SSEN Transmission

Bingally 400 kV Overhead Line Tie-In

Environmental Appraisal

April 2025

CONTENTS

5. ECOLOGY AND NATURE CONSERVATION

5.1 Introduction

5.1.1 This EA chapter considers the potential effects of the Proposed Development on habitats and species at the Site and within its defined Zone of Influence (ZoI). Evaluation of the existing baseline environment was made through a combination of desk-based study, field surveys, and consultation. This EA chapter has been written with cognisance of the ecological impact assessment methodology set out in Chartered Institute of Ecological and Environmental Management (CIEEM 2022)[1] guidance.

5.1.2 Birds are considered separately in **Chapter 6 Ornithology**.

5.1.3 This chapter:

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

5.1.4 Throughout this chapter, species are given their common and scientific names when first referred to and their common names only thereafter (except where a common name does not exist or is not well-known, in which case only the scientific name is used, such as for bryophytes). Nomenclature for vascular plants follows Stace (2019) [2] and for bryophytes, Atherton *et al* (2010)[3]. All distances are cited as the shortest distance 'as the crow flies', unless otherwise specified.

5.2 Information Sources

5.2.1 This chapter draws on the following technical figures, within **Appendix A Figures**:

- **Figure 5-1 Statutory and Non-statutory Designated sites;**
- **Figure 5-2 Ancient and Native Woodland and Peatlands;**
- **Figure 5-3 Baseline habitat plan;**
- **Figure 5-4 Groundwater Dependent Terrestrial Ecosystems;** and
- **Figure 5-5 Mammal and Other Notable Species Survey Results.**

5.2.2 External sources used to inform this chapter are referenced appropriately.

Consultation Undertaken to Date

5.2.3 At the time of writing this chapter, consultations regarding the potential ecological impacts of the Proposed Development have been held with THC (19 December

[1] CIEEM, 2022. *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (Version 1.2, updated April 2022). Chartered Institute of Ecology and Environmental Management, Winchester.
[2] Stace, C E, 2019 *New Flora of the British Isles, 4th edition*. C&M Floristics.
[3] Atherton, I., Bosanquet, S. and Lawley, M., 2010. Mosses and Liverworts of Britain and Ireland – a Field Guide. British Bryological Society, London.

2023) and a local landowner (4 April 2024). The following relevant consultees were contacted for information but did not respond: NatureScot; Scottish Environment Protection Agency; and, Forestry and Land Scotland. A summary of the consultation responses / recommendations received from consultees is provided in **Table 5-1**.

Table 5-1 Summary of Consultation

Consultee	Summary of Response
THC	• THC expect biodiversity enhancement, with a minimum 10% biodiversity net gain, for projects such as the Proposed Development. This has been addressed in the separate Biodiversity Net Gain Report[4]; • A number of designated nature conservation sites were noted as potentially present; • Protected species noted to be potentially present; and • Groundwater Dependent Terrestrial Ecosystems (GWDTE) should be addressed.
A local landowner	• "*A very impressive [black grouse (Tetrao tetrix)] lek on the old re-seeds*" was highlighted, with the location indicated on an aerial map of the area - this is addressed in **Chapter 6 Ornithology**; • "*A relatively large [very active] main badger (*Meles meles*) sett on a sandy hummock*" was indicated by a specific location on an aerial map of the area and also badger activity noted in a separate area of woodland; • Water vole *Arvicola amphibius* activity was noted on a watercourse to the south of the Site; and • A particularly wet area of blanket bog c. 600 m north, northwest of the proposed Bingally substation platform and 310 m to the east.

Legal and Policy Context

5.2.4 NatureScot has devised 21 'Natural Heritage Zones' (NHZ) covering the whole of Scotland (SNH, 2002)[5], which reflect biogeographical differences across the country. Assessment of the impacts on ecological features in this EA chapter was carried out in the context of the Northern Highlands NHZ (NHZ 7), within which the Proposed Development is located.

5.2.5 CIEEM guidance Guidelines for Ecological Impact Assessment in the UK and Ireland recommends that only those ecological features that are 'important' and that could be significantly impacted by a development require detailed assessment, stating that "*it is not necessary to carry out detailed assessment of ecological features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable*".

[4] AECOM, 2024. Bingally 400 kV Overhead Line Tie-In Environmental Appraisal, Appendix E Biodiversity Net Gain Report

[5] SNH, 2002. *Natural Heritage Zones: A National Assessment of Scotland's Landscapes*. [Accessed 9 September 2024] Available from at: https://digital.nls.uk/pubs/e-monographs/2020/216666906.23.pdf

5.2.6 Consequently, for the purposes of the EA, 'important' ecological features were taken to include designated sites, habitat or species listed or protected in the following:

- Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the 'Habitats Directive');
- The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended), commonly referred to as the 'Habitats Regulations';
- The Convention on Wetlands of International Importance ('Ramsar Convention');
- Regulation 1143/2014 on invasive alien species, which is more commonly referred to as the 'Invasive Alien Species Regulation';
- The Wildlife and Countryside Act 1981 (as amended) (the 'WCA');
- The Nature Conservation (Scotland) Act 2004 (as amended);
- The Wildlife and Natural Environment (Scotland) Act 2011 (as amended) ('WANE Act');
- The Protection of Badgers Act 1992 (as amended);
- Species on the Scottish Biodiversity List (SBL), which are thus identified as being of principal importance for biodiversity conservation in Scotland; and
- Invasive non-native species listed on Schedule 9 of the WCA (although this does not legally apply in Scotland), those considered to be of European Union (EU) concern under the Invasive Alien Species Regulation (Regulation (EU) 1143/2014), and additional species commonly considered to be invasive as listed in Annex B of the NatureScot Developing with Nature guidance[6].

5.2.7 Other habitats or species that may be rare, scarce, or otherwise notable will be included where deemed appropriate through available information and / or professional judgement.

National planning policy

5.2.8 Scottish Government approved National Planning Framework 4 (NPF4) on 11 January 2023. NPF4 supersedes Scottish Planning Policy as well as NPF3. It was formally adopted on 13 February 2023 and is therefore applicable to the Proposed Development. NPF4 includes the following statements of policy intent: "*To protect, restore and enhance natural assets making best use of nature-based solutions*" and "*To protect biodiversity, reverse biodiversity loss, deliver positive effects from development and strengthen nature networks.*" Wherever possible and proportionate to the scale and nature of the project, the Proposed Development should therefore deliver benefits for biodiversity, in addition to protecting existing biodiversity. NPF4 also states that major development will only be supported where nature networks *"are in a demonstrably better state than without intervention*" using best practice and including future monitoring and management where appropriate.

5.2.9 Prior to the UK's exit from the EU, Scotland's Special Areas of Conservation (SACs) (and Special Protection Areas (SPAs)) were part of a wider European network of such sites known as the 'Natura 2000 network'. They were consequently referred to as 'European sites'. Now that the UK has left the EU, Scotland's SACs (and SPAs) are no longer part of the Natura 2000 network but form part of a UK-wide network of designated sites referred to as the 'UK site network'. However, it is current Scottish

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

Government policy to retain the term 'European site' to refer collectively to SACs (and SPAs)[7].

Local planning policy

5.2.10 Relevant local planning policies are stated in the Highland-wide Local Development Plan (LDP), adopted in 2012, and discussed in context within the Inner Moray Firth LDP, adopted in 2015. Further guidance can be found in Highland Council's A-Z of development guidance[8]. **Table 5-2** below list those LDP policies relevant to nature conservation (for full policy text, refer to the Highland-wide LDP[9] and Inner Moray Firth LDP[10].

Table 5-2 Summary of relevant policies within the Highland-wide LDP.

Planning Policy	Relevant Purpose
Policy 28: Sustainable Design	Developments will be supported which promote and enhance environmental wellbeing. Assessment of the impact on resources including habitats, freshwater systems, and species will be made and proposals must be compatible with the Sustainable Design Guide.
Policy 51: Trees and Development	Developments will be supported which promote protection of existing hedges, trees and woodlands, and which are designed to create and enhance existing woodland, with compensatory planting and woodland management where required.
Policy 52: Principle of Development in Woodland	Developments are expected to demonstrate the need to develop a wooded site, that the site has capacity, and that it is sustainable, with increased community benefit and woodland expansion or enhancement as appropriate.
Policy 57 Natural, Built and Cultural Heritage	Developments are expected to address effects on natural heritage (including designated sites). For features of local / regional importance, developments must demonstrate no unacceptable impact. For features of national importance, developments must not compromise the natural environment, and significant adverse effects must be clearly outweighed by social or economic benefits of national importance. Developments affecting features of international importance will not be permitted unless the Habitats Regulations Appraisal process has been followed and a conclusion of no adverse effect on site integrity is reached.
Policy 58: Protected Species	Summarises the legal requirements for protected species that developments are expected to comply with.
Policy 59: Other Important Species	Developments are expected to also address effects on notable species not protected by legislation or Site Designations, including SBL and Local Biodiversity Action Plan (LBAP) species.
Policy 60: Other Important Habitats	Developments are expected to also address effects on notable habitats not protected by Site Designations, including watercourses, Annex I habitats, habitats of priority or protected species, and SBL / LBAP habitats.

[7] Scottish Government, 2020. *EU Exit: The Habitats Regulations in Scotland* [online]. [Accessed 9 October 2024] Available from at: https://www.gov.scot/publications/eu-exit-habitats-regulations-scotland-2/.

[8] Highland Council, 2024. *Development Guidance* [online]. [Accessed 5 September 2024]. Available at: https://www.highland.gov.uk/directory/52/a_to_z/

[9] Highland Council, 2024. *Highland-wide Local Development Plan* [online]. [Accessed 5 September 2024] Available at: https://www.highland.gov.uk/info/178/local_and_statutory_development_plans/199/highland-wide_local_development_plan

[10] Highland Council, 2024. *Inner Moray Firth Local Development Plan* [online]. [Accessed 5 September 2024] Available at: https://www.highland.gov.uk/info/178/local_and_statutory_development_plans/202/inner_moray_firth_local_development_plan

Planning Policy	Relevant Purpose
Policy 63: Water Environment	The Council will support proposals that do not compromise the protection and enhancement of the water environment required under the Water Framework Directive. In assessing proposals, the Council will take into account River Basin Management Plans and supporting information on enhancement opportunities and constraints in the water environment.
Policy 74: Green Networks	Development in areas identified for the creation of green networks should avoid fragmenting the network and take steps to improve connectivity, where appropriate, to maintain and enhance the existing green network.
Policy 75: Open Space	The aims for open space include that it supports and enhances biodiversity.

Local biodiversity action plans

5.2.11 Highland Nature (2021 - 2026); THC's LBAP, includes several priority habitats and a list of priority species for local conservation. LBAP habitats potentially relevant to the Proposed Development comprise upland and moorland, woodland and forest, freshwater rivers, burns and lochs, and agricultural land. Potentially relevant LBAP species comprise red squirrel *Sciurus vulgaris*, pine marten *Martes martes*, pipistrelle bats, curlew (and other breeding waders), golden eagle (and other birds of prey), black grouse, swifts, and divers.

