshire Council as part of the Screening Opinion concluded that there would be no impacts to designated sites. The 2024 Screening Opinion response was that no environmental impacts were considered likely and no EIA was requested. Thus, no cumulative effects have been identified from the Proposed Development and the Quithel BESS
Network Rail Drumlithie	No information is available in relation to this project and its potential impacts on ecological features. Submission of a planning application is expected in late 2025 or early 2026. Thus, no cumulative effects have been identified from the Proposed Development and Network Rail Drumlithie.
Fiddes 132kV Grid Replacement	No information is available regarding the potential impacts of this project as it relies on an unknown but new connection being proposed between the existing Fiddes substation and the existing/upgraded Fetteresso substation[98]. Thus, no cumulative effects have been identified from the Proposed Development and the Fiddes 132kV Grid Replacement.

[94] Landcare NorthEast (2016) Ecological Survey Report; Site M1, Laurencekirk, Aberdeenshire. Available online: https://upa.aberdeenshire.gov.uk/online-applications/files/C8076015DF44BA933941CE805BCCEA36/pdf/APP_2016_1203-ECOLOGICAL_SURVEY_REPORT-7317657.pdf. [Accessed August 2025].
[95] SSEN Transmission (2024) Glendye Wind Farm OHL Grid Connection Scoping Report. Available online: https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00005197&T=9. [Accessed August 2025].
[96] Anesco Ltd (2024) Proposal of Application Notice for Installation of a Grid Battery Energy Storage Facility at Land at The Waters, Glenbervie, Stonehaven. Available online: https://upa.aberdeenshire.gov.uk/online-applications/files/E94696C3A7247ACEDE2F9CF07B8A91C2/pdf/ENQ_2024_1830-PROPOSAL_OF_APPLICATION_NOTICE-11330238.pdf. [Accessed August 2025].
[97] E Grid Services (2023) Quithel BESS Screening Opinion. Available online: https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00005005. [Accessed August 2025].
[98] SSEN Transmission (2024) Future Works: Hurlie and Fetteresso Substations; Supplementary Hand Out. Available online: https://www.ssen-transmission.co.uk/globalassets/projects/hurlie-400kv-substation-downloads/june-2024-event-docs/future-works_hurlie-and-fetteresso-substations-supplementary-hand-out.pdf. [Accessed August 2025].

Project	Summary of Effects Scoped In / Out of Assessment
SSEN Transmission offshore grids project	No information is currently available regarding the potential impacts of this project. The project aims to create an offshore grid network as part of the wider 2030 ASTI upgrades[99]. Thus, no cumulative effects have been identified from the Proposed Development and the SSEN Transmission offshore grids project.
SSEN Transmission Possible Future Wind Farm Connection	No information is currently available regarding the potential impacts this project as it relies on an unknown new proposal for a wind farm which may apply for a connection to the existing Fetteresso Substation[100]. Thus, no cumulative effects have been identified from the Proposed Development and the SSEN Transmission Possible Future Wind Farm Connection.
Onshore Transmission Infrastructure for Bowdun Offshore Wind Farm	The Scoping Report submitted in September 2024 indicates that potential impacts to be scoped into a future EIA include temporary disturbance or permanent modification or loss of GWDTEs and other priority habitats during construction, temporary or permanent disturbance or displacement, permanent modification or loss to foraging, sheltering and breeding sites for protected species and indirect impacts to habitats. However, a suite of surveys are proposed, with mitigation designed to avoid impacts, or minimise where full avoidance is not possible. Operational impacts to designated sites within 10 km were also scoped into the assessment at the time of the Scoping Report, although this was scoped out of the impact assessment undertaken for the Proposed Development. Thus, no cumulative effects have been identified from the Proposed Development and the Onshore Transmission Infrastructure for Bowdun Offshore Wind Farm.
Kintore to Craigiebuckler 132 kV OHL (existing) realignment (undergrounding)	No information is available in relation to this project and its potential ecological impacts, but it has been included in this list as it is a SSEN Transmission proposed project. Thus, no cumulative effects have been identified from the Proposed Development and the Kintore to Craigiebuckler 132 kV OHL (existing) realignment (undergrounding).
Hill of Fare Wind Farm	Effects scoped into the EIA[101] were as follows: • Effects on dry dwarf shrub heath were considered to be low adverse (assumed to be Minor) and not significant. • Effects on blanket bog were considered to be Negligible, not significant. The potential for cumulative effects is considered in the summary at the end of this table.
South Leylodge Farm BESS	Effects scoped into the EIA[102] were as follows: • Negligible, not significant effects to statutory designated sites, non-statutory designated sites, priority habitats and protected species.

