Appendix 8.2: Habitats and Vegetation Survey Report

Loch Liath Wind Farm Ltd

EIA Report

Final report Prepared by LUC April 2023

Bristol Glasgow London

Edinburgh Manchester

landuse.co.uk

Land Use Consultants Ltd Registered in England Registered number 2549296 Registered office: 250 Waterloo Road London SE1 8RD

100% recycled paper

Landscape Design Strategic Planning & Assessment Development Planning Urban Design & Masterplanning Environmental Impact Assessment Landscape Planning & Assessment Landscape Management Ecology Historic Environment GIS & Visualisation



OHS627041



Loch Liath Wind Farm

Appendix 8.2: Habitats and Vegetation Survey



Loch Liath Wind Farm Limited

Loch Liath Wind Farm EIA

Appendix 8.2: Habitats and Vegetation Survey Report

Project Number 11057

Version	Status	Prepared
1.	Final Draft	LUC

Bristol Edinburgh Glasgow London

landuse.co.uk

Manchester

Land Use Consultants Ltd Registered in England Registered number 2549296 Registered office: 250 Waterloo Road London SE1 8RD

100% recycled paper

Landscape Design Strategic Planning & Assessment Development Planning Urban Design & Masterplanning Environmental Impact Assessment Landscape Planning & Assessment Landscape Management Ecology Historic Environment GIS & Visualisation





Checked

LUC

Approved

LUC

Date

12.04.2023



Appendix 8.2 Habitats and Vegetation Survey Report

Introduction

1.1 This Appendix details the methods and results of the habitats and vegetation surveys undertaken to inform an Ecological Impact Assessment (EcIA) of the proposed Loch Liath Wind Farm (hereafter referred to as the 'Proposed Development').

1.2 This Appendix has been written to support Chapter 8: Ecology of the Environmental Impact Assessment Report (EIA Report) and should be read in conjunction with this chapter and Chapter 7: Geology, Hydrology, Hydro-geology and Peat.

Supporting Documents

- 1.3 This Appendix supports the EcIA in addition to the following Appendices:
- Appendix 8.1: Desk Study and Legal Context;
- Appendix 8.3: Protected Species Survey Report;
- Appendix 8.4: Bat Survey Report; and
- Appendix 8.5: Outline Restoration and Enhancement Plan.
- **1.4** This Appendix is supported by the following figures:
- Figure 8.1: Ecology Survey Areas;
- Figure 8.3a-f: Phase 1 Habitat Survey Results;
- Figure 8.4a-f: National Vegetation Classification Survey Results; and
- Figure 8.5: Areas of Guidance-stated Potential Groundwater Dependency (GWDTE)
- 1.5 Representative site photography is provided in Annex A, and Target Notes are provided in Annex B, of this Appendix.

Terminology

- **1.6** The following terminology will be used throughout this Appendix:
- Site
 - All land within the red line boundary (as shown in Figure 8.1).
- Proposed Development
 - The physical process involved in the development of the land at Loch Liath Wind Farm including construction and operation of an up to 13 turbine wind farm and ancillary infrastructure (described in detail in Chapter 4: Project Description of the EIA Report).
- Ecology Survey Area (ESA)
 - The area within the red line boundary in which ecology surveys were undertaken in 2020 and 2021 in line with good practice guidelines for all ecological features surveyed. For habitats and vegetation this was defined as the location of the as shown in Figure 8.1.
- Access Survey Area (ASA)

¹ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal and Marine. Winchester: Chartered Institute for Ecology and Environmental Management and CIEEM (2017). Guidelines for Preliminary Ecological Appraisal. 2nd Edition. Winchester: Chartered Institute for Ecology and Environmental Management.

² BSI (2013) BS 42020:2013: Biodiversity – code of practice for planning and development. Bristol: British Standards Institution.

- The area within the red line boundary in which ecological survey was undertaken along the Bhlaraidh Wind Farm existing access track. This is defined at its southern end as the junction with the A887 in Glen Moriston, and at its northern end as the location at which the existing track ends and new track is proposed, as shown in Figure 8.1.

Methods

Nomenclature

1.7 Standardised vernacular names are followed by the scientific name upon first use (italicised within the text) are used for vascular plants (graminoids, herbs and shrubs). Scientific names only are used for the moss, liverwort and lichen species because although vernacular names are now in existence, they are not in general usage.

Competency

1.8 All habitat and vegetation surveys were undertaken within appropriate seasonal windows in 2020 and 2021, by academically and professionally gualified LUC ecologists who are members of the Chartered Institute of Ecology and Environmental Management (CIEEM). The data has been assessed by ecologists with extensive experience in interpreting habitat datasets.

Baseline Data Collection

Desk Study

1.9 A desk study was undertaken to obtain historical ecological information relating to the ESA and the surrounding habitats to identify any known sensitive habitats. An account of the method adopted, findings, and the legislative provisions afforded to protected habitats is provided in Appendix 8.1: Desk Study and Legal Context of the EIA Report.

Field Survey

1.10 There were two components to the field surveys comprising the Phase 1 Habitat Survey and the more detailed National Vegetation Classification (NVC), which also included identification of potential Ground Water Dependant Terrestrial Ecosystems (GWDTEs). The methods are outlined in detail below and follow best practice guidance produced by CIEEM¹ and the British Standards Institute².

1.11 NVC was used to identify habitats which can be indicative of groundwater dependency (GWDTE)³ and the NatureScot Peatland Condition Assessment⁴ was used in the field to determine the condition of the peatland habitat.

1.12 The data collected from the surveys was recorded and mapped using ArcGIS software (notably the Field Maps app), using GPS-enabled Samsung tablets.

1.13 The survey was based on the turbine layout at the time of surveys which extended up to 26 turbines (the EIA Scoping layout). The survey was based on the footprint, oversail and anticipated land take of the 26 turbine layout, and therefore data was collected over a much wider area than the proposed 13 turbine layout.

³ SEPA (2017) Land Use Planning System SEPA Guidance Note 31. Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems.

⁴ NatureScot (2017) Peatland Condition Assessment. [online] Available at: <u>https://www.nature.scot/sites/default/files/2017-10/Guidance-Peatland-</u> Action-Peatland-Condition-Assessment-Guide-A1916874.pdf [Accessed January 2022].

Phase 1 Habitat Survey

1.14 A Phase 1 Habitat Survey was undertaken, following standard methods⁵, in the summers of 2020 and 2021 by experienced ecologists. The Phase 1 Habitat Survey method provides a means of rapidly classifying broad habitat types in any given terrestrial survey area. The output of the survey comprises habitat accounts, field maps and associated photography and target notes (where required).

1.15 During the survey, field surveyors walked all accessible parts of the ESA to map broad habitat types and their boundaries. Sufficient species identification was undertaken to accurately classify habitat types, using the DAFOR scale⁶ where necessary. Field notes were taken to identify key areas of interest. The extent of the ESA is presented on Figure 8.1.