Desk Study

5.2.12 A range of data sources were used for the desk study, as set out in **Table 5-3**.

Table 5-3 Desk Study Data Sources

Data Source	Data Obtained	Date Accessed
Amphibian and Reptile Groups of the UK (ARG UK) / Amphibian and Reptile Conservation (ARC) Record Pool (https://www.recordpool.org.uk/)	Amphibian and reptile records.	15 March 2024
THC website (https://www.highland.gov.uk/downloads/file/1506/proposals_map)	Highland-wide Local Development Plan policies relevant to nature conservation.	18 March 2024
Mammal Society Species Hub (https://www.mammal.org.uk/species-hub/full-species-hub/discover-mammals/)	Other relevant information pertaining to protected and notable mammals.	15 March 2024
Marine Scotland Maps National Marine Plan interactive (NMPi) (https://marinescotland.atkinsgeospatial.com/nmpi/default.aspx?layers=843)	Rivers important for migratory fish.	15 March 2024
NatureScot Ancient Woodland Inventory webpage (https://www.nature.scot/doc/guide-understanding-scottish-ancient-woodland-inventory-awi)	AWI for Scotland and NWSS.	31 March 2024

Data Source	Data Obtained	Date Accessed
NatureScot SiteLink webpage (https://sitelink.nature.scot/home)	SACs, SPAs, and Ramsar sites.	15 March 2024
NBN Atlas Scotland (https://scotland.nbnatlas.org/)	Commercially available records of protected and / or notable species.	15 March 2024
Ordnance Survey (OS) 1:25,000 maps and aerial photography (https://www.bing.com/maps/ https://www.google.com/maps/ https://earth.google.com/)	Aerial imagery to identify potential habitats and connectivity relevant to interpretation of planning policy and potential protected / notable species constraints.	15 March 2024
Saving Scotland's Red Squirrels (scottishsquirrels.org.uk)	Red squirrel records.	15 March 2024
Scotland's Soils (https://soils.environment.gov.scot/maps/thematic-maps/carbon-and-peatland-2016-map/)	Carbon and Peatland 2016 map.	31 March 2024
SEPA Scotland's Environment Web Map (https://map.environment.gov.scot/sewebmap/)	Available habitat information. Watercourse classification data.	15 March 2024

Ecology Survey

5.2.13 A vegetation survey of the Site was conducted broadly following the Phase 1 habitat survey methodology, with habitats classified according to UK Habitat Classification (UKHab), as set out in relevant guidance[11,12]. Ecology surveys included detailed vegetation surveys, protected mammal surveys and an assessment of habitat suitability for notable and protected species. The survey area included the Site and extended from 50 m for the vegetation survey up to 250 m beyond the Site boundary for other receptors. The survey areas for each survey are as per standard legal requirements / guidance as described in **Sections 5.3.18 to 5.3.32**. The field survey methodology is detailed further in **Sections 5.3.**

5.3 Methodology

Important ecological receptors

5.3.1 Important ecological receptors (also known as important ecological features[1]) have the potential to suffer significant adverse environmental effects as a result of the Proposed Development. This EA chapter assesses the likely environmental effects on important ecological receptors and where necessary recommends mitigation to prevent significant residual effects.

5.3.2 CIEEM's Guidelines for Ecological Impact Assessment in the UK and Ireland recommend that only those ecological features that are important and that could be significantly impacted by a development require detailed assessment, stating that "*it is not necessary to carry out detailed assessment of ecological features that are*

[11] JNC, 2010. *Handbook for phase 1 habitat survey – a technique for environmental audit*. Joint Nature Conservation Committee, Peterborough.
[12] UKHab, 2024. *UK Habitat Classification* [online]. [Accessed 1 May 2024]. Available at: https://ukhab.org/

sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable".[1]

5.3.3 Consequently, for the purposes of the desk study, field survey and assessment of effects, important ecological receptors will be taken to include:

- Sites designated for nature conservation, including those designated at international, national, and local levels;
- The qualifying features of Special Areas of Conservation (SAC) and Ramsar sites within 10 km of the Site and the notified features of SSSIs within 2 km of the Site (or further if these are directly connected) (refer to **Figure 5-1, Appendix A Figures**);
- Woodland listed on the Ancient Woodland Inventory (AWI) within 2 km of the Site.
- Habitats listed on Annex I of the Habitats Directive;
- Habitats listed on the Scottish Biodiversity List (SBL), which are thus identified as being of principal importance for biodiversity conservation in Scotland;
- Species listed on Annexes I and II of the Habitats Directive;
- Species listed on Schedules 2 and 4 of the Conservations of Habitats and Species Regulations 2017;
- Species listed on Schedule 1, 5 and 8 of the Wildlife and Countryside Act 1981 (WCA), and badger;
- Species listed on the SBL, which are thus identified as being of principal importance for biodiversity conservation in Scotland; and
- Invasive non-native species listed on Schedule 9 of the WCA (although this does not legally apply in Scotland), those considered to be of EU concern under the Invasive Alien Species Regulation (Regulation (EU) 1143/2014), and additional species commonly considered to be invasive as listed in Annex B of the NatureScot Developing with Nature guidance (NatureScot, 2023)[13].

5.3.4 In addition, important ecological receptors may extend to include other habitats or species that may be rare, scarce or otherwise notable and will be included where deemed appropriate through available information and / or professional judgement, even if they are not protected or on the SBL.

Determining Magnitude of Change and Receptor Importance

- The assessment of ecological effects was undertaken in accordance with CIEEM guidance in Guidelines for Ecological Impact Assessment in the UK and Ireland[14], assigning geographic levels of importance (equivalent to 'sensitivity') to important ecological receptors, based on conservation status, population trends and other relevant criteria (including size, naturalness, rarity, and diversity), where the following parameters have been considered: 'Magnitude' of effect (which for ecological purposes and alignment with CIEEM guidance includes consideration of factors such as duration, frequency and reversibility, and not just 'size');
- 'Importance' has been treated as a geographical scale, as per CIEEM guidance; and

[13] NatureScot, 2020. *Developing with Nature Guidance* [online], [Accessed 9 October 2024]. Available at: https://www.nature.scot/doc/developing-nature-guidance

[14] CIEEM, 2028. *Guidelines for Ecological Impact Assessment (ECIA)* [online]. [Accessed 17 October 2024]. Available at: https://cieem.net/resource/guidelines-for-ecological-impact-assessment-ecia/

- Significance of effect has been classed as significant or not significant, subject to professional judgement as necessary and considering the geographical scale.

Limitations and Assumptions

5.3.5 The aim of the desk study was to help characterise the baseline context of the Proposed Development and provide valuable background information that may not be captured by field survey alone. Information obtained during the desk study is dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for particular species does not necessarily mean they do not occur in the study area. Likewise, the presence of records for a particular species does not automatically mean that these still occur within the area of interest or are relevant to the Proposed Development.

5.3.6 Where habitat edges are well defined and coincide with features on base-mapping or aerial photography that are considered correct, their placement is based on the accuracy of that data in GIS. Otherwise, habitat edges are best estimates as judged in the field. Note also that habitat transitions can be gradual without sharp boundaries.

5.3.7 It was not always certain whether deep peat was present during the habitat survey. The felled coniferous plantation was likely to be dominated by wet heath and blanket bog before it was drained and planted. Many areas were identified as degraded blanket bog vegetation, indicated by the presence of bog indicator species and / or by topography and connectivity to other bog. Non-bog vegetation has been coded as degraded bog where demonstrably located on deep peat, often comprising wet heath vegetation on deep peat (coded as 'M15*'). However, it is not always obvious whether or not deep peat is present, thus some habitats identified as wet heath, might locally also be degraded bog if there is deep peat under them. Where possible, peat depth data (where available) were used to corroborate habitat data.

5.3.8 The likelihood of deviations from the baseline conditions reported in this chapter increases with elapsed time since the surveys. While the baseline is not expected to change sufficiently to alter the impact assessment, the precise situation regarding protected / important species may nevertheless differ at the time of construction. However, the time between baseline data collection and the writing of this EA is well within standard and excepted time limits[15].

5.3.9 Surveys were conducted during optimal weather conditions, but there had been recent rain on Site immediately prior to mammal surveys. Temperatures ranged from 11 to 15°C, it was generally overcast, with light winds and occasional drizzle and showers; the heaviest rain was noted to be early morning (overnight) on 29 May 2024. The weather from mid-May to the end of May was characterised by frequent days with heavy rainfall and watercourses in the Highlands can be prone to flash flooding, which may wash away signs of protected species (e.g. otter spraints) prior to the surveys. However, this is considered a minor limitation, as watercourses were not in flood at the time of the survey – and features suitable for otter (e.g. riparian tree roots) were easily surveyed.

[15] NatureScot, 2025. Planning and development: standing advice and guidance documents. Available at: https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/planning-and-development-standing-advice-and-guidance-documents [Accessed: 27 March 2025].

5.3.10 No targeted survey was carried out for wildcat *Felis silvestris* as the Site lies outside the generally accepted range of this species[16].

5.3.11 No targeted survey was carried out for great crested newt *Triturus cristatus*. There is suboptimal habitat for great crested newt within the Site itself and the Site is in a geographically unsuitable location for this species[17].

5.3.12 No dedicated red squirrel survey was carried out. This was for several reasons:

- Squirrel dreys are extremely difficult to locate in dense evergreen conifer plantation (which formed the bulk of all coniferous plantation woodlands within the Site);
- Any attempt to search for signs of red squirrel foraging in the plantation would, in most places, be very difficult and often unsafe owing to a generally high density of branches / foliage near ground level;
- Much of the Site is dominated by clear-felled Sitka spruce *Picea sitchensis* plantation, which is known to be one of the least favourable woodland types for red squirrel, and population density in this habitat is typically lower than in other woodlands (e.g., Lurz *et al*, 1995[18]; Cagnin *et al*, 2000[19]) – moreover, those that are clear-felled and without trees should be considered unsuitable for red squirrel;
- Other broadleaved woodland (in isolated patches in the Site), lack cone-bearing conifers and the canopy almost entirely comprised of small-seeded birch, providing a sub-optimal habitat for foraging and particularly for drey-building; and
- It is unlikely that a significant adverse effect on the local red squirrel population would occur as a result of felling to facilitate the Proposed Development, since the amount of felling would be relatively limited and red squirrels in this general area would have become habituated to periodic larger scale commercial conifer felling caused by typical forest management activities.

5.3.13 A significant part of the area surveyed for protected mammal species contains recently felled commercial conifer plantation. This was difficult and unfeasible to access, and often unsafe to do so. Although clear-felled plantation may be used by protected mammal species, it provides poor habitat for foraging and is often sub-optimal for badger setts, pine marten dens and water vole burrows (on watercourses). Badger, pine marten, water vole and red squirrel are consequently likely to occur at low densities in these woodlands, if at all. Therefore, the lack of access to conifer plantation does not present a significant limitation to the overall assessment of potential impacts from the Proposed Development on protected mammal species. Where necessary, a precautionary approach has been taken in the assessment, with an assumption made that all three species may occur within the conifer plantation, but at low numbers.

5.3.14 It should be noted that baseline conditions are increasingly liable to change with further elapsed time since the field surveys (May – July 2024). For example,

[16] NatureScot, 2024. *Wildcats* [online]. Available at: https://www.nature.scot/plants-animals-and-fungi/mammals/land-mammals/wildcats. [Accessed 30 August 2024].

[17] Wilkinson, J.W., Arnell, A., Driver, D. & Driver, B. 2014. *Elaborating the distribution of the great crested newt in Scotland* (2010-2011). Scottish Natural Heritage Commissioned Report No. 793

[18] Lurz P. W. W., Garson P. J. and Rushton S. P., 1995. *The ecology of squirrels in spruce dominated plantations: implications for forest management.* Forest Ecology and Management 79, pp 79-90.

