# CONTENTS

# INTRODUCTION

8.1 This Chapter describes and evaluates the current nature conservation interest of the site and surrounding area. It goes on to assess the potential effects of the Proposed Development on important habitats and species and, where necessary, to describe proposed mitigation, compensation and enhancement measures. This Chapter considers habitats and non-avian animal species. Potential effects on birds are considered separately in **Chapter 9: Ornithology**. Together **Chapters 8 and 9** provide an assessment of the potential effects of the Proposed Development on biodiversity.

8.2 This Chapter is supported by a number of Technical Appendices, as follows:

- **Technical Appendix 8.1: Vegetation Survey and Habitat Mapping Report;**
- **Technical Appendix 8.2: Fish Habitat Assessment Report;**
- **Technical Appendix 8.3: Mammal Survey Report;**
- **Technical Appendix 8.4: Bat Survey Report; and**
- **Technical Appendix 8.5: Outline Habitat Management Plan (OHMP).**

# SCOPE AND CONSULTATION

## Consultation and Scoping Responses

8.3 A scoping report (SLR, 2022) was submitted to The Highland Council (THC) in August 2022. Scoping responses containing comments relating to non-avian ecology and nature conservation were received from the following organisations:

- NatureScot;
- Scottish Environment Protection Agency (SEPA);
- The Royal Society for the Protection of Birds (RSPB); and
- THC.

8.4 A summary of the key points from the relevant scoping responses and consultations, and details of how comments have been addressed in the EIA Report are provided in **Table 8-1**.

**Table 8-1: Key Issues**

| Consultee | Summary of Key Issues | Where Addressed in Chapter |
|---|---|---|
| NatureScot | NatureScot state that the proposed wind farm raises several key issues in relation to important natural heritage interests, including (of direct relevance to this chapter) effects on priority peatlands and carbon-rich soil. NatureScot go on to say that if significant effects are not addressed then they may object to the proposal. | Information relating to peatland habitat present on site is provided in **Table 8-4** and **paragraphs 8.120 to 8.124** and **8.137**. Full details of habitats on site are provided in **Technical Appendix 8.1.**<br><br>A summary of proposed peatland restoration is presented in **paragraphs 8.148 to 8.155**, full details of which can be found in **Technical Appendix 8.5: Outline HMP.**<br><br>Further information Is also provided in **Chapter 10: Hydrology, Hydrogeology and Soils**. |
| | NatureScot note that they welcome NVC and peat depth surveys and note the commitment to avoid areas of uncommon peatland habitat types such as bog pools. | SLR undertook a UK Habitat Classification (UKHAB) and National Vegetation Classification (NVC) survey of the site. These details are provided in **Table 8-4** and **Technical Appendix 8.1.**<br><br>SLR undertook a peat depth survey, the results of which are presented in **Technical Appendix 10.2 Peat Management Plan (PMP).**<br><br>Bog pool habitat has been avoided where possible in the design of the Proposed Development. |
| | NatureScot advise that mitigation, compensation and enhancement proposals should be provided as part of an Outline Habitat Management Plan, and that this plan should include an assessment of the peatland across the site and reference the presence of hagged peat within the site. | A summary of mitigation, compensation and enhancement proposals are provided in **paragraphs 8.148-8.155** and further detailed within the Outline HMP, in **Technical Appendix 8.5**.<br><br>The presence of hagged peat on site is referenced in **Table 8-4.**<br><br>Further assessment of peat is provided in **Chapter 10: Hydrology, Hydrogeology and Soils.** |
| | NatureScot recall a record of a Natterers bat from another developer for Edinbane Wind Farm, and note reports are available on request. | The record from of a Natterers summer roost has been identified within a tree to the south of Edinbane Wind Farm. NatureScot request that the precise location of this roost is not shared due to the sensitive nature of the roost.<br><br>SLR conducted a suite of bat activity surveys as detailed in **paragraph 8.28**, the results of which did not return any records of Natterers. |

| Consultee | Summary of Key Issues | Where Addressed in Chapter |
|---|---|---|
| | NatureScot wish to ensure that proposed infrastructure avoids areas of high-quality peatland habitat. | **Figure 8.1.3** within **Technical Appendix 8.1** shows locations of infrastructure in relation to habitat types on site.<br><br>Areas of high-quality peatland have been avoided as much as practicable, although it is not possible to avoid all areas of blanket bog habitat. |
| | NatureScot welcome the assessment of the condition/quality of the habitats in addition to their NVC community being presented in the botanical assessment. | Evaluation of the habitats within the site are included within **Table 8-4.** |
| | NatureScot advise that consideration be given to the potential causes of degraded peatland and measures that could be implemented to address that. NatureScot suggests discussions should be undertaken with land managers to understand the past/present management that may have influenced the condition of the peatland and to understand whether any chances could be implemented to improve habitat condition. | Based on UKHab and NVC surveys conducted by SLR, the peatland onsite is considered to be successfully recovering from damage caused by a fire in 2018 and this recovery is predicted to continue unaided by land management and therefore there are limited opportunities for peatland restoration within the site. |
| | NatureScot advise that any proposals for forest to bog restoration should be discussed with Scottish Forestry and comply with legislation in favour of restocking. If this type of peatland restoration is proposed, NatureScot advises it would be in addition to, or follow on from the assessment of the peatland restoration opportunities across the rest of the site. | Peatland restoration proposed within **paragraphs 8.148-8.155** is forest to bog restoration and complies with legislation criteria where compensatory planting is not required.<br><br>There are open areas within the site, which are in relatively good condition despite the fire that damaged some of the area in 2018. These areas are relatively unmodified (e.g. have not been drained), and there is therefore limited restoration potential.<br><br>Full details are included within **Technical Appendix 3.3: Forestry Report** and **Technical Appendix 8.5: OHMP.** |
| SEPA | SEPA consider that the following key issues must be addressed in the EIA: map and assessment of all GWDTE areas and buffers, peat depth survey and table detailing re-use proposals, map detailing forest removal, map and site layout of borrow pits, schedule of mitigation inc. pollution prevention, decommissioning statement. | Details of potential groundwater dependent terrestrial ecosystems (GWDTEs) are provided in **paragraph 8.125 and 8.126**. Full assessment of GWDTE is provided in **Chapter 10 Hydrology, Hydrogeology and Soils.**<br><br>Details of borrow pit locations are provided in **Chapter 3: Description of the Development** and rationale for their location is provided in **Chapter 2: Site Description and Design Evolution.**<br><br>A schedule of mitigation commitments is provided in **Chapter 16: Schedule of Commitments.** |

| Consultee | Summary of Key Issues | Where Addressed in Chapter |
|---|---|---|
| | SEPA expect that developments on peat be avoided in the first instance and impacts on carbon minimised through sensitive design. Proposal for re-use of excavated peat to demonstrate how catotelmic peat will be reinstated into a functional peatland system. | Information relating to impacts on peatland habitat can be found in **paragraph 8.137**.<br><br>Further information is provided in **Chapter 10: Hydrology, Hydrogeology and Soils.** |
| | SEPA welcomes more detailed peat depth survey data, Peat Management plan and a layout design to minimise peat disturbance. | Details of peat depth are provided in **Chapter 10: Hydrology, Hydrogeology and Soils.** See **Chapter 2: Site Description and Design Evolution** in respect of the layout design. |
| | SEPA does not support the location of T10 due to its location on the deepest peat and M1 Bog Pools. | Turbine 10 was moved 85m in order to minimise impact on peat / M1 bog pool habitat, Figure 8.1.3 in Technical Appendix 8.1 shows locations of infrastructure in relation to habitats on site. |
| | All areas of historic peat to be shown on a site plan with NVC overlaid. | Shown on **Figure 8.2**. |
| | SEPA expect floating tracks to be designed over areas of deep peat. All tracks should be kept a minimum of 50m away from any waterbodies with the exception of crossings. As long as crossings are designed to accommodate the 1 in 200 year flow and other infrastructure is located well away from watercourses SEPA do not foresee the need for detailed flood risk information. | Where possible the proposed turbines and tracks have been positioned to avoid areas of deepest peat. The use of floating track will be assessed once the intrusive ground investigation is concluded during the detailed construction design phase, taking into account the extensive peat probing undertaken as part of this EIA. The use of floating tracks will be limited by the natural gradient of the site slopes being greater than 5% over much of the site. Further details on track design can be found in **Chapter 3: Description of the Development**; and **Chapter 10: Hydrology, Hydrogeology and Soils.** |
| | SEPA would like confirmation that a minimum 50m buffer is maintained between water environment and turbines/crane hardstandings. | A 50m stand-off will be maintained between water environment and turbines/crane hard – standings, as detailed in **Chapter 10: Hydrology, Hydrogeology and Soils.** |
| | SEPA encourage the sharing of location of borrow pit, battery storage, site compounds and temporary laydowns against the NVC and peat depth surveys, as these too should avoid near natural habitats and areas of deep peat. | Locations of infrastructure including borrow pits are shown on **Figure 8.1.3** within **Technical Appendix 8.1**.<br><br>A figure showing infrastructure overlaid on peat depth can be found in **Technical Appendix 10.2.** |
| RSPB | RSPB welcome a peat depth survey in order to ensure final infrastructure design avoids deep peat over 50cm and any sensitive habitats. | Details of peat depth are provided in **Chapter 10: Hydrology, Hydrogeology and Soils.** Peat greater than 50cm deep has been avoided where possible, although it is not possible to avoid it entirely. Sensitive habitats e.g., bog pools have also been avoided (see **Chapter 2: Site Description and Design Evolution**). |

| Consultee | Summary of Key Issues | Where Addressed in Chapter |
|---|---|---|
| | RSPB request an outline HMP and Species Protection Plan be produced as part of the EIA, including any proposals for mitigation and enhancement in relation to important habitats and species, and an indication of size of any areas to be restored. The HMP must include a comprehensive monitoring programme for all habitat improvements and breeding birds on site. The HMP (or other document) should include a protocol for reporting collisions to NatureScot. | An outline HMP (OHMP) can be found in **Technical Appendix 8.5: OHMP,** a brief overview of proposed habitat enhancement (peatland restoration) is detailed in paragraphs 8.148-8.155.<br><br>The OHMP includes details of recommended habitat monitoring (**Technical Appendix 8.5**).<br><br>Species Protection Plans are not considered necessary due to the assessed low risk to protected species, as detailed in **paragraphs 8.127-8.143**. The embedded mitigation and good practice mitigation measures proposed in **paragraphs 8.107-8.115** is considered sufficient to reduce risk to protected species that may be present on site.<br><br>Birds are addressed separately in **Chapter 9: Ornithology.** |
| THC | The EIAR should provide a baseline survey of the bird and animals interest on site. It should provide an account of what species and habitats are present and where. Furthermore, it should identify rare and threatened habitats, those protected by EU or UK legislation or identified in national or local Biodiversity Action Plans (BAPs). | Baseline surveys for non-avian fauna have been undertaken and the results are provided in **paragraphs 8.71-8.97**. and **Technical Appendices 8.2, 8.3 and 8.4.**<br><br>Details of habitats found on site, including any rare or threatened habitats are provided in **paragraphs 8.67-8.70** and **Table 8-4.** Full details are provided in **Technical Appendix 8.1.**<br><br>Birds are addressed separately in **Chapter 9: Ornithology.** |
| | Habitat enhancement and mitigation measures should be detailed particularly in respect to blanket bog. Details of any habitat enhancement programme for the proposed site should be provided. It is expected that the EIAR will address whether or not the development could assist or impede delivery of elements of relevant BAPs. | Details of proposed habitat enhancement (peatland restoration) are provided in **Technical Appendix 8.5**. Mitigation measures are detailed in **paragraph 8.107-8.115**.<br><br>The peatland restoration proposed in **paragraphs 8.148-8.155** assists in the delivery of commitments made regarding the restoration of peatlands, wetlands bogs, mires and wet grassland within the Highland Nature BAP. |
| | The EIAR should address likely impacts on nature conservation interests of all designated sites in the vicinity and provide proposals for any mitigation required. | Impacts upon designated sites for nature conservation have been scoped out, see **paragraph 8.6**.<br><br>NatureScot state in their scoping response their agreement that impacts on designated sites can be scoped out. |

| Consultee | Summary of Key Issues | Where Addressed in Chapter |
|---|---|---|
| | The presence of protected species e.g. EPS must be included and considered. | Baseline surveys for non-avian fauna (including the presence of relevant European Protected Species (EPS)) have been undertaken and results provided in **paragraphs 8.71-8.97** and **Technical Appendix 8.3 and 8.4.** |
| | The EIAR should include an assessment of the effects on GWDTE. | Details of potential GWDTE habitats on site are detailed in **paragraph 8.125 and 8.126**. A full assessment of GWDTE is provided in **Chapter 10: Hydrology, Hydrogeology and Soils.** |

## Effects Scoped Out

8.5 The assessment concentrates on the effects of construction and operation of the Proposed Development upon important ecological features (decommissioning is scoped out of the assessment – see **Chapter 6: Scoping and Consultation**). Ecological features have been scoped out of further assessment where there is no potential for significant effects upon the ecological feature, or where the ecological feature is not considered important at a local level or above (see **Table 8-4** and **Table 8-5**), is not a GWDTE or not subject to legal protection.

8.6 Impacts upon designated sites for nature conservation have been scoped out, due to the fact that the only designated sites within 10km of the application site are designated either for their geological interest or for marine features. There are therefore unlikely to be any impacts on features for which these sites are designated. Specifically, An Cleireach Site of Special Scientific Interest (SSSI) is located approximately 1km to the south of the site, but is designated for its geological interest (tertiary igneous intrusion) and therefore is unlikely to be impacted. The Inner Hebrides and the Minches Special Area of Conservation (SAC) is located 2.8km west of the site at its closest point and is designated for its harbour porpoise (*Phocoena phocoena*) population, which would not be affected by the proposals. Ascrib, Isay and Dunvegan SAC is situated 8.2km north west of the site at its closest point and is designated for its harbour seal (*Phora vitulina*), for which similarly no pathways for potential effects have been identified. NatureScot stated within their scoping response that they agree with scoping out of impacts upon designated sites.

8.7 Impacts upon areas classified on the Ancient Woodland Inventory have also been scoped out, due to the fact that only one area of ancient woodland was identified within a 5km radius of the site, which is located approximately 3.7km north east of the site within the settlement of Edinbane. There is no direct connectivity that could provide a pathway for effects upon the ancient woodland. Similarly, areas listed on the Priority Habitat Inventory have been scoped out, as there is a lack of areas mapped within a 2km radius of the site.

8.8 In accordance with the assessment methodology used (see **paragraphs 8.35**), habitats which are considered to be of relatively low ecological value (see **Table 8-4),** or would not be impacted upon by the Proposed Development have been scoped out of detailed assessment. These habitats are as follows:

- purple moor grass and rush (M23 NVC community) – this loss of this habitat type was assessed as having less than local value; and
- bracken – assessed as having less than local value.

