atmos CONSULTING

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Environmental Impact Assessment

Sandy Knowe Wind Farm Extension

Chapter 6: Ecology

ERG UK Holding Ltd

ERG

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Chapter Contents

Chapter Contents

Tables

Chapter Contents

Figures

List of Technical Appendices

Glossary of Terms

Term	Definition
The Applicant	ERG UK Holding Limited
The Agent	Atmos Consulting Limited
Environmental Impact Assessment	Environmental Impact Assessment (EIA) is a means of carrying out, in a systematic way, an assessment of the likely significant environmental effects from a development
Environmental Impact Assessment Regulations	The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (EIA Regulations)
Environmental Impact Assessment Report	A document reporting the findings of the EIA and produced in accordance with the EIA Regulations
Red Squirrel Priority Woodland (RSPW)	A former Red Squirrel priority area, suggesting local importance for Red Squirrels
Sandy Knowe Wind Farm	The original Sandy Knowe Wind Farm, adjacent to the Proposed Development
The Proposed Development	The Sandy Knowe Wind Farm Extension
The Proposed Development Footprint	The area within which the Proposed Development will be located
The Proposed Development Site	The full application boundary including Sandy Knowe Wind Farm and Sandy Knowe Wind Farm Extension

List of Abbreviations

Abbreviation	Description
CIEEM	Chartered Institute of Ecology and Environmental Management
DMP	Drainage Management Plan
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
ECoW	Environmental Clerk of Works
ECU	Energy Consents Unit
GWDTE	Ground Water Dependant Terrestrial Ecosystem
HMP	Habitat Management Plan
LWS	Local Wildlife Site
MOD	Ministry of Defence
NATS	National Air Traffic Services
NCFT	Nith Catchment Fisheries Trust
NDSFB	Nith District Salmon Fishery Board
NS	NatureScot
NVC	National Vegetation Classification
pLWS	Provisional Local Wildlife Site
PMP	Peat Management Plan
PPP	Pollution Prevention Plan
SBL	Scottish Biodiversity List
SEPA	Scottish Environment Protection Agency
SKWF	The Sandy Knowe Wind Farm

Abbreviation	Description
SSPCA	Scottish Society for Prevention of Cruelty to Animals
SWSEIC	South West Scotland Environmental Information Centre
WFD	Water Framework Directive

6 Ecology

6.1 Introduction

This chapter describes and evaluates the current nature conservation interest of the Proposed Development Footprint and Study Areas. The Study Areas are areas over which surveys were carried out where potential impacts were predicted based on the location of new infrastructure for the Proposed Development (Figure 3-1, Chapter 3: Description of the Development) and as shown in Figure 6-1.

The chapter evaluates both habitats and non-avian animal species and assesses the potential impacts on habitats and species above a certain value. Potential impacts on ornithological receptors are considered separately in Chapter 7: Ornithology.

This chapter has been prepared by Atmos Consulting Ltd., led by Stephen McNee who is an Associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM) with 12 years' experience as an ecological consultant.

This section of the EIAR comprises results of terrestrial ecological baseline surveys and desk-based studies undertaken between 2020-21 for the Proposed Development.

Two construction compounds will be shared by the consented / under construction Sandy Wind Farm and the Proposed Development. Whilst these areas are part of the SKWF project as a result of the Proposed Development the western compound will be temporary for a longer period than when considered under the main SKWF project alone. In addition, the eastern compound will become a permanent area whereas under the SKWF project it is a temporary area. Further information is detailed in Chapter 3: Description of Development.

Nith District Salmon Fishery Board electrofishing survey data for SKWF is also used in relation to salmonid fish (NDSFB, 2018). This covers the part of the Proposed Development known as the 'northern extension'. Hereon, 'Survey Area' will relate to the surveys referred to above, in the area identified in Figure 6-1.

The results of the baseline surveys were used to inform the turbine placement and associated wind farm infrastructure and design and form the basis of the detailed assessment presented in this Chapter. The results of the detailed ecological surveys undertaken are summarised, with more details provided in a number of Technical Appendices. This Chapter considers the effects of the Proposed Development on the ecological resources within the Proposed Development Site and surrounding Study Areas during construction, operation, and decommissioning. Cumulative effects are also considered.

Because Technical Appendix 6-7 Confidential Badger Results contains sensitive environmental information, which if released into the public domain could make the receptors vulnerable to illegal persecution, the information in it is therefore restricted to key stakeholders. Location references to badger are therefore generalised within the Protected Species report.

Pre-construction monitoring data from 2019-21 for the SKWF was also consulted and references to this are noted where applicable.

This Chapter should be read in conjunction with EIA Chapter 8: Hydrology, Hydrogeology and Soils.

6.2 Methodology and Approach

The baseline surveys and ecological assessment have been carried out with reference to the legislation and guidance outlined below.

6.2.1 Legislation, Planning Policy and Guidance

Relevant planning policy is summarised in Chapter 4 Planning Policy: this section focuses solely on policy/guidance which is potentially relevant to non-avian ecology.

- The EC Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora);
- The Wildlife and Countryside Act 1981 (as amended);
- Wildlife and Natural Environment (Scotland) Act 2011;
- The Nature Conservation (Scotland) Act 2004;
- The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended);
- CIEEM, (2017). Guidelines for Preliminary Ecological Appraisal;
- CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal;
- JNCC, (2010). Handbook for Phase 1 habitat survey – a technique for environmental audit;
- Scottish Natural Heritage. (2019) Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation; and
- SEPA (2017) Land Use Planning System SEPA Guidance Note 31.

6.2.2 Consultation

The assessment process has been informed by consultation with the ECU including the Scoping Opinion (October 2021) and responses after receipt of the Scoping Opinion. A summary of the key consultation responses is described in Table 6-1.

Table 6-1: Consultee Responses

Consultee	Summary of Response	Where addressed in this report
Dumfries and Galloway Council	A response received on 19 May 2022 had no comment on ecological issues.	N/A
SEPA	SEPA have considered the Scoping Report (dated 14 May 2021) and are generally satisfied with the proposed approach to the assessment.	Noted. SEPA will be consulted prior to construction regarding further measures to those detailed in the EIA which may be required in relation to fish populations.
SEPA (Gatecheck 1 response)	SEPA welcomed that their feedback on the proposed site design has been taken into account in the design process and understand changes have been made to the site layout to address their scoping comments (dated 09 July 2021).	Noted.

Consultee	Summary of Response	Where addressed in this report
	SEPA also welcome that the design parameters list the avoidance of peat, GWDTE and water features (including a 50m buffer).	
NatureScot	Other than Muirkirk and North Lowther Uplands SPA, which has been scoped in for consideration of potential effects of the proposal on ornithological features, we agree with the report that other protected areas in the vicinity can be scoped out of the EIA.	Muirkirk and North Lowther Uplands SPA covered in Chapter 7: Ornithology. Other Protected Areas scoped out.
	NatureScot guidance recommends 1 static bat detector per turbine location for sites of ten turbines or less. The scoping document proposes the use 5 rather than 6 detectors, but there is no indication why reduced survey coverage is intended.	For the western extension the original design was for six turbines only. Six detectors were meant to be deployed but a malfunction at time of deployment meant that five were only ever deployed. However, the design now is for four turbines in this area and as such, guidance has been met in this regard. Guidance was followed in terms of the northern extension with one detector for each of the two turbines in that locality. See Appendix 6-4 for further information.
NaterScot (Gatecheck 1 response)	NatureScot was satisfied that the comments they submitted have been acknowledged and the developer has taken these on board and will address issues relevant to their remit during the Environmental Impact Assessment process.	Noted.
Fisheries Management Scotland	The proposed development falls within the district of Nith District Salmon Fishery Board (NDSFB) and Nith Catchment Fisheries Trust (NCFT) and should be consulted.	Both NDSFB and NCFT were consulted as part of scoping with NDSFB responding (see below).
Nith District Salmon Fishery Board	The Board notes the comments on page 28 of the scoping report but considers it essential to conduct further aquatic monitoring, both fish and aquatic invertebrates, on the lower Polhote Burn, downstream of the sites that have been surveyed previously. This is important to provide information to assist in preserving the limited populations of fish remaining in the vicinity of the extension site.	Noted. Further aquatic surveys were undertaken and are addressed. See Table 6-9, section 6.10.3, Appendices 6-5 and 6-6.
	Confirmed that NDSFB have been in contact with Atmos Consulting, environmental consultants working on this	NDSFB will be consulted prior to construction regarding further measures to those detailed in

Consultee	Summary of Response	Where addressed in this report
	project on behalf of the developers ERG UK Holding Ltd, to discuss potential surveying requirements. Other than the surveys discussed above NDSFB have no further comments or objections to the proposed extension to SKWF.	the EIA which may be required in relation to fish populations. NDSFB undertook further survey downstream of the sites surveyed previously. See Appendix 6-6.
Galloway Fisheries Trust	GFT do not work within the Nith catchment so we will not be submitting a response to this consultation.	Noted.
Scottish Wildlife Trust	No response received.	N/A.

6.2.3 Assessment Methodology

Desk study

Details of the desk study and data search are provided in Technical Appendix 6-1 Extended Phase 1 Survey.

Extended Phase 1

The Extended Phase 1 survey was undertaken as per published guidance (JNCC, 2010) during August 2020, August-September 2021 and in December 2021. The 2020 survey comprised the western extension and the northern extension was surveyed in 2021 as this area was then incorporated into the Proposed Development Footprint.