[19] Cagnin, M., Aloise, G., Fiore, F., Oriolo, V. and Wauters, L.A., 2000. *Habitat use and population density of the red squirrel, Sciurus vulgaris meridionalis, in the Sila Grande mountain range (Calabria, South Italy).* Italian Journal of Zoology 67:1, pp 81-87.

protected species may establish new refuges, or invasive non-native species may further spread. Any conclusions or recommendations in this EA chapter are based on the information collected during the described desk study and field surveys. In line with NatureScot guidance, re-survey is recommended if construction or enabling works will take place more than two years since the date of field survey. However, the time between baseline data collection and the writing of this EA is well within standard and excepted time limits[15].

Desk Study

5.3.15 A desk study to help establish baseline conditions has been completed (May – July 2024). The objective of the desk study was to identify ecological features within the likely ZoI of the Site that may be affected by its construction and operation.

5.3.16 A stratified approach was taken when defining the desk study area based on the likely ZoI of the Proposed Development. The ZoI is defined as the area(s) over which ecological features may be affected by the biophysical changes caused by the proposed project and associated activities[1]. Accordingly, the desk study searched for:

- SAC or Wetlands of International Importance (Ramsar sites) within 10 km of the Site;
- Site of Special Scientific Interest (SSSI) within 2 km of the Site;
- Locally designated nature conservation sites (e.g., Local Nature Conservation Sites (LNCS) within 2 km of the Site); and,
- Records of protected and / or notable habitats and species within 1 km of the Site.

Phase 1 Habitat Survey / UKHab

5.3.17 A UK Habitat (UKHab) habitat survey was completed within the Site. The survey followed the standard methods described by UKHab guidance[20] and drew upon the formatting styles used in the Joint Nature Conservation Committee (JNCC) Phase 1 habitat survey guidance[21], by which areas of land are assigned standard habitat types and ecological notes are recorded.

5.3.18 Notes were made for each habitat of dominant, typical and notable plant species, and relevant ecological characteristics (particularly where relevant to habitat condition) reflecting conditions at the time of survey. The survey was conducted within the Site and to 50 m beyond the Site. The habitat survey was carried out between 20-24 May, 28-31 May and 24-28 June 2024.

5.3.19 Notes were made for each habitat of dominant, typical, and notable (including invasive non-native) plant species, and these reflect conditions at the time of survey. Condition of baseline habitats was recorded in the field by the field surveyor using the condition criteria set out for the Statutory biodiversity metric[22]. Habitat suitability for ecological important receptors (such as invertebrates, fish, reptiles, and amphibians) were noted.

[20] UKHab, 2023. *UK Habitat Classification* [online]. [Accessed 27 May 2024]. Available at: https://ukhab.org/.

[21] JNCC, 2010. *Handbook for Phase 1 habitat survey – a technique for environmental audit. Joint Nature Conservation Committee,* Peterborough.

[22] Gov.uk, 2023. *Statutory biodiversity metric tools and guides. Tools and guides for measuring the biodiversity value of habitat for biodiversity net gain (BNG)* [online]. [Accessed 17 October 2024]. https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides

NVC Survey

5.3.20 In areas of important habitat identified by the habitat survey (e.g., GWDTE[23] or priority habitats listed on the SBL), where further botanical assessment was recommended, a National Vegetation Classification (NVC) survey was carried out. Homogenous vegetation stands were classified according to the NVC as described in the relevant original NVC volumes[24], with reference also to the NVC review and other guidance[25] that describe some additional vegetation types not covered in the original NVC volumes or provide additional advice.

5.3.21 Vegetation was assigned to sub-community except where it did not fit published descriptions well, where close access was not possible, or where vegetation was of negligible ecological value (for example, bracken *Pteridium aquilinum* stands were not closely inspected). Since NVC communities often occur in patches too small to map amongst more extensive communities, or in complexes that cannot be feasibly mapped within a reasonable timescale, NVC polygons were described as mosaics where necessary (See **Figure 5-3**). Where habitats lacked vegetation, or the vegetation did not correspond to a community described in the NVC volumes or other guidance, a brief descriptive term was given (for example, 'open water').

5.3.22 Survey was conducted within the Site and to 50 m beyond the Site for all habitats and to 250 m for potential GWDTE. The survey was carried out concurrently with the NVC survey. The habitat survey was carried out between 20-24 May, 28-31 May and 24-28 June 2024. Habitat types were mapped with the aid of aerial photography and Global Positioning System (GPS) as necessary. The habitat survey extent covered entirety of the Site.

Otter and Water Vole Survey

5.3.23 A survey for otter *Lutra lutra* and water vole was conducted between 28-31 May and 3-7 June 2024. This survey covered all watercourses within the Site plus a buffer of 200 m for otter and 50 m buffer for water vole, as far as access was feasible and safe. However, this was not seen a significant limitation to the survey. Limitations are described further above in **Section 5.3.5 – 5.3.15**.

5.3.24 In accordance with best practice guidance provided in Dean *et al* (2016)[26], a second survey visit specifically to search for evidence of water vole should be carried out in spring (e.g., during pre-construction surveys), along watercourses within 50 m of proposed infrastructure. Surveys for otter and water vole followed guidance in

[23] SEPA (2024) Guidance on Assessing the Impacts of Development on Groundwater Dependent Terrestrial Ecosystems. Available at: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.sepa.org.uk%2Fmedia%2Fi2cnr03k%2Fguidance-on-assessing-the-impacts-of-developments-on-groundwater-dependent-terrestrial-ecosystems.docx&wdOrigin=BROWSELINK [Accessed 27 Martch 2025].

[24] Rodwell, J.S. (ed.), 1995. *British Plant Communities Volume 4 Aquatic Communities, Swamps and Tall-herb Fens*. Cambridge University Press, Cambridge; Rodwell, J.S. (ed.), 2000. *British Plant Communities Volume 5 Maritime Communities and Vegetation of Open Habitats.* Cambridge University Press, Cambridge.; Rodwell, J.S. (ed.), 1992. *British Plant Communities Volume 3 Grassland and Montane Communities.* Cambridge University Press, Cambridge.; Rodwell, J.S. (ed.)., 1991a. *British Plant Communities Volume 1 Woodlands and Scrub.* Cambridge University Press, Cambridge; Rodwell, J.S. (ed.), 1991b. *British Plant Communities Volume 2 Mires and Heaths*. Cambridge University Press, Cambridge.

[25] Rodwell, J.S., Dring, J.C., Averis, A.B.G., Proctor, M.C.F., Malloch, A.J.C., Schaminée, J.N.J. and Dargie, T.C.D., 2000. *Review of coverage of National Vegetation Classification, JNCC Report No. 302*. Joint Nature Conservation Committee, Peterborough. Averis, A., Averis, B., Birks, J., Horsfield, D., Thompson, D. and Yeo, M., 2004. *An Illustrated Guide to British Upland Vegetation*. Joint Nature Conservation Committee, Peterborough.; Hall, J.E., Kirby, K.J. and Whitbread, A.M., 2004. *National Vegetation Classification: Field guide to woodland*. Joint Nature Conservation Committee, Peterborough.

[26] Dean, M., Strachan, R., Gow, D. and Andrews, R., 2016. *The Water Vole Mitigation Handbook*. The Mammal Society, London.

published literature (Chanin, 2003; Liles, 2003; Strachan, 2007; Strachan *et al*, 2011; Dean *et al*, 2016)[27].

Badger and Pine Marten

5.3.25 Survey for badger and pine marten was carried out in areas of potentially suitable habitat within a 100 m zone of proposed infrastructure. This did not include areas of dense conifer plantation which are generally unsuitable for setts / dens and were difficult and / or unsafe to access. The survey was conducted between 28-31 May and 3-7 June 2024 and followed standard good practice guidance (Harris *et al*, 1989; Scottish Badgers, 2018; Birks, 2002)[28].

Bat Roost and Habitat Suitability

5.3.26 In accordance with industry-standard guidelines published by the Bat Conservation Trust (BCT) (Collins, 2023)[29], a ground level tree assessment (GLTA) was carried out to search for trees with potential roost features (PRFs) which could be used by bats within the area of the Proposed Development and to 50 m beyond. More general notes were taken on woodlands within the Site that possessed trees with PRFs.

5.3.27 Where present within 50 m of the Site, in accordance with guidance, trees were assessed as having 'PRF-I', where they contained features suitable only for individual or very small numbers of bats, or 'PRF-M', where they had suitability for use by multiple bats, including a maternity colony. The assessment was conducted between 28-31 May, 3-7 June and 02-04 July 2024.

5.3.28 PRFs searched for included suitable holes, cracks or splits in trees, and any possible ingress points to buildings or structures (although no buildings or structures were noted on Site). Where such features existed, searches were made for evidence of bat use such as droppings, staining, foraging remains, auditory evidence and the presence of live or dead bats. No other bat surveys were deemed necessary.

5.3.29 Based on a habitat suitability assessment, it was determined that the habitats within the Site were of Low suitability for foraging and commuting bats, as defined in the BCT guidance. Therefore, walked transects and use of Static bat detectors were not conducted. However, it is recommended that a repeat GLTA survey is completed to update the EA baseline prior to construction / during pre-construction surveys (see **Section 5.5**).

5.3.30 No records of mountain hare *Lepus timidus*, brown hare *Lepus europaeus* or hedgehog *Erinaceus europaeus* were identified during the desk study and therefore no survey for these species was undertaken. In addition, a dedicated red squirrel survey was not carried out for the reasons given in **Section 5.3.12**. However, any sightings of these mammal species, or evidence of them (such as squirrel-eaten cones), were noted if encountered during all fieldwork. A pre-construction survey (within 5 m of Site in the non-breeding season or 50 m of the Site in the breeding

[27] Chanin, P., 2003. *Monitoring the Otter* Lutra lutra, *Conserving Natura 2000 Rivers Monitoring Series No. 10*, English Nature, Peterborough; Liles, G., 2003. *Otter Breeding Sites.* Conservation and Management, Conserving Natura 2000 Rivers Conservation Techniques Series No. 5. English Nature, Peterborough; Strachan, R., 2007. National survey of otter *Lutra lutra* distribution in Scotland 2003-04. Scottish Natural Heritage Commissioned Report No. 211 (ROAME No. F03AC309); Strachan, R., Moorhouse, T. and Gelling, M., 2011. *Water Vole Conservation Handbook (3rd Edition).* Wildlife Conservation Research Unit, University of Oxford.

[28] Harris, S.H., Cresswell, P., Jeffries, D., 1989. *Surveying Badgers. Issue 9 of Occasional publication of the Mammal Society*. Mammal Society.; Scottish Badgers, 2018. *Surveying for Badgers: Good Practice Guidelines*. Version 1, 2018.; Birks, J., 2002. *The Pine Marten*. The Mammal Society, London.

[29] Collins, J. (ed.)., 2023. *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition).* Bat Conservation Trust, London.

season) for red squirrel dreys would be carried out in suitable woodland (see **Section 5.5**).

5.3.31 A walkover survey was carried out to assess the habitats present on-site for their suitability to host other protected species such as reptiles, notable / important invertebrates and protected or notable plants. This was carried out concurrently with the habitat survey. No targeted survey was carried out for these species.

Non-native Invasive Plant Species

5.3.32 The survey included recording evidence of the presence of invasive non-native plant species (INNS), including but not limited to those of UK concern, such as those identified on Schedule 9 of the WCA (although this no longer applies in Scotland), and of European Union (EU) concern under the EU Invasive Alien Species Regulation, and additional species commonly considered to be invasive as listed in Annex B of the NatureScot Developing with Nature guidance[30].

