Environmental Impact Assessment Report

Teindland Wind Farm

Volume 1

Chapter 6: Ecology

Document prepared by Envams Ltd for: Teindland Wind Farm Ltd

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Contents

6 ECOLOGY

6.1 INTRODUCTION

This chapter considers the potential effects on Ecology of Teindland Wind Farm (the Development) on land owned by Forestry and Land Scotland approximately 3 km north of Rothes, Moray (the Site). The Development is described in Chapter 4.

This chapter is also supported by the following figures as contained within Volume 2a: Figures:

- Figure 6.1: Habitat survey results;
- Figure 6.2: LEPO woodlands on moderate conservation importance;
- Figure 6.3: Static Detector Locations;
- Figure 6.4: Fish Habitat Survey Locations;
- Figure 6.5: Ecologically Designated Sites; and
- Figure 6.6: Data Search Records

The chapter is supported by a number of Technical Appendices (TAs) provided in Volume 3: Technical Appendices), comprising:

- TA A6.1: Habitat Survey Report;
- TA A6.2: Protected Species Survey Report;
- TA A6.3: Confidential Protected Species Survey Report (provided in Volume 5);
- TA A6.4: Fish Habitat Survey Report;
- TA A6.5: Outline Habitat Management Plan; and
- TA A6.6: Bat Survey Report.

Other relevant chapters include Chapter 4: Development Description (including TA A4.2: Outline Construction Environmental Management Plan (CEMP)) and Chapter 12: Hydrology (including TA A12.1: Peat).

The ecology survey and assessment have been undertaken by WildLife Consulting Limited and associates. Specifically, the botanical assessment has been undertaken by Rory Whytock Principal Botanist and Director (Whytock Ecology Ltd). Rory has a BSc in Wildlife Conservation and has been a habitat specialist for 13 years. He has served as vice county bryophyte recorder for Stirling, Ayrshire and Clyde Islands for the British Bryological Society and he is a member of CIEEM. The bat assessment has been undertaken by Lorraine Hamilton MSc, BSc, MCIEEM - Director (Cairn Ecology Ltd). Lorraine specialises in bats and has been an ecological consultant for 16 years. The remainder of the ecology assessment and overall approach and review has been undertaken by Colin Nisbet MSc, BSc, MCIEEM – Director (WildLife Consulting Ltd). Colin has 20 years' experience in ecological consultancy.

The aims of this assessment are as follows:

- Consider relevant legislation, policy, and guidance;
- Assess baseline data from desk-studies and site surveys to establish existing ecological interests on site, and within its immediate vicinity;
- Assess potential effects from the Development and their ecological significance, both directly and indirectly;
- Identification of cumulative effects with other wind developments;
- Identification of appropriate measures for mitigation and avoidance of potentially adverse effects from the Development; and
- Identification of residual, significant effects from the Development following mitigation.

6.1.1 Consultation

A summary of the consultee comments relating to ecology are presented below in Table 6.1.