8.9 Based on the desk study and consideration of the extent and nature of the Proposed Development, effects on the following species or species groups have been scoped out of the assessment. For more information on each species/group, please refer to **Table 8-5.**

- invertebrates, reptiles and amphibians: given that standard mitigation is thought sufficient to avoid any significant environmental effects on invertebrates, reptiles and amphibians, no surveys were undertaken for these species, in accordance with current NatureScot (2022) guidance. Presence of reptiles was noted during the protected mammal surveys. An assessment of potential impacts and the mitigation requirements during construction is included;

- red squirrel (*Sciurus vulgaris*), water vole (*Arvicola amphibius*) and wildcat (*Felis sylvestris*): there are no historical records of water vole and red squirrel on Skye and it is considered that they are likely to be absent from the island, therefore impacts have been scoped out. There are no existing records of wildcat on Skye, although fossil records suggest the species is endemic to the island, wildcat have been considered absent from the island in recent history, and therefore assessment of effects on this species have been scoped out;

- badger (*Meles meles*): given there are only sporadic unconfirmed records of badger on Skye (as stated in the NatureScot scoping response), and none within 5km of the site and given the absence of optimal habitat for badgers within the site, it is considered unlikely to be significantly affected by the Proposed Development and therefore effects on badgers have been scoped out;

- roosting bats: there is no potential bat roosting habitat within the site and at least 200m plus rotor radius of proposed turbine locations (see **Technical Appendix 8.4**), therefore in line with current guidance (NatureScot *et al*, 2021) the assessment of effects on roosting bats has been scoped out;

- hedgehog (*Erinaceus europaeus*): records of hedgehog exist within 5km of the site however due to the suboptimal habitat for this species on site, and the occurrence of more suitable habitat within the surrounding landscape, it is considered unlikely to be significantly affected and detailed assessment of effects on this species have been scoped out; and

- brown hare (*Lepus europaeus*): records of brown hare exist within 5km of the site however due to the mobility of this species and the limited habitat loss which would occur as a result of the Proposed Development it is considered to be unlikely to be significantly affected and detailed assessment of effects on this species have been scoped out.

# APPROACH AND METHODS

8.10 This Chapter takes an appropriate and topic specific approach to assessment of the Proposed Development within the parameters identified in **Table 3-1** of **Chapter 3: Description of the Development**. This Chapter provides a worst-case assessment for non-avian ecology and aims to present enough information for consultees and the decision makers to comment on and determine the application within the parameters of the Proposed Development.

## Study Area

8.11 The study area used for the EIA varies according to the ecological feature in question, based on relevant good practice guidance. The extents of the study area used for the habitats and vegetation survey is indicated by the survey results presented on **Figure 8.1.2 and Figure 8.1.3** within **Technical Appendix 8.1** and includes all areas within the application boundary and ensures coverage of wetland habitats within 250m of all proposed turbines and borrow pits and 100m from all other proposed infrastructure. SEPA guidelines (SEPA, 2017) stipulate survey of a 250m buffer from excavations deeper than 1m, and a 100m buffer for excavations less than 1m.

8.12 The study areas for relevant faunal species are summarised in the 'Field Survey Methodology' Section below and are described in more detail within **Technical Appendices 8.2 – 8.4**. For ease of reference the study areas included all suitable habitat within the site including all areas checked for potential GWDTE within 200m of the proposed infrastructure, as well as watercourses within 250m of proposed infrastructure (where this lies outside of the application boundary) for mammals and the Fish Habitat Assessment, and the site and 200m plus rotor radius from proposed turbines (where this lies outside the site) for bats.

## Information and Data Sources

8.13 An ecological desk study which covered the site was undertaken by Atmos Consulting in December 2017. This was updated by SLR in 2019 for the consented Ben Sca Wind Farm, which also covered the Balmeanach site, therefore, no additional ecological desk study was produced for the site. This approach was outlined within the Balmeanach Scoping Report (SLR, August 2022) and no scoping responses noted any objections to this. The 2019 update included a review of publicly available online resources to identify the presence of designated sites within 10km of the site and recent records of legally protected or otherwise notable species within 5km of the site. The results of the initial desk study produced in 2017 were incorporated within the assessment for the Ben Sca desk study. Additional desk study information was gathered in 2019 for input into the Ben Sca desk study which was presented in the Ben Sca Wind Farm EIA Chapter 8: Ecology (SLR, 2019), as follows:

- Highland Biological Recording Group (HBRG) was commissioned in July 2019 for input into the Ben Sca Desk Study, to provide data relating to non-statutory sites and records of protected and notable species within the site and a 5km radius of it. Non-statutory site information provided included Scottish Wildlife Trust (SWT) reserves, RSPB Reserves, National Trust for Scotland (NTS) Reserves, THC Local Nature Reserves (LNRs) and THC Sites of Local Nature Conservation Interest (SLNCIs);

- the NBN Atlas was searched for bat records within 10km of the site. At the time of the desk study, no local bat group existed, however since that time the Skye and Lochalsh Bat Group has been established;

- the relevant Geographic Information System (GIS) databases were searched for woodland recorded on the Ancient Woodland Inventory (AWI) (https://map.environment.gov.scot/sewebmap/ within a 2km radius of the site;

- NatureScot's Carbon and Peatland 2016 Map (SNH, 2016c) was reviewed, which gives a value to indicate the likely presence of carbon-rich soils, deep peat and priority peatland habitat for each individually-mapped area, at a coarse scale across Scotland; and

- a search through The Highland Council Planning Portal for relevant reports submitted as part of the application for other nearby developments was undertaken. The following ESs, which relate to proposed wind farm developments within 10km of the site (where information could be obtained), were reviewed for relevant ecological information:
    - Ben Aketil Wind Farm ES (operational) (West Coast Energy, 2002) – located west of the site;
    - Ben Aketil Wind Farm Extension ES (operational) (Atmos Consulting, 2009) – located west of the site; and
    - Glenn Ullinish Wind Farm ES (consented) (Green Cat Renewables, 2014).

8.14 The data described in **paragraph 8.13** were reviewed to inform the scoping study for Balmeanach. In addition, freely available photographs of the site, other web-based sources and field survey data collected for the consented Ben Sca Wind Farm (SLR, 2019) and the consented Ben Sca Extension (SLR, 2021) were examined.

8.15 A further search of The Highland Council Planning Portal was undertaken in March 2023 in order to inform this assessment and the following additional EIAs relating to proposed wind farm developments within 10km of the site were reviewed for relevant ecological information:

- Ben Sca Wind Farm EIA Report (SLR, 2019);
- Glen Ullinish Wind Farm ES variation (Muirhall Energy Ltd, 2020);
- Ben Sca Wind Farm Extension EIA Report (SLR, 2021); and
- Edinbane Wind Farm ES (Haworth Conservation, 2009).

## Field Survey

8.16 A UK Habitat Classification (UKHab) and National Vegetation Classification (NVC) survey was undertaken within the main part of the site in September 2020. These habitat surveys covered both Ben Sca and Balmeanach sites. Bat surveys were also undertaken on the site between May and September 2021. Protected mammals and fish habitat surveys were undertaken in May 2021.

8.17 At Scoping, the site boundary extended south to the settlement of Balmeanach, therefore the survey area in August 2022 covered a greater extent than the application site boundary, as shown on **Figure 8.1.1**. Subsequently during design evolution (see **Chapter 2**), the site boundary was refined. The application site boundary no longer includes this southern area and no infrastructure is proposed in this area. The results of the walkover undertaken within the Scoping site boundary are presented here for completeness.

8.18 In August 2022 a further UKHab and NVC Survey was undertaken, which covered areas to the south and north to account for additional areas within the red line boundary that were not surveyed in September 2020. A walkover survey of the area within the original red line boundary was also conducted at the same time, in order to update the data collected in 2020. Additional fish habitat and protected mammal surveys were also undertaken within the additional red line boundary areas at the same time, to update the surveys conducted in May 2021. The survey areas are shown on

**Figure 8.1.3 of Technical Appendix 8.3**.

8.19 The scope of the above surveys was agreed with NatureScot as part of the Scoping process. The methodologies for the survey work are briefly outlined below, for the full methodologies please refer to **Technical Appendices 8.1-8.4.**

## *Vegetation Surveys*

### UK Habitat Classification Survey

8.20 A full UKHab and NVC survey of the site (excluding the HMP area) was undertaken in August 2022. Previous habitat surveys undertaken in 2020 within part of the site have provided us with additional information regarding habitat recovery from a fire that occurred in March 2018. Further details can be found in **paragraphs 8.55-8.56**.

### National Vegetation Classification (NVC) Survey

8.21 An NVC survey of open habitats was undertaken simultaneously within the UKHab survey in September 2020, and again in August 2022. The NVC survey was undertaken using the NVC system (Rodwell 1991 *et seq*., 5 volumes) and in accordance with NVC survey guidelines (Rodwell, 2006) (see **Technical Appendix 8.1).** The vegetation surveys were undertaken during periods of dry, generally stable weather.

8.22 Due to a large fire in spring 2018 across much of the site, the areas surveyed were still in the process of recovery at the time of survey. The fire appeared to have initially caused the disappearance of much of the heather (*Calluna vulgaris* and *Erica tetralix*) within the study area, which are two species used to accurately determine several specific habitat and NVC community types. The fire also burned deeply into the vegetation layers, destroying large areas of *Sphagnum* mosses, and other mosses such as *Polytrichum commune*, *Pleurozium schreberi* and *Hypnum jutlandicu,* which again are species which are used to determine several habitat and NVC community types. Many herb and forb species were also likely to have been burned.

8.23 During the 2020 survey, it was noted that some species had begun to regenerate especially *Calluna vulgaris* and *Erica Tetralix*; and their ongoing recovery was taken into account in the identification and mapping of habitat and community types.

### Groundwater Dependent Terrestrial Ecosystems (GWDTE)

8.24 Following the NVC survey, potential GWDTEs were identified in terms of their high, moderate or low potential groundwater dependence (SEPA, 2017). A more detailed assessment of the likely groundwater dependence of these communities was then undertaken as part of the hydrogeology assessment (**Chapter 10: Hydrology, Hydrogeology and Soils).**

## *Fish Habitat Assessment*

8.25 A fish habitat assessment was undertaken in September 2021 (see **Technical Appendix 8.2**), to assess the potential for fish species of conservation concern (e.g. salmonids and lamprey) to be present in watercourses within the study area. The survey was based on an adapted version of the Scottish Fisheries Co-ordination Centre (SFCC) *Habitat Survey Methodology* (SFCC, 2007). The survey included all watercourses within the site, as well as watercourses within 250m of potential infrastructure locations (where this encompassed land outside of the application boundary). A

walkover of each watercourse was undertaken and data on physical characteristics were collected at different locations along each watercourse. Any potential blockages to fish migration were also noted. Notes regarding fish habitat were also taken during the August 2022 surveys.

### *Mammal Survey*

8.26 A survey for protected and notable species of terrestrial mammal (excluding bats) was undertaken in May 2021 and updated in August 2022 (see **Technical Appendix 8.3**). The species specifically targeted were based on the likelihood of occurrence of each species, ascertained from known species distribution and habitat suitability. The mammal survey particularly focussed on otter (*Lutra lutra*), however the survey recorded evidence of all protected or notable mammal species encountered.

8.27 Surveys followed standard methodologies in place at the time of survey, e.g. Chanin (2003), Ward *et al*. (1994), Neal and Cheesman (2006) and Velander (1983). The study area encompassed all potentially suitable habitats within the site, as well as watercourses within 250m of potential infrastructure locations (where this encompassed land outside of the application boundary), in line with relevant guidance (e.g. SNH, 2016b).

### *Bat Survey*

8.28 Bat surveys were carried out in accordance with wind farm specific guidelines of relevance to the survey timeframe, published in January 2019 (SNH *et al*. 2019)[1]. A detailed methodology and the results are provided within **Technical Appendix 8.4.**

8.29 A daytime habitat appraisal for bats was conducted within the site and land within 200m plus rotor radius of proposed turbine locations (where this extended beyond the site boundary), in September 2020 in conjunction with the vegetation surveys. During the appraisal, habitats were assessed against specific criteria detailed within Collins (2016) in order to assign a 'level' of commuting and foraging suitability (i.e. High, Moderate or Low). Stands of trees and/or built structures were also evaluated using the same criteria to establish the overall level of suitability for roosting bats.

8.30 Static detector units (Wildlife Acoustics BATFS, recording in full spectrum) were deployed at the 10 proposed turbine locations[2] in spring, summer and autumn (T1-T10) 2021. Since this time, turbine locations have changed, however we are satisfied that the detector locations provide sufficient coverage of the site, and therefore that this change does not affect the validity of the results. Further details and a map showing static detector locations are provided in **Technical Appendix 8.4.**

8.31 Each static detector was deployed for a period of 16 nights per season, and the 10 nights with the most suitable weather during each season were used within the analysis. The guidelines (SNH *et al*., 2019) describe appropriate weather conditions as a sunset temperature of 8°C or above (in Scotland), ground level wind speed of 5m/s or lower, and no or very light rain. Wind speed and temperature data were collected from a met mast on site, and rainfall data were taken from a

[1] Since the time of surveys, this guidance has been updated (NatureScot et al, 2021), however at the time of survey planning the SNH (2019) guidance was relevant, and surveys were carried out in accordance with this version.

[2] Turbine locations as per Layout B

weather station at Dunvegan (http://www.isleofskyeweather.co.uk/index.php) (approximately 8km west of the site). Due to the geographic location and weather conditions, it was not possible to record 10 consecutive nights of data during appropriate weather conditions in all seasons, and the guidelines recognise that this is not always possible at sites in more northerly latitudes. During the spring deployment, six nights had weather conditions that exceeded the appropriate threshold and were therefore removed from analysis. The 10 nights of data used for spring were two periods of five suitable nights, separated by five days of rain/high winds. During the summer deployment, nine of the 10 nights of the bat data were collected in suitable weather conditions, with one night with high winds added to meet the minimum number required. During the autumn deployment, only four nights of bat data were collected in suitable weather conditions. To meet the minimum number required in the guidelines, the six nights with the next best weather conditions were added. The number of passes in autumn were extremely low however given the location of the site and the habitat present, it was concluded that sufficient bat data was collected in suitable conditions so as to assess the potential impacts of the Proposed Development upon bats. Survey dates, weather details and a discussion of rationale and limitations are provided in **Technical Appendix 8.4.**

8.32 No at-height static bat detector surveys were undertaken. Excluding at-height surveys is considered to be appropriate in this situation, as none of the turbine locations are situated within woodland, and the SNH *et al*. (2019) guidelines state that except in closed canopy woodland, monitoring at height is unlikely to detect the presence of any species not already recorded using detectors at ground level. There is also no supporting evidence (i.e. from the desk study or results of bat surveys from nearby wind farms) to suggest a high level of bat activity and therefore ground level surveys were considered sufficient to inform the assessment.

8.33 The guidelines state that the applicability of complementary activity surveys in the form of walked transect surveys are discretionary and site-specific. In this instance, it is considered appropriate that transect were not undertaken, given the habitats on the site being of generally low suitability for bats, lacking prominent features of high habitat connectivity, and lacking suitable roosting resource within the study area. It is therefore considered that sufficient data to assess the possible impacts of the Proposed Development upon bats has been gathered through the static detector sampling. In addition, it is noted that walked activity transect surveys were not appropriate for health and safety reasons, i.e. risks associated with walking across boggy and uneven ground on a remote site, in the dark.

### *Incidental Sightings*

8.34 During all ecological surveys, incidental sightings of other notable flora and fauna were also recorded.

## Assessment Methods

8.35 The CIEEM *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018 updated 2022) (henceforth referred to as the CIEEM guidelines) form the basis of the impact assessment presented in this Chapter. The CIEEM guidelines have been endorsed by NatureScot. The assessment of potential impacts on bats has been carried out based on NatureScot *et al*. (2021) guidelines.

### *Sensitivity of Receptor*

8.36 In accordance with the CIEEM guidelines only ecological receptors (habitats, species, ecosystems and their functions/processes), which are considered to be important and potentially affected by the Proposed Development should be subject to detailed assessment. It is not necessary to carry out detailed assessment of receptors that are sufficiently widespread, unthreatened and resilient to impacts from the Proposed Development and will remain viable and sustainable. For this assessment effects have been assessed for features of Local value or greater, plus any additional features subject to legal protection.

