

Creag Dhubh to Dalmally 275kV Connection

Environmental Impact Assessment

Volume 4 | Appendix 6.1

Biodiversity Methodology and Results

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List of Abbreviations

CIEEM	Chartered Institute of Ecology and Environmental Management
EclA	Ecological Impact Assessment
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
GWDTE	Groundwater Dependent Terrestrial Ecosystems
INNS	Invasive Non-native Species
LOD	Limit of Deviation
NVC	National Vegetation Classification
OHL	Overhead Line
SAC	Special Area of Conservation
SEPA	Scottish Environment Protection Agency
SSSI	Site of Special Scientific Interest
WSP	Williams Sale Partnership
ZOI	Zone of Influence

1 INTRODUCTION

This Technical Appendix presents full details of the methodology and results for the field surveys undertaken for the Proposed Development, including references to best practice, and impact assessment methodology. It should be read in conjunction with **Chapter 6: Biodiversity** and **Chapter 2: Description of The Proposed Development (EIAR Volume 2)**.

1.1 Method of Baseline Data Collection

Extent of Study Area

- 1.1.1 The Biodiversity Study Area comprises a desk study area and a field survey area as shown on **Figure 6.1: Biodiversity Constraints (EIAR Volume 3a)** and **Figure 6.2: Phase 1 Habitats (EIAR Volume 3a)**. The desk study area comprised the area within the field survey area and a 10 km buffer on either side of the Proposed Development. This area is considered to represent the Zone of Influence (ZOI)¹ in which impacts on ecological features could occur. The field survey area extended to 250 m beyond the Proposed Development on each side and included the 200 m Limit of Deviation (LOD) of the proposed 275 kV Overhead Line (OHL) alignment (100 m on either side of the proposed OHL). Field surveys were also undertaken outwith this area where there was potential for an impact upon a feature to occur, e.g. up to 50 m on either side of access tracks. The LODs of the proposed OHL and access tracks are shown on **Figure 2.1: Overhead Line Route and Access Routes (EIAR Volume 3a)**.

Desk Study

- 1.1.2 A desk study was undertaken to collect existing baseline data about the Biodiversity Study Area, as defined above. The desk study searched for:
- the locations of statutory and non-statutory designated nature conservation sites;
 - other natural features of potential ecological importance, such as ponds; and
 - protected or notable species records.
- 1.1.3 Examples of notable species include, but are not limited to, national or local Biodiversity Action Plan (BAP) species², restricted range species, species or species groups listed for Local Nature Conservation Sites (Local Nature Reserves, former sites of important for nature conservation (SINC) and other local wildlife sites) or key species groups such as invertebrates or non-vascular plants. These species are not considered to have the same importance as those protected by legislation; however, their inclusion allows a more holistic approach and therefore a more robust assessment in line with the Applicant's responsibilities under Schedule 9 of the Electricity Act³. Specific legislation for protected species is provided in **Chapter 6: Biodiversity**. This information was used to identify the likely key species for the site prior to field surveys.
- 1.1.4 The following data sources were used:
- NatureScot (NS) Sitelink⁴;

¹ The area over which ecological features may be subject to significant effects as a result of the Proposed Development and its associated activities.

² Argyll and Bute BAP: https://www.argyll-bute.gov.uk/sites/default/files/argyll_and_bute_council_biodiversity_duty_action_plan_final_version_april_2016_2.pdf [28th September 2021].

³ Electricity Act (1989): <https://www.legislation.gov.uk/ukpga/1989/29/contents> [17th August 2021].

⁴ NS SiteLink: <https://sitelink.nature.scot/home> [17th August 2021].

- Scotland's Environment carbon and peatland map⁵;
- MAGIC website (MAGIC)⁶; and
- Google™ Earth Pro.

Field Surveys

- 1.1.5 **Table 6.1.1** details the field surveys undertaken for the assessment, including the dates the surveys were completed and the surveyors involved, with the methodology of each survey described below.

Table 6.1.1: Field Surveys Undertaken		
Field Survey	Surveyor	Date Undertaken
Extended Phase 1 habitat survey	Williams Sale Partnership (WSP)	July 2016 October 2017
	Ramboll	May 2019 September 2020
	Lawrence Environmental	December 2020 February 2021
National Vegetation Classification (NVC)	WSP	September 2017
	Ramboll	May 2019 September 2020
Protected species	WSP	September 2017
	Ramboll	May 2019 September 2020 December 2021
	Lawrence Environmental	December 2020

Extended Phase 1 Habitat Survey

- 1.1.6 Habitat surveys involved a walkover of the field survey area and a preliminary assessment of key habitats, land use and ecological features, particularly focusing on areas of natural interest that could be affected by the Proposed Development. The main habitats present were recorded using standard Phase 1 Habitat survey methodology⁷.
- 1.1.7 Target notes were used to record habitats and features of particular interest, incidental records of reptiles and amphibians, and the location of suitable habitat for protected or notable species. Non-confidential target notes are named TN1, TN2 etc. and confidential target notes are named Target Note 1, Target Note 2 etc. In addition to general habitat classification, a plant species list was compiled (using the nomenclature of Stace (2010)⁸ in each habitat type, with common and Latin names referred to in the first instance then common names used subsequently).

⁵ Scotland's Environment Carbon and Peatland Map: <https://map.environment.gov.scot/sewebmap/> [20th January 2021].

⁶ MAGIC Map: <http://magic.defra.gov.uk/> [17th August 2021].

⁷ Joint Nature Conservation Committee (JNCC) (2010), *Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit*. Peterborough: JNCC.

⁸ Stace, C. (2010), *New Flora of the British Isles*. 3rd Edition. Cambridge: Cambridge University Press.

1.1.8 The abundance of each species was estimated for each habitat using standard 'DAFOR' codes:

- dominant;
- abundant;
- frequent;
- occasional; or
- rare.

1.1.9 The field survey area was searched for signs of Invasive Non-native Species (INNS) subject to legal controls, such as Himalayan balsam *Impatiens glandulifera*.

1.1.10 The Extended Phase 1 habitat survey assessed the potential for protected species to identify possible ecological constraints and guide recommendations for further species-specific survey.

NVC

1.1.11 NVC surveys⁹ were completed to identify potential Ground Water Dependant Terrestrial Ecosystems (GWDTE)¹⁰ and to provide a greater level of detail than the Phase 1 habitat survey for sensitive habitats, such as peatland. The NVC surveys followed the methodology described in best practice guidance¹¹, with five 2 m² quadrats surveyed within each habitat, and the species composition analysed.

Protected Species

Bats

1.1.12 Each tree, excluding trees within coniferous plantation woodland¹², was assessed for its potential to support roosting bats and categorised dependent on the presence of features suitable to support bat roosts. The categories assigned were: High, Medium, Low and Negligible Potential for use by bats. **Table 6.1.2** provides criteria for each of these categories¹³. The identified trees with Bat Roost Potential (BRP) were inspected from the ground and/or from height using a ladder and an endoscope.

Table 6.1.2: BRP Categories	
Roost Potential	Description
High	A tree with one or more potential roost site(s) that is obviously suitable for use by larger numbers of bats on a regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Medium	A structure or tree with one or more potential roost site(s) that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.
Low	A structure with one or more potential roost site(s) that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough

⁹ Rodwell, J.S. (2006), *National Vegetation Classification: User's Handbook*. Peterborough: JNCC.