Table 6.1: Consultation Comment and Response

Consultee	Date	Comment	Response
Scottish Ministers	16th September 2022	Consultation is undertaken to define the scope of the protected species and ecologically designated sites. Ecology chapter to contain sufficient detail for Habitats Regulations Appraisal (HRA) in respect of Natura Sites. Habitat assessment to identify rare and threatened habitats, and those protected by European or UK legislation, or identified in national or local Biodiversity Action Plans.	The protected species survey and assessment has considered all European protected species, Wildlife and Countryside Act Schedule 5 listed fauna and Schedule 8 listed vascular plants. Searches for statutory ecologically designated sites (and AWI) woodland have been undertaken to inform the assessment and background ecology records were requested from NESBReC and searched for on the NBN Atlas. An HRA in respect of the River Spey SAC is included in Section 6.13 of this chapter. Habitat assessment covers the scope referred to by Scottish Ministers.
Marine Scotland Science (MSS)	16th September, 2022	MSS provided guidance on freshwater fish survey and assessment. MSS advised a planning condition is added to any consent for the development, which stipulates that a Water Quality and Fish Monitoring Plan (WQFMP) and Ecological Clerk of Works (ECoW) are in place to the start of construction works. MSS also advise water quality sampling and fully quantitative electrofishing surveys are undertaken at least 12 months prior to the commencement of construction works and for at least 12 months following the completion of construction works.	Following a consent, a WQFMP, water quality monitoring and fish sampling will be undertaken as advised. An ECoW will be appointed to monitor prior to the start of construction activities, as set out in TA A4.2: Outline Construction Environmental Management Plan.
NatureScot	25th August, 2022	River Spey SAC/SSSI is the key ecological receptor and surface water mitigation will be required to protect the Spey.	Surface water mitigation measures for the Spey are outlined in Section 6.6 of this Chapter and in Chapter 12, Hydrology, and in TA A4.2: Outline Construction Environmental Management Plan (oCEMP).
SEPA	16th August, 2022	SEPA agree with the ecology scope. SEPA commented that the EIAR should include detail on full development infrastructure, groundwater dependent terrestrial ecosystems GWDTE and pollution prevention measures.	Information on the Development infrastructure is included in the EIAR within Chapter 4: Development Description. Pollution prevention measures are covered in TA 4.2: oCEMP GWDTEs were scoped out for further assessment following the GWDTE surveys.
Spey Fisheries Board	8th September, 2022	Key areas to protect are the River Spey, the Broad Burn and the Red Burn. The Spey Fisheries Board will conduct electrofishing monitoring in line with MMS guidance. The EIAR should include biosecurity measures for cross catchment working.	These watercourses are given specific consideration in the assessment (see TA A6.4:Fish Habitat Survey Report) and the design has evolved to maximise distances from these receptors, and to minimise watercourse crossings via the use of existing forestry tracks. The EIAR makes the commitment to electrofishing monitoring and biosecurity.

6.2 LEGISLATION, POLICY AND RELEVANT GUIDANCE

Relevant legislation, policy and guidance has been consulted to inform the assessment of impacts. A list of pertinent documents is provided below; where specific documents have been consulted, these are referenced in the relevant section.

Scottish Natural Heritage (SNH) has been rebranded as NatureScot as of the 24th of August 2020. As such some guidance documents or consultation may refer to the original name used at the time of publication.

- Directive 2009/147/EC on the Conservation of Wild Birds (the Birds Directive) 1979;
- The Conservation of Natural Habitats and Wild Flora and Fauna (the Habitats Directive)1992 (92/43/3EEC);
- The Wildlife and Natural Environment (Scotland) Act 2011;
- Nature Conservation (Scotland) Act 2004;
- The Conservation (Natural Habitats &c.) Regulations 1994 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- The Protection of Badgers Act 1992;
- The Water Environment and Water Services (Scotland) Act 2003 (as amended);
- The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended);
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) ('the EIA Regulations');
- Scottish Planning Policy 2014;
- Chartered Institute of Ecology and Environmental Management. (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, and Coastal;
- Chartered Institute of Ecology and Environmental Management. (2013). Guidelines for Preliminary Ecological Appraisals;
- Institute of Environmental Management and Assessment. (2005). Guidelines for Environmental Impact Assessment; and
- Scottish Natural Heritage (2013) A handbook on environmental impact assessment.

6.2.1 Policy

The Planning Statement, which accompanies the application for consent for the Development, sets out the planning policy framework that is relevant to the EIA process and the Development. The policies set out include those from the Moray Council Local Development Plan (MCLDP), relevant aspects of National Planning Framework 4 (NPF4)1, Planning Advice Notes and other relevant guidance, including:

- NPF4: Policy 1 - Tackling the climate and nature crises;
- NPF4: Policy 2 - Climate mitigation and adaptation;
- NPF4: Policy 3 - Biodiversity;
- NPF4: Policy 4 Natural Places;
- NPF4: Policy 5 – Soils;
- NPF4: Policy 11 Energy; and
- MCLDP: EP2 Biodiversity;
- MCLDP: EP12 Management and Enhancement of the Water Environment; and
- MCLDP: EP16 Geodiversity and Soil Resources.