Ecological Appraisal

5.3.33 The results of the completed field surveys, in combination with the outcomes of the desk study and any consultation with relevant stakeholders, were used to inform the EA. The assessment was conducted in accordance with the industry-standard guidelines published by CIEEM[1].

5.3.34 The appraisal used the ecological baseline to identify the important ecological receptors that could be affected by the construction or operation of the Proposed Development. Note that decommissioning has not been considered within the chapter as the Proposed Development is likely to remain *in situ*. Each receptor was assigned a geographic level of importance based on its national and local conservation status and population / assemblage trends and other relevant criteria (including size, naturalness, rarity, and diversity). Details of the Proposed Development were then used to assess if a significant effect is anticipated for each receptor.

5.3.35 Where appropriate, mitigation measures were recommended within the EA to remedy any adverse impacts (which would be detailed within a General Environmental Management Plan (GEMP) and a Construction Environmental Management Plan (CEMP)).

5.3.36 Enhancement measures (e.g. blanket bog restoration and tree planting) that are proportionate to the scale and impacts of the Proposed Development were identified in pursuance of the objectives of NPF4, and a BNG assessment has been completed to understand the value of baseline habitats (see **Appendix E Biodiversity Net Gain Report**). Enhancement measures would be conducted off-site within the Bingally Substation development[31]. This to ensure that the Proposed Development meets the requirement of NPF4.

5.4 Baseline Environment

5.4.1 The ecological baseline was used to identify important ecological receptors potentially present within the potential ZoI of the Proposed Development. The importance of a given ecological feature was determined from information on

30 NatureScot, 2020. *Developing with Nature* guidance [online]. [Accessed 17 October 2024]. Available at: https://www.nature.scot/doc/developing-nature-guidance

31 AECOM (2025) Bingally 400 kV Substation Environmental Appraisal; AECOM (2025) Bingally 400 kV Substation Biodiversity Net Gain Report.

distribution and status, a review of literature and guidance, field survey data, and professional judgement.

Statutory Designated Sites

5.4.2 There are four statutory designated sites for nature conservation relevant to this chapter within the possible ZoI of the Proposed Development, detailed in **Table 5-4** below and shown on **Figure 5-1 Statutory and Non-statutory Designated Sites**.

Table 5-4 Statutory Nationally Designated Nature Conservation Sites

Site Name	Reason for Designation	Relationship to the Proposed Development
European Sites		
Strathglass Complex SAC	Otter. Upland habitats (alpine and sub-alpine heaths, wet heaths, dry heaths, blanket bog, bog woodland, Caledonian forest.).	Located c. 1.2 km west of the Site at its closest point. Watercourses on the Site flow into the Abhainn Deabhag River which runs adjacent to this designated site.
River Moriston SAC	Atlantic salmon *Salmo salar*. Freshwater pearl mussel (*Margaritifera margaritifera)*.	Located c. 10 km south of the Site at its closest point. There is no hydrological connection between the Site and this designated site.
National Sites		
Glen Affric SSSI	Native pine woodlands	Located c. 1.2 km west of the Site at its closest point. Watercourses on the Site flow into the Abhainn Deabhag River which runs adjacent to this designated site.
Glen Affric NNR	Mosaic of native pinewoods, lochs, and moorland hosting a variety of species including woodland birds, osprey *Pandion haliaetus*, otter, red-throated diver *Gavia stellata* and black-throated diver *Gavia arctica*.	Located immediately southwest of the Site at its closest point. The Allt an Rathain watercourse on-site runs adjacent to this designated site.

Non-Statutory Designated Sites

5.4.3 There is one non-statutory designated site for nature conservation within the ZoI of the Proposed Development comprising Corrimony RSPB Nature Reserve, located 3 km northeast of the Site, which is considered in more detail in **Chapter 6 Ornithology**. Consequently, this designated site is not discussed further in this chapter.

Ancient and Native Woodlands

5.4.4 There are no areas of Ancient Woodland of semi-natural origin listed on the AWI[32] within 1 km of the Site. However, there are four parcels of Long-established Woodland of Plantation Origin which occur within 1 km of the Site, with one just intersecting the southwestern boundary of the Site (see **Figure 5-2, Appendix A Figures**).

[32] NatureScot, 2024. *A guide to understanding the Scottish Ancient Woodland Inventory (AWI)* [online]. [Accessed 30 August 2024] Available at: https://www.nature.scot/doc/guide-understanding-scottish-ancient-woodland-inventory-awi

5.4.5 The Native Woodland Survey of Scotland (NWSS)[33] also holds records of woodland within the ZoI. Six parcels of Native Woodland intersect with the western boundary of the Site, however, . as described in **Section 5.6.10,** the woodlands are not intersected by any part of the Proposed Development.

Overview of Habitats

5.4.6 Recorded habitats and their constituent NVC communities are shown on **Figure 5-3, Appendix A Figures**. Where NVC communities occurred as complex mosaics, more than one NVC type is shown per polygon on the figure. Mosaics are shown with NVC codes separated by slashes with relative proportions in brackets (totalling 100). In mosaic polygons, the dominant NVC type (greater than 50% of the polygon) is listed first, and subordinate NVC types after, separated by slashes. Minor components occupying less than 50% of a polygon are shown in brackets. Those habitats constituting 'moderately' or 'highly' potential GWDTE (according to SEPA guidance[23]) are shown on **Figure 5-4, Appendix A Figures**.

5.4.7 The central and northern areas of the Site are covered by commercial plantation, formerly dominated by Sitka spruce and are currently clear-felled. The vast majority of habitats within forestry plantation areas are subject to ongoing impacts from drainage, nutrient-enrichment and disturbance. Habitats within this area are largely a form of degraded bog, that resembles wet heath (and has a dearth of bog-building species, such as *Sphagnum papillosum*).

5.4.8 The southern section of the Site is a near-natural mosaic of woodlands, heaths and bogs in good condition. The area of the Proposed Development includes pristine blanket bog and wet heath, along with occasional patches of species-poor purple moor-grass *Molinia caerulea* dominated mires, dry upland acid grassland and bracken-dominated habitat in a mosaic with heathland.

Notable Woodlands

5.4.9 Coniferous woodland is present along the northwestern and southwestern edges if the Site, comprising dense Scots pine *Pinus sylvestris* or other coniferous woodland (both NVC W18). Upland birchwood (W17c) is present in a steep and rocky minor valley to a tributary to the Allt na Rathain. The woodland is dominated by downy birch *Betula pubescens* with a dry heath ground flora. None of the woodlands are within the area of the Proposed Development.

5.4.10 In addition, other broadleaved woodland (that can be loosely assigned to Upland birchwood (NVC W11) and Wet Woodland W4 (with a ratio of 60:40), or those that do not correspond to an NVC type), are present within central area of the Site, within commercial plantation forestry (see **Figure 5-3, Appendix A Figures**).The W4 woodland is dominated by downy birch, with no other tree species except rowan *Sorbus aucuparia* in the larger parcel.

Blanket Bog and Degraded Bog

5.4.11 The desk study of the carbon and peatland map returned several areas of peat gleys and peaty podsols, both within 1 km of the Site and within the Site itself (see **Figure 5-2, Appendix A Figures**). Below is discussed the peatland within the Site itself. The Proposed Development is within some of these areas, of which, mainly to the north of

[33] Scottish Forestry, 2024. *Native Woodland Survey of Scotland* [online]. [Accessed 30 August 2024]. Available at: https://forestry.gov.scot/forests-environment/biodiversity/native-woodlands/native-woodland-survey-of-scotland-nwss

the Site, are Class 2 nationally important carbon-rich soils (areas of potentially high conservation value and restoration potential).

5.4.12 The desk study data broadly corresponds with peatland habitats identified during field surveys, however, the vast majority of the Site was found to be covered in peaty soils, including substantial areas of deep blanket bog. From the field survey, the Site was found to contain the following notable bog habitats (see **Figure 5-3, Appendix A Figures**):

- Blanket bog (SBL priority, Annex I 7130 Blanket bogs), mainly in the southern part of the Site; and
- Degraded blanket bog (SBL priority, non-priority Annex I 7130 Blanket bogs), in the centre and north of the Site, within the Site, which resembles wet heathland (see description below in **Section 5.4.14**).

5.4.13 Blanket bog within the Site possess abundant deer grass *Trichophorum germanicum* and/or hare's tail cotton-grass *Eriophorum vaginatum*, with heather *Calluna vulgaris*, cross-leaved heath *Erica tetralix*, and the mosses *Sphagnum magellanicum*, *S. papillosum, S. capillifolium*.

Heathland

5.4.14 Open areas on thin, peaty soils very often contain the following habitats (see **Figure 5-3, Appendix A Figures**);

- Wet heathland (SBL priority, Annex I 4010 Northern Atlantic wet heaths with *Erica tetralix*); and
- Dry heaths (SBL priority, 4030 European dry heaths).

5.4.15 Wet heathland is the most common broad habitat type within the Site and is present across all areas, which is frequently distributed across the Site. A mix of heather, deer-grass and purple moor-grass dominate the sward with bog myrtle *Myrica gale*, cross leaved-heath, *S. capillifolium* and rarely *Sphagnum tenellum*.

Upland Flush

5.4.16 Highly localised areas of Upland flush are soligenous, poor fen. Upland flush is present to the north and central areas of the Site within two localised patches (see **Figure 5-3, Appendix A Figures**).

Swamp and Aquatic Habitats

5.4.17 No swamp or aquatic communities of these types were identified within the Site.

Purple Moorgrass and Rush Pasture, and Non-calcareous Grassland

5.4.18 No areas of purple moorgrass, rush pasture or non-calcareous grassland were recorded within or close to the boundary of the Site.

Bracken

5.4.19 Open areas associated with upland acid grassland and / or heathland also occasionally contain Bracken, a non-notable habitat, in mosaics with heathlands (see **Figure 5-3, Appendix A Figures**).

Other Habitats

5.4.20 Largely unvegetated and of no note are the existing access tracks for the existing OHL, corresponding respectively to the UKHab category artificial unvegetated unsealed surface.

Waterbodies

5.4.21 Several watercourses are present within and running through the Site and several water bodies are present adjacent to the west of the Site (see **Figure 5-3, Appendix A Figures**). Watercourses running through the Site comprise small unnamed headwaters with some larger named rivers which flow into the Abhainn Deabhag watercourse and the River Affric / River Glass, within the River Beauly catchment, which ultimately end in the Beauly Firth.

5.4.22 During the field survey the Site was found to contain Priority rivers / streams, as headwaters of notable watercourses. In addition, Other rivers / streams, where those physically modified by commercial forestry practices. These upland watercourses were 0.2 - 0.5 m wide. There are no notable standing waterbodies identified within 1 km of the Site.

Groundwater-dependent Terrestrial Ecosystems

5.4.23 Areas identified as being GWDTE are shown on **Figure 5-4, Appendix A Figures**. Various NVC vegetation communities identified within the Site and the wider survey area are recognised as indicators that a habitat is likely to be highly or moderately groundwater dependent.

5.4.24 The results of a high-level hydrological assessment undertaken in the field revealed that many of the potential GWDTE within the area surveyed are in good condition and may depend on groundwater (at least in part) for their maintenance. Notwithstanding, the GWDTE within the Site are often associated with ombrotrophic deep peat, and in these situations, it is likely that the hydrology of the GWDTE is largely (or perhaps entirely) maintained by surface water associated with rain-fed systems. This assessment is consistent with **Chapter 8: Hydrology** of the EA.

