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8 ECOLOGY

8.1 Introduction

8.1.1 With reference to **Volume 1, Chapter 1 Introduction and Background, Section 1.1.10**, this Voluntary EA has been prepared based on the structure and assessment methodology of an EIA. The overall report, however, is a Voluntary EA Report and has not been carried out under the EIA Regulations.

8.1.2 This chapter addresses the potential impacts and effects of the construction, operation and maintenance of the Proposed Development on ecological features. Where appropriate, it provides details of mitigation and/or enhancement measures which have been identified to avoid, minimise, reverse, or compensate for adverse effects on ecological features.

8.1.3 This chapter concerns non-avian ecological features only. An assessment of impacts and effects on ornithological features is considered separately in **Volume 1, Chapter 9: Ornithology**.

8.1.4 This chapter is supported by **Volume 2, Figures 8-1 - 8-5** and the following Technical Appendices: **Volume 3, Appendix E Biodiversity Net Gain Assessment** and **Appendix F Habitat Survey Results**.

8.1.5 Throughout this chapter, species are given their common and scientific names when first referred to and their common names only thereafter. Nomenclature for vascular plants follows Stace (2019)[1] and for bryophytes, Smith (2004)[2] and Paton (1999)[3]. Where no common name is available to distinguish between species (for example, within the *Sphagnum* genus of mosses), these are referred to by their scientific name on every mention. All distances are cited as the shortest distance as the crow flies, unless otherwise specified.

8.1.6 The area encompassed by the red line boundary shown on **Volume 2, Figure 8-1** is referred to throughout as the Site.

8.1.7 This Voluntary EA chapter:

- Describes the key ecological issues with the potential to be associated with construction and operation of the Proposed Development;
- Presents the survey methods used to generate ecological baseline information;
- Presents the results of ecological surveys;
- Includes details of any consultation undertaken to date to inform the EA;
- Presents an assessment of likely significant effects in relation to ecology) and,
- Presents consideration of the potential for cumulative effects in relation to other approved developments within the 'Study Area' (the Study Area is defined in **Section 8.3.9** and **8.3.10**.

8.1.8 This chapter follows CIEEM (2022)[4] guidance but uses, for the purposes of integration with other disciplines, the matrix for determining significance of effect shown in **Volume 1, Chapter 5 EA Approach and Methodology**.

[1] Stace, C. (2019). New Flora of the British Isles (4th edition). C&M Floristics, Middlewood Green.

[2] Smith, A. J. E. (2004). The Moss Flora of Britain and Ireland (2nd Edition). Cambridge University Press.

[3] Paton, J. A. (1999). The liverwort flora of the British Isles. Harley Books.

[4] 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.

8.2 Consultation Undertaken to Date

Table 8-1 Summary of consultation

Date	Consultee	Response
4 April 2024	Members of the public (information provided on an anonymous basis)	• "*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 has been addressed in the Ornithology chapter (**Volume 1, Chapter 9**); • "*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 Proposed Development; and, • A particularly wet area of blanket bog c. 600 m north-north-west of the proposed substation platform and 310 m east of the proposed access track.
19 December 2023	The Highland Council (THC)	• THC expects biodiversity enhancement, with minimum 10% biodiversity net gain, for projects such as the Proposed Development. This has been addressed in the separate Biodiversity Net Gain Report[5] (refer to **Volume 3, Appendix E**); • A number of designated nature conservation sites were noted as potentially present in proximity to the Site; • Protected species noted to be potentially present; and, • Groundwater Dependent Terrestrial Ecosystems (GWDTE) needed to be addressed.

8.3 Assessment Methodology and Significance Criteria

Scope of the Assessment

8.3.1 NatureScot has defined 21 Natural Heritage Zones (NHZ) covering the whole of Scotland (SNH, 2002)[6], which reflect biogeographical differences across the country. Assessment of the impacts on ecological features in this EA was carried out in the context of the Northern Highlands NHZ (NHZ 7), within which the Proposed Development is located.

8.3.2 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".*

8.3.3 Consequently, for the purposes of the EA, important ecological features are 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);

[5] AECOM (2024). Bingally Substation – Biodiversity Net Gain.

[6] SNH (2002). Natural Heritage Zones: A National Assessment of Scotland's Landscapes. Available from at: https://digital.nls.uk/pubs/e-monographs/2020/216666906.23.pdf [Accessed: 09 September 2024]

- 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 is not applicable i 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[7].

8.3.4 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

8.3.5 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.

8.3.6 Prior to the UK's exit from the European Union (EU), Scotland's Special Areas of Conservation (SAC) (and Special Protection Areas (SPA)) 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 Government policy to retain the term European site to refer collectively to SACs and SPAs[8].

Local planning policy

8.3.7 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 THCs A-Z of development guidance[9]. **Table 8-2**

[7] NatureScot (2024). Developing with Nature guidance. Available at: https://www.nature.scot/doc/developing-nature-guidance [Accessed: 30 August 2024]
[8] Scottish Government (2020). EU Exit: The Habitats Regulations in Scotland. December 2020. Available from at: https://www.gov.scot/publications/eu-exit-habitats-regulations-scotland-2/.
[9] Highland Council (2024). Development Guidance. Available at: https://www.highland.gov.uk/directory/52/a_to_z/ [Accessed: 05 September 2024]

lists those LDP policies relevant to nature conservation (for full policy text, refer to the LDPs: Highland-wide Local Development Plan[10] and Inner Moray Firth Local Development Plan[11].

Table 8-2 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.
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

8.3.8 Highland Nature (2021 - 2026); Highland Council'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

[10] Highland Council (2024). Highland-wide Local Development Plan. Available at: https://www.highland.gov.uk/info/178/local_and_statutory_development_plans/199/highland-wide_local_development_plan [Accessed: 05 September 2024]

[11] Highland Council (2024). Inner Moray Firth Local Development Plan. Available at: https://www.highland.gov.uk/info/178/local_and_statutory_development_plans/202/inner_moray_firth_local_development_plan [Accessed: 05 September 2024]

rivers, burns and lochs, and agricultural land. Potentially relevant LBAP species comprise red squirrel *Sciurus vulgaris*, pine marten *Martes martes*, pipistrelle bats *Pipistrellus* spp., curlew *Numenius arquata* (and other breeding waders), golden eagle *Aquila chrysaetos* (and other birds of prey), black grouse *Tetrao tetrix*, swift *Apus apus*, and divers (refer to **Volume 1, Chapter 9 Ornithology**).

Extent of the desk study area and method of baseline data collation

8.3.9 The ecological baseline conditions set out in this chapter have been determined by a desk study, with additional information gathered during field surveys. The Zone of Influence (ZoI) of the Proposed Development is the area over which ecological features may be subject to impacts as a result of its construction and operation, which may extend beyond the boundary of the Site. The ZoI will vary for different ecological features depending on their sensitivity to an environmental change. It is therefore appropriate to identify different ZoI for different features. As recommended in CIEEM (2022)[12], professionally accredited or published studies and guidance, where available, were used to help determine the likely ZoI, as well as professional judgement. However, CIEEM also highlight that establishing the ZoI should be an iterative process and can be informed by further desk study and field survey. Where limited information was available, the Precautionary Principle (UNESCO, 2005)[13] was adopted and a ZoI estimated on that basis.

8.3.10 The desk study sought to identify ecological features which could occur within the potential ZoI of the Proposed Development and could be significantly affected by its construction and/or operation. Decommissioning has not been considered within the chapter as the Proposed Development is permanent in nature. The Study Areas used for desk study and field survey, and which are reported above (**Section 8.3.9**), were designed to allow sufficient data to be collected to establish the baseline condition of ecological features. A desk study was carried out to identify nature conservation designations and records of important habitats and species (as defined in **Section 8.3** under **Scope of the Assessment**) potentially relevant to the Proposed Development. A stratified approach was taken when defining the desk Study Area, based on the likely ZoI of the Proposed Development on different ecological features. Accordingly, the desk study sought to identify:

- Any SACs and Ramsar sites within 10 km of the Proposed Development (or further where a hydrological or other ecological connection may exist);
- Any Sites of Special Scientific Interest (SSSI) within 2 km of the Proposed Development (or further where a hydrological or other ecological connection may exist);
- Any other locally designated nature conservation sites within 2 km of the Proposed Development; and,
- Records of protected and/or important habitats and species within 1 km of the Proposed Development made in the last ten years.

8.3.11 A range of data sources were used for the desk study; these are presented in **Table 8-3**.

Table 8-3 Desk Study Data Sources

Data Source(s)	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

[12] 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.

[13] UNESCO (2024). The Precautionary Principle. Available at: https://unesdoc.unesco.org/ark:/48223/pf0000139578 [Accessed 30 August 2024]

Data Source(s)	Data Obtained	Date Accessed
Highland Council 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
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 Sciurus vulgaris 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

Field survey

8.3.12 The field survey areas adopted do not necessarily extend to the full ZoI of the Proposed Development. As stated previously, the ZoI of a project is the area over which impacts on ecological features could occur. However, at distance from a project, any such impacts may not give rise to significant effects, these being the focus of Ecological Impact Assessment (EcIA) according to the guidelines published by CIEEM[4]. The field survey areas adopted for this assessment were sufficiently precautionary to allow for an assessment of potentially significant effects from the Proposed Development on ecological features, including within the wider ZoI beyond the field survey areas[14].

[14] By way of a theoretical example to illustrate this concept: otter *Lutra lutra* hold large home ranges and use the habitat within these for foraging. Construction activities within the home range of an otter could be said to have a ZoI which extends to the full home range, which may extend to dozens of

Habitat survey

8.3.13 A UK Habitat (UKHab) habitat survey was completed within the Site and to 50 m beyond the Site boundary. The survey followed the standard methods described by UKHab guidance[15] and drew upon the formatting styles (e.g. habitat pattern and colours) used in the Joint Nature Conservation Committee (JNCC) Phase 1 habitat survey guidance[16], by which areas of land are assigned standard habitat types and ecological notes are recorded. Notes were made for each habitat of dominant, typical and notable plant species, and relevant ecological characteristics (particularly where relevant to habitat condition), these reflect conditions at the time of survey.. The habitat survey was carried out between 20-24 May, 28-31 May and 24-28 June 2024. UKHab guidelines recommend a maximum Minimum Mapping Unit (MMU) size on larger sites of 400 m^2 (a square of 20 x 20 m) – the MMU used during habitat surveys for the Site.

National Vegetation Classification Survey

8.3.14 In areas of important habitat identified by the habitat survey (e.g. GWDTE[17] or priority habitats listed on the SBL), where further botanical assessment is 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[18], with reference also to the NVC review and other guidance[19] that describe some additional vegetation types not covered in the original NVC volumes or provide additional advice. 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. 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'). A survey was conducted within the Site and to 50 m beyond the Site boundary for all habitats and to 250 m for potential GWDTE. The survey was carried out concurrently with the UKHab/NVC survey. Habitat types were mapped with the aid of aerial photography and Global Positioning System (GPS) as necessary. The habitat survey extent covered the entirety of the Site.

Otter and water vole survey

8.3.15 A survey for otter *Lutra lutra* and water vole *Arvicola amphibius* was conducted between 28-31 May and 3-7 June 2024. This survey covered all watercourses within the Site plus a buffer

kilometres. However, these works may only have a significant effect on the impacted otter in their immediate vicinity, for example by preventing them from foraging within a few hundred metres of the activities. The field survey area in this case would focus on the area over which significant effects could occur, rather than the potential ZoI, which could encompass the entire home range.

15 UKHab (2023) UK Habitat Classification. Available at: https://ukhab.org/. [Accessed: 27 May 2024].

16 JNCC (2010). Handbook for Phase 1 habitat survey – a technique for environmental audit. Joint Nature Conservation Committee, Peterborough.

17 SEPA (2017). Land Use Planning System SEPA Guidance Note 31: Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems (Version 3). Available from at: https://www.sepa.org.uk/media/144266/lups-gu31-guidance-on-assessing-the-impacts-of-development-proposals-on-groundwater-abstractions.pdf [Accessed 30 August 2024]

18 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.

19 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.

of 200 m for otter and 50 m buffer for water vole, as far as access was feasible and safe. Survey for otter and water vole followed guidance in published literature (Chanin, 2003; Liles, 2003; Strachan, 2007; Strachan *et al*, 2011; Dean *et al*, 2016)[20]. Surveyors searched for otter signs (i.e. spraints, footprints, etc.) and resting sites/natal dens (i.e. lay-ups, holts), and water vole signs (i.e. droppings, latrines, footprints, etc.) and resting/breeding sites (i.e. burrows).

8.3.16 In accordance with best practice guidance provided in Dean *et al* (2016)[21], a second survey visit specifically to search for evidence of water vole should also be carried out during spring prior to construction. This would be in addition to the field survey conducted (e.g. during pre-construction surveys), to be carried out along watercourses within 50 m of proposed infrastructure. The applicant makes a commitment to a second water vole survey, for which THC may wish to secure through a condition of planning.

Badger and pine marten survey

8.3.17 Survey for badger *Meles meles* and pine marten was carried out in areas of potentially suitable habitat within a 100 m buffer of proposed infrastructure. This did not include areas of dense conifer plantation which are generally unsuitable for setts/dens and are 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)[22]. Surveyors searched for badger signs (i.e. hair, droppings, latrines, footprints, etc.) and badger setts. Surveyors searched for pine marten signs and resting / breeding sites (i.e. scat and dens). Expansive areas with frequent opportunities for pine marten dens 100 m distant from the Proposed Development were recorded as suitable habitat only.

Bat roost suitability assessment

8.3.18 In accordance with industry-standard guidelines published by the Bat Conservation Trust (BCT) (Collins, 2023)[23], a ground level tree assessment was carried out to search for trees with potential roost features (PRF) which could be used by bats, within the immediate area of and 50 m beyond the Proposed Development. More general notes were taken on woodlands in the wider area of the Site that possessed trees with PRFs. Within 50 m of the Proposed Development, 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.

8.3.19 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. 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

[20] 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.

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

[22] 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.

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

repeat ground level tree assessment survey is completed to update the EA baseline prior to construction/during pre-construction surveys (see Mitigation by Design **Section 8.7.2 – 8.7.7**).

Other notable mammals walkover

8.3.20 No dedicated red squirrel, mountain hare *Lepus timidus*, brown hare *Lepus europaeus* or hedgehog *Erinaceus europaeus* survey was carried out for the reasons given in the Limitations (**Section 8.3.30 - 8.3.41**) of this chapter. However, any sightings of these mammal species, or evidence of them (such as squirrel-eaten cones), were noted if encountered during all fieldwork. 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 season) for red squirrel dreys should be carried out in suitable woodland (see Mitigation by Design **Section 8.7.2 – 8.7.7**).

8.3.21 A walkover survey was carried out to assess the habitats present on-site for their suitability to host other protected species such as protected reptiles, notable/important invertebrates and protected or notable plants. This was carried out concurrently with the habitat survey (refer to **Section 8.3.13**). No targeted survey was carried out for these species.

Assessment Modelling

8.3.22 The assessment of impacts and effects on ecological features described in this chapter was conducted in accordance with the guidelines published by CIEEM (2022). The principal steps involved in the CIEEM approach can be summarised as:

- Baseline conditions are determined through targeted desk study and field survey to identify features that are both present and might be affected by the Proposed Development (both those likely to be present at the time works begin, and for comparison, those predicted to be present at a set time in the future);
- The importance of identified ecological features is evaluated to place their relative biodiversity and nature conservation value into a geographic context, determining those that need to be considered further within the impact assessment;
- The potential impacts of the Proposed Development on relevant ecological features are described, considering established best practice, legislative requirements and embedded design measures;
- The likely effects (adverse or beneficial) on relevant ecological features are assessed and, where possible, quantified;
- Measures to avoid or reduce (or, if necessary, compensate for) any predicted significant effects, if possible, are developed in conjunction with other elements of the design (including mitigation for other environmental disciplines);
- Any residual effects of the Proposed Development and their significance are reported; and,
- Scope for enhancement measures is considered.

8.3.23 In line with CIEEM guidelines, the terminology used within this chapter draws a clear distinction between the terms impact and effect. Within this chapter, these terms are defined as follows:

- Impact - actions resulting in changes to an ecological feature (for example, demolition of a building which supports roosting bats); and,
- Effect - the outcome resulting from an impact acting upon the conservation status or structure and/or function of an ecological feature (for example, reducing the availability of breeding habitat because of the loss of a bat roost may lead to an adverse effect on the conservation status of the population concerned).

8.3.24 Impacts are assessed in view of the conservation status of the habitats and species under consideration. CIEEM (2022) states that, for habitats, "*conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area*". NatureScot defines the conservation status of a species as "*the sum of the influences acting on it which may affect its long-term distribution and abundance, within the geographical area of interest*" (SNH, 2018)[24]. A species' conservation status is considered to be 'favourable' when:

- Population dynamics indicate that the species is maintaining itself on a long-term basis as a viable component of its habitats;
- The natural range of the species is not being reduced, nor is it likely to be reduced for the foreseeable future; and,
- There is (and probably will continue to be) a sufficiently large habitat to maintain its population on a long-term basis.

8.3.25 NatureScot recommends that the concept of the favourable conservation status of a species should be applied at a national (Scottish) level to determine the level of significance of an effect arising from the impact(s) of development (SNH, 2018). However, as previously highlighted, this assessment has also been conducted in the context of NHZ 7, within which the Proposed Development is located. Therefore, even where an impact may not affect the conservation status of a species at the national level, the potential for effects on the conservation status of that species within the NHZ has also been considered.

8.3.26 For the purposes of this Voluntary EA, effects predicted to be significant on an ecological feature at the Regional or greater geographic level are considered to be Significant in broader EA terms, whereas those predicted to be significant only at the Local or Negligible levels, are considered to be Not Significant.

Determining Magnitude of Change and Sensitivity of Receptors

8.3.27 The assessment of ecological effects was carried out in accordance with CIEEM guidance in *Guidelines for Ecological Impact Assessment in the UK and Ireland* (2022), assigning geographic levels of importance (equivalent to sensitivity) to important ecological features, based on conservation status, population trends and other relevant criteria (including size, naturalness, rarity, and diversity).

