Coille Beith Wind Farm

Technical Appendix 6.1: Habitats and Vegetation

June 2025

Contents

1 Introduction 1
1.1 Overview 1
2 Methodology 1
2.1 Desk Study 1
2.2 Field Surveys 2
3 Results 3
3.1 Desk Study 3
3.2 Field Surveys 5
4 Summary 10

Annex 1 – Scientific Plant Names
Annex 2 – Phase 1 Survey Target Notes
Annex 3 – NVC Survey Results
Annex 4 – Photographs
Annex 5 – Peatland Condition Assessment Full Results
Annex 6 – Peatland Condition Assessment Target Notes
Annex 7 – Western Access Route Habitat Survey Results

1 Introduction

1.1 Overview

1.1.1 This Technical Appendix has been prepared to accompany **Chapter 6** (EIA Report Volume 2) and presents detailed methodologies and the results of desk study and field surveys completed to establish baseline habitat conditions to inform the design and assessment of the Proposed Development.

1.1.2 The objectives of the baseline studies were to:

- Identify and establish the spatial distribution of habitats and vegetation communities which may be impacted by the Proposed Development;
- Identify the presence and distribution of any Annex 1 habitat types[1] or ancient woodland[2], habitats that are listed on the Scottish Biodiversity List (SBL)[3], and/or which represent potential Groundwater Dependent Terrestrial Ecosystems (GWDTEs)[4] or Priority Peatland[5]; and
- Record the presence of any protected or non-native plant species listed on Schedule 8 and 9 of the Wildlife and Countryside Act 1981 (as amended) respectively.

1.1.3 It should be read with reference to the following Figures, which are included within **Volume 3a** of the EIA Report:

- Figure 6.1a: Ecological Statutory Designated Sites for Nature Conservation;
- Figure 6.1b: Ecological Non-Statutory Designated Sites for Nature Conservation;
- Figure 6.2a: Phase 1 Habitat Survey Plan;
- Figure 6.2b: Phase 1 Habitat Survey Plan (Western Access Route);
- Figure 6.2c-d: Phase 1 Habitat Survey Plan (Eastern Access Route);
- Figure 6.3a: National Vegetation Classification (NVC) Survey Plan;
- Figure 6.3b: National Vegetation Classification (NVC) Survey Plan (Western Access Route);
- Figure 6.3c-d: National Vegetation Classification (NVC) Survey Plan (Eastern Access Route);
- Figure 6.4a: Peatland Condition Assessment; and
- Figure 6.4b: Peatland Condition Assessment (Western Access Route).

1.1.4 Only common species names are referred to within the main text of this Technical Appendix, the only exception where species are stated in the name of NVC communities. Scientific names for all species referenced are supplied in **Annex 1.**

2 Methodology

2.1 Desk Study

2.1.1 A desk study was undertaken to identify any statutory or non-statutory designated sites for nature conservation with habitat or botanical qualifying interests in proximity to the Site. Key desk study sources, search areas and information obtained is summarised in **Table 2.1**.

Table 2.1 – Desk Study Key Sources and Information Sought

Key Source - incl. Date	Information Sought	Search Area
NatureScot's Sitelink (2025)	Proximity to statutory designated sites, with ecological interests.	Within 10 km of the Site, minus access routes (as shown on **Figure 6.1,** EIA Report Volume 3a)**.**
NatureScot Maps: Ancient Woodland Inventory (2022)	Proximity to woodland habitat on the ancient woodland inventory.	Within, and adjacent to the Site.
Highland Biological Recording Group (HBRG) – March 2025	Existing records of protected and notable habitats and species. Non-statutory designated sites.	Within 2 km of the Site (minus access routes).

[1] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.
[2] As defined by the Ancient Woodland Inventory (Scotland) (NatureScot, 2022).
[3] Habitats of principal importance for biodiversity conservation in Scotland (NatureScot, 2020).
[4] As per guidance from Scottish Environment Protection Agency (SEPA, (2024).
[5] As per guidance from NatureScot (2023).

2.1.2 Regarding the eastern access route, a review of habitat information from publicly available documentation for the consented Strath Oykel Wind Farm (ECU Ref: ECU00003246) has been undertaken.

Limitations

2.1.3 Species records obtained from the HBRG did not include vascular plants but do include bryophytes and lichen.

2.2 Field Surveys

2.2.1 Survey methodologies and subsequent interpretation of results have referred to the following key pieces of guidance:

- An Illustrated Guide to British Upland Vegetation (Averis *et al*., 2014);
- Handbook for Phase 1 Habitat Survey - a technique for environmental audit (Joint Nature Conservation Committee (JNCC), 2016);
- Commissioned Report 766 - Manual of terrestrial EUNIS habitats in Scotland (SNH, 2017);
- Common Standards Monitoring Guidance for Upland Habitats (JNCC, 2009);
- National Vegetation Community Users' Handbook (Rodwell, 2006);
- British Plant Communities. Volume 1. Woodlands and Scrub (Rodwell (ed.), 1991);
- British Plant Communities. Volume 2. Mires and Heaths (Rodwell (ed.), 1992a);
- British Plant Communities. Volume 3. Grasslands and montane communities (Rodwell (ed.), 1992b);
- Modular Analysis of Vegetation Information System (MAVIS). UK Centre for Ecology and Hydrology (2016);
- WFD95: A Functional Field flora of the British Isles (Stace, 1997);
- Advising on peatland, carbon-rich soils and priority peatland habitats in development management (NatureScot, 2023); and
- Guidance on Assessing the Impacts of Developments on Groundwater Dependent Terrestrial Ecosystems (SEPA, 2024).

2.2.2 Field surveys were conducted between 2021 and 2025 in accordance with standard methodologies (see **Table 2.2**).

2.2.3 An extended Phase 1 Habitat Survey and NVC survey of the Site (but not the access routes) was undertaken on 20th September 2021 by M. Wood. The NVC survey concentrated on those areas where plant communities were deemed likely to form Annex 1 habitats and/or represent GWDTEs. These NVC data were also reviewed and validated by S. Turner in October 2021. An extended Phase 1 Habitat Survey, NVC survey and a Peatland Condition Assessment of the western access route was undertaken by Botanaeco on 19th and 20th May 2025. The eastern access route was not subject to any field survey, and information for the eastern access route has been gathered as part of the desk study (see above).

2.2.4 A Peatland Condition Assessment was undertaken on 1st and 2nd July 2024 by J. Morton. This survey covered all areas of habitat on the Site identified as priority peatland (but not the access routes), as informed by the 2021 NVC survey. A check of the NVC survey data was conducted at the same time to ensure that no substantial changes had occurred since the survey was conducted in 2021.

2.2.5 All field personnel are competent ecologists and botanists, with considerable experience of undertaking these methodologies across numerous comparable sites in Scotland.

Table 22.22 – Descriptions of Relevant Habitat Survey Methodologies

Survey Type	Brief Description	Key Outcomes	Guidance
Phase 1 Habitat Survey	Habitat types are classified based on vegetation, observable hydrology, topography and land use. Small features of interest are recorded and mapped using 'target notes'. The survey can be extended to also record signs of the presence, or potential presence, of protected species (e.g. birds, mammals) including the presence of habitat types that might provide suitable breeding or refuge areas – see also **Technical Appendix 6.2 (**EIA Report Volume 4).	A broad overview of the habitat types occurring within an area and their extent. Corresponding to priority habitats listed on the SBL. Identify the presence or potential presence of plant species listed on Schedules 8 and 9 of the Wildlife and Countryside Act (1981) and/or the SBL.	Handbook for Phase 1 habitat survey – a technique for environmental audit (JNCC, 2016)[6].

[6] JNCC (2016). Handbook for Phase 1 habitat survey – a technique for environmental audit. Available online: https://data.jncc.gov.uk/data/9578d07b-e018-4c66-9c1b-47110f14df2a/Handbook-Phase1-HabitatSurvey-Revised-2016.pdf

Survey Type	Brief Description	Key Outcomes	Guidance
National Vegetation Classification (NVC) Survey	Data are collected on the identity and abundance of all plant species present within 2 m^2 quadrats, which are distributed throughout homogenous stands in order to provide a representative sample of the vegetation community present. In each quadrat sample area, data were collected on the presence and abundance of vascular plant species. These data were then analysed and classified to an NVC vegetation community, where possible, using the keys in Rodwell (various) British Plant Communities Volumes 1 to 3, aided by analysis using MAVIS Plot Analyser.	Providing a finer level of detail regarding habitats and associated vegetation communities than provided by Phase 1. Specific NVC communities signify possible Annex 1 habitats, Priority Peatland, and/or GWDTEs.	National Vegetation Community Users' Handbook (Rodwell, 2006)[7]. British Plant Communities (Rodwell, 1991 – 1992a, 1992b, 1998)[8,9,10,11]. MAVIS Plot Analyser (2016)[12].
Peatland Condition Assessment	Bog communities signifying priority peatland are assessed on whether they have features (specific vegetation types, absence of disturbance) which are indicators of being high quality and in a near-natural condition. The survey is restricted to plant communities that are classed as blanket bog, or that can be classed as blanket bog when occurring on deep peat.	To assess whether any 'Priority Peatland habitats' identified through the NVC surveys are of possible national interest.	Advising on peatland, carbon-rich soils and priority peatland habitats in development management (NatureScot, 2023)[13]. Guidelines for the selection of biological SSSIs – 8 Bogs (JNCC, 1994)[14].

Limitations

2.2.6 The majority of the Site was accessible and included in the survey. Typically, a 250 m buffer zone around all turbines was surveyed but the outer limits of the 250 m buffer were not always covered for a modest number of turbines in the south of the Site. This is not considered to be a substantial limitation as this area and its adjoining habitats are not considered to be impacted by the Proposed Development.

2.2.7 The habitat surveys of the Site (with the exception of the western access route which was surveyed in 2025), were conducted in 2021 however habitat validation was conducted in 2024 to check that no substantive changes to the habitats had occurred in the intervening years (this approach was agreed through consultation with NatureScot, see **Chapter 6** (EIA Report Volume 2).

3 Results

3.1 Desk Study

Statutory Designated Sites for Nature Conservation

3.1.1 This section should be read with reference to **Figure 6.1**.

3.1.2 The Site does not form part of any statutory designated site for nature conservation with qualifying habitat and/or botanical interests. However, the River Oykel (SAC) abuts the Site, with the western access route crossing the SAC (the River Einig) via an existing crossing. The SAC is internationally designated for Atlantic salmon and freshwater pearl mussel (see **Technical Appendix 6.4,** EIA Report Volume 4).

3.1.3 Table **3.1** provides a summary of statutory designated sites with qualifying habitat and/or botanical interest located within the Search Area.

[7] Rodwell, J. S. (2006). National Vegetation Community Users' Handbook. JNCC, Peterborough.
[8] Rodwell, J. S. (ed.) (1991). British Plant Communities. Volume 1. Woodlands and Scrub. Cambridge University Press, Cambridge.
[9] Rodwell, J. S. (ed.) (1992a). British Plant Communities. Volume 2. Mires and Heaths. Cambridge University Press, Cambridge.
[10] Rodwell, J. S. (ed.) (1992b). British Plant Communities. Volume 3. Grasslands and montane communities. Cambridge University Press, Cambridge.
[11] Rodwell, J. S. (ed.) (1998). British Plant Communities. Volume 4. Aquatic communities, swamps and tall-herb fens. Cambridge University Press, Cambridge.
[12] MAVIS Plot Analyser (2016) (version 1.04). Available online: https://www.ceh.ac.uk/services/modular-analysis-vegetation-information-system-mavis
[13] NatureScot (2023). Advising on peatland, carbon-rich soils and priority peatland habitats in development management. Available online: https://www.nature.scot/doc/advising-peatland-carbon-rich-soils-and-priority-peatland-habitats-development-management#Annexes
[14] JNCC (1994). Guidelines for the selection of biological SSSIs – Part 2: Detailed guidelines for habitats and species groups. 8 Bogs. Available online: https://data.jncc.gov.uk/data/20534790-bb45-4f33-9a6c-2fe795fb48ce/SSSIs-Chapter08.pdf

Table 3.1 – Statutory Designated Sites for Nature Conservation

Ramsar Site – Wetland of International Importance; SAC – Special Area of Conservation; SSSI – Site of Special Scientific Interest.

Designated Site	Approx. Distance and Direction from the Site (excl. Access Routes)	Botanical and / or Habitat Qualifying Interests
International		
Caithness and Sutherland Peatlands Ramsar Site	7.3 km north east	Interest Features: • Blanket bog • Mire • Oligotrophic lochs • Dystrophic lochs • Lochans and pools • Wet heath
Caithness and Sutherland Peatlands SAC	7.3 km north east	Annex 1 habitats that are primary reason for selection: • Oligotrophic to mesotrophic standing waters • Natural dystrophic lakes and ponds • Blanket bogs Annex 1 habitats present as a qualifying feature, but not a primary reason for selection: • Northern Atlantic wet heaths • Transition mires and quaking bogs • Depressions on peat substrates
Amat Wood SAC	7.4 km south east	Annex 1 habitats that are primary reason for selection: • Caledonian forest
National		
Kyle of Sutherland Marshes SSSI	5.2 km east	Designated Features: • Fllod-plain fen • Wet woodland • Vascular plant assemblage
Grudie Peatlands SSSI	7.3 km north east	Designated Feature: • Blanket bog Part of the Caithness and Sutherland Peatlands SAC.
Amat Wood SSSI	7.4 km south east	Designated Features: • Native pinewood • Upland birch woodland Part of the Amat Wood SAC.
Alladale Pinewood SSSI	7.4 km south	Designated Features: • Native pinewood Part of the Amat Wood SAC.

Non-Statutory Designated Sites for Nature Conservation

3.1.4 There are no non-designated sites for nature conservation within the Search Area.

Priority Habitats

3.1.5 No information on priority habitats was returned by the HBRG data search.

Existing Protected, Notable and Non-Native Botanical Records

3.1.6 The HBRG returned no recent records of protected, notable or non-native botanical species from within the Search Area.

Ancient Woodland Inventory (AWI) Habitat

3.1.7 Woodland habitats listed on the ancient woodland inventory[15] are present within and adjacent to the Site. **Table 3.2** provides a summary of ancient woodlands listed on the ancient woodland inventory within and adjacent to the Site.

Table 33.2 – Ancient Woodland Inventory

Ancient Woodland Site	Location	Description
Meoir Langwell	Within Site.	Long-established woodland (of semi-natural origin). As shown on **Figure 6.1b** (EIA Report Volume 3a).
Langwell Wood	Adjacent to northern boundary of Site.	Ancient (of semi-natural origin). As shown on **Figure 6.1b** (EIA Report Volume 3a).
Einig Wood	Adjacent to northwestern boundary of Site.	Ancient (of semi-natural origin). As shown on **Figure 6.1b** (EIA Report Volume 3a).
Un-named ('Carnwath' parish)	Adjacent to western boundary of the Site (adjoins the western access route).	Long-established woodland (of semi-natural origin). As shown on **Figure 6.1b** (EIA Report Volume 3a).

[15] NPF4 now defines ancient woodland as land that has been continuously wooded since at least 1750.

Eastern Access Route

3.1.8 The Phase 1 Habitat Survey plan and NVC Survey plan are respectively provided as **Figure 6.2c-d** and **Figure 6.3c-d** (EIA Report Volume 3a). Note, these are reproduced from the publicly available habitat information for the consented Strath Oykel Wind Farm (ECU Ref: ECU00003246).

3.1.9 The eastern access route passes on a largely existing forestry track and passes through coniferous plantation (A1.2.2) and some coniferous plantation clear-fell (A4.2). The route diverges from the existing forestry track most notably where it passes Loch Mhic-Mharsaill, with the eastern access route passing along to the south of the loch, and the existing track passes to the north of the loch. The eastern access route also passes through some isolated areas of wet modified bog (E1.7; M25 at NVC community) within the coniferous plantation.

3.2 Field Surveys

3.2.1 This section presents the results of the field surveys, including an overview of broad Phase 1 habitat types and, where relevant, detailed NVC communities present within the Study Area and their distribution. It should be read with reference to **Figures 6.2a** and **6.3a** (EIA Report Volume 3a).

3.2.2 Phase 1 habitat survey Target Notes are detailed in **Annex 2** and displayed on to **Figure 6.2a** (EIA Report Volume 3a), and detailed species lists and NVC tables are presented in **Annex 3**, with Site photographs presented in **Annex 4**.

Phase 1 Habitats

3.2.3 The survey recorded the following Phase 1 habitats on the Site (not including the access routes):

- **A1.1.1 Broadleaved Woodland** – semi-natural: The woodland is dominated by downy birch, and this woodland is growing along burn lines and steep gullies in the centre of the Site where access for grazing animals is limited. In the north of the Site in larger gullies the tree species are more diverse comprising silver birch, rowan, sessile oak, aspen, alder, holly and willow species. Ground flora comprised common grasses, ferns and typical woodland herbs such as primrose, goldenrod and wood sage. Mosses, such as common haircap, blunt-leaved bog-moss and glittering wood-moss were also present within the ground flora. Lichens and liverworts were present on tree trunks and branches.
- **A1.2.2 Coniferous Plantation**: This is the most extensive habitat present. Species comprise Sitka spruce and lodgepole pine, with semi-mature trees averaging 15 m in height. The forestry structure is very dense across the Site, resulting in a purely dead needle ground layer within the plantation.
- **A2 Scrub**: Scrub occurs in a mosaic with semi-improved acid grassland (see below) in a small area in the northern edge of the Site. The scrub is composed mostly of gorse with some bramble as an understorey.
- **B1.1 Acid Grassland** – unimproved: This habitat occurs on areas of better drained shallow soils often near burns or steeper sloping ground, and often as part of a mosaic with marshy grassland (below). It is largely sheep grazed. The habitat is consistent across the Site comprising predominantly sheep's fescue, common bent, mat grass, sweet vernal grass, heath rush, heath bedstraw, tormentil and blankets of springy turf-moss.
- **B1.2 Acid Grassland** – semi-improved: This habitat is similar to the unimproved grassland described above but was found in areas where grazing is at a greater intensity. There are signs of agricultural improvement with species such as crested dog's-tail, perennial rye-grass, white clover, common mouse-ear, common daisy and common yarrow now occasionally present.
- **B5 Marshy Grassland**: This habitat is largely composed of dense tussocks of soft rush in damp to wet areas of poorly drained depressions within the landscape, often forming a mosaic with adjacent acid grassland communities (above). Additional species present comprise marsh thistle, marsh willowherb, marsh bedstraw, hairy bitter-cress, creeping buttercup, marsh violet and Yorkshire fog.
- **C1 Bracken**: This bracken dominated community is found on shallow soils along burn gullies and often forming a mosaic with adjacent acid grassland and dry heath communities. Acid grassland communities are present below the bracken fronds.
- **D1 Dry Dwarf Shrub Heath**: This habitat type occurs on sloping ground running alongside the banks of watercourses, in some areas occurring as a mosaic with dense stands of bracken. Common heather is the dominant species, although other sub-shrubs such as bell heather and bilberry occur to a lesser extent. The ground layer is dominated by common heathland mosses such as red-stemmed feather-moss, heath plait-moss and glittering wood moss.
- **D2 Wet Dwarf Scrub Heath**: This habitat is extensive across the Site in open areas where there is no plantation forestry. Common heather and cross-leaved heather occur here but deergrass is

dominant in the community. Purple moorgrass is also frequent along with some bog indicator species such as bog asphodel, round-leaved sundew and bog-mosses.

- **D6 Wet Heath/Acid Grassland**: In the north of the Site are areas where acid grassland forms a mosaic with wet heath.
- **E1.6.1 Blanket Bog**: This habitat is predominantly on the high open ground in the south of the Site and within the forestry rides, but there are also a few isolated pockets in the north of the Site. It typically forms a complicated mosaic with the wet heath communities. It is largely dominated by hare's-tail cotton-grass growing in dense tussocks with a mix of heather, crossed-leaved heath, deergrass, round-leaved sundew, bog asphodel and bog forming mosses such as acute-leaved bog moss, soft bog moss and flat-topped bog moss. The peat is deep here (>50 cm) and often deeper than 1 m.
- **E1.7 Wet Modified Bog**: Stands of this habitat occur within the forestry plantation in the south of the Site. Here blanket bog has been degraded (likely by grazing, draining and forestry activities) and purple moorgrass has become overwhelmingly dominant. Bog-mosses and other bog indicator species are scarce or absent.
- **E2.1 Acid Flush/Spring**: Acid flushes dominated by sedges and rushes are noted in the centre of the Site (see TN9 and TN10 in **Annex B**). Star sedge and bulbous rush are dominant along with species of bog-moss, common butterwort, great sundew, bog asphodel, and eyebright species.
- **G1.4 Dystrophic Standing Water**: There are two artificially created waterbodies in the north east of the Site which have heavily peat-stained water (also see **TN6** in **Annex 2**).
- **G2.4 Dystrophic Running Water**: The Allt Mòr and four other smaller waterbodies cut through the Site. These are peat-stained, running over beds of cobbles, pebbles and gravel. The banks are influenced by the heath and bog habitats through which the watercourses run. For individual descriptions see target notes detailed in **Annex 2**.
- **J3.6 Built-Up Area**: There is a residential property and surrounding land on the north east edge of the Site.

NVC Communities

3.2.4 The surveys recorded the following NVC communities at the Site:

Dry Heath

H10 Calluna vulgaris - Erica cinerea heath

3.2.5 This common heather dominated community is found in the north east of the Site, in a mosaic with bracken and acid flush on steep slopes surrounding a watercourse, and also in a mosaic with U4 acid grassland and W23 gorse scrub. The soil (peat) in these locations is thin and the community appears to be subject to grazing.

3.2.6 H12a Calluna vulgaris – Vaccinium myrtillus heath, Calluna vulgaris sub-community

3.2.7 This community is relatively limited in its extent, being restricted to sloping ground, mostly along river and stream banks where the peat is very shallow and well drained. Grazing is light, mostly from deer and occasional sheep. This community is often found in a mosaic with adjacent bracken and acid grassland communities, but also sometimes in a mosaic with wet heath and/or blanket bog. The community is heavily dominated by dense heather around 30 – 40 cm tall, with some bell heather and occasional bog myrtle. Green-ribbed sedge is frequent and there are common heathland mosses such as red-stemmed feather-moss, heath plait-moss and glittering wood moss. The overwhelming dominance of heather is typical of the H12a subcommunity here, forming a dry heath on well drained areas with shallow peat.

3.2.8 See photographs in **Annex 4**.

Wet Heath

M15b Tricophorum germanicum – Erica tetralix wet heath, typical sub-community

3.2.9 This is a very extensive community, taking up much of the open ground. In the centre of the Site it is relatively continuous in its distribution but on the high ground to the south it forms a complex mosaic with the M19a blanket bog community (described below), where the two communities appear to be evenly represented. The community is found on shallow peat (5 – 40 cm deep) and seems to be exposed to some moderate intensity grazing from deer and sheep. It is largely dominated by deergrass, cross-leaved heath and non-tussock forming purple moorgrass, with a variety of herbs and mosses, including tormentil, bog asphodel, woolly fringe-moss and reindeer lichen. It also forms mosaics with U4 and U6 grassland in the north of the Site and transitions with adjacent M19a and M17a communities.

3.2.10 See photographs in **Annex 4**.

Mires

M1 Sphagnum auriculatum bog pool community

3.2.11 In the north-eastern corner of the site, one stand of blanket bog contains an extensive pool system, which appears to relate to an M1 bog pool community. However, although cow-horn bog-moss is present in some quantity (alongside papillose bog-moss), much of the pool system and its immediate edges appear largely devoid of bog-moss. Bog pondweed is abundant in the pools and the pool fringes contain bulbous rush, abundant sundews, bog asphodel, bog myrtle and several sedge species including star sedge and common sedge.

3.2.12 See photograph in **Annex 4** and **Table A5.1** in **Annex 5**.

M2 Sphagnum cuspidatum bog pool

3.2.13 This community is found amongst areas of M17a where the peat is over 50 cm deep. The emergent vegetation is dominated by feathery bog-moss, bog pondweed and bog myrtle. The edges have a variety of other bog mosses plus bulbous rush, soft rush, cotton grass species and sundew species.

3.2.14 See **TN11** in **Annex 2** and photographs in **Annex 4**.

M6 Carex echinata – Sphagnum fallax flush

3.2.15 This community is found in a few small areas in the centre of the Site in very wet flushes on shallow peat and comprises a mix of sedges, but predominantly star sedge with bulbous rush, common butterwort and great sundew. See **TN9** and **TN10** in **Annex 2** and photographs in **Annex 4**.

3.2.16 A soft rush dominated form of this community (M6c *Juncus effusus* sub-community) occurs in the south of the Site along watercourses and in clearings between the planted forestry blocks.

M17a Tricophorum germanicum – Eriophorum vaginatum mire, Drosera rotundifolia – Sphagnum species sub-community

3.2.17 This community is restricted to small pockets within the extensive areas of M15b wet heath where the peat becomes deeper on flat to very gently sloping ground. It is exposed to a similar level of moderate grazing. The community is relatively wet, and the occurrence of more hare's-tail cotton grass tussocks is apparent compared with the adjacent M15b. Deergrass remains abundance however as does cross-leaved heath, but a greater variety of Sphagnum mosses becomes apparent, including magellanic bog-moss and round-leaved sundew and great sundew are common. The presence of a good range of bog-mosses, and two species of sundew, along with abundant hare's-tail cotton grass with higher levels of cover in places are representative of this subcommunity which is typical of wetter ground.