5.4.25 Wet woodlands are probably dependent on groundwater to maintain their condition. These GWDTE were found in isolated areas associated with highly disturbed areas of commercial plantation forestry. However, it should be assumed that ground water flows are present and have given rise to the wet woodlands on Site.

5.4.26 Potentially moderately GWDTE are present as Upland flush down from a break in a slope, where the hydrological regime is near natural. In these situations, it is probable that the potential GWDTE are dependent on groundwater to maintain their condition.

5.4.27 Regarding heathlands, many types of wet heaths are in particular likely to be (at least in part) sustained by ground water. However, many of the heathland GWDTE pertain to species-poor communities, which are regarded as ubiquitous in the Scottish Highlands.

5.4.28 Some of the potential GWDTE within the area surveyed are degraded and subject to a significant level of on-going drainage caused by commercial forestry plantation. These potential GWDTE are on deep peat and have most likely developed from a blanket bog habitat and therefore they are not considered to be dependent on groundwater.

Otter

5.4.29 Field survey results for otter are shown on **Figure 5-5, Appendix A Figures**. The desk study identified thirteen otter records within 1 km of the Site all originating from the same 1 km grid square located at the north of the Site near the River Affric. The River Affric and the Abhainn Deabhag represents highly suitable otter habitat, however, these watercourses are outside of the potential ZoI of the Proposed Development. Evidence was found of otter in the one lay-up within the Site, in the Allt an Rathain on the centre-western edge of the Proposed Development.

5.4.30 This and other watercourses are likely to be used by male and female otter to commute through the wider landscape. Foraging opportunities for otter (e.g., prey items such as common amphibians and small fish) will be relatively limited within the immediate area of these watercourses; however, there are likely to be ample feeding opportunities (from large fish, such as trout) in the lochs to which they are connected. Moreover, otter may use these watercourses to commute between the Beauly and the River Ness catchment.

Water Vole

5.4.31 The desk study identified one water vole record within 1 km of the Site. This record is located approximately 650 m to the west of the Site, near the River Enrick headwaters.

5.4.32 Water vole prefer habitats categorised by slow moving or still water with abundant vegetation and a mix of emergent and bankside cover. Water vole are known to use small upland watercourses. However, the minor watercourses of the Site generally provide sub-optimal conditions for the creation of burrows, the best opportunities are present where the watercourses banks are at least 0.5 m high. The small watercourses within the area surveyed provides some limited potential for the creation of water vole burrows, as they have shallow water depths and shallow banks. The site has ample feeding opportunities for water vole from species such as purple moor-grass, sedges (such as cotton grasses), rushes and bilberry.

5.4.33 Field surveys for the Bingally substation development[31], at the closest point, found water vole field signs at locations approximately 630 m west of the Site on a minor tributary of the Allt a' Choire Bhuidhe (not shown on figure), but none within or close to the Proposed Development site itself.

Red Squirrel

5.4.34 The desk study identified 37 records of red squirrel within 1 km of the Site, mainly originating from several 1 km grid squares to the west of the Site, present within woodland. THC lists red squirrel in their protected species list.

5.4.35 No incidental records of red squirrel were made during the field surveys. However, given the large number of recent red squirrel records returned from the desk study, the presence of mature woodland, the location of the Site, and geographical distribution of red squirrel, it is likely that red squirrel is present within the Site and the surrounding area. The best opportunities for red squirrel are within the Scots pine-dominated woodlands in the west of the Site.

5.4.36 Suitable habitat for red squirrel all occurs outside of the area of the Proposed Development, therefore no direct impacts to red squirrel or red squirrel dreys (e.g. from tree felling) are possible. Red squirrel are likely to occur in moderate to high

densities in areas of Scots pine-dominated woodland (woodland types are shown on **Figure 5-3, Appendix A Figures**). The Proposed Development is within 50 m of woodland that could be used for red squirrel to create breeding dreys. Therefore, mitigation measures are proposed, see **Section 5.5**.

Pine Marten

5.4.37 The desk study identified four records of pine marten, two within and two beyond the Site and up to 1 km away from the Site (non were confirmed resting sites). Much of the Site generally provides poor habitat suitable for pine marten den establishment through a lack of mature trees or rock piles. Therefore, pine marten is unlikely to use much of the Site for breeding or resting, particularly the area of clear-felled plantation woodland in the northern section of the Site. The best quality habitat within the Site includes pine-dominated woods and heather moorland, that will provide pine marten good opportunities for feeding (e.g. from prey items such as birds, bird's eggs, berries, etc.).

5.4.38 Field survey results for pine marten are shown on **Figure 5-5, Appendix A Figures**. One potential pine marten den was identified during the field surveys (within a pine woodland) close to but beyond the northwestern boundary of the Site.

Badger

5.4.39 The desk study identified one record of badger within 1 km of the Site originating from a 1 km grid square present to the northwest. Badgers tend to prefer free draining / sloping ground, often within woodland (although they can occur in scrub, bracken, and open habitats such as dry heath or agricultural land) and are widespread throughout Scotland. The majority of habitats (including wet heath and blanket bog) within the Site are suboptimal for badger as they lack suitably dry habitats for sett creation, although the woodlands, provide moderately good badger sett creation opportunities.

5.4.40 No setts were recorded within the Site or within a 100 m buffer around the Site, although three snuffle holes were noted close to the southern boundary of the Site, and a badger latrine was recorded to the west of the Site (as shown in **Confidential Figure 5-1**).

Bats

5.4.41 The desk study returned two records of bats within 1 km of the Site, one of brown long-eared bat *Plecotus auritus* and one of an unknown pipistrelle bat *Pipistrellus sp*. Both records originate from 1 km grid square located outside of the Site. THC lists four bat species in their protected species list: two species of pipistrelle, brown long-eared bat and Daubenton's bat *Myotis daubentonii*.

5.4.42 Due to the upland nature of the Site, the presence of sub-optimal habitats for bats (i.e., upland habitats, moorland habitats and Sitka spruce dominated coniferous woodland) and the exposed nature of the Site, it is considered that the Site generally has Low suitability for commuting and foraging bats. Due to the Site largely comprising heath and bog habitats, the lack of buildings or structures on-site and the presence of conifer dominated woodlands / broadleaved woodland with few senescent trees, it is considered the Site has Low suitability for roosting bats.

5.4.43 During the Bat Roost Suitability Assessment, parcels of broadleaved woodland within the area surveyed were identified that possessed a few trees with PRFs, typically in

birch trees (and only one occasion in Scots pine). During this survey no trees with PRFs were recorded within the area of the Proposed Development footprint or the possible disturbance distances for PRFs. Therefore no trees with PRFs would be directly impacted by the Proposed Development (e.g. by felling).

Other Notable Mammals

5.4.44 The desk study did not identify any other protected or important mammal records (including mountain hare, brown hare and hedgehog). During the field survey, field sign of beaver *Castor fiber* (teeth marks on a tree) was noted on the River Glass, over 5 km from the Site to the north. No other records of other mammals were found during the field surveys.

5.4.45 No survey was carried out for mountain hare, brown hare or hedgehog, and no incidental sightings of these species were recorded. Brown hare and hedgehog are unlikely to occur on Site. The Site is at a high elevation that is generally considered unsuitable for these species. Brown hare are typically associated with lowland, open and agricultural landscapes (not found within the Site), but they can utilise a mix of vegetation types and may use the cover offered by woodland edges. Hedgehog tend to avoid upland areas of moorland and prefer lowland habitats with a mosaic of open fields and woodland[34]. The habitat suitability for hedgehog is low and they are not likely to be present on Site. Mountain hare were not encountered during field surveys and they are considered absent from Site.

Amphibians and Reptiles

5.4.46 The desk study identified no records of great crested newt within 1 km of the Site. There is suboptimal habitat for great crested newt within the Site itself and the Site is geographically unsuitable.

5.4.47 The desk study identified 25 records of common lizard *Zootoca vivipara* and five records of slow worm *Anguis fragilis* within 1 km of the Site. Two records of adder *Vipera berus* were also returned from the desk study.

5.4.48 One record of slow worm was noted in the north of the Site. Common lizard were occasionally encountered during field surveys in heathland and blanket bog. These habitats as well as bracken, woodland and woodland edge habitats in the Site are suitable for all reptiles and are especially good for adder. It can be assumed that all three common reptiles, including adder, are likely to occur at low to moderate densities within suitable habitat.

5.4.49 One single record of common toad *Bufo bufo* was present within the Site. Suitable breeding habitat for common amphibians (including common frog *Rana temporaria*) are present in the water bodies (and wetlands, particularly those with associated open water) across the Site.

Fish and Aquatic Invertebrates

5.4.50 No records of any notable fish (i.e., fish species that are European protected species or are listed on Schedule 5 of the WCA or listed on the Scottish Biodiversity List) were returned from the desk study. However, the River Affric and the Abhainn Deabhag (of the Beauly catchment), and the River Enrick headwaters (of the Loch Ness catchment), are likely to support healthy populations of notable fish; for example, all have been classed by Marine Directorate as rivers supporting Atlantic

[34] Harris, S. and Yalden, D.W., 2008. *Mammals of the British Isles (4th Edition).* The Mammal Society, London.

salmon. However, all the watercourses on Site were assessed as being too steep, rocky and / or with too little water to facilitate fish passage from any of the larger watercourses with known populations of notable fish.

5.4.51 There are no designated sites for nature conservation with notified features for aquatic invertebrates within the Site or in close proximity to the Site. Many of the small watercourses on Site are classed as the UKHab type Rivers (priority habitat).

Terrestrial Invertebrates

5.4.52 There are no designated sites for nature conservation with notified features for terrestrial invertebrates within the Site or in close proximity to the Site. Notable terrestrial invertebrate assemblages are most likely to be associated with woodlands within the Site, but the Site in general has limited opportunities for terrestrial invertebrates.

Non-native Species

5.4.53 The desk study did not identify any records of invasive plant or animal within 1 km of the Site. No invasive or otherwise non-native species were found during the field survey.

5.5 Embedded Mitigation

5.5.1 The implementation of a range of embedded mitigation measures is standard good practice for a development of this type, and which is required to comply with environmental protection legislation. Embedded mitigation is incorporated into the design of this development and aims to avoid or reduce adverse effects, including those on ecological features.

5.5.2 Embedded mitigation includes the following:

- A CEMP would be prepared and submitted for approval by THC, in consultation with SEPA and NatureScot where necessary, prior to commencement of construction. The CEMP would set out all environmental management measures and the roles and responsibilities of construction personnel, to include:
  - All personnel involved in the construction and operation of the Proposed Development (decommissioning has been discounted in this assessment) would be made aware of relevant ecological features and the mitigation measures and working procedures that must be adopted. This would be achieved as part of the induction process and / or through Toolbox Talks;
  - An ECoW / EnvCoW would be employed for the duration of construction. The ECoW/EnvCoW would advise on and monitor implementation of mitigation measures and compliance with legislation concerning ecological features;
  - The ECoW/EnvCoW or other suitably qualified and experienced ecologist would carry out pre-construction surveys for relevant protected species in suitable habitat, including otter, water vole, badger, red squirrel and pine marten. In line with NatureScot guidance, the pre-construction surveys would take place no more than three months before commencing works (including facilitating works such as vegetation clearance);
- During all phases of the Proposed Development, appropriate guidance such as relevant SSEN Transmission SPPs and GEMPs (see **Appendix M GEMPs and SPPs**) would be followed, including pollution prevention measures following SEPA

Guidance on Pollution Prevention (GPP) or Pollution Prevention Guidelines (PPG), including the following:

  - Controls and contingency measures to manage run-off from construction areas and sediment;
  - All oils, lubricants and other chemicals will be stored in appropriate secure containers in suitable storage areas, with spill kits at the storage location and at places across the Site;
  - All refuelling and servicing of vehicles and plant will be carried out in a designated bunded area with an impermeable base, located at least 50 m from any watercourse;
- Works near or at any retained native trees or semi-natural woodland would follow tree protection guidance set out in British Standard 5837:2012[35];
- Requirements for peat management to ensure construction operations adhere to the mitigation hierarchy set out in the NPF4[36];
- Implement standard measures to protect mammals during construction, including:
  - ensure excavations are left with a method of escape for any animals that may enter overnight (such as a battered slope sufficient for mammals to walk out), and check them at the start of each working day to ensure no animals are trapped;
  - ensure pipes are capped or otherwise blocked at the end of each working day, or if left for extended periods of time, to ensure no animals become trapped; and
- Lighting – as far as possible, carry out works in daylight to minimise the risk of disturbing protected or notable nocturnal species. If any temporary artificial lighting is required for construction works, this should be strongly directional and directed only on to the works area, and be turned off when not required, to minimise light spill and adverse effects on nocturnal wildlife.

