

# Beinn Ghlas Wind Farm Repowering Natural Heritage Information Desk Study, 2022, Updated 2025

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Alba Ecology Ltd.

***Dr Kate Massey MCIEEM and Donald Shields, MCIEEM***

**February 2022, Updated June 2025**

## Introduction

Beinn Ghlas Wind Farm is owned by Beaufort Wind Ltd (the Applicant) which is a wholly owned subsidiary of Nadara. Beinn Ghlas Wind Farm is located south-west of Taynuilt in Argyll, Scotland. It comprises of 14 wind turbines and has been operational since May 1999. In June 2022, planning consent was secured to operate the wind farm for an additional ten years to August 2033.

A repowering project has also been proposed at Beinn Ghlas by the Applicant. As part of the planning process, Alba Ecology Ltd. was commissioned to conduct a natural heritage desk study to identify biological records within approximately 2 km radius of the Application Boundary and to identify all conservation designated sites within a 10 km radius of the Application Boundary. All avian interests are considered separately under the 'Ornithology Chapter' (Chapter 7 of the EIAR) and so bird records are not considered in detail here.

The original Desk Study was completed in 2022. This document updates and adds to that document. In addition to updated records, the route of the proposed access track is also considered as part of this desk study.

The centre of the Application Boundary is situated at approximately OS grid reference NM 965 258 southwest of Taynuilt in Argyll. Figure 1 provides a map of the Application Boundary plus a 2km buffer (250 m for the access track portion of the Application Boundary) hereafter named the Search Area (Figure 1).

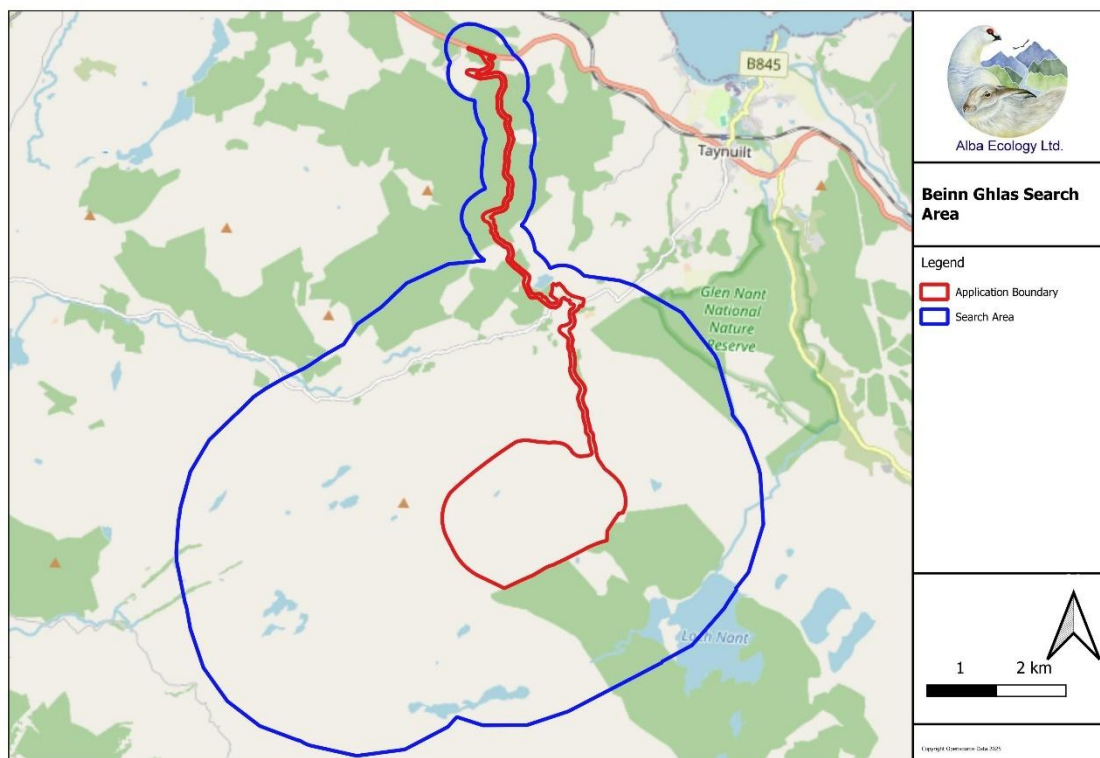


Figure 1: The Application Boundary and Desk Study Search Area.

The Application Boundary is characterised by open moorland, with a mixture of wet heath and blanket bog present. Details of the habitats within the Application Boundary can be found in Technical Appendix (TA) 6.2: Beinn Ghlas Wind Farm Repowering Habitat Survey Report completed in 2022 by Avian Ecology.