¹⁰ Guidance on Assessing the Impacts of Wind farm Development Proposals on Groundwater Abstractions and Groundwater Dependant Terrestrial Ecosystems: https://www.sepa.org.uk/media/143868/lupsgu31_planning_guidance_on_groundwater_abstractions.pdf [1 April 2020].

¹¹ Rodwell, J.S. (2006), *National Vegetation Classification: User's Handbook*. Peterborough: JNCC.

¹² All bat species avoid dense coniferous plantation woodland, such as the woodland present on the site, because it lacks space for foraging, commuting and roosting. Trees are also often felled before potential roost features, such as cracks and crevices, can develop.

¹³ Collins, J. (ed.) (2016), *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edition.). London: The Bat Conservation Trust.

Table 6.1.2: BRP Categories

	space, shelter, protection and / or suitable surrounding habitat to be used on a regular basis or by a large number of bats (i.e. unlikely to be suitable for hibernation or maternity). Trees of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with very limited roosting potential.
Negligible	Negligible potential for roosting and bats very unlikely to be present.

Protected Terrestrial Mammals

- 1.1.13 The survey searched for evidence of badger *Meles meles*, water vole *Arvicola amphibius*, otter *Lutra lutra*, pine marten *Martes martes*, red squirrel *Sciurus vulgaris* and wildcat *Felis silvestris grampia*. **Table 6.1.3** identifies the field signs of the aforementioned species and references the relevant survey guidance that was implemented.

Table 6.1.3: Protected Species Surveys	
Protected Species	Field Signs Sought
Badger ¹⁴	Setts, latrines, paths, and foraging signs.
Water Vole ^{15,16}	Burrows, latrines, feeding stations, runs, or sightings.
Otter ¹⁷	Holts, couches, spraints, feeding remains, footprints, slides, or sightings.
Pine Marten ¹⁸	Scats, footprints, sightings, or dens.
Red Squirrel ¹⁹	Dreys, feeding signs, and sightings.
Wildcat ²⁰	Droppings, footprints, scratch markings, or dens.

Limitations and Assumptions

- 1.1.14 It should be noted that the availability and quality of the data obtained during desk studies is reliant on third party responses and recorders. This varies from region to region and for different species groups. Furthermore, the comprehensiveness of data often depends on the level of coverage, the expertise and experience of the recorder and the submission of records to the local recorder.
- 1.1.15 The habitat and faunal surveys provide a snapshot of ecological conditions and do not record plants or animals that may be present in the field survey area at different times of the year. The absence of a particular species cannot definitely be confirmed by a lack of field signs and only concludes that an indication of its presence was not located during the survey effort.
- 1.1.16 Due to the remote nature of the site, surveys were not impacted by coronavirus restrictions as local surveyors were able to travel separately to the site and maintain social distancing.

1.2 Impact Assessment Methodology

Criteria for Evaluating the Importance of Ecological Features

- 1.2.1 Habitats and species (i.e. ecological features) identified within the Study Area have been assigned ecological values using the standard Chartered Institute of Ecology and Environmental Management

¹⁴ Badger Surveying: <http://scottishbadgers.org.uk/badger-surveying.asp> [1 April 2020].

¹⁵ Capreolus Wildlife Consultancy (2005), *The Ecology and Conservation of Water Voles in Upland Habitats*. Scottish Natural Heritage Commissioned Report No. 099 (ROAME No. F99AC320).

¹⁶ Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016), *The Water Vole Mitigation Handbook*. The Mammal Society Mitigation Guidance Series.

¹⁷ Chanin, P. (2003), *Monitoring the Otter Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No 10, Peterborough: English Nature.

¹⁸ Standing Advice for Planning Consultations, Protected Species: Pine Marten: <https://www.nature.scot/sites/default/files/2019-10/Species%20Planning%20Advice%20-%20pine%20marten.pdf> [1 April 2020].

¹⁹ Gurnell, J., Lurz, P., McDonald, R. and Pepper, H. (2001), *Practical Techniques for Surveying and Monitoring Squirrels*. Edinburgh: Forestry Commission.

²⁰ Wildcat Survey Methods: <https://www.nature.scot/sites/default/files/2018-04/Guidance-Wildcat-Survey-Methods.pdf> [1 April 2020].

(CIEEM) scale that classifies ecological features within a defined geographic context²¹. The classification uses recognised and published criteria^{22 23}, where the ecological features are assessed in relation to their size, diversity, naturalness, rarity, fragility, typicalness, connectivity with surroundings, intrinsic value, recorded history and potential value. **Table 6.1.4** describes the geographic frame of reference that has been used.

Table 6.1.4: Geographic Conservation Importance	
Importance	Example
International	Internationally designated sites including Special Areas of Conservation (SAC), Ramsar sites, Biogenetic Reserves, World Heritage sites, Biosphere Reserves, candidate SACs and potential Ramsar sites; discrete areas which meet the published selection criteria for international designation but which are not themselves designated as such; or a viable area of a habitat type listed in Annex I of the Habitats Directive²⁴, or smaller areas which are essential to maintain the viability of a larger whole. Resident or regularly occurring populations of species which may be considered at an international level, such as European Protected Species (EPS), the loss of which would adversely affect the conservation status or distribution of the species at an international level; or where the population forms a critical part of a wider population; or the species is at a critical phase of its life cycle.
National	Nationally designated sites including Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Marine Nature Reserves; discrete areas which meet the published selection criteria for national designation but which are not designated as such; or areas of a habitat type identified in the UK Post-2010 Biodiversity Framework²⁵. Resident or regularly occurring populations of species which may be considered at the national level, such as species listed in Schedules 5 and 8 of the Wildlife and Countryside Act²⁶, the loss of which would adversely affect the conservation status or distribution of the species across Britain or Scotland; or where the population forms a critical part of a wider population; or the species is at a critical phase of its life cycle.
Regional	Areas of a habitat type identified in the Regional BAP; viable areas of habitat identified as being of Regional value in the appropriate Natural Heritage Zone(s)²⁷ (or equivalent); or smaller areas of such habitat which are essential to maintain the viability of a larger whole. Resident or regularly occurring populations of species which may be considered at an international level, or at the national level, the loss of which would adversely affect the conservation status or distribution of the species across the region; or where the

²¹ CIEEM (2018), *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Version 1.1.

Winchester: CIEEM.

²² Ratcliffe, D. (1977), *A Nature Conservation Review*. Cambridge University Press.

²³ Wray, S., Wells, D., Long, E. and Mitchell-Jones, T. (2010), *Valuing Bats in Ecological Impact Assessment*. In Practice. December 2010 pp23-25. CIEEM, Winchester.

²⁴ EC Directive on the Conservation of Natural Habitats and Wild Flora and Fauna, 92/43/EEC:

http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm [17th August 2021].

²⁵ UK Post-2010 Biodiversity Framework: <http://jncc.defra.gov.uk/page-6189> [17th August 2021].

²⁶ The Wildlife and Countryside Act (as amended): <http://www.legislation.gov.uk/ukpga/1981/69> [17th August 2021].