5.5.3 Embedded mitigation measures in relation to important ecological receptors include:

- Prioritise avoiding loss or other impacts on peatlands (e.g., bog habitats). Consideration would be given to minimising the impacts on these habitats and compensation by on or off-Site enhancement of peatland habitats to achieve an overall biodiversity net gain;
- Avoiding deep peat in general – deep peat is highly likely to be present in areas of blanket bog;
- All soil stripping / peat excavation and storage to follow a process of soil management to ensure the protection of turfs and soil horizons, allowing for successful reinstatement and revegetation;
- Loss of native trees would be minimised, or losses compensated for by planting. Retained native trees and their root zones should be avoided and protected during the works in accordance with standard guidance in British Standard 5837:2012; and

[35] British Standard 4837:2021 Trees in relation to design, demolition and construction. Recommendations.

[36] NatureScot, 2023. *Advising on peatland, carbon-rich soils and priority peatland habitats in development* management [online]. [Accessed 17 October 2024]. Available at: https://www.nature.scot/doc/advising-peatland-carbon-rich-soils-and-priority-peatland-habitats-development-management

- If otter refuges, water vole burrows, pine marten dens, red squirrel dreys (or other protected breeding / resting sites) are found that would be subject to disturbance or damage, there would be a constraint to the Proposed Development[37]. If this becomes the case, an appropriate licence from NatureScot would be obtained, which would require appropriate mitigation.

5.5.4 With regard to all other habitats (including GWTDE), there are no significant ecological constraints. All other habitats within the Site are common and widespread and are of minimal ecological value.

5.6 Appraisal

Issues scoped out

5.6.1 As stated above, relevant ecological features are those that are 'important' and have the potential to be significantly affected by the Proposed Development (CIEEM, 2022)[1]. In view of the baseline data obtained through desk study and field survey, the features in **Table 5-5** below have been excluded from further assessment for the following reasons:

- Available data indicates that they are likely to be absent from the ZoI of the Proposed Development;
- It is clear that no impact from the Proposed Development is possible; and
- They are features that, although identified as being 'important' by the criteria adopted in this chapter, are common and widespread and their conservation status is clearly not threatened by the Proposed Development.

Table 5-5 Ecological Features Scoped Out of Further Assessment

Ecological Feature	Rationale for Exclusion from Further Assessment in this Chapter
River Morriston SAC	The River Morriston SAC is present within 10 km of the Site but there is no connectivity between the Site and this SAC. Therefore, any significant effects on the SAC from construction and operation of the development is very unlikely. For this SAC it is recommended that an 'HRA Screening letter' be produced and submitted to THC, setting out why likely significant effects are not considered possible and therefore that further HRA assessment is not considered necessary. THC would need to confirm agreement or otherwise, as the competent authority for HRA matters.
Strathglass Complex SAC	The Strathglass Complex SAC is present 9 km west of the Site and has several hydrological connections to the latter. However, as the Site is at a distance from the Strathglass Complex SAC that is considered highly unlikely that the designated site's habitat and species associated with the SAC are functionally-linked to the Site. Given that embedded measures of pollution control are strictly adhered to, there are no possible indirect impacts to the SAC from the Proposed Development (as a result of waterborne or airborne pollution, rather than direct effects such a physical habitat damage / destruction) on the SAC. However, it is recommended that an 'HRA Screening letter' be produced and submitted to THC, setting out why likely significant effects are not considered possible and therefore that further HRA assessment is not considered necessary. THC

[37] Normal disturbance distance for otter refuges is 30 m, unless severe works such as piling are proposed. Works up to 10 m from water vole burrows are normally possible.

Ecological Feature	Rationale for Exclusion from Further Assessment in this Chapter
	would need to confirm agreement or otherwise, as the competent authority for HRA matters.
Glen Affric SSSI	The Glen Affric SSSI is located c. 1.2 km west of the Site at its closest point. Watercourses on the Site flow into the Abhainn Deabhag River, which runs adjacent to this designated site. The distance between the Site and the designated site precludes any direct impacts on the SSSI. Given that embedded measures of pollution control are strictly adhered to, there are no possible indirect impacts to the SSSI from the Proposed Development (as a result of waterborne or airborne pollution) on the notified features within the SSSI. Therefore, Glen Affric SSSI is scoped out of further assessment.
Glen Affric NNR	The Glen Affric NNR extends to just within the southwest of the overall Site. However, the NNR does not extend into proposed working areas within the Site. It is therefore unlikely that the NNR would be directly impacted as no works are proposed within the NNR boundary. Any important features which are supported by the NNR and which could be impacted by the Proposed Development indirectly through airborne or waterborne pollution (see **Table 5-4** above) have been assessed individually, where relevant. Consequently, the Glen Affric NNR itself is scoped out of the assessment.
Bats (foraging and commuting)	Due to the upland nature of the Site, the presence of sub-optimal habitats for bats (i.e. upland habitats, moorland habitats and coniferous woodland) and the exposed nature of the Site, it is considered that the Site generally has Low suitability for commuting and foraging bats. Due to the nature of the Proposed Development, it is very unlikely that it would have any significant impact on bat foraging or commuting. As such, foraging and commuting bats have been scoped out of the assessment. However, the potential impacts on roosting bats (i.e. in trees) are considered in the assessment.
Wildcat	The nearest wildcat priority area is located approximately 200 m northeast of the Site and no records for wildcat were returned from the desk study. Wildcat sign was not found during field surveys. Wildcat is considered likely absent from the Site and the surrounding area. Wildcat is scoped out of the assessment.
Great crested newt	No records for great crested newt were returned from the desk study and there is no suitable habitat for great crested newt within the Site. Coupled with this, the Site is outside of the known geographic distribution of great crested newt. As such, great crested newt is scoped out of the assessment.
Fish	Several watercourses are present within the Site providing connectivity to the River Affric, the Abhainn Deabhag, and the River Enrick. All of these rivers have been classed by Marine Directorate as rivers supporting Atlantic salmon and are recognised as watercourses that score highly for fish, as per SEPA WFD monitoring. All the watercourses within the Site that would be directly impacted by the Proposed Development were too steep, rocky and / or with too little water to facilitate fish passage from any of the larger watercourses with known populations of notable fish. The potential impacts upon these watercourses and those in the wider area can reliably be mitigated through standard good practice measures. As

Ecological Feature	Rationale for Exclusion from Further Assessment in this Chapter
	such, fish and aquatic invertebrates are scoped out of this assessment as there are unlikely to be any direct or indirect impacts.

Important Ecological Receptors

5.6.2 The ecological baseline presented above in **Section 5.4** has been used to identify important ecological receptors within the potential ZoI of the Proposed Development. The importance (and sensitivity) of a given ecological feature has been determined from information on distribution and status, a review of literature and guidance[38], field survey data and professional judgement.

5.6.3 There are two ecological features considered to be of local authority-wide importance (or above), as follows:

- Ancient and native woodland; and
- Blanket bog.

5.6.4 Relevant ecological features considered to be of Local importance are:

- Degraded Blanket Bog (on deep peat);
- GWDTE;
- Otter;
- Pine marten;
- Red squirrel; and
- Badger.

Potential Significant Effects

5.6.5 Potential significant impacts and effects from the construction and operation of the Proposed Development on ecological features are as follows:

5.6.6 Permanent habitat loss (e.g. OHL route / footprint);

- Temporary habitat loss (to e.g., temporary OHL tower installation, temporary access track within the Site);
- Habitat degradation as a result of pollution incidents (e.g., fuel or oil spills);
- Permanent or temporary changes to hydrological conditions which may affect vegetation and habitats (e.g., indirect impacts on GWDTE such as changes to local hydrological regime);
- Loss of habitat supporting protected and / or notable species;
- Temporary disturbance and / or displacement of species during construction;
- Disturbance and / or displacement of species during operation (e.g., the use of permanent lighting could impact upon bat foraging); and
- Potential for direct mortality of species during construction (e.g., as a result of increased vehicular traffic, or as a result of pollution incident).

5.6.7 It is anticipated that the potential impacts on ecological features from the Proposed Development could be managed through mitigation and compensation. Ecological enhancement measures (as described in the wider proposed Bingally substation EA

[38] CIEEM, 2022. *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (Version 1.2, updated April 2022).* Chartered Institute of Ecology and Environmental Management, Winchester

and BNG reports[31] and **Appendix E Biodiversity Net Gain Assessment** of this EA) would be conducted for the Proposed Development to meet the objectives of NPF4.

Ancient and Native Woodland

5.6.8 Ancient woodland is considered irreplaceable in national policy, and ancient semi-natural woodland holds the most value of any woodland. One woodland block (Long-established Woodland of Plantation Origin) listed on the AWI is present within the Site, just within the western edge of the Site **Figure 5-2, Appendix A Figures**. Although listed in the AWI, long-established plantation within the Site and nearby is widespread in the area and frequently exhibits a full or partial non-native canopy with a poor flora, therefore local authority-wide importance is considered most appropriate. However, the majority of the AWI woodland within the Site is now commercial forestry plantation and clearly not a natural woodland, although parcels of natural birchwood are present.

5.6.9 Lost Ancient Semi-Natural Woodland (ASNW) is not fully replaceable, owing to its antiquity (noting that this refers to temporal continuity of native woodland cover, not the age of trees, which have often been felled and regrown historically in ASNW across the UK and Scotland), and associated ancient woodland ground flora and soil ecosystem. However, construction and operation of the Proposed Development would not directly impact (by physical disturbance) and would not indirectly impact (e.g. by airborne or waterborne pollution) on any area of AWI within the Site and therefore there is considered to be a Negligible effect on this feature. In addition, there is not expected to be any significant waterborne pollution impacts on ancient and native woodland, or from dust generation.

5.6.10 Native woodland present within the Site comprises a mix of types including birchwood and Other Scots pine woodland. The woodlands are not intersected by the Proposed Development.

Notable Woodlands (Upland Birchwood and Wet Woodland)

5.6.11 The Proposed Development would require the removal of 0.60 ha of notable woodlands. This woodland area would be replanted following the completion of construction. The loss and replanting of this woodland is considered within Appendix E, the BNG Assessment Report, which reports an overall decrease in biodiversity value. Noting, SSE would provide a 10% net gain in biodiversity offsite.