## Methods

A desk study of biological records was conducted in 2022 and updated in 2025. Argyll Biological Records Centre (ABReC) was contacted, and data was obtained from the [NatureScot SiteLink](#) website and the [National Biodiversity Network \(NBN\) Atlas](#).

This desk study aims to identify records of species and habitats with conservation importance within the Search Area and designated sites within 10km of the Application Boundary.

## Study methods

The data searches for this desk study follows Chartered Institute of Ecology and Environmental Management (CIEEM) best practice guidelines (CIEEM, 2020; CIEEM, 2017). The background data aims to provide the following information:

- Designated site information;
- Existing records of protected/priority/notable species for the site;
- Existing records of protected/priority/notable species for the surrounding area;
- Habitat information where available; and
- Soil and geological information for the site.

## Designated site information

Sites with conservation designations located within 10 km of the Application Boundary were identified using the [NatureScot SiteLink](#) website (originally accessed in February 2022 and updated in in June 2025). These included Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites.

## Existing species records for the Search Area

### ABReC

Species records were requested from the local biological records centre, as per best practice guidelines (CIEEM, 2020).

ABReC was originally contacted in February 2022 to search for biological records within the Search Area.

ABReC responded stating *“I regret to say that ABReC is not in a position to produce full data search reports at the moment. However you are welcome to download our data from the NBN atlas free of charge and use it in any reports that relate to this search”* (ABReC, pers comm). ABReC recommend contact RSPB for bird records. Birds are not considered in detail in this report, and RSPB has not been contacted for this desk study. However, all bird related considerations are covered in the ornithological chapter and appendixes.

The ABReC website states that “*Our data can be freely downloaded from the NBN Atlas for commercial or non-commercial use, provided that ABReC is acknowledged as the data source (CC-BY licence).*” (ABReC, 2022).

ABReC was contacted again in April 2025 to search for biological records within the Search Area. Data was provided in ABReC in June 2025. Provision of the data by the recorders is neutral and should not be regarded, either explicitly or implicitly, as approving or opposing any project informed by the data.

### ***NBN Atlas***

All biological records within the Search Area were searched for on the NBN Atlas paying due regard to the restrictions on the NBN Atlas as per CIEEM guidance (2020).

All records for the Search Area were downloaded on the NBN Atlas website in February 2022. This was updated in May 2025, when all records for the Search Area were downloaded on the NBN Atlas website. As per NBN Atlas guidance for commercial use, only the records which have an Open Data licence (coded CCO, CC-BY and OGL) have been considered and presented here. These data “*can be used for any purpose*” (NBN Atlas, 2022). Those data with a non-commercial licence (CC-BY-NC) were not included and were not inspected or considered. This is in accordance with the NBN Atlas terms and conditions for commercial use (NBN Atlas, 2025).

It should be noted that the Data Provider, Original Recorder (where identified), and the NBN Trust bear no responsibility for any further analysis or interpretation of that material, data and/or information.

Provision of the data by the recorders is neutral and should not be regarded, either explicitly or implicitly, as approving or opposing any project informed by the data.

As with all desk studies, the data collected are only as good as the data supplied to the recording schemes. The recording schemes and recorders provide disclaimers in relation to the quality and quantity of the data they provide, and these should be considered when examining the outputs of this desk study. No attempt has been made to verify these records. Common (vernacular) names are used where they have been provided by the recorder.

### ***Original Beinn Ghlas Wind Farm Environmental Statement***

The original Beinn Ghlas Wind Farm Environmental Statement (hereafter ‘Original ES’) provides detailed ecological studies of the Search Area from the late 1990s (National Wind Power, 1997). These studies form an excellent baseline and have been consulted within this desk study.

### ***Scottish Biodiversity List***

The Scottish Biodiversity List (SBL) is a list of animals, plants and habitats that Scottish Ministers consider to be of principal importance for biodiversity conservation in Scotland, under the Nature Conservation (Scotland) Act 2004. Therefore, all species records, for all sources, were compared against the Scottish Biodiversity List (SBL).

## Existing habitat records for the Search Area and surrounding area

Relevant sources, such as the Ancient Woodland Inventory (AWI) were examined to consider habitats that could be present within the Search Area. Previous surveys from the original Beinn Ghlas Wind Farm were also considered.

## Soil and Geology for the Site

Soil and geological information can provide insight into the type of vegetation found at a site (Botanæco, 2021). Therefore, the British Geological Society's (BGS) [hydrogeological](#) and [geological mapping](#) and the Scotland's Soils (2016) [Carbon and Peatlands Map](#) have been consulted.