8.3.28 However, for integration with other disciplines, and as per **Chapter 5 EA Approach and Methodology**, the following apply:

- 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) has been classed as High, Medium, Low or Negligible;
- Sensitivity has been treated as a geographical scale, as per CIEEM guidance – (refer to **Section 8.3.29**); and,
- Significance of effect has been classed as Major, Moderate, Minor or Negligible, according to the matrix shown in **Chapter 5 EA Approach and Methodology**, but for ecological purposes, and better agreement with CIEEM guidance, subject to professional judgement as necessary and considering the geographical scale in the next paragraph.

[24] SNH (2018). Assessing Significance of Impacts from Onshore Windfarms on Birds out with Designated Areas. Version 2 – February 2018. Available at: https://www.nature.scot/doc/guidance-assessing-significance-impacts-bird-populations-onshore-wind-farms-do-not-affect-protected. [Accessed 30 August 2024]

8.3.29 The geographical scale (sensitivity) has been treated as follows, to better align with CIEEM guidance:

- High means an international or national scale of importance or effect;
- Medium means a regional scale of importance or effect, where the region is Natural Heritage Futures Zone 7 (NHZ 7, the Northern Highlands). NHZ 7 is a biogeographical zone defined by NatureScot, encompassing the Great Glen and mountainous terrain northwards to the edge of the Caithness and Sutherland peatlands, but excluding a broad western seaboard;
- Low means a local scale of importance or effect, where local means a zone of approximately 10 km radius around the Proposed Development; and
- Negligible means a level of importance or effect that is less than local, i.e. ecological features that are common and widespread and/or not important, as per CIEEM guidance, or a level of effect that would be imperceptible or nearly so at the local scale.

Limitations and Assumptions

8.3.30 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.

8.3.31 Where habitat edges are sharp 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.

8.3.32 The habitat surveys alone could not determine the presence of deep peat. 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 habitat. 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 obvious whether or not deep peat is present without detailed peat depth surveys, thus some habitats identified as wet heath, might locally also be degraded bog if there is deep peat under them. Where available, peat depth data was used to corroborate habitat data.

8.3.33 The likelihood of deviation 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.

8.3.34 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. The River Glass, being a Highland river, is prone to flash flooding. It is likely that the levels of water in the River Glass were subject to fluctuation and may have washed away sign of protected species (e.g. otter spraints) prior to the surveys. However, this is considered a minor limitation, as the river was

not in flood at the time of the survey and features suitable for otter (e.g. tree roots on the riverbank) were easily surveyed, and as highlighted in the baseline section, the River Glass is presumed to support otter.

8.3.35 No targeted survey was carried out for wildcat *Felis silvestris* as the Proposed Development lies outside the generally accepted range of this species[25]. 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[26].

8.3.36 During the field survey, many areas of steep, boulder field and craggy hillsides were noted to possess potential for pine marten dens. The largest of these areas is c. 100 x 500 m (to the extreme northeast of the Site), which is densely crowded with rock features suitable for pine marten dens. A detailed survey in this area alone could have taken several days, it was therefore decided that all such areas were mapped as "suitable habitat". Similar more localised areas were also mapped. A more detailed survey, as per the methods described above (refer to **Section 8.3.17**), was conducted within 100 m of the Proposed Development (e.g. the proposed access track and proposed substation site).

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

- Squirrel dreys are extremely difficult to locate in dense commercial conifer plantation (which formed the bulk of all plantation woodland 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;
- Sitka spruce *Picea sitchensis* plantation 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 (Lurz *et al*, 1995[27]; Cagnin *et al*, 2000[28]);
- Birchwoods (which are present in large swathes of the northern section), lack cone-bearing conifers and the canopy almost entirely comprised 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 habituated to periodic larger scale commercial conifer felling caused by typical forest management activities.

8.3.38 A significant part of the area surveyed for protected mammal species contains dense commercial conifer plantation dominated by Sitka spruce or recently felled coniferous plantation. This was difficult and unfeasible to access, and often unsafe to do so. Although Sitka spruce 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 (as set out within **Sections 8.3.15– 8.3.19)**) 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

[25] NatureScot (2024). Wildcats. Available at: https://www.nature.scot/plants-animals-and-fungi/mammals/land-mammals/wildcats. [Accessed: 30 August 2024]
[26] 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
[27] 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.
[28] 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.

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 in low numbers.

8.3.39 The narrow upper reaches of the Allt a' Bail a' Chladaich with over-hanging banks with dense tussocks of purple moor-grass *Molinia caerulea* hampered the water vole survey. It is possible that water vole burrows and signs were missed within a very localised area of this watercourse. This is described in more detail in the baseline section.

8.3.40 In late May to early June 2023, a large wildfire damaged extensive areas of land around Cannich[29] which included Royal Society for the Protection of Birds (RSPB) Corrimony Nature Reserve and land within the Proposed Development boundary. At the time of survey, most burnt habitats were already showing signs of recovery, and rarely habitats showed signs of severe impacts (e.g. bare earth, proliferation of purple moor-grass or bracken, altered hydrology, death of trees, etc.). During NVC surveys, very seldom were burnt habitats unrecognisable, but one such habitat was encountered (i.e. an area of wet heath in the north-east of the Site), this was classified simply as "No NVC". Some habitats were burnt to the point where they could be classified to an NVC, but not to a sub-community (e.g. M15). It is predicted that all (or nearly all) burnt habitats will fully recover in the medium to long-term.

8.3.41 There were no other significant limitations to the desk study, field survey or subsequent analysis which could affect the reliability of this impact assessment.

8.4 Sensitive Receptors

8.4.1 The ecological baseline was used to identify important ecological features potentially present within the potential ZoI of the Proposed Development. The importance (and sensitivity) of a given ecological feature was determined from information on distribution and status, a review of literature and guidance, field survey data, and professional judgement.

8.4.2 Relevant ecological features of International importance are as follows:

- Strathglass Complex SAC; and,
- River Moriston SAC.

8.4.3 Relevant ecological features of National importance are as follows:

- Glen Affric SSSI; and,
- Glen Affric NNR.

8.4.4 Relevant ecological features considered to be of County/Regional importance are as follows:

- Ancient and native woodland; and,
- Blanket bog.

8.4.5 Relevant ecological features considered to be of Local importance are as follows:

- Degraded blanket bog (on deep peat);
- Upland birchwoods and wet woodland;
- Dry and wet heathland;
- Upland calcareous grassland;
- Upland flushes;
- Other upland acid grassland;

[29] BBC (2023) Cannich wildfire could be largest recorded in UK. Available at: https://www.bbc.co.uk/news/uk-scotland-highlands-islands-65765053 [Accessed: 22 August 2024]

- Notable flora;
- Priority habitat rivers/streams;
- Bats;
- Otter;
- Water vole;
- Red squirrel;
- Pine marten; and,
- Adder.

8.4.6 Ecological features of Site importance are as follows:

- Other woodlands and scrub;
- Badger;
- Widespread reptiles and amphibians (excluding adder);
- Fish;
- Terrestrial invertebrates; and,
- Aquatic invertebrates.

8.5 Baseline Conditions

Statutory Designated Sites

8.5.1 There are four statutory designated sites for nature conservation within the possible ZoI of the Proposed Development relevant to this chapter: Strathglass Complex SAC, River Moriston SAC, Glen Affric SSSI, and Glen Affric National Nature Reserve (NNR). These are detailed in **Table 8-4** and shown in **Volume 2, Figure 8-1**.

Table 8-4 Statutory Locally Designated Nature Conservation Sites.

Site Name	Reason for Designation	Relationship to the Proposed Development
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.
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 c. 0.2 km 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

8.5.2 There is one non-statutory designated site for nature conservation within the possible ZoI of the Proposed Development comprising Corrimony RSPB Nature Reserve. This reserve is a mosaic of moorland, woodland, wetland, and montane habitats, managed by the RSPB to maintain and enhance the black grouse population. The reserve boundary is concurrent with the Site boundary in the southern section of the proposed access track and 3.5 km northeast of the proposed substation platform (see **Volume 2, Figure 9-1** of the **Chapter 9 Ornithology**). Intervening land predominantly comprises moorland and felled coniferous woodland. The RSPB reserve is primarily managed for ornithological interests and is considered in detail in **Chapter 10 Ornithology**. Hence, it is not considered further in this chapter.

Habitats Summary

8.5.3 Recorded habitats and their constituent NVC communities are shown on **Volume 2, Figure 8-3**. Where NVC communities occurred as complex mosaics, more than one NVC type is shown per polygon on **Volume 2, Figure 8-3**. 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, for example M15b/M19/M25a (90:5:5). Those habitats constituting 'moderately' or 'highly' potential GWDTE (according to SEPA (2017)[17]) are shown on **Volume 2, Figure 8-4**.

8.5.4 The proposed substation site is covered by commercial plantation, formerly dominated by Sitka spruce and currently clear-felled. The vast majority of habitats within forestry plantation areas are subject to on-going 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*).

8.5.5 The area of the proposed access track is largely a near-natural mosaic of woodlands, heaths and bogs in good condition. Much of the open ground and woodlands in the first 4 km of the track (from north to south) were burnt in a fire in May/June 2023, however it is anticipated that all (or nearly all) of these areas will make a full recovery in the long term. The area of the proposed access track includes large tracts of pristine blanket bog and wet heath, along with occasional patches of species-poor purple moor-grass dominated mires, dry upland acid grassland and bracken-dominated habitat in a mosaic with heathland. The habitats in the area of the northern section of the track includes woodlands that are disturbed by plantation forestry, with some remnant examples of natural broadleaved woodlands. The proposed Temporary Compound 5 is located within clear-felled plantation woodland.

8.5.6 A description of the habitats recorded are described in the following sections, grouped by UKHab habitat types. The recorded NVC communities, their codes and the UKHab types in which they occur are listed in **Table 8-5** Recorded Habitat and NVC Types, with important habitats being highlighted by bold text. Secondary codes used to add further information to individual areas of habitats (shown on **Volume 2, Figure 8-3**) are also shown in

8.5.7 **Table** 8-6.

8.5.8 A detailed description of habitats, including lists of species, is presented in Technical **Volume 3, Appendix F Habitat Survey Results**.

Table 8-5 Recorded Habitat and NVC Types

UKHab Level 4 (SBL priority habitats in bold)	Constituent NVC types (code and name)	UKHab Level 5 (where applicable; Annex I[30] habitats in bold underline)
w1d **Wet woodland**	W4 *Betula pubescens-Molinia caerulea* woodland	N/A
w1e **Upland birchwood**	W11 *Quercus petraea-Betula pubescens-Oxalis acetosella* woodland	N/A
w1e **Upland birchwood**	W11c *Quercus petraea-Betula pubescens-Oxalis acetosella* woodland, *Anemone nemorosa* sub-community	N/A
w1e **Upland birchwood**	W17 *Quercus petraea-Betula pubescens-Dicranum majus* woodland	N/A
w1e **Upland birchwood**	W17b *Quercus petraea-Betula pubescens-Dicranum majus* woodland, typical sub-community	N/A
w1e **Upland birchwood**	W17c *Quercus petraea-Betula pubescens-Dicranum majus* woodland, *Anthoxanthum odoratum-Agrostis capillaris* sub-community	N/A
w1g Other broadleaved woodland	No NVC type, W4 and W411	N/A
w1h Other mixed woodland	W18 *Pinus sylvestris-Hylocomium splendens* woodland	N/A
w1h Other mixed woodland	No NVC type	N/A
w2b Other Scots pine woodland	No NVC type	N/A
w2b Other Scots pine woodland	W18 *Pinus sylvestris-Hylocomium splendens* woodland	N/A
w2c Other conifer woodland	No NVC type	N/A
w2c Other conifer woodland (felled)	U2a *Deschampsia flexuosa* grassland, *Festuca ovina-Agrostis capillaris* sub-community	N/A
w2c Other conifer woodland (felled)	M15 *Trichophorum cespitosum-Erica tetralix* wet heath (considered non-SBL priority due to modified nature – ridge, furrow, tree stumps)	N/A
h3h Mixed scrub	W23 *Ulex europaeus-Rubus fruticosus* scrub	N/A
g1b Upland acid grassland	U4a *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland U4a, typical sub-community	g1b6 Other upland acid grassland
g1b Upland acid grassland	U4b *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland, *Holcus lanatus-Trifolium repens* sub-community	g1b6 Other upland acid grassland

[30] Annex I habitats are habitats of European Community interest listed in Annex I of the Habitats Directive. In summary, habitats of Community interest are those that: i) are in danger of disappearance in their natural range, ii) have a small natural range, or iii) are outstanding examples of habitats in (for the UK) the Atlantic biogeographic zone. 'Priority Annex I habitat' (shown with an asterisk, e.g., H7130*) means that i) is considered to apply and there is a particular responsibility to conserve it owing to the large proportion of its range within the EU.

UKHab Level 4 (SBL priority habitats in bold)	Constituent NVC types (code and name)	UKHab Level 5 (where applicable; Annex I[30] habitats in bold underline)
g1b Upland acid grassland	Je *Juncus effusus* acid grassland community [this is an added non-NVC code]	g1b6 Other upland acid grassland
g1b Upland acid grassland	M25a *Molinia caerulea-Potentilla erecta* mire, *Erica tetralix* sub-community	g1b6 Other upland acid grassland
g1b Upland acid grassland	M25b *Molinia caerulea-Potentilla erecta* mire, *Anthoxanthum odoratum* sub-community	g1b6 Other upland acid grassland
g1b Upland acid grassland	U2a *Avenella flexuosa* grassland, *Festuca ovina-Agrostis capillaris* sub-community	g1b6 Other upland acid grassland
g1c Bracken	U20 *Pteridium aquilinum-Galium* saxatile community	N/A
g2b **Upland calcareous grassland**	CG10a *Festuca ovina-Agrostis capillaris-Thymus praecox* grassland, *Trifolium repens-Luzula campestris* sub-community	g2b6 – **H6230 Species-rich *Nardus* grassland, on siliceous substrates in mountain areas**
h1b **Upland heathland**	H10c *Calluna vulgaris-Erica cinerea* heath, *Festuca ovina-Anthoxanthum odoratum* sub-community	h1b5 – **H4030 European dry heaths**
h1b **Upland heathland**	H12 *Calluna vulgaris-Vaccinium myrtillus* heath	h1b5 – **H4030 European dry heaths**
h1b **Upland heathland**	H12a *Calluna vulgaris-Vaccinium myrtillus* heath, *Calluna vulgaris* sub-community	h1b5 – **H4030 European dry heaths**
h1b **Upland heathland**	H12b *Calluna vulgaris-Vaccinium myrtillus* heath, *Vaccinium vitis-idaea-Cladonia impexa* sub-community	h1b5 – **H4030 European dry heaths**
h1b **Upland heathland**	H12c *Calluna vulgaris-Vaccinium myrtillus* heath, *Galium saxatile-Festuca ovina* sub-community	h1b5 – **H4030 European dry heaths**
h1b **Upland heathland**	H21a *Calluna vulgaris-Vaccinium myrtillus-Sphagnum capillifolium* heath, *Calluna vulgaris-Pteridium aquilinum* sub-community	h1b5 – **H4030 European dry heaths**
h1b **Upland heathland**	M15 *Trichophorum cespitosum-Erica tetralix* wet heath	h1b6 – **H4010 North Atlantic wet heaths with *Erica tetralix***
h1b **Upland heathland**	M15a *Trichophorum cespitosum-Erica tetralix* wet heath, *Carex panicea* sub-community	h1b6 – **H4010 North Atlantic wet heaths with *Erica tetralix***

UKHab Level 4 (SBL priority habitats in bold)	Constituent NVC types (code and name)	UKHab Level 5 (where applicable; Annex I[30] habitats in bold underline)
h1b **Upland heathland**	M15b *Trichophorum cespitosum-Erica tetralix* wet heath, typical sub-community	h1b6 – **H4010 North Atlantic wet heaths with *Erica tetralix***
h1b **Upland heathland**	M15c *Trichophorum cespitosum-Erica tetralix* wet heath, *Cladonia spp*. sub-community	h1b6 – **H4010 North Atlantic wet heaths with *Erica tetralix***
f1a **Blanket bog**	M2 *Sphagnum cuspidatum/recurvum* bog pool community (this community was always associated with M17-type blanket bog and is referred to in the text only)	f1a5 – **H7130* Blanket bog (priority)**
f1a **Blanket bog**	M2a *Sphagnum cuspidatum/recurvum* bog pool community, *Rhynchospora alba* sub-community (this community was always associated with M17-type blanket bog and is referred to in the text only)	f1a5 – **H7130* Blanket bog (priority)**
f1a **Blanket bog**	M17a *Trichophorum cespitosum-Eriophorum vaginatum* blanket mire, *Drosera rotundifolia-Sphagnum spp.* sub-community	f1a5 – **H7130* Blanket bog (priority)**
f1a **Blanket bog**	M17b *Trichophorum cespitosum-Eriophorum vaginatum* blanket mire, *Cladonia spp*. sub-community	f1a5 – **H7130* Blanket bog (priority)**
f1a **Blanket bog**	M19a *Calluna vulgaris-Eriophorum vaginatum* blanket mire, *Erica tetralix* sub-community	f1a5 – **H7130* Blanket bog (priority)**
f1a **Blanket bog**	M15* *Trichophorum cespitosum-Erica tetralix* wet heath (this is a modified code to indicate it is on deep peat)	f1a6 – **H7130 Blanket bog (non-priority)**
f1a **Blanket bog**	M17 *Trichophorum cespitosum-Eriophorum vaginatum* blanket mire	f1a6 – **H7130 Blanket bog (non-priority)**
f1a **Blanket bog**	M19 *Calluna vulgaris-Eriophorum vaginatum* blanket mire	f1a6 – **H7130 Blanket bog (non-priority)**
f1a **Blanket bog**	M19a *Calluna vulgaris-Eriophorum vaginatum* blanket mire, *Erica tetralix* sub-community	f1a6 – **H7130 Blanket bog (non-priority)**
f1a **Blanket bog**	M20 *Eriophorum vaginatum* blanket and raised mire	f1a6 – **H7130 Blanket bog (non-priority)**

UKHab Level 4 (SBL priority habitats in bold)	Constituent NVC types (code and name)	UKHab Level 5 (where applicable; Annex I[30] habitats in bold underline)
f1a **Blanket bog**	M20b *Eriophorum vaginatum* blanket and raised mire, *Calluna-Cladonia* sub-community	f1a6 – **H7130 Blanket bog (non-priority)**
f1a **Blanket bog**	M25* *Molinia caerulea-Potentilla erecta* mire, *Erica tetralix* sub-community	f1a6 – **H7130 Blanket bog (non-priority)**
f2b **Purple moorgrass and rush pasture**	M23b *Juncus effusus/acutiflorus-Galium palustre* rush-pasture, *Juncus effusus* sub-community	N/A
f2c **Upland flushes, fens and swamps**	M6c *Carex echinata-Sphagnum fallax/auriculatum* mire, *Juncus effusus* sub-community	N/A
f2c **Upland flushes, fens and swamps**	M10a *Carex dioica-Pinguicula vulgaris* mire, *Carex demissa-Juncus bulbosus/kochii* sub-community	f2c7 - **7230 Alkaline fens**
f2c **Upland flushes, fens and swamps**	S4 *Phragmites australis* swamp and reed-beds	
f2c **Upland flushes, fens and swamps**	S9a *Carex rostrata* swamp, *Carex rostrata* sub-community	N/A
f2c **Upland flushes, fens and swamps**	S10 *Equisetum fluviatile* swamp	
f2d Aquatic marginal vegetation	A7 *Nymphaea alba* community	N/A
r1 Standing open water	No aquatic NVC types observed	N/A
u1c Artificial unvegetated unsealed surface	No NVC type	N/A

Table 8-6 UKHab Secondary Codes attributed to habitats

UKHab Secondary Code	Label
10	Scattered scrub
12	Scattered bracken
13	Scattered dwarf shrubs
14	Scattered rushes

UKHab Secondary Code	Label
29	Plantation
32	Scattered trees
100	Grazed
105	Burnt
206	Felled
401	Soligenous
403	Poor fen
419	Surface flush or rill or soakaway

Woodland and Scrub

8.5.9 Thirty parcels of Ancient Woodland of semi-natural origin listed on the Ancient Woodland Inventory (AWI)[31] occur within 1 km of the Site, with one woodland block present within the Site itself, to the extreme north of the Site, where it is intersected by the existing access track.