5.6.12 Taking the above into account the impacts on notable woodlands are considered to be not significant.

5.6.13 The Wet Woodland (NVC type = W4) is regarded as GWDTE and potential for direct / indirect impacts (hydrological or otherwise) on this habitat are described below, in the GWDTE section of this assessment (see **Section 5.6.28** onwards).

5.6.14 In addition, the Proposed Development would lead to the permanent loss of other woodland types and scrub without compensation measures. However, loss of these woodlands, or effects from pollution or dust deposition, would be mitigated by the proposed planting[31], so the loss of other woodlands is considered to be not significant.

Blanket Bog and Degraded Bog

5.6.15 Blanket bog has a significant carbon as well as habitat value and intact (not significantly degraded) peat-forming bog is priority Annex I habitat (i.e. a priority on a

European scale). There are also estimated to be 1.8 million ha of blanket bog in Scotland (NatureScot 2024[39]) and it is abundant and widespread in the region, suggested by the frequency of Class 1 and 2 peat[40] which commonly comprises blanket bog. On balance considering the area of blanket bog within the Site, Regional importance is considered most appropriate for the blanket bog.

5.6.16 By reference to the NVC survey, and accounting for NVC bog communities in mosaic with other vegetation types (such as wet heath and acid grassland) the Proposed Development would incur a loss of approximately 0.05 ha of (non-degraded) blanket bog, would be permanently lost and 0.14 ha would be temporarily loss asa result of the proposed OHL Tower Working Areas , Site Compound, Permanent Stone Access Track and Temporary Access Track Spurs' construction.

5.6.17 On balance, considering the above points, loss of blanket bog to construction of the Proposed Development is considered to remain significant, but below the level of Regional importance assigned to it prior to further mitigation. As outlined in Appendix E BNG Assessment Report, NatureScot recommend a 1:10 compensation ratio for peatland loss. Taking this into account, an area of 0.5 ha of blanket bog restoration would be sort to compensate for the loss as a result of the Proposed Development, with an additional 10% of the area to be lost to be provided above the compensation ratio, to provide a biodiversity enhancement. In this instance this equates to 0.505 ha. SSE are committed to providing this area of peatland restoration/ enhancement offsite.

5.6.18 In addition to this 0.12 ha of good condition blanket bog and 0.02 ha of moderate condition blanket bog would be affected during the construction period, this would be restored on competition of construction. In acknowledgement of the temporary loss of this habitat and that it is not likely to be possible to fully restore the good condition blanket bog, back to good condition, an additional 0.14 ha of blanket bog restoration would be targeted offsite.

5.6.19 Considering the compensatory measures to restore Blanket bog, the loss of Blanket bog and Degraded bog are considered to be not significant.

5.6.20 The proposed Permanent Stone Access Track, temporary Access Track Spurs and compounds (both temporary and permanent) have been routed and sited to largely avoid Blanket bog (in moderate to good condition) and deeper peat, which often corresponds to wetter blanket bog vegetation. For these reasons, hydrological impacts on blanket bog are likely to be slight and of far less consequence than direct loss (set out above). Therefore, hydrological construction impacts are considered not significant.

5.6.21 Furthermore, there is not expected to be any construction waterborne pollution of Blanket bog and Degraded bog owing to standard embedded pollution control measures within a CEMP. Airborne pollution impacts are not anticipated given the reasoning described above for 'Ancient and notable woodland'. Therefore, there is no impact.

[39] NatureScot, 2024. *Blanket bog* [online]. [Accessed 5 September 2024] Available at: https://www.nature.scot/landscapes-and-habitats/habitat-types/mountains-heaths-and-bogs/blanket-bog

[40] Scotland's Environment, 2023. *Scotland's Environment Web* [online]. [Accessed 5 September 2024]. Available at: https://map.environment.gov.scot/sewebmap

Other Notable Habitats

5.6.22 Other notable habitats are taken to include:

- Upland heathland (wet and dry); and
- Upland flushes.

5.6.23 Wet and dry heath are both priority SBL habitats and Annex I habitats. Wet heath represents the greatest loss of any habitat within the Site. These heathlands comprise forms that are common and / or widespread in the Highlands of Scotland.

5.6.24 Acid flush is a priority SBL habitat and most recorded acid flush sits within blanket bog and associated habitats. However, no acid flushes are present within the area of the Proposed Development.

5.6.25 Hydrological impacts from construction could also affect certain habitats by altering surface water movement (including watercourse flows). As stated above in the **Section 5.5** normal water flows would be maintained by siting infrastructure to avoid impeding flow-paths. For these reasons, impacts on other notable habitats by altered surface water movements are unlikely or would be minimal.

5.6.26 Consequently, impacts from habitat loss and from surface water hydrological construction impacts on other notable habitats is considered not significant.

Acid Grassland

5.6.27 The Proposed Development would lead to the permanent loss of species-poor upland acid grassland types. These are species-poor and of little botanical interest. The loss of these grasslands or damage from pollution, on this scale, would be considered not significant, considering the ubiquitous nature of these grassland types in the region and Scotland more widely.

GWDTE

5.6.28 Potential GWDTE are often located amongst blanket bog, since the blanket bog is itself primarily ombrogenous (rain-fed) on deep peat, the associated potential GWDTE (such as acid rushy flushes) are either also on this peat or in close proximity to it and fed by it. Potential GWDTE located on steep non-peaty slopes, which include small and localised base-rich flushes as well as more widespread wet heath, are probably also primarily kept wet by rain, either directly (given the regional climate) or indirectly via the blanket bog typically found above those slopes.

5.6.29 Direct loss of the identified GWDTE, considering the relative area of habitats lost compared to the ubiquitous nature of these grassland types in the region and Scotland more widely, would be considered not significant.

5.6.30 For those potential GWDTE directly impacted by the area of the Proposed Development, as stated above in **Section 5.5**, normal water flows would be maintained in the surrounding area by ensuring that flow-paths were not impeded. This mitigation would also serve to maintain the hydrology of GWTDE in the wider area, downslope of the Site. For these reasons, impacts on other notable habitats by altered hydrological conditions are unlikely or would be minimal and therefore not significant.

Priority Watercourses

5.6.31 Important river habitat within the survey area comprises tributaries to notable watercourses of the Beauly catchment. There would be no direct loss of river habitat with regard to the Proposed Development. In addition, there is not expected to be any significant construction waterborne pollution of watercourses owing to standard embedded pollution control measures to SEPA requirements within a CEMP, incorporating SSEN Transmission's GEMPs (see **Appendix M GEMPs and SPPs**). Therefore, there would be no risk of waterborne pollution of Priority watercourses and consequently the impact would be negligible.

Otter

5.6.32 There was only one otter resting site identified just outside of the Site, located within 50 m of the existing access track and near the tower assembly and Temporary Working Area at 79T. However, it is considered unlikely that activity on the existing access track and within the Temporary Working Area would cause significant disturbance to otter, particularly as their ranges can be very large and construction would not directly affect this otter resting site.

5.6.33 During the construction of any required watercourse crossings, works would typically take place during daylight hours and the works areas would be left so as to be passable to otter, in accordance with standard measures to avoid injury / mortality of animals, as described in the **Section 5.5** 'Embedded Mitigation'. It is therefore considered that there would be a temporary but negligible effect on commuting and foraging otter caused by the potential physical impacts of the installation of watercourse crossings.

5.6.34 In addition, pollution of watercourses would be minimised during construction due to implementation of standard mitigation measures. Construction works would predominantly take place during daylight hours, when otter are less active. Disturbance of commuting / foraging otter would therefore largely be avoided. However, even if otter commuting and / or foraging through the Site were to be disturbed by ongoing works, this is very unlikely to have a significant effect, given the area which could possibly be impacted would be very small.

5.6.35 Vehicular traffic would be bound by standard construction site safety protocol to travel at low speeds. The probability of otter casualties as a result of vehicle collision during construction is therefore extremely low. Standard measures to protect all animals from harm during construction will be implemented, including providing a means of escape from excavations, etc. Consequently, there is expected to be a Negligible effect from injury or mortality of otter during the construction phases and this is therefore not significant.

Water vole

5.6.36 No water vole habitat was found within the area surveyed, therefore direct (e.g. via physical damage to water vole habitat) or indirect impacts (e.g. via waterborne pollution) on water vole are not anticipated[41].

5.6.37 However, it is possible that at the time of construction, water vole burrows may be present within the Site as habitat suitable for water vole is present on Site. Therefore, pre-construction water vole survey would be carried out as per **Section 5.5**.

[41] NatureScot advises that a 10 m buffer should be applied around water vole habitat to avoid damage to burrows and disturbance of animals.

5.6.38 Pollution of watercourses would be minimised during construction due to implementation of standard mitigation measures.

5.6.39 Water vole may occasionally (though likely rarely) cross existing access tracks at watercourse crossings and at such time be vulnerable to collision with vehicles and plant. However, all vehicles and plant on Site would be restricted to slow speeds, and water vole are reasonably fast moving. The risk of casualty through collision with vehicles is therefore very low. Standard measures to protect all animals from harm during construction would be implemented, and therefore any impacts on water vole would be not significant.

Red squirrel

5.6.40 Red squirrel are likely to build dreys and be at low densities in moderate to high densities in areas of Scots pine-dominated woodland. Red squirrel may also use birchwoods, but primarily as a feeding resource. No observations of red squirrel were made during field surveys (although 37 desk study records of this species were identified, to the west of the Site).

5.6.41 The removal of 0.60 ha of Upland birchwood would be required to accommodate the Proposed Development. Adopting a worst-case scenario calculated on a home range size of 9-30 ha, this could lead to the loss of the equivalent of a small fraction of one red squirrel home range (in total, which may be shared by several individuals). However, ultimately this woodland lost would be replaced under enhancement proposals[31]. However, periodic clear-felling is part of the baseline environment for the woodland within the area within and beyond the Site, which has large swathes of commercially managed forest and plantation woodland. In addition, red squirrel can have more than three dreys at once and have been recorded using eight different dreys within a two-week period (Harris and Yalden, 2008)[34]. Moreover, birch woods are not favoured by red squirrel for drey building and provide an important but sub-optimal foraging resource for the species (as birch trees are small-seeded). Consequently, the potential loss of woodland during the construction as a result of the Proposed Development would not have a significant effect on the red squirrel population. Currently, no other indirect impacts (e.g. through disturbance) are anticipated as a result of the Proposed Development, however, a pre-construction survey for red squirrel drey would be carried out, as per **Section 5.5**.

Pine Marten

5.6.42 There are no confirmed pine marten dens in the Site. However, there is one feature within the area surveyed (but outside of the Site) that could be used by pine marten (noted as a hole in a mature Scots pine, but with no sign of pine marten or usage by any other species). There are good foraging opportunities for pine marten within the mosaic of woodland and open ground. The total losses of habitat from the Proposed Development are small relative to overall pine marten territory size.

5.6.43 Construction works would predominantly take place during daylight hours, when pine marten are less active. Disturbance of commuting / foraging pine marten would therefore largely be avoided. Where works are required during hours of darkness, any lighting used would be directed onto the works area, and light spill onto surrounding habitats would be minimised. However, even if pine marten commuting and / or foraging through the Site were to be disturbed by ongoing works, this is very unlikely to have a significant effect given the area which could possibly be impacted

would be very small and that the habitats which would be subject the greatest impacts from works.