## Results

### Designated site information

A total of ten designated sites, within a 10 km radius of the Application Boundary, have been identified (Table 1; Figure 2). The closest designated site to the Site Access is the Loch Etive Woods SAC. It is designated for Alder woodland on floodplains. It is c.180 m away from the Application Boundary at the closest point. The closest designated site to the Turbine Area is the Glen Nant section of the Loch Etive Woods SAC and SSSI. It is designated for upland oak woodlands and associated invertebrate, bryophyte and lichen assemblages. It also forms the Glen Nant National Nature Reserve. It is ca. 1.6 km away from the Application Boundary.

| Name                          | Designation | Size (ha)   | Distance (km) and direction from the Site | Feature of Interest   |
|-------------------------------|-------------|-------------|---|---|
| Loch Etive Woods              | SAC         | 2,642.5 ha  | 1.6 km, east                              | Alder woodland on floodplains; Mixed woodland on base-rich soils associated with rocky slopes; Western acidic oak woodland; and Otters. |
| Loch Creran                   | SAC         | 1226.5 ha   | 9.1 km, north                             | Reefs, including marine mammals.  |
| Glen Etive and Glen Fyne      | SPA         | 81,372.5 ha | 5.9 km, northeast                         | Breeding golden eagles.   |
| Bonawe to Cadderlie           | SSSI        | 890.8 ha    | 6.8 km, northeast                         | Geological  |
| Clais Dhearg                  | SSSI        | 839.3 ha    | 4.3 km, northwest                         | Dragonfly assemblage; Marsh fritillary butterfly; Oligotrophic loch; Open water transition fen; and Upland oak woodland.                |
| Coille Leitire                | SSSI        | 97.5 ha     | 8.2 km, east                              | Upland oak woodland.  |
| Glen Nant                     | SSSI        | 502.0 ha    | 1.9 km, east                              | Bryophyte assemblage; Crane fly; Lichen assemblage; and Upland oak woodland.  |
| Kennacraig and Eragan Burn    | SSSI        | 172.7 ha    | 6.9 km, north                             | Upland oak woodland.  |
| Airds Park and Coille Nathais | SSSI        | 356.5 ha    | 3.2 km, north                             | Marsh fritillary butterfly; and Upland oak woodland.  |

|             |      |         |                   |  |
|-------------|------|---------|-------------------|--|
| Barran Dubh | SSSI | 83.2 ha | 7.6 km, northeast | Bryophyte assemblage; Upland oak woodland. |
|-------------|------|---------|-------------------|--|

Table 1: Designated sites within 10 km of the Application Boundary.

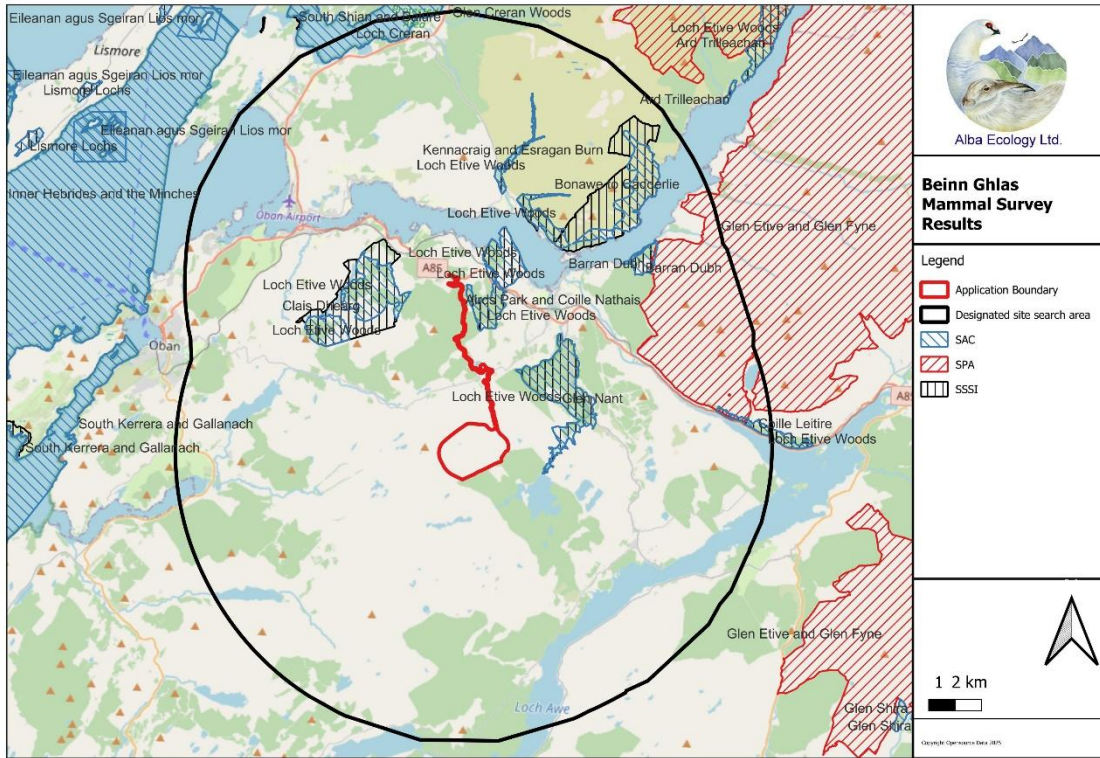


Figure 2: Designated sites within 10 km of the Application Boundary.