1.16 Habitats within the ASA were subject to survey in the summer of 2021. Broad habitat types and component species were recorded. New infrastructure is not proposed within the ASA and the habitats will be retained. Therefore, an overview of the broad habitats of the ASA is presented, although no mapping is provided.

National Vegetation Classification (NVC)

1.17 NVC surveys were undertaken in summer 2020 and 2021 of all habitats within the ESA identified as being of conservation interest during the survey⁷. NVC survey was completed following best practice guidelines⁸ to map habitats based on the characteristics of the vegetation. Structure, condition and species composition were recorded including detailed notes on the species present and abundance within stands of vegetation.

1.18 The Domin scale of cover/abundance (Table 8.2.1) was used following best practice guidelines⁸. Data collected in the field was assessed and NVC communities (and where possible sub-communities) were assigned to each habitat.

Table 8.2.1: Domin scale of cover/abundance

Cover	Domin
91-100%	10
76-90%	9
51-75%	8
34-50%	7
26-33%	6
11-25%	5
4-10%	4
<4% (many individuals)	3
<4% (several individuals)	2
<4% (few individuals)	1

Ground Water Dependent Terrestrial Ecosystems (GWDTEs)

1.19 GWDTEs are defined by SEPA³ and are considered important indicators of sensitive groundwater movement. NVC communities listed in the SEPA guidance are those which, if present, are considered to indicate that a wetland has potential to be either highly or moderately groundwater dependent depending on the hydrogeological setting.

⁵ JNCC (2010) Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit. JNCC, Peterborough.

1.20 Where these communities were identified, and they were not obviously surface or rainwater fed (e.g. marshy grassland and wet heath on watershed and ombrogenous bog systems), they were subject to detailed botanical survey. Table 8.2.2 sets out a decisionmaking tool that was used to establish the level of groundwater dependency of each community.

1.21 The assessment of potential effects on GWDTEs is presented in Chapter 7 of the EIA Report.

Table 8.2.2: GWDTE Decision Tool⁹

Criteria
A. Is the GWDTE vegetation evidently influenced by groundwater?
(i.e. base-enriched (M10, M11, M37 and/or M38) and/or discharging from an evider point source such as a spring head (M31, M32, M33).
If the answer to A is 'Yes' then field assessment ends at this stage and the GWDTE
B. Is the GWDTE polygon associated with an evident surface water feature? i.e. is locations:
Watershed/ridge
Watercourse
Floodplain
Ponding location, pond, loch etc (localised depression)
Surface water conveyance (drain, gully, rill, etc.)
If the answer to B is 'Yes' then the GWDTE polygon is no more than 'moderate' and data should be collected, including photographs to allow for further, desk-based det C.
C. Is the GWDTE polygon associated with an ombrogenous system? i.e. with bland and M25:
Presence/persistence of distinctive bog habitat, species and/or associations.
Deep peat not confined to depressions/valleys (>0.5 m visible in drains or hagged areas).
If the answer to C is 'Yes' then the GWDTE is no more than 'moderate' and very lik be collected, including photographs to allow for further, desk-based determination of

Peatland Condition Assessment

1.22 The NatureScot Peatland Condition Assessment⁴ was employed in the field to determine the condition of the peatland habitat in the ESA. This classifies the peatland into four classes:

- 1. Near-Natural;
- 2. Modified;
- 3. Drained; and
- 4. Actively Eroding.

	Yes	No				
nt						
E is	treated as 'high', as per the gu	idance. If 'No', continue to B.				
s the	e vegetation located within one	of the following topographic				
d ve tern	d very likely to be 'low'. Additional floristic and environmental termination of the groundwater dependency. If 'No', continue to					
ket	bog or wet heath habitat. This	is especially relevant to M6				
ely of th	to be 'low'. Additional floristic a e groundwater dependency.	and environmental data should				

⁶ DAFOR scale: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare.

⁷ Defined as Annex 1 habitats, Scottish Biodiversity List habitats, habitats included in the Highland Biodiversity Action Plans, and habitats considered to indicate potential GWDTE

⁸ Rodwell, J.S. (2006) NVC Users' Handbook. JNCC, Peterborough.

⁹ Botanaeco (2018) GWDTE Decision Tool. Available at: <u>https://botanaeco.co.uk/gwdte</u> [Accessed August 2022]

1.23 Field-based assessment of a series of key indicators facilitates assignment of one of these classes to an area of peatland. These indicators include features such as the sphagnum cover and vegetation condition; evidence of fire (frequency & intensity); bare peat; and scrub/tree invasion. These indicators were noted in the field, to determine the condition class.

Constraints and Limitations

1.24 All ecological surveys represent a snap-shot in time. Habitats and species assemblages are dynamic and change over time in response to a range of variables. Data presented in this Appendix should not be considered a long-term interpretation of ecological data and should not be relied upon as such.

1.25 Surveys were completed during the optimal survey season for habitat and vegetation studies (April to September) and as such the data gathered is considered robust for the purposes of informing the EIA Report.

1.26 Some areas of the ESA were not fully accessible due to the boggy or steep terrain encountered. Where this was the case, areas were viewed from vantage points and binoculars were used to identify habitat types. This was sufficient for identification of the habitat and therefore, is not considered a constraint to the robustness of the surveys.

1.27 Given the topographically challenging nature of the ESA and small-scale variations in vegetation communities, detailed mapping of sub-communities would be particularly challenging and time-consuming. As such, NVC data was often mapped to community level only unless there was a specific reason to record the sub-community. This is not considered to be a material constraint to the assessment because habitats of conservation interest7 are commonly identified on the basis of their NVC communities and are largely unchanged by additional information on sub-communities.

1.28 While care has been taken to collect and review habitat data, it is not possible to account for any changes that may occur in the intervening period between data collection and submission of the EIA Report. However, no changes are considered likely to have occurred.

Baseline

Desk Study

1.29 A desk study was undertaken to inform the habitat and vegetation surveys. An account of the method adopted, and findings, is provided in Appendix 8.1 which also sets out the legislative provisions afforded to habitats, notably habitats of conservation interest.

1.30 There are no statutory or non-statutory designated sites within the ESA. The southern end of the ASA overlaps with the River Moriston Special Area of Conservation (SAC).