M19a Calluna vulgaris – Eriophorum vaginatum mire, Erica tetralix sub-community

3.2.18 This community is limited to a small number of forest rides and the high ground in the southern half of the Site. On the high ground it forms a mosaic with adjacent M15b communities where the peat becomes shallower. M19a however is present on deep peat and grazing is limited to deer and does not appear to be extensive. The bog surface is damp but not overly wet, compared to the M17a. The vegetation community is dominated by a fairly even split of common heather and hare's-tail cotton grass but is relatively limited in diversity to a small number of hypnoid mosses, some acute-leaved bog-moss, cross-leaved heath and bog asphodel. Some areas on the higher ground comprise crowberry.

3.2.19 See photographs in **Annex 4**.

M20 Eriophorum vaginatum mire

3.2.20 This community is found as a ground layer through the rides within the conifer plantations in the southern half of the site. It represents an impoverished form of M19a blanket bog where most of the common heather and other sub-shrubs have been lost, leaving large tussocks of hare's-tail cottongrass as the community dominant. Acute-leaved, blunt-leaved and flat-topped bog-mosses are abundant, and other plants include cross-leaved heath, bog asphodel, wavy hairgrass and common haircap, although overall species diversity is low. The ground is notably quite wet and on peat in excess of 1 m, grazing appears light and only from forest deer.

M25 Molinia caerulea - Potentilla erecta mire

3.2.21 This community occurs only as small stands within the areas of commercial forestry in the south of the Site. Generally, these are species-poor areas containing only purple moorgrass and tormentil in any notable quantity, despite the deep, moist to wet peat that these areas occur on. Some bog-mosses are present but in a reduced abundance when compared with typical bog vegetation.

Marshy Grassland

M23 Juncus effusus/acutiflorus – Galium palustre rush pasture

3.2.22 This rush dominated community is largely confined to the north of the Site where it forms a complex mosaic with adjacent U4 and U6 grasslands (see below). It occurs in hollows and low points within the topography where water collects or is channelled, giving the soil a damp to moist condition, though rarely is there surface water. The community is found in an area of intense sheep grazing, although the dominating rushes appear to be under little grazing pressure (presumably as they are unpalatable). The M23b *Juncus effusus* sub-community predominates, which is dominated by soft rush, however the M23a *Juncus acutiflorus* sub-community (sharp-flowered rush dominated) also occurs in a mosaic across a large area in the north of the Site. Amongst the tall rush tussocks occur a variety of herbs and grasses such as Yorkshire fog, sweet vernal grass, marsh bedstraw, marsh thistle, marsh willowherb, marsh violet and wavy bittercress.

3.2.23 See photographs in **Annex 4**.

Acid and Neutral Grassland

U4 Festuca ovina – Agrostis capillaris – Galium saxatile grassland

3.2.24 This community is largely found in the northern part of the Site of flat to steep ground, on shallow well drained soils, with higher grazing pressure and forms mosaics with adjacent M23b rush pasture and M15b wet heath communities. In the intensively grazed areas, the vegetation can be cropped very short but in the less intensively grazed areas the grasses can be 20 cm tall or more. The grassland is dominated by a variety of grasses, including sheep's fescue, heath grass, mat grass, sweet vernal grass and common bent with herbs such as heath bedstraw, tormentil, dog violet and common mouse-ear.

3.2.25 See photographs in **Annex 4**.

U6 Juncus squarrosus - Fesuca ovina grassland

3.2.26 This grassland community is largely found in the northern part of the Site in open areas, often forming a mosaic with adjacent U4 grassland and M23b rush pasture communities. It proliferates in areas with some shallow peat and is generally damper and less well drained than where U4 communities prefer. Heath rush is the most abundant species in the community, but grass species such as sweet vernal grass, mat grass, and common bent are also a prominent component of the sward. There is also a high quantity of mosses including common haircap, red-stemmed feather-moss and springy turf-moss, as well as heath wood-rush and heath bedstraw. Grazing intensity is fairly high here also keeping the vegetation fairly short.

U20 Pteridium aquilinum stands

3.2.27 This community is composed of tall, dense stands of bracken. It is found in the central areas of the Site, mostly along the river banks where there is little to no peat and largely occurs in mosaics with adjacent H12 dry heath and U4 grassland. The ground layer of this community is essentially the same as U4 grassland.

MG5 Cynosurus cristatus - Centaurea nigra grassland

3.2.28 This community type is included in a mosaic with acid grassland and rush pasture along the northeast boundary of the Site. In this community there are more species typical of higher nutrient and neutral soils such as crested dog's-tail.

Woodland and Scrub

W4 Betula pubescens – Molinia caerulea woodland

3.2.29 This community is restricted to some steep gullies and larger rides in the centre of the Site and appears more frequently in areas where the soil or peat is relatively shallow and not very wet. The canopy is dominated by downy birch but there is also a mix of other species at lower elevations, mainly rowan, grey willow and sessile oak. The understory is a mix of grasses and rushes with widespread common haircap and blunt-leaved bog-moss in damper areas.

W17 Quercus petraea - Betula pubescens - Dicranum majus woodland

3.2.30 This community also occurs along the steep sided gullies of the watercourses, often in a mosaic with W4 woodland, but is distinguished by a greater presence of sessile oak within the stands. The understorey of this community tends to be composed of mosses and other heathland species.

W23 Ulex europeas – Rubus fruticosus scrub

3.2.31 This community is found in a few small patches on the northern edge of the Site on well drained sloping ground with shallow soil and with adjacent U4 grassland communities. The vegetation is dense and

around 2m tall, little else grows in its understory with the exception of bramble, nettle and in more open parts grassland representative of U4.

3.2.32 See photographs in **Annex 4**.

Peatland Condition Assessment

3.2.33 Figure 6.4**a** (EIA Report Volume 3a) shows a map of the areas on the Site (not including the western and eastern access routes) which are defined as priority peatland. The full peatland condition assessment results are presented in **Table A5.1**, **Annex 5**.

3.2.34 The NVC survey identified two vegetation communities that, based on guidance from NatureScot (2023)[13], can signify priority peatland where impacts have the potential to raise issues of national interest. These were:

- M17a Trichophorum germanicum - Eriophorum vaginatum blanket mire; and
- M19a Calluna vulgaris - Eriophorum vaginatum blanket mire.

3.2.35 It is notable that bog pools were found occurring within the M17a and M19a blanket bog (for locations see **TN11**, **Annex 2,Table A6.1**, **Annex 6** and **Figure 6.4a,** EIA Report Volume 3a). Note however, these bog pools typically have features that are indicative of degradation, with signs of erosion and bare exposed peat identified. For some of the bog pools the water level appears to sit below the surrounding bog surface, suggesting that the pools may be draining the adjacent peatland/bog habitat.

3.2.36 The survey also revealed the presence of a number of haggs, in various stages of revegetation especially in the peatland in the south of the Site (including in close proximity to some of the bog pools), and man-made drains which has acted to dry out the peatland (see **Table A6.1**, **Annex 6** and **Figure 6.4a,** EIA Report Volume 3a, and photographs in **Annex 4**).

3.2.37 The survey also identified three communities that signify priority peatland but where small-scale impacts from development are unlikely to represent issues of national interest (NatureScot, 2023)[13]:

- M17a Trichophorum germanicum - Eriophorum vaginatum blanket mire;
- M20 Eriophorum vaginatum mire; and
- M25 Molinia caerulea - Potentilla erecta mire.

3.2.38 The peatland condition survey assessed these priority peatland communities, splitting them into 44 instances, each assessed separately. From this survey no 'rare features'[16] were found that might indicate near-natural blanket bog where impacts would be of national interest. However, 10 instances of priority peatland were in a good condition and lacking signs of modification or disturbance and so, based on the assessment criteria, qualify as possible national interest. These were six instances of M17a and four instances of M19a blanket bog.

3.2.39 A further six instances (all M15b wet heath) were assessed to be in good condition with few signs of disturbance, but occurred on peat of less than 50 cm deep. These have been flagged as possible national interest as a precautionary basis.

Condition Notes

3.2.40 Whilst some areas of blanket bog were seen to be in good condition, as judged by the assessment criteria, overall blanket bog on the Site showed signs of modification and, in some places, signs of draining.

3.2.41 The sloping and, at times steep, topography has resulted in fragmented mosaics of M15b wet heath occurring on the steeper well-drained slopes with either M19a/M20 or M17a blanket bog on the flatter or more gently sloping areas where peat has been able to accumulate. This means that there are no true areas of extensive blanket bog. Grazing and trampling by sheep, cattle and wild deer is also widespread across the Site which has had a negative effect on bog flora.

3.2.42 Furthermore, much of the blanket bog on the Site are situated in an area of commercial forestry plantation and has been subject to modification/degradation due to activities associated with this land use. In particular, tree seedling invasion and woodland encroachment are prevalent in these areas. Where this is not the case, man-made channels have often been dug that have drained areas of deep, wet peat.

[16] Rare features, as specified by *Guidelines for the Selection of Biological SSSIs* (JNCC, 1994). Blanket bogs showing such features are near-natural and of high quality: i) Abundant *Sphagnum*-rich ridges, ii) *Sphagnum - Betula nana* ridges, ii) *Sphagnum fuscum* or *Sphagnum austinii* hummocks, iv) peat mounds, v) hollows of *Sphagnum* or bare peat, vi) *Rhynchospora fusca*.

Peat hagging and erosion with exposed peat is also apparent, particularly in the peatland habitats in the south of the Site.

3.2.43 As a result of these factors, overall, the peatland habitats on-site have been judged to be in a generally poor condition (none near-natural), with some localised variation.

Western Access Route

3.2.44 Details of the results of the habitat surveys of the western access route and adjacent habitats is provided in **Annex 7** (with results also shown on **Figures 6.2b** and **6.3b** (EIA Report Volume 3a), with respect to the phase 1 habitat survey and NVC, respectively). The survey area along the western access route is predominantly wet heath (D2, and M15b[17]), but with some coniferous plantation (standing, A1.2.2 and clear-fell A4.2) and marshy grassland (B5, and M25a). Less extensive (but present) habitats include blanket bog (E1.6.1, and M17a), bracken (C1, and U20a and U20b), acid grassland (B1.2, and U4b) and running water (G2.3) (the western access route passes over an existing watercourse crossing over the River Einig, which is part of the River Oykel SAC). The Peatland Condition Assessment identified 7.1 ha of drained peatland within the survey area, and a single area of eroded peatland (0.3 ha), with none of the peatland considered near-natural (see **Figure 6.4b** (EIA Report Volume 3a).

3.2.45 NVC communities recorded along the western access route (and which are present along the proposed route and/or to 10 m) which were not recorded in the rest of the Site comprised:

- U4a Festuca ovina-Agrostis capillaris-Galium saxatile grassland, typical sub-community;
- U4b Festuca ovina-Agrostis capillaris-Galium saxatile grassland, Holcus lanatus-Trifolium repens sub-community;
- U20 Pteridium aquilinum-Galium saxatile community, U20a Anthoxanthum odoratum sub-community;
- U20 Pteridium aquilinum-Galium saxatile community, U20b Vaccinium myrtillus sub-community;
- MG10 *Holcus lanatus-Juncus effusus* rush-pasture, typical sub-community;
- M25a Molinia caerulea-Potentilla erecta mire, Erica tetralix sub-community;
- W11 Quercus petraea-Betula pubescens-Oxalis acetosella woodland;
- W11b Quercus petraea-Betula pubescens-Oxalis acetosella woodland, Blechnum spicant sub-community;
- M15a Trichophorum germanicum-Erica tetralix wet heath, Carex panicea sub-community; and
- W17b Quercus petraea-Betula pubescens-Dicranum majus woodland, typical sub-community.

3.2.46 Of these, M25a (like M25 in **Table 4.1**) is on the Scottish Biodiversity List ('blanket bog'), but is drained and is not peatland of possible national interest. W11, W11b and W17b are on the Scottish Biodiversity List as 'upland birchwoods'. M15a is on the Scottish Biodiversity List ('upland heathland') and Annex I habitat ('Northern Atlantic wet heaths with *Erica tetralix*').

Eastern Access Route

3.2.47 Details of the results of the habitat surveys of the eastern access route and adjacent habitats is shown on **Figures 6.2c-d** and **6.3c-d** (EIA Report Volume 3a), with respect to the phase 1 habitat survey and NVC, respectively). The route typically follows an existing forestry track, passing through commercial forestry and clear-fell areas. The only notable habitat which the route passes through and/or adjacent to, is M25. This would be considered as blanket bog (and on the Scottish Biodiversity List) but given it is isolated, and within a block of coniferous plantation it is not considered peatland of possible national interest, nor is the quality of the habitat considered to qualify as Annex I habitat.

4 Summary

4.1.1 **Table 4.1** summarises the vegetation communities identified within the Site (but not the access routes) that have corresponding Habitats Directive (92/43/EEC) Annex 1 Habitat types, SBL priority habitat type, potential GWDTE status in accordance with SEPA guidance (2024)[18] and/or priority peatland status (NatureScot, 2023)[13]. **Table 4.1** should be considered in conjunction with Figure 6.2a and Figure 6.3a (EIA Report Volume 3a).

4.1.2 There are also a number of watercourses and small ponds within the Site, which are likely to be SBL priority habitats.

[17] Note, these codes provided in this paragraph respectively are the Phase 1 Habitat Survey code and NVC Survey code.
[18] SEPA (2024). Guidance on Assessing the Impacts of Developments on Groundwater Dependent Terrestrial Ecosystems. Available online: https://www.sepa.org.uk/media/a1yh0blq/guidance-on-assessing-the-impacts-of-developments-on-groundwater-dependent-terrestrial-ecosystems.docx

Table 4.1 – Summary of Vegetation Communities with Conservation Status or Potential Groundwater Dependence

Phase 1 Habitat	NVC Community	NVC Sub-Community	Annex I Habitat	SBL Priority Habitat	Priority Peatland Status*	Potential Groundwater Dependence**
D1 Dry Dwarf Shrub Heath	H10 *Calluna vulgaris - Erica cinerea* heath		European dry heaths	Upland heathland	-	-
	H12 *Calluna vulgaris – Vaccinium myrtillus* heath	H12a *Calluna vulgaris* sub-community	European dry heaths	Upland heathland	-	-
D2 Wet Dwarf Scrub Heath	M15 *Tricophorum germanicum – Erica tetralix* wet heath	M15b typical sub-community	Northern Atlantic wet heaths with *Erica tetralix*	Upland heathland	Priority peatland communities that are unlikely to raise issues of national interest	Y
E2.1 Acid Flush	M6 *Carex echinata – Sphagnum fallax* flush	M6c *Juncus effusus* sub-community	-	Upland flushes, fens and swamps	-	Y
E1.6.1 Blanket Bog	M1 *Sphagnum denticulatum* bog pool community		Blanket bogs	Blanket bog	Priority peatland communities that should be completely avoided	-
	M2 *Sphagnum cuspidatum* bog pool		Blanket bogs	Blanket bog		-
	M17 *Tricophorum germanicum – Eriophorum vaginatum* mire	M17a *Drosera rotundifolia – Sphagnum* species sub-community	Blanket bogs	Blanket bog	Priority peatland communities where impacts have the potential to raise issues of national interest	-
	M19 *Calluna vulgaris – Eriophorum vaginatum* mire	M19a *Erica tetralix* sub-community	Blanket bogs	Blanket bog		-
	M20 *Eriophorum vaginatum* mire		-	Blanket bog	Priority peatland communities that are unlikely to raise issues of national interest	-
E1.7 Wet Modified Bog	M25 *Molinia caerulea - Potentilla erecta* mire		-	Blanket bog		-
B5 Marshy Grassland	M23 *Juncus effusus/acutiflorus – Galium palustre* rush pasture	M23a *Juncus acutiflorus* sub-community	-	Upland flushes, fens and swamps	-	Y
		M23b *Juncus effusus* sub-community	-	-	-	Y
B1.1 Acid Grassland – unimproved	U6 *Juncus squarrosus - Fesuca ovina* grassland		-	-	-	Y
A1.1.1 Broadleaved Woodland	W4 *Betula pubescens – Molinia caerulea* woodland		-	Upland birchwoods	-	Y
	W17 *Quercus petraea - Betula pubescens - Dicranum majus* woodland		-	Upland birchwoods	-	-
G1.4 Dystrophic Standing Water			-	Ponds	-	-
G2.4 Dystrophic Running Water			-	Rivers	-	-

* As per guidance from NatureScot (2023)[13]. Based on vegetation communities present and further informed by the peatland condition assessment.

** As listed in guidance note from SEPA (2024)[18]. The categorisation of groundwater dependent terrestrial ecosystems is preliminary and is based on vegetation communities present. Confirmed categorisation is based on subsequent formal hydrological assessment.

4.1.3 Information with regards to notable habitats along the access routes is provided in **Section 3.2**.

Annex 1 – Scientific Plant Names

Table A1.1 – Common and Scientific Names of Plants

Common Name	Species Name
Acute-leaved bog-moss	*Sphagnum capillifolium*
Alder	*Alnus glutinosa*
Aspen	*Populus tremula*
Autumn hawkbit	*Scorzoneroides autumnalis*
Bell heather	*Erica cinerea*
Black sedge	*Carex nigra*
Blunt-leaved bog-moss	*Sphagnum palustre*
Bog asphodel	*Narthecium ossifagum*
Bog myrtle	*Vaccininum myrtillus*
Bog pondweed	*Potamogeton polygonifolius*
Bracken	*Pteridium aquilinum*
Bramble	*Rubus fruticosus*
Bulbous rush	*Juncus bulbosus*
Common bent	*Agrostis capillaris*
Common butterwort	*Pinguicula vulgaris*
Common daisy	*Bellis perennis*
Common dog lichen	*Peltigera canina*
Common eyebright	*Euphrasia nemorosa*
Common haircap	*Polytrichum commune*
Common milkwort	*Polygala vulgaris*
Common mouse-ear	*Cerastrium fontanum*
Common speedwell	*Veronica officianalis*
Common yarrow	*Achillea millefolium*
Common yarrow	*Achillea millifoliam*
Compact bog-moss	*Sphagnum compactum*
Compact rush	*Juncus conglomeratus*
Cotton grass	*Eriophorum angustifolium*
Cow-horn bog-moss	*Sphagnum auriculatum*
Creeping bent	*Agrostis stolonifera*
Creeping buttercup	*Ranunculus repens*
Crested dog's-tail	*Cynosurus cristatus*
Crossed-leaved heath	*Erica tetralix*
Crowberry	*Empetrum nigrum*
Deergrass	*Trichophorum germanicum*
Dog violet	*Viola riviniana*
Downy birch	*Betula pubescens*
Eyebright species	*Euphrasia sp.*
Feathery bog-moss	*Sphagnum cuspidatum*
Flat-topped bog-moss	*Sphagnum fallax*
Glittering wood-moss	*Hylocomium slendens*
Goldenrod	*Solidago sp.*
Gorse	*Ulex europaeus*
Great sundew	*Drosera anglica*
Green-ribbed sedge	*Carex binervis*
Grey willow	*Salix cinerea*

Common Name	Species Name
Hairy bitter-cress	*Cardamine hirsuta*
Hard fern	*Blechnum spicant*
Hare's-tail cotton-grass	*Eriophorum vaginatum*
Heath bedstraw	*Galium saxatile*
Heath grass	*Danthonia decumbens*
Heath plait-moss	*Hypnum jutlandicum*
Heath rush	*Juncus squarrossus*
Heath wood-rush	*Luzula multiflora*
Heather	*Calluna vulgaris*
Holly	*Ilex aquifolium*
Lodgepole pine	*Pinus contorta*
Magellanic bog-moss	*Sphagnum magellanicum*
Marsh bedstraw	*Galium palustre*
Marsh thistle	*Cirsium palustre*
Marsh violet	*Viola palustre*
Marsh violet	*Viola palustre*
Marsh willowherb	*Epilobium palustre*
Mat grass	*Nardus stricta*
Nettle	*Urtica dioica*
Papillose bog-moss	*Sphagnum papillosum*
Perennial rye-grass	*Lolium perenne*
Primrose	*Primula vulgaris*
Purple moor-grass	*Molinea caerulea*
Purple spoonwort	*Pleurozia purpurea*
Red-stemmed feather-moss	*Pleurozian schreberi*
Reindeer lichen	*Cladonia portentosa*
Round-leaved sundew	*Drosera rotundifolia*
Rowan	*Sorbus aucuparia*
Scot's pine	*Carex rostrata*
Sessile oak	*Quercus petraea*
Sheep's fescue	*Festuca ovina*
Silver birch	*Betula pendula*
Sitka spruce	*Picea sitchensis*
Soft bog-moss	*Sphagnum tenellum*
Soft rush	*Juncus effusus*
Sphagnum mossesbog-moss	*Sphagnum sp.*
Springy turf-moss	*Rhytidiadelphus squarrossus*
Star sedge	*Carex echinata*
Sweet vernal grass	*Anthoxanthem odoratum*
Tormentil	*Potentilla erecta*
Waved silk-moss	*Plagiothecium undulatum*
Wavy bittercress	*Cardamine flexuosa*
Wavy hair-grass	*Deschampsia flexuosa*
White clover	*Trifolium repens*
Willow species	*Salix sp.*
Wood sage	*Teucrium scorodonia*
Woolly fringe moss	*Racomitrium lanuginosum*
Yorkshire fog	*Holcus lanatus*

Annex 2 – Phase 1 Survey Target Notes

Target Notes presented in **Table A2.1** should be read with reference to **Figure 6.2** (EIA Report Volume 3a) and the photographs presented in **Annex 4**.

Table A2.1 – Phase 1 Habitat Survey Target Notes

Target Note	Grid Reference	Description
1	NH 42092 99512	Burn; Allt Mòr. 1 to 1.5 m wide, up to 0.5 m deep with peat-stained water. Moving steadily without obstructions over a bed of small boulders and pebbles. Banks of soft rush and acid grassland.
2	NH 42161 98130	An example of the semi natural broadleaved woodland on-site, here dominated by downy birch and abundant lichens and liverworts with an understory of grasses, and mosses like common haircap and blunt-leaved bog-moss.
3	NH 42018 98700	Burn; Meòir Leathan. 1 to 2 m wide and <0.25 m deep with peat-stained water flowing steadily downhill over a bed of small boulders, bedrock and pebbles with banks of downy birch woodland, rich in mosses.
4	NH 41104 97735	Burn; Allt a' Phris Mhòir.Small watercourse in large ride, water here very clear and not very peat-stained. Watercourse about 0.5 m wide but up to 0.5 m deep in places flowing slowly as clogged with numerous areas of thick bog-mosses and rushes over a bed of fine gravel and small pebbles.
5	NC 43512 00169	River (Allt Mòr) and semi natural broadleaved woodland; in deep gully in the centre of the Site. The river is around 4m wide and around 0.25 m deep and has steadily flowing peat-stained water, flowing over a bedrock and large boulders with some smaller pebbles and gravel. There are also numerous large and deep pools where the water becomes more still, several fish were noted. The woodland here is also mature and well established with a nice mix of species, though predominately downy birch.
6	NC 43088 00004	Large pond; around 30x40 m in size and over 1 m deep with heavily peat-stained water. An island is in the centre with grey willow and Scot's Pine becoming established, the pond has some sizeable bottle sedge beds and the edges are fringed with rushes and blunt-leaved bog-moss. Invertebrates are numerous in and around the pond including dragonflies. No water vole signs were noted.
7	NC 43819 00727	Confluence of two watercourses and attendant woodland. Small watercourse (Alltan Sgeireach) here only 0.25 m wide and 0.10 m deep, flowing steadily over bedrock and pebbles, water is heavily peat-stained. The larger river is the Allt Mòr.
8	NC 43790 00589	Small burn; Alltan Sgeireach. 0.5 m wide, 0.2 m deep steady flow of peat-stained water over a bed of small boulders and pebbles and banks of heather dominated dry heath.
9	NH 41329 99009	Acid flush dominated with star sedge and bulbous rush with some lesser spearwort, papillose bog-moss and crossed-leaved heath.
10	NH 41584 99543	Larger acid flush; with a nice mix of sedges including star sedge, carnation sedge, with butterwort, great sundew, soft bog-moss, eyebright species, marsh lousewort, great sundew and devil's-bit scabious.
11	NH 41363 99070	Small bog pools in the centre of the Site within a small area of deep peat. Lots of feathery bog-moss, and bog pondweed within the water and bulbous sedge and bog myrtle around the edges.

Annex 3 – NVC Survey Results

Tables **A.3.1, A.3.2,** and **A.3.3** outline DOMIN scales and scores for NVC survey results.