## Existing species records for the Search Area

### ABReC

ABReC searched for protected biological records within the defined Search Area within the past 10 years. They found records of 47 species, including one mammal, 8 bird species, 10 insect species, 2 amphibian species, one fish species and 25 plant, moss and fungi species. Several of the species recorded have specific protection or designations. For example, red squirrel is protected under Schedules 5 and 6 of the Wildlife and countryside Act 1981 (as amended) and marsh fritillary butterfly, which is also protected under Schedule 5 of the Act. The full list of species, and recorded locations along with species designations from the ABReC data search can be seen in Appendix 1: Beinn Ghlas Natural Heritage Desk Study Appendix 1 Appendix 1 Data Records.

### NBN Atlas data

The NBN Atlas provided a total of 3,221 records of species from a variety of taxa from freely available data sources (NBN Atlas occurrence download at <http://nbnatlas.org>, May 2025) using only the data with an Open Data licence (coded CCO, CC-BY and OGL). The total number of species was 1,130. Table 2 provides a summary of data by taxonomic groups.

| <b>Order/Class/Group</b> | <b>Notes (includes)</b>  | <b>No' of species recorded</b> |
|--------------------------|--|--------------------------------|
| Amphibians               |  | 3                              |
| Arthropods               | Including, insects, spiders, beetles, earthworms, insects, molluscs, etc | 302                            |
| Birds                    |  | 43                             |
| Bryophytes               | Mosses   | 225                            |
| Fish                     |  | 4                              |
| Fungi                    |  | 154                            |
| Mammals                  |  | 18                             |
| Molluscs                 |  | 27                             |
| Non-vascular plants      | Liverwort, ferns, algae etc  | 118                            |
| Protozoa                 |  | 1                              |
| Reptiles                 |  | 2                              |
| Vascular plants          |  | 233                            |

Table 2: Summary of biological records provided by the NBN Atlas, search conducted May 2025.

The full list of species and the data providers are provided in the accompanying Beinn Ghlas Natural Heritage Desk Study Appendix 1 Appendix 1 Data Records. A total of 59 of the listed species were on the SBL. Several are also European Protected Species (EPS). The non-avian species are listed in Table 3 and are shown in Figure 3.