Field Study

Overview

Site

1.31 The Site is predominantly located within the Balmacaan Estate, with the access track located within the Glenmoriston Estate. The Site is directly west of the Great Glen and Loch Ness, and approximately 4km south-west of Drumnadrochit, within the Highland Council (THC) administrative area. The Site is located on a plateau above Loch Ness (to the south-west) between Glen Urguhart (to the north) and Glen Moriston (to the south) and rises to a height of 614m Above Ordnance Datum (AOD) at Carn na Ruighe Duibhe which is within the western site boundary. The area where turbines are proposed stretches from the adjacent Bhlaraidh Wind Farm at the south-west to Loch a' Mhuilinn in the north. The land comprises an undulating moorland plateau with frequent lochans and bog pools in lower-lying areas and rocky outcrops forming areas of higher ground. A complex network of watercourses is present, some of which flow through deeply eroded peat channels. Extents of forestry are present outwith the Site to the north and along the existing access track in the south, although there is no woodland within the area where turbines and ancillary infrastructure are proposed.

Ecology Survey Area

1.32 The ESA covers approximately 1028ha. The undulating topography and steep sides of the many hills account for the varying vegetative communities as peat depth is highly variable within the Site and localised pockets of deep peat are scattered throughout. The majority of the site is composed of blanket bog and heathland communities of varying quality. Within the ESA, large expanses of relatively homogenous stands are punctuated by smaller areas of transitional habitats. The Site has an extensive network of water bodies and channels connecting throughout which are bordered by rank grassland communities. Typically, the higher elevations are composed of exposed rock and associated heath/montane communities. Very occasionally, plateau mires were recorded particularly in the north of the ESA. The steep hillsides are dominated by ericoids and sub-shrubs with varying levels of bryophyte cover. Moving lower in elevation, where the topography levels out, expanses of sphagnum-rich blanket bog are present with typical bog pool communities.

1.33 The ESA is grazed by deer and a small herd of cattle. The majority of the habitats within the ESA have been influenced to some extent by grazing pressure and/or previous management, and this is particularly evident to the east of the ESA. However, across the ESA there are extensive areas of heathland and peatland supporting a variety of habitats of conservation interest.

Access Survey Area

1.34 At the southern end of the ASA, the existing track passes through the woodland of Glen Moriston, with habitats noted to include extents of broadleaved semi-natural woodland and plantation woodland of varying ages and species composition. These occur in mosaic with acid grassland and marshy grassland habitats, with smaller extents of bracken and heath habitats. This mosaic reflects a range of conditions of soil, hydrology, and woodland management. Where the track leaves the mature woodland, the habitats become open and dominated by marshy grassland and heath. The track reaches an elevation of approximately 500m at the southern extent of Bhlaraidh Wind Farm, and at this northern end of the ASA the habitats are a mosaic dominated by wet heath and modified bog.

Phase 1 Habitats

1.35 A total of 12 Phase 1 habitats were recorded within the ESA and are described in detail below. Phase 1 habitats and NVC communities are described separately due to the complexity of the Site. A summary of Phase 1 habitats and associated NVC communities is provided in Table 8.2.3. The Phase 1 habitat descriptions are supported by, and should be read in conjunction with, Figure 8.3.

B1.1 Acid grassland (unimproved)

1.36 A small extent of unimproved acid grassland, typical of unenclosed land used for grazing, was recorded in mosaic with marshy grassland on a low-lying area in the centre of the ESA. Species present include wavy hair grass Avenella flexuosa and sheep's fescue Festuca ovina with heath rush Juncus squarrosus.

B5 Marshy grassland

1.37 Marshy grassland was recorded scattered throughout the ESA. These grasslands were dominated with more than 25% cover of purple moor grass Molinia caerulea, often occurring on relatively low-lying ground adjacent to watercourses and occasionally forming a relatively wider extent on gently sloping damp hillsides.

D1 Drv dwarf shrub heath

1.38 Dry heath was widespread across the ESA on steeper, more well drained slopes and rocky outcrops. Heather Calluna vulgaris was the dominant ericoid species with bilberry Vaccinium myrtillus and bell heather Erica cinerea also abundant. In addition, cowberry Vaccinium vitis-idaea and crowberry Empetrum nigrum were frequently recorded. On the more exposed and rocky ridges, the ericoid species were often complemented by lichens such as Cladonia and mosses such as Racomitrium lanuginosum. Furthermore, bearberry Arctostaphylos uva-ursi was recorded in the north-east of the ESA and alpine bearberry Arctostaphylos alpinus was recorded in a single exposed location in the south-west.

D2 Wet dwarf shrub heath

1.39 Wet heath was recorded throughout the ESA on areas of relatively gentler slopes with poorer drainage and damp, peat substrates, often occurring in intimate mosaic with areas of relatively drier heath or as a transition into areas of bog vegetation. Heather was the dominant ericoid. However, the habitat is distinguished from drier heaths by the presence of species such as purple moor grass, deergrass Trichophorum germanicum and cross-leaved heath Erica tetralix, often with sphagnum species.

E1.6.1 Blanket bog

1.40 Blanket bog was extensive across the ESA consisting of a mixture of vegetation communities occurring on plateaus, wide depressions and gentle slopes. It was often recorded as a mosaic with wet heath, dry heath and marshy grassland, where the topography was complex with many knolls and hillocks forming 'islands' in the blanket bog.

1.41 Blanket bog habitat was often recorded on level and/or gently sloping ground. This habitat had frequent sphagnum including Sphagnum capillifolium, Sphagnum papillosum and Sphagnum palustre, and with Sphagnum fallax and Sphagnum cuspidatum associated with bog pools.

1.42 A variety of ericoids were present, with heather the most commonly recorded and often locally dominant. Cross-leaved heath, bilberry, crowberry and cowberry were all recorded frequently across this habitat. Additionally, much of the blanket bog had an abundance of hare's-tail cottongrass Eriophorum vaginatum with frequent deergrass and common cottongrass Eriophorum angustifolium. The species composition of the blanket bog habitat recorded varied across the ESA, details of which has been captured in the following section: 'NVC Communities'.

E1.7 Wet modified bog

1.43 Wet modified bog was identified throughout the ESA and categorised when bog vegetation on peat more than 0.5m deep had a lower coverage of sphagnum (occasional to rare) and diversity. Areas of bare peat and hagging were often recorded within this habitat, occasionally forming deeply eroded channels. This habitat included vegetation that comprised locally dominant hare's-tail cottongrass, deergrass or purple moor grass.

E1.8 Dry modified bog

1.44 Dry modified bog was identified throughout the ESA: this habitat was categorised when heather-dominated vegetation lacking sphagnum was present on peat more than 0.5m deep. Evidence of historical and ongoing management was noted in areas including, draining, burning and grazing.

E3.2 Fen – basin mire

1.45 This habitat was recorded within waterlogged basins with small extents of open water. The vegetation was dominated by bottle sedge Carex rostrata over a carpet of sphagnum species.

E3.3 Fen – flood plain mire

1.46 This type of fen was identified as small extents on the floodplains of streams and adjacent to lochans in a handful of locations across the ESA. The habitat was often surrounded by blanket bog. The vegetation was dominated by bottle sedge with deergrass over a sphagnum-rich carpet.