8.37 Ecological receptors should be considered within a defined geographical context. For this assessment the following geographic frame of reference has been used:

- International;
- National (i.e. Scotland);
- Regional (i.e. Highland);
- Natural Heritage Zone (NHZ) (i.e. the Western Seaboard NHZ);
- Local (i.e. within circa (c.) 5km); and
- Less than local.

8.38 For designated sites, importance should reflect the geographical context of the designation. For example, a SSSI would normally be considered nationally important.

8.39 In accordance with CIEEM guidelines the value of habitats has been measured against published selection criteria and other relevant data where available. Examples of relevant criteria include Annex 1 of the Habitats Directive, the Scottish Biodiversity List (SBL), and Highland Nature Biodiversity Action Plan (BAP) (Highland Environment Forum, 2021).

8.40 In assigning a level of value to a species, it is necessary to consider its distribution and status, including a consideration of trends based on available historical records. Reference has therefore been made to published lists and criteria where available. Examples of relevant lists and criteria include: species of European conservation importance (as listed on Annexes II, IV and V of the Habitats Directive); species considered to be of principal importance for biodiversity in Scotland as listed on the SBL; and priority species listed on the Highland Nature BAP.

8.41 *Ecobat*[3], a secure online tool initially designed by the University of Exeter and now hosted and developed by the Mammal Society (Lintott *et al.*, 2018) was used to assess the relative levels of bat activity at the site in the context of bat survey information collected from similar areas at the same time of year and in comparable weather conditions. The tool generates a percentile rank for each night of activity and provides a numerical way of interpreting the relative levels of bat activity recorded at the site within other sites across a defined search area.

8.42 Relative levels of bat activity within the study area were determined through comparison with the

[3] http://www.mammal.org.uk/science-research/ecostat/

following reference range data set:

- records from within 30 days of each survey date; and
- records within 200km of the site.

8.43 For each night of bat activity, Ecobat generates a percentile rank (with associated confidence limits) for activity recorded on site in comparison with reference range data. The percentiles provide a numerical indicator of the relative level of a night's bat activity, which are then categorised into activity 'levels' as follows:

- 0 – 20th percentile – low;
- 21st – 40th percentile – low to moderate;
- 41st – 60th percentile – moderate;
- 61st – 80th percentile – moderate to high; and
- 81st – 100th percentile – high.

8.44 The output data from *Ecobat* were considered in assessing the relative levels of activity of each bat species recorded within the site and risk to bat populations as a result of the Proposed Development (further information is provided in **Technical Appendix 8.4**).

### *Impact Assessment*

8.45 The ecological impact assessment process involves the following steps:

- identifying and characterising impacts;
- incorporating measures to avoid and mitigate (reduce) these impacts;
- assessing the significance of any residual effects after mitigation;
- identifying appropriate compensation measures to offset significant residual effects (if required); and
- identifying opportunities for ecological enhancement.

8.46 When describing ecological impacts, reference has been made to the following characteristics, as appropriate:

- positive or negative;
- extent;
- magnitude;
- duration;

- timing;
- frequency; and
- reversibility.

8.47 Both direct and indirect impacts are considered. Direct ecological impacts are changes that are directly attributable to a defined action, e.g. the physical loss of habitat during the construction process. Indirect ecological impacts are attributable to an action, but which affect ecological resources through effects on an intermediary ecosystem, process or receptor, e.g. the creation of access tracks which cause hydrological changes, which, in the absence of mitigation, could lead to the drying out of adjacent peatland habitats.

8.48 For the purposes of this assessment, in accordance with CIEEM guidelines, a 'significant effect' is defined as an effect that either supports or undermines biodiversity conservation objectives for 'important ecological receptors' or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy). Effects can be considered significant at a wide range of scales from international to local (**paragraph 8.37**). For example, a significant effect on a SSSI is likely to be of national significance whilst a significant effect on a regionally important population of a species is likely to be of regional significance.

8.49 Consideration of conservation status is important for evaluating the effects of impacts on individual habitats and species and assessing their significance:

- habitats – conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions, as well as its distribution and its typical species within a given geographical area; and
- species – conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area.

### *Avoidance, Mitigation, Compensation and Enhancement*

8.50 A sequential process has been adopted to avoid, mitigate and compensate for ecological impacts. This is often referred to as the 'mitigation hierarchy'.

8.51 It is important for the EIA to clearly differentiate between avoidance, mitigation, compensation and enhancement and these terms are defined here as follows:

- Avoidance is used where an impact has been avoided, e.g. through changes in scheme design;
- mitigation is used to refer to measures to reduce or remedy a specific negative impact in situ;
- compensation describes measures taken to offset residual effects, i.e. where mitigation in situ is not possible; and
- enhancement is the provision of new benefits for biodiversity that are additional to those provided as part of mitigation or compensation measures, although they can be complementary.

### *Cumulative Effects Assessment*

8.52 Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a particular location. The potential for cumulative effects with other development proposals has been assessed here.

8.53 For aquatic features potential cumulative effects are only likely to be significant for other developments located relatively close by (i.e. within 5km) and within the same hydrological sub-catchments. For (non-avian) terrestrial features potential cumulative effects are only likely where other developments are located within the regular range of more mobile species, e.g. bats. As such, the cumulative assessment has therefore been restricted to other developments within 10km. The assessment includes operational projects, projects under construction, consented projects which are not yet under construction, and projects for which planning applications have been submitted.

## Assumptions, Limitations and Confidence

8.54 Presented here is a summary of limitations detected during the surveys, further details are presented in **Technical Appendices 8.1-8.4**. It should be noted that none of these limitations are considered likely to significantly affect the assessment.

8.55 As described in **paragraphs 8.22 and 8.23**, the study area was subject to a fire in spring 2018 and was still in the process of recovering during the September 2020 vegetation surveys. While the vegetation was still some way short of full recovery, by combining general knowledge of the area (including previous surveys at the adjacent Ben Sca Wind Farm site) and the surveyors' extensive experience in upland NVC survey, it was considered that the mapping provided a reasonably well informed inventory of habitat types present on site, despite the fire damage.

8.56 Some fire damaged areas were found to still be recovering during the August 2022 walkover surveys, although some areas were showing good dwarf shrub heath recovery at that time. Some of the areas on steep slopes or high ground on thin soils still showed signs of damage after a slow recovery from the fire, with much exposed bare ground and slow recovery of heath, wet heath and grassland habitats.

8.57 As described in **paragraph 8.31**, it was not possible to obtain 10 nights of data during optimal weather conditions in any season. Overall, given the location of the site and habitat present, it is concluded that sufficient bat data has been collected in suitable conditions, so as to be able to assess the potential impacts of the Proposed Development upon bats.

8.58 Of the 10 detectors deployed, the detector at sample point 6[4] failed to record for the full summer monitoring period and as such no survey data were gathered at this point in the summer (see **Table 2-1** in **Technical Appendix 8.4**). The reasons for the failure are not known. From experience, occasional detector failures are unavoidable, and given the failure only occurred at one location, during one recording season, it is not considered likely to significantly affect the assessment (see **Technical Appendix 8.4** for further details).

8.59 The week prior to the protected mammal surveys in May 2021, there had been very heavy and persistent rain, leading to unusually high water levels, with the rivers being beyond bank full during

[4] Location of proposed Turbine 6 in Layout B (Figure 2.3)

the survey. There is therefore a possibility that some signs of target species had been washed away. During the August 2022 surveys, there was heavy rainfall on the first survey date, resulting in medium water levels, although there were some signs that watercourses had overtopped in some of the narrower sections. This is not believed to have had a significant effect on survey results.

8.60 An ecological survey provides only a 'snapshot' of the conditions prevailing at the time of survey. Whilst it is considered unlikely that any significant evidence of protected or otherwise notable species were overlooked during the survey work, due to the nature of the subjects of ecological surveys, it is feasible that species that use the site may not have been recorded by virtue of their seasonality, cryptic behaviour, habit or random chance. This is a standard limitation that is common to all ecological survey work. It is considered unlikely, however, that additional surveys of the site would materially alter the conclusions of the baseline survey work. Pre-construction surveys for protected mammal species are proposed in **paragraph 8.109**, which are intended to address any issues resulting from future changes in the distribution of protected mammals.

# BASELINE CONDITIONS

## Current Baseline

### *Desk Study*

#### Statutory Designated Sites

8.61 There are no ecologically designated sites within the site boundary. There are three statutory designated sites within 10km of the site boundary, as detailed in **Table 8-2** and illustrated on **Figure 8.1.**

**Table 8-2: Statutory Designated Sites within 10km**

| Site Name | Designation | Approximate Distance and Direction from Application Boundary | Reasons for Designation |
|---|---|---|---|
| An Cleireach | SSSI | 1km south (at its closest point) | Geological (tertiary igneous intrusion) |
| Inner Hebrides and the Minches | SAC | 2.8km west (at its closest point) | Harbour porpoise |
| Ascrib, Isay and Dunvegan | SAC | 8.2km west north west (at its closest point) | Harbour seal |

8.62 The only designated sites within 10km are designated either for their geological interest or for marine features. There are therefore unlikely to be any impacts on features for which these sites are designated and impacts upon designated sites are therefore scoped out from detailed assessment. This approach has been agreed with NatureScot as part of the scoping process.

#### Non-statutory Sites

8.63 No non-statutory designated sites for nature conservation have been identified within a 5km radius of the site.

8.64 One small block of ancient woodland listed on the Ancient Woodland Inventory was identified within 5km of the site, located approximately 3.7km north east of the site, within the settlement of Edinbane, as illustrated on **Figure 8.1**.

8.65 Given the lack of non-statutory designated sites within 5km of the site, non-statutory designated sites would be unlikely to be affected by the Proposed Development and are scoped out from further assessment. Similarly, effects on areas listed under the Ancient Woodland Inventory have been scoped out, due to the separation from the site by a distance of at least 3km and lack of connectivity, and lack of potential pathways for effects.

### Existing Records of Protected and Notable Species

8.66 **Table 8-3** provides a summary of the results of the protected and notable species search (excluding marine and avian species) undertaken by Atmos Consulting (2017) (via the NBN portal) and HBRG (within a 5km radius of the site) and through review of ESs and EIA Reports for nearby wind farms. This data was for the adjacent Ben Sca Wind Farm, therefore distances are recorded from the Ben Sca Wind Farm site rather than Balmeanach Wind Farm. **Table 8-3** also indicates whether the relevant species were recorded during surveys undertaken to inform the Ben Sca Wind Farm EIA (as reported in SLR, 2019). Given the proximity of Ben Sca Wind Farm to the site, the information collected is deemed to also cover the Balmeanach Wind Farm site. Further details are provided in the relevant **Technical Appendices 8.2 – 8.4**.

**Table 8-3**
**Existing Records of Protected and Notable Species[5]**

| Species | Status* | Notes | Recorded during Ben Sca field surveys |
|---|---|---|---|
| **Lichen** | | | |
| Lichen (*Stricta fuliginosa*) | SBL | Single record within 5km of Ben Sca (per HBRG). | No survey |
| **Insect** | | | |
| Small heath (*Coenonympha pamphilus*) | SBL | Records within 5km of Ben Sca (per HBRG). | No survey |
| Large heath (*Coenonympha tullia*) | WCA Sch5 (in respect of Section 9(5) only), SBL | Single record within 5km of Ben Sca (per HBRG). | No survey |
| Moss carder bee (*Bombus muscorum*) | SBL | Single record within 5km of the Ben Sca (per HBRG). | No survey |
| Broom moth (*Ceramica pisi*) | SBL | Single record within 5km of the Ben Sca (per HBRG). | No survey |
| **Fish** | | | |
| European eel (*Anguilla Anguilla*) | SBL | Records within 5km of Ben Sca dating from 1990 (per NBN). | Low to moderate habitat suitability |

[5] Including species protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended in Scotland), Schedule 2 of the Conservation (Natural Habitats &c.) Regulations 1994 (as amended in Scotland), listed on the SBL (Scottish Government, 2013) and Skye and Lochalsh BAP priority species (Skye and Lochalsh Biodiversity Group, 2003).

| Species | Status* | Notes | Recorded during Ben Sca field surveys |
|---|---|---|---|
| Atlantic salmon (*Salmo salar*) | SBL, LBAP, SFF | Records within 5km of Ben Sca dating from 1985 and 1990 (per NBN). | Low to moderate habitat suitability, possible sighting of parr |
| Brown/ sea trout (*Salmo trutta*) | SBL, LBAP | Records within 5km of Ben Sca dating from 1980, 1990 and 2012 (per NBN), nine records within 5km of Ben Sca dating from 2012 (per HBRG), including two trout records from the Abhainn Choishleadar, the upper reaches of which form the eastern boundary of Ben Sca. | Low to moderate habitat suitability, possible sighting of parr |
| **Herpetofauna** | | | |
| Palmate newt (*Lissotriton helveticus*) | WCA Sch5 (in respect of Section 9(5) only), | Records within 5km of Ben Sca (per NBN/ HBRG). | No survey |
| Common toad (*Rana temporaria*) | WCA Sch5 (in respect of Section 9(5) only), SBL | Single record within 5km of Ben Sca (HBRG). | No survey |
| Common frog (*Rana temporaria*) | WCA Sch5 (in respect of Section 9(5) only) | Records within 5km of Ben Sca (per NBN/ HBRG). | No survey |
| Common lizard (*Zootoca vivipara*) | WCA Sch5 (in respect of Section 9(1) and 9(5) only), SBL | Single record located approximately 2.9km west of Ben Sca (dating from 2016) (per NBN/ HBRG). | No survey |
| **Mammal** | | | |
| Common pipistrelle (*Pipistrellus pipistrellus*) | HR Sch2, WCA Sch5, SBL, LBAP | Low numbers recorded during surveys for Glen Ullinish Wind Farm (2.8km to south of site). One record within 5km and 12 further records within 10km (from NBN), dating from between 1980 and 2018. Also, six records of unspecified *Pipistrellus* and Chiroptera bats between 5 and 10km from Ben Sca (NBN). | Yes: recorded at the Ben Sca site during static detector surveys conducted in spring, summer, and autumn 2019, with an average (mean) of 0.31 passes per night recorded. |
| Soprano pipistrelle (*Pipistrellus pygmaeus*) | HR Sch2, WCA Sch5, SBL, LBAP | One record (from NBN) between 5 and 10km from Ben Sca, dating from 2013. | Np |
| Natterers bat (*Myotis nattereri*) | HR Sch2, WCA Sch5, SBL, LBAP | Summer roost identified at the south end of Edinbane Wind Farm (record reported by NatureScot in their Balmeanach scoping response). The precise location is not in the public domain and due to the sensitivity of the roost NatureScot request that information regarding the specific location of the roost is not shared. However, it can be confirmed that the roost is at least 3km south east of Ben Sca. | No |

| Species | Status* | Notes | Recorded during Ben Sca field surveys |
|---|---|---|---|
| Otter (*Lutra lutra*) | HR Sch2, WCA Sch5, SBL, LBAP | Records within 5km of Ben Sca (per NBN/ HBRG), relating to lochs north of Ben Sca or road casualties at Edinbane Wind Farm; several spraint records during surveys for Ben Aketil, Ben Aketil Extension and Glen Ullinish Wind Farms. An otter resting site was recorded 0.3km west of Ben Sca during Ben Aketil surveys, and an otter couch was recorded 1.3km west of Ben Sca during Ben Aketil Wind Farm Extension surveys. | No |
| Hedgehog (*Erinaceus europaeus*) | SBL | Records within 5km of Ben Sca (per HBRG). | No |
| Brown hare (*Lepus europaeus*) | SBL | Records within 5km of Ben Sca (per HBRG). | No |
| **Red Deer** | | | Yes |
| **Roe Deer** | | | Yes (reported by game keeper) |
| **Table Key: Status*<br>*HR Sch2 = Included on Schedule 2 of the Conservation (Natural Habitats &c) Regulations 1994 (as amended in Scotland)*<br>*WCA Sch5 = Listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended in Scotland)*<br>*SFF = Salmon spawning beds protected under the Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003*<br>*SBL = listed on Scottish Biodiversity List (SBL) (Scottish Government, 2013)*<br>*LBAP = Highland Nature Biodiversity Action Plan (highland Environment Forum, 2021)* | | | |

## *Vegetation Baseline*

### Evaluation of Floral Receptors

8.67 The site lies within a Class 1 area on NatureScot's Carbon and Peatland 2016 map (SNH, 2016c), which is described as "nationally important carbon-rich soils, deep peat and priority peatland habitat. Areas likely to be of high conservation value." The purpose of the map is to give a value to indicate the likely presence of carbon-rich soils, deep peat and priority peatland habitat on a coarse scale, rather than confirming that these are present. Site-specific information relating to carbon-rich soils and deep peat (including a peat depth survey) is contained in **Chapter 10: Hydrology, Hydrogeology and Soils**. A description and evaluation of the habitats present on the site is contained in **Table 8-4**.