| Species name                    | Common name                     | Taxa      | Listing  |
|---------------------------------|---------------------------------|-----------|----------|
| <i>Spilosoma lubricipeda</i>    | White ermine                    | Insect    | SBL      |
| <i>Ecliptopera silaceata</i>    | Small phoenix                   | Insect    | SBL      |
| <i>Entephria caesiata</i>       | Grey mountain carpet            | Insect    | SBL      |
| <i>Xanthorhoe ferrugata</i>     | Dark-barred twin-spot carpet    | Insect    | SBL      |
| <i>Apamea remissa</i>           | Dusky brocade                   | Insect    | SBL      |
| <i>Diarsia rubi</i>             | Small square-spot               | Insect    | SBL      |
| <i>Orthosia gracilis</i>        | Powdered quaker                 | Insect    | SBL      |
| <i>Coenonympha pamphilus</i>    | Small heath                     | Insect    | SBL      |
| <i>Eugnorisma glareosa</i>      | Autumnal rustic                 | Insect    | SBL      |
| <i>Hydraecia micacea</i>        | Rosy rustic                     | Insect    | SBL      |
| <i>Acronicta rumicis</i>        | Knot grass                      | Insect    | SBL      |
| <i>Boloria selene</i>           | Small pearl-bordered fritillary | Insect    | SBL      |
| <i>Trichopteryx polycommata</i> | Barred tooth-striped            | Insect    | SBL      |
| <i>Anguilla anguilla</i>        | Eel                             | Fish      | SBL      |
| <i>Salmo salar</i>              | Atlantic salmon                 | Fish      | SBL      |
| <i>Salmo trutta</i>             | Brown/sea trout                 | Fish      | SBL      |
| <i>Felis silvestris</i>         | Wildcat                         | Mammal    | SBL, EPS |
| <i>Lutra lutra</i>              | Otter                           | Mammal    | SBL, EPS |
| <i>Martes martes</i>            | Pine marten                     | Mammal    | SBL      |
| <i>Mustela putorius</i>         | Polecat                         | Mammal    | SBL      |
| <i>Lepus timidus</i>            | Mountain hare                   | Mammal    | SBL      |
| <i>Sciurus vulgaris</i>         | Red squirrel                    | Mammal    | SBL      |
| <i>Bufo bufo</i>                | Common toad                     | Amphibian | SBL      |
| <i>Anguis fragilis</i>          | Slow-worm                       | Reptile   | SBL      |
| <i>Zootoca vivipara</i>         | Common lizard                   | Reptile   | SBL      |
| <i>Hypotrachyna endochlora</i>  |                                 | Fungi     | SBL      |
| <i>Hypotrachyna sinuosa</i>     |                                 | Fungi     | SBL      |
| <i>Menegazzia terebrata</i>     |                                 | Fungi     | SBL      |
| <i>Leptogium brebissonii</i>    |                                 | Fungi     | SBL      |
| <i>Leptogium burgessii</i>      |                                 | Fungi     | SBL      |
| <i>Lobaria pulmonaria</i>       | Lungwort lichen                 | Fungi     | SBL      |
| <i>Sticta limbata</i>           |                                 | Fungi     | SBL      |
| <i>Sticta sylvatica</i>         |                                 | Fungi     | SBL      |
| <i>Pannaria conoplea</i>        |                                 | Fungi     | SBL      |
| <i>Pannaria rubiginosa</i>      |                                 | Fungi     | SBL      |
| <i>Peltigera collina</i>        |                                 | Fungi     | SBL      |
| <i>Bryum cyclophyllum</i>       | Round-leaved bryum              | Moss      | SBL      |
| <i>Ditrichum flexicaule</i>     |                                 | Moss      | SBL      |
| <i>Hedwigia ciliata</i>         |                                 | Moss      | SBL      |
| <i>Dichodontium flavescens</i>  | Yellowish forkmoss              | Moss      | SBL      |
| <i>Saxifraga hypnoides</i>      | Mossy saxifrage                 | Plant     | SBL      |
| <i>Juniperus communis</i>       | Juniper                         | Plant     | SBL      |
| <i>Nephroma laevigatum</i>      |                                 | Lichen    | SBL      |
| <i>Micarea alabastrites</i>     |                                 | Lichen    | SBL      |

Table 3: Species listed in the NBN Atlas dataset from the Search Area which are European Protected

Species (EPS) or on the Scottish Biodiversity List (SBL).

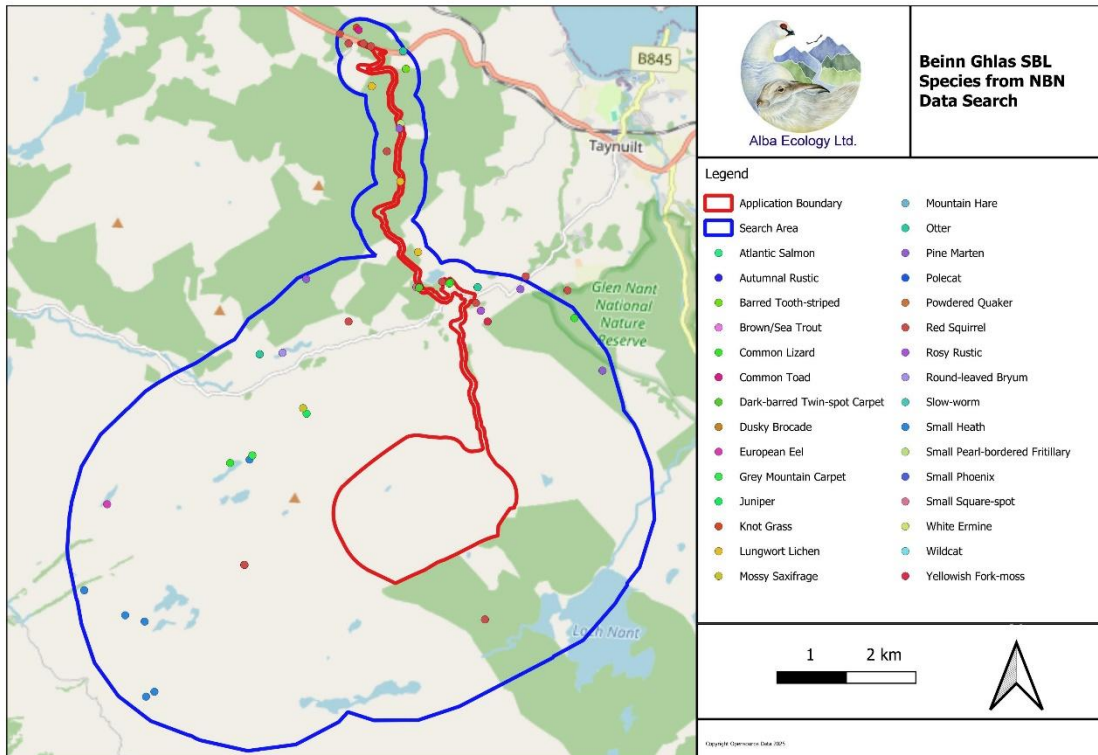


Figure 3: Historic records of SBL species and EPS within the Search Area. (NBN Atlas occurrence download at <https://nbnatlas.org> accessed in May 2025). Note that only those data with resolution of 10km grid square or better are shown. Data shown as point, but in reality some of the data was for a 10km grid square. Data prior to 1990 was excluded.