²⁷ The region here is taken to be Natural Heritage Zones 13, 14 and 15: <https://www.nature.scot/sites/default/files/2017-06/B464892%20-%20National%20Assessment%20of%20Scotland%27s%20landscapes%20%28from%20NHF%29.pdf>.

Table 6.1.4: Geographic Conservation Importance	
	population forms a critical part of a wider population; or the species is at a critical phase of its life cycle.
County	Designated nature conservation sites at the local authority level in Scotland including statutory Local Nature Reserves (LNR) and non-statutory Local Nature Conservation Sites; or discrete areas which meet the published selection criteria for designation but which are not designated as such. Resident or regularly occurring populations of species which may be considered at the local authority level, the loss of which would adversely affect the conservation status or distribution of the species across the local authority area.
Local	Features of local value include areas of habitat or populations/communities of species considered to appreciably enrich the habitat resource within the immediate surrounding area, for example, species-rich hedgerows. Resident or regularly occurring populations of species which may be considered at an international level, or at the national level, the loss of which would adversely affect the conservation status or distribution of the species across the immediate surrounding area; or where the population forms a critical part of a wider population; or the species is at a critical phase of its life cycle.

- 1.2.2 A wide range of sources can be used to assign importance to ecological features, including legislation and policy. In the case of designated nature conservation sites, their importance reflects the geographic context of the designation. For example, sites designated as SACs are recognised as being of importance at an international level. Ecological features not included in legislation and policy may also be assigned importance due to, for example, local rarity or decline, or provision of a functional role for other ecological features. Professional judgement is used to assign such importance.

Characterising Impacts

- 1.2.3 The potential impacts upon ecological features have been considered in relation to the Proposed Development. The impacts have been assessed without consideration of any specific mitigation measures that will be employed. The assessment of likely ecological impacts has been made in relation to the baseline conditions of the Biodiversity Study Area. The likely impacts of development activities upon ecological features have been characterised according to several variables detailed in **Table 6.1.5**.

Table 6.1.5: Impact Characterisation	
Parameter	Description
Direction	Impacts are either adverse (negative) or beneficial (positive).
Magnitude	This is defined as high, medium, low or negligible, with these being classified using the following criteria: High: Total/near total loss of a population due to mortality or displacement or major reduction in the status or productivity ²⁸ of a population due to mortality or displacement or disturbance. Total/near total loss of a habitat.

²⁸ Status is defined as the conservation status of the species and indicates whether the species is likely to become extinct in the near future. Productivity is defined as the rate of population growth.

Table 6.1.5: Impact Characterisation

Parameter	Description
	Moderate: Partial reduction in the status or productivity of a population due to mortality or displacement or disturbance. Partial loss of a habitat. Low: Small but discernible reduction in the status or productivity of a population due to mortality or displacement or disturbance. Small proportion of habitat lost. Negligible: Very slight reduction in the status or productivity of a population due to mortality or displacement or disturbance. Reduction barely discernible, approximating to the 'no change' situation. Slight loss of habitat that is barely discernible from the habitat resource as a whole.
Extent	The geographical area over which an impact occurs.
Duration	The time for which the impact is expected to last prior to recovery of the feature or replacement of the feature by similar resource (in terms of quality and / or quantity). This is expressed as a short-term, medium-term, or long-term effect relative to the ecological feature that is impacted.
Frequency	The number of times an activity occurs will influence the resulting effect (if appropriate, described as low to high and quantified, where possible).
Timing	The timing of an activity or change may result in an impact if it coincides with critical life-stages or seasons e.g. the breeding season.
Reversibility	Irreversible impacts: permanent changes from which recovery is not possible within a reasonable time scale or for which there is no reasonable chance of action being taken to reverse it. Reversible impact: temporary changes in which spontaneous recovery is possible or for which effective mitigation (avoidance/cancellation/reduction of effect) or compensation (offset/recompense/offer benefit) is possible.

- 1.2.4 The assessment only describes those characteristics relevant to understanding the ecological impact and determining the significance of the effect.

Assessment of Potential Effect Significance

- 1.2.5 Significant effects are assessed with reference to the geographical importance of the ecological feature. However, the scale of significance of an effect may not be the same as the geographic context in which the feature is considered important. For example, a significant effect on a species protected by national legislation does not necessarily equate to a significant effect on its national population.
- 1.2.6 For the purposes of Ecological Impact Assessment (EclA), apart from in exceptional circumstances, a significant effect, as defined by the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017²⁹ is only considered to be possible where the feature in question is considered to be of regional, national, or international importance. That is not to say that impacts from the Proposed Development could not result in significant effects on features of county or local importance, simply that those effects are not likely to be significant under EIA Regulations, unless the effect is likely to undermine biodiversity conservation objectives (such as local policies for no net loss) or biodiversity in general. Whether an effect at local or county importance is considered to be significant or not

²⁹ Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017: <http://www.legislation.gov.uk/ssi/2017/101/contents/made> [17th August 2021].

significant under the EIA Regulations is made clear in the impact assessment of each ecological feature.

Requirements for Mitigation

- 1.2.7 Mitigation and/or compensation is proposed for all effects considered significant under the EIA Regulations. Where appropriate, as part of additional good practice, mitigation and/or compensation may be proposed for significant effects on features of county or local importance, or where required in relation to protected species where legislation may require actions to protect populations or individuals.

Assessment of Cumulative Effect Significance

- 1.2.8 Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects are particularly important in EIAs as many ecological features are already exposed to background levels of threat or pressure and may be close to critical thresholds, where further impacts could cause irreversible decline and significant cumulative effects. Further impacts can also make habitats and species more vulnerable or sensitive to change.
- 1.2.9 Developments included in the cumulative effects assessment are the following types of future development within the same ZOI³⁰:
- proposals for which consent has been applied;
 - projects that have been granted consent but have not yet been started or have been started but are not yet completed (i.e. under construction);
 - proposals that have been refused permission but are subject to appeal; and
 - to the extent that their details are in the public domain, proposed projects that will be implemented by a public body but for which no consent is needed from a competent authority.
- 1.2.10 It may also be necessary to consider developments that are operational but whose full environmental effects are not yet known and cannot be accounted for in the baseline.
- 1.2.11 The ZOI for cumulative effects is considered to be 10 km for ecological features, primarily bat species, due to the distance they are able to travel.

1.3 Detailed Results

- 1.3.1 The following section contains the detailed results of the desk study and field surveys undertaken for the baseline data collection.

Desk Study

Designated Nature Conservation Sites

- 1.3.2 **Table 6.1.6** details the statutory designated nature conservation sites that occur within 10 km of the Proposed Development but are not considered to have connectivity with the Proposed Development. As a result, they are not considered further in this assessment.

³⁰ CIEEM (2018), *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Version 1.1. Winchester: CIEEM.

- 1.3.3 No non-statutory designated nature conservation sites without connectivity to the Proposed Development occur within 10 km of the Proposed Development.
- 1.3.4 Details of statutory and non-statutory designated nature conservation sites that have potential connectivity with the Proposed Development are included in **Chapter 6: Biodiversity (EIAR Volume 2)**.
- 1.3.5 All designated nature conservation sites are shown on **Figure 6.1: Biodiversity Constraints (EIAR Volume 3a)**.