8.5.10 Four parcels of Long-established Woodland of Plantation Origin occur within 1 km of the Site, with none occurring within the Site.

8.5.11 Three parcels of other "Roy" Woodland sites (i.e. parcels shown as unwooded on the 1st edition maps but as woodland on the Roy maps) occur within 1 km of the Site with none occurring within the Site itself.

8.5.12 The Native Woodland Survey of Scotland (NWSS)[32] also holds records of woodland within the ZoI. Six parcels of Native Woodland are present within the Site itself, intersected or directly adjacent to the proposed access track. Plantation on Ancient Woodland (PAWS) is present within the ZoI, with one parcel within the Site to the extreme north of the Site, intersected by an existing forestry track.

8.5.13 Two notable wooded habitats were identified during field survey across the Site these are:

- Wet woodland; and,
- Upland birchwood.

8.5.14 Areas of coniferous/mixed/broadleaved plantation/natural scrub are represented by:

- Other broadleaved woodland;
- Other mixed woodland;
- Other Scots pine woodland;
- Other conifer woodland; and,
- Mixed scrub.

8.5.15 Wet woodland of the NVC type W4 is present in three localised areas within the central section of the Site (**Volume 2, Figure 8-3 Sheet d**), of which one parcel is directly adjacent to the proposed access track. A large parcel of woodland is present in the north of the Site (**Volume 2, Figure 8-3 Sheet b**) which is in a mosaic of W17 woodland (described below in **Section 8.5.18**), W4 woodland and bracken (of the NVC type U20). The proposed access track bisects this large woodland parcel.

8.5.16 Upland birchwood of the NVC types W11 and W11c are present on gently to moderately-steep sloping ground on moderately deep acid-neutral mineral soils, the bulk of which are in the north of the Site (**Volume 2, Figure 8-3 Sheet a, b and c**). The access track bisects this woodland type approximately 3.5 km up the proposed access track from the north. Here the habitat is a sparsely wooded edge of a large parcel that is a mosaic of W11c, W17c and M25a.

8.5.17 Upland birchwood of the NVC types W17, W17b and W17c are present on steep-sloping, rocky ground on relatively thin, acidic soils. The bulk of these woodlands are in the north of the Site, as well as at higher altitudes within the Site in central and southern areas of the Site (**Volume 2, Figure 8-3 Sheet b, c, d, e and g**).

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

[32] Scottish Forestry (2024). Native Woodland Survey of Scotlandhttps://forestry.gov.scot/forests-environment/biodiversity/native-woodlands/native-woodland-survey-of-scotland-nwss [Accessed: 30 August 2024]

8.5.18 Other broadleaved woodland (that can be loosely assigned to W11 and W4 or those that do not correspond to an NVC type), are present within the area of the proposed substation platform and in the north of the Site, within commercial plantation forestry (**Volume 2, Figure 8-3 Sheet h**).

8.5.19 Other mixed woodland is present in northern and southern areas of the Site (**Volume 2, Figure 8-3 Sheet a, b, c, g and h**), some of which borders the proposed access track. These woodlands are presumably managed as commercial plantation. The most natural examples of these are of the NVC type W18. Other mixed woodland of no NVC type were a mix of birch and Sitka spruce, some stands possessed alder *Alnus glutinosa* and had a heathy, grassy or bracken-dominated ground flora.

8.5.20 Other Scots pine woodland was a broad habitat type in areas of commercial plantation (**Volume 2, Figure 8-3 Sheet a, b, d, f, g and h**), the majority of which were found outside of the proposed substation site, with one parcel found in the north of the Site. In one location in the south of the Site, this woodland type borders the proposed access track. These woodlands mostly corresponded to the NVC type W18 (with only one stand with little to no ground flora not being attributed to an NVC type).

8.5.21 Other conifer woodland is present in large blocks outside of the Proposed Development to the west and south of the Site. These areas of Sitka spruce-dominated commercial plantation forestry are generally species-poor monoculture of no NVC type. There is a highly disturbed felled commercial plantation around the proposed substation site. This felled woodland, with deep ridge and furrow, drains and abundant stumps from felled trees has developed a form of species-poor M15 wet heath (not considered an SBL priority habitat). One area of felled Other conifer woodland in the north of the Site corresponds to the NVC type U2a. Temporary Compound 5 is located within this area of felled woodland.

8.5.22 Mixed scrub of the NVC type W23 are outside of the proposed substation site.

8.5.23 Mixed scrub with no NVC are mostly in areas of commercial plantation forestry to the north. One localised area to the south of the proposed substation platform is a low-growing thicket of eared willow *Salix aurita* over an M25a-type ground flora. Fragments of such vegetation are occasionally present associated with M25a habitats to the north of the Site in small valleys. These areas of eared willow are best described as scattered scrub (rather than dense scrub or wet woodland).

Blanket Bog

8.5.24 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. The proposed access track runs through some of these areas, of which, mainly to the north of the Site, are Class 2 nationally important carbon-rich soils (areas of potentially high conservation value and restoration potential). The desk study data broadly corresponds with peatland habitats identified during field surveys, but the dataset is considered to be incomplete, given that the vast majority of the Site was found to be clothed in peaty soils, including substantial areas of deep blanket bog.

8.5.25 From the field survey, the Site was found to contain the following notable bog habitats:

- Blanket bog (SBL priority, Annex I 7130 Blanket bogs); and,
- Degraded blanket bog (SBL priority, non-priority Annex I 7130 Blanket bogs).

8.5.26 Blanket bog in Moderate to Good/pristine condition were present across the Site in all but the very north of the Site (**Volume 2, Figure 8-3 Sheet b-h**), often in large expanses in a near-natural mosaic with heathlands, acid grassland and native woodland. Blanket bog on the flattest, deepest and wettest peat is assigned to the NVC type M17a.

8.5.27 Blanket bog on deep peat, in areas of gently sloping to moderately-sloping ground, assigned to the NVC type M19, are present in a localised areas in a centre of the Site (**Volume 2, Figure 8-3 Sheet d**) and M19a in scattered patches south of the proposed substation site (**Volume 2, Figure 8-3 Sheet h**). M19a communities also rarely support the notable plant dwarf birch *Betula nana*[33]. No dwarf birch was recorded within the area of the Proposed Development.

8.5.28 Degraded bogs (in Poor condition) are mostly found in felled commercial plantation forestry within the southern parts of the Site, within the area of the proposed substation platform (**Volume 2, Figure 8-3 Sheet g and h**), but also in more scattered patches in the central section (**Volume 2, Figure 8-3 Sheet c, d, and e**). Indeed, the proposed substation site largely comprises degraded bog. These bogs have suffered major impacts from drainage caused by the creation of drainage grips and furrows. The degraded bogs in this area mostly correspond to the NVC type M15* (the asterisk denotes a non-bog type habitat on deep peat) . Degraded bogs of the type M25* are present around the proposed substation site.

8.5.29 Degraded bogs are present in a localised area of the central part of the Site (**Volume 2, Figure 8-3 Sheet d**), which were found to be damaged by intensive grazing/trampling caused by an area where sheep are supplementarily fed near the proposed access track. Degraded bogs are also found in a localised area that had been subject to burning (refer to Secondary code **'**105 - burnt' on **Volume 2, Figure 8-3**), these habitats were clearly hydrologically impacted because they were not wet near the surface (compared to other bogs in the area), during the time of survey. The degraded bogs correspond to the NVC types M17, M19, M19a, M20 and M20b. The proposed access track bisects the edge of Degraded bog within the open habitats of the northern section of the Site (**Volume 2, Figure 8-3 Sheet c**).

Heathland

8.5.30 Open areas on thin, peaty soils very often contain the following habitats:

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

8.5.31 Wet heathland is the most common broad habitat type within the Site and is present across all areas. Heathlands are represented by M15, M15a, M15b and M15c. A highly disturbed, species-poor type of wet heath is present within Other conifer woodland around the proposed substation site. Wet heathland of the NVC type M15b is the most common of these wet heathland NVC types, which is frequently distributed across the Site. In the higher, drier and rocky places of the central and southern areas of the Site (**Volume 2, Figure 8-3 Sheet c, d, f, g and h**) is wet heathland that corresponds to the NVC type M15c. For both M15b and M15c, in shorter swards, the notable plant petty whin *Genista anglica*[34] was rarely found.

[33] Dwarf birch is on the IUCN Red list as Near Threatened. Local frequency in region (Not Locally Scarce on The Rare Plant Register in Vice County 96 East Inverness-shire), GB Scarce. On a trend of decline internationally. Source: Botanical Society of Britain and Ireland (2024). https://bsbi.org/plant-atlas-2020. [Accessed: 31 July 2024].

[34] Petty whin is on the GB Red List: Near Threatened. Frequent in region (Not Locally Scarce on The Rare Plant Register in Vice County 96 East Inverness-shire). Source: Botanical Society of Britain and Ireland (2024). https://bsbi.org/plant-atlas-2020, https://bsbi.org/plant-atlas-2020, https://bsbi.org/easterness. [Accessed: 31 July 2024].

Also, a notable plant, interrupted clubmoss *Lycopodium annotinum*[35], is present to the far east of the Site in heathland (well outside of the Proposed Development). No petty whin or interrupted clubmoss was recorded within the area of the Proposed Development. Wet heathland of the NVC type M15a occurred within localised areas across the Site (**Volume 2, Figure 8-3 Sheet b, d, e, f, g and h**), in flushed areas, often between rocky outcrops, in the low points of sloping ground. Wet heathland that has suffered burning is present in the central and northern areas of the Site (refer to Secondary code **'**105 - burnt' on **Volume 2, Figure 8-3**). The open habitats along the northern section of the proposed access track are mainly M15/M15b, much of which has been burnt.

8.5.32 The majority of Dry heaths found correspond to the NVC type H12a, present in central and southern parts of the Site (**Volume 2, Figure 8-3 Sheet d, e, f, g and h**), on the thin, peaty soils of moderately to steeply sloping ground. Many areas of H12a are within the area of the proposed access track. This heathland often has scattered bracken and/or is in a mosaic with patches of dense bracken. On damper, north-facing slopes, a closely associated damp heathland, of the NVC type H21a. Localised areas of hillside that are preferentially-grazed by sheep, adjacent to acid grassland patches, are in the central and southern parts of the Site (**Volume 2, Figure 8-3 Sheet d, e and f**) which correspond to the NVC type H12c sub-community. One of these habitat parcels is adjacent to the proposed access track. Dry heathland that has suffered disturbance from the impacts of plantation forestry is present in the southern areas of the Site (**Volume 2, Figure 8-3 Sheet h**). Two patches of heathland are present on an area of disturbance caused by the formation of a rough vehicle track in a central part of the Site and in an area of commercial forestry in the south of the Site (**Volume 2, Figure 8-3 Sheet e and h**). These correspond to the NVC type H10c.

Calcareous Grassland

8.5.33 In one localised area there is an extensively grazed species-rich grassland with mat-grass (SBL priority, Annex I 6230 Species-rich *Nardus* grassland). Species-rich grassland with mat-grass in upland areas of the NVC type CG10a occurs very locally (and very little in the context of the area surveyed) amongst sloping base-rich grassland on thin soils, in the central area of the Site, outside of the area of the proposed access track (**Volume 2, Figure 8-3 Sheet e**).

Upland Flush

8.5.34 Highly localised areas of Upland flush fall into two sub-divisions:

- Upland flush (surface flush or rill or soakaway); and
- Upland flush (soligenous, poor fen).

8.5.35 Upland flush (surface flush or rill or soakaway) is present as base-rich stony flushes of the NVC type M10a (SBL Priority, Annex I 7230) within central and southern areas of the Site (**Volume 2, Figure 8-3 Sheet e, g and h**). Three of these M10a flushes are within the Site, two are downslope of the proposed access track and one immediately adjacent to the proposed access track. These are moderately species-rich flushes.

8.5.36 Upland flush (soligenous, poor fen) of the NVC type M6c is present within the proposed substation platform itself, and to the north and south of the proposed substation site (**Volume 2, Figure 8-3 Sheet g and h**), within localised patches.

[35] Interrupted clubmoss is on the IUCN Red list as Near Threatened (NT). Local frequency in Vice County 96 East Inverness-shire, but on a trend of decline in Britain and internationally. Source: Botanical Society of Britain and Ireland (2024). https://bsbi.org/plant-atlas-2020, https://bsbi.org/easterness. [Accessed: 31 July 2024].

Swamp and Aquatic Habitats

8.5.37 Loch Caoirach possesses a thin band of bottle sedge dominated S9a swamp and A7 white waterlily *Nymphaea alba* community. Loch na Beinne Moire has a thin strip of common reed *Phragmites australis* dominated S4 swamp, in addition to S9a swamp and scattered patches of broadleaved pondweed *Potamogeton natans* patches. Loch a' Ghreidlein has S9a patches, floating bur-reed *Sparganium angustifolium* was present in localised areas in floating patches, along with broad-leaved pondweed and sparse S10 swamp dominated by water horsetail *Equisetum fluviatile* and (although outside of the survey area to the east of the lochan) an area (c. 0.002 ha) of A7 white waterlily *Nymphaea alba* community. None of these swamp/aquatic communities are within the Proposed Development area.

Purple Moorgrass and Rush Pasture, and Non-calcareous Grassland

8.5.38 Wetlands that fall into the habitat type of purple moor-grass meadows (SBL priority habitat) that are best described as 'rush pasture' were assigned the NVC type M23b. Five of these habitats were found, three in the south of the Site, outside of the proposed substation site and two downslope of the proposed access track in the central-southern area of the Site.

8.5.39 Sloping and dry to damp ground with thin, mineral soils and habitats associated with thin, peaty soils within small valleys contain Other upland acid grassland. Other upland acid grassland corresponding to the NVC type M25a is the most common vegetation community within this broad habitat type on Site, placed into Upland acid grassland. M25a was present in large swathes across the northern section of the Site (**Volume 2, Figure 8-3 Sheet a-d**). M25a is often associated with minor watercourses. Here, the proposed access track frequently bisects this grassland, largely avoiding woodlands, as the track is preferentially sited in this habitat. M25a is present with a more patchy distribution elsewhere within the Site; downslope of the proposed access track in central and southern parts of the Site, and outside of the proposed substation site in the south of the Site (**Volume 2, Figure 8-3 Sheet e-h**).

8.5.40 Other upland acid grassland of the NVC type U4a and U4b is present within central and southern parts of the Site (**Volume 2, Figure 8-3 Sheet b, e f and h**). These grassland types are preferentially grazed by sheep and deer. In the central part of the Site, they form a patchwork amongst heathland on hilltops and hillsides, often bordering the existing access track and within the proposed access track. The areas to the south of the Site are outside of the proposed substation platform. A notable plant, juniper *Juniperus communis*[36] was present (as a single bush) north of Loch a' Ghreidlein, noted adjacent to wet heath. No juniper was recorded within the area of the Proposed Development.

8.5.41 Other upland acid grassland coded as the non-NVC type 'Je' (as described in Averis, 2015[37]) was present in central and southern parts of the Site (**Volume 2, Figure 8-3 Sheet e and h**).

Bracken

8.5.42 Open areas associated with upland acid grassland and/or heathland also occasionally contain Bracken, a non-notable habitat. Bracken habitats corresponding to the NVC type U20 were present in southern and central areas of the Site, associated with grasslands on grassy hillsides/in mosaics with W11 woodland, in mosaics with heathlands and associated with commercial plantation forestry. These bracken habitats in respect to the mosaics listed above

[36] Juniper is listed on the Scottish Biodiversity List. Frequent in region (Not Locally Scarce on The Rare Plant Register in Vice County 96 East Inverness-shire). Source: Botanical Society of Britain and Ireland (2024). https://bsbi.org/plant-atlas-2020, https://bsbi.org/plant-atlas-2020, https://bsbi.org/easterness. [Accessed: 31 July 2024].

[37] Averis, B. and Averis, A. (2015). Plant Communities Found In Surveys By Ben And Alison Averis But Not Described In The UK National Vegetation Classification. Unpublished document.

ranged from grassy examples that shared some of the species found within U4 grassland communities, heathy examples that shared some species of those found in H12 heathland communities, to species-poor examples with little or no other species other than bracken.

Other Habitats

8.5.43 Largely unvegetated and of no note are the existing access tracks for the existing Beauly-Denny 400 kV overhead line, corresponding respectively to the UKHab category artificial unvegetated unsealed surface. The proposed access track is sited along much of this habitat type.