8.68 Habitats identified under the UKHab classification and NVC communities within the site are shown in **Table 8-4** with more detailed habitat descriptions and quadrat data provided in Technical **Appendix 8.1.** The mapped results are shown on **Figures 8.1.2 and 8.1.3** within **Technical Appendix 8.1** (with proposed infrastructure locations overlain).

8.69 **Table 8-4** also summarises the conservation status for each habitat/community and evaluates the importance of each habitat/community within the study area. For habitats recorded in mosaic, the mosaics have been evaluated based on their floristic composition, underlying substrate and occurrence within the study area.

8.70 No plant species listed on Schedule 8 of the Wildlife and Countryside Act 1981 were recorded, and it is considered unlikely that any Schedule 8 plant species are present within the study area. No Skye and Lochalsh BAP species, nor SBL higher plant, moss or liverwort priority species were recorded within the study area during the botanical surveys in 2020 and 2022.

**Table 8-4**
**Evaluation of the UKHab Habitats and NVC Communities Present within the Site**

| UK Hab Habitat Type | NVC Community Name | Conservation Status* | Likely Groundwater Dependency | Reason for Evaluation | Evaluation |
|---|---|---|---|---|---|
| f1a5 Blanket Bog | M17 *Scirpus cespitosus* – *Eriophorum vaginatum* Blanket Mire | Annex 1 (priority habitat[6]), SBL, LBAP | - | There is an estimated 2.2 million ha of blanket bog in the UK (BARS, 2012), and 1.8 million ha in Scotland, representing an estimated 23% of the Scottish land area (Bruneau and Johnson, 2014). Blanket bog is a rare habitat globally, and Scotland holds a significant proportion of the world resource (Bruneau and Johnson, 2014). On a more regional scale, blanket bog is considered to be widespread in Skye and Lochalsh, often occurring as a mosaic with heathlands (Skye and Lochalsh Biodiversity Group, 2003).<br><br>Blanket bog is the dominant habitat type within the site, which is typical for this area of Skye. Some areas of M17 and M19 are located over deeper peat and in some areas M3 bog pools have formed. Additionally, one heavily hagged area has been defined as degraded blanket bog (M15).<br><br>The blanket bog habitats were still in recovery during the survey in 2020, and further recovery of ericoid species was observed during the 2022 survey, though ground cover was still sparse in some areas. However, it is considered likely that the bog habitats were all in good condition prior to the fire. For example, there are no signs of man-made drainage away from the forestry, and no signs of historical peat cutting. The habitats have therefore been evaluated based the small size of the patches, their likely condition prior to the fire and the assumption that the bog habitat will recover to a more favourable status in time. | Regional Value |
| | M19 *Calluna Vulgaris* – *Eriophorum vaginatum* blanket mire | Annex 1 (priority habitat[6]), SBL, LBAP | - | | |
| | M1 *Sphagnum denticulatum* Bog Pool Community | Annex 1 (priority habitat[6]), SBL, LBAP | - | | |
| | M3 *Eriophorum angustifolium* Bog Pool Community | Annex 1 (priority habitat[6]), SBL, LBAP | - | | |
| f1a6 Degraded Blanket Bog | M15 *Tricophorum cespitosum-Erica tetralix* wet heath | SBL, LBAP | - | The small area of degraded blanket bog habitat is in poor condition, showing signs of erosion through grazing pressure. The area labelled 'M15 – M19' is a poor condition blanket bog that appears to be recovering in the direction of M19, however with little or no Sphagnum species or hare's-tail cottongrass it is still currently recorded as | Local Value |
| | M15 Trichophorum cespitosum – Erica tetralix wet heath - M19 | | | | |

[6] Active bog is a priority habitat under the Habitats Directive.

| UK Hab Habitat Type | NVC Community Name | Conservation Status* | Likely Groundwater Dependency | Reason for Evaluation | Evaluation |
|---|---|---|---|---|---|
| | Calluna Vulgaris – Eriophorum vaginatum blanket mire<br>M1 *Sphagnum denticulatum* Bog Pool Community | | | degraded. The habitats have been evaluated based on the small size of the patch and the degraded condition of this area. | |
| f2b Purple moor grass and rush pastures | M23 *Juncus effusus / acutiflorus - Galium palustre* rush-pasture | SBL, LBAP | High | Rush pasture was found in small areas adjacent to waterways throughout the site, dominated by *Juncus effusus* and *J. acutiflorus*. Some areas of M23 appeared quite species-rich whilst other areas were relatively species-poor.<br>M23 is a widespread community of gently-sloping ground and is typically found around the margins of soligenous flushes. Due to its limited extent and non-exceptional species assemblage on the site, it has been assessed as having less than local value. Its potential groundwater dependence is assessed in **Chapter 10: Hydrology, Hydrogeology and Soils.** | Less than local value |
| | M25 *Molinia caerulea – Potentilla erecta* mire | SBL, LBAP | Moderate | This community is limited to a small area adjacent to a watercourse in the north west of the site. The area is waterlogged and dominated by *Molinia caerulea*, with scattered *Erica tetralix* and *Succisa pratensis*, with a good cover of *Sphagnum* species in the ground layer.<br>This is a widespread community that is usually found on degraded wet heath or blanket bog, where *Molinia caerulea* has been allowed to dominate. In this case the area is limited in extent with a poor species assemblage, therefore has been assessed as having less than local value. Its potential groundwater dependence is assessed in **Chapter 10: Hydrology, Hydrogeology and Soils.** | Less than local value |
| f2c Upland flushes, fens and swamps | M4 *Carex rostrata – Sphagnum recurvum* mire | SBL, LBAP | - | The flushes recorded within the site were generally associated with a break in ground slope, or formed the start of a V shaped stream system. Specifically, several small areas of M4 and M6 were noted, mostly dominated by *Sphagnum* species overtopped by rushes or sedges.<br>M4 and M6 are common and widespread in the uplands of the UK (Rodwell, 1991) and have been assessed as having local value. Their potential groundwater dependence is assessed in **Chapter 10: Hydrology, Hydrogeology and Soils.** | Local value |
| | M6 *Carex echinata – Sphagnum fallax/ denticulatum* mire | - | High | | |

| UK Hab Habitat Type | NVC Community Name | Conservation Status* | Likely Groundwater Dependency | Reason for Evaluation | Evaluation |
|---|---|---|---|---|---|
| | M32 *Philonotis fontana – Saxifraga stellaris* spring | - | High | This community was found to be generally limited to less acid soils adjacent to watercourses, often occurring downstream of the M6 mire community. Dominated by both *Juncus effusus* and *J. acutiflorus*, this community lacks the *Sphagnum* species found in M6. Some areas appeared to be relatively species-rich. Signs of grazing were noted in this community, other areas were relatively species poor, with large amounts of *Ranunculus repens* threading between the *Juncus* stems.<br>M32 is one of the most common and widespread types of spring vegetation in the uplands of north west Britain (Rodwell, 1991). M32 has been assessed as having local value. Its potential groundwater dependence is assessed in **Chapter 10: Hydrology, Hydrogeology and Soils** | Local value |
| h1b Upland Heath | H12 *Calluna vulgaris – Vaccinium myrtillus* heath | Annex 1 (priority habitat), SBL, LBAP | - | These community types were limited in extent and only occurred in small areas, where steep, shallow, free-draining soils were present. These heath communities were found in mosaic with the acid grassland U5 community and with the wet heath M15 community.<br><br>There is an estimated 1.7 to 2.5 million ha of upland heathland in Scotland (SNH n. d.), and heathland is considered widespread in Skye and Lochalsh, often in a mosaic with blanket bog (Skye and Lochalsh Biodiversity Group, 2003). H12 is one of the most common forms of dry heath in Scotland (SNH n.d.). Given the very limited and fragmented amount of these habitats on the site, and the very small proportion of the Scottish heathland resource, it is assessed as being of no more than local value. | Local value |
| | H14 *Calluna vulgaris – Racomitrium lanuginosum* heath | Annex 1 (priority habitat), SBL, LBAP | - | | |
| | M15 *Scirpus cepitosus – Erica tetralix* Wet Heath | Annex 1 (priority habitat, SBL, LBAP) | Moderate | This community replaces the M17 mire on the slightly steeper slopes of the site, where peat depths are shallower. Since the 2018 burn, the M15 has become dominated by *Molinia caerulea*, which at the time of the 2020 and the 2022 surveys gave a very grassy appearance to this community type. On close inspection however, all of the elements of wet heath were found to be present here. These wet heath communities were sometimes found in mosaic with the acid grassland U4 and U5 communities.<br><br>There is an estimated 462,000 ha of wet dwarf shrub heath in the UK (JNCC, 2011). Given the damage still present from the fire in 2018 and the continued dominance of *Molinia caerulea*, it is assessed as being of no more than local value. Its potential | Local value |

| UK Hab Habitat Type | NVC Community Name | Conservation Status* | Likely Groundwater Dependency | Reason for Evaluation | Evaluation |
|---|---|---|---|---|---|
| | | | | groundwater dependence is assessed in **Chapter 10: Hydrology, Hydrogeology and Soils.** | |
| g1b Upland Acid Grassland | U4 *Festuca ovina – Agrostis capillaris -Galium saxatile* grassland | - | - | Acid grasslands were found on sloping ground with thin, dry soil and on the lower ground to the southern part of the scoping site boundary grazed by livestock. The communities were limited in extent across the site, forming small patches or in mosaic with wet and dry heath communities. U4 and U5 communities were also found in mosaic with heath and mire communities on the higher ground in the northern part of the site.<br><br>The acid grassland communities are LBAP priority habitats, however given the small and fragmented nature of these habitats, and the lack of significant species associated with them, they are considered to be of no more than local value. Potential groundwater dependence is assessed in **Chapter 10: Hydrology, Hydrogeology and Soils** | Local value |
| | U5 *Nardus stricta – Galium saxatile* grassland | SBL, LBAP | - | | |
| | U6 *Juncus squarrosus – Festuca ovina* grassland | SBL, LBAP | Moderate | | |
| g1c Bracken | U20 *Pteridium aquilinum – Galium saxatile* community | - | - | Areas dominated by *Pteridium aquilinum* (bracken), were found in grazed areas in the south of the site, near the public road. These patches primarily comprised a *Pteridium aquilinum* canopy with acid grassland species in the understory.<br><br>This is a widespread community that can dominate on grazed land to the detriment of the native species community and holds little value for biodiversity. The community has therefore been assessed as having less than local value. | Less than local value |
| r1 Standing open water | N/A | SBL, LBAP | - | The watercourses present are very minor, mostly <1m wide, and represent small tributaries which feed into more significant watercourses off-site. The tributaries are not particularly notable in habitat terms, however they provide suitable habitat for a range of faunal species and are connected to more significant watercourses, and therefore are considered to be of local value. | Local value |

**Table Key: Conservation Status*

*Annex 1 = Listed on Annex 1 of the EC Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora)*

*SBL = listed on Scottish Biodiversity List (SBL) (Scottish Government, 2013)*

### *Faunal Baseline*

8.71 A summary of the protected or otherwise notable fauna recorded within the relevant study areas during various ecological surveys and/or for which records were provided during the desk study is provided below. Further details are provided in **Technical Appendices 8.2 – 8.4**.

#### Invertebrates

8.72 The Ben Sca desk study (SLR, 2019) provided records of the SBL species small heath, large heath, moss carder bee and broom moth within the 5km search area and it is possible that some of these species could be present within the site. However, as detailed in **paragraph 8.9**, invertebrates have been scoped out from detailed assessment, in accordance with NatureScot (2022) advice and due to the area of land take being small in comparison with the availability of similar habitats in the wider area.

#### Fish

8.73 A summary assessment of habitat suitability for fish species of conservation importance is provided in **Technical Appendix 8.2.** The upper reaches of the Allt Storachan are just within the northern site boundary where it is very narrow with a peaty substrate. The full length of the tributary of Abhainn Choishleadar that occurs within the site boundary was surveyed, some small bedrock falls and peat hag slips were present however did not appear to pose a major obstruction to fish movement. Neither the Allt Storachan nor the Abhainn Choishleadar were of high suitability for fish due to their narrow nature and peaty substrate. The reaches of Aketil Burn within the site were found to be mainly underground/ flush and had no suitability for fish. The Allt Ruaridh Burn occurs in the east of the site and was noted to be suitable for fish, however seven obstructions from either bank slips or collapses were recorded, with five of them noted as having potential to pose an obstacle to adult fish. The Alt Bhaile Mheadhonaich Burn occurs within the southern part of the scoping site boundary, with the upper reaches of the burn going underground/into flushes or bogs with no suitability for fish. Further on, there were several stretches of the burn covered with overhanging vegetation and two bedrock chutes which are probable fish barriers. The Alt Bhaile Mheadhonaich burn provides low suitability for fish on site.

8.74 Overall, the site has low suitability for fish.

#### Amphibians and Reptiles

8.75 No amphibian species were noted incidentally during the May 2021 survey, however a common frog was seen on the Allt Ruairidh boundary burn in August 2022. The site falls well outside the known range of great crested newt (*Triturus crisatus*) (Oldham *et al*., 2000). The habitat within the site is not considered to be of particular importance for amphibians.

8.76 No reptile sightings were made incidentally during the May 2021 survey, however two sightings of common lizards were recorded on the Allt Ruiaridh and Aketil burn during the August 2022 survey. The habitats on site were still in recovery from the fire during the May 2021 survey reducing the suitability of the site for reptiles, however the habitat has since recovered further and therefore the majority for the site provides good habitat for common lizard (i.e., open bog and heath habitats). It is also possible that the site could support other reptile species such as adder (*Vipera berus*), although no records have been provided within 5km of the site for this species.

### Otter

8.77 No records of otter were returned during the data search for the Ben Sca Desk Study (SLR, 2019), and no field signs of otter were recorded during the subsequent Ben Sca field surveys undertaken in May 2019 (SLR, 2019).

8.78 Otter field signs were not recorded within the study area during the mammal survey undertaken in May 2021, however one otter spraint was found on the Aketil Burn during the August 2022 survey, confirming otter activity on site.

8.79 Three burns with habitat suitable for otter presence are present on site: Aketil Burn, Allt Bhaile Mheadhonaich and Allt Ruairdh. The larger watercourses on the north eastern border (Allt Ruairidh) and in the lower section of the Aketil Burn in the western corner of the study area provides suitable commuting and foraging habitat with limited opportunity for shelter creation. The Allt Bhaile Mheadhonaich provides suitable commuting and foraging habitat with limited shelter creation opportunities, the upper reaches of the burn narrows and disappears into flushes/underground. However, further into the site burns become narrower and less suitable for otter shelter. At higher altitudes burns narrow further eventually going underground and therefore are of limited value for otter.