Table 6.1.6: Designated Sites (Statutory)			
Site Name	Qualifying Features	Distance from Proposed Development at Closest Point (km)	Connectivity with Proposed Development
Loch Etive Woods SAC	Alder <i>Alnus glutinosa</i> woodland on floodplains. Otter. Western acidic sessile oak <i>Quercus petraea</i> woodland. Mixed woodland on base-rich soils associated with rocky slopes.	2.11 km to the northwest	Separated from the Proposed Development by forestry, the A819 road and Loch Awe, therefore no direct or indirect impacts on the qualifying features are possible.
Ben Lui SAC and SSSI	Base-rich fens. Alpine and subalpine calcareous grasslands. High-altitude plant communities associated with areas of water seepage. Plants in crevices on base-rich and acid rocks. Tall herb communities. Wet heathland with cross-leaved heath <i>Erica tetralix</i> . Montane acid grasslands. Acidic scree. Species-rich grassland with mat-	321 m to the east	Separated from the Proposed Development by forestry. The proposed existing access track upgrade in this area would be low impact and have minimal disturbance that would not involve the qualifying features. As a result, no direct or indirect impacts on the qualifying features are possible.

Table 6.1.6: Designated Sites (Statutory)

Site Name	Qualifying Features	Distance from Proposed Development at Closest Point (km)	Connectivity with Proposed Development
	grass <i>Nardus stricta</i> in upland areas. Mountain willow <i>Salix</i> sp. scrub.		
River Tay SAC	River lamprey <i>Lampetra fluviatilis</i> . Brook lamprey <i>L. planeri</i> . Otter. Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels. Sea lamprey <i>Petromyzon marinus</i> . Atlantic salmon <i>Salmo salar</i> .	6.99 km to the east	Separated from the Proposed Development by forestry and hills, therefore no direct or indirect impacts on the qualifying features are possible.
Glen Shira SAC	Western acidic sessile oak woodland.	4.77 km to the southeast	Separated from the Proposed Development by forestry, open moorland and hills, therefore no direct or indirect impacts on the qualifying features are possible.
Coille Leitire SSSI	Upland oak sp. <i>Quercus</i> woodland.	2.11 km to the northwest	Separated from the Proposed Development by forestry, the A819 road and Loch Awe, therefore no direct or indirect impacts on the qualifying features are possible.
Allt Broighleachan SSSI	Native pinewood.	5.83 km to the northeast	Separated from the Proposed Development by forestry, the River Lochy, River Orchy, the A85 road and the B8074 road, therefore no direct or indirect impacts on the qualifying features are possible.
Glen Nant SSSI and NNR	Upland oak sp. <i>Quercus</i> woodland. Bryophyte assemblage. Lichen assemblage. Crane fly <i>Tipula luridorostris</i> .	9.15 km to the northwest	Separated from the Proposed Development by forestry, the A819 road, Loch Awe and open moorland, therefore no direct or indirect impacts on the qualifying features are possible.
Loch Lomond and Trossachs	Red squirrel.	2.19 km to the southeast	Separated from the Proposed Development by forestry, hills and open moorland. The proposed existing access track upgrade in

Table 6.1.6: Designated Sites (Statutory)

Site Name	Qualifying Features	Distance from Proposed Development at Closest Point (km)	Connectivity with Proposed Development
National Park (LLTNP)	Atlantic oak <i>Quercus</i> sp. woodland. Mountains and moorland. Lochs and rivers. Reptile species.		this area would be low impact and have minimal disturbance that would not involve the qualifying features. As a result, no direct or indirect impacts on the qualifying features are considered to be possible.

Field Surveys

Phase 1 Habitats

- 1.3.6 The Phase 1 habitats recorded in the field survey area are described below and shown on **Figure 6.2: Phase 1 Habitats (EIAR Volume 3a)**. The northern part covers the area between Tower 29 and 47, the central part covers the area between Tower 16 to 29 and the southern part covers the area between Tower 1 and 16.

A1.1.1 Semi-natural Broadleaved Woodland

- 1.3.7 This habitat type is scattered throughout the field survey area and is dominated by sessile oak, ash *Fraxinus excelsior*, silver birch *Betula pendula*, goat willow *Salix caprea*, with abundant alder *Alnus glutinosa*, wild garlic *Allium ursinum*, bluebell *Hyacinthoides non-scripta*, bog-moss *Sphagnum* sp., tormentil *Potentilla erecta*, purple moor-grass *Molinia caerulea*, common sedge *Carex nigra* and bracken *Pteridium aquilinum*. Eared willow *Salix aurita*, bilberry *Vaccinium myrtillus*, tufted hair-grass *Deschampsia cespitosa*, bramble *Rubus fruticosus* agg., soft rush *Juncus effusus* and bog myrtle *Myrica gale* occur frequently, with occasional downy birch *Betula pubescens*, lime *Tilia* sp., sweet vernal-grass *Anthoxanthum odoratum*, ground-elder *Aegopodium podagraria* and meadowsweet *Filipendula ulmaria*.

A1.1.2 Broadleaved Woodland Plantation

- 1.3.8 This habitat type occurs in the northern part of the field survey area and is dominated by silver birch and oak.

A1.2.2 Coniferous Woodland Plantation

- 1.3.9 This habitat type is present throughout the field survey area and is the most common habitat type. The habitat is dominated by Scots pine *Pinus sylvestris* and spruce *Picea* sp.

A2.2 Scattered Scrub

- 1.3.10 This habitat type occurs in the northern part of the field survey area and is dominated by eared willow, grey willow *Salix cinerea*, goat willow and downy birch, with abundant rowan *Sorbus aucuparia*, wavy-hair grass *Deschampsia flexuosa*, Yorkshire fog *Holcus lanatus* and purple moor-grass. Bog myrtle is occasional, with rare hard fern *Blechnum spicant* and broad buckler-fern *Dryopteris dilatata*.

A3.1 Broadleaved Parkland/Scattered Trees

- 1.3.11 This habitat type is present as scattered trees around Brackley Farm and is dominated by silver birch, downy birch *Betula pubescens*, rowan, oak *Quercus sp.*, hazel *Corylus avellana* and sycamore *Acer pseudoplatanus*.

A4.2 Recently Felled Coniferous Woodland

- 1.3.12 Three areas of this habitat type occur to the north and west of Blarchaorain where spruce *Picea sp.* trees have been felled.

A4.3 Recently Felled Mixed Woodland

- 1.3.13 This habitat type is present in the central and southern parts of the field survey area where spruce *Picea sp.*, oak *Quercus sp.* and willow *Salix sp.* trees have been felled.

B1.1 Unimproved Acid Grassland

- 1.3.14 This habitat type occurs in the northern part of the field survey area and is dominated by wavy-hair grass, Yorkshire fog and purple moor-grass. Mat grass *Nardus stricta* is abundant, with frequent red fescue *Festuca rubra* and occasional soft rush.

B1.2 Semi-improved Acid Grassland

- 1.3.15 This habitat type occurs throughout the central and northern parts of the field survey area and is the third most common habitat type. The habitat is dominated by mat grass, red fescue, wavy hair-grass *Deschampsia flexuosa*, tufted hair-grass and creeping buttercup *Ranunculus repens*, with abundant tormentil, heath bedstraw *Galium saxatile*, bluebell and frequent soft rush, purple moor-grass and common haircap *Polytrichum commune*. Spruce *Picea sp.* and bracken occur rarely.