Waterbodies

8.5.44 Several watercourses are present within and running through the Site and several waterbodies are present adjacent to the west of the Site. 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.

8.5.45 The Abhainn Deabhag is classified by SEPA[38] under the Water Framework Directive (WFD) as in Good overall status and received a High quality status for Fish and Fish Barrier parameters. The Abhainn Deabhag joins the River Affric and becomes the River Glass at a confluence. The River Glass then flows into the River Beauly which in turn flows into the Beauly Firth. The River Glass is present within the Site boundary (but 150 m from the proposed access track, at the closest distance). The River Affric / River Glass are classified by SEPA under the WFD as in Good overall status and received a High quality status for Fish and Fish Barrier parameters. The River Affric is designated as a heavily modified body of water due to physical alterations present for water storage for hydroelectricity generation (due to the presence of the Fasnakyle Hydroelectric Power Station).

8.5.46 The River Enrick headwater is c. 3.4 km to the east of the Site which ultimately flows into Loch Ness, east of Drumnadrochit. The River Enrick headwaters are present c. 0.8 km east of the Site. The River Enrick headwaters are classified by SEPA under the WFD as in Moderate overall status and received a High quality status for Fish and Fish Barrier parameters.

8.5.47 The River Affric/River Glass, the Abhainn Deabhag and the River Enrick headwaters have been classed by Marine Scotland as rivers supporting Atlantic Salmon. These large notable rivers are considered priority SBL river habitat owing to a high degree of naturalness and (likely) presence of at least six protected or notable species, including fish.

8.5.48 During the field survey the Site was found to contain Priority rivers/streams, as headwaters of notable watercourses. In addition to other rivers/streams, where physically modified by commercial forestry practices. These upland watercourses were up to 2 m wide, but often no greater than 0.2 m wide. Watercourses within the Site generally have flat to shallowly-sloping banks of less than 1 m. The water depth at the time of survey was very shallow to no greater than 0.2 m. The watercourses on Site have a substrate of shale, small rocks and/or bedrock. At the time of survey, flows were generally sluggish, with occasionally relatively fast flow on steeper land.

8.5.49 Of the more substantial watercourses within the Site with moderate flows, the Allt a' Choire Bhuidhe is up to 2 m wide. It was steep and rocky in places, within a heathy ravine (with one small stand of semi-natural woodland) or within bracken dominated habitats. The Allt

[38] SEPA (2024). Scottish Environment Protection Agency – Water Classification Hub. Available at: https://www.sepa.org.uk/data-visualisation/water-classification-hub/ [Accessed: 05 September 2024]

Currachan is up to 2 m wide in places and bordered by semi-natural woodland, heathland, bracken and blanket bog. The Allt Bailie na h-Aibhne is up to 2 m wide and mostly flows through semi-natural woodland, a tributary of this watercourse within the Site has a width of 0.5 m and flows through purple moor-grass dominated grassland and bracken.

8.5.50 Several standing waterbodies are present within 1 km of the Site:

- Loch a' Ghreidlein (c. 5 m east of the Site);
- Loch Caoireach (c. 70 m east of the Site);
- Loch no Beinne Moire (c. 0.15 km east of the Site;
- Loch nam Freumh (c. 0.40 km east of the Site;
- Loch Carn Bingally (c. 0.45 km east of the Site),
- Loch nam Fiodgah (c. 0.80 km south-east of the Site);
- Loch a'Chreagain Shoilleir (c. 0.85 km east of the Site);
- Loch Riabhachain (c. 0.85 km east of the Site); and,
- Loch na Binne Bige (c. 0.95 km east of the Site).

8.5.51 Loch no Beinne Moire, Loch nam Freumh and Loch Caoireach flows into Allt Currachan then into the Abhainn Deabhag River. Loch nam Fiodgah and Loch a'Chreagain Shoilleir flows into Allt nam Fiodhag then into River Enwick headwaters. Loch a' Ghreidlein flows into the Abhainn Deabhag River then into the River Affric. Loch na Binne Bige flows into the Abhainn na Ruighe Duibhe then into the River Enwick headwaters. Loch Riabhachain flows into the Allt Féith Riabhachain then into the River Enwick headwaters.

Groundwater Dependent Terrestrial Ecosystems

8.5.52 Areas identified as being GWDTE are shown on **Volume 2, Figure 8-4**. The following NVC vegetation communities were identified within the Site and the wider survey area that are recognised as indicators that a habitat is likely to be highly or moderately groundwater dependant according to SEPA (2017)[17]:

- Potentially highly groundwater dependent:
  - M6c;
  - M10a;
  - M23b;
  - W4; and,
  - CG10.
- Potentially moderately groundwater dependent:
  - M15a;
  - M15 and M15b; and,
  - M25a and b.
- Highly unlikely to be groundwater dependent/low ecological value:
  - M15c;
  - M15*; and,
  - M25*.

8.5.53 The results of a basic 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 are largely (or perhaps entirely) maintained by surface water associated with rain-fed systems. Further discussion is provided in **Section 8.7** below.

8.5.54 Wet woodlands (W4) are probably dependent on groundwater to maintain their condition. These GWDTE were found in isolated areas, often on the break of slopes or in a mosaic with dry woodlands (in one woodland large parcel). It should be assumed that groundwater flows are present that have given rise to the wet woodlands on Site.

8.5.55 Potentially highly/moderately GWDTE are present as spring/flush M10a or in flushed rush-dominated mires down from a break in a slope (M23b), 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. Also, CG10 (that is present in one highly localised area) most likely relies on sub-surface irrigation with lime-rich waters. Others are within depressions in sloping peatlands (M6c), within small valleys and/or associated with mapped watercourses (M25a and M25b); these are most likely to be surface water fed systems.

8.5.56 Regarding heathlands, M15a 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 (e.g. M15 and M15b wet heathlands) which are regarded as ubiquitous in the Scottish Highlands. In addition, M15c wet heathland is not likely to be groundwater-fed, as these habitats were mostly present on rocky high ground, which is almost certainly rain-water fed.

8.5.57 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 (M15* and M25*). 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.

Bats

8.5.58 The desk study returned two records of bats within 1 km of the Site, one of brown long-eared bat *Plecotus auritus* (grid reference NH3431) and one of an unknown pipistrelle bat *Pipistrellus* sp. (grid reference NH3128). 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*.

8.5.59 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/birchwoods with few senescent trees, it is considered the Site has Low suitability for roosting bats.

8.5.60 Field survey results for bats are shown on **Volume 2, Figure 8-5**. During the Bat Roost Suitability Assessment, parcels of broadleaved woodland were identified that possessed rarely occurring trees with PRFs, typically in birch trees (and only one occasion in Scots pine *Pinus sylvestris*). Only two trees with PRFs were found to be within 50 m of the Proposed Development (e.g. within proximity to the substation platform and access track). These records are present within the Proposed Development, directly within the proposed access track area. Of these trees, one is deemed to be PRF-M and one PFR-I. Further details are provided in **Table 8-7**. It is recommended that these trees are inspected by tree climbing to assess their status as a bat roost, if they cannot be avoided by the Proposed Development (further details in **Section 8.7.7** Construction Phase below).

Table 8-7 Bat roost features within 50 m of the Proposed Development

Tree Reference	Bat Roost Suitability	Description	Location (Grid Reference)
BT01	PRF-M	Senescent downy birch. Rot hole 4 m up facing west, possibly hollow trunk (could possibly support several or more bats). Further inspection required, if tree is to be felled.	NH3453230426 (within the Proposed Development)
BT02	PRF-I	Senescent downy birch with broken crown. Rot hole 4 m up facing south. Further inspection required, if tree is to be felled.	NH3453830381 (within the Proposed Development)

Otter

8.5.61 Field survey results for otter are shown on **Volume 2, Figure 8-5**. The desk study identified 13 otter records within 1 km of the Site all originating from the same 1 km grid square (NH3430), located at the north of the Site near the River Affric. The River Affric and the Abhainn Deabhag represents highly suitable otter habitat within the potential ZoI of the Proposed Development.

8.5.62 Evidence of otter was found in the following locations:

- The Allt Currachan (that is hydrologically linked to Loch no Beinne Moire;
- Loch nam Freumh and Loch Caoireach);
- In the central area of the Site on an un-named watercourse that flows from Loch a' Ghreidlein;
- On the Allt Bail a' Chladaich in the southern section of the Site; and,
- On the Allt an Rathain south of the proposed substation site.

8.5.63 The aforementioned 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, otters may use these watercourses to commute between the Beauly and the River Ness catchment.

8.5.64 A total of six lay-ups (non-natal resting sites), with spraint(s) inside them, were found across the Site. Four lay-ups were found on the Allt Currachan and all were cavities under rocky/overhanging banks. One of the lay-ups is present c. 50 m downstream of the proposed access track. Two others are downstream and are c. 230 m and c. 370 m distant from the proposed access track. The fourth one is upstream and located c. 220 m distant from the Proposed Development. Single layups were found under a fallen bankside tree on the Allt Bail a' Chladaich and on the Allt an Rathain under an overhanging, eroded rocky bank.

8.5.65 It is deemed unlikely that the otter resting sites identified within the Site are suitable to be used by females as natal features. In all cases, the resting features were rather exposed and had no underground areas that would provide sufficient level of shelter for young otter cubs. Moreover, the resting sites were located close to reasonably sized watercourses. Natal

features are notoriously difficult to find, and female otter are secretive in their behaviour when using a natal feature. This is believed to be mainly due to the pressures from infanticide/cannibalism posed by adult male otters[39]. The risk of a resting site being detected by a male otter is likely to be a significant risk to breeding females, and natal otter features are thought typically to be located in more secure locations as male and female otter share the same watercourses for foraging and commuting. Therefore, given the above, the otter features found on-site are all likely to be non-natal.

8.5.66 A total of eight records of spraints were made: a single record with one fresh spraint, a single record with three recent spraints and six others with old spraints (mostly one or two spraints per record, but one with five spraints). All were found on mossy boulders. No spraints were found on the River Glass, but it can be assumed that otter are present on this river. The lack of spraints on the River Glass is most likely related to the tendency of the river to flood and wash away signs (see Limitations within **Section 8.3.30 - 8.3.41**). The River Glass is a large watercourse that undoubtably supports a healthy population of notable fish, including salmon and trout potentially an excellent feeding resource for otter). Potential otter resting sites were noted on the north side of the River Glass but are 350 m or more north of the Proposed Development access track and are not shown on **Volume 2, Figure 8-5**.

Water Vole

8.5.67 The desk study identified one water vole record within 1 km of the Site (grid reference NH354301). This record is located c. 0.65 km to the west of the Site, near the River Enrick headwaters.

8.5.68 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. The minor watercourses of the Site generally provide sub-optimal conditions for the creation of burrows, the best opportunities are present where watercourse possess banks of the watercourses are at least 0.5 m high. The largest and fastest flowing watercourses within the Site (such as the River Glass, Allt Currachan and the lower reach of the Allt Bail a' Chladaich) are unsuitable for water vole. The site has ample feeding opportunities for water vole from species such as purple moor-grass, sedges (such as cotton grasses), rushes and bilberry.

8.5.69 Field survey results for water vole are shown on **Volume 2, Figure 8-5**. Water vole field signs were recorded in the following locations:

- In the north of the Site on a tributary of the Kerrow Burn (in one very localised area);
- In the north of the Site on the Allt Bailen a h-Aibhne (in two clusters); and,
- On two tributaries of the Allt Bail a' Chladaich (the Allt a' Chiore Bhuidhe and an unnamed tributary) in the southern section of the Site.

8.5.70 A total of 16 locations with water vole burrows and six locations with dropping(s)/latrines were recorded during the field surveys. In addition, an area with potential to support water vole was identified on an un-named watercourse that flows from Loch a' Ghreidlein, immediately adjacent to and for 90 m east of the existing access track, although water vole was not confirmed to be in this location. The water vole habitat was found during surveys and are described from north to south.

- The tributary of the Kerrow Burn has a 200 m or more stretch of moderately-good water vole habitat; however, only three water vole-sized holes (and no droppings/latrines) were noted. It is likely that this area was inactive at the time of survey and that the holes

[39] Kruuk (2006).Otters: Ecology, Behaviour and Conservation. Oxford Biology.

represent historical burrows, not currently occupied by water vole. The area described above is 250 m from the proposed access track, at the closest point and it is not directly hydrologically connected to any of the water crossings associated with the proposed track;

- The greatest number of records and water vole activity was noted on the Allt Bailen a h-Aibhne, in two clusters. The cluster to the north of the Proposed Development, with a length of c. 200 m, has one or two water vole-sized holes per record, but all droppings that were found were of small vole (e.g. bank vole *Myodes glareolus*). The area described above is located 300 m from the proposed access track at the closest point; however, it is directly hydrologically connected to the Proposed Development (as the proposed access track crosses the Allt Bailen a h-Aibhne upstream).
- A cluster of water vole signs to the south of the Site, with a length of c. 60 m, has a single active water vole hole (with dropping(s)/latrine(s) nearby) and an area of densely-spaced runs and holes with droppings and five latrines (with four to 20 or more droppings). The area described above is c. 90 m distant to the proposed access track at the closest point and not hydrologically connected to the Proposed Development (as the proposed access track crosses the Allt Bailen a h-Aibhne downstream); and,
- On two tributaries of the Allt Bail a' Chladaich two records were made of water vole droppings, but no burrows were noted (note that over-hanging banks/dense vegetation precluded the survey – see Limitations **Section 8.3.30 - 8.3.41**). The Allt a' Chiore Bhuidhe (the southerly branch of the Allt Bail a' Chladaich tribuitaries) was assessed to have around 990 m of moderately-good water vole habitat. This habitat is outside of steep and rocky sections downstream and clear-felled coniferous plantation to the north. It is present within a 50 m stretch of the unnamed tributary (the northerly branch of the Allt Bail a' Chladaich tribuitaries), which extends beyond the Site boundary to the east. These areas are 800 m and 320 m upstream from the Proposed Development, respectively.

8.5.71 Note that water vole presence in the vicinity of the Site was previously identified by ground investigation contractors and reported to AECOM on a site visit on 12 December 2024 (during the optioneering phase of the project). The record was on the Allt a' Chiore Bhuidhe and confirmed during the surveys described above.

8.5.72 The watercourse to the southwest of the proposed substation site (a tributary of the Allt an Rathain) was identified as supporting water vole during the consultation period (see details in Section 8.2 Consultation Undertaken to Date); however, during the field surveys this watercourse was found to have shallow banks and was largely shaded by woodland and scrub. No water vole signs were noted.

Red Squirrel

8.5.73 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.

8.5.74 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. Nevertheless, suitable habitat for red squirrel occurs mainly outside the Site with relatively small areas of sub-optimal woodland which could support the species present within it. Red squirrel are likely to occur at low densities in Sitka spruce-dominated plantation and potentially moderate to high densities in areas of Scots pine-dominated woodland (woodland types are shown on **Volume 2, Figure 8-3**).

8.5.75 Birchwood, which represent the vast majority of woodlands within the Site may be favoured by red squirrel for feeding on abundant small seeds, but these woodlands are sub-optimal for drey building. Birch trees are relatively short-lived and a large proportion of the trees within these woodlands are young and semi-mature trees that possess thin, flexible trunks and branches that are unsuitable for drey building. Compared to the longer-lived trees of pinewoods, that provide excellent opportunities for drey building (and also possess good feeding opportunities from pine seeds).

8.5.76 Pinewoods are present within the Site. A proposed access track cuts through 170 m of mixed plantation woodland dominated by semi-mature Scots pine (with limited potential for red squirrel dreys), to the south of the substation platform. The proposed main access track also borders an area of Other Scots pine woodland to the north of the substation, but it is at the closest point 55 m from the Proposed Development.

Pine Marten

8.5.77 The desk study identified four records of pine marten within 1 km of the Site with two of these records originating from within the Site. The Site generally provides poor habitat for pine marten den establishment through a lack of mature trees or rock piles, most markedly around the proposed substation site.

8.5.78 Field survey results for pine marten are shown on **Volume 2, Figure 8-5**. A single scat was found within the Site that is likely to be of pine marten. It was found on a rock next to the Allt Bailen na h-Aibhne. It was approximately 1 cm in width (maximum), long and twisted/U-shaped, with lots of hair and small bones, and had a faint odour. It should be noted that identification of scats as belonging to pine marten (rather than other species, such as stoat *Mustela erminea*) is never fully certain without DNA analysis.

8.5.79 No pine marten dens were identified during the field surveys. The best opportunities for pine marten to create dens are within localised rock exposures in and around the Site, particularly on the slopes of the hills to the north-east of the Site. The following areas are described from north to south and highlight areas of potential pine marten habitat within 100 m of the Proposed Development:

- One area of habitat suitable for pine marten habitat is within 10 m of the Proposed Development, at the closest point. It is within birchwood located in the north of the Site and has exposed rocks on a steep hillside, with occasional cavities large enough for pine marten den creation. However, no evidence of pine marten was found during the field survey;
- Two further areas, 50 m and 80 m from the Proposed Development, within woodland edge, are in the north of the Site with exposed boulders on a hillside suitable for pine marten dens. Again, no evidence of pine marten was noted;
- A localised area of exposed, craggy hillside was noted within the Site itself with limited potential for the creation of pine marten dens and with no evidence of pine marten;
- A relatively large area, that borders a native broadleaved woodland, is within c. 50 of the Site, at the closest point. The woodland is steep and on boulders with crevices suitable for pine marten dens, again no evidence of pine marten was noted; and,
- In the southern section of the Site, north of the proposed substation site, an exposed rocky hillside provides limited potential for pine marten dens and is within 40 m of the access track of the Site, this woodland had been burnt in the fire of 2023, evident from the presence of burnt debris and no evidence of pine marten was noted.

8.5.80 It is also possible that pine marten could use old badger setts (as described in Section 8.5.84 Badger) as dens.

8.5.81 Of all the woodland surveyed, only one tree was found to have suitability for an aerial pine marten den. The feature was in a granny Scots pine[40], left undisturbed by forestry operations, in pine-dominated wood north of the proposed substation site. The trunk of this tree has a hole (six metres from the ground) large enough for pine marten to enter. However, it is unclear if the trunk is of a suitable size to allow for a pine marten den. No sign of pine marten was noted on the tree and in the surrounding area. The tree is 210 m from the Site.