A construction compound/ battery storage area in the far east of the Proposed development Footprint was also surveyed in 2021. Whilst this area is part of the SKWF project as a result of the Proposed Development this area will become a permanent area whereas under the SKWF project it is a temporary area.

Whilst survey of the full Proposed Development Footprint did not occur most proposed infrastructure areas plus a 250m buffer was surveyed. This included all areas of new infrastructure except for the construction compound/ battery storage area. The lack of the full 250m buffer here, was supplemented with reference to habitats data from the original SKWF application.

Full details of the survey methodology can be found in Appendix 6-1 Extended Phase 1 Survey.

National Vegetation Classification

The survey was carried in accordance with the standard methodology published in the National Vegetation Users Handbook (JNCC, 2006). The habitats present were classified to an NVC community by recording the presence and abundance (using the Domin scale) of each species in a quadrat of 2 x 2m and reference to British Plant Communities Vols 2 (Rodwell 1998 a), 3 (Rodwell 1998 b), as shown on Figure 6-5 and within Appendix 6-2.

As part of the NVC survey any wetland habitats were evaluated in terms of their potential to be groundwater dependent terrestrial ecosystems (GWDTEs) and with reference to SEPA Land Use Planning Guidance (2017) they were assigned a high (likely to be highly groundwater dependent) or moderate (likely to be moderately groundwater dependent) dependency.

Whilst *potential* GWDTE are identified in this Chapter, further hydrological assessment was carried out as botanical surveys can only identify potential GWDTE. The results of this assessment for GWDTE are covered in Chapter 8: Hydrology. This is because the water level in, or flow of water from a groundwater body (upon which a given habitat may be dependant) is the protected element - under the Water Framework Directive (WFD) - rather than the associated botanical communities. Ecological appraisal of potential GWDTE has however informed the hydrogeological assessment and habitats of conservation value, as defined by available selection criteria (e.g., Scottish Biodiversity List), are included within this Chapter.

Where any identified communities were potentially groundwater dependent, an evaluation was carried out. Table 6-2 lists vegetation communities found during surveys which have a potential for groundwater dependency based on floristics from NVC survey data alone and categorises each habitat type according to whether they are potentially moderately or highly groundwater dependent.

Due to the small scale of some habitats and areas where one habitat transitioned into another similar habitat, many of the mapped areas represent complex mosaics of two or more NVC communities. Hence when determining whether a particular habitat was potentially groundwater dependent within the context of SEPA 2017, the composition of the mosaic was taken into account.

Table 6-2: Potential GWDTE NVC Classification

Potential GWDTE Classification (SEPA, 2017)	Habitat Attributes (adapted from Appendix 4 Land Use Planning System SEPA Guidance Note 31)
5	All NVC communities present (regardless of number) are listed as being of high potential dependence on groundwater.
4	NVC community/mosaic with dominant community listed as of high potential dependence on groundwater with one or more communities of lesser dependence.
3	NVC community/mosaic with a sub-dominant community listed as of moderate potential dependence on groundwater with the dominant community listed as lesser dependence.
2	NVC community/mosaic with dominant community listed as of moderate potential dependence on groundwater with other communities present of lesser dependence.
1	NVC community/mosaic with sub dominant community listed as low and dominant community not listed as potentially dependent on groundwater.
0	NVC community/mosaic supports no communities with potential dependence on groundwater.

Bats

Bat surveys were carried out in accordance with NS guidance (NatureScot 2019). Full details of the bat surveys carried out are provided in Technical Appendix 6-4 Bat Surveys. Figure 6-7 shows the location of static bat recorders used during 2020 and 2021.

Protected Species Surveys

The Protected Species surveys were undertaken during August 2020, August-September 2021 for the main survey aera and in December 2021 for the eastern temporary construction compound /battery storage area. Technical Appendix 6-3 Protected Species Surveys provides details of the methodologies used. Results are presented in Technical Appendix 6-3 Protected Species Surveys and Technical Appendix 6-7 Confidential Badger Results (Volume 5).

Fish Habitat Survey

The fish habitat survey was carried out in November 2020 and the methodology used is provided in Technical Appendix 6-5 Fish Habitat Surveys and Figure 6-8.

Aquatic Surveys

In addition to the fish habitat survey further aquatic survey of both fish and aquatic invertebrates was undertaken in the lower Polhote Burn, downstream of the fish habitat survey extents within the western extension. Further details of the surveys undertaken are provided in Technical Appendix 6-6 Aquatic Surveys.

Electrofishing survey data gathered to support the application for SKWF (NDSFB, 2018), which covers the northern extension, was used to inform the assessment of the northern extension.

Limitations

It was not possible to safely access all watercourse sections due to safety concerns. The Polhote burn (western extension) runs through a gorge from the centre of the site northwards, and here binoculars were used, instead of direct survey. A similar situation occurred for sections of the Polneul burn in the northern extent. Nor was it possible to access all watercourse sections passing through commercial forestry as much of it was too dense to safely access. As a result, this habitat was often observed at the edge of discrete blocks, affording the use of firebreaks where present.

The ecological desk top data search was commissioned prior to the addition of the northern extent (T29 and T30). Desk top data coverage of the northern extent to the north, east and south is therefore less than 4km, and more in the region of 2-3km. This is not considered to be limiting as the value of desk top records is to provide an indication of what may be present. Given surveys have been undertaken, a distance of 2-3km from the northern extent is therefore considered efficient.

During 2021 bat surveys, a scheduling issue meant that two of the recommended three months of survey data were collected. The western extent has had two years of survey, as opposed to the one year required by guidance. The northern extent was not surveyed in 2020, surveys on the western extension during 2020 provide contextual information in relation to it.

Given that surveys were carried out over two years however – on the western extent in 2020 and on the western and northern extents in 2021 - it is considered that the baseline information is sufficient to inform the assessment.

There have been minor adjustments to the positions of turbines since the bat static surveys. These adjustments are minor however and not considered significantly different

to the original locations, as detailed in the Scoping Report, to alter the validity of the results.

6.2.4 Significance Criteria

The key objective of field and data analysis is to identify those receptors liable to potential significant effects as a result of the Proposed Development.

The CEEM Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2016)) form the basis of the impact assessment presented in this Chapter. These guidelines set out a process of identifying the value of each ecological receptor and then characterising the impacts that are predicted, before discussing the effects on the integrity or conservation status of the receptor, proposed mitigation, and significance of effects of any residual impacts predicted.

All designated nature conservation sites, plant and animal species, habitats and integrated plant and animal communities that occur within the 'zone of influence' of the Proposed Development are defined as potential ecological features (as described below). The zone of influence for a project is defined here as the area over which ecological features may be affected by biophysical changes as a result of the Proposed Development and associated activities. The zone of influence is likely to extend beyond the site, for example where there are ecological or hydrological links beyond the site boundary. The zone of influence will also vary for different ecological features, depending on their sensitivity to environmental change.

Determining Value

The CIEEM guidelines recommend that the value of ecological features is determined based on a geographic frame of reference. For this project the following geographic frame of reference is used:

- International (nature conservation designation, habitat or populations of species of international importance, e.g., a Special Area of Conservation (SAC) or significant numbers of a designated population outside the designated site);
- National (nature conservation designation, habitat or populations of species of Scottish importance, e.g., a SSSI or a National Nature Reserve (NNR), a nationally important population / assemblage of a European Protected Species and / or a species listed on Schedule 5 of the Wildlife and Countryside Act 1981);
- Regional (nature conservation designation, habitat or populations of species of Dumfries & Galloway Council Area importance, e.g., a site / population that meets SSSI designation criteria but has not been designated due to better examples being present in the regional area or a regionally important population / area of a Scottish Biodiversity List (SBL) priority species / habitat);
- Local (i.e., within 5km) (a nature conservation site, habitat, or species of importance in the local or district area, e.g., a breeding population / viable area of an SBL or local BAP species / habitat); and
- Less than local (unremarkable habitat / common species of little or no intrinsic nature conservation value).

Valuing Habitats

The value of habitats, according to the CIEEM guidelines, is measured against published selection criteria where available. Reference may therefore be made to SBL: and Habitat Action Plans (HAPs) contained within the Dumfries & Galloway Local Biodiversity Action Plan (LBAP) (2009). As the guidelines note, the presence of a HAP reflects the fact that the habitat concerned is in a sub-optimal state and hence the action plan is required and a HAP does not, therefore, necessarily imply any specific level of importance for the habitat. It must be noted, in accordance with the guidance, that features may be assigned greater value if there is reasonable chance that they can be restored to a higher value in the future.

Valuing Species

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. Rarity is an important consideration because of its relationship with threat and vulnerability although, because some species are inherently rare, it is necessary to look at rarity in the context of status. A species that is rare and declining should be assigned a higher level of importance than one that is rare with a stable population. Reference may also be made to SBL, and Species Action Plans (SAPs) contained within the Dumfries & Galloway LBAP and other indicators of conservation status, as appropriate, although, as above with HAPs, the existence of a SAP does not necessarily imply any specific level of importance.

Predicting and Characterising Impacts and Effects

The CIEEM guidelines suggest that the process of predicting ecological impacts and effects should take account of relevant ecosystem structure and function such as:

- Available resources – e.g., territory, food and water;
- Environmental process – e.g., flooding, erosion, eutrophication, deposition and climate change;
- Ecological processes and relationships – e.g., population dynamics, vegetation dynamics and predator / prey relationships;
- Human influences – e.g., animal husbandry, burning, pollution, disturbance from public access; and
- Historical context – e.g., natural range of variation, historical human influences and geomorphological evolution.