B2.2 Semi-improved Neutral Grassland

- 1.3.16 This habitat type occurs in the northern part of the field survey area and is dominated by wavy-hair grass, with abundant Yorkshire fog, sweet vernal-grass, crested dog's-tail *Cynosurus cristatus* and white clover *Trifolium repens*. Fen bedstraw *Galium uliginosum*, cleavers *G. aparine* and common sorrel *Rumex acetosa* occur frequently, with occasional meadow buttercup *Ranunculus acris* and creeping thistle *Cirsium arvense*.

B4 Improved Grassland

- 1.3.17 A single area of this habitat type occurs to the north of Blarchaorain and is dominated by perennial ryegrass *Lolium perenne*, with occasional patches of rush *Juncus sp.* and tall ruderal vegetation.

B5 Marshy Grassland

- 1.3.18 This habitat type is scattered throughout the field survey area and is dominated by soft rush, with abundant false oat-grass *Arrhenatherum elatius*, cock's-foot *Dactylis glomerata*, bottle sedge *Carex rostrata*, ground-elder, bluebell and bracken. Eyebright *Euphrasia* agg., brambles, common sedge and tufted hair-grass occur frequently, with occasional alder, eared willow, green-ribbed sedge *Carex binervis*, meadowsweet, creeping buttercup, common sorrel, white clover and common nettle *Urtica dioica*.

C1.1 Continuous Bracken

- 1.3.19 This habitat type is scattered throughout the field survey area and is dominated by bracken.

D2 Wet Heath

- 1.3.20 This habitat type occurs in the northern part of the field survey area and is dominated by bog myrtle, purple moor-grass, cross-leaved heath and common heather *Calluna vulgaris*, with frequent bog asphodel *Narthecium ossifragum*, feathery bog-moss *Sphagnum cuspidatum*, tormentil and deergrass *Trichophorum cespitosum*.

D5 Dy Heath/Acid Grassland Mosaic

- 1.3.21 A single area of this habitat type occurs to the northwest of Blarchaorain and is dominated by common heather, Yorkshire fog and wavy-hair grass, with abundant bell heather *Erica cinerea* and tormentil. Mat grass is frequent, with occasional bracken and soft rush.

E1.6.1 Blanket Bog

- 1.3.22 This habitat type occurs in the northern part of the field survey area and is dominated by purple moor-grass, red bog-moss *Sphagnum capillifolium* and hare's-tail cottongrass *Eriophorum vaginatum*, with frequent bilberry, tormentil, deergrass and cross-leaved heath. Common heather is occasional, with rare feathery bog-moss, bog asphodel, lichen *Cladonia sp.* and common haircap. There are also rare spruce *Picea sp.* trees, self-seeded from surrounding plantations.

E1.7 Wet Modified Bog

- 1.3.23 This habitat type is present in the northern part of the field survey area and is the second most common habitat type. The habitat is dominated by purple moor-grass, with frequent bog myrtle and jointed rush *Juncus articulatus*. Silver birch and sharp-flowered rush *J. acutiflorus* occur occasionally, with rare bog asphodel, red bog-moss and marsh thistle *Cirsium palustre*.

E2.1 Acid/Neutral Flush

- 1.3.24 This habitat type occurs in the northern part of the field survey area and is dominated by soft rush, jointed rush and bulbous rush *Juncus bulbosus*, with abundant star sedge *Carex echinata*. Blunt-leaved bog-moss *Sphagnum palustre*, red bog-moss and cow-horn bog-moss *Sphagnum denticulatum* occur frequently, with occasional common lousewort *Pedicularis sylvatica*.

E2.2 Basic Flush

- 1.3.25 This habitat type occurs in the northern part of the field survey area and is dominated by jointed rush, sharp-flowered rush, common sedge and bottle sedge, with abundant bulbous rush and soft rush. Grass-of-parnassus *Parnassia palustris*, wild thyme *Thymus polytrichus*, hair sedge *Carex capillaris*, carnation sedge *C. panicea*, long-stalked yellow sedge *C. lepidocarpa* and star sedge occur frequently. Mountain everlasting *Antennaria dioica*, yellow saxifrage *Saxifraga azoides*, fairy flax *Linum catharticum*, marsh pennywort *Hydrocotyle vulgaris* and water forget-me-not *Myosotis scorpioides* occur frequently, with occasional meadow buttercup, common bird's-foot-trefoil *Lotus corniculatus*, thyme-leaved speedwell *Veronica serpyllifolia*, cuckoo flower *Cardamine pratensis* and bugle *Ajuga reptans*. Common butterwort *Pinguicula vulgaris*, common lousewort, yellow pimpernel *Lysimachia nemorum*, pointed spear-moss *Calliergonella cuspidata*, river feather-moss *Brachythecium rivulare* and bog groove-moss *Aulacomnium palustre* occur rarely.

J3.6 Buildings

- 1.3.26 Buildings were recorded at Brackley and to the north of the railway line in the northern part of the field survey area.

J5 Other Habitat

- 1.3.27 This habitat type occurs in the north of the field survey area and is comprised of a railway line and hardstanding at Brackley.

Habitat Extents

- 1.3.28 **Table 6.1.7** provides the extents of all habitat types recorded in the field survey area.

Table 6.1.7: Habitat Types	
Habitat Type	Area within Field Survey Area (ha)
A1.1.1 Semi-natural Broadleaved Woodland	68.42
A1.1.2 Broadleaved Woodland Plantation	26.43
A1.2.2 Coniferous Woodland Plantation	547.33
A2.2 Scattered Scrub	5.29
A4.2 Recently Felled Coniferous Woodland	86.27
A4.3 Recently Felled Mixed Woodland	62.02
B1.1 Unimproved Acid Grassland	24.71
B1.2 Semi-improved Acid Grassland	107.30
B2.2 Semi-improved Neutral Grassland	18.99
B4 Improved Grassland	1.74
B5 Marshy Grassland	63.77
C1.1 Continuous Bracken	30.87
D2 Wet Heath	5.69
D5 Dry Heath/Acid Grassland Mosaic	0.27
E1.6.1 Blanket Bog	27.66
E1.7 Wet Modified Bog	187.78
E2.1 Acid/Neutral Flush	4.47
E2.2 Basic Flush	2.71

NVC

- 1.3.29 The NVC habitats recorded in the field survey area are shown on **Figure 6.3: NVC (EIAR Volume 3a)** and listed below.