8.5.82 Although the felled conifer plantation of the proposed substation site may allow for some opportunities for den establishment through possible root cavities, it is likely that these cavities will be sub-optimally small, and relatively exposed. It is likely that pine marten may use the Site for commuting or for some small amounts of foraging/hunting. The wet heaths and other habitats of the open ground, and along streams through the Site, are highly likely to support small mammals (such as field vole *Microtus agrestis*), whose droppings were noted along many watercourses and are a key prey item) and small nesting birds (such as meadow pipit *Anthus pratensis*) and their eggs that would provide feeding opportunities for pine marten. The woodlands, including the plantation, would also support some suitable prey of these types. However, the trees within the Site generally do not typically offer significant refuge cavities and it is highly unlikely that the localised native trees (such as birches *Betula* spp. and willows along watercourses within the Site) would do so either.

Badger

8.5.83 The desk study identified one record of badger within 1 km of the Site originating from a 1 km grid square present to the north-west. Badger tends 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. However, the woodlands, particularly the broadleaved types in the north of the Site, provide good badger sett creation opportunities.

8.5.84 Field survey results for badger are shown on **Volume 2, CONFIDENTIAL Figure 8-1**. In total, 83 badger holes were recorded (pertaining to nine setts), three areas of footprints, two latrines, two single dung and eight snuffle holes (feeding signs). Strong badger paths were noted in woodlands to the north-west of the Site and to the south of the Site. The following badger sett records were found and are described from the north to the south of the Site:

- A large, active main sett[41] of 42 holes was found within sloping broadleaved woodland 310 m northeast of the proposed access track that leads from the A831;
- An active seven-hole sett was found within woodland in the north section of the Site, 260 m from the proposed access track. This badger sett was present along the well-drained banks of a watercourse;
- Four, inactive, single holes and one cluster of five inactive holes (of badger size) were noted on the hillside in the north of the Site, although there was no sign of recent use by badger. It is possible that these setts were abandoned during (or prior to) the fire of 2023 and badger have not returned. At the time of survey these features had no legal status as badger setts owing to lack of signs of use. All but one of these (a single hole, the furthest north of this cluster of five described above) are either within the Proposed Development

[40] A “granny pine” refers to an ancient, wide-crowned Scots pine tree that typically stands alone in heather moorland. They are usually over 200 years old and are considered to be remnants of semi-natural Caledonian pine forest.

[41] Note: the status of main (breeding) setts was not confirmed during surveys.

Site or within 30 m of it. Where these features are within 30 m of the proposed access track, then they should be subject to pre-construction survey to determine whether or not they have become occupied (if this is the case, licensing would be required);

- A 25-hole sett was found within the central section of the Site within a sparse woodland with a ground flora dominated by bracken. It was found to be largely occupied by red foxes *Vulpes vulpes* (given the amount of fox droppings noted) but three holes were found to have recent sign of badger (e.g. hairs). The sett is approximately 100 m from the proposed access track, at the closest point; and
- An active main-sett was located (as described in Section 8.2 Consultation to date) on a sandy hill within an upland area in the southern section of the Site. The sett was in heather, bracken and scrub and had 13 holes and showed signs of activity including hairs, bedding, trails and digging. The sett is c. 200 m from the proposed access track, at the closest point.

Other Notable Mammals

8.5.85 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 (teeth marks on a tree) was noted on the River Glass, outside of the Site to the north (the location is shown on **Volume 2, Figure 8-5**). No other records of other mammals were found during the field surveys.

8.5.86 No survey was carried out for mountain hare, brown hare or hedgehog, although incidental sightings, if made, would have been recorded. Brown hare and hedgehog, although SBL priority species, are still common and widespread in suitable habitat. Mountain hare is widespread in suitable hilly terrain and is often reasonably common. There are habitats within the Site that could support mountain hare, particularly the open moorland areas. Brown hare and hedgehog may occur in the lower altitude parts of the Site, although are more likely to occur in the lower valley beyond it. Brown hare is typically associated with open and agricultural landscapes (not found within the Site), but they can use a mix of vegetation types and may use the cover offered by woodland edges (Harris and Yalden, 2008)[42]. It is possible that brown hare occur in the more lowland areas of the Site. Similarly, hedgehog could be present in similar habitats. Mountain hare were not encountered during field surveys and they are considered absent from Site.

Amphibians and Reptiles

8.5.87 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 which is in a geographically unsuitable location for great crested newt.

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

8.5.89 One record of slow worm was noted in the north of the Site (the location shown on **Volume 2, Figure 8-5**). 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 widespread reptiles, including adder, are likely to occur at low to moderate densities within suitable habitat. However, if present at all, common reptile species are only likely to be present at low densities in the relatively poor-quality habitat of felled commercial plantation

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

forestry, within the proposed substation platform. Habitats to the north of the Site (coincidentally mapped as 'suitable pine marten habitat') supports good hibernacula opportunities for adder (e.g. woodland edge with boulder scree), although reptiles are known to use invisible refuges in other habitats (including blanket bog), such as deep vegetation tussocks and small mammal burrows[43], and such habitat is frequently present across much of the Site.

8.5.90 One single record of common toad *Bufo bufo* is present within the Site (shown on **Volume 2, Figure 8-5**). Suitable breeding habitat for common amphibians (including common frog *Rana temporaria*) are present in the waterbodies (and wetlands, particularly those with associated open water) across the Site.

Fish and Aquatic Invertebrates

8.5.91 No records of any notable fish (i.e. fish species that are European protected species or are listed on Schedule 5 of the Wildlife and Countryside Act or listed on the SBL) 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 Scotland as rivers supporting Atlantic 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.

8.5.92 There are no designated sites for nature conservation with notified features for aquatic invertebrates within the Site or in proximity to the Site. Many of the small watercourses on Site are classed as the UKHab type Rivers (priority habitat). They are hydrologically connected to the rivers of the Beauly catchment, which achieved a High ecological status for invertebrates, assessed by SEPA[38]. These small watercourses are near-natural and are typical examples of relatively undisturbed upper reach Highland burns. Their natural substrates (of shale and small rocks) will provide opportunities for aquatic invertebrates to feed and breed, most notably within areas of riparian natural woodland cover, where leaf litter will provide a valuable resource. Watercourses that are most likely to support notable populations of invertebrates are the Allt a' Chlachain, the Allt Bailen na h-Aibhne and the Allt Currachan.

Terrestrial Invertebrates

8.5.93 There are no designated sites for nature conservation with notified features for terrestrial invertebrates within the Site or close to the Site. Notable terrestrial invertebrate assemblages are most likely to be associated with high quality species-rich notable habitats in good condition. The Site in general has limited opportunities for terrestrial invertebrates. The upland habitats (e.g. wet heath, blanket bog and acid grassland) are not especially notable floristically and are also common in the region, and unlikely to support a particularly notable invertebrate assemblage. Semi-natural broadleaved woodland provides the best opportunities for notable terrestrial invertebrates (e.g. beetles, butterflies and moths); however, the woodlands lack a diverse assemblage of trees species (notably oak *Quercus* spp. are entirely absent) and were assessed as in moderate condition, with little in the way of standing or fallen deadwood.

[43] ARG (2018). ARG UK Advice Note 10: Reptile Survey and Mitigation Guidance for Peatland Habitats. Amphibian and Reptile Groups of the United Kingdom.

Invasive non-native Species

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

Baseline at Time of Construction/Future Baseline

8.5.95 It is very unlikely that the current ecological baseline, as described, would be significantly different at the time of construction, given that there is no likelihood of habitats and the animals they support in and around the Site appreciably changing, or regional animal distributions substantially altering, prior to that time. The management of the Site (i.e. for extensive sheep grazing and commercial plantation forestry) is predicted not to change significantly during the next 30 years in the absence of the Proposed Development, bar the potential for felled plantation woodland to be replanted or standing plantation to be felled.

8.5.96 The Site is managed partly as commercial forestry. Re-planting felled woodland and felling current commercial plantation would locally increase or locally decrease conifer plantation woodland cover. In addition, some areas are likely to be subject to routine operations, including thinning and/or clear-felling. The Site is also managed in part, for nature conservation, within RSPB Corrimony Nature Reserve and therefore subject to management activities such as conservation grazing. The remainder, which accounts for large swathes of the Site outwith the reserve and plantation forestry, is managed by extensive sheep grazing.

8.5.97 In the absence of the Proposed Development, and considering a point 30 years in the future, habitats that suffered during the previous wildfire event (see limitations and assumptions **Section 8.3.30 - 8.3.41**) will likely have recovered significantly, and this may result in changes to habitats and species numbers and distribution within the Site. The effects of the recovery from fire would potentially be most pronounced within the Corrimony RSPB Reserve itself (which includes an area of the northern end of the Site) and its ornithological interest (considered in detail in **Chapter 9 Ornithology**). However, in the context of the habitats within the Site, given that the fire damage recorded was largely minor and already showing signs of recovery, and that only some of the northern area of the Site around the proposed access track was impacted by the fire, the effect of habitat recovery within the Site would likely be slight. Such recovery would mean probable improvements to the condition of some habitats, currently not identified to an NVC sub-community level (due to the lack of some distinguishing features). However, recovery from fire damage is not expected to alter the habitat as defined under UKHab (for example a woodland being so severely burnt that the habitat loses all trees and is replaced by a bracken habitat). Habitat recovery within the Site could lead to small increases in the abundance of small non-notable mammals such as field vole *Microtus agrestis* which in turn could improve foraging conditions for notable mammals such as pine marten. However, overall habitats would likely remain broadly the same and hence the current baseline of notable mammals would likely remain similar.

8.5.98 The status of the following species/groups would be expected to remain similar at the time of construction, despite any tree felling or changes in grazing regime (e.g. stocking densities) which occurs in the interim, for the reasons given:

- Bats – it is considered that the Site generally has Low suitability for roosting bats, with little to no suitability within commercial plantation forestry areas (e.g. around the proposed substation site). The best opportunities for roosting bats lie within upland birchwoods, that possess occasional trees with potential roost features. It is anticipated that these woodlands will be maintained (not felled) and that they will naturally regenerate under current grazing conditions. It is possible that the birchwoods may gain maturity over time

and develop further opportunities for roosting bats in senescent trees. However, birch trees are relatively short-lived (and go into senescence and rot away relatively quickly compared to other species, such as oak *Quercus* sp.). Given the natural, rapid cycle of growth and decay of birch trees, the birchwoods will remain in a similar state of maturity/senescence over the long-term. Hence, there will be a similar level of opportunities for roosting bats within the Site in the future.

- Otter – this species is largely confined to the vicinities of watercourses and waterbodies, and this would remain the case under a changed grazing regime or after felling/re-stocking. The vast majority of watercourses run through open land, so forest operations will largely have no impact on the watercourses that could affect otter. There is no likely mechanism by which a change in grazing would have an impact on otter, within levels that could be anticipated for such an upland site that can be expected to support only light grazing. Therefore, the status and distribution of otter would likely remain similar to the existing baseline.
- Badger – evidence of badger activity was found across the Site within wooded areas and open areas (most of which was moorland). With the exception of the large, main sett found outside of the site to the northeast, badger setts were found in areas that are not anticipated to be affected by felling. It is expected that the main sett would be suitably protected against potential felling impacts, under normal lawful forestry operations, that would seek to minimise disturbance to the setts e.g. under a licence granted by NatureScot. Therefore, the status and distribution of badger would likely remain similar to the existing baseline.
- Water vole – forestry operations are unlikely to affect the suitability of watercourses, as nearly all watercourses flow through open land. There are little to no opportunities that forestry operations would create to promote the development of further unshaded watercourses with a suitable riparian vegetation. As for otter above, there is no likely mechanism by which a change in grazing would have an impact. Therefore, the distribution of water vole is therefore likely to remain largely unchanged.
- Red squirrel – this species is likely to be absent outside of woodland areas and most likely to be at low densities in Sitka spruce-dominated plantation to potentially moderate to high densities in areas of Scots pine-dominated woodland (birchwoods maybe favoured for feeding but are sub-optimal for drey building). Red squirrel are dependent on these woodlands, blocks of which in commercial plantation forestry will be rotationally felled over periods of 30 years or so. Therefore, the species will necessarily have previously altered its local distribution according to felling and replanting that will have taken place periodically over many decades and would necessarily do so again.
- Pine marten – the plantation woodland and birchwood within the Site offer little opportunity for aerial dens. However, the rocky, craggy and boulder-strewn hillsides (localised in the south of the Site and extensive in the north) provide ample opportunities for sub-terranean refuges. Pine marten will use the woodlands and open areas to forage for small birds, mammals and fruits – which undoubtably provide ample foraging opportunities. The potential for localised impacts as a result of forestry operations (positive or negative) and impacts as a result of change in grazing regime are likely to be inconsequential. Therefore, the distribution and status of pine marten would likely remain similar to the existing baseline.
- Amphibians – existing wetlands and waterbodies will remain unaffected by forestry operations or change in grazing regime and the distribution of amphibians will be unchanged.
- Reptiles – felled forestry areas (within the Site, beyond the Proposed Development) could develop a vegetation cover and would then likely provide a reasonable invertebrate foraging resource for reptiles, as well as basking and refuge opportunities – at least in the

short to medium term prior to re-stocking. Conversely, re-stocking of clear-felled areas (in the north of Site near the proposed substation platform) would likely have a negative impact on reptiles (as habitat suitability would be lost). However, vegetation growth (or forestry development) is unlikely to be sufficient by the time of construction for this to be significant. In addition, reptiles are likely to be present in low densities within currently felled coniferous plantation areas. Therefore, reptiles will likely be largely confined to the same open habitat areas of good quality (e.g. in the northern and central areas of the Site) that currently exist.

- Fish – potential forestry operations impacts can only be expected from localised areas of the site that have commercial plantation forestry. Any forestry operations would be expected to be carried out under appropriate protocols to avoid gross sedimentation or other pollution of watercourses. Any anticipated change in grazing regime would not be expected to have an impact of fish populations. Therefore, the existing complement of fish species, would likely remain unchanged.
- Aquatic invertebrates – as set out for fish, forestry operations would be required to avoid pollution of watercourses and the assemblage of aquatic invertebrates should remain unchanged.
- Terrestrial invertebrates – no significant changes to Site habitats (as a result of forestry operations or grazing regime) are expected that would lead to a significant change in terrestrial invertebrate assemblages.

8.6 Issues Scoped Out

8.6.1 As stated in **Section 8.3**, relevant ecological features are those that are important and have the potential to be significantly affected by the Proposed Development (CIEEM, 2022)[4]. In view of the baseline data obtained through desk study and field survey, the features in **Table 8-8** have been excluded from further assessment because: a) available data indicates that they are likely to be absent from the ZoI of the Proposed Development, b) it is clear that no impact from the Proposed Development is possible, and/or c) 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 8-8 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 has no connectivity to it. For this site 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 within 10 km of the Site and has several hydrological connections to the Site. The Proposed Development 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) on the SAC. However, it is recommended that an HRA Screening letter is 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.

Ecological Feature	Rationale for Exclusion from Further Assessment in this chapter
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 proposed development 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 is located c. 0.2 km southwest of the Site. Important features which are supported by the NNR and which could be impacted by the Proposed Development will be assessed individually. Therefore, the Glen Affric NNR itself will be 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 will 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 c. 20 km northeast of the Site and no records for wildcat were returned from the desk study. Wildcat signs were 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 Scotland 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 such, fish and aquatic invertebrates are scoped out of this assessment.

8.7 Assessment of Effects, Mitigation and Residual Effects

Potential Impacts of the Proposed Development

8.7.1 The following broad categories of impact could arise during the construction and operation of the Proposed Development and are considered, where potentially relevant, in relation to each of the ecological features scoped into the detailed assessment:

- Permanent habitat loss (e.g. the substation platform and permanent access tracks);
- Temporary habitat loss (e.g. temporary construction compounds and underground cables);
- Habitat degradation as a result of pollution incidents (e.g. fuel or oil spills);
- Permanent or temporary changes to hydrological conditions (e.g. due to change in land drainage) which may affect vegetation and habitats (e.g. indirect impacts on GWDTE);

- Loss of habitat supporting protected and/or notable species;
- Creation of barriers to animal movements (e.g. the construction of watercourse crossings could inhibit the movement of otter or fish);
- Temporary disturbance and/or displacement of species during construction;
- Disturbance and/or displacement of species during operation; 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).

Mitigation by Design

8.7.2 Pollution of surface water, groundwater, soils and vegetation will be avoided through adoption of industry-standard good practice mitigation measures at all stages of the Proposed Development in order to meet legal and regulatory requirements. These measures are normal practice for development of this type and are considered as embedded or mitigation by design. Embedded mitigation measures are incorporated into the design of a development and aim to avoid or reduce adverse effects, including those on ecological features. Embedded mitigation can be considered at the impact assessment stage, whereas specific mitigation measures which are not part of the design and are developed after the initial impact assessment, are assessed at a later stage when considering the residual effects.

8.7.3 Embedded mitigation includes the following, which are taken account of during impact assessment:

- The proposed access track makes use of and follows the existing access track, except where it passes through the outer north-western part of Corrimony RSPB Reserve. By this means habitat losses have been kept to a minimum;
- The alignment of the proposed access track has been designed to avoid areas of deep peat where feasible;
- Permeable tracks will be constructed (via use of suitably sized material to maintain flows of surface/ground water, or via the use of culvert(s)) on tracks that directly or indirectly impact GWDTE;
- A Construction Environmental Management Plan (CEMP) would be produced, which will include details of measures to protect habitats including pollution control measures during construction, as required by statutory authorities, and stipulating adherence to SEPA Guidance on Pollution Prevention (GPP);
- The CEMP will incorporate SSEN Transmission's General Environmental Management Plans (GEMPs) and Species Protection Plans (SpPPs) (see Appendix S GEMPs and SpPPs) which detail appropriate mitigation measures applied as a standard requirement to all construction sites and practices.
- Construction runoff would be controlled as per an authorisation at the appropriate level (e.g. licence) granted by SEPA;
- The design incorporates SuDS that would ensure runoff during operation is adequately controlled, according to industry best practice;
- All oils, lubricants or other chemicals will be stored in an appropriate secure container in a suitable storage area, with spill kits provided at the storage location and at places across the Site;
- In order to avoid pollution impacts to soils, vegetation and watercourses/waterbodies during construction, all refuelling and servicing of vehicles and plant will be carried out in a designated area which is bunded and has an impermeable base. This will be situated at least 50 m away from any watercourse;

- All personnel involved in the construction and operation of the Proposed Development will be made aware of the ecological features within the ZoI and the mitigation measures and working procedures that must be adopted. This will be achieved as part of the induction process and through the delivery of Toolbox Talks, where required;
- An Ecological Clerk of Works (EcoW) and/or Environmental Clerk of Works (EnvCoW) will be employed for the duration of the construction of the Proposed Development and undertake site inspections.
- The remit of the ECoW/will include, but may not be limited to:
  - carrying out pre-works checks for protected species and other important ecological features;
  - advising on exact infrastructure placement within micro-siting tolerances; and,
  - monitoring of protected species, and liaising appropriately to resolve any issues that arise, if necessary, including obtaining further licence(s) and developing associated proportionate mitigation.