E4 Peat – bare

1.47 Bare peat was recorded throughout the ESA associated with modified bog and drying bog pools. Areas of actively eroding hags and deeply eroded channels were noted.

G1 Standing water

1.48 There are multiple extents of standing water across the ESA. This includes several mapped lochans including Loch Liath, Loch na Leirisdein, Loch nam Meirleach, Loch na Ruighe Duibhe, Loch nam Meur and Loch Aslaich in the southern half of the ESA, and Loch a' Mhuilinn. Loch nam Meur (a second waterbody with the same name) and Loch a' Choire Bhuidhe in the northern half. There are also numerous unnamed lochans and smaller extents of open water associated with bog pool systems. Emergent aquatic vegetation was extremely limited in the lochans, likely due to relatively dystrophic conditions, and was often little more than scattered bottle sedge and occasional bogbean Menyanthes trifoliata.

G2 Running water

1.49 The ESA is high on a saddle of moorland between the River Enrick to the west and River Coiltie to the east. There are numerous mapped watercourses within the ESA that are tributaries of the River Enrick, and one of the largest is the Allt Seanabhaile which flows north from near Meall nan Oighreagan in the south-west corner of the ESA. In addition, the River Coiltie arises near the

southern Loch nam Meur and flows north-east through the ESA. Numerous smaller unmapped watercourses are also present throughout.

1.50 Aquatic vegetation was relatively limited in the watercourses, many of which formed peaty channels within the bog and heathland habitats. Occasional pondweed Potamogeton spp. and bladderwort Utricularia spp. were noted in some places.

NVC Communities

1.51 A total of 21 NVC communities were identified within the ESA. A summary of Phase 1 habitats and associated NVC communities is provided in Table 8.2.3. The NVC communities described below are supported by, and should be read in conjunction with, Figure 8.4 and photographs in Annex A.

U6 Juncus squarrosus-Festuca ovina grassland

1.52 This habitat comprised small extents found in mosaic with wet heath communities on grazed ridges and knolls, and in mosaic with low-lying marshy grassland. Heath rush was abundant with swards of wavy hair grass and star sedge Carex echinata, dotted with tormentil Potentilla erecta and lousewort Pedicularis sylvatica.

U10 Carex bigelowii-Racomitrium lanuginosum moss-heath

1.53 This community occurred as two small extents in the south of the ESA. The vegetation was confined to exposed shoulders on upper slopes and knolls. Vegetation was dominated by a carpet of the moss Racomitrium lanuginosum. There was occasional stiff sedge Carex bigelowii, bilberry, viviparous fescue Festuca vivipara and heath bedstraw Galium saxatile dotted amongst the moss.

H10 Calluna vulgaris-Erica cinerea heath

1.54 H10 dry heath was not common but was recorded on steep, rocky south-facing slopes scattered within the ESA. Heather was the dominant species with frequent bell heather, bilberry, cowberry, hard fern Blechnum spicant, devil's-bit scabious Succisa pratensis and Cladonia spp., and occasional green-ribbed sedge Carex binervis and tormentil. The habitat fits with the Racomitrium lanuginosum sub-community H10b which is more often seen at higher elevations and is distinguished by having a sparser canopy which reveals a carpet of Racomitrium lanuginosum and/or Cladonia spp.

H12 Calluna vulgaris-Vaccinium myrtillus heath

1.55 This heath habitat was common throughout the ESA and found on steep slopes dominated by heather and bilberry. Cowberry and crowberry were also abundant across this community along with the moss Pleurozium schreberi. Sphagnum species were generally limited. The presence of cowberry, crowberry and Cladonia spp. are indicative of the H12b Vaccinium vitis-idaea-Cladonia portentosa sub-community.

H13 Calluna vulgaris-Cladonia arbuscula heath

1.56 This habitat was not widespread within the ESA. It was confined to exposed ridges and shoulders of slopes in the centre and north of the ESA. The vegetation comprised a thin layer of short heather appressed to the ground with Cladonia spp. or Racomitrium lanuginosum and occasional velvet bent grass Agrostis canina.

H14 Calluna vulgaris-Racomitrium lanuginosum heath

1.57 This was one of the most commonly recorded dry heath communities across the ESA, found in exposed, rocky situations with wind-clipped heather growing low to the ground at the higher elevations. The community is distinguished by the presence of extensive Racomitrium lanuginosum forming a dense carpet with occasional bell heather, deergrass, fir clubmoss Huperzia selago and juniper Juniperus communis subsp. nana. Also variously recorded were Cladonia spp., cowberry and bearberry. The vegetation occurred in a discontinuous pattern along rocky ridges on higher elevations across the ESA.

H16c Calluna vulgaris-Arctostaphylos uva-ursi heath Cladonia spp. sub-community

1.58 H16 was only recorded in the far north-east of the ESA and was recorded as the H16c Cladonia species sub-community due to the presence of deergrass which was dominant alongside heather, with lichens Cladonia spp. and Racomitrium lanuginosum. Bearberry was the distinguishing feature of this community and was scattered throughout the habitat, although it was rare overall. Other species recorded include scattered bell heather, cross-leaved heath and cowberry.

H17 Calluna vulgaris-Arctostaphylos alpinus heath

1.59 This community was recorded in the west of the ESA and was identified on a small number of steep slopes and exposed rocky cairns. Heather was abundant and grew prostrate to the ground with alpine bearberry which was the distinguishing species for this community in comparison with other heaths in the ESA. The ground was scattered with lichens Cladonia spp. and occasional common sedge Carex nigra, deergrass, cowberry and crowberry.

H19 Vaccinium myrtillus-Cladonia arbuscula heath

1.60 This dry heath was located in a single area in the west of the ESA on a high, exposed slope with thin, stony soil. This dry heath community was distinguished from others by the prevalence of lichens Cladonia spp. with Racomitrium lanuginosum.

H20 Vaccinium myrtillus-Racomitrium lanuginosum heath

1.61 Identified on the high, exposed slopes of the western hills in the ESA, this dry heath community was recorded growing on thin, stony soil. It comprised an even mix of bilberry and crowberry, with occasional cowberry. The moss layer was well-developed and included Pleurozium schreberi, Racomitrium lanuginosum, Rhytidiadelphus loreus and Hylocomium splendens.

H21 Calluna vulgaris-Vaccinium myrtillus-Sphagnum capillifolium heath

1.62 Widespread across the ESA and generally found on steep, terraced slopes between gentler slopes of M15, this damp heath community consisted of a canopy of heather, with abundant bilberry and tormentil, and bell heather present in lower quantities. The moss layer was well-developed with species including Sphagnum capillifolium, Sphagnum papillosum, Pleurozium schreberi and Racomitrium lanuginosum.