Table A3.1 – Dominance (DOMIN) Scale

Code	Approximate percentage cover in quadrat
10	>90 %
9	75 – 90 %
8	51 – 75 %
7	34 – 50 %
6	26 – 33 %
5	11 – 25 %
4	5 – 10 %
3	<5 %, many individuals
2	<5 %, a few individuals
1	<5 %, one or two individuals

Table A3.2 – NVC Tables

Phase 1 Habitat Type:	**D1 Dry dwarf shrub heath**					
NVC Community:	**H12a *Calluna vulgaris* – *Vaccinium myrtillus* heath, *Calluna vulgaris* sub community**					
Quadrants:	Q1	Q2	Q3	Q4	Q5	
OS grid co-ordinates:	NC 43792 00573	NC 43775 00445	NC 43357 00023	NH 42862 99516	NH 42713 99503	
Indicative peat depth (cm):	10	15	20	15	20	
Vegetation height (cm):	35	40	35	35	40	
Species	**Cover**					**Constancy**
Calluna vulgaris	9	9	9	8	9	5
Carex binervis	3	3	3	5	3	5
Juncus squarrosus	2	-	-	3	-	2
Erica cinerea	-	4	-	4	3	3
Hypnum jutlandicum	5	5	5	5	5	5
Pleurozian schreberi	4	3	4	4	4	5
Hylocomium splendens	4	4	5	7	5	5
Sphagnum capillifolium	-	3	-	-	-	1
Empetrum nigrum	-	3	-	-	-	1
Potentilla erecta	-	2	3	3	-	3
Rhytidiadelphus squarrosus	-	-	3	3	4	3
Vaccininum myrtillus	-	-	2	-	-	1
Sphagnum capillifolium	-	3	-	-	-	1
Erica tetralix				3	-	1
Blechnum spicant	-	-	-	-	3	1
Festuca ovina	-	-		-	3	1
Phase 1 Habitat Type:	**E1.6.1 Blanket bog**					
NVC Community:	**M17a *Trichophorum germanicum* – *Eriophorum vaginatum* blanket mire, *Drosera rotundifolia* – *Sphagnum* species sub-community**					
Quadrants:	Q1	Q2	Q3	Q4	Q5	
OS grid co-ordinates:	NH 41274 98871	NH 42007 99416	NH 42087 99965	NC 44120 00697	NC 44158 00682	
Indicative peat depth (cm):	100+	100+	100+	80	90	
Vegetation height (cm):	20	15	15	15	15	
Species	**Cover**					**Constancy**
Eriophorum vaginatum	6	3	6	4	7	5
Eriophorum angustifolium	4	3	3	4	3	5
Molinia caerulea	3	3	3	3	4	5
Erica tetralix	4	4	4	6	4	5
Calluna vulgaris	4	3	3	3	3	5
Narthecium ossifagum	3	4	3	4	3	5
Drosera rotundifolium	3	3	3	3	-	4
Drosera anglica	3	-	3	3	-	3
Potentilla erecta	3	3	3	3	2	5

Sphagnum papillosum	6	3	3	6	3	5
Sphagnum capillifolium	5	7	4	4	4	5
Sphagnum tenellum	4	3	4	-	3	4
Sphagnum compactum	3	-	-	3	-	2
Tricophorum germanicum	4	5	4	3	6	5
Sphagnum magellanicum	-	4	-	-	-	1
Sphagnum cuspidatum	-	-	4	-	-	1
Cladonia portentosa	-	-	3	3	3	3
Racomitrium lanuginosum	-	-	3	5	3	3
Pleurozia purpurea	-	-	3	-	3	2
Phase 1 Habitat Type:	**E1.6.1 Blanket bog**					
NVC Community:	**M19a *Calluna vulgaris – Eriophorum vaginatum* blanket mire, *Erica tetralix* sub-community**					
Quadrants:	Q1	Q2	Q3	Q4	Q5	
OS grid co-ordinates:	NH 41265 97937	NH 41236 96976	NH 40907 97026	NH 41734 96957	NH 42073 97053	
Indicative peat depth (cm):	100+	100+	100+	80	75	
Vegetation height (cm):	20	25	25	30	30	
Species	**Cover**					**Constancy**
Eriophorum vaginatum	5	7	6	7	7	5
Eriophorum angustifolium	3	3	3	3	3	5
Calluna vulgaris	7	6	6	7	7	5
Narthecium ossifagum	4	3	4	3	3	5
Erica tetralix	3	4	4	3	4	5
Pleurozian schreberi	5	4	3	7	7	5
Sphagnum capillifolium	5	5	6	5	6	5
Tricophorum germanicum	4	3	4	3	4	5
Drosera rotundifolium	3	-	3	-	2	3
Sphagnum tenellum	3	-	3	-	-	2
Cladonia portentosa	3	-	3	3	-	3
Sphagnum papillosum	-	-	3	-	-	1
Hypnum jutlandicum	-	-	-	4	4	2
Hylocomium splendens	-	-	-		3	1
Plagiothecium undulatum	-	-	-		3	1
Phase 1 Habitat Type:	**E1.6.1 Blanket bog**					
NVC Community:	**M20 *Eriophorum vaginatum* blanket mire**					
Quadrants:	Q1	Q2	Q3	Q4	Q5	
OS grid co-ordinates:	NH 41349 97331	NH 41222 97599	NH 41579 97720	NH 42762 98488	NH 43302 98472	
Indicative peat depth (cm):	100+	100+	100+	100+	100+	
Vegetation height (cm):	30	30	35	40	35	
Species	Cover					**Constancy**
Eriophorum vaginatum	8	8	7	7	8	5
Erica tetralix	4	4	5	4	4	5
Polytrichum commune	5	3	4	4	5	5
Calluna vulgaris	3	3	-	-	3	3
Pleurozian schreberi	4	4	4	4	4	5
Shphagnum capillifolium	3	5	4	6	4	5
Hylocomium splendens	3	3	-	4	-	3
Sphagnum palustre	-	5	3	4	3	4
Deschampsia flexuosa	-	-	3	-	3	2
Sphagnum fallax	-	-	-	5	3	2
Narthecium ossifagum	-	-	-	3	3	2
Phase 1 Habitat Type:	**B5 Marshy Grassland**					
NVC Community:	**M23b *Juncus effusus/actuiflorus – Galium palustre* rush pasture, *Juncus effusus* sub-community**					

Quadrants:	Q1	Q2	Q3	Q4	Q5	
OS grid co-ordinates:	NH 40981 98699	NH 42815 99890	NC 43108 00179	NC 43022 00362	NC 42842 00274	
Indicative peat depth (cm):	40	10	100+	15	25	
Vegetation height (cm):	60	60	60	50	60	
Species	**Cover**					**Constancy**
Juncus effusus	8	8	8	7	7	5
Cirsium palustre	3	4	4	3	4	5
Epilobium palustre	3	3	3	3	3	5
Cardamine flexuosa	2	2	3	4	4	5
Rhytidiadelphus squarrosus	5	5	4	4	4	5
Dryopteris dilitata	1	-	-	-	-	1
Pleurozian schreberi	4	4	3	-	-	3
Viola palustre	4	2	3	-	-	3
Carex echinata	3	-	-	-	-	1
Holcus lanatus	3	3	3	3	3	5
Anthoxanthem odoratum	3	3	-	-	-	2
Juncus conglomeratus	3	-	-	-	-	1
Agrostis stolonifera	3	-	-	-	-	1
Galium palustre	-	4	4	4	4	4
Hylocomium splendens	-		4	3	3	3
Trifolium repens	-		3	-	-	1
Ranunculus repens	-		3	3	-	2
Phase 1 Habitat Type:	**B1.1 Acid Grassland – unimproved**					
NVC Community:	**U4 *Festuca ovina – Agrostis capillaris – Galium saxatile* grassland**					
Quadrants:	Q1	Q2	Q3	Q4	Q5	
OS grid co-ordinates:	NH 41546 99357	NH 42602 99918	NC 43164 00268	NC42422 00035	NH 42111 99875	
Indicative peat depth (cm):	10	10	10	10	10	
Vegetation height (cm):	25	15	15	15	20	
Species	**Cover**					**Constancy**
Agrostis capillaris	4	3	3	4	4	5
Festuca ovina	3	2	-	3	4	4
Anthoxanthem odoratum	4	7	4	4	3	5
Holcus lanatus	3	3	-	-	3	3
Nardus stricta	3	-	-	5	5	3
Luzula multiflora	3	-	-	3	3	3
Carex nigra	3	-	-	-	-	1
Galium saxatile	5	3	3	3	4	5
Potentilla erecta	4	2	-	4	4	4
Viola canina	4	3	-	3	-	3
Scorzoneroides autumnalis	3	3	-	-	-	2
Trifolium repens	3	3	4	3	-	4
Rhytidiadelphus squarrosus	4	3	4	5	3	5
Pleurozian schreberi	4	3	-	3	-	3
Hylocomium splendens	3	-	-	-	5	2
Molinia caerulea	3	-	-	3	3	3
Peltigera canina	4	-	-	-	-	1
Ranunculus repens	3	4	4	-	-	3
Cerastium fontanum	3	4	3	3	-	4
Cynosurus cristatus	-	3	4	-	-	2
Lolium perenne	-	3	3	-	-	2
Veronica officianalis	-	-	3	-	-	1
Achillea millifoliam	-	-	3	-	-	1
Bellis perennis	-	-	3	-	-	1
Juncus squarrossus	-	-	-	3	-	1
Polygala vulgaris	-	-	-	3	-	1
Danthonia decumbens	-	-	-	2	-	1

Phase 1 Habitat Type:	**B1.1 Acid Grassland – unimproved**					
NVC Community:	**U6 *Juncus squarrosus - Festuca ovina* grassland**					
Quadrants:	Q1	Q2	Q3	Q4	Q5	
OS grid co-ordinates:	NH 41337 99039	NC 42926 00264	NH 41251 99199	NH 41197 99095	NH 41131 98994	
Indicative peat depth (cm):	15	20	30	10	15	
Vegetation height (cm):	20	20	25	25	25	
Species	**Cover**					**Constancy**
Juncus squarrosus	5	5	6	7	7	5
Anthoxanthem odoratum	3	3	3	4	3	5
Nardus stricta	4	4	4	3	3	5
Galium saxatile	4	3	4	4	4	5
Trifolium repens	3	-	3	3	-	3
Agrostis capillaris	3	3	3	3	3	5
Holcus lanatus	3	-	3	3	3	4
Luzula multiflora	3	3	3	3	3	5
Prunella vulgaris	3	-	-	-	2	2
Cirsium palustre	4	-	3	3	3	4
Peltigera canina	3	-	-	-	3	2
Viola officianalis	4	-	3	3	3	4
Rhytidiadelphus squarrosus	7	-	-	4	5	3
Pleurozian schreberi	5	4	4	4	4	5
Ranunculus repens	3	-	3	-	-	2
Juncus effusus	3	-	-	-	3	2
Epilobium palustre	3	-	-	2	2	3
Ploytrichum commune	-	7	-	-	-	1
Potentilla erecta	-	4	-	-	-	1
Molinia caerulea	-	3	3	-	-	2
Festuca ovina	-	-	3	-	-	1
Euphrasia nemorosa	-	-	3	-	-	1
Scorzoneroides autumnalis	-	-	1	-	1	2
Hylocomium splendens	-	-	5	4	4	3
Cerastium fontanum	-	-	-	2	-	1
Polygala vulgaris	-	-	-	3	-	1

Table A3.3 – NVC Table

Phase 1 Habitat Type:	**D2 Wet Dwarf Shrub Heath**										
NVC Community:	**M15b *Trichophorum germanicum – Erica tetralix* wet heath, typical sub-community.**										
Quadrants:	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	
OS grid co-ordinates:	NH41247 98785	NH 41386 99155	NH 42245 99430	NH 42508 99662	NH 41807 99805	NC 43992 00828	NC 43886 00326	NH 43715 99664	NH 43240 99649	NH 41371 96975	
Indicative peat depth (cm):	35	40	10	30	10	15	10	10	5	10	
Vegetation height (cm):	15	15	15	15	15	15	15	15	15	15	
Species	**Cover**										**Constancy**
Tricophorum germanicum	7	8	5	8	7	7	7	6	5	6	5
Calluna vulgaris	3	3	3	4	4	3	4	5	4	5	5
Erica tetralix	4	3	5	5	4	4	4	5	7	4	5
Juncus squarrossus	3	-	4	-	3	-	4	7	3	3	4
Potentilla erecta	3	-	3	2	3	2	-	-	-	3	3
Eriophorum angustifolium	3	3	3	2	2	3	3	2	3	3	5
Eriophorum vaginatum	4	-	-	-	-	-	3	-	-	-	1
Narthecium ossifagum	3	3	3	3	3	4	4	3	3	3	5
Drosera rotundifolia	3	3	-	-	-	2	-	-	-	-	2
Molinia caerulea	3	3	3	3	3	3	3	3	3	3	5
Sphagnum tenellum	5	5	-	3	-	-	-	-	-	-	2
Sphagnum denticulatum	3	-	-	-	-	3	-	-	-	-	1
Drosera anglica	-	3	-	-	-	2	-	-	-	-	1
Racomitrium lanuginosum	-	4	6	4	5	4	5	3	-	5	4
Pleurozia purpurea	-	3	-	-	-	4	-	-	-	3	2
Vaccininum myrtillus	-	5	-	-	-	-	-	-	-	-	1
Sphagnum capillifolium	-	3	-	4	4	-	-	4	-	4	3
Cladonia portentosa	-	-	4	4	3	3	-	4	4	5	4
Carex panicea	-	-	-	-	-				5	3	1

Annex 4 – Photographs

Table A4.1 – Site Photographs

H12a *Calluna vulgaris* – *Vaccininum myrtillus* heath, *Calluna vulgaris* sub-community	 

M15b *Tricophorum germanicum* – *Erica tetralix* wet heath, typical sub community	 

M19a *Calluna vulgaris – Eriophorum vaginatum* mire, *Erica tetralix* sub community	 

M25 *Molinia caerulea - Potentilla erecta* mire	
M23b *Juncus effusus/acutiflorus – Galium palustre* rush pasture, *Juncus effusus* sub community	

	
U4 *Festuca ovina – Agrostis capillaris – Galium saxatile* grassland, typical sub community	

	
M1 *Sphagnum auriculatum* bog pool community	

M2 *Sphagnum cuspidatum* bog pool	 
M6 *Carex echinata – Sphagnum fallax* flush	

Mosaic of W23 *Ulex europeas – Rubus fruticosus* scrub and U4 *Festuca ovina – Agrostis capillaris – Galium saxatile* grassland	
Artificial drain on-site	

Artificial drain on-site	
Peat haggs at NH 41168 96979 (left) and NH 41134 97794 (right)	 

Annex 5 – Peatland Condition Assessment Full Results

Tables A.5.1 provides the results of the Peatland Condition Assessment. Each area assessed for the peatland condition survey (NVC community and location) and the outcomes of the assessment criteria. Each row represents an individual instance of each NVC community type, either occurring alongside other vegetation in a mosaic or occurring in a monotypic stand as a polygon. Those in bold are those habitats considered to be most likely of possible national interest (have identified features and are on areas of deeper peat; > 50 cm).

Table A5.1 – Results of Peatland Condition Assessment

Area label (m = mosaic, p = polygon)	Location		NVC	Peat depth (cm)	Criteria 1 Raised bog	Criteria 2 Montane bog	Criteria 3 Blanket bog											Assessment result - of possible national interest?
	Easting	Northing			Raised bog present supporting typical bog vegetation	Montane bog present supporting typical bog vegetation	Within a continuous unit of blanket bog (>25ha)	Blanket bog support vegetation capable of peat forming	Few drains / peat cutting	Spp of low disturbance	Natural surface pattern	Absence of tree / scrub invasion	Abundant *Sphag*-rich	*Sphagnum-Betula nana*	*S.fuscum* or *S.austinii*	Peat Mounds	*Rhynchospora fusca*	
M19a Mosaic 1	**240519**	**899440**	**M19a**	**89**	**No**	**No**	**No**	**Yes**	**Yes**	**Yes**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**Possible national interest.**
M15b Mosaic 1	240548	899474	M15b	42	No	No	No	Yes	Yes	Yes	No	No	No	No	No	No	No	Possible national interest (shallow peat).
M15b Mosaic 2	240301	899199	M15b	12	No	No	No	Yes	Yes	No	No	No	No	No	No	No	No	Not a national interest.
M19a Mosaic 2	**240335**	**899162**	**M19a**	**64**	**No**	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**No**	**No**	**No**	**No**	**No**	**No**	**Possible national interest.**
M20 Mosaic 1	240310	898639	M20	87	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Not a national interest.
M19a Mosaic 3	240021	898669	M19a	>250	No	No	No	Yes	No	Yes	No	No	No	No	No	No	No	Not a national interest.
M25 Mosaic 1	240014	898696	M25	64	No	No	No	Yes	No	No	Yes	No	No	No	No	No	No	Not a national interest.
M15b Mosaic 3	239871	898931	M15b	15	No	No	No	Yes	No	No	No	Yes	No	No	No	No	No	Not a national interest.

Area label (m = mosaic, p = polygon)	Location		NVC	Peat depth (cm)	Criteria 1 Raised bog	Criteria 2 Montane bog	Criteria 3 Blanket bog											Assessment result - of possible national interest?
	Easting	Northing			Raised bog present supporting typical bog vegetation	Montane bog present supporting typical bog vegetation	Within a continuous unit of blanket bog (>25ha)	Blanket bog support vegetation capable of peat forming	Few drains / peat cutting	Spp of low disturbance	Natural surface pattern	Absence of tree / scrub invasion	Abundant *Sphag*-rich	*Sphagnum-Betula nana*	*S.fuscum* or *S.austinii*	Peat Mounds	*Rhynchospora fusca*	
M20 Mosaic 2	239801	898821	M20	>250	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Not a national interest.
M19a Mosaic 4	239827	898708	M19a	58	No	No	No	Yes	No	No	No	Yes	No	No	No	No	No	Not a national interest.
M15b Mosaic 4	239581	898261	M15b	23	No	No	No	Yes	No	No	No	Yes	No	No	No	No	No	Not a national interest.
M19a Mosaic 5	**239494**	**898108**	**M19a**	**>250**	**No**	**No**	**No**	**Yes**	**Yes**	**Yes**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**Possible national interest.**
M15b Mosaic 5	243310	898279	M15b	29	No	No	No	Yes	No	Yes	No	No	No	No	No	No	No	Not a national interest.
M20 Mosaic 3	243304	898308	M20	129	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Not a national interest.
M19a Mosaic 6	243291	898211	M19a	146	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Not a national interest.
M20 Mosaic 4	242802	898201	M20	73	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Not a national interest.
M19a Mosaic 7	242770	898008	M19a	139	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Not a national interest.
M20 Mosaic 5	241125	897774	M20	>250	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Not a national interest.
M19a Mosaic 8	241005	897730	M19a	144	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Not a national interest.
M20 Mosaic 6	241296	897526	M20	102	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Not a national interest.

Area label (m = mosaic, p = polygon)	Location		NVC	Peat depth (cm)	Criteria 1 Raised bog	Criteria 2 Montane bog	Criteria 3 Blanket bog											Assessment result - of possible national interest?
	Easting	Northing			Raised bog present supporting typical bog vegetation	Montane bog present supporting typical bog vegetation	Within a continuous unit of blanket bog (>25ha)	Blanket bog support vegetation capable of peat forming	Few drains / peat cutting	Spp of low disturbance	Natural surface pattern	Absence of tree / scrub invasion	Abundant *Sphag*-rich	*Sphagnum-Betula nana*	*S.fuscum* or *S.austinii*	Peat Mounds	*Rhynchospora fusca*	
M15b Mosaic 6	241082	896940	M15b	22	No	No	No	Yes	No	No	No	Yes	No	No	No	No	No	Not a national interest.
M19a Mosaic 9	**241617**	**896911**	**M19a**	**210**	**No**	**No**	**Yes**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**No**	**No**	**No**	**No**	**Possible national interest.**
M20 Mosaic 7	241747	897494	M20	>250	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Not a national interest.
M19a Mosaic 10	241579	897896	M19a	212	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Not a national interest.
M20 Mosaic 8	241346	898408	M20	153	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Not a national interest.
M17a Polygon 1	241252	898879	M17a	133	No	No	No	Yes	No	No	No	Yes	No	No	No	No	No	Not a national interest.
M17a Mosaic 1	**241416**	**898787**	**M17a**	**77**	**No**	**No**	**No**	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**No**	**No**	**No**	**No**	**No**	**Possible national interest.**
M15b Mosaic 7	241479	898769	M15b	26	No	No	No	Yes	Yes	No	No	Yes	No	No	No	No	No	Possible national interest (shallow peat).
M20 Mosaic 9	241796	898954	M20	55	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Not a national interest.
M15b Mosaic 8	242054	899217	M15b	6	No	No	No	Yes	Yes	No	No	No	No	No	No	No	No	Not a national interest.
M19a Mosaic 11	242094	899265	M19a	84	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Not a national interest.

Area label (m = mosaic, p = polygon)	Location		NVC	Peat depth (cm)	Criteria 1 Raised bog	Criteria 2 Montane bog	Criteria 3 Blanket bog										Assessment result - of possible national interest?
	Easting	Northing			Raised bog present supporting typical bog vegetation	Montane bog present supporting typical bog vegetation	Within a continuous unit of blanket bog (>25ha)	Blanket bog support vegetation capable of peat forming	Few drains / peat cutting	Spp of low disturbance	Natural surface pattern	Absence of tree / scrub invasion	Abundant *Sphag*-rich	*Sphagnum-Betula nana*	*S.fuscum* or *S.austinii*	Peat Mounds	*Rhynchospora fusca*	
M17a Polygon 2	**242059**	**899402**	**M17a**	**245**	**No**	**No**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**No**	**No**	**No**	**No**	**Possible national interest.**
M15b Mosaic 9	242482	899436	M15b	12	No	No	No	Yes	Yes	No	No	No	No	No	No	No	No	Not a national interest.
M15b Mosaic 10	242911	899571	M15b	28	No	No	No	Yes	Yes	No	No	Yes	No	No	No	No	No	Possible national interest (shallow peat).
M15b Mosaic 11	243222	899612	M15b	25	No	No	Yes	Yes	Yes	No	No	Yes	No	No	No	No	No	Possible national interest (shallow peat).
M17a Mosaic 2	**243201**	**899806**	**M17a**	**158**	**No**	**No**	**Yes**	**Yes**	**Yes**	**No**	**No**	**Yes**	**No**	**No**	**No**	**No**	**No**	**Possible national interest.**
M15b Mosaic 12	243274	899997	M15b	26	No	No	No	Yes	Yes	No	No	No	No	No	No	No	No	Not a national interest.
M17a Polygon 3	**244123**	**900688**	**M17a**	**66**	**No**	**No**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**No**	**No**	**No**	**No**	**Possible national interest.**
M15b Mosaic 13	243580	900834	M15b	10	No	No	No	Yes	Yes	No	No	Yes	No	No	No	No	No	Possible national interest (shallow peat).
M15b Mosaic 14	243397	900491	M15b	8	No	No	No	No	No	No	No	No	No	No	No	No	No	Not a national interest.
M15b Mosaic 15	242317	900382	M15b	15	No	No	No	Yes	Yes	No	No	Yes	No	No	No	No	No	Possible national interest

Area label (m = mosaic, p = polygon)	Location		NVC	Peat depth (cm)	Criteria 1 Raised bog	Criteria 2 Montane bog	Criteria 3 Blanket bog											Assessment result - of possible national interest?
	Easting	Northing			Raised bog present supporting typical bog vegetation	Montane bog present supporting typical bog vegetation	Within a continuous unit of blanket bog (>25ha)	Blanket bog support vegetation capable of peat forming	Few drains / peat cutting	Spp of low disturbance	Natural surface pattern	Absence of tree / scrub invasion	Abundant *Sphag*-rich	*Sphagnum-Betula nana*	*S.fuscum* or *S.austinii*	Peat Mounds	*Rhynchospora fusca*	
																		(shallow peat).
M17a Polygon 4	**242066**	**899973**	**M17a**	**237**	**No**	**No**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**No**	**No**	**No**	**No**	**Possible national interest.**
M17a Polygon 5	**241612**	**899595**	**M17a**	**>250**	**No**	**No**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**No**	**No**	**No**	**No**	**Possible national interest.**
M25 Polygon 1	241406	899546	M25	>250	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Not a national interest.

Annex 6 – Peatland Condition Assessment Target Notes

Tables A.6.1 provides target notes relevant to the Peatland Condition Assessment. Note, the presence of peat haggs, particularly in the south of the Site were notable. Those haggs identified below are indicative of the haggs present within the peatland on-site.

Table A6.1 – Target Notes Identified During Peatland Condition Assessment

Target Note	Grid Reference	Notes
12	NH 39605 98312	Bog pool
13	NH 40406 99192	Bog pool
14	NH 40512 99441	Bog pool
15	NH 41177 96966	Bog pool
16	NH 41542 96909	Bog pool
17	NH 41662 96943	Bog pool
18	NH 42055 99397	Bog pool
19	NC 44074 00693	Bog pool system
20	NH 41134 97794	Peat hagg
21	NH 41168 96979	Peat hagg
22	NH 41246 98883	Man-made/artificial drain
23	NH 41417 99538	Man-made/artificial drain

Annex 7 – Western Access Route Habitat Survey Results

Coille Beith Wind Farm: Access route (West)

Habitats, vegetation & GWDTE

Status: Final 1.0
Date: 23/05/2025
Prepared by: Dr Andy McMullen
Email: andy@botanaeco.co.uk
Web: www.botanaeco.co.uk

Please note: • This report is designed for viewing on a screen. It can be printed legibly at A4 although formatting is at A3, the scale for printing if full map resolution is required.
• Pressing the 'Alt' + ' ◂ ' keys will return the page view to a followed hyperlink.