8.80 Tributaries of the Allt Storachan and Abhainn Choisleadar burns occur in the north of the site, however both are very narrow with a peaty substrate, with low suitability for otter.

### Pine Marten

8.81 No signs of pine marten were recorded within the study area during the May 2021 and August 2022 survey and the Ben Sca desk study (SLR, 2019) search showed no pine marten records within 5km of the site. The majority of the site is poor for pine marten, due to its open aspect and therefore few shelter opportunities.

### Badger

8.82 The majority of the site offers limited suitability for badger sett building and foraging, as it consists largely of open upland habitat with wet ground. No badger field evidence was found during the May 2021 or the August 2022 mammal surveys. The species was considered historically absent from Skye, however there are sporadic, unconfirmed records for this species since the opening of the Skye Bridge, although no historical records were identified within a 10km radius of the Ben Sca site.

### Bats

8.83 The habitat suitability appraisal identified that habitats within the site were of low suitability for commuting and foraging bats, with much of the site comprising exposed upland habitat formed primarily of blanket bog, heathland and acid grassland. The upper reaches of several minor watercourses intersect the site however, these were considered to constitute linear features that may be used by low numbers of commuting or foraging bats. A lack of potential roosting resource was also recorded within the site, with only limited opportunities for roosting noted within areas of forestry plantation to the south east, and three built structures located to the southern part of the scoping site boundary.

8.84 **Table 8-5** summarises the results of the static bat detector survey, for the site as a whole. For a more detailed breakdown of the survey results, by location and season, refer to the results tables

in **Technical Appendix 8.4.**

8.85 Only one species, common pipistrelle, was recorded within the site during the bat activity surveys. Across the survey period, a total of 44 common pipistrelle passes were recorded. This equates to a site mean of 0.2 bat passes per night (or approximately one bat pass every three nights per sample location).

8.86 Bat passes were only recorded on 15.1% of the nights sampled; the remainder (84.9%) of the nights recorded no bat activity, such that the median number of bat passes recorded per night was zero.

8.87 There was a slight temporal variation in bat activity across the seasons, specifically activity was highest in summer, and lowest in autumn, with spring activity levels recorded between these two. However, the overall number of bat passes in all seasons was still low, and the mean number of bat passes per night only varied between seasons by a maximum of 0.12 bat passes per night (i.e. between 0.02 and 0.14 bat passes per night).

8.88 Similarly, there was some, relatively small, spatial variation between detector locations, although the number of bat passes at all detector locations was low. Specifically, the mean bat passes per night varied between 0.07 (at sample locations T4 and T6, in blanket bog) and 0.3 (at T3 and T9, in blanket bog and upland heath respectively). When sample locations are compared between habitat types (blanket bog, upland heathland and upland acid grassland), the mean number of bat passes in upland heathland (0.18) was slightly higher than blanket bog (0.14) and upland acid grassland (0.1). However, given the small sample size, these differences may not be significant. The guidelines state that median bat passes per night (rather than mean) is the more representative statistic, however due to the low number of bat passes per night, the median in this case is zero for all habitat types.

**Table 8-5**
**Bat Activity Results Summary: Whole Site**

| Species | Nights of Survey Data | Total Bat Passes | Mean Passes per Night | Median Passes per Night |
|---|---|---|---|---|
| Common pipistrelle | 290 | 44 | 0.2 | 0 |

8.89 Common pipistrelle is classified within the guidelines (NatureScot, 2021) as being of high collision risk, but because it is a relatively common species, its overall population vulnerability is classified as medium (refer **to Annex B in Technical Appendix 8.4** for the collision risk, relative abundance and overall population vulnerability of bat species in Scotland).

8.90 Within Ecobat, the median activity percentile for common pipistrelle during nights where bats were recorded ranged from 'low' activity; for which nine detector locations fell into this category, to 'low to moderate' activity; for which one detector location fell into this category. The reference range for common pipistrelles was 886, indicating reasonable confidence in the accuracy of comparison in activity levels within the 200km search area.

8.91 Although five nights represented 'low-moderate' activity, and three nights represented 'moderate' activity, this only represents 11.4% of the total nights for which data have been analysed, as the majority (257) of nights recorded no bats. Overall, common pipistrelle activity within the site during the active bat period is therefore considered to be low.

### Deer

8.92 Red deer (*Cervus elaphus*) were not recorded on site during the May 2021 surveys however there were incidental sightings noted during the August 2022 surveys, in addition to several large 'lie ups' noted, presumed to be red deer. Incidental reports of red deer have also been recorded at the adjacent Ben Sca Wind Farm site, and it is understood that the area supports a relatively small population of red deer at low density, and that they can be found at higher densities within off-site blocks of forestry such as Glen Vic Askill to the south east as detailed in the Ben Sca EIA Report (SLR, 2019).

8.93 No formal deer management plan is in place covering the site, but there is an informal arrangement as described in the Ben Sca EIA Report (SLR, 2019) whereby no more than seven hinds and two to three stags are shot per year in the area, to keep numbers in check. Deer are counted using thermal imaging equipment, and although exact numbers are not known (due to the lay of the land making counts difficult) it is estimated that there are two to three resident stags on the site, and up to 20 hinds have been seen at once on the site. Whilst 20 hinds have been recorded on the site, these deer have a much wider range of which the site only forms one small part of, as the deer move across the site to other areas of better habitat. With this information, although it is not possible to determine a precise deer density estimate, it is concluded that the site is likely to support a density of less than 5 red deer per $km^2$.

8.94 Roe deer (*Capreolus capreolus*) are also reported to occur in the area (SLR, 2019), but only on a very occasional basis. In accordance with NatureScot (2016a) guidance, a deer assessment is included in **paragraphs 8.139-8.143 and 8.179-8.182**, which assess the potential impacts on deer welfare, habitats, neighbouring and other interests (e.g. access and recreation, road safety, etc.).

### Brown Hare

8.95 Records of brown hare were returned within 5km of the neighbouring Ben Sca site. Although this species was not recorded incidentally on the site during surveys, the site does have some suitability for this species. However, due to the mobility of this species and limited habitat loss, with an abundance of suitable habitat within the surrounding landscape, detailed assessment of effects on this species has been scoped out.

### Hedgehog

8.96 Records of hedgehog were returned within 5km of the neighbouring Ben Sca site. This species was not recorded incidentally on site and the habitats within the site are considered predominantly suboptimal for this species due to its upland peatland and wet nature, with more suitable habitat for this species present in the wider area. As such, this species is scoped out from further assessment.

## *Evaluation of Faunal Receptors*

8.97 An evaluation of the non-avian faunal ecological receptors, which are either known to be present or considered likely to be present within the relevant study areas, is provided in **Table 8-6.**

**Table 8-6**
**Evaluation of Faunal Receptors**

| Receptor | Legal / Conservation Status | Reason for Evaluation | Evaluation |
|---|---|---|---|
| Fish: brown trout, Atlantic salmon, European eel | SBL, LBAP, SFF | There are brown trout records within 5km of the Ben Sca site, including records for Abhainn Choishleadar. The section of Abhainn Choishleadar within the site was graded as low suitability for fish due to the tributaries being small and shallow with peaty substrate.<br><br>The Aketil Burn has some good salmonid habitat within the site, and connects to the Caroy River below the site boundary, which is classed as Good in the Water Framework Directive (WFD) and is likely suited for fish. Overall, the Aketil Burn is assessed as being up to local value for fish.<br><br>Overall, given the nature of aquatic habitats present outwith the site, the Abhainn Choishleadar is assessed as being of up to local value for fish.<br><br>The remaining watercourses within the site are assessed as being of less than local value. | Local value (Abhainn Choishleadar and Aketil Burn only) |
| Common lizard and adder | WCA Sch5 (in respect of Section 9(1) and 9(5) only), SBL, LBAP | Much of the site contains suitable habitat for common lizard, although the fire damage had previously reduced the suitable available cover and structural heterogeneity, regeneration of the vegetation has meant that there are suitable areas on site for foraging and basking. Common lizard was recorded on site in August 2022. Common lizard is described as being widespread throughout Scotland (SNH, 2016d) (with the exception of the Central Lowlands and the Northern Isles). Therefore, as common lizard are widespread in the area, and given the size of the site, the low number of incidental records and the abundance of suitable habitat in the surrounding area, the site is not assessed to be of a higher than local value for common lizard.<br><br>Due to the presence of suitable habitat such as heath, it is possible that adder occur on site, although there are no recorded sightings. Adder is described as being widespread across the Scottish mainland, but not found on many of the Scottish Islands (SWT, 2016e), although there are abundant records on Skye. Given the widespread nature of this species and the abundance of suitable habitat in the surrounding area, the site is not assessed to be of higher than local value to adder, should it be present. | Local value |
| Otter | HR Sch2, WCA Sch5, | Otter spraint was identified during the August 2022 surveys, confirming otter presence within the site, | Local value |

| Receptor | Legal / Conservation Status | Reason for Evaluation | Evaluation |
|---|---|---|---|
| | SBL, LBAP | although previous surveys recorded no otter signs. The larger watercourses on the north eastern border (Allt Ruairidh) and in the lower section of Aketil Burn in the western corner of the study area provide suitable commuting and foraging habitat with limited opportunity for shelter creation. The Allt Bhaile Mheadhonaich provides suitable foraging habitat with limited shelter creation with the upper reaches disappearing into flushes/underground. Further into the site the burns become narrower and less suitable for fish and are therefore likely to be of limited value to otters.<br><br>Due to the relatively low habitat suitability on site, the relative lack of otter evidence during the surveys and the abundance of higher quality habitat within the surrounding area, the site is not assessed to be of higher than local value to otter. | |
| Common pipistrelle | HR Sch2, WCA Sch5, SBL, LBAP | Common pipistrelle is a common and widespread species, with an estimated UK population of 2,430,000 (Battersby *et al*, 2011).<br><br>The only potential roosting habitat was recorded at the southern part of the scoping site boundary out with the study area, no potential roosting habitat was noted within the site or within 200m plus rotor radius of the proposed turbine locations. Common pipistrelle was recorded on the site during static detector surveys at low levels. The site is therefore assessed as being of no more than local value for this species. | Local |
| Deer | - | Red deer are known to be present within the wider area, have been recorded as present on the neighbouring Ben Sca wind farm site and were recorded on the Balmeanach site during the August 22 surveys. It is estimated that the Ben Sca site supports a small population of deer at relatively low density of less than 5 deer/km$^2$. Red deer are a common and widespread species in Scotland, and Scotland supports the largest population in Europe (SNH n. d.). Given the widespread and abundant nature of this species, and the abundance of suitable habitat within the wider area, including more favoured off-site forest areas such as Glen Vic Askill, the site is assessed as being of less than local value for this species. Roe deer are also reported to occur in the area on an occasional basis, and the site is therefore assessed as being of less than local value for this species. | Less than local value |
| **Table Key: Status* | | | |

| Receptor | Legal / Conservation Status | Reason for Evaluation | Evaluation |
|---|---|---|---|
| *HR Sch2 = Included on Schedule 2 of the Conservation (Natural Habitats &c) Regulations 1994 (as amended in Scotland)*<br>*WCA Sch5 = Listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended in Scotland)*<br>*SFF = Salmon spawning beds protected under the Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003*<br>*SBL = listed on Scottish Biodiversity List (SBL) (Scottish Government, 2013)*<br>*LBAP = Highland Nature Biodiversity Action Plan (Highland Environment Forum, 2021).* | | | |

## Cumulative Situation

8.98 When undertaking the cumulative effects assessment, it is important to consider only those projects which could potentially contribute to significant cumulative effects with the Proposed Development. As set out in **paragraphs 8.52-8.53**, for this assessment potential cumulative effects have been assessed for the following receptors and developments:

- cumulative effects on aquatic receptors within the same sub-catchments and within 5km; and
- cumulative effects on bat populations, which are possible in combination with wind farms within a 10km radius.

8.99 Other projects considered in the cumulative effects assessment are detailed in **Table 8-7**. These include all developments within the relevant study areas which are either operational, under construction, consented or for which a planning application has been submitted.

**Table 8-7**
**Other Projects Considered in Cumulative Effects Assessment**

| Project | Status | Closest Distance to Proposed Turbine (km and direction) | Number of Turbines |
|---|---|---|---|
| Ben Aketil and Extension | Operational | 1.3km to the west | 12 |
| Edinbane | Operational | 0.5km to the east | 18 |
| Sumardale Croft | Operational | 9.8km to south east | 1 |
| Meadale Farm | Operational | 11km to south east | 1 |
| Ben Sca and Extension | Consented | 0.7km to north west | 9 |
| Glen Ullinish | Consented | 2.8km to south east | 11 |
| Beinn Mheadhonach | Consented | 9km to south east | 4 |
| Skye Reinforcement Project | Application | 1.5km to the south | n/a upgrade of overhead transmission lines |

### *Future Baseline*

8.100 In the absence of the Proposed Development, the site is likely to remain as open moorland (with blanket bog and heath habitats) primarily used for grazing and game shooting.

8.101 It is considered likely that much of the area that was damaged by the fire in 2018 will continue to recover and regenerate, returning to a similar condition to that before the fire without specific intervention.

8.102 In the absence of the Proposed Development, it is possible that badgers or pine marten may start to utilise the areas of suitable habitat within the site as their range and abundance within Skye increases following recent colonisation, although suitable habitat within the site is limited. It is

possible that the future use of the site by otter may change, although the watercourses within the site are of limited value for this species and are likely to remain so. To allow for possible changes in the distribution of protected species, pre-construction surveys for protected mammal species (otter, badger and pine marten) would be undertaken to ensure legislative compliance during construction, as detailed in **paragraph 8.109**.

8.103 Bats are likely to continue to occasionally forage in low numbers across the site in future years, and in the absence of the Proposed Development the usage of the site by bats is expected to remain very low.

8.104 Reptiles are likely to continue to utilise the site for foraging and basking, and potentially hibernating, in the absence of future development the usage of the site by reptiles is likely to stay at relatively low levels.

8.105 In summary, with the exception of further recovery of habitat from fire damage, in the absence of the Proposed Development the ecological condition of the site is unlikely to change significantly over the next 30 years.

# ASSESSMENT OF EFFECTS

8.106 The assessment of effects is based on the information outlined in **Chapter 3: Description of the Development**.

## Embedded Mitigation

8.107 The Proposed Development has been subject to a number of design iterations and evolution in response to the constraints identified as part of the baseline studies, to reduce environmental effects (see **Chapter 2: Site Description and Design Evolution** for further details). With respect to ecology the following changes have been incorporated to avoid or minimise negative effects:

- it was not possible to avoid Annex 1 blanket bog and heath habitats, as these comprise the majority of the site. However, flush habitats, watercourses, areas of deepest peat and sensitive bog pool habitat have been avoided as far as possible; and
- track length was minimised as far as possible to minimise land take.

## Good Practice Measures

### *Good Practice Mitigation Measures*

8.108 Full details of construction mitigation measures embedded in the design would be included in a Construction Environmental Management Plan (CEMP) which would be secured via a planning condition. An outline CEMP is included as **Technical Appendix 3.1**. Good practice measures in relation to pollution risk and sediment management to be adopted during the construction and operation phases are also set out in **Chapter 10: Hydrology, Hydrogeology and Soils**. During the construction phase, good practice techniques with respect to peatland environments, as contained within 'Good Practice during Windfarm Construction' (SNH, 2019), would be implemented. Further details on peat and water management during construction are provided in **Chapter 10: Hydrology, Hydrogeology and Soils**, **Technical Appendix 3.1: Outline CEMP** and **Technical Appendix 10.2: Peat**

**Management Plan**. Good practice measures to protect retained habitats during the construction phase would be implemented, including the erection of temporary protective fencing demarcating the working footprint, to be overseen and policed by the Environmental Clerk of Works (EnvCoW) (also see **paragraph 8.110**); further details are provided in the outline CEMP. Good practice techniques for vegetation and habitat reinstatement would be adopted and implemented on areas subject to disturbance during construction as soon as is practicable.