The NBN data shows a number of records of SBL species within the Search Area. The only records within the Application Boundary itself (Figure 3) were along the access track portion of the Application Boundary. Red squirrel, pine marten, powdered quaker, slow worm, slow phoenix, *Peltigera collina* and *Stricta sylvatica* were recorded along the access track.

### Original ES data

The original ES identified red deer and mountain hare as present in the Application Boundary. Reporting that these species appeared to regularly use the site but in low numbers. Rabbits are mentioned as found at lower altitudes around the Application Boundary. There were no records of any protected terrestrial mammals in the Original ES.

Several local scarce plant species are mentioned in the Original ES and listed in Appendix 03b of the Original ES. A single nationally scarce species, bog orchid which was found in bog pools, was mentioned. Bog orchid is not on the SBL. The ES notes that “*Plant species with more restricted distributions locally or nationally are restricted to a few communities, which ..., make up only a small part of the Study Area. The greatest contribution comes from ravine vegetation, flushes and bog pools. The most widespread vegetation type on the Study Area, the heaths and blanket bog, contribute less to species richness and to the diversity of scarcer species overall.*”.

The Original ES states “Specialist invertebrate surveys were not carried out in the Application Boundary, but four nationally scarce and two locally scarce invertebrates were found to be associated with ravine woodlands and mire vegetation”. These were:

- Scotch argus butterfly;
- Shining ground beetle;
- Yellow ringed carpet moth;
- Beech-green carpet moth;
- Manchester treble-bar moth; and
- Large heath butterfly.

Of these, the large heath butterfly is on the SBL.

### Existing habitat records for the Search Area

There were two, relatively recent, and suitable sources to provide habitat information for the Application Boundary and Search Area:

- The Original Beinn Ghlas Wind Farm Environmental Statement provides detailed ecological studies around the Application Boundary from the late 1990 (National Wind Power, 1997); and
- NatureScot shapefiles provided on their Natural Spaces, data share web facility which include the AWI data.

The baseline surveys from the original ES included an NVC survey, with Phase 1 Habitats described.

The Application Boundary was described as “*the Study Area is predominantly peat covered, with the dominant vegetation varying with peat depth, drainage and the presence of small burns and bog pools. The range of vegetation developed comprises mires, heaths and smaller areas of acid and calcareous grasslands. All these vegetation types collectively form a “moorland” ecology and landscape.*”

Table 4 lists the NVC communities recorded in the Original ES. Some of the communities identified as being present in the original ES may be consistent with, or similar to, SBL habitat descriptions and Annex 1 habitats listed in the EU Habitats Directive (Table 4).

| NVC community | Annex 1 Habitat (*priority) | SBL Habitat |
|---------------|-----------------------------|-------------|
| H10           | ✓                           | ✓           |
| H12           | ✓                           | ✓           |
| H19           |                             | ✓           |
| H21           | ✓                           | ✓           |
| M15           | ✓                           | ✓           |
| M17           | ✓*(when active)             | ✓           |

| NVC community | Annex 1 Habitat (*priority) | SBL Habitat |
|---------------|-----------------------------|-------------|
| M19           | ✓*(when active)             | ✓           |
| M1-3          | ✓                           | ✓           |
| M4            | ✓                           | ✓           |
| M6            | ✓                           | ✓           |
| M10-11        | ✓                           | ✓           |
| M32, M38      | ✓                           |             |
| M23           |                             |             |
| U4            |                             |             |
| U5            |                             | ✓           |
| CG11          | ✓                           | ✓           |

Table 4: NVC communities listed in the Original ES with potential SBL and Annex 1 habitats associations indicated.

There were a series of locations, mainly to the north of the Search Area, along the access track portion of the Search Area where ancient woodland is identified in the AWI (Figure 4). These areas are described as ancient woodland of semi-natural origin. Some of these areas coincide with the Glen Nant SSSI and SAC designated for upland oak woodland.