6.2.2 Legislation and Guidance

- Directive 2009/147/EC on the Conservation of Wild Birds (the Birds Directive) 1979;
- The Conservation of Natural Habitats and Wild Flora and Fauna (the Habitats Directive)1992 (92/43/3EEC);
- The Wildlife and Natural Environment (Scotland) Act 2011;
- Nature Conservation (Scotland) Act 2004;
- The Conservation (Natural Habitats &c.) Regulations 1994 (as amended);

[1] Scottish Government (2024). Accessed as: https://www.gov.scot/publications/national-planning-framework-4/

- The Wildlife and Countryside Act 1981 (as amended);
- The Protection of Badgers Act 1992;
- The Water Environment and Water Services (Scotland) Act 2003 (as amended);
- The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended);
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017;
- Chartered Institute of Ecology and Environmental Management. (2024). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, and Coastal;
- Chartered Institute of Ecology and Environmental Management. (2013). Guidelines for Preliminary Ecological Appraisals;
- Institute of Environmental Management and Assessment. (2005). Guidelines for Environmental Impact Assessment; and
- Scottish Natural Heritage (2013) A handbook on environmental impact assessment.

6.3 METHODOLOGY

This section provides detail of the methods employed for the collection and analysis of data and the completion of the impact assessment. For general methodology in relation to the EIA please refer to EIAR Volume 1, Chapter 2: EIA.

The Development boundary is illustrated on Figure 6.1.

6.3.1 Desk study

A desk study was undertaken to obtain records of statutory ecologically designated sites within 5 km of the Development boundary.

These comprised:

- Special Areas of Conservation (SACs); and
- Sites of Special Scientific Interest (SSSIs).

Sites designated on account of their ornithological interest are discussed in Chapter 7: Ornithology.

In addition, areas of woodland listed on the Ancient Woodland Inventory (AWI) within and adjacent to the development boundary were included within the desk study.

As part of the desk study background records relating to protected species within 2 km of the Development boundary were requested from North East Scotland Biological Records Centre (NESBReC).

The following sources were consulted as part of the desk study process:

- NBN Atlas (nbnatlas.org);
- NESBReC;
- NatureScot SiteLink (SiteLink@nature.scot); and
- Applications on the Energy Consents Unit website.

6.3.2 Field Survey

Field surveys were undertaken for the following ecological receptors:

- Habitats (NVC and GWDTE survey). Methods are set out in TA A6.1;
- Protected species surveys (otter, red squirrel, water vole, badger, pine marten, wildcat) and watching briefs for common reptiles and wood ant. Methods are set out in TA A6.2;
- Fish Habitat Survey. Methods are set out in TA A6.4 and survey locations are shown in Figure 6.4; and
- Bats. Methods are set out in TA A6.6.

6.3.3 Habitats and vegetation

Habitats and vegetation were surveyed by Whytock Ecology Ltd. over a total of ten days. Surveys were carried out between the 29th of July – 2nd of August and the 26th – 30th of

August 2024. The survey area comprised all land within the Extended survey area as defined within TA 6.1.

A National Vegetation Classification (NVC) survey was undertaken in accordance with British Plant Communities (Rodwell, 1991-2000) and related guidance (Rodwell, 2006) to precisely identify the vegetation across the surveyed area. This is necessary to meet the requirements of modern legislation, especially in the identification of Groundwater Dependent Terrestrial Ecosystems (GWDTE). Habitat types (composed of one or more NVC communities) are classified according to the 'Phase 1' system (JNCC, 2016) that provides a well-established overview.

Small scale habitat and vegetation variability and zones of transition result in mosaics or gradations of two or more NVC communities. In these areas, an approximate percentage cover for each community is provided.

Botanical nomenclature follows that of the standard sources for bryophytes[2], lichens[3] and vascular plants[4].

6.3.4 Protected species

Protected species surveys were undertaken by Whytock Ecology Ltd. in 2024.

Protected species surveys were based on the core survey area as shown in Figure 6.2, with an additional 200m buffer for otter from the core survey area and a 50m buffer for all other species has been applied.

Protected species surveys focussed on searches for the presence of otter *Lutra lutra*, water vole *Arvicola amphibius*, badger *Meles meles*, pine marten *Martes martes*, red squirrel *Sciurus vulgaris* and wildcat *Felis silvestris*. A watching brief was also kept, and signs recorded for common reptile species such as adder *Vipera berus*, common or viviparous lizard *Zootoca vivipara*, and slow worm *Anguis fragilis*.