Contents

1 Introduction 2
Remit 2
Aim & objectives 2
The site 2
2 Approach 2
Survey boundary & buffers 2
Desk study 2
Survey 2
Assessment 4
Additional background 5
3 Baseline 7
General description 7
Designations 7
Habitats & vegetation 7
4 Assessment 18
Peatland Condition Assessment 18
Deep peat 18
Ecological importance 18
Groundwater dependency 18
Notable species 21
Constraint 21
5 Conclusions 26

Tables

Table 1: Ecological importance categories. 5
Table 2: Statutory designations, their location & qualifying features. 7
Table 3: List of corresponding Phase 1 habitats & National Vegetation Classification plant communities, and mosaics; and their absolute & relative areas. 12
Table 4: Peatland condition areas. 18
Table 5: Assessment of ecological importance. 22
Table 6: Assessment of groundwater dependency. 23

Maps

Map 1: Physical features 6
Map 2: Statutory designations 8
Map 3: Non-statutory designations 9
Map 4: Phase 1 habitats 10
Map 5: 3D Phase 1 habitats 11
Map 6: Notable species 17
Map 7: Peatland Condition Assessment 19
Map 8: Ecological importance 20
Map 9: Guidance groundwater dependency 24
Map 10: Site-specific groundwater dependency 25
Map 11: Habitats & vegetation communities ..... Appendix 2

Appendices

Appendix 1: Target Notes
Appendix 2: Habitat & vegetation map

Cover picture: View south-southeast, up the slope to be accessed.

Summary

This report describes the results of a habitat-focused survey & assessment of the western access route for Coille Beith Wind Farm. The access route entrance is located immediately south of Oykel Bridge, between Bonar Bridge & Lochinver, in Sutherland.

The aim of the report is to describe the habitat baseline & assessment process to identify habitat constraints & opportunities.

The **access route** is 3.3 km long within a 291 ha buffer extending out to to 250 m. It initially leaves the A837 road south of Oykel Bridge. From here, the access route descends, to cross the River Einig, at 40 m altitude. It then zig-zags up a northwest-facing hillslope to meet the Coille Beith Wind Farm site boundary at 320 m altitude.

Habitat areas: Wet heath is the most extensive habitat within the 291 ha buffer. It extends across 91 ha (27 %). Coniferous woodland (standing & recently-felled) & marshy grassland are moderately extensive across around 33 ha (17 %) each. Acid grassland accounts for 12 ha (6 %); blanket bog for 7 ha (4 %); and bracken & running water, 3 ha (2 %) each. Standing water accounts for 2 ha (1 %).

Bluebells are present & protected by Schedule 8 of the Wildlife & Countryside Act 1981.

Locally notable species assemblages are associated with the M15a wet heath, M17a blanket bog & W11 woodland.

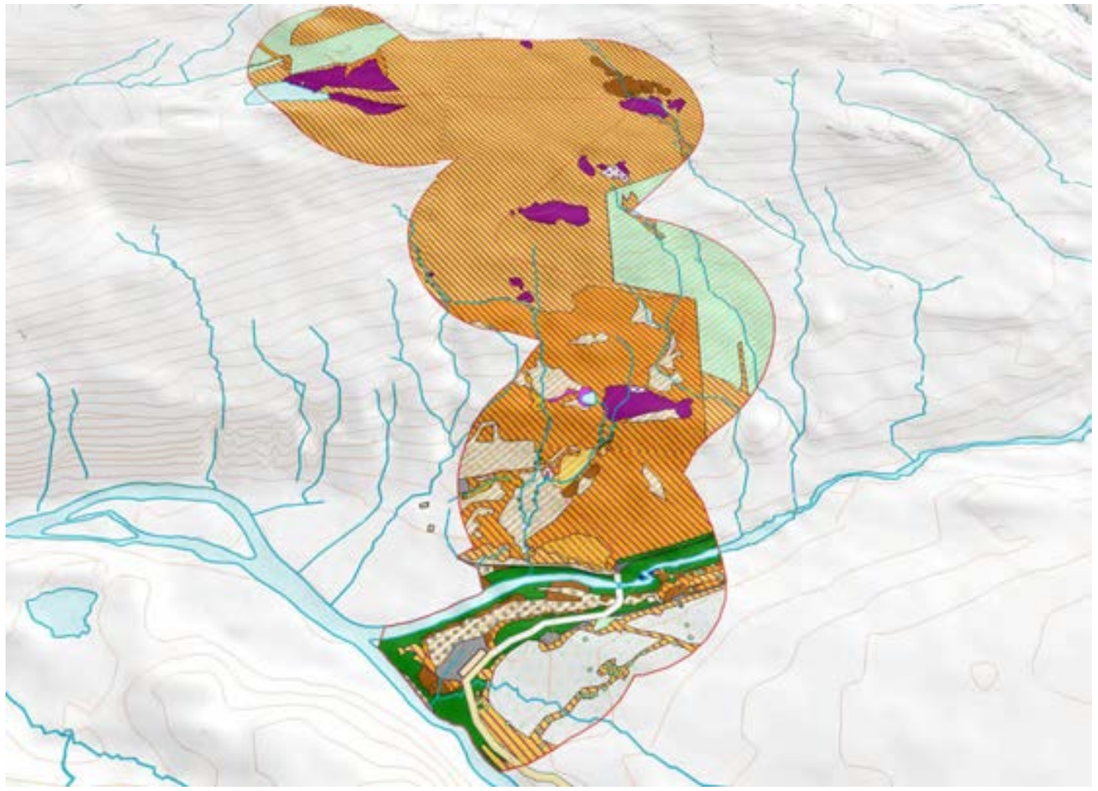
Peatland Condition Assessment identifies 7.1 ha of Drained peatland habitat and a single, minor area (0.3 ha) that is Eroded.

International conservation importance is assigned to the River Einig (as a tributary of the River Oykel Special Area of Conservation). The other habitats are of local conservation imprtance.

GWDTE are present across the lower slopes.

The key **habitat constraints** identified by the survey & assessment are the following:

- Internationally-important River Einig (see Map 2 or Map 8).
- Bluebells that are protected from disturbance, etc. by the Wildlife & Countryside Act (see 'Woodland' assemblage in Map 6).
- Deep peat associated with the M17a blanket bog, M25a wet modified bog & bare peat habitats (see Map 7).
- Groundwater emergence at a spring, and more diffusely among the M25a marshy grassland & a single area of MG10 neutral grassland (see Map 10).



3D representation of the habitats within the access route buffer.

(Yellow & purple stripes = wet heath; orange & purple = marshy grassland; lime green stripes= plantation; purple = bog; green = woodland).

1 Introduction

Remit

1.1 This report describes the results of a habitat-focused survey & assessment of the western access route for Coille Beith Wind Farm. The access route is located immediately south of Oykel Bridge, between Bonar Bridge & Lochinver, in Sutherland.

Aim & objectives

1.2 The aim of the report is to describe the habitat baseline & assessment process to identify habitat constraints & opportunities by meeting the following objectives:

- Phase 1 habitat & National Vegetation Classification survey.
- Assessment of habitat importance & sensitivity, including designations, peat/peatland & Groundwater Dependent Terrestrial Ecosystems (GWDTE).

The site

1.3 The access route is 3.3 km long within a 291 ha buffer extending out to to 250 m. It initially leaves the A837 road south of Oykel Bridge. From here, the access route descends, to cross the River Einig, at 40 m altitude. It then zig-zags up a northwest-facing hillslope to meet the Coille Beith Wind Farm site boundary at 320 m altitude.

2 Approach

2.1 In preparation of the baseline, a desk-based study of environmental information is undertaken, to identify relevant data (on designations, etc), and then a field-based survey. The resulting, desk study & survey data is then assessed to identify sensitivities in relation to guidance & legislation. Details on the methods & sources are provided in the following sections.

Survey boundary & buffers

2.2 The survey area is defined in Map 1 *et seq*. It includes the site boundary & GWDTE only in a 100 m buffer.

Desk study

2.3 A desk study is undertaken to identify habitat designations, including:

- Sitelink[1] to identify nature conservation designations.
- Carbon & Peatland Map[2] to identify 'Class 1' or 'Class 2' peatland, or Class 5 peat soils.
- Ancient Woodland Inventory[3] to identify native woodlands.

Survey

2.4 There are two elements to the survey: a 'Phase 1' habitat survey and a more detailed 'National Vegetation Classification' (NVC) of vegetation within the habitats. The data from these is mapped & described; and supplemented by field assessment of habitat/vegetation condition & groundwater dependency. The methods are described in the following sections.

Phase 1 habitat survey

2.5 Phase 1 habitat survey is undertaken within the site boundary according to the standard method[4] & guidance[5]. As a 'broad-brush' approach, Phase 1 habitat survey is now somewhat outdated by current legislation & initiatives but it still provides a well-established & useful overview. Furthermore, it includes unvegetated habitats not covered by the more detailed National Vegetation Classification described below. In the Habitats & vegetation baseline (below), the vegetation communities are grouped & described under the heading of the corresponding Phase 1 habitat.

[1] SiteLink data, including mapping & site documentation available at https://sitelink.nature.scot/home. Accessed 09/05/2025.

[2] Carbon & Peatland Map details are available at https://soils.environment.gov.scot/maps/thematic-maps/carbon-and-peatland-2016-map/. Accessed 09/05/2025.

[3] *A guide to understanding the Scottish Ancient Woodland Inventory* is available at https://www.nature.scot/doc/guide-understanding-scottish-ancient-woodland-inventory-awi. Accessed 09/05/2025.

[4] JNCC 2010. *Handbook for phase 1 habitat survey - a technique for environmental audit* and other relevant information available at http://jncc.defra.gov.uk/page-2468. Accessed 09/05/2025.

[5] Chartered Institute of Ecology and Environmental Management 2018. *Guidelines for Ecological Impact Assessment in the UK & Ireland*. Available at https://www.cieem.net/guidance-on-preliminary-ecological-appraisal-gpea-. Accessed 09/05/2025.

National Vegetation Classification

2.6 The National Vegetation Classification (NVC) is more precise than the Phase 1 habitat method; and is necessary for identifying habitats/plant communities of relevance to modern legislation (such as Annex I of the Habitats Directive, or GWDTE of the Water Framework Directive). It is therefore the primary system to which vegetation (& habitat) is related within this report, for the purposes of identification, mapping & description.

2.7 Vegetation is identified, mapped & described according to *British Plant Communities*[6] in accordance with the *NVC Users Handbook*[7]. This involves walking the site on a route determined by topography/viewpoints and the need to sample distinctive areas. Boundaries are mapped onto rectified aerial photographs overlain with contours & other physical features. A single vegetation community, or a mosaic or transition of two or communities, is identified within a boundary, depending upon the scale & patterning of the habitat/vegetation. Where mosaics or transitions are mapped, the percentage cover of each NVC community is stated.

Target notes

2.8 Characteristics of the vegetation in particular locations, and point-features too small to otherwise map, are recorded as 'Target Notes' (in Appendix 1). These notes include a description of the feature/habitat, the coordinates and an illustratory photograph.

Habitat & vegetation description

2.9 In this section, the approach to describing vegetation biodiversity & patterning is described.

Biodiversity: species richness, evenness & distinctiveness

2.10 Biodiversity is defined as the variation in genes, species & interactions in an area. In order to describe the biodiversity of habitats & vegetation, the following measures are used on a three-point scale (high, medium/moderate & low):

- Species richness (or α diversity) is a measure of the number of species
- Evenness (or β diversity) is a measure of how equally the species are distributed.
- Distinctiveness (or γ diversity) is a measure of how much the habitat contributes to biodiversity.

2.11 Species richness relates the number of species and by inference: the number of genes & interactions. Evenness relates how many of the interactions are dominated by small number of species, or a single species, and is often indicative of habitat condition, for example: invasive species (e.g. bracken) create 'uneven' vegetation because of their exclusive dominance. Some habitats are naturally species poor but these are usually distinctive, such as reedbeds, that are dominated by a single grass but are rare in the landscape, and they host notable species. As such, distinctiveness is broadly a measure of naturalness &/or rarity.

2.12 Use of species richness, evenness & distinctiveness as measures of habitat/vegetation biodiversity therefore aids appraisal of habitat/vegetation composition, condition & ecological importance.

Mosaics, transitions & admixtures

2.13 Distinction is made between mosaics & transitions in the mapping & assessment. Mosaics are mapped where two or more habitats or NVC communities are juxtaposed as discrete areas at a scale below the resolution of the mapping (≈1:10,000). For example: acid grassland over water-shedding mounds, among marshy grassland in waterlogged depressions.

2.14 Transitions represent dynamic situations where established habitat(s) &/or NVC communities are being displaced by others. For example: bracken or purple moor-grass invading into grassland or blanket bog. In these transitions, the habitats/communities are blended together, with the invasive species/community diffusely scattered throughout in a distribution that cannot be mapped at an operable scale.

2.15 Very minor areas of one habitat within another, such as small flushes within blanket bog, are considered as admixtures to the dominant type. To maintain the clarity of the mapping, etc., these admixtures are included within the dominant habitat (and not defined as mosaics) because the admixture is usually less than 2 % of the total area. However, their presence & cover is indicated in the labelling of Map 4 & Map 11.

Scale

2.16 Survey is undertaken at a scale of around 1:5,000 to 1:8,000 and the habitat mapping is rendered at a scale of around 1:5,000 on small sites (<100 ha) or around 1:10:000 to 1:1:12,500 on larger sites (as specified on the maps). Small features (less than 2 m to 5 m) are not mapped, or are recorded as points or lines; and/or as Target notes, if they are ecologically significant (e.g. springs, dykes or animal burrows).

Quantification of species abundance

2.17 Plant species abundance within habitats/vegetation is semi-quantified using the DAFOR scale. This scale broadly relates abundance/cover as follows:

- **D**ominant: >51 % cover
- **A**bundant: 30 % to 50 % cover
- **F**requent: 15 % to 30 % cover
- **O**ccasional: 5 % to 15 % cover
- **R**are: <5 % cover.

[6] Rodwell, J.S. 1991-2000. *British plant communities*. 5 Volumes. Cambridge University Press.

[7] Rodwell, J.S. 2006. *NVC Users' Handbook*. Available at http://jncc.defra.gov.uk/page-3724. Accessed 09/05/2025.

Notable species

2.18 Notable species are included in nature conservation designations & listings. The 2016 JNCC spreadsheet of taxa designations[8] defines these species and is the main point of reference in addition to the *Highland Nature Biodiversity Action Plan 2021-2026*[9]. Species are referred to as 'notable' to avoid confusion with the use of 'rare' in the DAFOR scale (see Quantification of species abundance).

Nomenclature

2.19 Standardised vernacular names are used for the vascular plants (ferns, herbs & trees). Scientific names (italicised within the text) are used for the moss, liverwort & lichen species because although vernacular names are now in existence, they are not in general usage. This approach assists discrimination of the plant groups and avoids long, tedious lists of vernacular & scientific names. The standard checklists for the names are employed[10].

Peat depth

2.20 Peat depth is assessed during survey on an *ad hoc* basis, to provide preliminary data on its distribution. The depth is assessed in exposures (such as in drains or eroded faces) or by use of a 1.5 m probe.

Survey accuracy

2.21 Survey accuracy is influenced by a number of factors including the following:

- GPS error.
- Georectification errors in the aerial photography used for base-mapping.
- Gradual transitions between habitats & vegetation that are poorly-defined with a simple line.
- Transitional habitats & vegetation similar to two or more habitats or NVC communities.

2.22 Furthermore, the fit of vegetation to the published NVC communities is often imperfect and the closest approximation is therefore adopted (with explanation in the habitat/vegetation descriptions in the Habitats & vegetation baseline). Surveying in Scotland also has the added limitation that NVC sampling was weighted towards England, so the published descriptions, and even community titles, are not always directly applicable (for example: eponymous species may not be present in Scotland).

Assessment

2.23 Assessment of the baseline is undertaken against local, national & international, legislation & initiatives, to identify priorities for nature conservation & sensitive habitats. The methods described in the following sections have been applied in assessment of the baseline.

Peatland Condition Assessment

2.24 Peatland Condition Assessment[11] is employed in the field to determine the condition of the peatland habitat. This assessment classifies the peatland into four classes:

- Near-Natural
- Modified
- Drained
- Actively Eroding.

2.25 Field-based assessment of a series of key indicators identifies the appropriate class for each area of peatland. These indicators include features such as the *Sphagnum* cover & vegetation condition; evidence of fire frequency & intensity; bare peat; and scrub/tree invasion[12]. Condition indicators relevant to the site are listed in the Peatland Condition Assessment section.

Deep peat

2.26 The peat depth data is used to broadly discriminate shallow peat (<0.5 m deep), shallow deep peat (0.5 m to 1.5 m deep) &/or very deep peat (>1.5 m deep); and its distribution in relation to habitat features.

Ecological importance

2.27 The habitat & species baseline established by the desk study & survey is assessed against the following to identify priorities for protection:

- Peatland & Carbon Map[2]
- Ancient Woodland Inventory[3]
- HIghland Biodiversity Action Plan[9]
- Annex I of the EU Habitats Directive[12]
- Scottish Biodiversity List[13].

[8] JNCC spreadsheet of taxa designations & further information available at: http://jncc.defra.gov.uk/page-3408. Accessed 09/05/2025.

[9] Highland Nature Biodiversity Action Plan 2020-2026. Available at https://www.highlandenvironmentforum.info/wp-content/uploads/2021/07/Highland-Nature-Biodiversity-Action-Plan-2021-2026-_compressed-.pdf. Accessed 09/05/2025.

[10] BSBI *List of British & Irish Vascular Plants & Stoneworts*, for higher plants, available at https://bsbi.org/taxon-lists. For mosses and liverworts, the *Census Catalogue of British and Irish Bryophytes 2021* available at https://www.britishbryologicalsociety.org.uk/publications/census-catalogue/. Accessed 09/05/2025.

[11] NatureScot 2017. *Peatland Condition Assessment*. Available for download from https://www.nature.scot/sites/default/files/2017-10/Guidance-Peatland-Action-Peatland-Condition-Assessment-Guide-A1916874.pdf. Accessed 09/05/2025.

[12] List & descriptions of Habitats Directive Annex I habitats available at http://jncc.defra.gov.uk/Publications/JNCC312/UK_habitat_list.asp. Accessed 09/05/2025.

[13] Further details and download of the Scottish Biodiversity List available at https://www.nature.scot/doc/scottish-biodiversity-list. Accessed 09/05/2025.

2.28 The assessment is undertaken according to the Ecological Impact Assessment guidance[14], which recommends that a level of ecological importance is assigned to features using a geographical context as defined in Table 1.

Table 1: Ecological importance categories.

Importance	Context	Characteristics
International	Europe	• An area of habitat designated as a Ramsar site; Special Area of Conservation &/or Special Protection Area.
National	UK\Scotland	• An area of habitat designated as a Site of Special Scientific Interest. • Habitat area >1% of the national resource.
Regional	Highland	• A vague definition including habitats of more importance than county level but not sufficient for SSSI designation.
County	Sutherland	• County-designated (e.g. Biodiversity Action Plan) habitats. • Habitat area >1% of the county resource. • Semi-natural, ancient woodland >0.25ha in extent.
Local	Site & 2 km buffer	• Habitats that are unique, or of some other significance, in the local area. • Areas of habitat that contribute to the local ecological resource.
Site	Site only	• Common, often anthropogenic habitats, or dominated by invasives.

Notable species

2.29 Mapping of notable species is constrained by the habitat survey method that requires different search patterns & seasons to those required for effective species survey. A key focus is therefore on the identification of species assemblages that can be efficiently identified & protected to highlight & conserve most, if not all, of the species present on a site. It also allows for the protection of less valued species alongside those that are notable.

2.30 Assemblages are usually located on unproductive areas (e.g. crags or waterlogged basins) where they have been able to escape a legacy of management or development. Furthermore, their location is usually predictable in these areas, and amenable to detection during a habitat survey

Groundwater dependent terrestrial ecosystems

2.31 Potential Groundwater Dependent Terrestrial Ecosystems (GWDTE) were identified during the NVC survey according to Confor[15] & SEPA[16] guidance. Location-specific groundwater dependency is assessed because GWDTE are not always groundwater dependent, so their inappropriate consideration can cause unnecessary constraint. Assessment is based on the physical environment (geology, hydrology & topography) of the potential GWDTE as well as their floristics.

Constraints & mitigation

2.32 Habitat-related constraints are identified from the assessment of Ecological importance and appropriate mitigation is broadly defined to reduce the intensity of potential impacts.

Biodiversity enhancement

2.33 Opportunities for biodiversity enhancement are primarily identified in relation to the Peatland Condition Assessment; assessment of ecological importance; and current, legislative priorities.

Additional background

2.34 Additional background on the approaches employed are available on the Botanæco blog at the following links:

General survey

- Using a mobile device on ecological surveys
- Setting up a speedy, mobile GIS using QField
- Habitat survey kit
- Approaches to survey
- Semi-automating vegetation data entry

Habitats & vegetation

- Conserving relict species assemblages
- A way to describe vegetation
- Fitting Phase 1 habitats & NVC communities to their designations.

Peat & peatlands

- Peat depth survey - a modern approach
- Confusion over peat depth & other mire sediment types
- Peatland Condition Assessment.

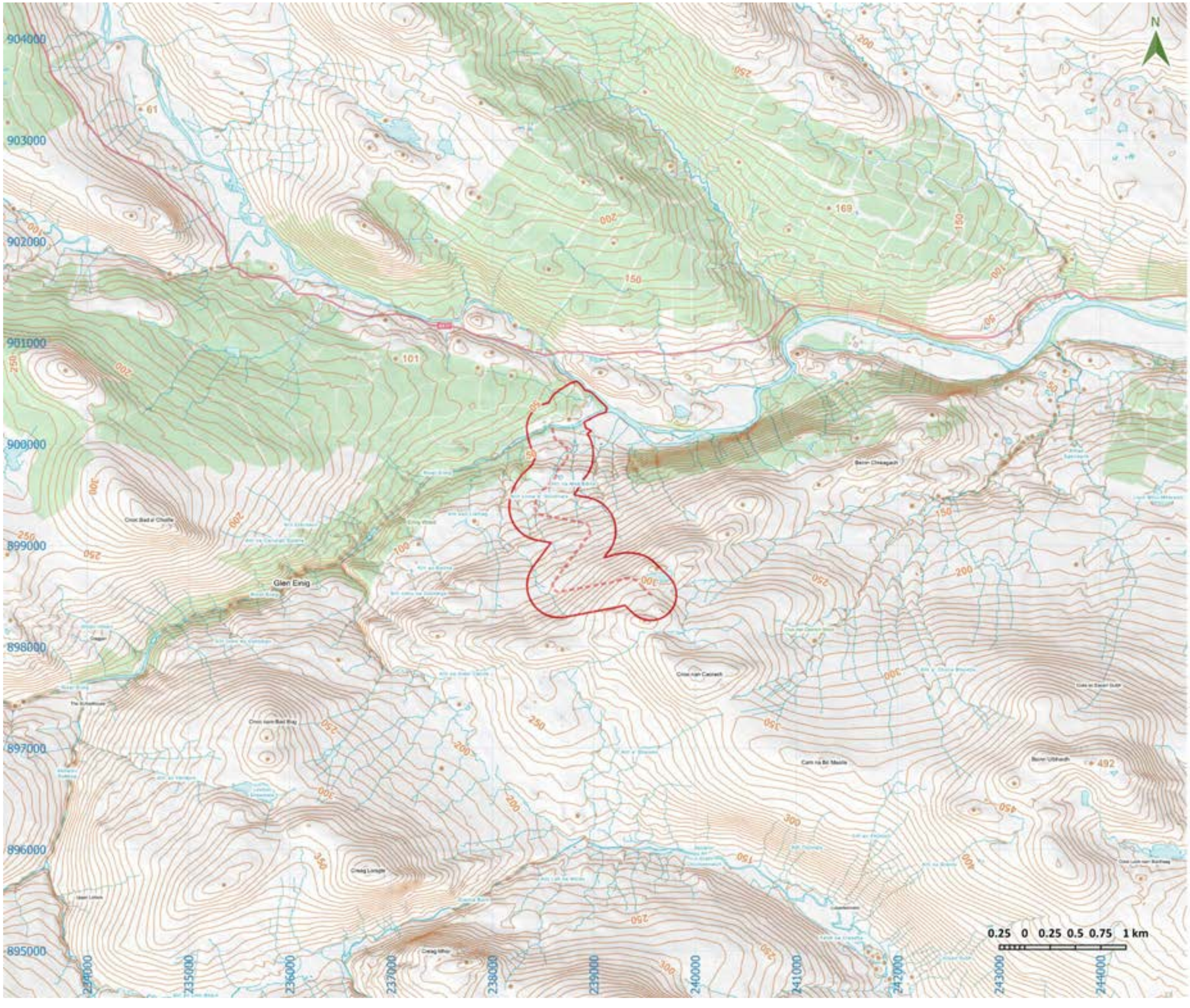
GWDTE

- GWDTE: a field guide
- A contribution to the risk-based assessment of GWDTE
- GWDTE 2: A quick guide to GWDTE
- GWDTE I: Go with the flow on survey.

[14] CIEEM 2018. Guidelines for Ecological Impact Assessment in the UK & Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester. Available at https://cieem.net/resource/guidelines-for-ecological-impact-assessment-ecia/. Accessed 09/05/2025.