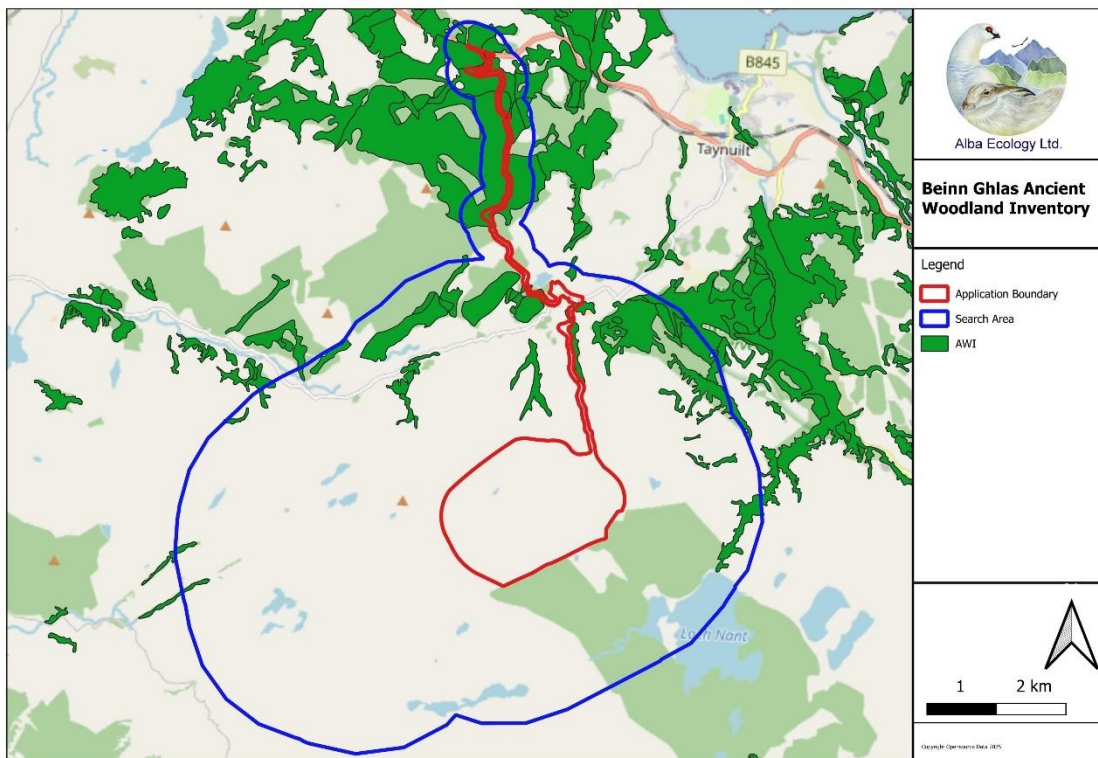


Figure 4: AWI within the Search Area.

### Soil and Geology for the Search Area

The predicted Carbon and Peatland Map (Scottish Soil, 2016) for the Search Area is shown in Figure 5. The majority of the Search Area is predicted to be Class 2 “Nationally important carbon- rich soils, deep peat and priority peatland habitat. Areas of potentially high conservation value and restoration

potential” with a small section predicted to be Class 5 “Soil information takes precedence over vegetation data. No peatland habitat recorded. May also include areas of bare soil. Soils are carbon-rich and deep peat.”