### *Pre-Construction Surveys*

8.109 Due to the time that will have elapsed since the last surveys and the possibility that otter activity could have changed in the intervening period, and/or pine marten or badger could have colonised the site, a pre-construction survey for otter, badger and pine marten would be undertaken. This would cover all watercourses and other suitable habitat within 250m of wind farm infrastructure. The results of the pre-construction surveys would inform the need for further mitigation (if required) in respect of working practices, or consultation with NatureScot, if required.

### *Environmental Clerk of Works*

8.110 A suitably qualified EnvCoW would be employed to oversee activity at key points for the duration of the construction and reinstatement periods (at a frequency to be agreed with THC and NatureScot), to ensure natural heritage interests are safeguarded. The role of the EnvCoW would include the following tasks:

- to give toolbox talks to all staff onsite, e.g. an ecological induction, so staff are aware of the ecological sensitivities on the site and the legal implications of not complying with agreed working practices;
- to undertake pre-construction surveys (otter, badger and pine marten) and advise on ecological issues where required; and
- to carry out pre-construction inspections of areas which require reptile mitigation (i.e. supervision during vegetation clearance).

8.111 The EnvCoW would also undertake additional roles such as assisting with hydrological measures or checking for nesting birds (see **Chapter 9: Ornithology** and **Chapter 10: Hydrology, Hydrogeology and Soils**).

### *Reptiles*

8.112 In order to comply with the Wildlife and Countryside Act 1981 (as amended in Scotland) mitigation would be employed to reduce the chances of inadvertently killing or injuring individual reptiles during construction works. Given the low numbers of reptiles likely to be present, the large areas of suitable habitat that would remain unaffected by the works and given also the large spatial scale of the works, fencing and translocation are not considered appropriate. Proposed mitigation therefore would involve identification/removal of potential refugia and hibernacula if present. The proposed site speed limit of 15mph would also reduce the likelihood of accidental injury/killing of reptiles by construction traffic.

### *Otters*

8.113 During construction, site speed limits of 15mph would reduce the likelihood of accidental injury/killing of otter by construction traffic.

8.114 All potentially dangerous substances or materials within the construction compound would be carefully stored to prevent then causing any harm to otters which may enter the compound at night.

8.115 During construction, all excavations greater than 1m depth would be designed to include a ramp to allow otter and other animals a means of escape should they fall in.

## Construction Effects

### *Potential Effects*

8.116 Potential effects, assuming that the good practice mitigation measures outlined in **paragraphs 8.108 to 8.115** are implemented, are addressed for each receptor in turn in **paragraphs 8.117 - 8.158**. Effects have been assessed only for important ecological receptors (i.e. those with a value of Local level or above, potential GWDTEs or legally protected species). These comprise:

- blanket bog, upland wet heathland with cross-leaved heath, upland dry heath, purple moor grass and rush pasture, upland acid grassland and rivers and streams;
- bats, otter, reptiles and fish.

#### Habitats

8.117 Impacts on habitats are categorised as follows:

- direct habitat loss – this includes habitats present under the footprint of the Proposed Development and includes areas which would be subject to cut and fill, grading and potential cable laying; and
- indirect/ temporary habitat loss – indirect loss has been calculated for peatland habitats which lie within 10m of the direct habitat loss areas; the allowance of 10m is to allow for drying effects and vegetation changes due to construction works7. For other habitats an allowance for temporary loss of 5m is included to allow for possible temporary loss due to damage during construction.

8.118 For the purposes of the assessment a precautionary approach has been taken which assumes that direct habitat loss and indirect loss of peatland habitats represents a permanent, irreversible negative effect, although in practice some areas indirectly affected may be able to be restored, e.g. during reinstatement following construction.

8.119 **Table 8-8** details the estimated direct and indirect/temporary land take for habitats with local or greater value, and potential GWDTE communities. There are currently three track route options

[7] This figure is in line with similar assessments for other projects, and although arbitrary, is considered precautionary based on experience at other sites.

being considered (see **Figure 3.1a-b**), and therefore the potential habitat loss has been calculated for each potential route option as follows:

- option A+A1;
- option A+A2; and
- option B.

**Table 8-8: Summary of Habitat Loss by UKHab/NVC Community Type**

| UK Hab Type | NVC Community | Direct Habitat Loss (ha) | Infrastructure causing Direct Habitat Loss | Indirect or Temporary Habitat Loss (ha) | Total Loss (ha) |
|---|---|---|---|---|---|
| **Option A + A1** | | | | | |
| Upland Dry Heath (h1b5) – Annex 1 (H4030) | H14 | 0.05 | Access track, Construction Compound | 0.078 | 0.13 |
| Upland Wet Heath (h1b6) – Annex 1 (H4010)* | M15 | 1.8 | Access Track, Borrow Pit, Construction Compound, Crane Hardstanding, Proposed Turning Head | 3.69 | 5.49 |
| Degraded Blanket Bog (f1a6) | M15/M1 | 0.01 | Access Track | 0.04 | 0.05 |
| | M15-M19 | 0.23 | Access Track, Crane Hardstanding, Turbine Foundation | 0.16 | 0.39 |
| Blanket Bog (f1a5) – Annex 1 (H7130) | M17 | 9.89 | Access Track, Borrow Pit, Crane Hardstanding, Proposed Turning Head, Substation, Turbine Foundation | 11.24 | 21.13 |
| | M19 | 0.8 | Access Track, Crane Hardstanding, Turbine Foundation | 1.35 | 2.15 |
| | M19/M1 | 1.06 | Access Track, Borrow Pit, Crane Hardstanding, Proposed Turning Head | 1.18 | 2.24 |
| Upland Acid Grassland(g1b) | U4 | 0.03 | Access track | 0.03 | 0.06 |
| Upland | U5/U6/H14 | 2.27 | Access Track, | 0.46 | 2.73 |

| UK Hab Type | NVC Community | Direct Habitat Loss (ha) | Infrastructure causing Direct Habitat Loss | Indirect or Temporary Habitat Loss (ha) | Total Loss (ha) |
|---|---|---|---|---|---|
| Heathland (h1b) | | | Construction Compound, Substation | | |
| **TOTAL** | | **16.13** | | **18.24** | **34.37** |
| | | | | | |
| **Option A + A2** | | | | | |
| Upland Dry Heath (h1b5) – Annex 1 (H4030) | H14 | 0.05 | Access Track, Construction Compound | 0.078 | 0.13 |
| Upland Wet Heath (h1b6) – Annex 1 (H4010)* | M15 | 1.8 | Access Track, Borrow Pit, Construction Compound, Crane Hardstanding, Proposed Turning Head | 3.69 | 5.49 |
| Degraded Blanket Bog (f1a6) | M15/M1 | 0.01 | Access Track | 0.04 | 0.05 |
| | M15-M19 | 0.23 | Access Track, Crane Hardstanding, Turbine Foundation | 0.16 | 0.39 |
| Blanket Bog (f1a5) – Annex 1 (H7130) | M17 | 9.98 | Access Track, Borrow Pit, Crane Hardstanding, Proposed Turning Head, Substation, Turbine Foundation | 11.65 | 21.63 |
| | M19 | 0.8 | Access Track, Crane Hardstanding, Turbine Foundation | 1.35 | 2.15 |
| | M19/M1 | 1.06 | Access Track, Borrow Pit, Crane Hardstanding, Proposed Turning Head | 1.18 | 2.24 |
| Upland Acid Grassland(g1b) | U4 | 0.03 | Access Track | 0.08 | 0.11 |
| Upland Heathland (h1b | U5/U6/H14 | 2.27 | Access Track, Construction Compound, Substation | 0.57 | 2.3 |
| **TOTAL** | | **16.23** | | **19.05** | **34.39** |

| UK Hab Type | NVC Community | Direct Habitat Loss (ha) | Infrastructure causing Direct Habitat Loss | Indirect or Temporary Habitat Loss (ha) | Total Loss (ha) |
|---|---|---|---|---|---|
| | | | | | |
| **Option B** | | | | | |
| Upland Dry Heath (h1b5) – Annex 1 (H4030) | H14 | 0.05 | Access Track, Construction Compound | 0.08 | 0.13 |
| Upland Wet Heath (h1b6) – Annex 1 (H4010)* | M15 | 1.65 | Access Track, Borrow Pit, Construction Compound, Crane Hardstanding, Propose Turning Head | 3.23 | 4.88 |
| Degraded Blanket Bog (f1a6) | M15/M1 | 0.01 | Access Track | 0.04 | 0.05 |
| | M15-M19 | 0.23 | Access Track, Crane Hardstanding, Turbine Foundation | 0.16 | 0.39 |
| Blanket Bog (f1a5) – Annex 1 (H7130) | M17 | 9.99 | Access Track, Borrow Pit, Consented Track, Crane Hardstanding, Proposed Turning Head, Substation, Turbine Foundation | 11.66 | 21.65 |
| | M19 | 1.03 | Access Track, Crane Hardstanding, Turbine Foundation | 2.08 | 3.11 |
| | M19/M1 | 1.06 | Access Track, Borrow Pit, Crane Hardstanding, Proposed Turning Head | 1.2 | 2.26 |
| Upland Acid Grassland(g1b) | U4 | 0.03 | Access Track | 0.03 | 0.06 |
| Upland Heathland (h1b) | U5/U6/H14 | 2.35 | Access Track, Construction Compound, Substation | 0.57 | 2.92 |
| **TOTAL** | | **16.4** | | **19.05** | **35.45** |
| *Communities marked with a '*' are potential GWDTE communities* | | | | | |

8.120 The Proposed Development would result in the potential maximum loss of habitat as follows:

- Annex 1 blanket bog communities (M17 and M19 mire and M1 bog pool community): direct loss of 12.08ha and the indirect loss of 14.93ha of (if track option B was constructed).
- degraded blanket bog: 0.24ha and indirect loss of 0.2ha (for both track options A+A2 and B).
- Annex 1 upland wet heath (M15): direct loss of 1.8ha and indirect loss of 3.69ha (for both track options A+A1 and A+A2); and
- Annex 1 upland dry heath (H14): direct loss of 0.05ha and indirect loss of 0.08ha (for both track options A+A2 and B).

8.121 The maximum potential direct and indirect loss of up to 27.01ha (in the case of track option B) of regionally important Annex 1 blanket bog habitat is considered to constitute a significant negative effect at a regional level. Given the alternative routes A+A1 and A+A2 result in a loss of either 25.53ha and 26.02ha respectively, all three route options are considered to result in a significant negative effect at regional level.

8.122 The total loss of up to 5.49ha (in the case of track options A+A1 or A+A2) of locally important Annex 1 upland wet heath habitat is considered to constitute a significant negative effect at a local level. Given the alternative route (B) results in a loss of 4.88ha, this is also considered to constitute a significant negative effect at local level.

8.123 The very small-scale loss of up to 0.13ha (for both track options A+A2 and B) of Annex 1 upland dry heath is considered not large enough to be significant. Similarly, the very small-scale loss of marshy grassland and acid grassland (within mosaics) is considered to be not significant, given the scale and the ubiquitous nature of the habitats in the landscape.

8.124 All infrastructure is situated a minimum of 50m away from watercourses. Assuming that best practice pollution prevention measures are adopted, no significant effect is predicted on the running water environment. An assessment of effects specific to fish and otter is addressed separately in **paragraphs 8.125-8.128** and **8.161**.

### GWDTE Communities

8.125 **Table 8-8** shows the habitat loss (direct and indirect/temporary) for all potential GWDTE communities. The communities marked with an asterisk in **Table 8-8** have conferred upon them a potential to have a high or moderate groundwater dependency (based on SEPA, 2017 guidance).

8.126 For a detailed assessment of the groundwater dependency of these habitats, please refer to **Chapter 10: Hydrology, Hydrogeology and Soils**. In summary, the GWDTE assessment presented in **Chapter 10** concludes that all areas of potential GWDTE are sustained by surface water rather than groundwater. As such, no GWDTEs would be affected by the Proposed Development.

### Fauna

#### Fish

8.127 The majority of watercourses within the study area are very minor and are considered of low suitability for fish and unsuitable for salmonid passage. The Aketil Burn flows from the southern half of the site, however within the site the channels are narrow with a number of obstacles and therefore of low suitability for fish within the site. The upper reaches of the Allt Choishleadar occur

in the north of the site however within the site these are mainly flushes/ underground with a peaty substrate and therefore unsuitable for fish. Although both watercourses are thought to be of local importance for fish out with the site, the habitats present within the site are less suitable for fish.

8.128 As detailed in **Table 8-10**, a minimum 50m buffer has been ensured between all proposed infrastructure and the watercourses. With the implementation of good practice pollution prevention measures (**Chapter 10: Hydrology, Hydrogeology and Soils**) the likelihood of a pollution event affecting fish within downstream watercourses is considered to be low. Therefore, no significant effect on salmonids or other fish species of conservation concern is considered likely.

Reptiles

8.129 Common lizard has been recorded on the site, and the site also has potential to support adder, given the suitable habitat present, although there are no recorded sightings. The construction of the wind farm would result in the direct loss of up to 35.45ha of potentially suitable habitat for these species. This loss is not considered significant, given the extensive availability of similar suitable habitats within the site and the wider area and the likely low population of reptiles present. Indirect/temporary loss of habitat has not been considered here, as it is anticipated that areas subject to drying or other temporary damage would still be used for reptiles such as basking and potentially foraging (following habitat reinstatement).

8.130 Good practice mitigation measures aimed at reptiles (see **paragraph 8.112**), would be implemented during the construction phase, to prevent the inadvertent injury or killing of individuals. On the basis that the proposed measures are implemented, no significant effects are predicted, and no contravention of the relevant legislation is likely.

Otter

8.131 No holts or other resting places were recorded within the study area, however a single spraint was found on a rock beside the Aketil Burn, confirming otter presence on site.

8.132 The death or injury of an individual otter during construction could potentially have a significant effect on the conservation status of this species in the local area. However, following implementation of the good practice measures outlined in **paragraphs 8.113-8.115**, death or injury to otters during construction is not considered likely. As such, no significant effects would be likely to occur.

8.133 Construction activities have some potential to cause temporary disturbance to otters which may occasionally use the watercourses on and around the site for foraging and commuting. This disturbance would likely be via noise and human presence. However, very little otter field evidence has been recorded, and there is a 50m minimum stand-off of infrastructure from watercourses. Furthermore, otters have large home ranges and are able to adapt to a certain level of human disturbance (Chanin, 2003). As such, the likelihood of potential disturbance to otter is low, and no significant effects are considered likely.

8.134 Given the low levels of otter present on the Ben Sca Wind Farm site (see the Ben Sca EIA Report (SLR, 2018)) and the limited suitable otter habitat within the HMAs, the felling and peatland restoration works are unlikely to have a significant effect on otters. The pre-construction surveys would be extended to include any suitable habitat within the HMA to confirm no otter presence prior to habitat restoration works commencing. If otters are found to be present the EnvCoW would provide the appropriate advice and safe working areas from the protected species.

Bats

8.135 No potential bat roosting habitat would be affected by the proposed scheme (i.e. no building or underground sites would be affected, and no trees felled), and as such there would be no direct effect on roosting bats during construction.