[15] Confor 2018. Practice guide for forest managers to assess and protect Groundwater Dependent Terrestrial Ecosystems when preparing woodland creation proposals. Available at https://www.confor.org.uk/media/246950/practice-guide-on-ground-water-dependent-terrestrial-ecosystems.pdf. Accessed 09/05/2025.

[16] Land Use Planning System SEPA Guidance Note 31. Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems. Available at https://www.sepa.org.uk/media/144266/lups-gu31-guidance-on-assessing-the-impacts-of-development-proposals-on-groundwater-abstractions.pdf. Accessed 09/05/2025.



Map 1:
Physical features.

Coille Beith Access (West)

Physical features

Legend

- Access route (West)
- 250 m buffer

Physical features

- Point height (m)
- Contour (10 m)
- Building
- Crags
- A Road
- Minor Road
- Waterbody
- Watercourse
- Woodland

Scale: 1:40,000 at A3

botanæco

Map contains:
• OS data © Crown copyright and database right (2025).

3 Baseline

3.1 In this section, the habitat baseline of the site is described in relation to its general characteristics, designations, habitats, vegetation communities & notable plant species.

General description

3.2 The 3.3 km access route initially passes through woodland backed by conifer plantation & wet heath after leaving the A837 road, at Oykel Bridge - see Map 1. It then crosses the River Einig at 40 m altitude. The river is flanked by broadleaved woodland & wet heath. After the river-crossing, the route zig-zags up a northwest-facing hillslope vegetated with marshy grassland & wet heath, to meet the Coille Beith Wind Farm site boundary at 320 m altitude.

Designations

3.3 In this section, statutory & non-statutory nature conservation designations associated with the site are identified. The distribution of designated habitats & sites is illustrated in Map 2 & Map 3 (note that for clarity, woodland is not illustrated in these and subsequent maps).

Statutory designations

3.4 Statutory nature conservation designations provide a legal basis to the protection of certain sites and their specified features. Their distribution is illustrated in Map 2 & designated features listed in Table 2.

Table 2: Statutory designations, their location & qualifying features.

Site	Designation	Distance & orientation	Qualifying features
River Oykel	SAC	Internal	• Freshwater pearl mussel • Atlantic salmon
Oykel Gorge	SSSI	350 m, south	• Geological features

3.5 Two statutory designations are within 8 km from the access route. The first of these is the River Oykel Special Area of Conservation (**SAC**). This crosses the route because the River Einig is a tributary of the River Oykel. It is designated for the presence of freshwater pearl mussel & Atlantic salmon. The Oykel Gorge is located along the River Oykel and is designated for geological features.

Non-statutory designations

3.6 Non-statutory designations identify areas of natural heritage importance to assist planning & management decisions but they do not have the legal basis of statutory designations. Non-statutory designations within & around the site are illustrated in Map 3, and are described in the following sections.

Carbon & Peatland Map

3.7 The Carbon & Peatland Map[2] predicts that nationally-important, Class 2 peatland is moderately extensive across the access route and its buffer. Class 2 peatland defines "nationally important carbon-rich soils, deep peat and priority peatland habitat" of "potentially high conservation value and restoration potential". Class 5 peat soils are extensive. This class identifies the presence of peat potentially associated with non-peatland vegetation.

Ancient Woodland Inventory

3.8 Ancient Woodland[3] flanks the River Einig and extends across the centre of the access route. Of the two types present, woodland that is 'Ancient (of semi-natural origin)' is the most extensive and there are minor areas classed as 'Long-Established (of plantation origin)'.

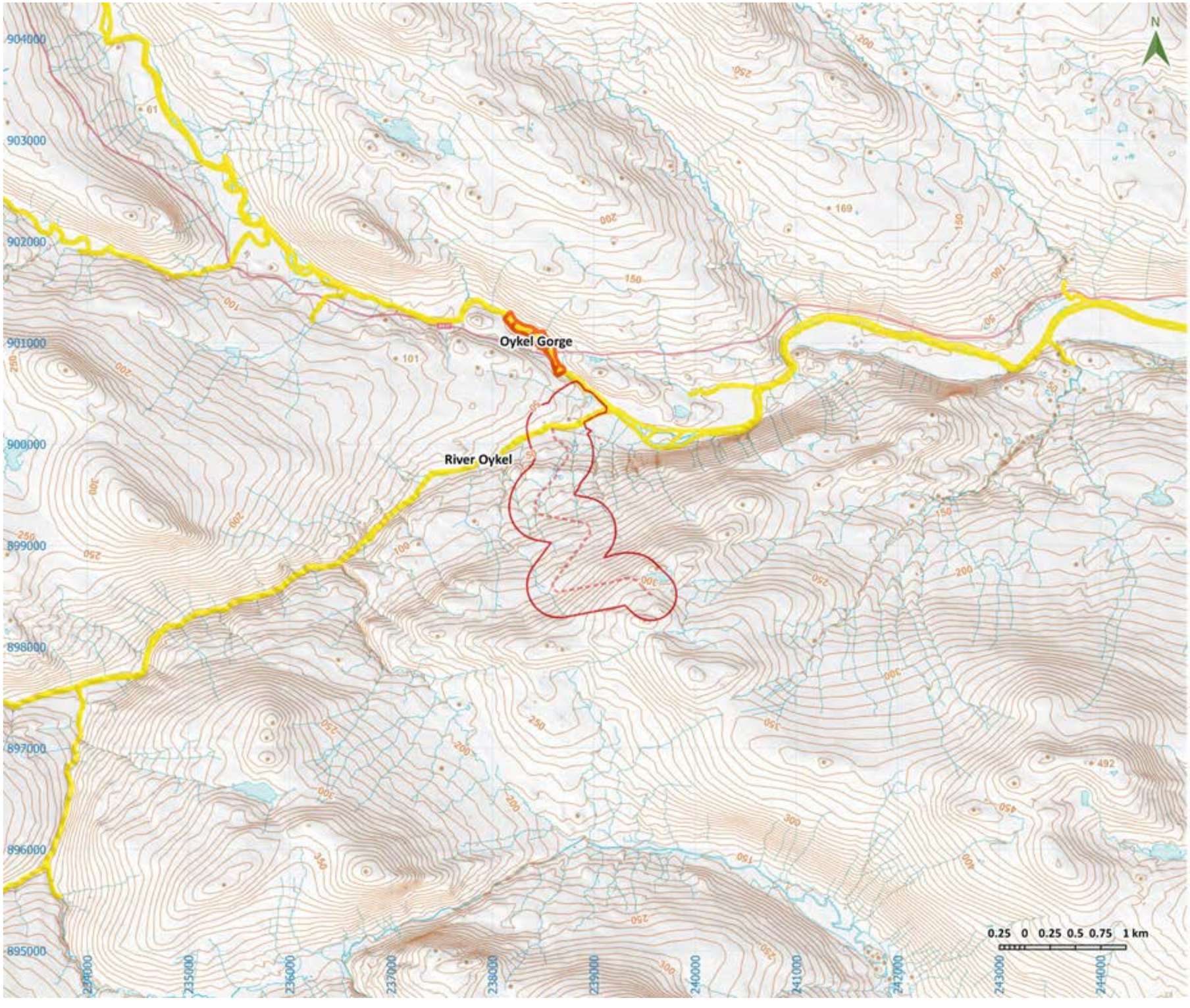
Habitats & vegetation

3.9 The conditions & results of the field survey are described in this section in relation to the ecology & floristics of the habitats & vegetation communities. Statistics on the absolute (ha) & relative (%) habitat & vegetation cover are provided in Table 3. Habitat distribution is illustrated in Map 4 & Map 5 and a large-scale map (Map 11) in Appendix 2. This latter map includes Target Notes and labels for the NVC communities within the habitats. Maps 4 & 5 provide habitat details only.

Survey

3.10 Survey was undertaken on the 19th & 20th of May, 2025, by Dr Andy McMullen, Principal Botanist at Botanæco. Conditions at this time were ideal for survey: bright & sunny, with occasional cloud; & low windspeeds. All parts of the site were accessible, expect for areas of curtilage that included private residences, with garden, and a water treatment works.

Map 2:
Statutory designations.



Coille Beith Access (West)

Statutory designations

Legend

- Access route (West)
- 250 m buffer

Statutory designations

- Special Area of Conservation
- Site of Special Scientific Interest

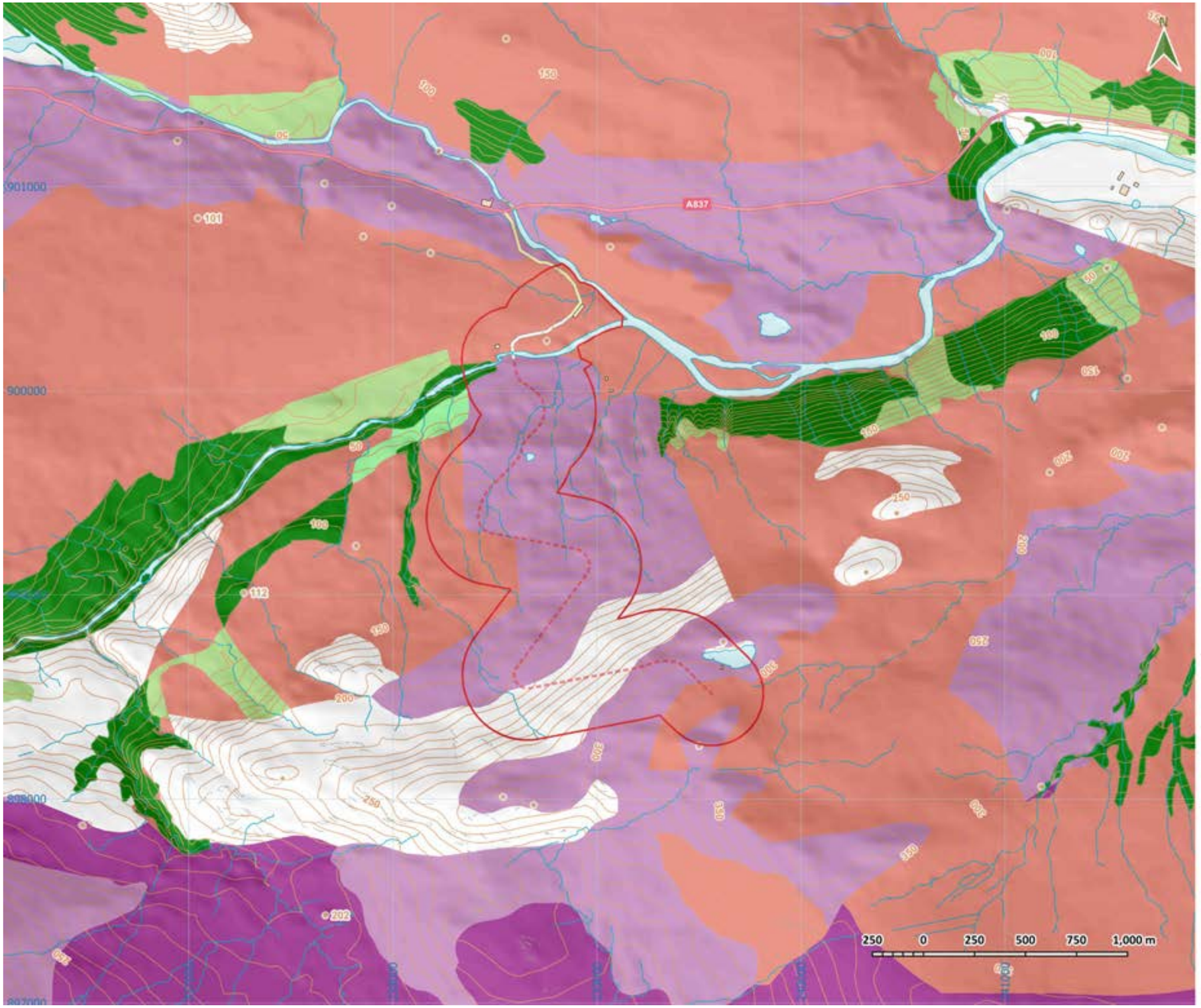
Physical features

- Point height (m)
- Contour (10 m)
- Building
- Crags
- A Road
- Minor Road
- Waterbody
- Watercourse

Scale: 1:40,000 at A3

botanæco

Map 3:
Non-statutory designations.



Coille Beith Access (West)

Non-statutory designations

Legend

- Access route (West)
- 250 m buffer

Non-statutory designations

Carbon & Peatland Map
- Class 1
- Class 2
- Class 5

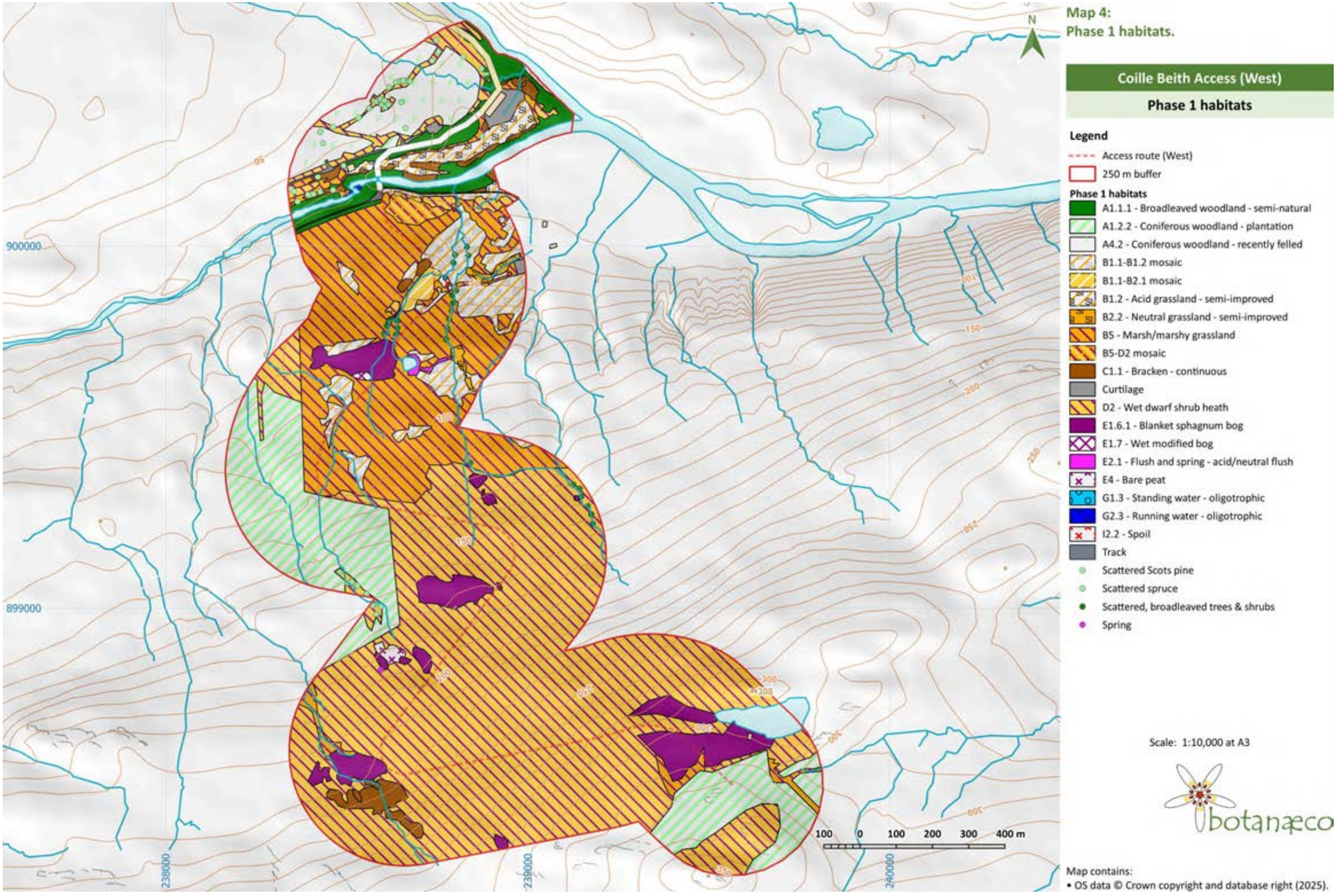
Ancient Woodland Inventory
- Ancient (of semi-natural origin)
- Long-Established (of plantation origin)
- Other (on Roy map)

Physical features
- Point height (m)
- Contour (10 m)
- Building
- Crags
- A Road
- Minor Road
- Waterbody
- Watercourse

Scale: 1:20,000 at A3

botanaeco

Map 4:
Phase 1 habitats.



Coille Beith Access (West)

Phase 1 habitats

Legend

- Access route (West)
- 250 m buffer

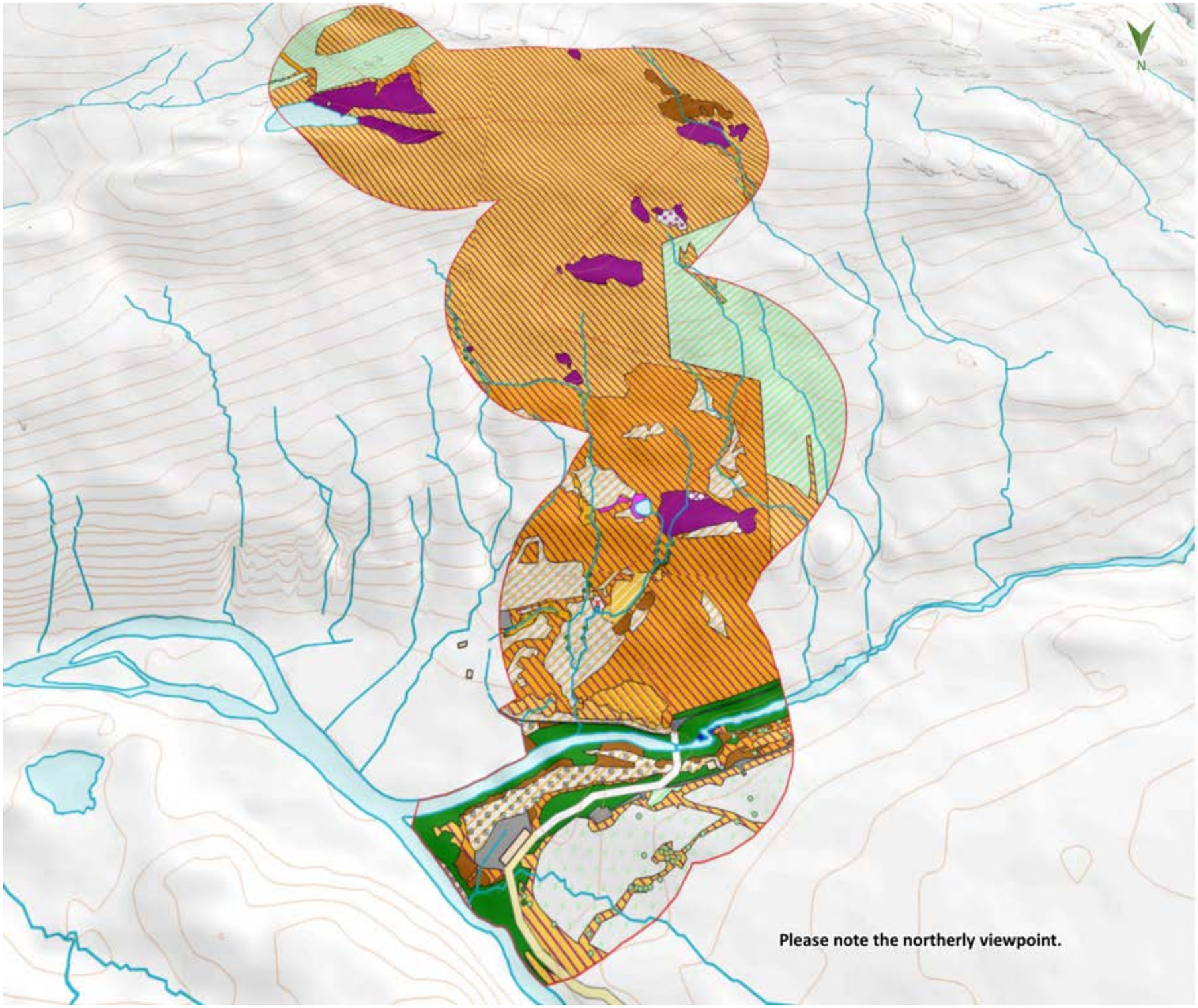
Phase 1 habitats

- A1.1.1 - Broadleaved woodland - semi-natural
- A1.2.2 - Coniferous woodland - plantation
- A4.2 - Coniferous woodland - recently felled
- B1.1-B1.2 mosaic
- B1.1-B2.1 mosaic
- B1.2 - Acid grassland - semi-improved
- B2.2 - Neutral grassland - semi-improved
- B5 - Marsh/marshy grassland
- B5-D2 mosaic
- C1.1 - Bracken - continuous
- Curtilage
- D2 - Wet dwarf shrub heath
- E1.6.1 - Blanket sphagnum bog
- E1.7 - Wet modified bog
- E2.1 - Flush and spring - acid/neutral flush
- E4 - Bare peat
- G1.3 - Standing water - oligotrophic
- G2.3 - Running water - oligotrophic
- I2.2 - Spoil
- Track
- Scattered Scots pine
- Scattered spruce
- Scattered, broadleaved trees & shrubs
- Spring

Scale: 1:10,000 at A3

botanaeco

Map 5:
3D Phase 1 habitats.



Coille Beith Access (West)

3D Phase 1 habitats

Legend

- Access route (West)
- 250 m buffer

Phase 1 habitats

- A1.1.1 - Broadleaved woodland - semi-natural
- A1.2.2 - Coniferous woodland - plantation
- A4.2 - Coniferous woodland - recently felled
- B1.1-B1.2 mosaic
- B1.1-B2.1 mosaic
- B1.2 - Acid grassland - semi-improved
- B2.2 - Neutral grassland - semi-improved
- B5 - Marsh/marshy grassland
- B5-D2 mosaic
- C1.1 - Bracken - continuous
- Curtilage
- D2 - Wet dwarf shrub heath
- E1.6.1 - Blanket sphagnum bog
- E1.7 - Wet modified bog
- E2.1 - Flush and spring - acid/neutral flush
- E4 - Bare peat
- G1.3 - Standing water - oligotrophic
- G2.3 - Running water - oligotrophic
- I2.2 - Spoil
- Track
- Scattered Scots pine
- Scattered spruce
- Scattered, broadleaved trees & shrubs
- Spring

Not to scale.

botanæco

General habitat description

3.11 The initial part of the access route, immediately southeast of Oykel Bridge, is directed through broadleaved woodland, that is backed by wet heath & felled plantation, bracken & semi-improved acid grassland. After crossing the River Einig and a final line of woodland, the access route enters into open habitats, from the foot of the slope leading to the wind farm. Initially, these open habitats are dominated by marshy grassland, to around the 120 m contour, above which, wet heath is extensive. Among the dominant open habitats, there are also minor to moderate extents of acid grassland, blanket bog, bracken & coniferous plantation.

Habitat areas

3.12 Habitat areas are summarily described in this section; and there are more detailed, individual accounts in the following section (Habitat & vegetation descriptions). The areas within the buffer are somewhat meaningless, in the context of a linear access route, but they do provide context.

3.13 Wet heath is the most extensive habitat within the 291 ha buffer. It extends across 91 ha (27 %). Coniferous woodland (standing & recently-felled) & marshy grassland are moderately extensive across around 33 ha (17 %) each. Acid grassland accounts for 12 ha (6 %); blanket bog for 7 ha (4 %); and bracken & running water, 3 ha (2 %) each. Standing water accounts for 2 ha (1 %).

Table 3: List of corresponding Phase 1 habitats & National Vegetation Classification plant communities, and mosaics; and their absolute & relative areas.