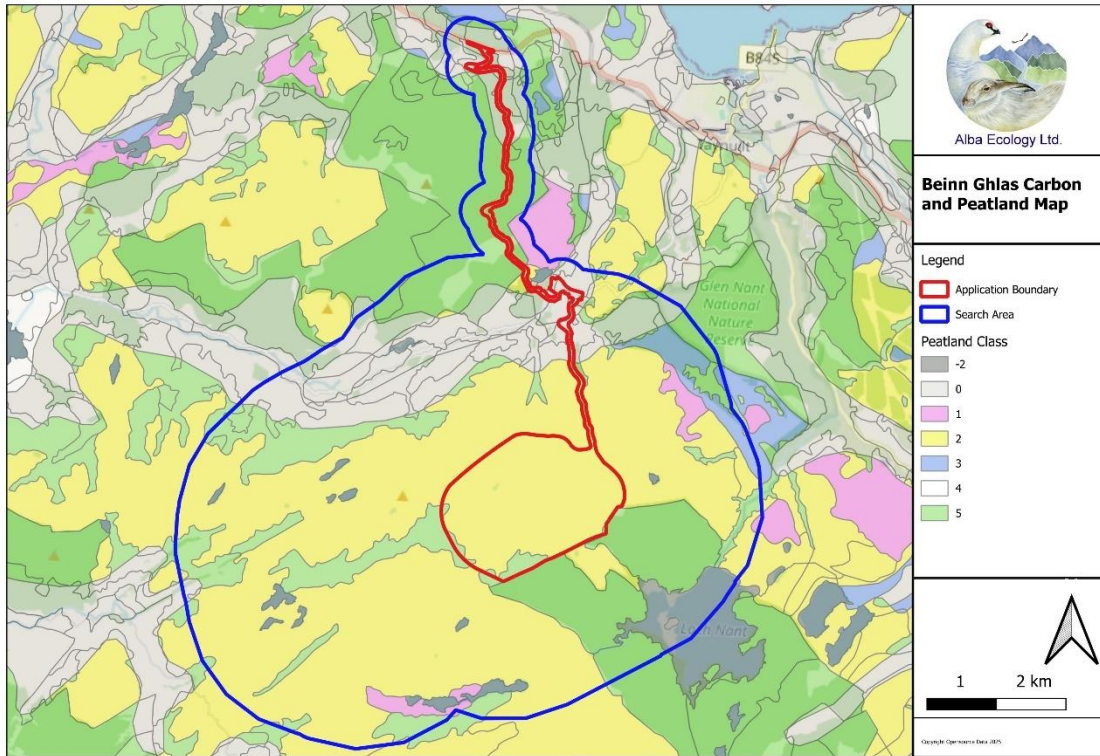


Figure 5: Extract of the predicted Carbon and Peatland Map for the Search Area (Scotland’s Soil, 2016).

Table 5 provides an overview of the geological information recorded for the Application Boundary.

| Source                     | Details  |
|----------------------------|--|
| Carbon and Peatland map    | <p>Predicted mixture of:</p> <ul style="list-style-type: none"> <li>• Class 1 - Nationally important carbon-rich soils, deep peat and priority peatland habitat. Areas likely to be of high conservation value;</li> <li>• Class 2 - Nationally important carbon-rich soils, deep peat and priority peatland habitat. Areas of potentially high conservation value and restoration potential;</li> <li>• Class 3 - Dominant vegetation cover is not priority peatland habitat but is associated with wet and acidic type. Occasional peatland habitats can be found. Most soils are carbon-rich soils, with some areas of deep peat</li> <li>• Class 5 - Soil information takes precedence over vegetation data. No peatland habitat recorded. May also include areas of bare soil. Soils are carbon-rich and deep peat.</li> <li>• Class 0 - Mineral soil - Peatland habitats are not typically found on such soils; and</li> <li>• Class -2 - Non-soil (e.g. loch, built up area, rock and scree) (Class -2).</li> </ul>   |
| BGS – superficial deposits | No data available.   |
| BGS – bedrock              | <p>Mixture of:</p> <ul style="list-style-type: none"> <li>• Lorn Plateau Volcanic Formation - andesite and basalt igneous bedrock formed approximately 393 to 424 million years ago in the Devonian and Silurian periods. Local environment previously dominated by eruptions of silica-poor magma;</li> <li>• Lorn Plateau Volcanic Formation - rhyolite and dacite igneous bedrock formed approximately 393 to 424 million years ago in the Devonian and Silurian periods. Local environment previously dominated by eruptions of silica-rich magma;</li> <li>• Lorn Plateau Volcanic Formation - Tuff and agglomerate igneous bedrock formed approximately 393 to 424 million years ago in the Devonian and Silurian Periods. Local environment previously dominated by explosive eruptions of magma;</li> <li>• North Britain Siluro-devonian Calc-alkaline Dyke Suite - microdiorite and appinitic dioritic igneous bedrock formed approximately 359 to 444 million years ago in the Devonian and Silurian Periods. Local environment previously dominated by intrusions of silica-poor magma.</li> </ul> |
| BGS - hydrogeological maps | Low productivity aquifer with small amounts of groundwater in near surface weathered zone and secondary fractures.   |

Table 5: Summary descriptions of the soils, bedrock, and hydrogeology for the Application Boundary ([BGS, 2022a](#); [BGS, 2021b](#); [Scotland's Soils, 2016](#)).

## Discussion

This desk study has identified several important ecological sensitivities within the Search Area, as far as existing and freely available data allows. Desk-based studies of this nature have limitations, such as the reliability of third-party records and the coverage of reported studies.

There was a relatively high number of records for some taxonomic groups e.g. fungi, invertebrates and bryophytes for the Search Area, indicating a good base level of knowledge for these groups. However, there was a relatively paucity of biological records available for other taxonomic groups,

such as some invertebrate groups e.g. spiders, indicating either that there was a low level of biodiversity within the Search Area and/or a low level of invertebrate biological recording. It is worth noting that the historic data supplied by data providers is as stated, historic.

There was a good record of the habitats in and around the Search Area. The main semi-natural habitat recorded within the Search Area was blanket bog which is an Annex 1 habitat, and an Annex 1 priority habitat when active as well as a SBL habitat.

It is important to understand that a lack of information for a species (or indeed Class/Order) does not necessarily mean absence, and previous historical occurrence does not necessarily mean current presence.

## References

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