- M6d *Carex echinata-Sphagnum recurvum/auriculatum* mire, with a sharp-flowered rush sub-community;
- M15 *Scirpus cespitosus-Erica tetralix* wet heath;
- M15 *Scirpus cespitosus-Erica tetralix* wet heath/M15d *Scirpus cespitosus-Erica tetralix* wet heath, with a *Vaccinium myrtillus* sub-community mosaic;
- M15 *Scirpus cespitosus-Erica tetralix* wet heath/M19 *Calluna vulgaris-Eriophorum vaginatum* blanket mire mosaic;
- M15 *Scirpus cespitosus-Erica tetralix* wet heath/M6 *Carex echinata-Sphagnum recurvum/auriculatum* mire/U20 *Pteridium aquilinum-Galium saxatile* community mosaic;

- M15 *Scirpus cespitosus-Erica tetralix* wet heath/U20 *Pteridium aquilinum-Galium saxatile* community mosaic;
- M15 *Scirpus cespitosus-Erica tetralix* wet heath/U4 *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland/U5 *Nardus stricta-Galium saxatile* grassland mosaic;
- M15 *Scirpus cespitosus-Erica tetralix* wet heath/U5 *Nardus stricta-Galium saxatile* grassland mosaic;
- M15 *Scirpus cespitosus-Erica tetralix* wet heath/U6 *Juncus squarrosus-Festuca ovina* grassland mosaic;
- M17 *Scirpus cespitosus-Eriophorum vaginatum* blanket mire;
- M17 *Scirpus cespitosus-Eriophorum vaginatum* blanket mire/M15 *Scirpus cespitosus-Erica tetralix* wet heath mosaic;
- M17 *Scirpus cespitosus-Eriophorum vaginatum* blanket mire/M19 *Calluna vulgaris-Eriophorum vaginatum* blanket mire mosaic;
- M17 *Scirpus cespitosus-Eriophorum vaginatum* blanket mire/M6 *Carex echinata-Sphagnum recurvum/auriculatum* mire mosaic;
- M19 *Calluna vulgaris-Eriophorum vaginatum* blanket mire;
- M21b *Narthecium ossifragum-Sphagnum papillosum* valley mire, with a *Vaccinium oxycoccus-Sphagnum recurvum* sub-community;
- M23 *Juncus effusus/acutiflorus-Galium palustre* rush-pasture;
- M23a *Juncus effusus/acutiflorus-Galium palustre* rush-pasture, with a *Juncus acutiflorus* sub-community;
- M23 *Juncus effusus/acutiflorus-Galium palustre* rush-pasture/M6 *Carex echinata-Sphagnum recurvum/auriculatum* mire mosaic;
- M23a *Juncus effusus/acutiflorus-Galium palustre* rush-pasture, with a *Juncus acutiflorus* sub-community/M6d *Carex echinata-Sphagnum recurvum/auriculatum* mire, with a *Juncus acutiflorus* sub-community mosaic;
- M25 *Molinia caerulea-Potentilla erecta* mire;
- M25a *Molinia caerulea-Potentilla erecta* mire, with an *Erica tetralix* sub-community;
- M25 *Molinia caerulea-Potentilla erecta* mire/M23 *Juncus effusus/acutiflorus-Galium palustre* rush-pasture mosaic;
- M25 *Molinia caerulea-Potentilla erecta* mire/M27 *Filipendula ulmaria-Angelica sylvestris* mire/M6d *Carex echinata-Sphagnum recurvum/auriculatum* mire, with a *Juncus acutiflorus* sub-community mosaic;
- M25 *Molinia caerulea-Potentilla erecta* mire/M6d *Carex echinata-Sphagnum recurvum/auriculatum* mire, with a *Juncus acutiflorus* sub-community mosaic;
- M25 *Molinia caerulea-Potentilla erecta* mire/U20 *Pteridium aquilinum-Galium saxatile* community mosaic;
- M25 *Molinia caerulea-Potentilla erecta* mire/U6 *Juncus squarrosus-Festuca ovina* grassland mosaic;
- M25a *Molinia caerulea-Potentilla erecta* mire, with an *Erica tetralix* sub-community/M15 *Scirpus cespitosus-Erica tetralix* wet heath mosaic;
- M25a *Molinia caerulea-Potentilla erecta* mire, with an *Erica tetralix* sub-community/M23a *Juncus effusus/acutiflorus-Galium palustre* rush-pasture, with a *Juncus acutiflorus* sub-community/M6d

Carex echinata-Sphagnum recurvum/auriculatum mire, with a *Juncus acutiflorus* sub-community mosaic;

- M25a *Molinia caerulea-Potentilla erecta* mire, with an *Erica tetralix* sub-community/M6 *Carex echinata-Sphagnum recurvum/auriculatum* mire mosaic;
- M28 *Iris pseudacorus-Filipendula ulmaria* mire;
- M6 *Carex echinata-Sphagnum recurvum/auriculatum* mire;
- M6 *Carex echinata-Sphagnum recurvum/auriculatum* mire/M23 *Juncus effusus/acutiflorus-Galium palustre* rush-pasture mosaic;
- M6 *Carex echinata-Sphagnum recurvum/auriculatum* mire/M25 *Molinia caerulea-Potentilla erecta* mire mosaic;
- M6d *Carex echinata-Sphagnum recurvum/auriculatum* mire, with a *Juncus acutiflorus* sub-community;
- MG10 *Holcus lanatus-Juncus effusus* rush-pasture;
- MG10 *Holcus lanatus-Juncus effusus* rush-pasture/U20 *Pteridium aquilinum-Galium saxatile* community mosaic;
- MG10 *Holcus lanatus-Juncus effusus* rush-pasture/U6 *Juncus squarrosus-Festuca ovina* grassland mosaic;
- U20 *Pteridium aquilinum-Galium saxatile* community;
- U20 *Pteridium aquilinum-Galium saxatile* community/M23 *Juncus effusus/acutiflorus-Galium palustre* rush-pasture/U4 *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland/U6 *Juncus squarrosus-Festuca ovina* grassland mosaic;
- U20 *Pteridium aquilinum-Galium saxatile* community/M6 *Carex echinata-Sphagnum recurvum/auriculatum* mire mosaic;
- U20 *Pteridium aquilinum-Galium saxatile* community/U4 *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland mosaic;
- U4 *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland;
- U4 *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland/MG10 *Holcus lanatus-Juncus effusus* rush-pasture mosaic;
- U4 *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland/U20 *Pteridium aquilinum-Galium saxatile* community mosaic;
- U4 *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland/U6 *Juncus squarrosus-Festuca ovina* grassland/MG10 *Holcus lanatus-Juncus effusus* rush-pasture mosaic;
- U4 *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland/U6 *Juncus squarrosus-Festuca ovina* grassland/U20 *Pteridium aquilinum-Galium saxatile* community mosaic;
- U5 *Nardus stricta-Galium saxatile* grassland/U20 *Pteridium aquilinum-Galium saxatile* community mosaic;
- U5 *Nardus stricta-Galium saxatile* grassland/U6 *Juncus squarrosus-Festuca ovina* grassland mosaic;
- U6 *Juncus squarrosus-Festuca ovina* grassland;
- U6 *Juncus squarrosus-Festuca ovina* grassland/M23 *Juncus effusus/acutiflorus-Galium palustre* rush-pasture mosaic;
- W11 *Quercus petraea-Betula pubescens-Oxalis acetosella* woodland;