8.136 The bat survey results show that the proposed turbine areas were subject to very low levels of usage by bats. Construction would mainly take place during daylight hours during the season when bats are active (April to October, 07:00 to 19:00 hrs). Any disturbance to foraging bats during construction is therefore likely to be minimal and not significant.

8.137 The Proposed Development would cause the direct loss of up to 14.17ha of upland peatland habitats. The loss of this sub-optimal foraging habitat, when compared with the availability of foraging habitat within the wider area, is unlikely to have a significant effect on the conservation status of the local bat population. Habitat restoration proposals also involve the restoration of c. 77.75 ha of peatland habitat, through conifer plantation felling and peatland restoration and management activities (details are provided within **Technical Appendix 8.5: Outline HMP** – see also paragraphs 8.149-8.155.). Due to the habitat within the proposed HMAs being of low value to bats, and the low level of bat activity in the area (see the Ben Sca EIA Report (SLR, 2018)), the tree felling and peatland restoration proposed are unlikely to have a significant effect on bats.

8.138 If the HMA is found to have habitat suitable for supporting bat roosts, pre-construction surveys will be conducted to confirm presence or absence prior to the commencement of felling works.

Deer

8.139 Red deer are estimated to occur on site at relatively low density, similar to the neighbouring Ben Sca (<5 per $km^2$), and roe deer are known to occur in the area very occasionally, as reported by the gamekeeper. The density of red deer on the site is estimated to be low in comparison to more favoured areas in the local landscape such as the large forestry block of Glen Vic Askill to the south east.

8.140 Construction activities have the potential to impact the local wild deer population through displacement during construction. However, it is considered unlikely that construction activities would displace wild deer to an extent that deer could cause damage on neighbouring land, that deer welfare would be adversely affected, or that other significant impacts would be caused such as increased road traffic collisions. This is due to the fact the density of deer on the site is estimated to be low, and that construction activities will be restricted to the proposed access tracks and turbine infrastructure areas, with large areas of moorland within the site which do not form part of the construction footprint, which will still be available for deer to use during construction. The fact that red deer and roe deer are primarily crepuscular (i.e. most active at dawn and dusk), and therefore likely to be most active outside of the core construction hours, further reduces the extent to which wild deer are likely to be displaced off-site during construction.

8.141 Deer welfare is unlikely to be significantly affected by construction activities, as the surrounding areas will continue to offer places for food and shelter, such as the forest areas to the north, east and south, and the moorland areas within the site away from the construction footprint. Good practice measures put in place for otter during construction, specifically safe storage of materials and covering of excavations/providing a means of escape (**paragraphs 8.114-8.115**) would also protect deer from harm during construction. It is also considered unlikely that construction activities would cause increased road traffic collisions. This is because the majority of the site is

distant from any public roads, and because the number of deer potentially displaced would be low. The existing Ben Aketil Wind Farm access track joins the A850 road to the north, however there is a large area of forestry providing cover between the road and the main construction areas, such that deer would be unlikely to be displaced onto the road. There would also be an increased presence of construction vehicles on the site, however a site speed limit of 15mph would be implemented, which would minimise the likelihood of deer traffic collisions within the site.

8.142 There were some signs of deer grazing observed at the site and red deer are known to occur on site. There are no known adjoining protected areas for priority habitats managed to reduce deer numbers. The immediately surrounding areas appear to consist of similar habitats to those found on the site (primarily blanket bog) and conifer plantation. The guidance (SNH, 2016a) states that sustainable deer densities for more sensitive habitats such as woodland establishment and blanket bog sites is <3-5 deer/km$^2$, while <8-12 deer/km$^2$ may be appropriate for some less susceptible moorland habitats. In this situation, the estimated density of <5 deer/km$^2$ is considered sustainable for the blanket bog habitats present on the site. Given the relatively low density and expected minimal displacement, it is expected that the retained onsite habitats, and the proposed Peatland Restoration Area (see **paragraphs 8.148-8.149**), as well as the surrounding off-site habitats including blanket bog habitat, are unlikely to be significantly affected by deer grazing.

8.143 As such, adverse impacts during construction are considered unlikely, and no management measures such as displacement culls, fencing or diversionary feeding are considered necessary.

### *Cumulative Effects*

8.144 For the cumulative effects on aquatic receptors during construction, the only potential for significant cumulative effects would be via the discharge of particulate matter into watercourses, or through a pollution incident. Wind farms which are already operational are not likely to give rise to significant cumulative effects and therefore the assessment has been restricted to wind farms within the same catchment which are yet to be constructed.

8.145 The watercourses onsite drain into the River Ose, the Caroy River and Abhainn Bhaile Mheadhonaich, which all connect to the sea Loch Caroy, which connects to the larger Loch Bracadale to the south west of the site. The northern part of the site drains into the Abhainn Choishleadar which connects to sea Loch Greshornish to the north of the site. Glen Ullinish Wind Farm has been consented but has not yet been built, and is situated to the south of the site. However, it does not sit within the same hydrological catchments. Ben Sca Wind Farm has also been consented and sits within the Abhainn Choishleadar catchment therefore there is some potential for cumulative effects. The Ben Sca Wind Farm Extension has also been consented but falls outwith the catchment that the Proposed Development sits within, therefore there is no potential for cumulative effects.

8.146 Given the stand-off distance of 50m for all infrastructure and the embedded mitigation measures that will be in place (see **Chapter 10: Hydrology, Hydrogeology and Soils**), significant cumulative effects are not likely for either watercourses, or for the fauna that use them.

### *Mitigation, Compensation and Enhancement*

8.147 Embedded mitigation and good practice measures are detailed in **paragraphs 8.108-8.115**, as well as in the outline CEMP (**Technical Appendix 3.1**) and **Chapter 10: Hydrology, Hydrogeology and Soils**. No further mitigation measures are proposed to mitigate against potentially significant

effects upon important ecological features during construction, as no additional mitigation measures are considered necessary to further lessen the identified effects. However, a Habitat Management Plan (HMP) would be produced, which would detail compensation and enhancement measures to compensate for the significant residual effects of habitat loss associated with the Proposed Development. An Outline HMP is provided in **Technical Appendix 8.5**, and a summary is provided in the following section (**paragraphs 8.148-8.155**).

### *Habitat Restoration and Management: Peatland Restoration*

8.148 Peatland has been identified as a national conservation priority within Scotland's National Peatland Plan (SNPP), for its importance for biodiversity, water quality, and as a carbon store (SNH, 2015a). The SNPP states that peatland restoration is one of the priority projects highlighted in the Scottish Biodiversity Strategy Route Map towards meeting the EU biodiversity target of restoring at least 15% of degraded ecosystems. The most extensive deepest peat soils occur under blanket bog and raised bogs, and these habitats are recognised as internationally important under the EU Habitats Directive (as priority habitats listed on Annex 1).

8.149 The broad principle aim of the Outline HMP is to restore and manage *c*. 77.75ha of peatland habitat within the afforested areas to the north of the site, close to the consented Ben Sca Wind Farm (the proposed Habitat Management Area (HMA) is shown on **Figure 8.5.1** within **Technical Appendix 8.5**). This area currently comprises coniferous plantation forest with poor growth, indicative of trees planted on wet, deep peat. This area has been identified as forming the most appropriate option for peatland restoration for the following reasons:

- the area was densely planted with non-native Sitka spruce (*Picea sitchensis*) and Lodgepole pine (*Pinus contorta*) trees in the 1990, but the growth rates are generally poor and many of the trees are stunted or dead;
- a peat depth survey carried out for the adjacent Ben Sca Wind Farm extension (see **Ben Sca EIA Chapter 10: Hydrology, Hydrogeology and Soils**) and additional peat probing undertaken for the forestry assessment indicates the peat depth within the HMA is typically over 0.5m;
- the rides between the forest coupes support blanket bog habitat, strongly suggesting that the vegetation within the densely planted forest coupes used to support similar blanket bog communities to those found in the rides, before being planted;
- the area has been modified via drains to lower the water table and help with tree growth, indicating that it has good restoration potential via tree feeling and ditch blocking to raise the water table;
- the area is adjacent to the existing Ben Sca Wind Farm and Ben Sca Wind Farm Extension HMAs and therefore will have an enhanced benefit by increasing the patch size of restored bog; and
- the area connects with the open hill and other bog and heath habitats nearby, and therefore will have an enhanced benefit by increasing habitat connectivity.

8.150 Inappropriate tree planting on peat is known to degrade the peatland habitat, and can reduce biodiversity, and cause release of greenhouse gasses when tree growth is poor and peat soils are heavily drained and disturbed (Forestry Commission Scotland, 2015). It is reasonable to assume

that the planting of conifer trees within the proposed HMA has significantly degraded blanket bog habitat present previously, to an extent where it is no longer peat-forming and has lost its characteristic blanket bog vegetation. As such, the removal of trees to facilitate the restoration of peatland is considered appropriate in this situation.

8.151 The Scottish Governments Policy on Control of Woodland Removal (Forestry Commission Scotland, 2009) lists criteria where woodland removal, without a requirement for compensatory planting is most likely to be appropriate. This includes two criteria which are applicable to Balmeanach Wind Farm, specifically '*where it would contribute significantly to enhancing priority habitats and their connectivity*' (i.e. peatlands including blanket bog) and '*where it would contribute significantly to improving conservation of water or soil resources*' (i.e. restoring peatlands to encourage peat formation through the re-establishment of Sphagnum mosses and increasing the ability of the habitat to improve water quality). The restoration proposed in **Technical Appendix 8.5: Outline HMP** would contribute significantly to enhancing priority blanket bog habitats and their connectivity and improve conservation of water quality and it can therefore be concluded that the removal of the conifer trees for the purposes of restoring the peatland, without a requirement for compensatory planting, is appropriate in Scottish Government Policy terms. Further details are provided in **Technical Appendix 3.3: Assessment of Potential Areas For Woodland Removal for Peatland Restoration.**

8.152 The remainder of the Proposed Development site (i.e. the open areas, which are dominated by blanket bog and wet heath habitats) are in relatively good condition, despite the fire that damaged the area in 2018. The wet heath areas are relatively unmodified (i.e. they have not been drained) and therefore have limited restoration potential and are likely to continue to recover from the fire damage to a more favourable conservation status over time without intervention. A blanket bog area on the higher ground has experienced some erosion, with areas of hagging. These areas are very small, less than 0.05km$^2$. Considering the small area of this blanket bog patch and the relatively low grazing intensity on site, it is not considered practical to restore this area. As such, the Habitat Management Area shown on **Figure 8.5.1** of **Technical Appendix 8.5** comprises the only area earmarked for restoration.

8.153 The following measures and specific objectives are proposed within the Habitat Management Area (see **Technical Appendix 8.5: Outline HMP** for further details):

- felling of trees within the 77.75ha area of conifer plantation within the HMA;
- treat the ground surface post-felling to increase its suitability for bog regeneration, e.g. through surface smoothing;
- increase the water table across the HMA, and create bog pools through ditch blocking;
- address species composition and integration into the wider ecosystem network by seeding or encouraging self-setting of species representative of reference ecosystems and of local genetic origin;
- to maintain the HMA free of trees, particularly non-native conifer regeneration;
- to control threats to regenerating bog habitats such as grazing and fire;
- to monitor bog regeneration to assess if the necessary conditions have been created that

should, in time, increase the abundance and distribution of bog plants, particularly peat forming Sphagnum mosses, and facilitate its recovery back to active peatland habitat; and

- to facilitate the monitoring and evaluation process by identifying areas of reference habitats within/adjacent to the HMA against which regeneration progress can be measured and collected baseline data within these and the proposed restoration locations.

8.154 The proposed restoration methods are based on published literature and case studies, such as Artz *et al.* (2018), SNH (2015b) and Anderson & Peace (2017). Artz *et al.* (2018) found that the effectiveness of the bog restoration techniques proposed here was very high in terms of restoring the underlying processes (i.e. re-wetting). Anderson & Peace (2017) also found that the combination of treatments proposed here led to vegetation composition starting to revert back towards open bog over a study period of ten years. Based on the findings at other sites the methods proposed are considered to have a high likelihood of success, initially in terms of restoring the water table, and in time the reversion of the area to blanket bog.

8.155 Monitoring of the water table height, botanical monitoring, peat accumulation and ornithology monitoring would be undertaken to measure the success of the restoration and adapt management if necessary; further details are provided in **Technical Appendix 8.5: Outline HMP**.

### *Residual Effects*

8.156 During the construction phase, the permanent loss of up to 12.08ha and indirect loss of 14.93ha of bog habitats (Annex 1 blanket bog) is considered to constitute a significant negative effect at the regional level, and the permanent loss of up to 1.7ha and indirect loss of 3.31ha of heath habitats (wet and dry heath) is considered to constitute a significant negative effect at local level.

8.157 In order to compensate for the habitat loss, a *c*. 77.75ha area, approximately twice the size of the area of habitat to be lost, would be targeted for peatland restoration (i.e. clearing of stunted conifer plantation forestry, ditch blocking and ground smoothing to restore conditions enabling the development of peatland habitats) as part of an HMP. This would represent a significant positive effect, at a regional level, which would compensate for the predicted loss of habitat and provide additional biodiversity enhancement.

8.158 Assuming the proposed good practice mitigation measures are implemented, no significant residual effects are likely upon other important ecological receptors during the construction phase.

## Operational Effects

### *Potential Effects*

8.159 Operational effects (assuming that the stated good practice mitigation measures, as set out in **Chapter 10: Hydrology, Hydrogeology and Soils**, are implemented), are addressed for relevant receptors in **paragraphs 8.160-8.187**.

#### Habitats

8.160 During the operational phase, no significant effects on retained habitats are predicted. Infrastructure would be in place and only occasional service vehicles would be present on the site, with the potential for incidents and spillages affecting sensitive habitats considered to be very low.

In addition to this, good practice measures would be implemented further reducing the risk of an incident occurring.

### Fish

8.161 During the operational phase, maintenance traffic would be minimal. No hazardous chemicals would be stored on the site during the operational phase. During major maintenance events, temporary storage of hazardous chemicals could occur on site, but would be subject to implementation of standard pollution prevention control measures. The watercourses that occur on site have limited potential for fish and there is a 50m standoff between infrastructure and watercourse, as a result there would be limited mechanisms for causing water pollution, and as such no significant effects upon fish are predicted.

### Reptiles

8.162 During the operation of the wind farm, only minimal maintenance traffic would be present on the site, and this would be restricted to driving along onsite access tracks only, with an applied speed limit. As a result of this, no effects upon reptiles are predicted.

### Otter

8.163 Human activity associated with wind farm maintenance would be limited to the permanent infrastructure areas and only minimal maintenance traffic would be present, which would be restricted to the access tracks and subject to similar speed limits to those in place during construction. As discussed in the 'Construction Effects' section, **paragraph 8.133**, there is very little evidence of otter using the site. On that basis, otter presence within the site and within 250m of proposed infrastructure is likely to be occasional at most and therefore the potential for otter to be affected during wind farm operation is considered to be very low.

8.164 No hazardous chemicals would be stored on the site during the operational phase, and activities involving excavations would have ceased. During major maintenance events, temporary storage of hazardous chemicals could occur onsite, but would be subject to implementation of standard pollution prevention control measures and works would not take place within 50m of any watercourses. As a result, there would be limited mechanisms present for causing water pollution.

8.165 Based on the above, assuming that all stated good practice measures are implemented, no significant effects on otter are likely during the operational phase.

### Bats

8.166 Operational wind turbines can affect bats in a number of ways, although the main concerns relate to collision mortality, barotrauma[8] and other injuries resulting from collision with, or flying in very close proximity to, moving turbine blades (NatureScot *et al.,* 2021).