In accordance with the CIEEM guidelines, when describing impacts and effects, reference is made to the following, where appropriate:

- Confidence in predictions – the level of certainty that an impact will occur as predicted, based on professional judgement and where possible evidence from other schemes – this is based on a four-point scale: certain / near certain; probable; unlikely; and extremely unlikely;
- Magnitude – the size of an impact in quantitative terms where possible;
- Extent – the area over which an impact occurs;
- Duration – the time for which an impact is expected to last;
- Reversibility – a permanent impact is one that is irreversible within a reasonable timescale or for which there is no reasonable chance of action being taken to

reverse it. A temporary impact is one from which a spontaneous recovery is possible; and

- Timing and frequency – i.e., whether impacts occur during critical life stages or seasons.

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 occupied by a species 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., external sourcing of stone for road surfaces may cause growth of plant species not generally found in that area of the Proposed Development Footprint.

Significant Effects

For the purposes of EIA, the CIEEM guidelines define a significant effect as:

> *"an effect that either supports or undermines biodiversity conservation objectives for important ecological features or for biodiversity in general".*

Significant effects can be either positive or negative and are qualified with reference to an appropriate geographic scale, from international to local, however, it should be noted that the scale of significance of an effect may not be the same as the geographic context in which the feature is considered important. For example, an effect on a species which appears on a national list of species of principal importance for biodiversity may not have an effect on its national population.

The EIA Regulations require an assessment of the significant effects to quantify the final statement on each activity. Significance relates to the weight which should be attached to effects when decisions are made. Any significant effects remaining after mitigation (residual effects), together with an assessment of the likelihood of success of the mitigation, are the factors to be considered against legislation, policy, and development control in determining the application.

6.3 Baseline Conditions

6.3.1 Desk Study

Statutory designated sites for non-avian interests within 10km of the Proposed Development are shown in Table 6-3. Where sites have a combination of both ecological and ornithological features, ornithological features are not stated here. For designated sites relating to ornithology and ornithology qualifying features see Chapter 7: Ornithology. Three designated sites are present: one Special Area of Conservation and two biological Sites of Special scientific Interest. The closest is Muirkirk Uplands SSSI at 4.2km.

Table 6-3: Statutory designated sites within 10km of the Proposed Development Footprint

Designated Site	Designated feature	Distance from Proposed Development Footprint
Muirkirk Uplands SSSI	Upland habitats Blanket bog	4.2km northeast

Designated Site	Designated feature	Distance from Proposed Development Footprint
Upper Nithsdale Woods SAC	Mixed woodland on base-rich soils associated with rocky slopes	9.1km east
Back Wood SSSI[1]	Upland oak woodland	9.1km east
[1] contiguous boundaries with a section of the Upper Nithsdale Woods SAC		

6.3.2 Non-statutory Designated Nature Conservation Sites

Data commissioned from SWSEIC returned no non-statutory sites within 4km of the centre of the Proposed Development. Five provisional Local Wildlife Sites were identified as shown in Table 6-4 and Figure 6-3. It is noted that these are provisional; the convention for statutory sites is that candidate and provisional statutory sites are considered as though they were already designated and as such, provisional non-statutory sites have been treated as though they are designated.

Table 6-4: Provisional Non-statutory designated sites within 4km of the Proposed Development Footprint

Designated Site	Designated feature	Distance from Proposed Development Footprint
Afton Uplands pLWS	An extensive upland site which encompasses a range of upland mire, montane heath and grassland habitats. Has alpine clubmoss *Diphasiastrum alpinum* and juniper *Juniperus communis*. The montane sedge, *Carex bigelowii*, is frequent over the sumit of Craigbraneoch and Blackcraig.	1.3km west
Mansfield/Garclaugh/Garepool Burns pLWS	Semi-natural gorge woodlands dominated by birch *Betula sp.*/alder *Alnus sp.* with oak *Quercus sp.*	3km west
Nith Floodplain pLWS	This floodplain has been drained and improved but retains areas subject to periodic flooding which provides a good habitat for wildfowl and breeding waders.	2.5km northwest
Merkland Wood pLWS	A semi-natural alder/birch woodland which nestles in the gentle slopes of the Nith Valley adjacent to the floodplain.	2.8km northwest
Corsencon Hill pLWS	A large hill pasture heavily grazed but with several flushes and marshy areas. There is a peaty depression at the top of the hill supporting boggy vegetation and pools.	2.9km northwest

Fluvial connectivity is noted between the Proposed Development and the Nith Floodplain pLWS, Corsencon Hill pLWSs and potentially the Merkland Wood pLWS.

In addition to the sites above the Proposed Development is located adjacent to a former Red Squirrel priority area, suggesting local importance for Red Squirrels. The area known is known as High Cairn Red Squirrel Priority woodland (RSPW) and is west and south of the western extent. Whilst these areas have now been superseded in terms of strategic priorities by the Red Squirrel strongholds, these sites indicate habitats considered to be of local importance for Red Squirrels (Figure 6-3).

6.3.3 Species Records

Table 6-5 comprises European protected species and species of conservation interest within 4km of the centre of the Proposed Development and up to 10km for bat species from the last ten years. Species of conservation interest is defined as those on the Scottish Biodiversity List. Distances are approximate, and each species may be associated with multiple records within the data as provided by the Local Record Centre.

Some locations were provided by the LRC as 1km or 2km square references and many were site centroids or estimated. They may not be the exact location where the species was seen.

Table 6-5: South West Scotland Environmental Information Centre records from the last ten years within 4km of the Proposed Development and up to 10km for bat species

Species	Summary of records
Juniper	4 records, the closest adjacent within Rigg/Librymoor Plantation, 2011, adjacent the Proposed Development
Weevil beetle *Thryogenes nereis*	1 record, the closest adjacent within Rigg/Librymoor Plantation, 2017, adjacent the Proposed Development
Small heath (butterfly) *Coenonympha pamphilus*	1 record, 2.4km southeast, 2017
Garden tiger (moth) *Arctia caja*	1 record, the closest adjacent within Rigg/Librymoor Plantation, 2012, adjacent the Proposed Development
Shaded broad-bar (moth) *Scotopteryx chenopodiata*	1 record, 400m east, 2016
Common toad *Bufo bufo*	1 record, the closest adjacent within Rigg/Librymoor Plantation, 2017, adjacent the Proposed Development
Pipistrelle Bat species *Pipistrellus sp.*	1 record, 3.9km southeast, 2016
Common Pipistrelle *Pipistrellus pipistrellus*	1 record, 3.9km southeast, 2016
Soprano Pipistrelle *Pipistrellus pygmaeus*	1 record, 3.9km southeast, 2016 1 record, 2.5km northeast, 2016
Whiskered/Brandt's Bat Myotis *mystacinus/brandtii*	1 record, 3.9km southeast, 2016
Natterer's Bat *Myotis nattereri*	1 record, 3.9km southeast, 2016
Lesser Noctule *Nyctalus leisleri*	4 records, 5km southwest, 2016 1 record, 5.2km east, 2016
Mountain hare *Lepus timidus*	1 record, 2.6km southeast, 2017

In the addition to the SWSEIC data a search of the Database for the Atlas of Freshwater Fish (held within the National Biodiversity Network (NBN) Atlas) was undertaken. Records for Atlantic salmon (*Salmo salar) and* grayling (*Thymallus thymallus*) were found in the section of the River Nith north of the Proposed Development Footprint and, in the wider area, for European eel (*Anguilla anguilla*), River lamprey (*Lampetra planeri*) and Brook lamprey (*Lampetra fluviatilis*).

No records were returned from within the Proposed Development Footprint. The closest records were for common toad, juniper, weevil beetle and garden tiger moth located adjacent (to the east) the northern extent area of the Proposed Development within Rigg/Librymoor Plantation.

6.3.4 Extended Phase 1 Survey

Both the western and northern extents were similar in composition comprising marshy grassland and bog with gorged burns flowing either through, or adjacent to the Proposed Development Footprint boundaries. Marshy grassland graded to dry and wet modified bog throughout, and modified bogs were characterised by ericoid shrubs and common pleurocarpous mosses.

Purple-moor grass *Molinia caerulea* marshy grassland was the prevailing habitat however wet modified bog dominates in lower lying areas, with localised blanket bog in the northern extent area. The northern extent area was wetter with a prevailing south to north slope down which large flushes were present. In the western extent flushes tended to be found within and adjacent to the tributary network.

Unimproved and semi-improved acid grassland was present with greater quantities of dry heath mosaic in the northern extent where it appears grazing pressure has been less intense.

Broad-leaved woodland is located within river gorges and to the north of the Survey Area near the High Cairn farm buildings.

Outwith the Proposed Development Footprint both conifer and broad-leaved plantation was present, the former was dominated by sitka spruce *Picea sitchensis and the latter by rowan* and alder *Alnus glutinosa*.

See Technical Appendix 6-1 Extended Phase 1 Survey for photos of representative habitat types.

6.3.5 NVC Survey

The survey recorded vegetation communities considered to be of potential conservation interest or potential GWDTEs. Where these communities were floristically distinct, they were assigned into corresponding sub-communities. The communities recorded during the survey were:

- Mires and flushes: Ja, Je, M6, M15, M23, M20 + M25
- Grasslands and tall herb communities: MG9 & MG10
- Woodland: W9

The communities U20 & U4 also occurred on site though have little conservation value and are not GWDTES. These communities are not considered further in this report.