H22 Vaccinium myrtillus-Rubus chamaemorus heath

1.63 This dry heath community was identified on upper slopes, in more shaded areas and in mosaic with other heathland communities. This community was distinguished by the presence of cloudberry Rubus chamaemorus among the heather, with abundant bilberry and a carpet of mosses beneath the canopy including Hylocomium splendens, Pleurozium schreberi, Rhytidiadelphus loreus and Sphagnum capillifolium. Juniper and dwarf birch Betula nana were also present in this community although not very common.

M1 Sphagnum denticulatum bog pool community

1.64 This bog pool community was found within M17 blanket mire, in shallow, peaty pools of water dominated by submerged and floating Sphagnum denticulatum with a sparse distribution of half-submerged bog asphodel Narthecium ossifragum, common cottongrass, bogbean and sundew Drosera spp.

M2 Sphagnum cuspidatum/fallax bog pool community

1.65 This bog pool community was identified in wet depressions within blanket mire systems on deep waterlogged peat throughout the ESA. It was distinguished by Sphagnum cuspidatum and Sphagnum fallax as the dominant sphagnum species present, with occasional cross-leaved heath and bog asphodel. The presence of Sphagnum fallax places it in the M2b sub-community.

M3 Eriophorum angustifolium bog pool community

1.66 This bog pool community was noted in wet depressions within peat haggs found in the M19 and M20 blanket mire communities. The flora within this community was impoverished and often consisted of little more than sparse common cottongrass growing within areas of bare peat that are likely to be seasonally inundated. Occasionally the vegetation was marginally more diverse, with species such as Sphagnum fallax, Sphagnum capillifolium, pondweed and bogbean.

M4 Carex rostrata-Sphagnum fallax mire

1.67 M4 was recorded scattered within the ESA in level, low-lying areas such as shallow basins, wet peaty hollows and on level ground along small watercourses. It occurred in intimate mosaic with blanket bog communities such as M17 and M19. This community consisted of a layer of the moss Sphagnum fallax overlain by bottle sedge and an occasional patch of bogbean.

M15 Trichophorum cespitosum-Erica tetralix wet heath

1.68 This community was widespread and covered extensive areas throughout the ESA, on gentle to moderate slopes with varying depths of peat substrate. Species present consisted of a mixture of heather, cross-leaved heath, deergrass and purple moor grass. with less frequent occurrences of tormentil, bog myrtle Myrica gale, common cottongrass, heath spotted orchid Dactylorhiza maculata, eyebright Euphrasia spp., fir clubmoss, heath milkwort Polygala serpyllifolia, juniper and bog asphodel. Mosses recorded included Sphagnum fuscum, Sphagnum capillifolium, Sphagnum papillosum and Racomitrium lanuginosum.

M17 Trichophorum cespitosum-Eriophorum vaginatum blanket mire

1.69 This habitat was widespread and one of the most common communities identified across the ESA. The vegetation was dominated by deergrass and common cottongrass with cross-leaved heath evenly distributed throughout. Other species present included heather, bog myrtle, bogbean, greater sundew Drosera anglica and round sundew Drosera rotundifolia. This bog was distinguished from other communities as there was a continual carpet of sphagnum species present with Sphagnum capillifolium and Sphagnum papillosum the most commonly recorded. In addition, there were extensive bog pool systems comprising communities M1 and M2.

M19 Calluna vulgaris-Eriophorum vaginatum blanket mire

1.70 The M19 blanket mire community was a widespread habitat identified across the ESA. Heather and hare's-tail cottongrass were equally dominant in this community, with other species present including common cottongrass, Sphagnum capillifolium and Sphagnum papillosum. Other species present in lower abundances included butterwort Pinguicula vulgaris. The community is relatively drier than M17 and therefore lacks the M1 and M2 bog pool communities. Instead there were regular areas of peat hags and exposed peat with the M3 bog pool community present in wet depressions.

M20 *Eriophorum vaginatum* blanket and raised mire

1.71 The M20 blanket mire community was mainly recorded on the ESA boundaries. It was dominated by hare's-tail cottongrass with more limited patches of deergrass and heather. There was little sphagnum recorded and areas were identified which were actively eroding, as a result of drainage, burning or grazing. There was an overall lack of species diversity in this community, and other species recorded sporadically and in low abundances included common cottongrass, crowberry, bilberry and wavy hair grass.

M25 Molinia caerulea-Potentilla erecta mire

1.72 Vegetation dominated by purple moor grass was recorded as marshy grassland throughout the ESA, particularly on gently sloping hills with peat less than 0.5m in depth, and on damp, level ground along streams and around lochans. The vegetation was notably heathy and therefore fits the M25a *Erica tetralix* sub-community. This vegetation comprises dense, tussocky growth of purple moor grass with cross leaved heath, bog myrtle, heather, Sphagnum fallax, heath milkwort, heath spotted orchid, eyebright, bog asphodel and tormentil. Cover of sphagnum and other dwarf shrub species was not abundant within this community. M25a was also associated with wet modified bog where it was present on peat more than 0.5m in depth.

Notable Plant Species

1.73 The Nationally Scarce¹⁰ shrub dwarf birch was recorded across the ESA associated with communities including H22, M15, M17 and M19. This species is on the Scottish Biodiversity List. Locations recorded are captured in the Target Notes and can be seen on Figure 8.3a-f and in Annex B.

1.74 Juniper was noted in several locations (see Figure 8.3a-f and Annex B). The subspecies noted (Juniperus communis subsp. nana) is considered uncommon¹⁰ and is on the Scottish Biodiversity List.

Summary

1.75 Table 8.2.3 summarises the Phase 1 habitats and associated NVC communities.

Table 8.2.3: Summary of habitat and vegetation types recorded and their conservation interest

Phase 1 Habitat	Associated NVC Communities	Area within Study Area (ha) ¹¹	Proportion of Study Area (%)	Mechanism for Habitat Conservation Interest
B1.1 Acid grassland (unimproved)	U6	2.2	0.2	Moderate potential GWDTE (U6)
B5 Marshy grassland	M25	26.0	2.5	Moderate potential GWDTE (M25)
D1 Dry dwarf shrub heath	H10, H12, H13, H14, H16, H17, H19 H20, H21, H22, U10	151.6	14.7	Annex 1 Habitat (H4030 European dry heaths)
				Scottish Biodiversity List (Upland Heathland)
D2 Wet dwarf shrub heath	M15	333.1	32.4	Annex 1 Habitat (H4010 Northern Atlantic wet heaths with <i>Erica tetralix</i>)
				Scottish Biodiversity List (Upland Heathland)
				Moderate potential GWDTE (M15)
E1.6.1 Blanket bog	M1, M2, M3, M17, M19, M20, M25	436.6	42.5	Annex 1 Habitat (H7130 Blanket bogs)
E1.8 Dry modified bog				Scottish Biodiversity List (Blanket Bogs)
				Moderate potential GWDTE (M15 and M25)
E3.2 Fen (basin mire) E3.3 Fen (flood plain mire)	M4	1.6	0.2	Annex 1 Habitat (M4: H7140 Transition mires and quaking bogs)
				Scottish Biodiversity List (Upland Flushes, Fens and Swamps)
E4 Peat (bare)	-	5.3	0.5	-
G1 Standing water	-	76.3	7.4	Scottish Biodiversity List (Blanket Bog; Oligotrophic and Dystrophic Lakes)
G2 Running water	-	12.3km	-	Scottish Biodiversity List (Rivers)

Groundwater Dependant Terrestrial Ecosystems (GWDTEs)

1.76 Three NVC communities were recorded within the ESA which, according to SEPA guidance³, indicate potential groundwater dependency.