8.7.4 The remit of the EnvCoW will include, but may not be limited to:

  - advising on exact infrastructure placement within micro-siting tolerances;
  - monitoring of, and advising on, storage of overburden to minimise habitat damage;
  - monitoring of any peat/vegetated turves that may be stored for later reinstatement;
  - advising on habitat reinstatement; and
  - monitoring of pollution control measures and advising on placement of ditches, settlement ponds, etc. to minimise habitat damage.
- Works near or at any retained native trees or semi-natural woodland will follow guidance in British Standard 5837:2012 Trees in relation to design, demolition and construction - Recommendations (British Standards Institution, 2012)[44];
- Any artificial lighting required for construction works will be directional to avoid or minimise light spill beyond immediate works areas; and
- Measures to prevent the injury or mortality of animals will be adopted, including:
  - trenches, holes and pits will be kept covered at night or during periods when no constructions works are taking place or if this is not possible, provide a means of escape for mammals, reptiles and amphibians that may become entrapped, such as a ramp or battered slope; and,
  - plant and machinery will be inspected before use each day to check for the presence of animals that may have taken shelter within or beneath.

8.7.5 According to guidance published by the Institute of Air Quality Management (IAQM) (Holman *et al*, 2014)[45], dust generated by plant and machinery on construction sites can impact habitats located at distances up to 50 m from works areas, and up to 500 m from site entrances. However, standard pollution prevention techniques will be implemented during the construction of the Proposed Development, and this will include dust suppression (for example through wetting of access tracks during periods of dry weather), where necessary.

8.7.6 The Design Manual for Roads and Bridges (DMRB)[46] advises that air quality impacts only need to be assessed where a project will increase annual average daily traffic (AADT) of light

[44] British Standards Institution (2012). British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations.
[45] Holman, C., Barrowcliffe, R., Birkenshaw, D., Dalton, H., Gray, G., Harker, G., Laxen, D., Marner, B., Marsh, D., Primsall, F., Pullen, J., Stoaling, M., Storey, C. and Vining, L. (2014). Guidance on the assessment of dust from demolition and construction (Version 1.1 – June 2016). Institute of Air Quality Management, London.
[46] National Highways. (2024) Design Manual for Roads and Bridges. Available at: https://www.standardsforhighways.co.uk/search/html/e1dec952-aad5-4bdc-bfa1-2ca0f430baab?standard=DMRB.

vehicles (e.g. cars) by more than 1,000 movements and/or heavy-duty vehicles (HDV) by more than 200 movements (Highways England *et al*, 2019)[47]. The average daily movements of light vehicles and HDV are predicted to be 202 and 84 respectively, therefore these minima will not be exceeded and air quality impacts by vehicular emissions will not be significant.

8.7.7 A Landscape Habitat Management Plan (LHMP) (Refer to **Volume 3, Appendix G**) will be produced detailing the necessary compensatory habitat measures to ensure an overall Biodiversity Net Gain (BNG). These will in accordance with Peatland ACTION guidance[48], and large-scale woodland planting, e.g. to create Wet woodland and Other Scots pine woodland. The details of the BNG assessment are available in **Volume 3, Appendix E Biodiversity Net Gain Assessment**.

Construction Phase – Effects and Mitigation

Ancient and Native Woodland - Direct loss

8.7.8 Ancient woodland is considered irreplaceable in national policy, and ancient, semi-natural woodland holds the most value of any woodland. One woodland block listed on the AWI is present within the Proposed Development, to the extreme north of the Site, where it is intersected by the existing access track. PAWS is also present within this area. 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 County importance is considered most appropriate. PAWS are former Ancient Semi-Natural Woodland (ASNW) that was felled and replanted with non-native trees, often Sitka spruce, typically in the 1950s to 1980s. Limited remnant ancient woodland flora may persist in PAWS but its survival, including seedbank, appears unlikely after 25 years of canopy closure (Ferris and Simmons, 2000[49]) and least likely in acidic and wetter conditions (Brown *et al*., 2015[50]) as is the case with typical Sitka plantation. The majority of the AWI woodland within the Site is now clearly not a natural woodland, however, parcels of natural birchwood are present. Track widening in the north of the Site would lead to the loss of up to 0.25 ha of native birchwood, listed on the AWI. A second area of AWI woodland would be lost, where an access track is proposed east of Fasnakyle Power Station. The route of the track uses a wayleave to a 11 kV wood pole OHL and almost all land lost will be within a species-poor dense bracken habitat (not considered to be ancient woodland in this assessment). The area of actual AWI loss in the area of the 11 kV OHL would equate to around 0.1 ha of native birchwood.

8.7.9 Lost 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. Consequently, loss of ASNW (including the minor PAWS impact) is considered a **Permanent Adverse effect of Regional Significance**, which is significant. However, considering the extremely small area of AWI lost and that it would be partially mitigated by the proposed planting (outlined above with reference to LHMP/BNG), the loss of AWI is considered to be **Negligible** effect.

[47] Highways England, Transport Scotland, Welsh Government and Department for Infrastructure (2019). Design Manual for Roads and Bridges. Sustainability & Environment Appraisal LA 105 Air quality. Available from at: https://www.standardsforhighways.co.uk/tses/attachments/10191621-07df-44a3-892e-c1d5c7a28d90?inline=true.

[48] NatureScot (2024). Peatland ACTION. https://www.nature.scot/doc/peatland-action-technical-compendium [Accessed: 09 September 2024]

[49] Ferris, R. and Simmons, E. (2000). Plant communities and soil seedbanks in broadleaved-conifer mixtures on ancient woodland sites in lowland Britain. Information Note 32. Forestry Commission, Edinburgh.

[50] Brown, N.D., Curtis, T. and Adams, E.C. (2015). Effects of clear-felling versus gradual removal of conifer trees on the survival of understorey plants during the restoration of ancient woodland. Forest Ecology and Management 348: 15-22.

8.7.10 The NWSS also holds records of woodland of which six parcels of Native Woodland are present within the Site itself. These were identified as a mix of woodland types including birchwood and Other Scots pine woodland (discussed in more detail below). The woodlands are intersected or directly adjacent to the proposed access track. Losses to the woodlands is considered a **Permanent Adverse Effect of Local Significance**. However, this would be mitigated by the proposed planting, the loss of AWI is considered to be **Negligible** effect and therefore is **Not Significant**.

Ancient and Native Woodland - Pollution

8.7.11 AWI woodlands are linked to the Site by watercourses: in the extreme north of the Site and to the north where the watercourses meet the River Glass; downstream of the Allt Bailen a h-Aibhn and the tributary of Loch Caoireach). There are watercourses or other hydrological connectivity linking the long-established plantations with the Proposed Development to the west of the Site. There will be no pollution of watercourses during construction due to implementation of standard mitigation measures. During the installation of watercourse crossings, this will include ensuring that works areas are dry (for example by over-pumping or temporarily diverting the watercourse). Therefore, there will be a **Neutral effect** for waterborne pollution impacts on ancient and native woodland.

8.7.12 There is not expected to be any significant impact from dust generation on woodlands listed on the AWI or NWSS as they are mostly over 50 m away at closest, beyond normal distance for dust effects. Construction plant/machinery airborne gaseous emissions will be short-term, whereas effects on vegetation arise from long-term exposure. Therefore, there will be a **Neutral effect** for air pollution impacts on ancient and native woodland.

8.7.13 No Long-established Woodland of Plantation Origin occurs within the Site. The closest area of Long-established Woodland of Plantation Origin is located c. 70 m to the west of the proposed access track and north of the proposed substation site. There are no conceivable direct or indirect impacts predicted for this woodland, after all embedded mitigation is considered. Therefore, there will be **No effect** on Long-established Woodland of Plantation Origin.

Ancient and Native woodland – Residual Effects

8.7.14 It is therefore concluded that there will be a **Negligible Effect** on Ancient and native woodland from the Proposed Development during the construction phases and this is **Not Significant**.

Notable Woodlands (Upland Birchwood and Wet Woodland) – Direct Loss

8.7.15 The Proposed Development would lead to the permanent loss of notable woodlands without compensation measures (3.56 ha of Upland birchwood and 0.02 ha of Wet woodland). This would be considered a **Permanent Adverse Effect of Local Significance.** However, this would be mitigated by the proposed planting, so the loss of notable woodlands is considered to be **Negligible** effect and therefore is **Not Significant**.

8.7.16 The Wet woodland is regarded as GWDTE and potential for direct/indirect impacts (hydrological or otherwise) on this habitat are described, in the GWDTE **Section 8.7.47 - 8.7.52**) of this assessment.

Notable Woodlands (Upland Birchwood and Wet Woodland) – Pollution

8.7.17 There is not expected to be any construction waterborne pollution of notable woodlands owing to standard embedded pollution control measures within a CEMP. Airborne pollution impacts are not anticipated given for the reason described within **Section 8.7.8 - 8.7.16** for Ancient and Native woodland. Therefore, there is no impact on notable woodlands, and the significance of effect is **Neutral**.

Notable Woodlands (Upland Birchwood and Wet Woodland) – Residual Effects

8.7.18 It is therefore concluded that there will be a **Negligible Effect** on Notable woodlands from the Proposed Development during the construction phase and this is **Not Significant**.

Other Woodland Types and Scrub – Direct Impacts

8.7.19 Other woodland types and scrub are taken to include:

- Other broadleaved woodland;
- Other mixed woodland;
- Other Scots pine woodland;
- Other conifer woodland; and,
- Mixed scrub.

8.7.20 The Proposed Development would lead to the permanent loss of other woodland types and scrub without compensation measures. This would equate to: 0.06 ha of species-poor and low biodiversity value Other coniferous woodland; 1.21 ha of Other broadleaved woodland of moderate (at best) biodiversity value; 0.50 ha of Other mixed woodland and 0.17 ha of Other Scots pine woodland (which are similar in character and share some species and structure of a native pinewood, although they were not in good condition and were found to possess no rare species and had poor structure). The loss of these woodlands, on this scale, would be considered a **Permanent Adverse Effect of Local Significance.** However, this would be mitigated by the proposed planting, so the loss of other woodlands is considered to be **Negligible** effect and therefore is **Not Significant**.

Other Woodland Types and Scrub – Pollution Impacts

8.7.21 The effects of pollution in these woodlands in considered to be Not Significant, for the reasons described (refer to **Sections 8.7.8 - 8.7.14**) for Ancient and native woodland

Other Woodland Types and Scrub – Residual effects

8.7.22 It is therefore concluded that there will be a **Negligible Effect** on Other woodland types and scrub from the Proposed Development during the construction phase and this is **Not Significant**.

Blanket Bog and Degraded Bog – Direct Impacts

8.7.23 Annex I habitat, with significant carbon as well as habitat value. 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[51]) and it is abundant and widespread in NHZ 7, suggested by the frequency of Class 1 and 2

[51] NatureScot (2024). Blanket bog. https://www.nature.scot/landscapes-and-habitats/habitat-types/mountains-heaths-and-bogs/blanket-bog [Accessed: 05 September 2024]

peat[52] 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.

8.7.24 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 Development will incur a loss of only 0.94 ha of (non-degraded) blanket bog, all of which would be a result of the access track construction/widening of the existing access track. These areas are largely represented by wet M17 blanket bog types (with extensive cover of sphagnum including *Sphagnum papillosum*), with a small fraction represented by the drier M19.

8.7.25 Degraded bog accounts for 37.79 ha of the total area of the Proposed Development, all of which is a result of the proposed substation platform being located in the south of the Site within commercial forestry. Degraded bog with wet heath type vegetation M15* represents 93% of the area, with degraded forms of M17 accounting for 5% of the area (within the substation platform itself), the remainder are M20 and M25* types. These bogs have little to no sphagnum cover (other than *Sphagnum capillifolium*, which is not confined to bog and not a key peat-forming species).

8.7.26 On balance, considering the above points, loss of blanket bog to construction of the Proposed Development is considered to remain significant at the level of importance assigned to it prior to further mitigation, i.e. a **Permanent Adverse Effect of Regional Significance**.

Blanket Bog and Degraded Bog – Peatland Restoration

8.7.27 The Proposed Development includes a large swathe of Peatland restoration within the Site that will seek to restore the hydrological condition of Degraded bog within the Site that will more than off-set the loss of the overall Blanket bog resource in a regional context. The details of the proposal are provided in a LHMP.

8.7.28 Considering the compensatory measures to restore Blanket bog, the residual effects of loss of Blanket bog and Degraded bog are considered to be a **Permanent Minor Positive Effect** and therefore is **Not Significant**.

Blanket bog and Degraded bog – Hydrological Impact on Retained Blanket Bog

8.7.29 The alignment of the proposed access track has been designed to avoid areas of deep peat/peat of 1 m depth or more, to minimise the hydrological effects on Blanket bog (where present) and associated habitat. Moreover, the compounds (both temporary and permanent) have also been routed and sited to largely avoid Blanket bog (in moderate to good condition) and deeper peat. For these reasons, hydrological impacts on blanket bog are likely to be slight and of far less consequence than direct loss. Therefore, hydrological construction impacts are considered a **Negligible effect.**

Blanket Bog and Degraded bog – Pollution

8.7.30 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 for the reason described within **Section 8.7.8 - 8.7.16** for Ancient and Native woodland. Therefore, there is no impact, and the significance of effect is **Neutral**.

[52] Scotland's Environment (2023). Scotland's Environment Web. https://map.environment.gov.scot/sewebmap [Accessed: 05 September 2024]

Blanket Bog and Degraded bog – Residual effects

8.7.31 It is therefore concluded that there will be a **Negligible Effect** on Blanket bog and Degraded bog from the Proposed Development during the construction phases and this is **Not Significant**.

Other Notable Habitats – Direct Impact

8.7.32 Other notable habitats are taken to include:

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

8.7.33 Upland heathland includes all wet and dry heath, although these are SBL and Annex I habitats, it must be taken into account that typical forms are ubiquitous throughout upland Scotland including NHZ 7, and more local flushed forms are also widespread in the uplands. Species-rich calcareous grasslands, which are included in this group of notable habitats, are also SBL and Annex I habitats. They are more localised in distribution but also widespread in Scotland and NHZ 7. Acid species-poor flushes (occasional in this area and common in the uplands in general), and a variety of more localised habitats of small to very limited extent comprising basic/species-rich flushes and rush-pasture (with wetland species) are SBL priority habitat. The habitats outlined above, although of some note, are sufficiently widespread in upland Scotland generally that Regional importance would be disproportionate. Many of these habitats are regarded as GWDTE and potential for direct/indirect impacts (hydrological or otherwise) on these habitats are described in the GWDTE **Section 8.7.47 - 8.7.52**of this assessment.

8.7.34 Wet and dry heath are both priority SBL habitats and Annex I habitats. Losses to wet and dry heath will be approximately 58.45 ha and 0.67 ha respectively. Wet heath represents the greatest loss of any habitat within the Site, accounting for 53% of the total area of the Proposed Development. These heathlands comprise forms that are common and/or widespread in highland Scotland. Of most note is M15a (flushed wet heath), of which 0.97 ha would be lost. Although this form can be more floristically diverse than the other heaths, it is still widespread in the uplands, and the examples in the surveyed area are mostly not especially notable. The M15a was often only separated from other M15 types by the abundance of carnation sedge, bog asphodel and star sedge *Carex echinata*.

8.7.35 Two locations with small basic spring/flushes (constituting priority SBL and Annex I habitat) were identified within the Proposed Development, which would suffer direct impacts from the construction of the access track. In total, three locations of basic flush were recorded within the Site. All these flushes are of the NVC type M10a. These communities are widespread across highland Scotland.

8.7.36 There is one highly localised occurrence of basic grassland, within the central section of the Site. This corresponds to basic grassland (priority SBL habitat, Annex I habitat). The grassland corresponds to CG10a. It is a moderately species-rich example. This basic grassland is 90 m distant, downslope, from the proposed access track and will not be directly impacted.

8.7.37 Acid flush is a priority SBL habitat. A total of three M6c flushes were recorded within the Site. Most recorded acid flush (all corresponding to M6c and not species-rich, as is typical) sits within blanket bog and associated habitats. Losses to M6c amount to 0.78 ha, two flushes are

within the Proposed Development, both within the proposed substation site. M6 flushes are regarded are ubiquitous in the upland areas of Scotland.

8.7.38 Rush-pasture is a priority SBL habitat. A total of five areas M23b rush-pasture were recorded within the Site, of which none will be directly impacted by the Proposed Development. M23 rush-pastures are common in Scotland and regionally.

8.7.39 In view of the above, losses to other notable habitats are considered a **Permanent Adverse effect of Local Significance**, which is Not Significant.

Other Notable Habitats – Hydrological Impact (Surface Water only) on Other Notable Habitats

8.7.40 Hydrological impacts via groundwater are considered under GWDTE Section 8.7.47 - 8.7.52.

8.7.41 Hydrological impacts from construction could also cause impacts on certain habitats by altering surface water movement (including watercourse flows). Other notable habitats that could be impacted in this way most obviously include basic flush, acid flush and rush-pasture, but also CG10a grasslands and possibly wet heath. As stated in the Mitigation by Design **Section 8.7.2 – 8.7.7**, normal water flows would be maintained via the use of permeable tracks. For these reasons, impacts on other notable habitats by altered surface water movements are unlikely or will be minimal.

8.7.42 Consequently, surface water hydrological construction impacts on other notable habitats are considered a **Negligible effect**, which is **Not Significant**.