[99] SSEN Transmission (2024) Future Works: Hurlie and Fetteresso Substations; Supplementary Hand Out. Available online: https://www.ssen-transmission.co.uk/globalassets/projects/hurlie-400kv-substation-downloads/june-2024-event-docs/future-works_hurlie-and-fetteresso-substations-supplementary-hand-out.pdf. [Accessed August 2025].
[100] SSEN Transmission (2024) Future Works: Hurlie and Fetteresso Substations; Supplementary Hand Out. Available online: https://www.ssen-transmission.co.uk/globalassets/projects/hurlie-400kv-substation-downloads/june-2024-event-docs/future-works_hurlie-and-fetteresso-substations-supplementary-hand-out.pdf. [Accessed August 2025].
[101] Renewable Energy Systems Ltd (2023) Hill of Fare Wind Farm EIAR Volume 1 – Chapter 8 – Ecology. Available online; https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00004592&T=5. [Accessed August 2025].
[102] NEO Environmental (2022) Technical Appendix 2: Ecological Assessment; Kintore Battery Energy Storage Facility. Available online: https://upa.aberdeenshire.gov.uk/online-applications/files/39BD4FF54A00F2A0CAEE8568B509E901/pdf/APP_2022_2022-VOLUME_3_-_TA2_ECOLOGICAL_ASSESSMENT-10178302.pdf. [Accessed August 2025].

Project	Summary of Effects Scoped In / Out of Assessment
	Thus, no cumulative effects have been identified. Further to the above, South Leylodge Farm BESS scoped in a number of ecological features for impact assessment which were scoped out of the impact assessment undertaken for the Proposed Development: • Negligible, not significant effects on reptiles, birds and invertebrates. As these ecological features and pathways were scoped out of the impact assessment presented in this Chapter, these have been noted, but no cumulative effects are identified from the Proposed Development and the South Leylodge Farm BESS
Kintore Substation BESS	The EcIA[103] reached the following conclusions: • No impacts on designated sites, habitats of conservation concern, bats, otter, badger, red squirrel and breeding birds. A full EIA report is not available; however it is assumed that effects on ecological features would be Negligible, not significant given the conclusions of the EcIA. Thus, no cumulative effects have been identified from the Proposed Development and the Kintore Substation BESS.
Kintore Hydrogen Production Facility	Effects scoped into the EIA[104] were as follows: • Significant effects at site level (assumed Minor, not significant) were anticipated for lowland deciduous woodland, bats, otter, badger during the construction phase. The potential for cumulative effects is considered in the summary at the end of this table. Further to the above, Kintore Hydrogen Production Facility scoped in a number of ecological features for impact assessment which were scoped out in the impact assessment undertaken for the Proposed Development including: • Negligible, not significant effects on invasive non-native species, reptiles, and fish. • Negligible, not significant effects were anticipated for the habitats considered by the assessment at operational phase. • Significant effects at Site level (assumed Minor, not significant) were anticipated for rivers, gorse, mixed scrub, *Holcus-Juncus* neutral grassland and other rivers and streams, during the construction phase and for bats and otter at operational phase. • Significant effects at Local level (assumed Minor, not significant) were anticipated for badger at operational phase. As these ecological features and pathways were scoped out of the impact assessment presented in this Chapter, these have been noted, but no cumulative effects are identified from the Proposed Development and the Kintore Hydrogen Production Facility.
Womblehill Farm BESS	An EIA Screening Report[105] in 2024 concluded an EIA was required, although ecology could be scoped out.