- W11 *Quercus petraea*-*Betula pubescens*-*Oxalis acetosella* woodland/W4 *Betula pubescens*-*Molinia caerulea* woodland/W17 *Quercus petraea*-*Betula pubescens*-*Dicranum majus* woodland/W7 *Alnus glutinosa*-*Fraxinus excelsior*-*Lysimachia nemorum* woodland mosaic;
- W17 *Quercus petraea*-*Betula pubescens*-*Dicranum majus* woodland;
- W17 *Quercus petraea*-*Betula pubescens*-*Dicranum majus* woodland/W4 *Betula pubescens*-*Molinia caerulea* woodland/W11 *Quercus petraea*-*Betula pubescens*-*Oxalis acetosella* woodland mosaic;
- W4 *Betula pubescens*-*Molinia caerulea* woodland;
- W4b *Betula pubescens*-*Molinia caerulea* woodland, with a *Juncus effusus* sub-community;
- W7 *Alnus glutinosa*-*Fraxinus excelsior*-*Lysimachia nemorum* woodland;
- W7 *Alnus glutinosa*-*Fraxinus excelsior*-*Lysimachia nemorum* woodland/W11 *Quercus petraea*-*Betula pubescens*-*Oxalis acetosella* woodland/W17 *Quercus petraea*-*Betula pubescens*-*Dicranum majus* woodland/W4 *Betula pubescens*-*Molinia caerulea* woodland mosaic;
- W7 *Alnus glutinosa*-*Fraxinus excelsior*-*Lysimachia nemorum* woodland/W17 *Quercus petraea*-*Betula pubescens*-*Dicranum majus* woodland mosaic; and
- W7 *Alnus glutinosa*-*Fraxinus excelsior*-*Lysimachia nemorum* woodland/W4 *Betula pubescens*-*Molinia caerulea* woodland mosaic.

Target Notes

- 1.3.30 Target notes recorded as raw field data during the Phase 1 habitat surveys are detailed in **Table 6.1.8** and shown on **Figure 6.4: Target Notes (EIAR Volume 3a)**. Confidential target notes are provided in **Technical Appendix 6.2 (Confidential Volume)** and are shown on confidential **Figure 6.5: Confidential Target Notes (Confidential Volume)**.

Table 6.1.8: Target Notes		
Grid Reference	Target Note Number	Note
NN 09005 19188	TN1	Pine marten scat.
NN 08829 19341	TN2	Potential water vole habitat, though field signs suggest field vole <i>Microtus agrestis</i> or bank vole <i>Myodes glareolus</i> .
NN 10379 21518	TN3	Acidic pond to be avoided as good habitat.
NN 13582 24539	TN4	BRP trees in area of broadleaved woodland.
NN 13830 24444	TN5	Squirrel feeding signs.
NN 12473 23903	TN6	Duck pond.
NN 14018 24450	TN7	Mossy chasm in steep glen.
NN 18468 25835	TN8	Lots of blanket bog species beneath conifer plantation. Potential to rehabilitate bog-moss <i>Sphagnum</i> sp.
NN 18904 26762	TN9	Possible otter couch with old spraint at root plate. Tree has low BRP.
NN 18278 26863	TN10	Oak <i>Quercus</i> sp. woodland with some BRP. Even-aged, straight-stemmed oaks.
NN 18648 26772	TN11	Oak <i>Quercus</i> sp. woodland with occasional BRP.

Table 6.1.8: Target Notes

Grid Reference	Target Note Number	Note
NN 18819 26841	TN12	Hole in birch <i>Betula sp.</i> with BRP.
NN 18830 26621	TN13	M19 <i>Calluna vulgaris</i> - <i>Eriophorum vaginatum</i> blanket mire.
NN 18982 26542	TN14	Otter spraint on rock.
NN 18924 26473	TN15	Otter spraint on rock. M23 <i>Juncus effusus/acutiflorus</i> - <i>Galium palustre</i> rush-pasture and M19 <i>Calluna vulgaris</i> - <i>Eriophorum vaginatum</i> blanket mire mosaic to the west.
NN 18991 26334	TN16	Possible pine marten shelter in railway hut. Low BRP.
NN 18967 26642	TN17	BRP oak <i>Quercus sp.</i> with a hole.
NN 19051 26801	TN18	Glade of deep peat with flat-topped bog-moss <i>Sphagnum fallax</i> .
NN 19170 26667	TN19	Deeper peat with flat-topped bog-moss and purple moor-grass.
NN 18617 26430	TN20	Slopes of M15 <i>Scirpus cespitosus</i> - <i>Erica tetralix</i> wet heath, with M19 <i>Calluna vulgaris</i> - <i>Eriophorum vaginatum</i> blanket mire/M23 <i>Juncus effusus/acutiflorus</i> - <i>Galium palustre</i> rush-pasture in flat areas.
NN 18533 26476	TN20	M1 <i>Sphagnum auriculatum</i> bog pool community in M19 <i>Calluna vulgaris</i> - <i>Eriophorum vaginatum</i> blanket mire. Deep peat with bog orchid <i>Hammarbya paludosa</i> , long-stemmed pondweed <i>Potamogeton praelongus</i> , cow-horn bog-moss and glaucous sedge <i>Carex flacca</i> . Head of seepage zone so avoid.
NN 18461 26602	TN21	Oak <i>Quercus sp.</i> knoll with BRP in slits/cracks. MG9 <i>Holcus lanatus</i> - <i>Deschampsia cespitosa</i> grassland/M23 <i>Juncus effusus/acutiflorus</i> - <i>Galium palustre</i> rush-pasture to north.
NN 18685 26231	TN22	M23 <i>Juncus effusus/acutiflorus</i> - <i>Galium palustre</i> rush-pasture on slope. Mosaic of MG9 <i>Holcus lanatus</i> - <i>Deschampsia cespitosa</i> grassland.
NN 18516 26161	TN23	Avoid oak <i>Quercus sp.</i> trees.
NN 18328 26163	TN24	Degraded MG9 <i>Holcus lanatus</i> - <i>Deschampsia cespitosa</i> grassland/M23 <i>Juncus effusus/acutiflorus</i> - <i>Galium palustre</i> rush-pasture seepage at start of tributary.
NN 17868 26143	TN25	M10 <i>Carex dioica</i> - <i>Pinguicula vulgaris</i> mire spring below rock with yellow saxifrage <i>Saxifraga aizoides</i> . M23 <i>Juncus effusus/acutiflorus</i> - <i>Galium palustre</i> rush-pasture downslope. Possible bog orchid at base.
NN 17790 26146	TN26	M10 <i>Carex dioica</i> - <i>Pinguicula vulgaris</i> mire spring.
NN 17755 26097	TN27	GWDTE with sedge <i>Carex sp.</i> fringes and bog orchid.
NN 17508 26062	TN28	Patch of M15 <i>Scirpus cespitosus</i> - <i>Erica tetralix</i> wet heath. M19 <i>Calluna vulgaris</i> - <i>Eriophorum vaginatum</i> blanket mire to northwest.
NN 17292 26137	TN29	M23 <i>Juncus effusus/acutiflorus</i> - <i>Galium palustre</i> rush-pasture seepages.
NN 17110 26238	TN30	BRP in oak <i>Quercus sp.</i> and birch <i>Betula sp.</i> woodland.