Phase 1 habitat code & title	Area		National Vegetation Classification code & title	Area	
	Absolute (ha)	Relative (%)		Absolute (ha)	Relative (%)
A1.1.1 Broadleaved woodland - semi-natural	5.66	2.9	**W11** *Quercus petraea-Betula pubescens-Oxalis acetosella* woodland	0.32	0.2
			W11b *Quercus petraea-Betula pubescens-Oxalis acetosella* woodland, *Blechnum spicant* sub-community	0.72	0.4
			W17b *Quercus petraea-Betula pubescens-Dicranum majus* woodland, typical sub-community	0.33	0.2
			W17b-**W4** mosaic	2.94	1.5
			W4 *Betula pubescens-Molinia caerulea* woodland	1.35	0.7
A1.2.2 Coniferous woodland - plantation	24.03	12.5	n.a.	24.03	12.5
A4.2 Coniferous woodland - recently felled	7.68	4.0	n.a.	7.68	4.0
B1.1-B1.2 mosaic	8.62	4.5	**U4a**-**U4b** mosaic	8.62	4.5
B1.1-B2.1-B5 mosaic	0.64	0.3	**M25a**-**MG10**-**U4a** mosaic	0.64	0.3
B1.2 Acid grassland - semi-improved	2.33	1.2	**U4b** *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland, *Holcus lanatus-Trifolium repens* sub-community	2.33	1.2
B2.1 Neutral grassland - unimproved	0.74	0.4	**MG10** *Holcus lanatus-Juncus effusus* rush-pasture, typical sub-community	0.74	0.4
B5 Marsh/marshy grassland	33.24	17.3	**M25a** *Molinia caerulea-Potentilla erecta* mire, *Erica tetralix* sub-community	33.24	17.3
B5-D2 mosaic	0.85	0.4	**M15a**-**M25a** mosaic	0.85	0.4
C1.1 Bracken - continuous	3.18	1.7	**U20a** *Pteridium aquilinum-Galium saxatile* community, *Anthoxanthum odoratum* sub-community	1.77	0.9
			U20b *Pteridium aquilinum-Galium saxatile* community, *Vaccinium myrtillus* sub-community	1.41	0.7
Curtilage	1.02	0.5	n.a.	1.02	0.5
D2 Wet dwarf shrub heath	90.82	47.3	**M15a** *Trichophorum germanicum-Erica tetralix* wet heath, *Carex panicea* sub-community	0.09	0.0
			M15a-**M15b** mosaic	0.33	0.2
			M15b *Trichophorum germanicum-Erica tetralix* wet heath, typical sub-community	90.4	47.1
E1.6.1 Blanket bog	6.98	3.6	**M17a** *Trichophorum germanicum-Eriophorum vaginatum* blanket mire, *Drosera rotundifolia-Sphagnum* spp. sub-comm.	6.98	3.6
E1.7 Wet modified bog	0.09	0.0	**M25a** *Molinia caerulea-Potentilla erecta* mire, *Erica tetralix* sub-community	0.09	0.0
E4 - Bare peat	0.30	0.2	n.a.	0.3	0.2
G1.3 Standing water - oligotrophic	1.80	0.9	n.a.	1.8	0.9
G2.3 Running water - oligotrophic	3.21	1.7	n.a.	3.21	1.7
I2.2 Spoil	0.11	0.1	n.a.	0.11	0.1
Track	0.80	0.4	n.a.	0.8	0.4
Total areas:	**192.1**	**100.0**	**Total areas:**	**192.1**	**100.0**

3.14 The remaining habitats are limited in extent to less than 1 ha (0.5 %). They include: neutral grassland, curtilage, wet modified bog, flush, bare peat, spoil and hard-surfaced track.

Habitat & vegetation descriptions

3.15 Habitats & their constituent vegetation communities are described in this section in relation to their distribution, floristic composition, ecology, condition & management. Target Notes in Appendix 1 are referenced where applicable.

A1.1.2 Broadleaved woodland - plantation

3.16 Broadleaved plantation has less than 10 % conifer cover and has been deliberately planted with broadleaved tree species. Three NVC communities are present, as described in the following sections. In addition to these, there are clusters of scattered trees alongside minor gorges, further up the site. These are associated with concentrations of woodland relict herbs – see Target Notes 18, 19, 20, 24 & 27.

W11 *Quercus petraea-Betula pubescens-Oxalis acetosella* woodland

3.17 The W11 woodland is used to map linear extents of birch woodland along tracksides that has established into a variety of field layers, including: wet heath & acid grassland. Ruderal vegetation (e.g. rosebay willowherb, in Target Note 11, in Appendix 1) is also associated with these trackside woodlands. In the absence of defining or consistent characteristics, W11 oak-birch-wood-sorrel woodland is mapped to identify the general character of a grassy woodland, albeit with a range of elements.

W11b *Quercus petraea-Betula pubescens-Oxalis acetosella* woodland, *Blechnum spicant* sub-community

3.18 The W11b hard-fern sub-community is distinct for its smooth, green grass sward, below the canopy of dominant birches, with occasional alder & rowan. Alongside the dominant Yorkshire fog, there are abundant bluebells; and frequent to occasional: bracken, broad buckler-fern, herb-robert, *Hylocomium splendens*, *Rhytidiadelphus triquetrus*, scaly male-fern, *Thuidium tamariscinum*, valerian & wood sorrel.

3.19 Although the vegetation is uneven and dominated by a small number of species, it is moderately species-rich and very distinctive for the abundance (if not the number) of woodland species. In spite of this, the age structure & maturity of the trees suggests that the woodland is largely of recent origin. This is also indicated by the absence of Ancient Woodland designation, except on the western edge of the 250 m buffer zone (see Ancient Woodland Inventory section & Map 3). See also Target Note 6, in Appendix 1

W17b *Quercus petraea-Betula pubescens-Dicranum majus* woodland, typical sub-community

3.20 The W17b oak-birch-moss woodland, typical sub-community is associated with secondary woodlands that have established on wet heath. Post establishment, drying of the substrate, and shade from the canopy, has displaced the heather. In its place, blaeberry forms patchy canopy, except where the shade is intense and mosses (*Hylocomium splendens* especially) are abundant instead. Additional, distinctive woodland associates are lacking and this is further indicative of the secondary origins of this woodland.

W4 *Betula pubescens-Molinia caerulea* woodland

3.21 The W4 birch - purple moor-grass woodland is comparable to the W17b woodland described above but the surface remains damp so that purple moor-grass is dominant in the field layer (instead of blaeberry). More distinctive, woodland species are lacking and the low cover & number of associates, of the dominant birch & purple moor-grass, are derived from the preceding, wet heath habitat.

A1.2.2 Coniferous woodland - plantation

3.22 Coniferous plantation has a greater than 30% cover of planted trees of which more than 90 % are conifers.

3.23 Spruce plantation is extensive in the wider area surrounding the buffer, and there are extents of planted Scots pine too. The spruce plantation is at various stages of the harvesting cycle, including extents that have recently been felled. The standing crop mapped within this current habitat type is mature and dense so there is a limited field layer. Otherwise, in clearings, there is a mix of M25a marshy grassland & M15b wet heath types depending upon the level of shade (more that tends to favour the former). The M15b wet heath is also favoured in more open conditions by the absence of grazing within fenced plantation. This fencing prevents loss of grazing-sensitive heather.

A4.2 Coniferous woodland - recently felled

3.24 Although the coniferous plantation has been felled on the edge of the buffer zone, the felling has not been very recent. As a result, regenerating blanket bog, dry heath, wet heath & rush-dominated habitats are patchily extensive among the mouldering brash & stumps. In addition, numerous Sitka spruce, up to a few metres in height, have re-established.

B1.1 Acid grassland – unimproved

3.25 Unimproved acid grassland is usually associated with unenclosed hill-grazing on acid soils. It is generally species-poor and frequently grades into wet or dry dwarf shrub heath.

U4a *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland, typical sub-community

3.26 The U4a sheep's-fescue - common bent - heath bedstraw grassland is located on well-drained slopes & ridges among the more extensive M25a marshy grassland. It has a productive, grassy sward dominated by common bent & Yorkshire fog, with frequent to occasional: *Hylocomium splendens*, *Rhytidiadelphus squarrosus*, sweet vernal grass, tormentil & tufted hair-grass. Minor patches are forb-rich, with the following species frequent: milkwort, mouse-ear-hawkweed, ribwort plantain, sweet vernal grass & tormentil (see Target Note 9 in Appendix 1).

3.27 This species-poor, moderately even & indistinctive grassland is valued as pasture, especially among the less productive marshy grassland & wet heath of Coille Beith. More productive areas dominated by Yorkshire fog & white clover are identified as semi-improved (see next section).

B1.2 Acid grassland - semi-improved

3.28 Agricultural improvement usually results in a decrease in the floristic diversity of the grassland sward and dominance by a few productive grasses. The sward composition therefore relates the intensity &/or time since improvement. Semi-improved grasslands show signs of such improvement but maintain a relative even sward composition, in comparison to fully-improved grassland types.

U4b *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland, *Holcus lanatus-Trifolium repens* sub-community

3.29 Within extents of the U4a acid grassland, there are mesic areas that are more productive with an increased cover of white clover & Yorkshire fog. These areas are identified as the U4b Yorkshire fog - white clover sub-community. The dominance of Yorkshire fog means that the U4b grassland is generally species-poor, uneven & indistinctive but one area, next to the river, is notable for its abundance of bluebells and other woodland relicts, including: frequent to occasional field wood-rush, meadowsweet, pignut & valerian - see Target Note 1 in Appendix 1.

B2.2 Neutral grassland - semi-improved

3.30 Neutral grassland encompasses a wide range of grass-dominated communities occurring on mesic, neutral soils. Unimproved areas are not associated with management (such as fertiliser or re-seeding).

MG10 *Holcus lanatus-Juncus effusus* rush-pasture, typical sub-community

3.31 MG10 Yorkshire fog - soft-rush rush-pasture, typical sub-community is mapped where there are dense, rank stands of soft-rush and accumulations of its litter. These collectively suppress the cover & number of associates so the vegetation is very species-poor, uneven & indistinctive. Only broad-leaved dock, sorrel, tufted hair-grass & Yorkshire fog are sufficiently robust to consistently appear among the rush, infrequently and at a low cover. See also Target Notes 14 & 23 in Appendix 1.

3.32 The MG10a rush-pasture is associated with mesic conditions, in hollows and around the ponds, for example. In addition, one area is associated with low levels of groundwater discharge (see Map 10).

B5 Marsh/marshy grassland

3.33 Marshy grassland is a diverse set of habitats including those dominated by rushes, sedges and tall herbs on substrates where the water table is close to the surface. A single NVC community has been recorded from this habitat

M25a *Molinia caerulea-Potentilla erecta* mire, *Erica tetralix* sub-community

3.34 A fence that cut across the buffer zone, along the 120 m contour, delimits the boundary between M25a purple moor-grass-tormentil mire, cross-leafed heath sub-community that has been grazed, and its less-grazed, wet heath equivalent that extends further up the slope. Soakways through the wet heath habitat are also associated with the M25a marshy grassland. And note that the M25a sub-community is also associated with wet modified bog habitat (see Paragraph 3.55).

3.35 The M25a marshy grassland has a dominant sward of purple moor-grass. Additional species are patchy & inconsistent in their occurrence. They reach their highest cover & number in wet conditions associated with surface water drainage. In these places, bog-mosses are frequent (*Sphagnum fallax* especially with occasional *Sphagnum capillifolium*, *Sphagnum girgensohnii* &/or *Sphagnum palustre*). Otherwise, feather-mosses (*Hylocomium splendens* & *Pleurozium schreberi*); and *Polytrichum commune* are frequent to occasional. Other mire plants are also frequent to occasional, including most consistently: common sedge, cross-leafed heath, heath bedstraw, marsh bedstraw, star sedge & tormentil.

3.36 As a whole, the M25a marshy grassland is species-poor, uneven & indistinctive. It is a form of wet heath that has been highly modified & impacted by grazing and drainage. A few minor areas are somewhat enriched with wetland species in proximity to diffuse groundwater upwellings that have a very low level of discharge (just enough to maintain persistent mesic conditions but with no obvious water movement). These are located & illustrated by Target Notes 5, 8, 10, 12 & 13 in Appendix 1. Otherwise, the marshy grassland is dependent upon precipitation.

C1.1 Bracken – continuous

3.37 Bracken-dominated habitats are readily apparent from the living or collapsed fronds of this fern.

U20 Pteridium aquilinum-Galium saxatile community

3.38 The U20 bracken - heath bedstraw sub-community maps areas of bracken dominance over field layers derived from acid grassland & wet heath, respectively associated with the following sub-communities:

- U20a *Anthoxanthum odoratum* sub-community
- U20b *Vaccinium myrtillus* sub-community.

D2 Wet dwarf shrub heath

3.39 Wet dwarf shrub heath has more than 25% cover of heather and other sub-shrubs. It is distinct from dry heath because purple moor-grass is often abundant and it generally includes some bog-moss(es) &/or other wetland species. Two sub-communities are associated with the habitat.

M15a *Trichophorum germanicum-Erica tetralix* wet heath, *Carex panicea* sub-community

3.40 A single, minor area of M15a deergrass - cross-leafed heath wet heath, carnation sedge sub-community vegetation is located at the foot of the slope and it forms a mosaic in one additional, minor area. In both places, the M15a wet heath appears to receive groundwater that is slightly enriched with bases (calcium especially). The influence of these bases is most apparent in the frequency of carnation sedge, common yellow-sedge & devil's-bit scabious.

3.41 Within the M15a vegetation, there is an even sward of carnation sedge, common bog-cotton, deergrass & close-cropped heather; and frequent to occasional: bog asphodel, *Cladonia* (lichens), common yellow-sedge, cross-leafed heath, devil's-bit scabious, heath milkwort, lousewort, *Sphagnum capillifolium*, *Sphagnum fallax*, *Sphagnum papillosum* & *Sphagnum tenellum*. Groundwater appears to influence this vegetation because of the indicators of slight base-enrichment (common yellow-sedge, carnation sedge & devil's-bit scabious).

3.42 It is possible that this habitat has been derived from blanket bog through peat-cutting because there are steps & level surfaces typical of such activity. This has evidently lowered the vegetation surface towards the influence of groundwater. See also Target Note 3 in Appendix 1.

M15b *Trichophorum germanicum-Erica tetralix* wet heath, typical sub-community

3.43 Across the upper parts of the site, the M15b typical sub-community is extensive. Further down the slope, the wet heath has been converted to M25a marshy grassland through grazing, and loss of the heather canopy especially.

3.44 Throughout the buffer, the composition of the M15b wet heath is very variable, with mixtures of deergrass, heather, purple moor-grass &/or bog-mosses (*Sphagnum capillifolium* & *Sphagnum fallax* especially, as well as more occasional *Sphagnum compactum*, *Sphagnum palustre* & *Sphagnum papillosum*). Hypnaceous mosses (*Hylocomium splendens* & *Pleurozium schreberi*) and occasionally, *Racomitrium lanuginosum*, dominate the moss layer in drier conditions.

3.45 Vascular associates include frequent to occasional blaeberry, deergrass, devil's-bit scabious, hard fern, heath bedstraw, lousewort, mat-grass, sheep's-fescue, tormentil & wavy hair-grass. Bog myrtle is frequent along the line of soakways, that are permanently waterlogged, and usually also associated with a high cover of purple moor-grass. See also Target Note 4 in Appendix 1.

3.46 Grazing & drainage have impacted the wet heath. The former has now lessened so heather is regenerating vigorously. This change may also result in reversion of the extensive marshy grassland to wet heath. Drainage impacts are ongoing although the drains are infilling with vegetation & sediment. However, erosion is active in a few locations.

E1.6.1 Blanket bog

3.47 Blanket bog habitat is distinctive for accumulations of deep peat (>0.5 m) beneath a variable vegetation composition that includes sub-shrubs, sedges, and most importantly: *Sphagnum*. It is dependent upon a precipitation:evaporation balance and/or topography that favours waterlogged conditions. As such, it can extend onto apparently moderately steep slopes in the wettest parts of Britain.

M17a *Trichophorum germanicum-Eriophorum vaginatum* blanket mire, *Drosera rotundifolia-Sphagnum* spp. sub-community

3.48 M17a deergrass - hare's-tail bog-cotton blanket mire, round-leaved sundew - bog-moss sub-community is patchily located on levels & shallow depressions across the slope. It is moderately species-rich, even & distinctive. Common bog-cotton, cross-leafed heath, deer grass, hare's-tail bog-cotton and heather are abundant; and there is occasional to rare: blaeberry, bog asphodel, bog-myrtle, crowberry, great sundew & purple moor-grass forming a low (<0.5 m), open sward over a relatively smooth lawn of mosses (lacking distinct hummocks or pools). The moss layer has a locally, moderately species-rich and relatively even assemblage of *Sphagnum* species including *Sphagnum capillifolium*, *Sphagnum papillosum*; and occasional to rare *Sphagnum cuspidatum*, *Sphagnum denticulatum*, *Sphagnum papillosum*, *Sphagnum subnitens* and *Sphagnum tenellum*. Other bryophytes are frequent and locally dominant. They include: *Aulacomnium palustre*, *Hypnum jutlandicum*, *Hylocomium splendens*, *Pleurozium schreberi*, *Pleurozia purpurea* and *Racomitrium lanuginosum*; and the lichens *Cladonia arbuscula* & *C. uncialis* are locally frequent.

3.49 All of the areas have been drained, to some extent, by artificial & erosion-induced drainage. The acritical drainage especially extends away from the bog areas and into the adjacent heath. However, the M17a bb generally remains wet and in good condition, with extensive areas of bog-moss abundance.

E1.7 Wet modified bog

3.50 Although wet modified bog is usually defined by wet conditions and the absence or low cover of *Sphagnum*, this group of mosses can be frequent to locally abundant.

M25a *Molinia caerulea-Potentilla erecta* mire, *Erica tetralix* sub-community

3.51 A single, minor area is associated with the purple moor-grass - tormentil mire, cross-leafed heath sub-community. It is located next to an area of M17a bog and has presumably been derived from this habitat/vegetation-type.

3.52 The M25a wet modified bog vegetation is dominated almost exclusively by purple moor-grass, and accumulations of its leaf litter, over peat that is around 1.0 m deep. Additional associates are limited to very occasional tormentil & *Hylocomium splendens*.

E4 - Bare peat

3.53 Bare peat is associated with an area of intensive blanket bog erosion. This has resulted in a complex pattern of gullys & baulks. See also Target Note 30 in Appendix 1.

G1.3 Standing water - oligotrophic

3.54 A few ponds are located within the buffer and a larger lochan at the top of the slope. These are variably vegetated and all of them support a range of distinctive invertebrates. See also Target Notes 16, 22 & 33 in Appendix 1.

G2.3 Running water – oligotrophic

3.55 The oligotrophic waters of the Einig Water flow through the buffer and are notable for the presence of freshwater pear-mussel & salmon, for which the site has been designated as a Special Area of Conservation.

I2.2 Spoil

3.56 Spoil is freshly deposited gravel & sand that is not yet vegetated.

Notable flora

3.57 It should be noted that this report is of a habitat & vegetation survey, not a floristic survey focused upon the detection of notable species. Floristic survey requires different search methods, patterns & timings; as well as an appropriate expert for each targeted group (e.g. vascular plants, bryophytes, lichens &/or fungi). However, in the course of habitat & vegetation survey, notable species are detected incidentally. These non-comprehensive records are provided & described in this section and their distribution illustrated in Map 6.

3.58 Bluebells are listed in Schedule 8 of the Wildlife & Countryside Act 1981 which makes it an offence to intentionally pick, uproot or damage their populations, or to possess, transport or sell them. The bluebells are associated with some of the woodland habitat and an area of U4b semi-improved acid grassland. All of these areas are identified as 'Woodland' assemblages in Map 6.

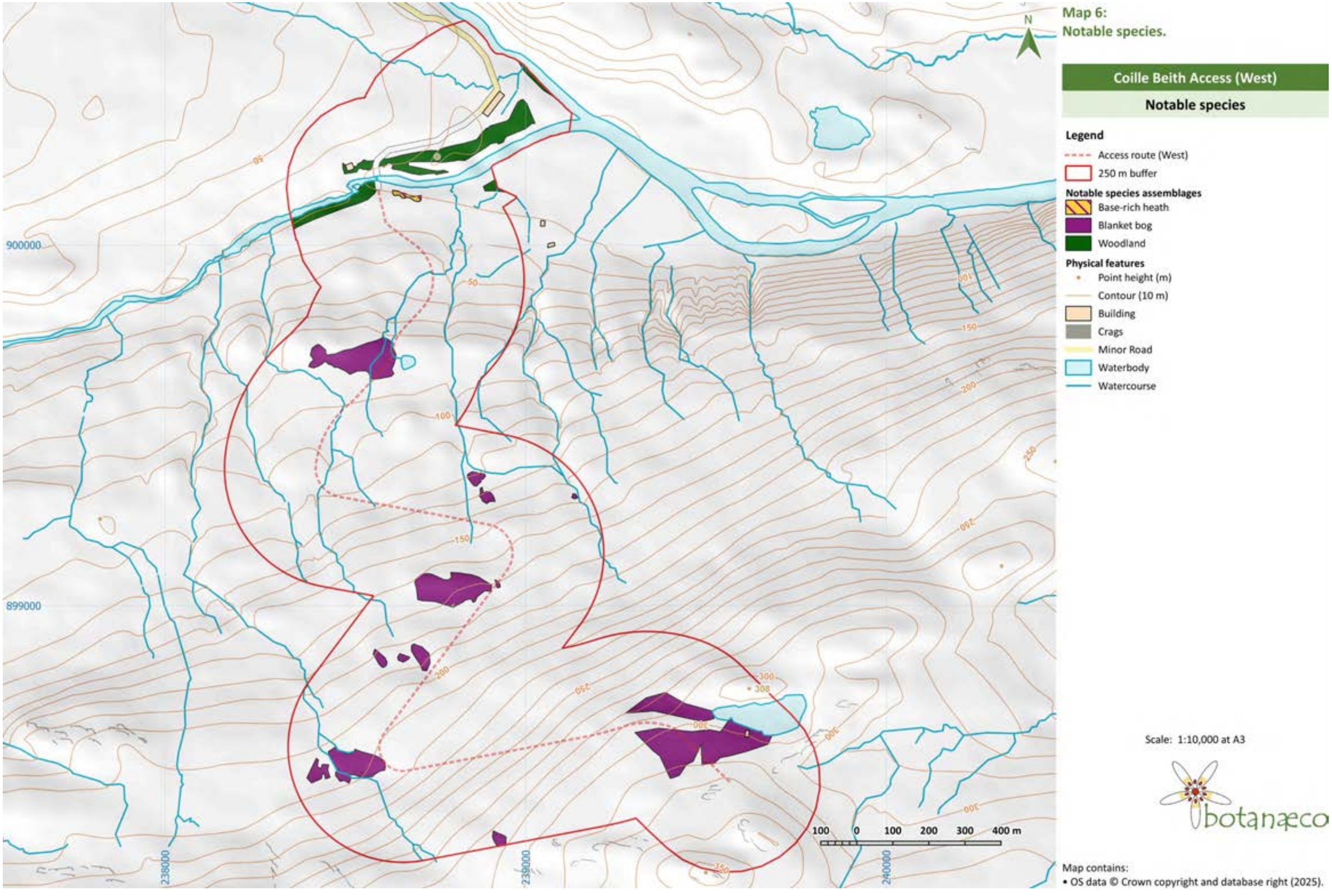
3.59 Aside from the bluebells, no especially notable species were located during the survey, of more than Least Concern in the IUCN Red List[17]. However, distinctive assemblages of species are associated with the:

- M15a wet heath
- M17a blanket bog
- W11 woodland.

3.60 In the M15a wet heath, there are locally distinctive 'calcicole' species such as common yellow-sedge & devil's-bit scabious, and the latter is also important for butterflies. In the M17a blanket bog, there is a typical range of associated species (e.g. bog-mosses) and the same for the Woodland assemblage. However, none of these assemblages includes an especially rich or distinctive assemblage because many of the more sensitive species have presumably been displaced by a legacy of pastora; management.

[17] IUCN Red List details are available at https://www.iucnredlist.org/about/background-history. Accessed 09/05/2025.

Map 6:
Notable species.



Coille Beith Access (West)

Notable species

Legend

- Access route (West)
- 250 m buffer

Notable species assemblages

- Base-rich heath
- Blanket bog
- Woodland

Physical features

- Point height (m)
- Contour (10 m)
- Building
- Crags
- Minor Road
- Waterbody
- Watercourse

Scale: 1:10,000 at A3

botanaeco

4 Assessment

4.1 In this section, the baseline is assessed against legislation, listings &/or initiatives to identify:

- Peatland condition
- Deep peat
- Ecological importance
- Groundwater dependency
- Notable species
- Constraints & mitigation
- Biodiversity enhancements.

Peatland Condition Assessment

4.2 A series of indicators were employed to assess the peatland condition[11]. The following indicators were found to relate to the site:

- Presence of eroded &/or excavated drainage channels.
- Moderate species-richness and evenness of the vegetation.
- Scarcity of notable or sensitive species.
- Scarcity of notable structure (such as pools or hummock-hollow microtopography).

Table 4: Peatland condition areas.

Peatland condition	Total	
	Ha	%
Drained	7.1	4.1
Eroding	0.3	95.9
Totals:	**7.4**	**100.0**

4.3 The results of the Peatland Condition Assessment are illustrated in Map 7 and summarised in Table 5. 7.1 ha (96 %) of the peatland habitat has been drained by erosion & artificial drainage. In spite of this, much of the peatland remains waterlogged, with moderately species-rich & even assemblages; and a high cover of bog-mosses. A single minor area (0.3 ha or 4 %) is extensively hagged, rather than cut through by linear erosion channels.

Deep peat

4.4 Deep peat is associated with all of the areas of blanket bog and the area of bare peat, as indicated in Map 7. It is not especially deep - much of it is under 1.5 m depth (the maximum depth of Botanaeco survey probe). Although peat has been eroded from the bare peat area, baulks of up to around 1.3 m depth persist.

Ecological importance

4.5 The ecological importance of the habitats and their constituent NVC communities is assessed in Table 6 and illustrated in Map 8.

4.6 An international level of conservation importance is assigned to the River Einig as a tributary of the River Oykel Special Area of Conservation. Otherwise, the habitats within the buffer are assessed to be of Local importance. The Local level of conservation importance relates the low to moderate species-richness, evenness & distinctiveness of the habitats; their modification by a legacy of pastoral management that includes drainage; the persistence of semi0-natural; features (e.g. tree & sub-shrub) canopies; and listing in legislation & initiatives (e.g. Biodiversity Action Plans). However, their extent & condition fails to meet targets for higher levels of importance.

4.7 Although conifer plantation is often assessed to be of Site importance, a Local level is assigned within the buffer. This relates the regeneration of bog & wet heath habitats within the recently-felled plantation area and the persistence of open heath habitats within areas of plantation that are still standing. In addition, Scots pine is frequent throughout the plantation and this adds a native element of resource, to woodland species such as red squirrel or crossbills, for example.