[103] Latimer Ecology (2023) Kintore Battery Storage Ecological Impact Assessment. Available online: https://upa.aberdeenshire.gov.uk/online-applications/files/9B92DC72BAF7C233A1D6B91A0C9CF1D0/pdf/APP_2023_2310-ECOLOGICAL_IMPACT_ASSESSMENT-10812220.pdf. [Accessed August 2025].
[104] Kintore Hydrogen (2024) Kintore Hydrogen Plant EIA Chapter 8: Ecology and Biodiversity. Available online: https://upa.aberdeenshire.gov.uk/online-applications/files/8E102D762CB5767F13FCA65C96530936/pdf/APP_2024_1604-EIAR_CHAPTER_8_ECOLOGY_AND_BIODIVERSITY-11217679.pdf. [Accessed August 2025].
[105] Aberdeenshire Council (2024) EIA Screening Request for Installation of a 200MW Battery Energy Storage System (BESS) and Associated Infrastructure at Land Surrounding Womblehill Farm, Kintore, Aberdeenshire, AB51 0XJ. Available online: https://upa.aberdeenshire.gov.uk/online-applications/files/28012BEC1D654CD315E62584CBCE1CAD/pdf/ENQ_2024_1663-EIA_SCREENING_OPINION-11320161.pdf. [Accessed August 2025].

Project	Summary of Effects Scoped In / Out of Assessment
	Thus, no cumulative effects have been identified from the Proposed Development and the Womblehill Farm BESS.
Cossans Solar and BESS	Effects on all terrestrial ecological features were scoped out of the EIA[106]. Thus, no cumulative effects have been identified from the Proposed Development and the Cossans Solar and BESS.
Overall Inter Cumulative Effects Summary	The majority of effects anticipated as a result of the developments listed above, and the Proposed Development, are Negligible, not significant, and thus there is no resulting cumulative effects predicted. LEPO tree loss was considered Minor, and not significant for Tealing to Westfield 275 kV OHL Upgrade to 400kV and while some, localised LEPO tree loss is anticipated as a result of the Proposed Development, no significant cumulative effect is considered likely due to the distance between where these effects are expected to occur and the large remaining stock of LEPO within the wider area. Further, the majority of LEPO woodland loss within the Proposed Development is Coniferous Plantation Woodland dominated by non-native Sitka-spruce. In addition, loss of resting sites for beaver and badger were assessed to result in Minor, not significant effects in relation to Tealing to Westfield 275 kV OHL Upgrade to 400kV. Effects of the Proposed Development are assessed in this Chapter to be Minor, not significant in relation to habitat loss for badger, and Negligible in relation to beaver. While both projects may result in some habitat losses for badger, similar mitigation measures will be implemented across both projects, which will include application of the mitigation hierarchy and engagement with the licensing regime as necessary. Therefore, no significant cumulative effects are anticipated. Glendye Wind Farm was the only project identified as having any impact upon M19a, blanket bog. While M19 blanket bog is present within the ESA for the Proposed Development, impacts have been avoided. Thus, there is no cumulative effect upon this habitat. Hill of Fare Wind Farm identified a Minor, not significant effect upon dry dwarf shrub due to losses of 14.19 ha (comprising Annex 1 European dry heaths and SBL Upland Heathland). The Proposed Development results in a limited loss of Upland Heathland within the ESA (9.97 ha in Angus and 6.06 ha in Aberdeenshire). These extents are localised to Ironside Hill and Finlarg Hill in Angus, and north of Slug Road in Aberdeenshire. Based on field observations, this habitat type is anticipated to regenerate in upland areas where plantation conifers are removed in the operational corridor of the Proposed Development. Due to the limited extents of losses identified in relation to both proposals, and as this habitat type is widespread in upland areas of Angus and Aberdeenshire, no significant cumulative effect is anticipated. Kintore Hydrogen Production Facility identified Minor, not significant effects upon lowland deciduous woodland (assumed to be the SBL priority habitat type). While a small amount of this habitat type will be lost as a result of the Proposed Development this loss is localised to Angus, while the Kintore Hydrogen Production Facility is located in Aberdeenshire. Given the small proportion of loss, and distance between the locations of loss, no significant cumulative effect is anticipated. Kintore Hydrogen Production Facility also identified Minor, not significant effects upon bats, otter and badger, as did the Proposed Development. Similar mitigation measures will be implemented across both projects which will include application of the mitigation hierarchy and engagement with the licensing regime as necessary. Given the timeframe and geographical separation of these projects, as well as the mobility of these protected species, and best practice mitigation measures employed by both projects, no significant cumulative effects are anticipated.