1.77 Table 8.2.4 presents the NVC communities recorded which potentially indicate groundwater dependency and the standard SEPA guidance regarding the potential groundwater dependency of these communities based on the vegetation alone¹².

Table 8.2.4: Potential GWDTEs

Potential GWDTE NVC Code	Groundwater Dependency as per SEPA (2017) ³	
M15	Moderate	
M25	Moderate	
U6	Moderate	

Peatland Condition

1.78 The ESA is depicted on the Carbon and Peatland 2016 Map¹³ as comprising significant extents of Class 1 and smaller areas of Class 2. Class 1 is described as 'nationally important carbon-rich soils, deep peat and priority peatland habitat; areas likely to be of high conservation value', while Class 2 is described as 'nationally important carbon-rich soils, deep peat and priority peatland habitat; areas of potentially high conservation value and restoration potential.

1.79 Peat has been confirmed to be present throughout the Site at depths measuring between 0.5m - 5.1m. The geological structure of the Site has resulted in areas of deeper peat between crags and ridges and thinner peat or thin organic soils on the steeper slopes around rock outcrops. Numerous lochans are present in the topographic lows where the deeper peat is found, and some areas of natural erosion (e.g. gullying) are visible around watercourses. Peat is assessed in detail in Chapter 7.

1.80 Peatland condition was assessed following NatureScot guidance⁴. The peatland condition varied across the ESA, with areas of 'near natural' occurring among larger extents of 'modified' peatland. Areas of bare peat were recorded scattered across the ESA generally comprising relatively small patches, and in hags and gullies, which were considered indicative of 'modified' conditions. Exposed peat was most extensive in the north-west, where relatively large erosion gully channels were noted, while elsewhere networks of channels with limited water flow and eroding substrate were recorded. There was evidence of grazing noted throughout the ESA, but only limited evidence of burning, with a relatively recent area of muirburn in a valley in the north-east and some older evidence in the west.

1.81 The condition of peatlands at the proposed turbine and key infrastructure locations is presented in Annex C.

Interpretation

Habitats of Conservation Interest

1.82 A desk study was undertaken to inform habitat and vegetation surveys. An account of the method adopted, and findings, is provided in Appendix 8.1, which also sets out the legislative provisions afforded to habitats, notably habitats of conservation interest.

1.83 Habitats of conservation interest recorded within the ESA are detailed in Table 8.2.3 above and included the following:

- Four Annex 1 habitats: H4010 Northern Atlantic wet heaths with Erica tetralix; H4030 European dry heaths; H7130 Blanket bogs; and H7140 Transition mires and quaking bogs.
- Five Scottish Biodiversity List habitats: Upland Heathland; Blanket Bogs; Upland Flushes, Fens and Swamps; Oligotrophic and Dystrophic Lakes; and Rivers.
- Three potential GWDTE communities: M15, M25, and U6.

¹² The identified GWDTEs have been assessed and are further discussed in Chapter 7: Hydrology, Hydrogeology, Geology and Peat.

¹¹ Where habitats comprise mosaics. NVC data and relative proportions are used to calculate areas.

¹³ Scottish Natural Heritage (2016) Carbon and Peatland 2016 Map. Available at: https://www.nature.scot/professional-advice/planning-anddevelopment/planning-and-development-advice/soils/carbon-and-peatland-2016-map

Appendix 8.2 April 2023

1.84 Blanket bog is the most common Annex 1 habitat type within the ESA, comprising approximately 42.5% when Phase 1 habitat types are combined (E1.6.1, E1.7 and E1.8). This habitat type is found on level and gently-sloping ground throughout, and is commonly associated with deeper deposits of peat (>0.5m).

1.85 This is followed by northern Atlantic wet heaths (approximately 32.4%) and European dry heaths (approximately 14.7%). Wet heath is commonly located at the transition from blanket bog onto areas of slightly increased gradient and/or thinner peat. As the depth of peat reflects the underlying topography, these two habitat types often occur in mosaic over a short distance. The dry heaths are associated with the steeper slopes where the substrate is shallow, and this often corresponds to the stepper, higher knolls.

1.86 The final Annex 1 habitat type, transition mires and guaking bogs, occurs in small, scattered pockets of fen and therefore accounts for only a small proportion of the ESA (approximately 0.2%).

1.87 The SBL habitats are largely superseded by the Annex 1 habitats. The exception to this are the Oligotrophic and Dystrophic Lakes, and Rivers habitats. There are several large lochans within the ESA that gualify as the SBL priority habitat, and approximately 12.3km of watercourses, many of which qualify as the priority habitat as they are headwaters¹⁴.

GWDTE

1.88 Within the ESA, marshy grassland habitats could reflect a degree of groundwater dependency; however, field studies identified that these features are predominantly purple moor grass on level ground, on modified bog which has peat more than 0.5m in depth, and on level ground around watercourses and drains. The M25 marshy grasslands are therefore likely to have developed as a consequence of surface water flow and topography and are unlikely to be groundwater dependent.

1.89 The M15 wet heath community is extensive within the ESA, often as transitional habitat between areas on relatively shallower peat associated with bog communities on deeper deposits. It also occurs on peat deeper than 0.5m in mosaic with bog communities. Calcicolous species indicative of base-rich conditions were not noted. In the context of the ESA, being a relatively high plateau with extensive ombrogenous communities and high rainfall, it is likely that the M15 wet heath habitats are maintained by surface water flow and are unlikely to be groundwater dependent.

1.90 The small area of U6 grassland occurred in mosaic with M25 mire. It was associated with a low-lying area of ground between two small watercourses that flow into the northern extent of Loch na Ruighe Duibhe. As such, it is likely to be maintained by surface water flow rather than groundwater.

1.91 A detailed assessment of GWDTE is provided in Appendix 7.4: Groundwater Dependent Terrestrial Ecosystem Assessment, which concludes that the potential GWDTE areas are not considered likely to be groundwater dependent.