Other Notable Habitats – Residual Effects

8.7.43 It is therefore concluded that there will be a **Negligible Effect** on Other notable habitats from the Proposed Development during the construction phase and this is **Not Significant**.

Acid Grassland – Direct Impacts

8.7.44 The Proposed Development would lead to the permanent loss of species-poor Other upland acid grassland types of the NVC M25a, U4a and U2a (although noting that this area is currently recently felled woodland). This would equate to 1.22 ha, 0.52 ha, 4.81 ha of each habitat, respectively. The grassland types are species-poor and of little botanical interest. The loss of these grasslands, on this scale, would be considered **Negligible**, considering the ubiquitous nature of these grassland types in the region and Scotland more widely.

Acid Grassland – Pollution

8.7.45 Indirect effects of pollution in these grasslands in considered to be Not Significant, for the reasons described (**Section 8.7.10 – 8.7.14**) for Ancient and native woodland.

Acid Grassland – Residual Effects

8.7.46 It is therefore concluded that there will be a **Negligible Effect** on Acid Grassland types and scrub from the Proposed Development during the construction phases and this is **Not Significant**.

GWDTE - Direct Loss

8.7.47 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 flushes corresponding to M6c dominated by soft-rush) 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 (M10a) as well as more widespread wet heath (M15a, b and c), 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. Where (as is often the case) damp acid grassland of the type M25a is closely associated with small streams, it is likely to be primarily fed by the watercourse. Most clearly, M15c on high and dry rocky summits are not considered to be GWDTE, in addition to M15* and M25* types that are degraded forms of heath on ombrotrophic peat. For these reasons, potential GWDTE indicated on **Volume 2, Figure 8-4** are considered likely in many cases to not be groundwater-dependent.

8.7.48 Regardless of the above, the direct losses of potential highly GWDTE would be 0.78 ha of M6c and 0.02 ha of W4. No direct losses would be incurred for the potential highly GWDTE CG10a and M23b. Direct losses of potentially moderately GWDTE would be 1.09 ha of M15a, 6.49 ha of M15b and 1.28 ha for M25a and M25b (taken together) and, most notably 50.49 ha of M15. This relatively large area of M15 loss is primarily as a result of the loss of heathland within the open ground in the northern section of the Site, where the proposed track would be built where there is no pre-existing track. However, it should be noted again that these heathlands are species-poor and ubiquitous locally, regionally and in the Scottish Highlands as a whole.

8.7.49 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 (M15* and M25*). 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 GWDTE.

8.7.50 The loss of these GWDTE, considering the relative area of habitats lost compared to the ubiquitous nature of these heath and purple moor-grass habitats in the region and Scotland more widely, and the species-poor nature of the affected habitats which are of Moderate rather than High groundwater dependency only, is considered a **Permanent adverse effect of Local Significance** only.

GWDTE - Hydrological impact

8.7.51 Given the above, the risk to GWDTE from the Development is therefore low, but sensitivity would be highest for those NVC types considered in SEPA (2017)[17] to be potentially of High groundwater-dependency (i.e. W4 and M10a). For those potential GWDTE directly impacted by the proposed access tracks, as stated above in the 'Mitigation by design' **Section 8.7.2 – 8.7.7**, normal water flows would be maintained in the surrounding area via the use of permeable tracks. This mitigation would also serve to maintain the hydrology of GWTDE in the wider area, downslope of the Proposed Development. For these reasons, impacts on other notable habitats by altered hydrological conditions are unlikely or will be minimal. As Consequently, construction losses to potentially sensitive GWDTE are considered a **Negligible** effect, which is **Not Significant**.

GWDTE – Residual Effects

8.7.52 Hydrological construction impacts on retained potentially sensitive GWDTE are considered a **Negligible** effect, which is **Not Significant**.

Notable Flora - Direct Loss

8.7.53 The following notable plants were recorded within the Site:

- Great sundew;

- Dwarf birch;
- Petty whin; and,
- Interrupted clubmoss.

8.7.54 These plant species are all on the IUCN Red list as near threatened, except for petty whin which is listed on the GB Red List as 'near threatened' (classed as 'Least Concern' on the IUCN Red List). None of these species are priority SBL species. None of the locations where these species were noted are within the Site. Regardless, if some of the locations of these species were missed during field surveys, they are likely to occur in highly localised areas within the Site and at extremely low abundances, if at all. This is supported by the fact that:

8.7.55 a) the proposed substation site is almost entirely of species poor, degraded habitats that have suffered disturbance from commercial forestry operations;

8.7.56 b) the habitats adjacent to the proposed track are likely to have suffered from disturbance as a result of the construction of the pre-existing access track; and

8.7.57 c) the vast majority of the habitats where there is no pre-existing access track, in the northern section of the Site have been recently damaged by fire in 2023.

8.7.58 Great sundew is most likely to occur within M17a blanket bogs and dwarf birch, petty whin and interrupted club moss are most likely found within heathland of good quality within the Site, which have been largely avoided by the Proposed Development (due to siting a large proportion of the proposed track on pre-existing access track).

8.7.59 Consequently, direct losses to other notable flora would constitute a **Negligible** effect, which is **Not Significant**.

Priority Rivers/Streams – Direct Loss

8.7.60 Notable river habitat within the survey area comprises tributaries to notable watercourses of the Beauly catchment. There will be no direct loss of river habitat, except for a tiny fraction of minor watercourses as a result of the creation of watercourse crossings in eleven highly localised areas. Therefore, there is an extremely low impact, and the significance of effect is **Negligible** and **Not significant.**

Priority Rivers/Streams – Water Pollution

8.7.61 There is not expected to be any construction waterborne pollution of watercourses owing to standard embedded pollution control measures to SEPA requirements within a CEMP. Therefore, it is reasonable to conclude that with embedded mitigation there will be no risk of waterborne pollution of Priority rivers/streams. Consequently, there is no impact, and the significance of effect is **Neutral**.

Bats (Roosting Only)

8.7.62 The Site offers very few opportunities for roosting bats. In total, only two trees were identified with suitability to support roosting bats within 50 m of the Proposed Development, assessed as being PRF-M and PRF-I (meaning they could support several bats or just only individual bats). The trees referred to by the field survey as BT01 and BT02 (see **Volume 2, Figure 8-5**).

8.7.63 It is currently proposed to fell both of the trees with bat roost suitability for the Proposed Development, and it is therefore expected that there would be a loss of these potential roost

sites. Consequently, it will be necessary to undertake further surveys to confirm the presence or likely absence of roosting bats. This could take the form of an inspections of PRFs at height (for example by tree climbing) and/or dusk emergence surveys. If the trees are confirmed to be bat roosts, then a licence must be sought from NatureScot to lawfully destroy the bat roosts. Compensation in the form of the placement of bat boxes within woodland in the wider area, adjacent to the Proposed Development, would be required on a like-for-like basis. Following these measures, it is concluded that there will be a **Negligible** effect from the direct loss of or damage to bat roost sites.

8.7.64 There will be new/increased vehicular traffic during the construction phase. It is therefore possible that use of the proposed access track by construction traffic will cause disturbance to bats roosting in trees, where there is new/increased traffic. However, given the volume of traffic anticipated and that no other bat roosts were identified within 50 m of the Proposed Development, this is considered to be (at worst) a temporary **Negligible** effect from this impact source.

8.7.65 As stated in the 'Mitigation by Design' **Section 8.7.2 – 8.7.7**, any lighting used for construction works will be directional to avoid light spill on to ecological features. The use of lighting near the trees will be avoided as far as possible and, where needed, will be directed so as not to illuminate any trees with bat roost suitability. There will thus be no effect from artificial illumination of trees with bat roost suitability.

8.7.66 It is therefore concluded that there will be a **Negligible** effect on roosting bats from the Proposed Development during the construction phase and this is **Not Significant**.

Otter

8.7.67 Otter receive legal protection under the Habitats Regulations. However, the Scottish otter population is estimated at approximately 8,000 individuals and it is believed that the species may now be nearing carrying capacity (Harris and Yalden, 2008)[42]. Fish represent between 50-95% of the diet of otter (Chanin, 2003)[20] but other prey sources can be seasonally important, including spawning amphibians and young waterbirds. Otter territories are generally very large, extending up to 21 km in size for females and 48 km for males (Harris and Yalden, 2008)[42].

8.7.68 There were eight otter resting sites identified within the Site that are all a suitable distance away from the Proposed Development that disturbance from construction works is considered to be extremely unlikely. Although otter could occur across the Site, evidence of this species was only found on the Allt Currachan; on an un-named watercourse that flows from Loch a' Ghreidlein; on the Allt Bail a' Chladaich; and, on the Allt an Rathain. These watercourses are likely to contain the greatest otter prey resource on Site (which may contain some small fish), with other smaller watercourses on Site lacking any fish. Any new otter resting sites that might be established in future and be at risk would be mitigated by pre-construction survey and licensing if found necessary. Therefore, loss of otter resting sites is predicted to be a **Negligible effect** which is **Not Significant**.

8.7.69 There will be one water crossing on each of these watercourses, two of which (on the Loch a' Ghreidlein watercourse and the Allt Bail a' Chladaich) already have existing culverts (that will be upgraded). Each crossing point will represent a very small fraction of watercourse available within the surrounding area which could be used by foraging otters, which is extremely limited in the context of an otter territory (which, as stated, can extend over tens of kilometres), and will have no material effect on the success of otter foraging. If installed without means of otter passage through the crossing, it would be necessary for otters to leave the watercourses and traverse the access track. Otter are very capable of doing this, and

travelling over land, and it is extremely unlikely that otter would be prevented from travelling upstream to other foraging areas, even if watercourse crossings were installed in such a way as to be impassable to otter in the watercourse channels.

8.7.70 During the actual construction of watercourse crossings, works will typically take place during daylight hours and the works areas will be left so as to be passable to otter, in accordance with standard measures to avoid injury/mortality of animals, as described in the 'Mitigation by Design' **Section 8.7.2 – 8.7.7**. It is therefore considered that there will be a temporary **Negligible** effect on commuting and foraging otter caused by the potential physical impacts of the installation of watercourse crossings.

8.7.71 There will be no pollution of watercourses during construction due to implementation of standard mitigation measures. During the installation of watercourse crossings, this will include ensuring that works areas are dry (for example by over-pumping or temporarily diverting the watercourse). There will consequently be no impacts on fish (the key otter prey) as a result of aquatic pollution. However, if installed incorrectly, such that they act as a barrier to (potential) fish movements, watercourse crossings could negatively impact on otter foraging by reducing the passage of localised populations of small fish, which could have an (potentially very low) impact on otter foraging. To negate any possible impacts, culverts would be correctly installed where passage of fish considered to be an issue (as determined by the ECoW). Considering the length of watercourses which could theoretically be impacted, the overall size of otter territories, and the likely relatively low numbers of fish which already exist in these upstream areas (especially compared to other nearby notable watercourses in the Beauly and Ness catchments), the overall effect on the local otter population is likely to be **Negligible**.

8.7.72 Construction works will predominantly take place during daylight hours, when otter are less active. Disturbance of commuting/foraging otter will therefore largely be avoided. Where works are required during the hours of darkness, any lighting used will be directed away from watercourses to minimise the potential impact of disturbance on otter. 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 will be very small. This is especially relative to the large size of otter territories and that the watercourses on Site which will be impacted by works are of much lower value for foraging otter compared to, for example, the notable rivers in the Beauly and Ness catchments. **Negligible** effect on commuting/foraging otter is expected due to disturbance from construction activities.

8.7.73 Works will typically take place in daylight, and therefore mainly outside periods when otters are most active. Vehicular traffic will also 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. (see 'Mitigation by Design' **Section 8.7.2 – 8.7.7**). Consequently, there is expected to be a **Negligible** effect from injury or mortality of otter during the construction phases.

8.7.74 Construction pollution has potential to adversely impact otters, however this is mitigated by the embedded pollution controls in the CEMP, therefore there will be **Negligible effect** which is **Not Significant**.

8.7.75 For construction phase impacts on otter a **Negligible** effect is predicted and this is **Not Significant**.

Water vole

8.7.76 Evidence of water vole occupancy was found on a tributary of the Kerrow Burn, on the Allt Bailen a h-Aibhne (in two clusters) and on two tributaries of the Allt Bail a' Chladaich. Suitable habitat was identified (but no water vole burrows or signs confirmed) on an unnamed watercourse that flows from Loch a' Ghreidlein.

8.7.77 Water vole are semi-aquatic rodents which inhabit stretches of shallow watercourses with low flow and banks suitable for burrowing and plenty of cover from predators. Their predominantly vegetarian diet can be extremely varied; however, in upland habitats (such as at the Site) the quality of available plant material is limited compared to that of lowland habitats. In these environments water vole tend to feed on a mixture of rushes, sedges, and grasses (Capreolus Wildlife Consultancy, 2005)[53]. The distribution of water voles in the UK has drastically declined in the past 50 years. Recently, a further 30% decline between 2006 and 2015 was estimated across England and Wales (McGuire and Whitefield, 2017)[54]; however, this trend is less obvious in Scotland where populations may actually be increasing (Matthews *et al*, 2018)[55].

8.7.78 In the uplands, where the landscape is naturally heterogenous, water voles live in small, fragmented populations which are periodically lost and recolonised. Home ranges of water vole colonies in upland riparian habitat are, on average, 200 m (Capreolus Wildlife Consultancy, 2005; Telfer *et al*, 2001[56]). Individuals move between areas of suitable habitat frequently (Aars *et al*, 2001[57]; Telfer *et al*, 2001), so areas occupied are likely to differ between breeding seasons. Dispersal between suitable habitat patches is thought to happen overland as opposed to movement being restricted to within watercourses (Telfer *et al*, 2001).

8.7.79 A total of five locations with water vole burrows/dropping(s)/latrines were recorded during the field surveys. All water vole habitat (active or inactive, with or without burrows identified) is present at reasonably far distances from the current design of the Proposed Development (90 m, 250 m, 300 m, 320 m and 800 m distant), that direct and indirect impacts are not anticipated for these areas[58]. Based on the distribution of water voles identified by field surveys, there will be no direct impacts on burrows from the construction of the Proposed Development. However, due to the population dynamics of water voles (a species that moves through cycles of local booms and busts), it is possible that at the time of construction, water vole burrows may be present within the footprint of proposed watercourse crossings (e.g. around suitable habitat identified on the unnamed watercourse that flows from Loch a' Ghreidlein). The total length of bank which would be impacted by construction of watercourse crossings would be a very small fraction of available water vole habitat in the area. Within this distance, only a small number of burrows could potentially be present. This length of watercourse is very small in the context of these habitat features on Site and there would remain ample alternative habitat within which burrows could be dug. Therefore, even without mitigation, the loss of burrows at proposed watercourse crossing locations could, at worst, have a **Temporary Adverse** effect of **Local significance**, affecting the local population only.

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[53] Capreolus Wildlife Consultancy (2005). The ecology and conservation of water voles in upland habitats. Scottish Natural Heritage Commissioned Report No. 099 (ROAME No. F99AC320).

[54] McGuire, C. and Whitefield, D. (2017). National Water Vole Database and Mapping Project. PART 1: PROJECT REPORT 2006-2015. Available from: https://www.wildlifetrusts.org/sites/default/files/2018-05/water_vole_report_2006-2015_final.pdf [Accessed: 04 September 2024}

[55] Matthews, F., Kubasiewicz, L.M., Gurnell, J., Harrower, C.A., McDonaled, R.A. and Shore, R.F. (2018). A Review of the Population and Conservation Status of British Mammals. A report by the Mammal Society under contract to Natural England, Natural Resources Wales and Scottish Natural Heritage. Natural England, Peterborough.

[56] Telfer, S., Holt, A., Donaldson, R. and Lambin, X. (2001). Metapopulation processes and persistence in remnant water vole populations. Oikos, 95(1), pp 31-42.

[57] Aars, J., Lambin, X., Denny, R., and Griffin, Cy A., (2001). Water vole in the Scottish Uplands: distribution patterns of disturbed and pristine populations ahead and behind the American mink invasion front. Animal Conservation 4, 187–194.

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

8.7.80 All but one of the currently known locations with water vole habitat is downstream of the Proposed Development. Therefore, all but one have the potential to be impacted by downstream waterborne pollution. However, there will be no pollution of watercourses during construction due to implementation of standard mitigation measures. There will consequently be no degradation in habitat which supports, or could support, water voles. There will thus be a **Negligible** effect from this potential impact.

8.7.81 Water vole may occasionally (though likely rarely) cross the access tracks at watercourse crossings and at such time be vulnerable to collision with vehicles and plant. However, all vehicles and plant on Site will 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 will be implemented, including providing a means of escape from excavations, etc. (see 'Mitigation by Design' **Section 8.7.2 – 8.7.7**). Consequently, there is expected to be **Negligible** effect from injury or mortality of water vole during the construction phase.

8.7.82 For construction phase impacts on water vole a **Negligible** effect is predicted, and this is **Not Significant**.

Red squirrel

8.7.83 Red squirrel are likely to build dreys and be at low densities in Sitka spruce-dominated plantation and potentially 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 boundary). The average home range of red squirrel in coniferous woodland is between 9-30 ha and the overlap between the home ranges of different individuals can be small (Harris and Yalden, 2008)[42]. Periodic clear-felling and re-stocking are also part of the baseline environment for the areas of commercial forestry.

8.7.84 Approximately 1.77 ha of plantation woodland (of which only 0.17 ha is pine-dominated) and 3.57 ha of birchwoods will be felled as part of 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 one red squirrel home range (in total, which may be shared by several individuals). However, periodic clear-felling is part of the baseline environment in the commercially managed forest (e.g. of the proposed substation site) and there is extensive plantation woodland in the wider landscape. 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)[42]. There is therefore substantial alternative foraging habitat and the possibility for dreys to be present in areas unaffected by works. It is consequently considered that the loss of woodland during the construction of the Proposed Development will have a **Negligible** effect on red squirrel on the basis of the small number of individuals likely to be impacted, the existing baseline of commercial forest management, and the availability of extensive areas of similar habitat nearby.