[106] SLR (2025) Cossans Solar and BESS EIA Report; Chapter 6: Ecology and Ornithology.

Summary of Total Intra and Inter Cumulative Effects Construction

11.11.7 The above-listed developments are typically located within agricultural land with the greatest extents of habitat loss anticipated where projects occur or are linked to the existing and proposed substations (Kintore, Hurlie and Emmock). It is anticipated that the embedded and applied mitigation measures for all Emmock Tie-In and Tie-Back projects will be similar to those committed by both the Proposed Development and the proposed Emmock and Hurlie Substations. Given the similarity between these projects in terms of the ecological features within proximity, and that there were no significant effects predicted on important ecological features as a result of the Proposed Development, it is considered unlikely that these projects will result in significant cumulative effects.

11.11.8 Significant effects on designated sites are not anticipated as each Inter Development project has avoided impacts via embedded and applied mitigation measures, or there is no connectivity to designated sites of nature conservation value. Thus, no cumulative significant effect has been identified as a result of the Inter Development projects upon designated sites, including with regards to additive/incremental or associated/connected effects.

11.11.9 Loss of habitats of conservation concern was minimal across all proposed developments; thus no cumulative significant effect has been identified.

11.11.10 Features within the landscape which protected and notable species are more likely to utilise for resting sites - such as woodlands, hedgerows and watercourses or waterbodies - were generally avoided by projects. Some loss of foraging and commuting habitat for species, such as bats and badger, may be anticipated, but each project will result in a very small loss within the landscape; these losses are not assessed to be at a scale that would be likely to result in cumulative significant effects when taking all projects into consideration. All projects are anticipated to have similar industry-standard best practice embedded and applied mitigation measures in place to reduce potential impacts. No significant cumulative effect is therefore anticipated on protected or notable species.

Operation

11.11.11 Given the similarity between the Emmock Tie-In and Tie-Back projects, and that there were no significant effects predicted on important ecological features as a result of the Proposed Development, and assuming application of similar embedded and additional mitigation measures, it is considered unlikely that these projects will result in residual operational effects. Further, no significant effect has been identified on any ecological receptor at the operational stage of the above-listed Inter Development projects.

11.11.12 No cumulative operational effects are therefore anticipated.

11.11.13 No residual Significant effects are anticipated in relation to the Proposed Development, nor in relation to the Intra Developments and Inter Developments. Similar mitigation measures are expected to be implemented in relation to all projects. No likely cumulative effects are anticipated associated with the Proposed Development.

11.12 Summary of Significant Effects

11.12.1 **Table 11.30: Summary of Significant Effects** below summarises the predicted residual effects of the Proposed Development on important ecological features prior to and following application of additional mitigation.

Table 11.30: Summary of Significant Effects

Predicted Effects	Significance Prior to Additional Mitigation	Mitigation	Significance of Residual Effects Following Additional Mitigation
Construction			
Designated Sites	Not Significant	No additional mitigation required	Not Significant
Habitats of conservation concern	Not Significant	No additional mitigation required	Not Significant
Bats	Not Significant	No additional mitigation required	Not Significant

Predicted Effects	Significance Prior to Additional Mitigation	Mitigation	Significance of Residual Effects Following Additional Mitigation
Otter	Not Significant	No additional mitigation required	Not Significant
Beaver	Not Significant	No additional mitigation required	Not Significant
Wildcat	Not Significant	No additional mitigation required	Not Significant
Badger	Not Significant	No additional mitigation required	Not Significant
Red Squirrel	Not Significant	No additional mitigation required	Not Significant
Pine Marten	Not Significant	No additional mitigation required	Not Significant
Freshwater Pearl Mussel	Not Significant	No additional mitigation required	Not Significant
Atlantic Salmon	Not Significant	No additional mitigation required	Not Significant
Operation			
Scoped out			
Cumulative			
All Ecological Receptors	Not Significant	No additional mitigation required	Not Significant