Peatland Condition

1.92 The extent of sphagnum cover varied across the peatland habitats within the ESA from abundant to rare, indicating different levels of peatland condition across the ESA. There were areas with a diversity and abundance of sphagnum; on the other hand, extensive areas were noted to be in 'modified' condition due to grazing. Deer and a small herd of cattle graze within the ESA, and these animals are likely to have some impact upon sensitive habitats; sheep are not grazed within the ESA. There are areas of exposed peat and hags, although these are relatively limited.

1.93 As described, the peatland condition within the ESA comprises a mosaic of peatland conditions. The majority of the habitats within the ESA have been influenced to some extent by grazing pressure and/or previous management. However, this has resulted in the habitats showing a degree of modification, such that large extents are considered to be in 'modified' condition, but there are not significant extents of drained or eroding peatland.

1.94 Further interpretation of the peat resource within the Site is provided in Appendix 7.2: Peat Survey Report.

¹⁴ Defined as a watercourse within 2.5km of its furthest source as marked as a blue line on 1:50,000 Ordnance Survey Landranger maps.

Habitats and Vegetation Survey Report Loch Liath Wind Farm EIA

Annex A: Images



Appendix 8.2 Loch Liath Wind Farm EIA April 2023



Appendix 8.2 April 2023



Loch Liath Wind Farm EIA April 2023



Annex B: Target Notes

Target Note ID	Grid Reference	Feature
1	NH 39873 22982	Flush
2	NH 39859 22973	Bog pool
3	NH 37663 22928	Bog pool
4	NH 39085 22441	Flush
5	NH 37670 23796	Juniper
6	NH 37357 23961	Bog pool
7	NH 37722 24059	Bog pool
8	NH 37421 23174	Bog pool
9	NH 38569 25493	Bog pool
10	NH 37068 22546	Dwarf birch
11	NH 37234 22755	Dwarf birch
12	NH 38126 25052	Dwarf birch
13	NH 37804 22483	Dwarf birch
14	NH 39022 22361	Dwarf birch and Juniper
15	NH 39335 22697	Dwarf birch
16	NH 39850 23955	Juniper
17	NH 39398 23737	Dwarf birch
18	NH 39490 23766	Juniper
19	NH 38232 22654	Dwarf birch
20	NH 38381 22776	Dwarf birch
21	NH 38389 22643	Dwarf birch
22	NH 38624 22814	Juniper
23	NH 38865 23040	Dwarf birch
24	NH 39070 23128	Dwarf birch
25	NH 38100 23085	Dwarf birch
26	NH 39377 24272	Dwarf birch
27	NH 39456 24355	Dwarf birch
28	NH 39813 24710	Dwarf birch
29	NH 37378 23939	Dwarf birch
30	NH 38843 24472	Dwarf birch
31	NH 38818 24938	Dwarf birch
32	NH 38573 24980	Dwarf birch
33	NH 38069 24769	Dwarf birch
34	NH 38319 24579	Dwarf birch
35	NH 39035 23910	Dwarf birch
36	NH 39101 24399	Dwarf birch
37	NH 39076 24676	Dwarf birch
38	NH 39693 24796	Dwarf birch
39	NH 39987 24884	Dwarf birch and Juniper
40	NH 37360 24454	Dwarf birch and Juniper
41	NH 37514 24686	Dwarf birch
42	NH 39631 25623	Dwarf birch
43	NH 39764 25647	Dwarf birch
44	NH 38117 24128	Dwarf birch
45	NH 37897 24939	Dwarf birch

Target Note ID	Grid Reference	Feature
46	NH 37910 25058	Dwarf birch
47	NH 38088 25176	Dwarf birch
48	NH 37312 23065	Dwarf birch
49	NH 37646 25194	Dwarf birch
50	NH 37750 25530	Dwarf birch
51	NH 38133 25430	Dwarf birch
52	NH 38416 25452	Dwarf birch
53	NH 38967 25772	Dwarf birch
54	NH 38800 25786	Dwarf birch
55	NH 38809 25846	Dwarf birch
56	NH 38653 25821	Dwarf birch
57	NH 39853 22936	Dwarf birch
58	NH 39775 22892	Dwarf birch
59	NH 39694 22909	Dwarf birch
60	NH 39557 22829	Dwarf birch
61	NH 39558 22528	Dwarf birch
62	NH 39089 22356	Dwarf birch
63	NH 39197 22690	Dwarf birch
64	NH 39458 22976	Dwarf birch
65	NH 39428 23031	Dwarf birch
66	NH 39597 23022	Dwarf birch
67	NH 39686 23068	Dwarf birch and Juniper
68	NH 39751 23561	Dwarf birch and Juniper
69	NH 39602 23667	Dwarf birch
70	NH 39281 23350	Dwarf birch
71	NH 37616 23177	Dwarf birch
72	NH 39292 24162	Dwarf birch
73	NH 39648 24403	Dwarf birch
74	NH 39916 24546	Dwarf birch
75	NH 39873 24623	Dwarf birch
76	NH 39653 24681	Dwarf birch
77	NH 37529 24056	Dwarf birch
78	NH 38817 24017	Dwarf birch
79	NH 38826 24561	Dwarf birch
80	NH 39062 24043	Dwarf birch
81	NH 39418 24942	Dwarf birch
82	NH 37282 24907	Dwarf birch
83	NH 39801 25578	Dwarf birch
84	NH 37929 23615	Dwarf birch
85	NH 37993 23913	Dwarf birch
86	NH 37874 24038	Dwarf birch
87	NH 39891 25492	Dwarf birch
88	NH 39502 25715	Dwarf birch
89	NH 39607 25918	Dwarf birch
90	NH 39675 25865	Dwarf birch
91	NH 39114 25982	Dwarf birch
92	NH 39355 25839	Dwarf birch

Target Note ID	Grid Reference	Feature
93	NH 38931 25191	Dwarf birch
94	NH 38860 25456	Dwarf birch
95	NH 37637 25359	Dwarf birch
96	NH 39967 25897	Dwarf birch
97	NH 38568 25937	Dwarf birch

LUC | 12

Annex C: Peatland Condition

Infrastructure	Peat Depth Range (cm)	NVC Communities	Notable Features	Peatland Activity and Condition	Quality	Comments	Photo
Turbine Locations							
T1	5-70	M17/M3	 Montane bog Continuous unit >25ha Exposed peat noted Natural surface pattern 	 Peat-forming considered possible Modified 	Moderate	Wider area comprises M17 bog, but location of turbine is area of shallow deposits and not considered peatland. Areas of exposed peat proposed for restoration within vicinity.	
Τ2	5-55	H14/M15	Few drains/haggs noted	Not peatland	n/a	Turbine located on small summit of dry heath on shallow deposits with wet heath on shallow deposits leading to turbine. Not considered peatland. Bog habitats present nearby.	
Т3	0-190	M19/M20	 Montane bog Continuous unit >25ha Few drains/haggs noted Dwarf birch nearby 	 Peat-forming considered possible Modified 	Moderate	Sphagnum present but not abundant. Peat depths largely shallow at turbine location, with deeper deposits surrounding. Some exposed peat nearby but not extensive. Recorded as dry modified bog with drier raised areas. M19 and M20 likely to be created and maintained by grazing.	