Eight communities were identified as potentially groundwater dependent. Six are potentially moderately dependent and two potentially highly dependent (M6 and M23).

Three potentially ground water dependant NVC communities found are listed within the Scottish Biodiversity Action Plan; M6, M15 and M25. Of these two Annex 1 habitats are derived:

- M15 - H4010 N Atlantic wet heaths with *Erica tetralix* (Annex 1) (where occurring on deep peat, >50cm) and
- M25 - H7120 Degraded raised bog still capable of natural regeneration.

M25 on peat of 50cm depth or over can be classified as degraded bog and on shallower soils as a groundwater dependent terrestrial ecosystem.

M20 is a degraded form of bog which qualifies as Annex 1 habitat where it is capable of regenerating within 30 years (given suitable management). Sub-community M20b is slightly richer than M20a and has greater potential to qualify for Annex 1 status. M20b recorded during the surveys is considered as Annex 1 habitat (H7130 stands on blanket bogs).

See Technical Appendix 6-2 National Vegetation Classification Survey for detailed habitat descriptions.

6.3.6 Vegetation Community Summary

A number of the recorded communities are considered to have conservation value at a European level (Annex 1) or at a national level (Scottish Biodiversity List). A summary of habitats which have conservation designations assigned to them can be found in Table 6-6.

Table 6-6: Annex 1 and Scottish Biodiversity List Habitats

NVC Code	Annex 1	Scottish BAP
M6	N/A	Upland flush
M15	H7130 (Only applicable on peat >50cm deep)	Blanket bog
M20	H7130 stands on blanket bogs	Blanket bog
M25	H7130 (Only applicable on peat >50cm deep)	Blanket bog

For M20 and M25 peatland habitats, the communities are only classed as Annex 1 quality if they adhere to certain criteria. For the H7130 Annex 1 classification the peat layer should be greater than 50cm in depth and be capable of regeneration within a period of 30 years (European Commission, 2013).

For the community to regenerate within a period of 30 years there needs to be a Sphagnum assemblage capable of generating a peat layer. The main peat building Sphagnum species that form the bulk of the peat layer are *S. medium*, *S. papillosum* and to a lesser extent *S. capillifolium*. Of the recorded communities within the Survey Area only M20b exhibited this suite of species.

As such, M20b communities are considered to be classed as Annex 1 habitats, though a peat depth survey would confirm whether the peat layer exceeds 50cm in depth. Other peatland communities recorded within the Survey Area are considered too impoverished to meet the Annex 1 criteria.

6.3.7 Potential GWDTE Survey Results

Potential GWDTEs are classified according to SEPA (2017), defining each NVC community on their potential dependency on groundwater. Groundwater dependency is often linked to wetlands that contain flora that is dependent upon the chemical composition of the water fed from a groundwater source. SEPA defines the habitats with regard to their potential for groundwater dependency, therefore not all communities listed may be truly groundwater dependent. A hydrogeological risk assessment is required to confirm or otherwise.

Table 6-7 lists the vegetation communities with potential for groundwater dependency. The table categorises each habitat type according to whether they are likely to be moderately or highly groundwater dependent as defined by SEPA (2017) for NVC communities and following the current consensus for non-NVC communities. In total, there are six communities listed as moderate and two communities listed as having a potential for high groundwater dependency.

Table 6-7: Potential GWDTE communities recorded within the Survey Area (western and northern extension areas)

Community code	Community name	GWDTE potential
Ja	*Juncus acutiflorus – acid grassland community*	Moderate
Je	*Juncus effusus – acid grassland community*	Moderate
MG9	*Holcus Lanatus – Deschampsia cespitosa pasture*	Moderate
MG10	*Holcus lanatus - Juncus effusus rush pasture*	Moderate
M15	*Trichophorum germanicum – Erica tetralix wet heath*	Moderate
M25	*Molinia caerulea – Potentilla erecta mire*	Moderate
M6	*Carex echinata – Sphagnum fallax mire*	High
M23	*Juncus effusus/acutiflorus - Galium palustre rush pasture*	High

Figure 6.5 shows the spatial occurrence of these overlain with the proposed infrastructure.

SEPA note that where NVC communities identify a potential GWDTE a hydrogeological risk assessment is then required to confirm whether the community is actually groundwater dependent and in what degree (SEPA, 2017). The hydrogeological assessment is presented in Chapter 8.

6.3.8 Protected Species Surveys

The information below includes summary results from surveys and species records from the desk top search shown in Table 6-5. See Technical Appendix 6-3 Protected Species Survey and Figure 6-4 for detailed information.

Amphibians and Reptiles

There was no suitable habitat identified for great crested newt *Triturus cristatus* within 500m of the Proposed Development.

No reptiles or signs of reptiles were recorded during the survey nor returned from the desk study. It is considered likely there could be reptiles present given open grassland and bog habitat.

A common toad record is noted from the desk study as adjacent to the Proposed Development Footprint within Rigg/Librymoor Plantation (east of the northern extent).

Invertebrates

There were two incidental records of butterflies during the survey: meadow brown *Maniola jurtina* and red admiral *Vanessa atalanta*. Two invertebrate species within the noted in the desk study adjacent the Proposed Development within Rigg/Librymoor Plantation (east of the northern extension), as follows.

- Weevil beetle *Thryogenes nereis* (1 record from 2017); and
- Garden tiger (moth) *Arctia caja* (1 record from 2012).

Otter and Water Vole

Otter signs were recorded within 200m of the compound area along the Polbroc Burn in the eastern section of the northern extent. Two resting places were identified, each containing a single fresh spraint. These are otter couches and do not contain any features typical of a breeding holt. In addition, resting sites were also identified within the pre-construction monitoring data from 2019-21 for the SKWF and whilst not recorded in surveys for the Proposed Development, this information provides context to the established presence of an otter population in the area.

No signs of water voles were found during the survey.

No records within the Proposed Development Footprint or zone of influence were noted in the desk study.

Badger

An active four-hole badger subsidiary or annexe sett was found approximately 180m from proposed infrastructure (detailed location information is provided in Volume 5 Technical Appendix 6-7 Confidential Badger Results). No records within the Proposed Development Footprint or zone of influence were identified in the desk study.

Bats

The Proposed Development is considered to have limited value for roosting bats as trees were too young or small to contain cavities and no structures were recorded during surveys. There is potential for bats to forage through the site along the burns and within broad-leaved woodland to the north and plantation which borders sections of the Proposed Development Footprint.

Analysis of data collected by the static bat detectors indicated that the site was predominantly used by common species such as common and soprano pipistrelles. Small numbers of *Nyctalus* and *Myotis* species were also recorded.

Overall, the data indicates that bat activity on site was low for of the 35 nights of static deployment in 2020. Just one night of high activity was recorded for *Nyctalus* sp. at one location (D2). Numbers for *Pipistrellus* species (common and soprano) two and three nights of high activity were recorded (at D2 and D3 respectively). During the 2021 surveys, of the 31 nights of static deployment, there was no high activity for *Nyctalus* and just one at high/moderate level. The remaining high activity was limited to *Pipistrellus* species for one night at location D6.

Whiskered/Brandt's and Leisler's bats were noted in the desk study but given the distances from the Proposed Development Footprint (3.9km and 5km respectively) these records are not considered germane to the assessment.

Baseline conditions, including summary of activity per night by species information, is discussed in more detail within Technical Appendix 6-4 Bat Surveys.

Fish

A fish habitat survey was undertaken in November 2020 on the western extent plus 250m where accessible. This survey was not undertaken on the northern extent as recent survey data (NDSFB 2018) from the adjacent SKWF was available. The SKWF survey confirmed salmonids present at one location in the northern extent (Polmeur

burn) but noted that access was limited by natural physical features to both salmonid and non-salmonids. The November 2020 survey found that any salmonids present were likely to be limited to resident brown trout *Salmo trutta* within small sections of habitat north of the western extension. Further south run-cascade sequences and waterfalls impeded access upstream into the Proposed Development Footprint (see Appendix 6-5).

After the November 2020 survey NDSFB recommended electrofishing and aquatic invertebrate monitoring to be undertaken on the lower Polhote, downstream of the November 2020 survey extents, approximately 550-800 from the Proposed Development Footprint boundary. This survey found 'good to excellent densities of trout and that the diversity and quality of the aquatic invertebrate communities indicated high water quality in the watercourses. See Appendix 6-6: Aquatic Surveys for further information.

Whilst no desk top records were returned within the Proposed Development Footprint several species of conservation significance were recorded within the potential zone of influence of the Proposed Development (Table 6-5).

6.4 Evaluations of Habitats and Plant Communities

As discussed in the Section 6.2.3, GWDTE are assessed within Chapter 8: Hydrology. As distinct entities they are not considered Important Ecological Features (IEFs) under the remit of the Ecology Chapter.

Table 6-8 shows nature conservation status (potential Annex 1 habitats on the EC Habitats Directive (depending on the condition of habitats), or priority habitats listed on the SBL (Scottish Government, 2018), or LBAPs for NVC communities identified within the Survey Area. The value given for each habitat identified within the Survey Area is also provided.