8.167 The assessment of potential impacts on bats resulting from the operation of the proposed windfarm is based on the methodology set out in current NatureScot *et al.* (2021) guidelines. The

[8] Barotrauma describes injuries that occur when a bat encounters sudden and extreme changes in atmospheric pressure as a result of rotating turbine blades. This rapid change in pressure can rupture air containing tissues in bats (e.g. the lungs), resulting in fatal internal bleeding.

guidelines propose a two-staged process for assessing potential risk to bats. Stage 1 gives an indication of potential site risk (low, medium or high) determined by a combination of habitat risk (low, moderate or high) and project size (small, medium or large). The definitions of habitat risk and project size, and how this is translated into site risk is shown in **Box 8-1**.

8.168 Stage 2 then makes an overall assessment of risk by considering the site risk assessment in relation to the relative levels of bat activity (as shown in in **Box 8-2**) and taking into account the relative vulnerability of each species of bat present, at the population level. In accordance with the guidelines, Stage 2 should be carried out separately for each high collision risk species recorded.

8.169 The relative levels of bat activity are determined by the output from *Ecobat. Ecobat* compares the inputted data set with a reference range to provide a numerical way of interpreting the relative levels of bat activity recorded at a site within other sites across the same region, in this case with data within 200km of the site, consisting of 866 records (see **paragraph 8.41**).

**Box 8-1: Stage 1: Initial Site Risk Assessment (Table 3a in NatureScot, 2021)**

| Site Risk Level (1-5)* | - | Project Size | Project Size | Project Size |
|---|---|---|---|---|
| - | - | Small | Medium | Large |
| Habitat Risk | Low | 1 | 2 | 3 |
| Habitat Risk | Moderate | 2 | 3 | 4 |
| Habitat Risk | High | 3 | 4 | 5 |

Key: 1-2=low site risk, 3=medium site risk, 4-5=high site risk

* Some sites could conceivably be assessed as being of no (0) risk to bats. This assessment is only likely to be valid in more extreme environments, such as above the known altitudinal range of bats, or outside the known geographical distribution of any resident British species.

| Habitat Description | Description |
|---|---|
| Low | Small number of potential roost features, of low quality.<br>Low quality foraging habitat that could be used by small numbers of foraging bats.<br>Isolated site not connected to the wider landscape by prominent linear features |
| Moderate | Buildings, trees or other structures with moderate-high potential as roost sites on or near the site.<br>Habitat could be used extensively by foraging bats.<br>Site is connected to the wider landscape by linear features such as scrub, tree lines and streams. |
| High | Numerous suitable buildings, trees (particularly mature ancient woodland) or other structures with moderate-high potential as roost sites on or near the site, and/or confirmed roosts present close to or on the site.<br>Extensive and diverse habitat mosaic of high quality for foraging bats.<br>Site is connected to the wider landscape by a network of strong linear features such as rivers, blocks of woodland and mature hedgerows.<br>At/near edge of range and/or on an important flyway.<br>Close to key roost and/or swarming site. |

| Project Size | Description |
|---|---|
| Small | Small scale development (≤10 turbines). No other wind energy developments within 10km.<br>Comprising turbines <50m in height. |
| Medium | Larger developments (between 10 and 40 turbines). May have some other wind developments within 5km.<br>Comprising turbines 50-100m in height. |
| Large | Largest developments (>40 turbines) with other wind energy developments within 5km.<br>Comprising turbines >100m in height. |

### Box 8-2: Stage 2: Overall Risk Assessment (Table 3b in NatureScot, 2021)

**Ecobat activity category (or equivalent justified categorisation)**

| Site risk level (from Tale 3a) | Nil (0) | Low (1) | Low-moderate (2) | Moderate (3) | Moderate-high (4) | High (5) |
|---|---|---|---|---|---|---|
| Lowest (1) | 0 Low | 1 Low | 2 Low | 3 Low | 4 Low | 5 Medium |
| Low (2) | 0 Low | 2 Low | 4 Low | 6 Medium | 8 Medium | 10 Medium |
| Med (3) | 0 Low | 3 Low | 6 Medium | 9 Medium | 12 Medium | 15 High |
| High (4) | 0 Low | 4 Low | 8 Medium | 12 Medium | 15 High | 18 High |
| Highest (5) | 0 Low | 5 Medium | 10 Medium | 15 High | 20 High | 25 High |

**Overall Assessment**: Low = 0-4, Medium = 5-12, High = 15-25

8.170 Estimating the vulnerability of bat populations to wind farms is based on three factors: relative

abundance (nationally); collision risk (based on information provided by NatureScot *et al*. (2021)); and the relative level of bat activity recorded at the site. According to NatureScot *et al*. (2021), five bat species in Scotland have a high collision risk (noctule (*Nyctalus 50noctule*), Leisler's (*Nyctalus leisleri*), Nathusius' pipistrelle (*Pipistrellus nathusii*), soprano pipistrelle and common pipistrelle (see **Annex B in Technical Appendix 8.4**). Of these, three (noctule, Leisler's and Nathusius' pipistrelle) are considered to have a high population vulnerability with the other two (soprano and common pipistrelle) having medium population vulnerability.

8.171 Based on the findings of the habitat appraisal noted in **paragraph 8.83**, habitats within the site are considered to be of low risk for bats (**Box 8-1**). This is due to the lack of roosting habitat, the lack of prominent linear features and habitat connectivity likely to be used extensively by foraging bats, and the low quality of the habitat on the site for foraging, primarily exposed moorland habitat.

8.172 The project is considered to be of medium size (**Box 8-1**), as it comprises 10 turbines with a number of other wind farms within 5km of it. It is noted that the NatureScot *et al*. (2021) guidelines suggest that sites comprising turbines >100m in height, as here, represent large developments but due to the number of turbines it is therefore considered more appropriate to regard the Proposed Development as being within the 'medium size' category.

8.173 Based on the above, the initial site risk assessment score would be 2, representing a low risk site.

8.174 Common pipistrelle, a high collision risk and medium vulnerability species, was the only species recorded in the site. A summary of the output from *Ecobat* for the site as a whole is provided in **Table 8-9**. Further details, including a breakdown of output per detector is provided in **Technical Appendix 8.4.** Compared with other sites in the region (using *Ecobat*) the level of activity on those nights and locations where bats were recorded (i.e. just 15.1% of all the nights sampled) was Low (based on the median bat activity percentile generated).

**Table 8-9**
**Summary of Output from *Ecobat* for the Site as a Whole, Compared with Other Sites within 200km**

| Species | Max. Activity Percentile[9] | Median Bat Activity Level (inc. nights with no passes)[10] | Median Activity Percentile (inc. nights with passes only)[11] | Reference Range |
|---|---|---|---|---|
| Common pipistrelle | Moderate | Nil Activity | 30 (Low) | 866 |

8.175 Based on the factors described above, common pipistrelle activity at the site is assessed as being Low.

8.176 An overall risk assessment (**Box 8-2)** for common pipistrelle, taking into account the initial site risk

[9] Activity level of the night with the highest number of bat passes recorded, determined by percentile from reference range within *Ecobat* as follows: *0-20$^{th}$ percentile=low, 21$^{st}$-40$^{th}$ percentile=low/mod, 41$^{st}$-60$^{th}$ percentile = mod, 61$^{st}$-80$^{th}$ percentile = mod/high, 81$^{st}$ – 100$^{th}$ percentile = high.*

[10] *Activity level of the median number of bat passes recorded per night, determined by percentile from reference range within Ecobat using the parameters detailed above. This includes the nights in which no bat activity was recorded.*

[11] *Activity level of the median number of bat passes recorded per night, determined by percentile from reference range within Ecobat using the parameters detailed above. This includes only those nights in which any bat passes were recorded, as reported within the output from Ecobat (i.e. the 15.1% of total monitoring nights which recorded bat activity).*

assessment score is provided below (the guidelines recommend assessing both the highest and the most frequent activity category, such that a judgement can then be made on the most relevant). Activity levels across the site have been assessed most frequently as being Low, therefore combined with a site risk of 2 the overall risk is likely to be Low (with a score of 2). The highest activity level for any night at any location was Moderate, resulting in an overall risk rating of Medium (with a score of 6). However, given that this represented three nights of activity only, and given that most nights recorded no bats, the assessment using the most frequent category is considered most relevant in this situation (i.e. Low overall risk).

8.177 The conclusion from this assessment is that the level of risk to common pipistrelle is Low. As such, significant effects upon common pipistrelle during the operational phase are unlikely.

8.178 Given the low risk to bats at the site, no specific mitigation (e.g. turbine curtailment) or monitoring is considered necessary, in line with current guidelines.

### Deer

8.179 Potential impacts in relation to deer during the operational phase relate to possible grazing impacts upon the proposed HMA, and collision risk with site traffic/maintenance vehicles.

8.180 As detailed in **paragraph 8.142**, the estimated density of deer on the site is considered sustainable for blanket bog habitat, and no adverse grazing impacts upon the existing blanket bog vegetation at the site was observed during botanical surveys. As such, it is unlikely that deer grazing would adversely impact the aims of the peatland restoration, and therefore no specific management actions such as deer fencing or additional culling are proposed. As detailed in **Technical Appendix 8.5: Outline HMP,** the HMA would be subject to botanical monitoring, which includes monitoring grazing impacts on vegetation, such that a mechanism would be in place to identify the need for remedial action in the unlikely situation that deer grazing is found to be adversely impacting the establishment of the restored habitats.

8.181 Only minimal maintenance traffic would be present during the operational phase, which would be subject to the 15mph site speed limit, such that increased traffic collision risk is considered minimal. Significant displacement, and therefore any impacts on neighbouring habitats and roads, is not likely during the operational phase due to minimal disturbance.

8.182 Overall, no significant adverse effects are predicted upon wild deer or resulting from wild deer during the operational phase. Given that no significant adverse effects are predicted for both the construction and operational phases, it is considered that a draft deer management statement is not required, following the criteria within the SNH (2016a) guidelines.

## *Cumulative Effects*

8.183 With regards to effects on bats during the operational phase, other wind farms within 10km have been assessed. Low levels of common pipistrelle activity were recorded at the both the consented Glen Ullinish Wind Farm (located to the south east of the site) and Ben Sca Wind Farm (north west of the site). No bat activity was recorded during surveys undertaken at Ben Aketil Wind Farm Extension, located to the west of the site. No bat surveys were undertaken for the Ben Aketil Wind Farm, and the bat surveys carried out for Edinbane Wind Farm to the east provided a record of a Natterers bat roost in a tree to the south (estimated to be 2km south east of the site at its closest point).

8.184 Based on the above data, significant cumulative effects are considered unlikely, given the lack of high population vulnerability species at all and low bat activity in general at nearby wind farms as well as at Balmeanach

8.185 The potential for cumulative effects during the operational phase on all other ecological receptors were assessed and no additional impacts are predicted.

### *Mitigation, Compensation and Enhancement*

8.186 No specific mitigation measures are required for the operational phase. However, compensation and enhancement measures provided as part of the HMP (**paragraphs 8.148 to 8.155** and **Technical Appendix 8.5**) would remain in place during the operational phase.

### *Residual Effects*

8.187 No significant residual effects are anticipated during the operational phase.

# FURTHER SURVEY REQUIREMENTS AND MONITORING

## Habitat Monitoring

8.188 Vegetation monitoring would be undertaken as part of the HMP, as detailed in **Technical Appendix 8.5**, in order to assess the efficacy of the implemented measures.

# SUMMARY OF PREDICTED EFFECTS

## Proposed Development

8.189 **Table 8-10** provides a summary of effects on important ecological features, mitigation, compensation and enhancement measures and residual effects.

**Table 8-10**
**Summary of Effects on Important Ecological Receptors**

| Predicted Effect | Good Practice Measures | Significance | Additional Mitigation/ Compensation | Residual Significance |
|---|---|---|---|---|
| **Construction** | | | | |
| Permanent loss (direct and indirect) of up to 27.01ha of Annex 1 blanket bog habitat. | Hydrological mitigation measures and erection of temporary protective fencing to minimise effects on retained habitats. | Significant at a regional level. | Restoration of up to 77.75ha of peatland habitat as part of the HMP. | Significant negative effect at a regional level but compensated for through proposed peatland restoration within the HMA. |
| Permanent loss (direct and indirect) of up to 5.01ha of | Hydrological mitigation measures and erection of temporary protective | Significant at a local level. | Restoration of up to 77.75ha of peatland habitat | Significant negative effect at local level, but compensated for |

| Predicted Effect | Good Practice Measures | Significance | Additional Mitigation/ Compensation | Residual Significance |
|---|---|---|---|---|
| Annex 1 heathland habitat (upland dry heath and upland wet heath). | fencing to minimise effects on retained habitats. | | as part of the HMP. | through proposed peatland restoration within the HMA. |
| Permanent loss of grassland and upland heathland. | Hydrological mitigation measures to minimise effects on retained habitats.<br>Reinstatement of habitats subject to temporary loss. | Not significant. | None | Not significant |
| Water quality impacts (running water), including impact on fish habitat within the site and downstream of the site. | Hydrological and pollution prevention measures (detailed in Chapter 10 and the outline CEMP); including adherence to SEPA PPGs/GPPS.<br>50m watercourse buffer zone. | Not significant | None | Not significant |
| Loss of up to 35.45ha of suitable habitat for reptiles and low quality habitat for foraging bats. | Reinstatement of habitat subject to temporary loss | Not significant | None | Not significant |
| Inadvertent disturbance, injury and/ or death of otter. | Pre-construction surveys.<br>Covering/ramping of excavations.<br>Site speed limit of 15mph.<br>Suitable storage of materials. | Not significant | None | Not significant |
| Inadvertent disturbance, injury and/ or death of badger and pine marten (if found to colonise the site in the future – currently absent). | Pre-construction surveys.<br>Site speed limit of 15mph. | Not significant | None | Not significant |
| Inadvertent displacement, injury and road collision of deer. | Site speed limit.<br>Suitable storage of materials.<br>Covering/ramping of excavations. | Not significant | None | Not significant |

| Predicted Effect | Good Practice Measures | Significance | Additional Mitigation/ Compensation | Residual Significance |
|---|---|---|---|---|
| **Operation** | | | | |
| Bats – collision with moving turbines/barotrauma | Inclusion of a minimum 50m buffer between turbine blades and forest edge. | Not significant | None | Not significant |
| Damage to habitats and disturbance/ injury/killing of otter and reptiles. | Environmental measures implemented during operational maintenance similar to construction period.<br>50m watercourse buffer zone.<br>Adherence to SEPA PPGs/GPPS.<br>Site speed limit of 15mph.<br>Suitable storage of chemicals. | Not significant | None | Not significant |
| Inadvertent displacement and road collision of deer, and deer grazing damage to Habitat Management Area. | Monitoring of vegetation in Habitat Management Area for grazing damage as part of HMP. | Not significant | None | Not significant |

## Cumulative Effects

8.190 Significant cumulative effects, during both the construction and operational phases, are considered unlikely, as detailed further in **paragraphs 8.144-8.146 and 8.183-8.184**.

# STATEMENT OF SIGNIFICANCE

8.191 Following the avoidance of important receptors during the project design where possible, and with the implementation of the proposed good practice measures, impacts would be minimised as far as possible.

8.192 The Proposed Development would result in a significant residual negative effect for the loss of blanket bog at the regional level, and for the loss of heathland habitat at the local level. However, this habitat loss would be compensated by a significant positive effect through the peatland restoration proposed, to be delivered via the HMP.

8.193 With the implementation of continued good practice measures and the implementation of the proposed HMP, no significant negative effects are predicted during the operation phase.

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