5.6.44 Mitigation measures would be followed as described in **Section 5.5.4**, the potential pine marten den should be monitored and a licence sought from NatureScot, if disturbance during construction is considered likely. However, the potential den is approximately 100 m from the Proposed Development and disturbance is considered to be unlikely (up to 30 m is the standard distance by which non-breeding resting sites require protection and 100 m for a breeding site). There was no sign of occupancy by pine marten for this feature and therefore it is currently not considered a constraint to construction.

Badger

5.6.45 Evidence of badger activity found during field survey within the Site, but with no setts found on or close to the Site. However, the majority of habitat on Site, and in particular blanket bog and wet heath, is sub-optimal for badger foraging. Other areas of habitat which are of higher foraging value, such as native broadleaved woodland, would incur losses during construction, but would be compensated for by proposed planting measures.

5.6.46 NatureScot advise that disturbance of badgers occupying a sett can occur up to 30 m from typical construction works, this being extended up to 100 m for more disruptive activities such as piling and blasting. All identified (and confirmed) setts are therefore beyond the distance at which routine construction works could cause disturbance. It is therefore considered very unlikely that disturbance of badger occupying any confirmed sett would occur during construction of the Proposed Development.

5.6.47 Construction works would predominantly take place during daylight hours, when badger are typically inactive, therefore, the possibility of badger being disturbed while foraging is unlikely. A negligible effect on foraging badger from construction works is therefore predicted.

5.6.48 There would be an increase in the volumes of vehicular traffic during the construction phase of the Proposed Development. However, vehicles would be restricted to low speeds, and the majority of works would take place during daylight hours. Other standard good practice mitigation measures would be implemented that minimise the risk of badger injury or mortality, as described in **Section 5.5**. Therefore, the overall impacts on badger are likely to be not significant.

Bats

5.6.49 The desk study did not identify any records of bats within 1 km of the Site. However, it should be noted that Highland Nature BAP[42] lists four bat species in the protected species list: brown long-eared bat, Natterer's bat *Myotis nattereri*, Daubenton's bat and Pipistrelles bats including common, soprano and Nathusius.

5.6.50 The Site is connected to the wider landscape by habitats such as woodland blocks, that are likely to be used by bats for commuting. Whilst some bats are likely to commute and forage along such features, there are likely to be very few or no roosting opportunities within the location of the Site, given the dominance of non-

[42] Highland Nature BAP 2021-2026 https://www.highlandenvironmentforum.info/wp-content/uploads/2022/01/Highland-Nature-Biodiversity-Action-Plan-2021-2026-_compressed-.pdf [Access online 5 December 2024]

native conifers and lack of other potentially suitable roosting features (such as buildings with potential access features).

5.6.51 Consequently, based on the habitats and features and general upland nature of the Site, it is concluded that this area has Low habitat suitability for bats (for activity such as commuting and foraging), with Negligible roosting potential, in accordance with definitions provided by the BCT[43].

Aquatic Invertebrates

5.6.52 There would be water crossings on watercourses identified as likely to support a population of notable invertebrates. Each crossing point of the proposed Bingally substation access track, which would be used during construction of the Proposed Development, would represent a very small fraction of watercourse length available within the surrounding area which could be used by aquatic invertebrates and there would be no pollution of watercourses during construction due to the implementation of standard mitigation measures. Any impact would therefore be not significant.

Terrestrial Invertebrates

5.6.53 The Proposed Development would lead to the loss of habitats that are not likely to support a notable population of invertebrates and any impact would therefore be not significant.

Common Reptiles and Amphibians

5.6.54 The baseline information indicates that common lizard, slow worm and adder are generally present on the Site and the habitat present is likely to support all three species. Adder is notable and by far the least common (although probably not scarce in moorland in this region). Common reptiles are likely to occur only at low densities within the Site.

5.6.55 During the active season, when temperatures are sufficiently warm, amphibians and reptiles will be readily able to move away from construction activities. At other times of year, the risk of accidental injury / mortality of amphibians and reptiles is increased, particularly if features which could be suitable for use as refugia or hibernacula are damaged or destroyed.

5.6.56 Common reptiles are protected from deliberate or reckless killing and injury. Therefore, where moorland vegetation that supports good quality reptile habitat (including areas of blanket bog, heathland and acid grassland) would be impacted during the construction period, the following mitigation steps must be followed:

- Visible potential hibernacula (e.g., boulders, rock piles) and vegetation likely to support hibernating reptiles (e.g., mossy hummocks and tussock grassland) are avoided as far as possible (through micrositing the proposed construction areas);
- Visible potential hibernacula (e.g., boulders, rock piles) impacted by the Proposed Development are inspected and dismantled, and re-created (under ECoW supervision) elsewhere outside the Site in summer (Late-May to Mid-September); and
- Vegetation (e.g., mossy hummocks and tussock grassland) likely to support hibernating reptiles are cleared in summer, but (due to the potential presence of active reptiles) by employing a two-stage cutting / strimming of vegetation (under

[43] Collins, J. (ed.), 2023. *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition).* Bat Conservation Trust, London.

ecologist supervision) to a short level (down to 10 cm) to discourage reptile presence, prior to soil stripping.

5.6.57 There would be a limited ability or need to effectively strim vegetation and inspect / dismantle hibernacula in some areas (e.g., within the ridge furrow of highly disturbed felled commercial forestry or within land directly adjacent to the existing access track). It is expected that cutting / strimming of vegetation may be required in localised stretches of the existing access tracks. In all cases, hibernacula should be created to compensate for any loss on a like-for-like basis, or greater as an enhancement measure. Following the employment of successful mitigation measures the overall impact on herptiles is likely to be not significant.

5.6.58 In addition, no water bodies suitable for breeding common amphibians would be directly impacted by the Proposed Development. Moreover, standard pollution prevention measures would be implemented which would ensure that neither suffer from a degradation in water quality which could affect amphibians. It is considered that the impacts of pollution of existing waterbodies and wetlands would be not significant.

All Ecological Features - Operational Phase

5.6.59 Maintenance activity at the Proposed Development would be infrequent, and it is expected that spillages of fuels or oils would be rare and contained, and it is reasonable to expect that any that occur would be necessarily and quickly managed by appropriate safety protocols. Additionally, the operation of the Proposed Development is unlikely to involve significant maintenance visits or discharges of any sort, therefore no significant effects are likely via water-borne pollution.

5.6.60 The probability of commuting or foraging notable mammals (such as otter, water vole and pine marten) being disturbed during operation of the Proposed Development, or of there being notable mammal casualties as a result of vehicle collision, is extremely low. Consequently, any impacts from operation would be not significant.

Summary

5.6.61 With the above specific mitigation in place and adhered to, all construction and operational phase impacts that are not already Negligible would become Negligible in magnitude and of **Negligible** significance and therefore **Not Significant**.

5.7 Cumulative Effects

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

- The proposed Bingally 400 kV substation – The objective of the Proposed Development is to connect to this proposed substation, via installation of two new towers (including a temporary diversion requiring two temporary towers) to facilitate the tie-in of the existing Beauly-Denny OHL. This includes works to upgrade and realign the existing access track that extend from the A831 to the proposed Bingally substation site;
- Bingally to Fasnakyle UGC / OHL connection - The installation of an UGC / OHL to connect the proposed Bingally substation to the existing Fasnakyle Substation;

- Tomchrasky Wind Farm OHL connection - The installation of an OHL connection from Tomchrasky Wind Farm to the proposed Bingally substation;
- Fiodhag Wind Farm – The construction of a wind farm comprising 46 turbines (height to blade tip 149.9 m) – the proposed windfarm overlaps with a large area of the Site from the central area to the south;
- Fasnakyle Energy Storage - A Battery Energy Storage System (BESS) facility comprising access track, compound of battery and electrical equipment, stores, meter building, water tank, ancillary structures, fencing, security cameras, landscaping bunds and new trees;
- Kerrow Farm BESS - comprising multiple containerised storage units, associated infrastructure, control buildings, switch room, lights and associated works;
- Chrathaich Wind Farm - Erection and operation of a wind farm for a period of 30 years, comprising of 14 wind turbines with a maximum blade tip height of 149.9m, access tracks, borrow pits, substation, control building, and ancillary infrastructure;
- Erection of OHL - Erection of small two span spur and free-standing pole for communications mast on the 33 kVA OHL by Benevean Dam, Tomich; and
- Cnoc Farasd Wind Farm - A wind farm consisting of 9 turbines up to 220m tip height, battery storage and associated infrastructure.

5.7.2 The developments above are considered to be of importance to the cumulative appraisal concerning important ecological receptors, as they are developments which are located within the local area to the Site that could potentially give rise to cumulative effects.

5.7.3 During the appraisal process for the Proposed Development, the results of which are described in this chapter, there were no impacts identified that could possibly result in a residual effect[44] of greater than Negligible effect. Consideration during this cumulative appraisal would only be given to those impacts where a residual effect of significance was concluded for the Proposed Development.

5.7.4 All ecological construction effects of the Proposed Development are rendered Negligible with the specific mitigation outlined above in place and adhered to. There is also no possibility as explained in the previous section of appreciable operational effects on ecological features. As such, the Proposed Development offers essentially no ecological adverse effects with which there could be in-combination effects, either between aspects of the Proposed Development itself or with other plans or developments.

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

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

5.8 In-Combination Climate Impacts

5.8.1 Climate change impacts could result in an increase in winter rainfall and more frequent and intense winter storms, which could result in a reduction in breeding success of notable mammals (i.e., water vole).

5.8.2 During the operational phase, prolonged precipitation is likely to result in increased flooding / waterlogging resulting in degradation of habitats that support important mammal species. Water vole are known to be vulnerable to stochastic weather events. Flooding can cause direct mortality to water vole, as individuals drown within burrows during flash floods; however, the species are mobile and adapted to respond to flood conditions by moving temporarily away from burrows, if flooding is not too severe.

5.8.3 Embedded mitigation includes water management on Site via SuDS, designed to specifications that take climate change into account. Water management during the operational phase would be as designed as per best practice to manage water as not to minimise flooding in local watercourses.

5.8.4 As a corollary to increases in winter rainfall, there could be a decrease in summer rainfall, resulting in drier summers and droughts.

5.8.5 During the construction phase, extended hot and dry weather could result in increased risk of dust creation / deposition and potentially degradation of habitats, which could cause habitat degradation of notable habitats (e.g., wetlands, birchwoods). Dust / particulate production and deposition would be minimised as far as reasonably practicable, through the measures required by the CEMP, such as suppression through use of water bowsers, effective transportation and storage of materials.

5.8.6 In addition to drought, there could be an increase in the risk of wildfires, resulting in direct damage to notable habitats (e.g., grasslands, heathlands, wetlands and woodlands) from fire (symptoms include bare earth, proliferation of purple moor-grass or bracken, altered hydrology, death of trees, etc.).

5.8.7 However, wildfires are rare stochastic events (bearing in mind that part of the Site was affected by fire in 2023). However, risk of wildfire during operation would be minimised due to adherence to standard Site protocols (e.g., no smoking outside of designated areas, no fires on site, etc.).

5.8.8 Overall, there are no perceived impacts associated with the construction or operation of the Proposed Development that could have effects in combination with climate change.

5.9 Recommendations and Mitigations

Pre-Construction Surveys

5.9.1 As noted above, pre-construction surveys for mammals and reptiles should be undertaken prior to commencement of works. This is because some species may have moved or created refuges in areas where there had not previously been, and which therefore would not have been identified during the fieldwork undertaken for this development.

Opportunities for further habitat creation

5.9.2 Use of removed woody material to create log-piles in appropriate habitat would be conducted, as advised by an ecologist, which would function as refuges for the benefit of common lizard.