Table 6-8: Nature Conservation Designations of Phase 1 habitats/NVC communities with value levels within the Survey Area

Phase 1 Habitat/ NVC community	Nature Conservation Status*	Evaluation
Wet heath M15	H4010 N Atlantic wet heaths with *Erica tetralix* (Annex 1) (where occurring on deep peat, >50cm) Upland Heathland (SBL)	Local
Blanket Bog M20	H7130 stands on blanket bogs Blanket Bog (SBL) Local Priority Habitat	Local
Wet/Dry modified bog M25	H7120 Degraded raised bog still capable of natural regeneration Blanket Bog (SBL) Local Priority Habitat	Local
Flush and Spring M6	Upland Flush (SBL) Local Priority Habitat	Local
Broad-leaved woodland W9	Upland Mixed Ashwoods (SBL) Local Priority Habitat	Local
Marshy grassland	-	Less than Local

M23		
Ja/Je**	-	Less than Local
Marshy grassland MG9	-	Less than Local
Marshy grassland MG10	-	Less than Local
Acid grassland U4	Comprises a Local Priority Habitat	Less than Local
Continuous bracken U20	-	Less than local / negligible
**This vegetation does not fit an NVC community type but is commonly used by NVC surveyors in flush/rush pasture habitats where Sphagnum mosses and forbs are lacking.		

Dominant habitats were marshy grassland and blanket bog, many of which were poorly defined by NVC community types and, as a result, mosaics were frequent.

Three Annex 1 and five SBL habitats were recorded in the Survey Area. Five Local Priority Habitats were also recorded.

Whilst acid grassland qualifies as Local Priority Habitat the small areas encountered had a low diversity of forbs and grasses and were of little conservation interest.

6.5 Evaluation of Designated Sites

Designated sites are scoped out for further assessment as they are too far from the Proposed Development Footprint for an impact on terrestrial qualifying features (the closest designated site is the Muirkirk Woods SSSI at 4.2km to the northeast).

Provisional Local Wildlife Sites and the former High Cairn RSPW (Table 6-4; Figure 6-3) are valued at a Local level. This includes the Red Squirrel Priority woodland (west and south of the western extent).

6.6 Evaluation of Faunal Receptors

An evaluation of non-avian faunal receptors which are subject to legal protection, or which are otherwise notable (priority species on the SBL and/or LBAPs) and which are confirmed as present, or are likely to be present, within the Proposed Development area is provided in Table 6-9.

Table 6-9: Evaluation of faunal receptors

Species	Legal/Conservation Status	Reason for Evaluation	Evaluation
Badger	Receives full protection under The Protection of Badgers Act 1992 (Scottish Version)	Badger activity was recorded within the Proposed Development area but not the infrastructure buffers.	Local
Bats	Fully protected as European Protected Species under the The Conservation (Natural	Bat habitat within the Proposed Development area is limited to foraging habitat, with very limited roosting opportunities. Given the total number of static detectors	Local

	Habitats, &c.) Regulations 1994 (as amended) SBL Priority Species Local Priority Species	recording nights the overall level of activity is considered to be low and dominated by common *Pipistrellus* species.	
Otter	Fully protected as a European Protected Species under the The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) SBL Priority Species Local Priority Species	Whilst otter signs were not found during the most recent surveys this was due to sub-optimal conditions. As they are known in the area, and signs including resting places were recorded in 2012 for the main SKWF, they are considered present. Resting places have been found during surveys for the eastern compound area and within pre-construction monitoring data for the main SKWF project.	Local
Red squirrel	Protected under schedule 5 of Wildlife & Countryside Act 1981 (as amended). SBL Priority Species Local Priority Species	No evidence during surveys but potentially suitable habitat in W9 woodland in the northern part of the western extension. Plantation surrounding the Proposed Development also suitable. This includes the Red Squirrel Priority woodland (west and south of the western extension).	Local
Fish	Atlantic Salmon (*Salmo salar*) is protected by Schedule 3 of the Habitats Regulations (in freshwater only) Atlantic Salmon and Sea Trout (*Salmo trutta*) are protected by the Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003 (as amended).	Surveys have focused on salmonid species for whilst non-salmonid species are confirmed as present downstream of the Proposed Development (eel (*Anguilla anguilla*) and stone loach *Barbatula barbatula*), there are considered to many barriers for non-salmonid species to enter the Proposed Development itself. Trout parr/fry, and to a lesser extent, salmon parr/fry were found downstream of Proposed Development (550-800m distant) during surveys and salmon are known in the catchment.	Local
Common toad	Afforded limited protection under the WCA 1981 (as amended). SBL Priority Species	Common and widespread species. Legally protected only against sale, transporting for sale or advertising for sale.	Less than local
Invertebrates	N/A	Meadow brown, red admiral, the weevil beetle *Thryogenes nereis* and garden tiger moth are not afforded special legal or conservation status.	Less than local

6.7 Future Baseline

In the absence of the Proposed Development and the continuation of the current land management practices, it is anticipated that the conditions may slightly improve for species that may have been displaced from construction activity at the adjacent SKWF into the available habitat within the Proposed Development Footprint. In terms of watercourses which flow through the adjacent SKWF and into the Proposed Development, such increased habitat use would be contingent on adequate pollution control measures implemented by the SKWF to maintain/enhance water quality.

The coniferous plantation woodlands would be likely to continue to be planted, grow, reach maturity and be harvested in a cyclical nature which reflects their current management.

6.8 Ecological Features Brought Forward for Assessment

The following applies to all non-avian ecological receptors brought forward to the detailed ecological impact assessment stage:

- Their value is assessed as being important at a local level; or
- They are habitats classified as highly or moderately dependent GWDTEs; and
- They are potentially vulnerable to significant impacts from the Proposed Development.

Ecological features meeting those criteria are considered IEFs and the ecological impact assessment concerns such as features only. IEFs include the following:

6.8.1 Habitats

The following habitats are brought forward for assessment:

- Annex 1/SBL habitat - (M15 – *Scirpus cespitosus - Erica tetralix* wet heath). Only considered Annex 1 when occurring on >50cm peat and is then considered blanket bog;
- Annex 1/SBL/Local Priority habitat - (M20 – *Eriophorum vaginatum raised and blanket mire* or blanket bog);
- Annex 1/SBL/Local Priority habitat - (M25 – *Molinia caerulea - Potentilla erecta* mire or blanket bog);
- Local Priority habitat - (M6 – *Carex echinata – Sphagnum fallax/denticulatum*) mire or flush and spring);
- SBL/Local Priority habitat - (W9 – *Fraxinus excelsior-Sorbus aucuparia-Mercurialis perennis* woodland); and
- Burns and streams.

6.8.2 Provisional non-statutory designated sites

- Nith Floodplain pLWS;
- Corsencon Hill pLWSs; and
- Merkland Wood pLWS.

6.8.3 Other non-statutory designated sites

- High Cairn Red Squirrel Priority Woodland.

6.8.4 Fauna

- Badger;
- Bats;
- Otter;
- Red squirrel; and
- Fish.

6.9 Mitigation Measures

In line with current CIEEM guidelines, the impact assessment in this chapter is carried out on the basis that mitigation measures will be in place. The following mitigation measures and good practice will be applied to the project to ensure that any effects on the IEFs are reduced.

6.9.1 Embedded Mitigation

Embedded mitigation relates primarily to the design evolution of the Proposed Development and agreement on proposed management practices intended from the start of construction. Detailed information on infrastructure layout and design evolution is shown in Chapter 3: Description of the Development and the Design and Access Statement, however elements specific to terrestrial ecological and environmental protection are summarised here.

The design of the Proposed Development has been driven by the objective of positioning the turbines and associated infrastructure so that it captures the maximum wind energy possible within a suitable area determined by environmental and technical constraints. Key constraints to site design, which were assessed during the design and scoping process, include:

- Ground conditions, topography and peat; and
- Presence of protected habitats and species.

Iterative design review included repositioning of all turbines and access tracks to avoid areas of deep peat and sensitive habitats.

A Drainage Management Plan (DMP), to detail proposed surface drainage measures to treat and deal with surface runoff from the site, will be designed in accordance with sustainable drainage systems (SuDS) principles. This plan will form part of a Construction Environmental Management Plan (CEMP) (an Outline CEMP is provided in Appendix 14-1.). The drainage design will comply with General Binding Rules (GBR's) 10, 11 and 21 for the track drainage, under the Water Environment (Controlled Activities) (Scotland) Regulations (CAR) 2011 (as amended) (Scottish Environment Protection Agency (SEPA), 2011).

Whilst no borrow pits are proposed, a Peat Management Plan (PMP) will be produced which will include the existing borrow pit at the adjacent SKWF which will be used as a peat restoration site within the Proposed Development. The existing borrow pit will be

used as a peat restoration site only and material will not be won from it to supply the Proposed Development. A PMP can be found in Appendix 8-2.

In line with the guidelines in Mitchell-Jones and Carlin (2014) and SNH et al (2019), which provides a methodology for determining the minimum buffer distance required between a feature of potential value for bats (e.g., the edge of a tree canopy) and a wind turbine, a minimum stand-off buffer of 50m will be maintained between the rotor-swept area and the nearest woodland edge to any turbine. The calculation for the recommended minimum 50m buffer from blade tips is calculated using the formula:

- Buffer distance from edge/feature = $\sqrt{(50m + bl)^2 – (hh – fh)^2}$,
- Where "bl" = blade length, "hh" = the hub height and "fh" = feature height. For plantation up to 15m in height and the proposed turbine specifications, this corresponds to a minimum buffer of 75.3 m between turbine towers and the nearest woodland/edge feature.