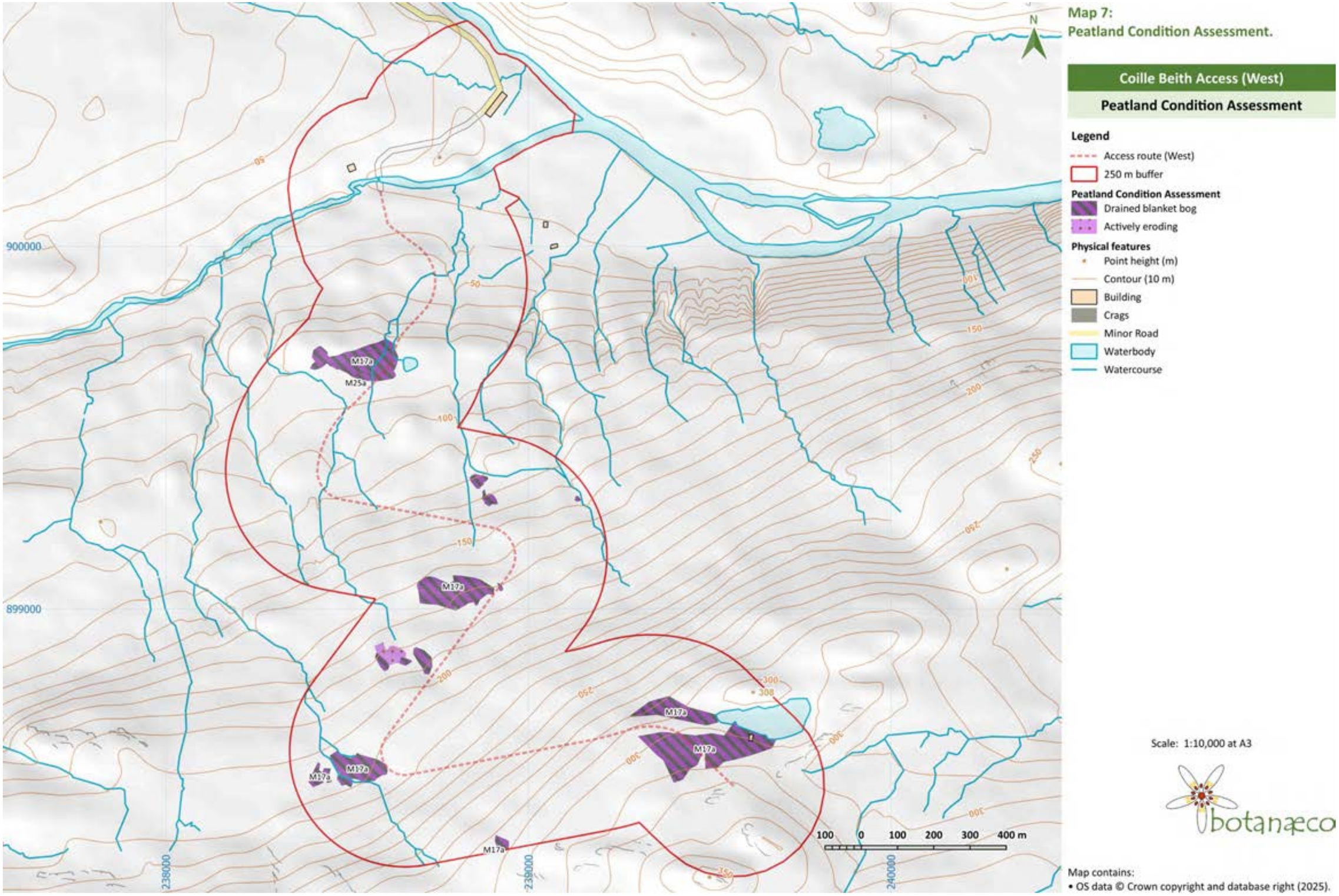
Groundwater dependency

4.8 British Geological Society hydrogeological mapping identifies that the geology underlying the site is the Morar Group[18] of metamorphosised, sedimentary rocks. This group has the character of a "low productivity aquifer" where "flow is virtually all through fractures and other discontinuities", with "small amounts of groundwater in [the] near surface weathered zone and secondary fractures." There is therefore potential for the presence of Groundwater Dependent Terrestrial Ecosystems (GWDTE). GWDTE are assessed in Table 5 and their guidance & site-specific, groundwater-dependency distribution is illustrated in Map 9 & Map 10..

4.9 Groundwater discharge is evident at the sole spring located during the survey, even though it was dry at the time (see Target Note 32 in Appendix 1). The associated aquifer capacity is obviously limited. Groundwater discharge is also evident among the M15a wet heath, and its indicators of base-enrichment (e.g. common yellow-sedge). Less evident groundwater emergence is apparent at a number of diffuse upwellings on the lower flanks of the slope. These are strongly associated with breaks-in-slope - a frequent GWDTE characteristic - and with minor concentrations of wetland species that relate the persistently mesic conditions. The location & characteristics of at least some of these upwellings are illustrated by Target Notes 5, 8, 10, 12 & 13 in Appendix 1.

[18] British Geological Survey 1:625 000 hydrogeology mapping is at https://www.bgs.ac.uk/datasets/hydrogeology-625k/. Accessed 09/05/2025.

Map 7:
Peatland Condition Assessment.



Coille Beith Access (West)

Peatland Condition Assessment

Legend

- Access route (West)
- 250 m buffer

Peatland Condition Assessment

- Drained blanket bog
- Actively eroding

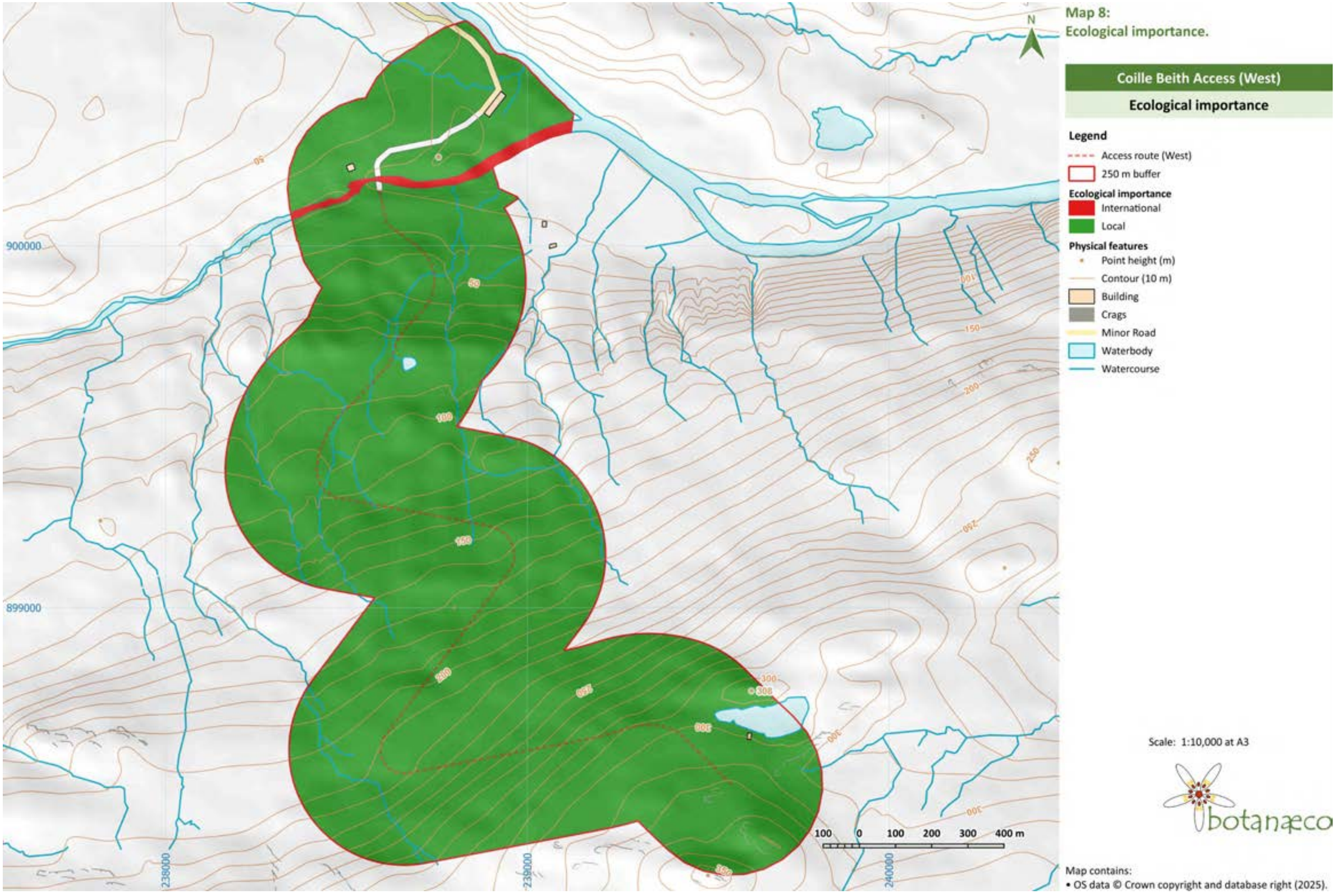
Physical features

- Point height (m)
- Contour (10 m)
- Building
- Crags
- Minor Road
- Waterbody
- Watercourse

Scale: 1:10,000 at A3

botanaeco

Map contains:
• OS data © Crown copyright and database right (2025).



Map 8:
Ecological importance.

Coille Beith Access (West)

Ecological importance

Legend

- Access route (West)
- 250 m buffer

Ecological importance

- International
- Local

Physical features

- Point height (m)
- Contour (10 m)
- Building
- Crags
- Minor Road
- Waterbody
- Watercourse

Scale: 1:10,000 at A3

botanaeco

Map contains:
• OS data © Crown copyright and database right (2025).

4.10 One area of the MG10 neutral grassland leads from a diffuse upwelling and along the line of a drain below. Otherwise, this community is associated with damp, mesic conditions where water collects, such as around the ponds.

4.11 The M15b wet heath is located over mounds & ridges where groundwater emergence is not generally possible, and more extensively, beyond the extent that is normally associated with groundwater. It also lacks the indicators of base-enrichment associated with the M15a wet heath, for example. These observations emphasise the influence of rainwater instead. The same is true for much of the M25a marshy grassland that has been derived from the wet heath by grazing. However, in this, the presence of upwellings relates the localised influence of low levels of groundwater discharge. This habitat is therefore mapped as a mosaic of Moderate groundwater-dependency.

Notable species

4.12 The most notable species within the access buffer is bluebell - a species protected by Schedule 8 of the Wildlife & Countryside Act. Its distribution is illustrated by the 'Woodland' assemblage in Map 6. Otherwise, Map 6 illustrates the location of locally notable, blanket bog & base-enriched wet heath assemblages.

Constraint

4.13 The key habitat constraints identified by the survey & assessment are the following:

- Internationally-important River Einig (see Map 2 or Map 8).
- Bluebells that are protected from disturbance, etc. by the Wildlife & Countryside Act (see 'Woodland' assemblage in Map 6).
- Deep peat associated with the M17a blanket bog, M25a wet modified bog & bare peat habitats (see Map 7).
- Groundwater emergence at a spring, and more diffusely among the M25a marshy grassland & a single area of MG10 neutral grassland (see Map 10).

Table 5: Assessment of ecological importance.

Phase 1 habitat code & title	National Vegetation Classification code & title	Notes	Importance
A1.1.1 Broadleaved woodland - semi-natural	**W11** *Quercus petraea-Betula pubescens-Oxalis acetosella* woodland **W17b** *Quercus petraea-Betula pubescens-Dicranum majus* woodland, typical sub-community **W4** *Betula pubescens-Molinia caerulea* woodland	• Moderate areas of secondary woodland developed on formerly open habitat. • Species-poor, uneven & indistinctive vegetation; and lacking in distinctive woodland features. • Included within the Highland Biodiversity Action Plan, Scottish Biodiversity List & Habitats Directive. • Extent in Highland not known.	Local
	W11b *Quercus petraea-Betula pubescens-Oxalis acetosella* woodland, *Blechnum spicant* sub-community	• Moderate areas of persistent woodland that is moderately species-rich, even & distinctive vegetation; and with a range of distinctive woodland features. • Included within the Highland Biodiversity Action Plan, Scottish Biodiversity List & Habitats Directive. • Extent in Highland not known.	Local
A1.2.2 Coniferous woodland - plantation	n.a.	• Moderately extensive, but very species-poor & uneven habitat dominated by non-native species. • Retains semi-natural vegetation in clearings or where trees have extensively failed. • Habitat area not known in Highland and likely to change regularly.	Local
A4.2 Coniferous woodland - recently felled	n.a.	• Highly disturbed, dynamic, secondary habitat regenerating back to native wet heath & bog, or modified, ruderal or rush-dominated communities. • Not included within the Highland Biodiversity Action Plan, Scottish Biodiversity List or Habitats Directive. • Extent in Highland not known.	Local
B1.1 Acid grassland - unimproved	**U4a** *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland, typical sub-community	• Species-poor, uneven, indistinctive vegetation, with occasional patches of forb-richness. • Secondary habitat derived from heath & other habitats through grazing. • Included within the Highland Biodiversity Action Plan as a target for biodiversity enhancement. • Extent in Highland not known.	Local
B1.2 Acid grassland - semi-improved	**U4b** *Festuca ovina-Agrostis capillaris-Galium* saxatile grassland, *Holcus lanatus-Trifolium repens* sub-community	• Small, mosaic areas of low species-richness, evenness & distinctiveness as a result of pastoral management but with occasional patches of forb-richness. • Included within the Highland Biodiversity Action Plan as a target for biodiversity enhancement. • Extent in Highland not known.	Local
B2.1 Neutral grassland - unimproved	**MG10** *Holcus lanatus-Juncus effusus* rush-pasture	• Small area (<1 ha) of very low species-richness, evenness & distinctiveness. • Not included within the Highland Biodiversity Action Plan, Scottish Biodiversity List or Habitats Directive. • Extent in Highland not known.	Local
B5 Marsh/marshy grassland	**M25a** *Molinia caerulea-Potentilla erecta* mire, *Erica tetralix* sub-community	• Extensive areas of low species-richness, evenness & distinctiveness. • Included within the Scottish Biodiversity List but not the Highland Biodiversity Action Plan or Habitats Directive. • Extent in Highland not known.	Local
C1.1 Bracken - continuous	**U20a** *Pteridium aquilinum-Galium saxatile* community, *Anthoxanthum odoratum* sub-community **U20b** *Pteridium aquilinum-Galium saxatile* community, *Vaccinium myrtillus* sub-community	• Species-poor, uneven & indistinctive vegetation dominated by a single, invasive species. • Not included within the Highland Biodiversity Action Plan, Scottish Biodiversity List or Habitats Directive. • Extent in Highland not known.	Local
D2 Wet dwarf shrub heath	**M15a** *Trichophorum germanicum-Erica tetralix* wet heath, *Carex panicea* sub-community **M15b** *Trichophorum cespitosum-Erica tetralix* wet heath, typical sub-community	• Minor (M15a) or moderately (M15b) extensive habitat. • Low to moderate species-richness, evenness & distinctiveness. M15a distinctive for the presence of base-enrichment indicators. • Included within the Highland Biodiversity Action Plan, Scottish Biodiversity List & Habitats Directive. • Extent in Highland not known.	Local

Phase 1 habitat code & title	National Vegetation Classification code & title	Notes	Importance
E1.6.1 Blanket *Sphagnum* bog	**M17a** *Trichophorum cespitosum-Eriophorum vaginatum* blanket mire, *Drosera rotundifolia-Sphagnum* spp. s-c.	• Moderately extensive habitat. • Low to moderate species-richness, evenness & distinctiveness. • Extensively eroded and influenced by drainage. • Associated with deep peat deposits (>0.5 m). • Included within the Highland Biodiversity Action Plan, Scottish Biodiversity List & Habitats Directive. • Extent of blanket bog in Highland c. 200,000 ha.	Local
E1.7 Wet modified bog	**M25a** *Molinia caerulea-Potentilla erecta* mire, *Erica tetralix* sub-community	• Very small area of habitat (<3 ha). • Very low species-richness, evenness & distinctiveness. • Associated with deep peat deposits (>0.5 m). • Included within the Highland Biodiversity Action Plan, Scottish Biodiversity List & Habitats Directive. • Extent of blanket bog in Highland c. 200,000 ha.	Local
E4 - Bare peat	n.a.	• Highly eroded blanket bog habitat with potential for restoration.	Local
G1.3 Standing water - oligotrophic	n.a.	• Minor areas of very distinctive habitat of low to moderate species-richness & evenness. • Included within the Highland Biodiversity Action Plan & Scottish Biodiversity List. • Extent in Highland not known.	Local
G2.3 Running water - oligotrophic	n.a.	• Included within the River Einig Special Area of Conservation.	International
I2.2 Spoil	n.a.	• Non habitats of low species-richness, etc & easily reproducible.	Site
Track	n.a.		

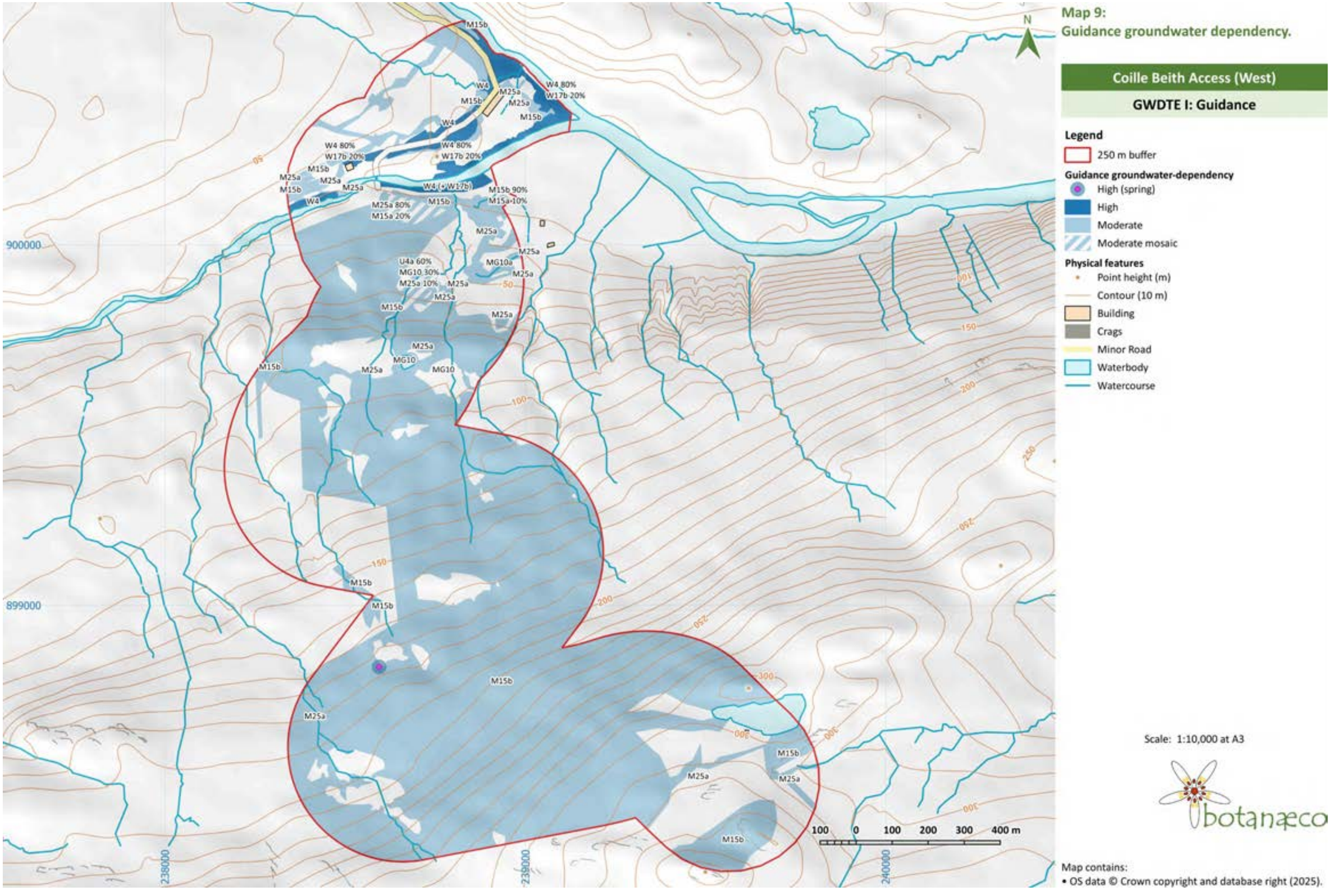
Table 6: Assessment of groundwater dependency.

Phase 1 habitat code & title	National Vegetation Classification code & title	Notes	Groundwater dependency	
			Guidance	Site-specific
B5 Marsh/marshy grassland	**M25a** *Molinia caerulea-Potentilla erecta* mire, *Erica tetralix* sub-community	• Extensively located on water-shedding but moderately-inclined slopes/ridges dependent upon rainwater. • Minor patches are suspected to be flushed with circum-neutral groundwater.	Moderate	Low
B2.2 Neutral grassland - semi-improved	**MG10a** *Holcus lanatus-Juncus effusus* rush-pasture, typical sub-community	• One area is associated with a line of drainage from a possible groundwater upwelling. Otherwise associated with damp areas of acid grassland invaded by rushes.	Moderate	Moderate /Low
D2 Wet dwarf shrub heath	**M15a** *Trichophorum cespitosum-Erica tetralix* wet heath, *Carex panicea* sub-community	• Located at the foot of the slope amongst other forms of wet heath and in proximity to groundwater upwellings. • The frequency of carnation sedge & common yellow-sedge reflects the influence of base-enriched groundwater.	Moderate	Moderate / High
	M15b *Trichophorum cespitosum-Erica tetralix* wet heath, typical sub-community	• Extensively located on water-shedding but moderately-inclined slopes/ridges dependent upon rainwater. • Ombrogenous species are present with no indicators or physical features associated with groundwater emergence. • Very minor patches may be flushed with groundwater.	Moderate	Low

Map 9:
Guidance groundwater dependency.

Coille Beith Access (West)

GWDTE I: Guidance



Legend

- 250 m buffer

Guidance groundwater-dependency

- High (spring)
- High
- Moderate
- Moderate mosaic

Physical features

- Point height (m)
- Contour (10 m)
- Building
- Crags
- Minor Road
- Waterbody
- Watercourse

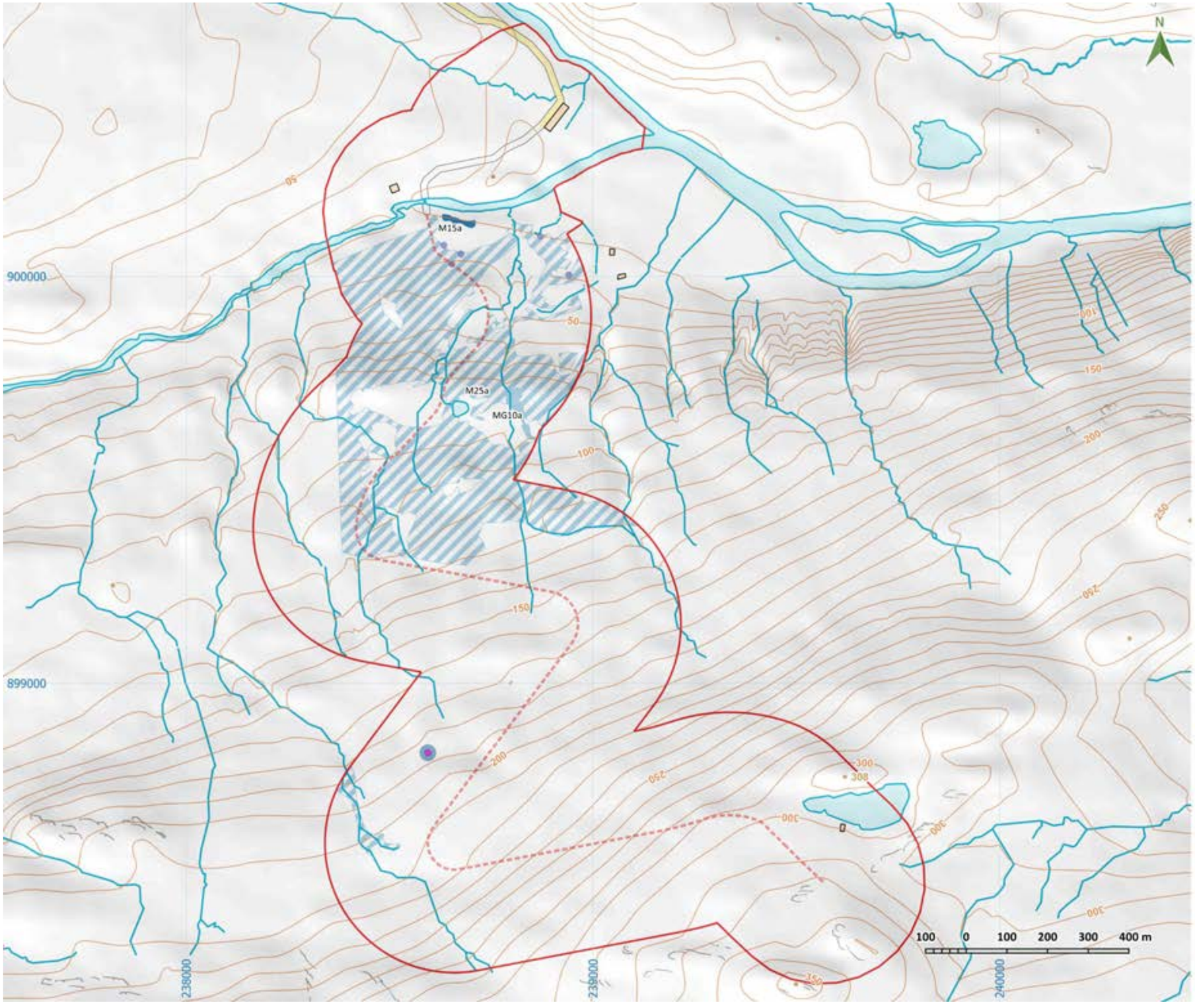
Scale: 1:10,000 at A3

Map contains:
• OS data © Crown copyright and database right (2025).