Table 6.1.8: Target Notes

Grid Reference	Target Note Number	Note
NN 17418 26363	TN31	M23 <i>Juncus effusus/acutiflorus-Galium palustre</i> rush-pasture/M25 <i>Molinia caerulea-Potentilla erecta</i> mire with possible bog orchid.
NN 17803 26423	TN32	Splits/cracks with BRP in oaks <i>Quercus sp.</i>
NN 17616 26126	TN33	M10 <i>Carex dioica-Pinguicula vulgaris</i> mire spring.
NN 17111 25785	TN34	M23 <i>Juncus effusus/acutiflorus-Galium palustre</i> rush-pasture seepage with long-stemmed pondweed.
NN 16860 25691	TN35	Degraded M19 <i>Calluna vulgaris-Eriophorum vaginatum</i> blanket mire with M15 <i>Scirpus cespitosus-Erica tetralix</i> wet heath on knolls.
NN 16666 25698	TN36	M15 <i>Scirpus cespitosus-Erica tetralix</i> wet heath on knolls.
NN 16532 25581	TN37	Otter spraint and potential water vole habitat, though no burrows recorded.
NN 16022 25456	TN38	M23 <i>Juncus effusus/acutiflorus-Galium palustre</i> rush-pasture on slopes of ridge to M19 <i>Calluna vulgaris-Eriophorum vaginatum</i> blanket mire.
NN 15898 25563	TN39	M15 <i>Scirpus cespitosus-Erica tetralix</i> wet heath fringes to M19 <i>Calluna vulgaris-Eriophorum vaginatum</i> blanket mire.
NN 15711 25660	TN40	M15 <i>Scirpus cespitosus-Erica tetralix</i> wet heath continues on humps to west. M19 <i>Calluna vulgaris-Eriophorum vaginatum</i> blanket mire on flat areas.
NN 16245 25879	TN41	M15 <i>Scirpus cespitosus-Erica tetralix</i> wet heath on slopes. M19 <i>Calluna vulgaris-Eriophorum vaginatum</i> blanket mire on flat areas.
NN 16424 25954	TN42	M15 <i>Scirpus cespitosus-Erica tetralix</i> wet heath to M25 <i>Molinia caerulea-Potentilla erecta</i> mire.
NN 16656 26072	TN43	GWDTE springs at base of slope. M25 <i>Molinia caerulea-Potentilla erecta</i> mire on flat areas to the forest, M15 <i>Scirpus cespitosus-Erica tetralix</i> wet heath on flanks.
NN 16976 26075	TN44	Low BRP oaks <i>Quercus sp.</i> with cracks/splits.
NN 17928 26729	TN45	Red squirrel sighting. Regularly visits bird feeders ³¹ .
NN 18192 26570	TN46	High BRP in Brackley Farm byres.
NN 17625 26388	TN47	M23 <i>Juncus effusus/acutiflorus-Galium palustre</i> rush-pasture seepage, heavily grazed.
NN 17779 26466	TN48	BRP oaks <i>Quercus sp.</i> with cracks/splits.

³¹ Anecdotal evidence from surveyor local to the area.

Table 6.1.8: Target Notes

Grid Reference	Target Note Number	Note
NN 11811 22824	TN49	Patch of mature alder adjacent to conifer plantation. Four trees have potential roost features of cavities, knot holes and split and fallen branches. No evidence of bats found.
NN 11918 22984	TN50	Mature oak <i>Quercus sp.</i> , alder, beech <i>Fagus sylvatica</i> and ash with medium to high BRP.
NN 12424 23691	TN51	Low to medium BRP oak <i>Quercus sp.</i>
NN 13489 24623	TN52	Low to medium BRP oak <i>Quercus sp.</i>
NN 13755 24495	TN53	Low to medium BRP oak <i>Quercus sp.</i>
NN 11623 23086	TN54	Mature alder and rowan with low BRP.
NN 12348 23761	TN55	Mature birch <i>Betula sp.</i> with high BRP.
NN 10037 21324	TN56	Alder, ash and birch <i>Betula sp.</i> with medium to high BRP.
NN 10098 21205	TN57	Mature fir <i>Abies sp.</i> with low to medium BRP.
NN 13916 24756 – NN 14085 24701	TN58	Mature riparian oaks <i>Quercus sp.</i> with medium to high BRP.
NN 14255 24700	TN59	Mature riparian oaks <i>Quercus sp.</i> with low to medium BRP.
NN 14305 24653	TN60	Mature riparian oak <i>Quercus sp.</i> with medium BRP.
NN 09481 20967	TN61	Water vole feeding remains and droppings.
NN 09217 20952	TN62	Small scat at edge of burn containing bones and black hair. Not otter or fox <i>Vulpes vulpes</i> . Potentially American mink <i>Neogale vison</i> .
NN 08850 19593	TN63	Water vole latrine.
NN 08848 19593	TN64	Water vole run, feeding signs and latrine.
NN 08847 19592	TN65	Water vole burrow.
NN 08839 19590	TN66	Water vole latrine and feeding signs.
NN 08809 19628	TN67	Water vole latrine and feeding signs.
NN 08867 19558	TN68	Water vole burrow.
NN 09701 21120	TN69	Otter spraint.
NN 10051 21072	TN70	Otter spraint.
NN 12181 22918	TN71	America mink scat.
NN 11918 22984	TN72	Red squirrel sighting.
NN 13506 24637	TN73	Possible red squirrel feeding remains.
NN 10067 21133	TN74	Red squirrel scat.
NN 13914 24756	TN75	Red squirrel scat.
NN 13651 24518	TN76	Common toad <i>Bufo bufo</i> .
NN 11908 23324	TN77	Common frog <i>Rana temporaria</i> .

Table 6.1.8: Target Notes

Grid Reference	Target Note Number	Note
NN 11795 23152	TN78	Wall suitable for reptiles at edge of watercourse.
NN 11822 23183	TN79	Common frog.
NN 11714 23218	TN80	South to north running dry stone wall. Mainly good condition with some areas in need of repair. Covered in bog-moss <i>Sphagnum sp.</i> and grass with a windblown tree on part of it.
NN 14072 24617	TN81	Dry stone wall covered in bog-moss <i>Sphagnum sp.</i> following the watercourse.
NN 14215 24607	TN82	Common lizard <i>Zootoca vivipara</i> .
NN 17045 26558	TN83	Grassland area suitable for marsh fritillary <i>Euphydryas aurinia</i> .
NN 16190 26098	TN84	Grassland area suitable for marsh fritillary.
NN 15634 25823	TN85	Grassland area suitable for marsh fritillary.
NN 15124 26355	TN86	Grassland area suitable for marsh fritillary.
NN 14444 25255	TN87	Grassland area suitable for marsh fritillary.
NN 14609 24979	TN88	Grassland area suitable for marsh fritillary.
NN 13936 24745	TN89	Grassland area suitable for marsh fritillary.
NN 14004 24554	TN90	Grassland area suitable for marsh fritillary.
NN 13189 24160	TN91	Grassland area suitable for marsh fritillary.
NN 12453 23453	TN92	Grassland area suitable for marsh fritillary.
NN 11551 22954	TN93	Grassland area suitable for marsh fritillary.
NN 11147 22176	TN94	Grassland area suitable for marsh fritillary.
NN 10359 21577	TN95	Grassland area suitable for marsh fritillary.
NN 09925 21322	TN96	Grassland area suitable for marsh fritillary.
NN 09489 21019	TN97	Grassland area suitable for marsh fritillary.
NN 08628 19927	TN98	Grassland area suitable for marsh fritillary.
NN 15932 25820	TN99	Badger dung.