8.7.85 Whilst disturbance of red squirrel dreys in retained forestry could theoretically occur as a result of construction activity, the forestry prone to such disturbance will be small given a maximum disturbance distance for breeding dreys of 50 m; a **Negligible** effect from disturbance of red squirrel dreys during construction is therefore predicted. Notwithstanding legal obligations to protect red squirrel dreys, the accidental destruction of a drey containing red squirrel young could occur during felling works carried out for the construction of the Proposed Development. However, this is unlikely due to the requirement to carry out pre-

felling checks for the presence of dreys (to comply with relevant legislation) and the overall low density of red squirrels expected (given that the majority of affected woodland is non-native plantation or birchwood). If it were to occur, it is very likely to be restricted to a single or very small number of dreys. Red squirrel can have two litters per year, usually with between two and three young. The loss of one litter is very unlikely to change the conservation status of the species even at the local level. It is therefore concluded that, at worst, the accidental destruction of a drey or dreys containing red squirrel young would have a **Negligible** effect on red squirrel.

8.7.86 Movement of construction vehicles along tracks will be infrequent and slow-moving, posing a **Negligible** risk to red squirrels.

8.7.87 It is therefore concluded that there will be a **Negligible** effect on red squirrel during the construction phase and this is **Not Significant**.

Pine marten

8.7.88 Pine marten are omnivorous and feed on small rodents, birds, beetles, carrion and vegetative matter, including berries. They inhabit woodland areas but will incorporate open habitats including tussock grassland and scrub within their home range (Kubasiewicz, 2014)[59]. The Scottish pine marten population is estimated by NatureScot as being 3,700 adults[60] and is believed to be increasing. The species range has also increased from the core Highland region and pine marten are now present across much of Scotland.

8.7.89 The Proposed Development will result in the loss of approximately 5.34 ha of woodland and approximately 100.79 ha of open habitats (such as heathland and acid grassland), which is 62.06 if blanket bog is excluded from the total[61]. According to the Mammal Society[62], pine marten territories vary in size between 10-25 square kilometres (sq km) (1,000-2,500ha) for males and 5-15 sq km (500-1,500ha) for females, depending on habitat and food availability. NatureScot further suggests that each pine marten requires between 86-166 ha of woodland within its territory. The total losses of habitat from the Proposed Development are therefore small relative to overall pine marten territory size. Moreover, the temporary losses experienced within the commercial forests are typical of the normal management of these woodlands. Considering these factors, it is likely that habitat loss will have a **Negligible** effect on pine marten which may be within the Site.

8.7.90 There are no known pine marten dens in the Site. However, there are good opportunities for pine marten within the mosaic of woodland and open ground with boulder fields and rocky hillsides in the north section of the Site. It is presumed likely that pine marten use the Site, at least on a transient basis, as part of a wider territory. Areas of suitable habitat that could be used for pine marten dens were identified within 100 m of the Proposed Development; however, all but one of these areas is within 30 m of the Proposed Development. It is therefore likely that any non-breeding pine marten den that could be found between now and the time of construction would be outside of recognised disturbance zones for pine marten[63].

[59] Kubasiewicz, L.M. (2014). Monitoring European pine martens (Martes martes) in Scottish forested landscapes. Thesis submitted for the degree of Doctor of Philosophy, The University of Stirling.

[60] NatureScot (2024). Pine marten. Available at: https://www.nature.scot/plants-animals-and-fungi/mammals/land-mammals/pine-marten [Accessed: 10 September 2024]

[61] Blanket bogs are most likely not favoured by pine marten due to: the lack of small mammal prey (such as field vole;, relatively exposed nature of open ground with little to no wooded cover; and lack of refugia against predation of young (e.g. from common buzzard *Buteo buteo* and fox). However, some limited foraging maybe found (e.g. of bilberry).

[62] Mammal Society (2024). Pine marten. Available at: https://mammal.org.uk/british-mammals/pine-marten [Accessed: 05 September 2024]

[63] NatureScot state that "*the boundary of the exclusion zone should be a minimum of 30 m from the den. An exclusion zone of at least 100m is necessary where dens are known or suspected of being used for breeding, and works in the breeding season cannot be avoided (March-June inclusive)*." NatureScot

In the event a den (non-breeding or breeding) is found, then a licence would be sought from NatureScot to limit disturbance.

8.7.91 With the exception of four old (unconfirmed) badger setts, there are no features that could be used by pine marten for dens within the Proposed Development. Therefore, there is a very low risk of a pine marten den being damaged or disturbed during construction. The loss of such a den would however not be likely to significantly affect the conservation status of pine marten. This is because pine martens use multiple dens and have a large home range. Consequently, and notwithstanding legal obligations regarding pine marten, which can be addressed through pre-construction surveys, there is likely to be a **Negligible** effect.

8.7.92 Construction works will predominantly take place during daylight hours, when pine marten are less active. Disturbance of commuting/foraging pine marten will therefore largely be avoided. Where works are required during hours of darkness, any lighting used will be directed onto the works area, and light spill onto surrounding habitats will be minimised. However, even if pine marten commuting and/or foraging through the Site were to be disturbed by on-going works, this is very unlikely to have a significant effect given the area which could possibly be impacted will be very small and that the habitats which will be subject the greatest impacts from works (immediately around the proposed substation platform) are of relatively low value to pine marten. A **Negligible** effect on commuting/foraging pine marten is expected due to disturbance from construction activities.

8.7.93 Construction work will therefore mostly occur outside periods when pine marten are most active. Vehicular traffic during construction will also be bound by standard construction site safety protocol to travel at low speeds. Standard measures to protect all animals from harm during construction will be implemented, including providing a means of escape from excavations, etc. (see 'Mitigation by Design' **Section 8.7.2 – 8.7.7**)[64]. The probability of pine marten casualties during construction is therefore extremely low. Consequently, there is expected to be **Negligible** effect by this means.

8.7.94 On the basis of the above, it is predicted that construction of the Proposed Development will have a **Negligible** effect on pine marten and this is **Not Significant**.

Badger

8.7.95 Although badger receive legal protection from harm and disturbance, this is primarily due to historical and on-going persecution of this species. Badger are common and widespread through much of mainland Scotland, with between 7,300-11,200 main setts estimated to exist (Rainey *et al*, 2009)[65].

8.7.96 Badger require dry, well-draining soil, ideally on sloping ground with a south or south-east facing aspect in which to construct setts (Byrne *et al*, 2012)[66]. The Scottish Badger Distribution Survey (Rainey *et al*, 2009) estimated that main badger setts occurred at highest densities in areas dominated by broadleaved woodland, arable farmland and intensively managed grassland, with much lower densities in areas dominated by coniferous woodland, acid grassland and bog. This is in part because of the soil conditions in each of these environments. In particular, agricultural land provides a rich foraging resource for badger, with

(2024). Standing advice for planning consultations - Pine Martens. Available at: https://www.nature.scot/doc/standing-advice-planning-consultations-pine-martens. [Accessed: 05 Septmber 2024]

64 Although it is recognised that pine marten are relatively agile creatures and are probably capable of climbing and jumping out of most (if not all) depths of excavations anticipated.

65 Rainey, E., Butler, A., Bierman, S. and Roberts, A.M.I. (2009). Scottish Badger Distribution Survey 2006-2009: estimating the distribution and density of badger main setts in Scotland. Report prepared by Scottish Badgers and Biomathematics and Statistics Scotland.

66 Byrne, A.W., Sleeman, P., O'Keefe, J. and Davenport, J. (2012). The Ecology of the European Badger (Meles meles) in Ireland: A review. Biology and Environment: Proceedings of the Royal Irish Academy 112B, pp 105-132.

a high number of earthworms which can be easily accessed. The vast majority of the Site is blanket bog and wet heath that does not support a rich foraging resource for badger.

8.7.97 Evidence of badger activity found during field survey was frequently distributed across the Site. As stated in the preceding paragraph, the majority of habitat on Site, and in particular blanket bog and wet heath, is sub-optimal for badger foraging. Such areas are therefore likely to be rarely used by badger for foraging. Other areas of habitat which are of higher foraging value, such as native broadleaved woodland, will incur losses during construction, but will be compensated for by proposed planting measures. As such the losses of sub-optimal habitat and the temporary losses of woodland habitat caused by the Proposed Development will have a **Negligible** effect on this species.

8.7.98 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 will occur during construction of the Proposed Development. An update to the badger survey should be taken during pre-construction to assess the status of four records of unconfirmed (presumed to be inactive) badger-sized holes within the Proposed Development in the north of the Site. None of these are likely to represent a breeding sett and even if found to be active, it is anticipated that these could be destroyed under licence in agreement with NatureScot. Considering the available habitat for badger sett creation in the wider area, the loss of these (most probably non-breeding) setts would be of no consequence for local badger populations. Given the above, there will be a **Negligible** effect on the species from this potential impact.

8.7.99 Construction works will 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.

8.7.100 There will be an increase in the volumes of vehicular traffic during the construction phase of the Proposed Development. However, vehicles will be restricted to low speeds, and the majority of works will take place during daylight hours. Other standard good practice mitigation measures will be implemented that minimise the risk of badger injury or mortality, as described in the 'Mitigation by Design' **Section 8.7.2 – 8.7.7**. There is consequently likely to be negligible effect on badger from injury or mortality during construction.

8.7.101 Given the above and notwithstanding legal obligations regarding badger which can be addressed through pre-construction surveys, there is likely to be a **Negligible** effect on badger during the construction phase of the Proposed Development and this is **Not Significant**.

Aquatic Invertebrates

8.7.102 There will be one water crossing on each of the three watercourses identified as most likely to support a population of notable invertebrates (the Allt a' Chlachain, the Allt Bailen na h-Aibhne and the Allt Currachan). Each crossing point will represent a miniscule fraction of watercourse available within the surrounding area which could be used by aquatic invertebrates. Therefore, loss of aquatic invertebrate habitat will be a **Negligible effect**.

8.7.103 There will be no pollution of watercourses during construction due to the implementation of standard mitigation measures. During the installation of watercourse crossings, this will include ensuring that works areas are dry (for example by over-pumping or temporarily diverting the watercourse). There will consequently be no impacts on aquatic invertebrates as

a result of waterborne pollution, therefore the overall effect on the local aquatic invertebrate populations (or those downstream) will be **Neutral**.

8.7.104 On the basis of the above, it is predicted that construction of the Proposed Development will have a **Negligible** effect on aquatic invertebrates and this is **Not Significant**.

Terrestrial Invertebrates

8.7.105 The best opportunities for terrestrial invertebrates are the birchwoods in the northern section of the Site. Approximately 3.57 ha of birchwood will be felled as part of the Proposed Development. However, this is a small loss of a habitat that is common in the area and therefore there would likely be **Negligible effect** on terrestrial invertebrates. Considering also that woodland losses will be compensated for in the proposed planting (as per **Volume 3, Appendix E BNG**/**Appendix G LHMP**) of Scots pine dominated woodland parcels across the Site, which includes birch and rowan – there will likely be a **Permanent Negligible Positive Effect** on terrestrial invertebrates. T

Widespread Reptiles and Amphibians

8.7.106 The baseline information indicates that common lizard, slow worm and adder are present on the Site. The habitat present within the Site is likely to support all three species, and especially good adder habitat is noted in the northern section of the Site. Adder is notable and by far the least common (although probably not scarce in moorland in this region). Widespread reptiles are likely to occur only at low densities within the proposed substation site. The amount of good reptile habitat, including blanket bog, heathland and woodland edge, which will be lost to infrastructure is relatively small (largely limited to c. 2.5 km of proposed access track in the north), if compared to the habitat available for reptiles in the wider area.

8.7.107 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. In the absence of mitigation, therefore, construction works could result in an adverse effect on local populations of reptiles through the destruction of hibernacula (potentially with animals within). At worst, if no special mitigation is employed, a **Temporary Minor Adverse Effect of Local Significance** on adder (and Site Significance for other widespread reptiles) is predicted due to the potential for mortality or injury to individuals, where reptile refugia could be damaged or destroyed by works.

8.7.108 Widespread 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) will 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 micro siting the proposed access track);
- Visible potential hibernacula (e.g. boulders, rock piles) impacted by the Proposed Development are inspected and dismantled, and recreated (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 ecologist supervision) to a short level (down to 10 cm) to discourage reptile presence, prior to soil stripping.

8.7.109 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 is most likely to be required in localised areas within a c. 2.5 km stretch of access track within open ground in the north of the Site. 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 a **Temporary Negligible** effect on reptiles including adder is predicted, which is **Not Significant**.

8.7.110 No waterbodies suitable for breeding common amphibians will be directly impacted by the Proposed Development. Moreover, standard pollution prevention measures will be implemented which will 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 will have a **Neutral** effect on the local population of common amphibians.

8.7.111 Based on the assessment of potential impacts described above, it is concluded that there will be an overall **Negligible** effect on widespread reptiles and amphibians during the construction phases of the Proposed Development and this is **Not Significant**.

All Ecological Receptors - Operational Phase - Pollution

8.7.112 Maintenance activity at the substation will be infrequent and it is expected that spillages of fuels or oils will be rare and contained within it, and it is reasonable to expect that any that occur would be necessarily and quickly managed by electrical substation safety protocols. Additionally, the proposed substation has been designed with appropriate SuDS, and operation of such a substation does not involve significant discharges of any sort, therefore no significant effects are likely via water borne pollution. Similarly, it is expected that dust and other airborne pollution from the operation of the substation will be extremely low. The operation of the substation itself does not generate airborne pollution. Therefore, there would be a **No effect** on ecological receptors is likely via pollution during the operation phase and this is **Not Significant**.

All Ecological Receptors - Operational Phase - Disturbance

8.7.113 There are not considered to be any appreciable operational adverse effects on ecological features. This is primarily because the operation of the proposed substation will require only infrequent maintenance attendance that would not be liable to cause significant disturbance to ecological features. Maintenance of the Proposed Development once constructed will require a minimal amount of vehicular traffic, travelling at low speeds. 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 therefore extremely low. Therefore, **Negligible effect** on any ecological receptors is likely via impacts of disturbance during the operation phase and this is **Not Significant**.

Residual Effects Summary

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

Cumulative Effects

8.7.115 A list of developments which are programmed to be under construction or operational at the same time as the Proposed Development, and in sufficient proximity that cumulative effects might be possible and should be considered, are set out in **Volume 1, Chapter 6 Scope and Consultation**. In summary these are:

- Bingally OHL tie-ins. The installation of two new towers (including a temporary diversion requiring two temporary towers) to facilitate the tie-in of the existing Beauly-Denny overhead line into the proposed Bingally 400 kV/132 kV substation;
- Proposed Bingally to Fasnakyle UGC/OHL connection. The installation of an UGC/OHL to connect the Proposed Development to the existing Fasnakyle Substation.
- Proposed Tomchrasky Wind Farm OHL connection. The installation of an OHL connection from Tomchrasky Wind Farm to the Proposed Development.
- Fiodhag Wind Farm. The construction of wind farm comprising 46 turbines (height to blade tip 149.9 m) – the proposed windfarm overlaps with a large area of the Bingally Site from the central area to the south, including the proposed substation area;
- Fasnakyle Energy Storage. A battery energy storage facility comprising access track, compound of battery and electrical equipment, stores, meter building, water tank, ancillary structures, fencing, security cameras, landscaping bunds, new trees; and
- Kerrow Farm BESS. A battery energy storage system (BESS), 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
- Cnoc Farasd Wind Farm. A wind farm consisting of 9 turbines up to 220m tip height, battery storage and associated infrastructure.

8.7.116 All residual ecological construction effects of the Proposed Development alone 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 no significant ecological adverse effects that could contribute to significant in-combination effects, either between aspects of the Proposed Development itself or with other plans or developments. Additionally, the assessed cumulative developments are frequently indicated by an EIAR to have no significant residual effects, or (where EIA is not required or an EIAR has not yet been produced) it is often unlikely that there would be significant residual effects (owing to the type or small scale of the development).

8.7.117 It is therefore concluded that there is no potential for significant cumulative ecological effects to arise from the Proposed Development in combination with the assessed cumulative developments. This is dependent on the mitigation described in this chapter to avoid or minimise the risk on important ecological features

8.8 Summary

8.8.1 The desk study identified four statutory designated sites with ecological interests. None of these would be impacted by the Proposed Development and they were scoped out of assessment. However, it is recommended that an HRA screening letter is produced and

submitted to THC for the River Morriston SAC and Strathglass Complex SAC, stating the reasons why a full HRA is not required for these European sites.

8.8.2 The desk study identified a range of ecological receptors that could occur in the vicinity, and the field survey identified habitats and animal species of note, these include:

- Ancient and native woodland;
- Blanket bog;
- Degraded blanket bog (on deep peat);
- Upland birchwoods and wet woodland;
- Dry and Wet heathland;
- Upland calcareous grassland;
- Upland flushes;
- Other upland acid grassland;
- Notable flora;
- Priority habitat rivers/streams;
- Bats;
- Otter;
- Water vole;
- Red squirrel;
- Pine marten;
- Adder;
- Other woodlands and scrub;
- Badger;
- Widespread reptiles and amphibians (excluding adder);
- Fish; and
- Terrestrial invertebrates and Aquatic invertebrates.

8.8.3 For reasons set out in detail in this chapter, potential adverse effects were found for:

- Ancient and native woodland;
- Blanket bog/degraded blanket bog;
- Upland birchwoods and wet woodland;
- Other woodlands and scrub;
- Dry and wet heathland;
- Upland flushes;
- GWDTE;
- Terrestrial invertebrates
- Aquatic invertebrates; and,
- Adder (and other widespread reptiles).

8.8.4 Embedded mitigation measures include: the appointment of an EnvCow and/or ECoW; pre-construction survey; the use of permeable/tracks to maintain the hydrology of GWDTE and blanket bog; pollution controls; and, the production of a CEMP.

8.8.5 Mitigation/compensation measures (further to already-embedded design mitigation) include woodland planting and peatland restoration, that would be implemented as set out in further detail in a LHMP. The overall effect of these measures on Blanket bog, Other

woodlands and scrub and Terrestrial invertebrates is predicted to have a permanent minor positive effect.

8.8.6 Specific mitigation for reptiles would be that:

- Potential reptile hibernacula are avoided by works;
- Construction works directly impacting potential reptile hibernacula (in localised areas within the northern section of the Site) to be outside the winter period;
- ECoW supervised destruction and re-creation of potential hibernacula to be conducted (from mid-May to mid-September); and,
- Two-stage cutting/strimming of good quality reptile habitat is conducted (from mid-May to mid-September) prior to soil stripping.

8.8.7 With the above mitigation in place and adhered to, all adverse effects are considered to be of **Negligible** significance and **Not Significant**.