Map 10:
Site-specific groundwater dependency.

Coille Beith Access (West)

GWDTE II: Site-specific



Legend

- Access route (West)
- 250 m buffer

Site-specific groundwater-dependency

- High (spring)
- High
- Moderate
- Moderate mosaic
- Minor groundwater upwellings

Physical features

- Point height (m)
- Contour (10 m)
- Building
- Crags
- Minor Road
- Waterbody
- Watercourse

Scale: 1:10,000 at A3

botanaeco

5 Conclusions

5.1 **Habitat areas**: Wet heath is the most extensive habitat within the 291 ha buffer. It extends across 91 ha (27 %). Coniferous woodland (standing & recently-felled) & marshy grassland are moderately extensive across around 33 ha (17 %) each. Acid grassland accounts for 12 ha (6 %); blanket bog for 7 ha (4 %); and bracken & running water, 3 ha (2 %) each. Standing water accounts for 2 ha (1 %).

5.2 **Bluebells** are present & protected by Schedule 8 of the Wildlife & Countryside Act 1981.

5.3 **Locally notable species assemblages** are associated with the M15a wet heath, M17a blanket bog & W11 woodland.

5.4 **Peatland Condition Assessment** identifies 7.1 ha of Drained peatland habitat and a single, minor area (0.3 ha) that is Eroded.

5.5 **International conservation importance** is assigned to the River Einig (as a tributary of the River Oykel Special Area of Conservation). The other habitats are of local conservation imprtance.

5.6 **GWDTE** are present across the lower slopes.

5.7 The key **habitat constraints** identified by the survey & assessment are the following:

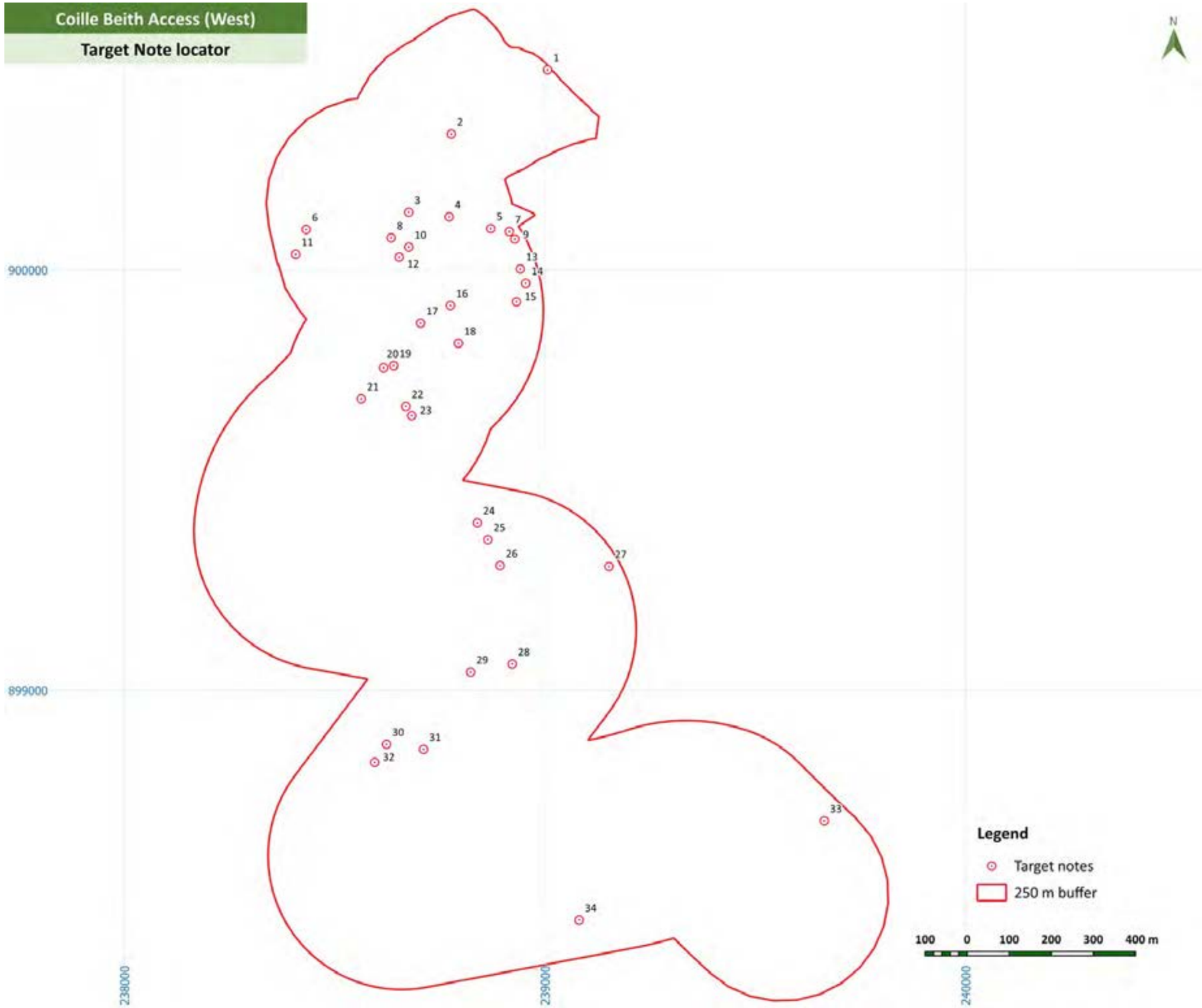
- Internationally-important River Einig (see Map 2 or Map 8).
- Bluebells that are protected from disturbance, etc. by the Wildlife & Countryside Act (see 'Woodland' assemblage in Map 6).
- Deep peat associated with the M17a blanket bog, M25a wet modified bog & bare peat habitats (see Map 7).
- Groundwater emergence at a spring, and more diffusely among the M25a marshy grassland & a single area of MG10 neutral grassland (see Map 10).

Appendix 1

Target Notes

Coille Beith Access (West)

Target Note locator



& co-ords.	Description	Photograph
1 239006 900477	**U4b semi-improved acid grassland** This distinctive area of semi-improved acid grassland has a typical abundance of common bent & Yorkshire fog; and is especially notable for the abundance of bluebells a1nd other wet woodland relicts, including: frequent to occasional field wood-rush, meadowsweet, pignut & valerian.	
2 238777 900324	**W4-W17 woodland** Birch is dominant in the canopy of these two woodland types, with occasional rowan and patchily abundant grey willow. The rowan is usually present as a understorey and appears to be establishing more widely. Purple moor-grass is generally dominant in the field layer with occasional swards of blaeberry & wavy hair-grass.	
3 238676 900138	**M15a wet heath** This area of M15a wet heath has an even sward of carnation sedge, common bog-cotton, deergrass & close-cropped heather; and frequent to occasional: bog asphodel, *Cladonia* (lichens), common yellow-sedge, cross-leafed heath, devil's-bit scabious, heath milkwort, lousewort, *Sphagnum capillifolium*, *Sphagnum fallax*, *Sphagnum papillosum* & *Sphagnum tenellum*. Groundwater appears to influence this vegetation because of the indicators of slight base-enrichment (common yellow-sedge, carnation sedge & devil's-bit scabious).	
4 238772 900127	**M15b wet heath** In this area of M15b wet heath, heather & hare's-tail bog-cotton are co-dominant with frequent to occasional: bog asphodel, common bog-cotton, cross-leafed heath, deergrass, *Hylocomium splendens*, milkwort, *Racomitrium lanuginosum*, *Sphagnum capillifolium*, *Sphagnum fallax*, *Sphagnum papillosum* & *Sphagnum tenellum*; and a scatter of birch & willow saplings. The depth of peat is up to around 0.4 m.	
5 238871 900099	**Groundwater upwelling** Groundwater appears to up-well here and it is conducted away by a small, spade-sized drain. There is some M29 vegetation with bulbous rush, bog pondweed, *Sphagnum denticulatum* & soft-rush; and more extensive, bare, poorly consolidated peat.	

& co-ords.	Description	Photograph
6 238432 900097	**W11b broadleaved woodland** In this area of W11b woodland, birch is dominant and alder is occasional. In the field layer there is dominant Yorkshire fog, with abundant bluebells; and frequent to occasional: bracken, broad buckler-fern, herb-robert, *Hylocomium splendens*, *Rhytidiadelphus triquetrus*, scaly male-fern, *Thuidium tamariscinum*, valerian & wood sorrel.	
7 238915 900092	**Bog pool** The bog-pool like vegetation here is presumably not maintained by groundwater because it was dry at the time of survey. Sphagnum papillosum is abundant with frequent to occasional common bog-cotton, *Sphagnum cuspidatum* & star sedge.	
8 238634 900077	**Groundwater-upwelling** A nondescript groundwater-upwelling among M25a marshy grassland. It has been drained but there are persistent wetland species including: butterwort, carnation sedge, devil's-bit scabious, round-leaved sundew & *Sphagnum subsecundum*.	
9 238928 900074	**Herb-rich patches** Grassy patches that are located on very well drained mounds & slopes, among the purple moor-grass-dominated M25a vegetation, are distinctive for their frequency of milkwort, mouse-ear-hawkweed, ribwort plantain, sweet vernal grass & tormentil.	
10 238676 900055	**Groundwater-upwelling** A nondescript groundwater-upwelling among M25a marshy grassland. It has been drained but there are persistent wetland species including: *Breutelia chrysocoma*, bog asphodel, bog-myrtle, bog pondweed, butterwort, carnation sedge, devil's-bit scabious, round-leaved sundew & *Sphagnum subsecundum*.	

& co-ords.	Description	Photograph
11 238407 900038	**Tall ruderal & scattered shrubs** Rosebay willowherb & broom are abundant alongside this section of track.	
12 238653 900031	**Groundwater-upwelling** A nondescript groundwater-upwelling among M25a marshy grassland. It has been drained but there are persistent wetland species including: *Breutelia chrysocoma*, bog asphodel, bog-myrtle , carnation sedge, devil's-bit scabious, round-leaved sundew & *Sarmentypnum sarmentosum*.	
13 238941 900003	**Groundwater upwelling** Groundwater upwelling is suspected here because of the soft, damp ground and poaching by cattle. Distinctive wetland species include frequent to occasional common sedge & lesser spearwort; and abundant *Calliergonella cuspidata*.	
14 238954 899969	**MG10a neutral grassland** This area of MG10a is typical f the local composition: soft-rush and accumulations of its litter are almost exclusively dominant, with frequent to occasional broad-leaved dock, sorrel & Yorkshire fog.	
15 238932 899925	**Spoil** Spoil has been deposited here and there is poaching presumed to be a result of cattle at a feeding station.	

& co-ords.	Description	Photograph
16 238775 899916	**Pond & spoil** The spoil deposited here is fresh & unvegetated. The adjacent pond has been constructed at the same time, recently. It is currently turbid with limited surface life (pond skaters & whirligig beetles) and it may dry out because it is so shallow.	
17 238704 899874	**Alluvial fan** An alluvial flan here is vegetated with U4a acid grassland and lesser areas of MG10a neutral grassland & M25a marshy grassland. Among the dense rushes there are wetland species including cuckooflower, marsh thistle, marsh violet & valerian; and abundant Calliergonella cuspidata, ragwort & sorrel.	
18 238794 899826	**Minor gorge** This minor gorge is lined with rowan & Scots pine; and distinctive herbs on the crags include bird's-foot trefoil, blaeberry, common dog-violet, hard-fern, a hawkweed, lemon-scented fern, oak fern, slender St John's-wort & wood sorrel.	
19 238640 899773	**Minor gorge** This minor gorge is lined with rowan & Scots pine; and distinctive herbs on the crags include bird's-foot trefoil, blaeberry, common dog-violet, devil's-bit scabious, hard-fern, lemon-scented fern, marsh thistle, marsh violet, oak fern, primroses, slender St John's-wort & wood sorrel.	
20 238616 899768	**Minor gorge** This minor gorge is lined with rowan & Scots pine; and distinctive herbs on the crags include bird's-foot trefoil, blaeberry, common dog-violet, hard-fern, lemon-scented fern, oak fern, slender St John's-wort & wood sorrel.	

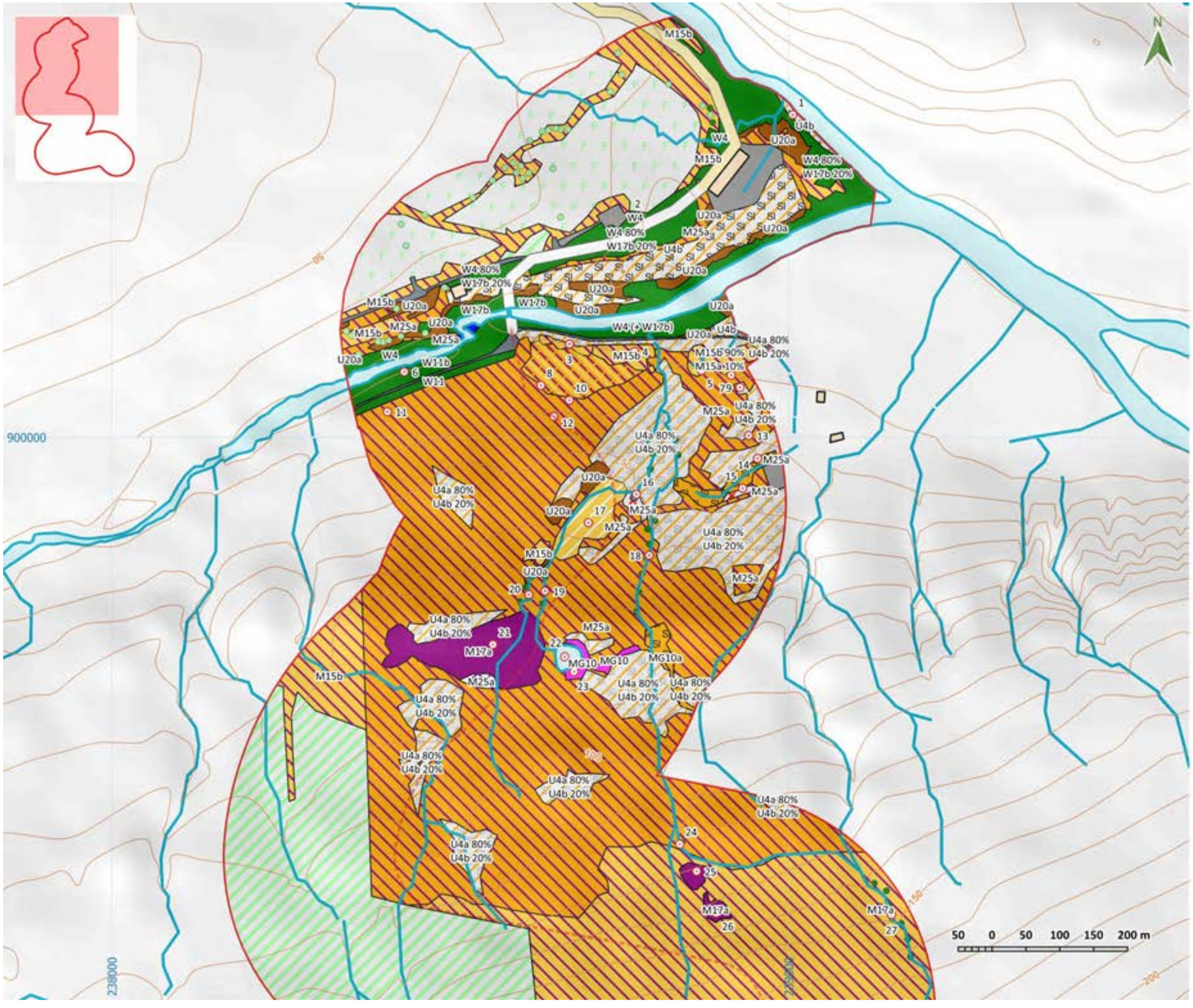
& co-ords.	Description	Photograph
21 238563 899694	**M17a blanket bog** This area of M17a blanket bog has an even sward of cross-leafed heath, deergrass, heather, purple moor-grass, *Sphagnum capillifolium* & *Sphagnum papillosum*; and frequent to occasional: bog asphodel, common bog-cotton, milkwort, *Sphagnum cuspidatum*, *Sphagnum fallax* & tormentil. There has been some shallow peat-cutting, to one spade depth, and marginal drainage.	
22 238669 899676	**Pond** This pond has been created by the building of a bund on the lower side. Narrow-leaved bur-reed is abundant and in one place, abundant *Sphagnum denticulatum* & marsh spike-rush.	
23 238683 899654	**MG10a neutral grassland** This area of MG10a neutral grassland is extremely rank. It is dominated exclusively by soft-rush and accumulations of its litter. Only occasional tufted hair-grass breaks the monotony.	
24 238839 899399	**Gully** This gully has a scatter of birch & rowan but is easily accessed so it lacks distinctive woodland species, other than oak-fern & sorrel.	
25 238864 899359	**M17a blanket bog** This area of M17a blanket bog has been poached so it has very limited bog-moss cover.	

& co-ords.	Description	Photograph
26 238893 899297	**M17a blanket bog** This area of M17a blanket bog is on a slope, so it has been eroded, as well as having been poached. It has a very limited bog-moss cover because of these impacts and associated de-watering.	
27 239152 899295	**Gully** This gully is accessible to grazing animals and therefore lacks distinctive, woodland-related species, even though there is a scatter of birch & rowan.	
28 238922 899063	**M17a blanket bog** This area of M17a bb is drained and lacking bog-moss cover. The depth of peat is to around 0.7 m.	
29 238823 899044	**M17a blanket bog** This area of M17a blanket bog is highly eroded, and has been cut-over, but up to 1.2 m depth of peat is persistent.	
30 238623 898872	**Hagged peatland** This area of peatland has been heavily hagged. Relict peat to 1.3 m depth persists.	

& co-ords.	Description	Photograph
31 238711 898860	**M17a blanket bog** This area of M17a blanket bog is near-natural in condition, but a drain does flank it. The very wet conditions support *Sphagnum*-rich vegetation with frequent bog-myrtle.	
32 238595 898829	**Spring** This spring is nondescript and appears to run dry for extended periods because there is limited vegetation. Common yellow-sedge & common bog-cotton are the only wetland species occasionally present among the bare peat & stones.	
33 239664 898690	**Lochan** The lochan is shallow & stoney, with water lobelia in its margins.	
34 239081 898454	**Blanket bog relicts** Among the extensive wet heath, there are mounds & ridges of 'shallow deep peat' vegetated with hare's-tail bog-cotton. These are presumed to be relicts of peat erosion with up to 0.8 m of peat persistent.	

Appendix 2

Map 11: Habitats & NVC vegetation communities



Map 11a:
Phase 1 habitats &
NVC plant communities.

Coille Beith Access (West)

Habitats & vegetation

Legend

- Access route (West)
- Target notes
- 250 m buffer

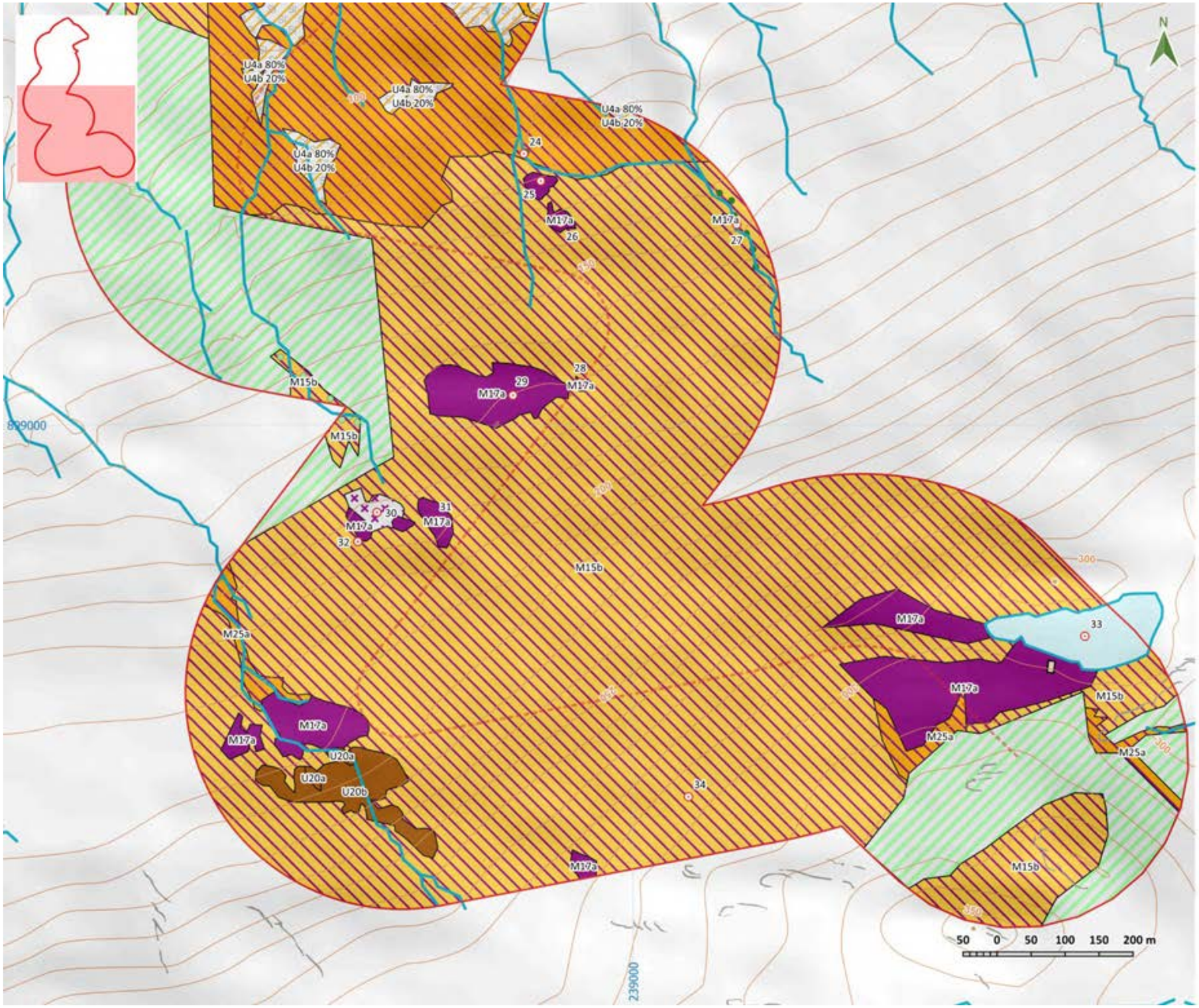
Phase 1 habitats

- A1.1.1 - Broadleaved woodland - semi-natural
- A1.2.2 - Coniferous woodland - plantation
- A4.2 - Coniferous woodland - recently felled
- B1.1-B1.2 mosaic
- B1.1-B2.1 mosaic
- B1.2 - Acid grassland - semi-improved
- B2.2 - Neutral grassland - semi-improved
- B5 - Marsh/marshy grassland
- B5-D2 mosaic
- C1.1 - Bracken - continuous
- Curtilage
- D2 - Wet dwarf shrub heath
- E1.6.1 - Blanket sphagnum bog
- E1.7 - Wet modified bog
- E2.1 - Flush and spring - acid/neutral flush
- G1.3 - Standing water - oligotrophic
- G2.3 - Running water - oligotrophic
- I2.2 - Spoil
- Track
- Scattered spruce
- Scattered, broadleaved trees & shrubs

Scale: 1:10,000 at A3

botanaeco

Map contains:
• OS data © Crown copyright and database right (2025).



Map 11a:
Phase 1 habitats &
NVC plant communities.

Coille Beith Access (West)

Habitats & vegetation

Legend

- Access route (West)
- Target notes
- 250 m buffer

Phase 1 habitats

- A1.2.2 - Coniferous woodland - plantation
- B1.1-B1.2 mosaic
- B2.2 - Neutral grassland - semi-improved
- B5 - Marsh/marshy grassland
- C1.1 - Bracken - continuous
- D2 - Wet dwarf shrub heath
- E1.6.1 - Blanket sphagnum bog
- E4 - Bare peat
- G1.3 - Standing water - oligotrophic
- Scattered Scots pine
- Scattered, broadleaved trees & shrubs
- Spring

Scale: 1:10,000 at A3

botanæco