6.9.2 Construction

Full details of construction mitigation measures will be provided in a Construction Environmental Management Plan (CEMP) to be agreed with Dumfries and Galloway Council, in a consultation with NatureScot and SEPA, post-consent but prior to construction commencing. The CEMP will include information on the following ecology related activities:

- Works will be overseen by an Ecological Clerk of Works (ECoW) and their role and responsibilities will be detailed in the CEMP.
- An ECoW will be present during construction to undertake regular Site inspections and oversee all peat stripping and removal. The ECoW will have the authority to stop works where significant peat-related impacts are considered likely to occur, and to instigate control/mitigation measures to rectify noncompliance.
- In areas where tracks cross sensitive habitats (in ecological and hydrological terms), floating roads will be used on peat 2m depth or more.
- A micro-siting margin to allow for adjustment of turbine, track, and equipment positions to suit actual ground conditions is proposed within 100m of infrastructure locations given in Chapter 3: Description of the Development. Micro-siting shall not exceed 100m in any direction and any variation of between 50m and 100m shall only be permitted following prior written approval of the DGC as planning authority (in consultation with the MOD, NATS, Glasgow Prestwick Airport and where relevant SEPA and / or NatureScot).

Habitats

The loss of plant communities is an unavoidable consequence of the Proposed Development. Further, incidental losses of habitat will be reduced by minimising the footprint of the construction activity. This will be achieved by operating machinery and storing materials within the footprint of permanent construction features wherever practicable. This will also be achieved through appropriate training of the site staff and by ensuring that vehicles and their operators do not inadvertently stray onto adjacent habitat areas. The proposed measures are summarised below.

- Re-instatement of habitats - best practice techniques for vegetation and habitat reinstatement will be adopted and implemented on areas subject to disturbance during construction as soon as is practicable. The methodology used for

reinstatement will be agreed with Dumfries and Galloway Council and implemented by measures outlined in detail within the Peat Management Plan (see Chapter 8: Hydrology, Hydrogeology and Soils, Habitat Management Plan (Appendix 6.8) and CEMP.

- Pollution Prevention: In order to prevent pollution of watercourses within the Proposed Development Footprint (with particulate matter or other pollutants such as fuel), mitigation measures detailed in Chapter 8 will be employed.

Fauna

- Within one month prior to construction surveys for badger, otter and red squirrel will be undertaken. The survey will be undertaken by a suitably qualified ecologist. The results will inform the need to amend the CEMP to include further mitigation with regards to protected species in respect of working practices or to consult with NatureScot, if required.
- Excavations/holes will be covered at the end of each working day, or a wooden plank placed inside to allow faunal species to escape, should they enter the hole. Any temporarily exposed open pipe system would be capped in such a way as to prevent wildlife gaining access.
- No in-channel obstructions (floodlighting, fencing or diversions) will be permitted within watercourses unless specifically authorised in writing by the relevant authority (i.e., SEPA and/or a suitably experienced freshwater Ecologist).
- Measures shall be implemented to reduce the potential for even non-significant construction impacts to bats, e.g., downward-directed artificial lighting will be used to shine light to the working area only and reduce 'light leakage' that may temporarily affect bat flightlines.
- In the event that a protected species is discovered on site all work in that area would stop immediately and the ECoW would be contacted. Increased buffer areas may be required in these locations. Details of the local police Wildlife Crime Officers, NS Area Officer and Scottish Society of the Prevention of Cruelty to Animals (SSPCA) relevant Officer would be held in the site emergency procedure documents.
- SEPA and NDSFB will be consulted prior to construction on further requirements in relation to fish populations.

Further information on species-specific mitigation is provided in the Outline CEMP (Appendix 14-1).

6.9.3 Operation

During the operational phase the following mitigation will be in place:

Habitats

The ECoW will monitor the condition of sensitive habitats, including areas of restored peat and watercourses. Quadrats will be established in year 1 following commissioning, with surveys carried out in year 3 and 5. Vegetation surveys would be reviewed by stakeholders (DGC, NS) in year 5 but until that point the working basis is for surveys in years 5, 10, 25 and 40.

Information on specific measures which include peat re-wetting are included in Appendix 8-2: Peat Management Plan and Appendix 14-2: Habitat Management Plan and these documents should be read in conjunction with this assessment.

Fauna

Post construction electrofishing surveys will be undertaken at years 1 and 3.

Measures within the HMP, such as new woodland, planting, heather management, and monitoring of black grouse *Lyrurus tetrix* will continue. See Chapter 7: Ornithology for the assessment relating to black grouse. The HMP details a range of detailed habitat management measures/prescriptions to be implemented and managed during the construction, operational and decommissioning periods of the Proposed Development which totals 40 years.

6.10 Assessment of Construction Phase Impacts

During construction it is anticipated that impacts may arise from:

- Habitat loss or damage (permanent and temporary) due to construction of wind farm infrastructure;
- Indirect effects on sensitive habitats;
- Inadvertent killing, injuring or disturbance of fauna during construction;
- Disturbance to fauna due to vehicular traffic, operating plant and the presence of construction workers; and
- Sedimentation or other pollution of watercourses from construction activities and vehicular traffic.

These potential impacts are addressed for each Provisional non-statutory designated site, habitat or species brought forward to assessment.

6.10.1 Provisional Non-statutory Designated Sites

The Nith Floodplain Provisional Local Wildlife Site is located 2.5km northwest of the Proposed Development. Whilst there is a fluvial connection, via the Polhote burn which joins the River Nith, the implementation of a Pollution Prevention Plan will ensure no sediment loading/contamination which could affect the pLWS. In the unlikely event of an uncontained pollution event, the distance of the pLWS from the Proposed Development would likely mitigate negative impacts. As a result, there are not considered to be direct or indirect construction impacts on Nith Floodplain pLWS, therefore effects are not significant. Confidence in this prediction is near certain.

Merkland Wood pLWS is located 2.8km northwest of the Proposed Development. Whilst there is a potential fluvial connection, via what appear to be field drains form aerial photography, distance from the Proposed Development, plus mitigation measures in implemented through the PPP, will ensure no ensure no impacts on the Merkland Wood pLWS. Confidence in this prediction is near certain.

Corsencon Hill pLWS is located 2.9km northwest of the Proposed Development. Whilst a fluvial connection to the Proposed Development may be present, the majority of the pLWS is upslope of the small watercourses which enter at the toe of the slope. As a result, there is a limited fluvial connection. When considered in the context of the distance from the Proposed Development, the potential for negative impacts on the

Corsencon Hill pLWS is therefore considered negligible. Confidence in this prediction is near certain.

6.10.2 Other Non-statutory Designated Sites

The High Cairn RSPW is a former stronghold for this species located adjacent the Proposed Development Footprint. Given no red squirrel were found during surveys because no impact is considered likely to occur for no active red squirrel dreys were recorded within the zone of influence of the Proposed Development Footprint at that time. As a result, the potential for negative impacts is considered negligible. Confidence in this prediction is near certain.

6.10.3 Habitats

Chapter 3: Description of the Development includes proposed dimensions of all turbines, turbine foundations, crane hard-standings, access tracks, substation, control building, and construction compounds. The impacts are categorised as follows:

- Direct habitat loss: this includes habitats present under the footprint of the Proposed Development, including tracks, turbine bases, crane pads, substation, compounds and drains; and
- Indirect habitat disturbance: where permanent infrastructure is proposed and discussed in the relevant habitat sections below.

Table 6-10 indicates the potential temporary and permanent habitat loss associated with the infrastructure and habitats brought forward for assessment. This includes data from 2012 for the construction compounds in the west and compound/battery storage area in the east (see Chapter 3: Description of the Development). Whilst these areas are part of the SKWF project as a result of the Proposed Development the western compound will be temporary for a longer period than when considered under the main SKWF project alone. In addition, the eastern compound will become a permanent area whereas under the SKWF project it is a temporary area.

Habitats which occur as part of a mosaic are categorised and assessed based upon on the dominant habitat within that mosaic. M15 Wet heath is an exception for it was only recorded as a sub-dominant habitat and is included in the assessment due to its potential Annex 1 status.

Loss calculations include a 10m buffer of infrastructure land-take to account for drying effects. Figures are rounded therefore minor variation from the raw data is possible.

Table 6-10: Predicted habitat loss of IEFs associated with the infrastructure footprint & drying effects (10m buffer from infrastructure footprint)

Habitat Type (NVC and Ja/Je*)	Temporary loss (ha)	Permanent loss (ha)	Habitat loss & drying effects (10m buffer) (ha)	Total Habitat in survey area (ha) *	% Total Habitat in survey area subject to loss & drying effects
M15 – *Scirpus cespitosus - Erica tetralix* wet heath/blanket	-	-	-	Not recorded as sub-dominant	-

bog				habitat only	
M20 – *Eriophorum vaginatum* raised and blanket mire	0.34	1.19	4.43	88	5.05
M25 – *Molinia caerulea - Potentilla erecta* mire	0.38	0.89	3.67	103.2	3.56
M6 – *Carex echinata – Sphagnum fallax/denticulatum*) mire	0	0.06	0.38	19.4	1.98
W9 – *Fraxinus excelsior-Sorbus aucuparia-Mercurialis perennis* woodland	-	-	-	1.6	-
Burns and streams	-	-	-	Not recorded as mapped as a linear feature	-
*Includes data from 2012 SKWF surveys for the western construction compound					

Wet Heath (M15 – Scirpus cespitosus - Erica tetralix wet heath)

M15 occurs within a mosaic of M20 bog/M25 mire and was not found in the Survey Area as a dominant habitat. It was noted as occasionally upon on peat over 50cm depth, grading to bog as typified by the increased presence of *Eriophorum vaginatum* and sphagnum mosses. M15 is of moderate groundwater sensitivity and an Annex 1 habitat - a habitat of conservation importance when on peat over 50cm depth - however no M15 habitat will be lost and indirect effects will be managed with the use of micro-siting, use of cut-off drains to prevent drainage, and onsite presence of the ECoW to guide these activities.