Infrastructure	Peat Depth Range (cm)	NVC Communities	Notable Features	Peatland Activity and Condition	Quality	Comments	Photo
Τ4	0-90	M17/M15/M2	 Montane bog Continuous unit >25ha Exposed peat noted 	 Peat-forming considered possible Modified 	Moderate	Turbine on area of shallow deposits, not considered to be peatland. Surrounded by deeper deposits, therefore assessed. Extents of exposed peat recorded nearby, proposed for restoration.	
Τ5	0-140	M17/M15/M2	 Montane bog Continuous unit >25ha Exposed peat noted Natural surface pattern Sphagnum-rich 	 Peat-forming considered possible Modified 	Moderate	Turbine located on area of shallow deposits, surrounded by deeper peat. Temporary hardstanding impinges on deeper deposits therefore assessed as peatland. <i>S.capillifolium</i> and <i>S.papillosum</i> fairly extensive in bog communities nearby. Exposed peat to north-east demonstrating an element of modification.	Hagging recou
Τ6	0-70	M15	Exposed peat notedDwarf birch nearby	Not peatland	n/a	Area of shallow deposits, with deeper peat nearby, although not extensive within vicinity. Exposed peat nearby to north-east and north-west. Area of turbine not considered to be peatland.	
Τ7	0-125	M17/M3/M15	Few drains/haggs noted	Not peatland	n/a	Turbine located on largely shallow deposits, with deeper peat to the south. Wet heath vegetation dominant within vicinity of location. Not considered peatland.	



Infrastructure	Peat Depth Range (cm)	NVC Communities	Notable Features	Peatland Activity and Condition	Quality	Comments	Photo
Т8	0-90	M15/M19	Few drains/haggs notedDwarf birch nearby	Not peatland	n/a	Largely shallow deposits on gentle slope leading down to loch. Dominated by wet heath vegetation. Not considered peatland.	
Т9	0-90	M15/M19/M25	Exposed peat notedDwarf birch nearby	Not peatland	n/a	Shallow deposits on gentle slope near loch. Some hagged gullies recorded nearby. Dominated by wet heath vegetation. Not considered peatland.	
T10	5-280	M17/M20	 Montane bog Few drains/haggs noted Natural surface pattern Dwarf birch nearby 	 Peat-forming considered possible Modified 	Moderate	Largely shallow at turbine, but northern edge impinges on a pocket of deeper peat. Relatively limited overall extent of habitats however, as the location is surrounded by M15 and dry heath communities. M20 likely to be created and maintained through grazing.	
T11	5-195	M15/H12/M19	Exposed peat noted	Not peatland	n/a	Turbine location largely shallow, dominated by wet heath and dry heath communities. Extents of deeper deposits to north and south-east, but turbine location not considered peatland. Exposed peat proposed for restoration to north.	
T12	5-130	M15/H12/M19	Exposed peat notedDwarf birch nearby	Not peatland	n/a	Area of shallow deposits with pockets of deep. Deeper to south, including area of exposed peat proposed for restoration. Patchy sphagnum coverage. Dominated by wet heath and dry heath communities. Not considered to be peatland.	



Loch Liath Wind Farm EIA April 2023

Infrastructure	Peat Depth Range (cm)	NVC Communities	Notable Features	Peatland Activity and Condition	Quality	Comments	Photo
T13	0-95	M15/M19	 Montane bog Continuous unit >25ha Exposed peat noted Natural surface pattern Dwarf birch nearby 	 Peat-forming considered possible Modified 	Moderate	Largely shallow at turbine location, but adjacent to deep deposits so assessed as peatland. Limited sphagnum. Exposed area proposed for restoration adjacent. Largely surrounded by wet heath and dry heath communities, but bog communities form a fairly continuous extent to the west and north-west.	
Other Infrastruct	ture	1					
Met mast	60-70	M20/M15/M19	 Montane bog Continuous unit >25ha Few drains/haggs noted Natural surface pattern Dwarf birch nearby 	 Peat-forming considered possible Modified 	Moderate	Location on the edge of shallow deposits, with deeper peat to the south-east. Patchy sphagnum coverage noted, and many channels leading down to the loch. Vegetation dominated by vegetation indicative of grazing and relatively shallow conditions.	



Infrastructure	Peat Depth Range (cm)	NVC Communities	Notable Features	Peatland Activity and Condition	Quality	Comments	Photo
Substation	20-140	M17/M3	 Montane bog Continuous unit >25ha Few drains/haggs noted Natural surface pattern 	 Peat-forming considered likely nearby Near-natural 	High	Substation is located on the edge between shallow deposits to the north-west and deeper peat to the south-east. The area is likely grazed, although not noticeably significantly modified.	
Construction compound	5-100	H22/H10/M15/ M17	Few drains/haggs noted	Not peatland	n/a	Largely shallow deposits on a gentle slope of dry heath, with only small pockets of deep peat within the infrastructure footprint. Extents of montane bog present to the south.	No photo
Borrow pit	0-125	H22/M15/M17	Few drains/haggs noted	Not peatland	n/a	Vegetation dominated by dry heath with extents of wet heath. Largely shallow peat, with limited pockets of deeper deposits supporting bog communities.	No photo
Track section: approach to substation	5-290	M19	 Montane bog Continuous unit >25ha Exposed peat noted 	 Peat-forming considered unlikely Modified 	Low	Area of relatively drier bog vegetation on approach to substation where track crosses deep peat. Erosion feature noted nearby. No rare features recorded, and limited abundance of bog specialists (e.g. sphagnum)	



Infrastructure	Peat Depth Range (cm)	NVC Communities	Notable Features	Peatland Activity and Condition	Quality	Comments	Photo
Track section: T9 to T10	30-140	M19/M15	 Montane bog Continuous unit >25ha Exposed peat noted Dwarf birch nearby 	Peat-forming considered possibleModified	Moderate	Gentle slope down to loch, with drier bog community dominated by heather and deergrass. Sphagnum coverage noted to be patchy. Erosion features apparent in the slope.	
Track section: to T11	50-155	M20/M19/M15/ H10	Montane bogExposed peat notedNatural surface pattern	Peat-forming considered unlikelyActively eroding	Low	Flat area with pools and channels. Area of hagging and exposed peat noted. Mosaic of communities reflecting variable underlying conditions.	No photo