As a result, effects on M15 are considered to be not significant.

Blanket bog (M20 – Eriophorum vaginatum raised and blanket mire)

M20 habitats (including sub-communities and mosaics in which it is the dominant cover) amount to approximately 88ha within the Survey Area. Of this, approximately 4.43ha will be lost totalling 5.05% loss of M20 within the Survey Area. This is the dominant habitat across the southern half of the western extent where the track enters this part of the Proposed Development Footprint, and up to T27.

Whilst M20 can comprise Annex 1 habitat, only M20b was of Annex 1 quality. It was not fully possible to categorise to sub-community level however, due to the complexity of the dominant habitat types present within the mosaics. Therefore, on a highly precautionary basis and for the purposes of the assessment, all M20 is assumed to be M20b.

The loss of 5.05% of the total M20 blanket bog recorded in the Survey Area represents a significant impact at the local area level. However, measures within the Habitat Management Plan to restore local peat habitats through ditch blocking and dam creation will, over the duration of the Proposed Development, mitigate for loss and improve the condition and extent of the blanket bog (Chapter 14: Schedule of Mitigation, Appendix 14.2, Figure 14-2-1). The HMP will deliver 6.65ha of new habitat including M20 blanket bog. Whilst a minor loss of M20 may occur overall this will be less than the 5.05% cited and the quality of that which remains will be better overall, after successful protection/restoration. Confidence in this prediction is near certain.

Blanket bog & Wet/Dry modified bog (M25 – Molinia caerulea - Potentilla erecta mire)

M25 habitats (including sub-communities and mosaics in which it is the dominant cover) amount to approximately 103ha within the Survey Area. Of this, approximately 3.67ha will be lost which totalling 3.56% loss within the Survey Area. This loss will occur between T27 and T28 in the western extent and upon the proposed track in the northern extent.

Areas of M25 will focus of habitat reinstatement and improvement measures and, when this is considered in tandem with the limited amount of existing modified bog to be lost over the duration of the Proposed Development, effects on this local area receptor will be mitigated to a level where the local level effect is reduced. Confidence in this prediction is near certain. The aim is that modified bog grades to blanket bog because of HMP measures.

Flush and Spring (M6 – Carex echinata – Sphagnum fallax/denticulatum) mire

M6 habitats (including sub-communities and mosaics in which it is the dominant cover) amount to approximately 19.4ha within the Survey Area. Of this, approximately 0.38ha will be lost totalling 1.98% loss of M6 within the Survey Area. M6 was found in localised area particularly on sloping flanks of gorges and correspondingly, where water crossings 1 – 3 are intended.

Given that all watercourse crossings occur either directly upon, or in the vicinity of M6 flush habitats, and that a concentration of activity will occur there, local level effects are predicted. This will be reduced further by measures to prevent dewatering and sedimentation as per the HMP and Drainage Management Plan.

It is the anticipated level of activity, and the corresponding potential for disturbance and dewatering, which influences this precautionary assessment. Confidence in this prediction is near certain.

See Chapter 8: Hydrology, Hydrogeology and Soils for further information.

Woodland (W9 – Fraxinus excelsior-Sorbus aucuparia-Mercurialis perennis woodland)

W9 woodland lies ouwith the zone of influence of the Proposed Development Footprint as it is located within the gorge of the Polhote burn approximately 500m away from the closet infrastructure element. Indirect effects, such as pollution, are not considered relevant due to this distance, and that growing on slopes within the gorge, woodland is outwith any hydrological contaminant pathway which could occur in the unlikely event

of an uncontained pollution event. Effects on this local value receptor will not therefore be significant. Confidence in this prediction is near certain.

Burns and Streams

There are three watercourse crossings proposed for construction of access tracks. Appropriate embedded mitigation measures will be in place to minimise effects which could arise from siltation and pollution, implementation of a CEMP, and direct supervision by the ECoW during these works. As such, effects are considered to be highly localised and not significant. Confidence in this prediction is near certain.

6.10.4 Fauna

Badger

An active four-hole badger subsidiary or annexe sett was found approximately 180m from proposed infrastructure (detailed location information is provided in Volume 5 Technical Appendix 6-7 Confidential Badger Results). Despite the occurrence of construction activity in the surroundings of the sett, viable dispersal routes would remain to the north and along topographical features.

As such, the sett will not be destroyed or disturbed, nor will dispersal routes be severed.

A pre-construction survey will be undertaken to understand the prevalent situation as this may have changed from the 2020 survey. It is not envisaged there would be any need for licensing to disturb the sett.

On this basis, and with mitigation detailed in Section 6.9, which includes the covering of excavations, effects on badger are considered to be not significant. Confidence in this prediction is near certain.

Bats

Bats forage on insects; the abundance of prey and therefore conditions for foraging bats differs across habitats, with open habitats being less suitable for foraging bats than edge habitats and watercourse corridors.

No potential roost features have been identified within the survey extents.

Local bats are likely to forage and commute over a much larger area than the assessment area with fewer animals foraging within the assessment area, mainly along plantation edges and watercourse corridors, and more bats foraging elsewhere in the local area. Bat activity was relatively low.

In addition, given the relatively small areas that will be impacted by construction activities, and that construction will mainly take place during daylight hours during the season when bats are not active, disturbance to foraging and commuting bats during construction is assessed as being not significant. The confidence in these predictions is near certain.

Otter

Surveys in the vicinity of the eastern temporary construction compound and battery storage area recorded a non-breeding resting site approximately 110m from proposed infrastructure and the other resting site, approximately 200m from proposed

infrastructure. Both are screened by conifer plantation, bankside vegetation, and the river-channel itself.

Resting sites were also identified within the pre-construction monitoring data from 2019-21 for the SKWF which provides further context to the established presence of an otter population in the area. As a precaution the ECoW will review iteratively review works in this area to develop further mitigation which may be possible. This could include minimising working times to daylight hours and keeping a watching brief on otter activity. Whilst pre-construction surveys and mitigation discussed above will refine effects thresholds prior to construction, given the distances of resting sites and the natural screening between them and construction areas, no significant effect is considered likely. Confidence in this prediction is probable.

Red Squirrel

Given the presence of Priority Woodland for red squirrel (adjacent to the western extent) the likelihood of future active dreys (including breeding dreys) within the zone of influence of the Proposed Development Footprint, remains. Pre-construction surveys will inform whether additional mitigation, specific to red squirrel, will be required. Based on current information however, where no sightings or active dreys are confirmed, effects on red squirrel are considered to be not significant. Confidence in this prediction is near certain.

Fish

Surveys reveal that watercourses in the area are of 'good' quality in respect of salmonid habitats, particularly downstream of the Proposed Development. Confirmed presence of fish within the Proposed Development Footprint occurs at one location; trout parr on the Polmeur burn on the eastern side of the northern extent, near the access track from Libry Moor plantation (NDSFB, 2018). Trout fry/parr were also found in other locations (downstream of the Proposed Development) and, to a lesser extent, salmon fry/parr. Fish were also absent from several locations within the 2018 survey.

Overall, however, it is considered unlikely that the Proposed Development Footprint is suitable for salmonids due to limited areas of available productive habitat and obstacles to migration. This is particularly true for the western extent where the Polhote burn is dominated by run-cascade sections and a lack of gravelly substrate for spawning beds. The northern extent, flanked by the Polneul and Polmeur burns, is more suitable although drought conditions have affected the Polmeur burn in recent years (as observed in the 2018 NDSFB and 2021 Extended Phase 1 surveys).

Despite the presence of trout parr in part of the Proposed Development Footprint the likelihood is that most fish will make the life choice to "smolt" and migrate to become sea trout from downstream of the Proposed Development, when they attain the parr age stage of their life cycle (NDSFB, 2021).

As a result of these baseline conditions, and adoption of measures discussed in Section 6.9 which include further survey, implementation of a PPP, onsite ECoW and further consultation with SEPA and NDSFB, effects on this local level receptor are considered to be not significant. Confidence in this prediction is near certain.

6.11 Assessment of Operational Phase Impacts

During operation it is anticipated that impacts may arise from:

- Inadvertent killing, injuring or disturbance of fauna during construction; and
- Habitat loss or damage (permanent and temporary) due to construction of wind farm infrastructure.

Whilst effects from construction on hydrologically sensitive habitats persist into operation, they are not new effects generated by the operational phase. This is as per the approach in the Chapter 8: Hydrology, Hydrogeology and Soils which has informed the effects thresholds for habitats in this assessment.

The HMP will include monitoring and feedback mechanisms such that should the restoration of the peatland habitats and flush habitats not recover as anticipated, remedial measures will be introduced in the operational phase.

IEFs are grouped as the lower magnitude of possible effects does not require splitting habitats, and fauna, into separate types or species as set out in the construction phase.

6.11.1 Provisional Non-statutory Designated Sites

There is limited scope for effects on provisional Local wildlife Sites given the reduced activity post construction and relatively small footprint of operational infrastructure. Activity will be limited to routine maintenance with limited scope for activities liable to cause a pollution event, and in the unlikely scenario that such an event did occur, contaminants would be highly unlikely to reach the LWSs given their distance from the Proposed Development Footprint.

Effects on provisional LWSs are therefore considered not significant. Confidence in this prediction is certain.

6.11.2 Other Non-statutory Designated Sites

Whilst no active red squirrel dreys have been identified should these be present in the wider area no significant effect is predicted during operation. Disturbance from operational traffic will comprise a negligible effect. Confidence in this prediction is near certain.

6.11.3 Habitats

Whilst effects from construction on hydrologically sensitive habitats persist into operation, they are not new effects generated by the operational phase. There is some limited potential for incidents and spillages associated with service activities, but this is very low and is considered not significant, should this occur. Confidence in this prediction is near certain.

Appendix 14-2 Habitat Management Plan will include monitoring and feedback mechanisms as it is developed beyond prior to construction such that should the restoration of the peatland habitats and flush habitats not recover as anticipated, remedial measures will be introduced in the operational phase.

6.11.4 Fauna

With the site speed limit in place and the limited use of vehicles on the tracks during darkness, operational effects are considered to be limited only to bats.

Guidance issued by the statutory agencies (SNH et al, 2019) provides updated information regarding the likely risk to individual bat species and populations from wind turbine strike/barotrauma. Common and soprano pipistrelle are considered to have a high risk of collision at an individual level. As described previously, a comparatively low level of bat activity was recorded across the Proposed Development Footprint. Turbines are located at least 75.3m from the nearest woodland/edge feature.

Therefore, whilst common and soprano pipistrelle bats have a high risk of collision with wind turbines, due to the low activity recorded on the Proposed Development Footprint and sub-optimal open habitats present, the number of collisions and barotrauma which is likely to occur is therefore considered to be low.

Given both these species are the commonest bat species, the operational phase is therefore considered to have no significant impacts on the conservation status of these bat species. Confidence in this prediction is near certain.

6.12 Assessment of Decommissioning Phase Impacts

It is more difficult to predict impacts which could arise from decommissioning and the confidence in all predictions is therefore considered to be less certain due to the length of the operational period (40 years) and changes in habitat and species assemblage therein. It is assumed, however, that impacts are likely to be similar in nature to the construction phase but of lower magnitude, because the infrastructure will be in place to enable access to the Proposed Development.

For the purposes of the assessment, it is assumed that decommissioning results in the removal of all above-ground infrastructure with tracks and bases remaining.

IEFs are grouped as the lower magnitude of possible effects does not require splitting habitats, and fauna, into separate types or species as set out in the construction phase.

6.12.1 Provisional Non-statutory Designated Sites

As per the construction phase no significant effects are considered likely on provisional Local Wildlife Sites as a result of decommissioning. This is based on the minor nature of the works, and distance of the pLWSs from the Proposed Development Footprint. Confidence in this prediction is near certain.

6.12.2 Other Non-Statutory Designated Sites

Ecological surveys will be carried out prior to decommissioning to determine if active red squirrel dreys are present within the zone of influence. Should active breeding red squirrel dreys be found within 50m of the works areas works will be timed outwith the breeding season. If works are confined to the non-breeding season, then the risk of disturbing red squirrels is much lower, and only likely to occur where works are within 5m or one tree's distance of a potential drey location (whichever is less) (NatureScot, n.d). On the basis the above approach is adopted no significant effect on red squirrel, which may be present, is predicted. Confidence in this prediction is near certain.

6.12.3 Habitats

Decommissioning may result in disturbance to localised areas of peat and flush habitats during dismantling, although this will be limited due to protection measures detailed within the PMP and HMP. Opportunities for peat reinstatement and enhancement will result from the decommissioning process.

On a precautionary basis, a short term less than local level non-significant effect on sensitive habitats is considered possible. Confidence in this prediction is near certain.

6.12.4 Fauna

With the site speed limit in place and limited use of vehicles on the tracks during darkness, decommissioning effects are considered to be limited only to bats.

Whilst there may be a short-term increase in disturbance during decommissioning overall this will be temporary and highly localised. As a result, no significant effect is likely to occur. Confidence in this prediction is probable.

6.13 Assessment of Cumulative Effects

Cumulative effects can occur where impacts from one development which may not be significant at the population level when combined across many developments in combination could result in a detrimental effect on a wider scale. This could mean habitat loss, disturbance to species (for example of several wind farms adjacent to each other were to be in construction either simultaneously or consecutively) or impacts across connected receptors, such as watercourses which form part of one river system. Several wind farm developments occur within 5km, and these are listed in sequential order of proximity to the Proposed Development in Table 6-11.

Table 6-11: Cumulative Developments

Site Name	Tip Height	No of Turbines	Status
SKWF	125	24	Under Construction
Euchanhead	230	21	Application
Hare Hill	62.5	20	Operational
Hare Hill Extension	91	35	Operational
Sanquar	126.5	9	Approved
Glenmuck Farm	149.9	8	Approved
Magheug Rig ('Sanquar six')	130	6	Approved
Lethans	Up to 220	22	Approved
Lethans Extension	235	10	Application
Sanquar II	200	44	Appealed
Whiteside Hill	121	10	Operational

Whilst there is a cluster of wind farm activity in the area the majority of these sites are dominated by commercial forestry and there is limited loss of sensitive habitats as a result. As such, it is considered that the local level loss of sensitive habitats from the Proposed Development in relation to other developments does not comprise a significant cumulative effect. Confidence in this prediction is near certain.

It is noted that the construction footprint will be limited to essential working areas and most of the deep peat has been removed from the Proposed Development Footprint. Effects will be further minimised by the mitigation measures summarised in Table 6-12 which include use of a borrow pit (consented under the SKWF project) which will provide a further area for peat reinstatement.

There is likely to be a cumulative effect from the neighbouring SKWF and the Proposed Development in relation to collision events by common species of bat on operational turbines. This effect is considered likely to be minor however given the distance of turbines (75.3m) from edge habitats where bats are most likely to fly within the Proposed Development Footprint. As a local effect on common species of bat (*Pipistrelle* sp.) this effect is not significant in EIA terms.

The use of the 15mph speed limit will limit the likelihood of collisions with otter which are confirmed in the area. The ECoW will regularly monitor the baseline data during construction to ensure that if resting place locations change, works activity will be reviewed to ensure appropriate buffer zones and mitigation measures are in place. Mitigation may be supplemented to that detailed in Table 6-12, pending advice from the ECoW.

6.14 Residual Effects

As a result of the mitigation identified and summarised in Table 6-12, and the assessment carried out, there would be no significant adverse effects on the ecological receptors on and around the Proposed Development if the Proposed Development were to proceed.

Table 6-12: Schedule of Mitigation

Item	Mitigation measure	Reason
6.1	A CEMP will be prepared in advance of commencement of works	To ensure environmental mitigation is implemented
6.2	Works will be overseen by an ECoW and their role and responsibilities will be detailed in the CEMP	To ensure professional support is available during the construction process
6.3	Floating roads will be used where tracks cross peat 2m depth or more.	To minimise impacts on sensitive habitats
6.4	A micro-siting margin of 100m to allow for adjustment of infrastructure locations (any variation of between 50m and 100m shall only be permitted following prior written approval of the DGC and relevant statutory stakeholders).	To minimise impacts on sensitive habitats
6.5	An HMP will be prepared in advance of works	To implement habitat reinstatement and enhancement measures for sensitive habitats and identified protected species
6.6	A PMP will be prepared in advance of works	To implement protection/reinstatement methodologies related to peat (in tandem with HMP)
6.7	A Pollution Prevention Plan will be prepared in advance of commencement of works	To minimise impacts on watercourses, wider environment, and sensitive habitats
6.8	Use of cut-off drain, buffer strips and infiltration to minimise dewatering of	To minimise impacts on GWDTE

Item	Mitigation measure	Reason
	GWDTE	
6.9	Pre-construction surveys will be undertaken up to 200m from infrastructure The survey will be undertaken by a suitably qualified ecologist	To ensure protected species are not adversely affected and to adjust mitigation measures, if required
6.10	Should a protected species be found during works, works would stop immediately and the ECoW informed to determine the next steps	To prevent harm or illegal disturbance to animals
6.11	A site speed limit of 15 mph will be observed	To reduce the chances of collision
6.12	At the end of each working day, holes and trenches will be covered or planks/ramps used to ensure any animal which calls in can escape	To ensure no animals are killed by becoming trapped in construction works
6.13	Works will be conducted during daylight hours, wherever possible	To reduce disturbance around dawn/dusk when animals may be more active
6.14	Where possible machinery will be operated, and materials and equipment storage will occur within the permanent footprint of the site	To reduce temporary habitat loss/damage
6.15	Both the borrow pit and the construction compound will be subject to habitat reinstatement	To reduce the damage/loss of habitat on the Proposed Development

6.15 Summary and Statement of Significance

A range of ecological surveys were undertaken between 2020-21 and survey data from the neighbouring SKWF was used to supplement the baseline understanding of potential impacts from the Proposed Development.

The results of the surveys identified that several protected species are present on or around the Proposed Development Footprint including bats, badger and otter. Additionally, the habitats present within the Proposed Development were categorised.

An impact assessment has identified that there are no ecological receptors present at higher than local value and taking into account mitigation, no significant effects on ecological receptors have been identified. Pre-construction surveys and the presence of an ECoW during construction work would enable changes in the occurrence of protected species to be identified so that the Proposed Development could proceed without breaching wildlife protection laws.

Following the above, it is considered that the Proposed Development would have a not significant impact on the faunal or floral receptors on and around the Proposed Development Footprint.

6.16 References

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