6.3.5 Bat automated static detector surveys

Automated static detector surveys were undertaken by Cairn Ecology Ltd during the spring, summer and autumn survey periods in 2024, in line with best practice guidance[5]. Thirteen full spectrum static detectors were deployed in association with turbine location of the draft design. Full details of the detector locations, detector specifications and survey dates are provided in TA A6.6 and are shown on Figure 6.3.

Analysis of the collected data was undertaken by a suitability qualified ecologist and used Wildlife Acoustics Kaleidoscope v5.4.9 software package. Full details of identification of bats via sonograms assumptions and limitations are provided in TA A6.6.

Further analysis of data was undertaken using Ecobat online tool in line with best practice guidance[5]. Ecobat is a free online tool provided by the Mammal Society which provides a comparative analysis of bat acoustic data for the site using other data held by the Mammal Society at the similar latitudes.

[2] Atherton, I *et al*. (2010) A field guide to Mosses and Liverworts of Britain. British Bryological society

[3] Dobson, F. (2018) *Lichens: An Illustrated Guide to the British and Irish Species.* 7th ed. Richmond Publishing

[4] Stace, C (2010) *New Flora of the British Isles.* 3rd ed. Cambridge University Press, Cambridge, UK.

[5] NatureScot (Scottish Natural Heritage), Natural England, Natural Resources Wales, RenewableUK, Scottish Power Renewables, Ecotricity Ltd, the University of Exeter and the Bat Conservation Trust (2021) Bats and onshore wind turbines: Surveys, assessment and Mitigation [online]. Available at < https://www.nature.scot/sites/default/files/2021-08/Bats%20and%20onshore%20wind%20turbines%20-%20survey%2C%20assessment%20and%20mitigation_0.pdf>

6.3.6 Assessment methodology and significance

6.3.6.1 Assessment of effects

Effects are assessed against the habitat/species baseline in accordance with best practice guidance[6] and professional judgement in a methodology that is evidenced and appropriate to the proposed wind farm. Assessment involves the following stages:

- Identification of the potential development effects;
- Consideration of the likelihood of potential effects;
- Defining the conservation importance of ecological features, to determine a level of sensitivity;
- Establishing the spatial and temporal magnitude of effects;
- Identification of significant effects (as defined by the EIA Regulations);
- Identification of mitigation measures to address significant effects;
- Opportunities for enhancement are considered where appropriate; and
- Residual effects are identified, and their cumulative effect is assessed (in combination with neighbouring developments).

6.3.6.2 Identification of Effects

Ecological features may be directly or indirectly affected by construction, operation and/or decommissioning in one or more of the following ways:

- Direct and indirect habitat loss;
- Disturbance to/loss of breeding sites, resting places, roosts etc. for protected species;
- Direct/indirect loss of foraging resource for protected species;
- Displacement/disruption to habitat and species population connectivity;
- Direct effects upon protected fauna, i.e. road traffic accidents, etc.;
- Environmental effects, i.e. pollution of watercourses, etc.; and
- Changes to habitat composition or quality through land-use change, increased human presence, etc.

The potential for effects is identified from comparison of the Development characteristics outlined in the Scoping Report and EIAR Chapter 4: Project Description; and the behaviour and/or ecology of the habitats and species.

In line with the CIEEM EcIA guidance[7], consideration is given to the following characteristics when identifying potential effects of the Development on Important Ecological Features (IEFs):

- Nature of effect: whether it is positive (beneficial) to any IEF, e.g. by increasing species diversity or extending habitat, or negative (detrimental), e.g. by loss of, or displacement from, suitable habitat;
- Extent: the space over which the effect may occur;
- Magnitude: the size, amount, intensity, and/or volume of the effect;
- Duration: the persistence of an effect in relation to IEF characteristics (such as a crucial stage in a species' life cycle) as well as human time-frames;
- Frequency: the number of times an activity occurs in a given period may influence the resulting effect;
- Timing: this may result in an impact on an IEF if it coincides with critical life stages or seasons (e.g. breeding or summer drought); and
- Reversibility: a reversible effect is one from which spontaneous recovery is possible or which may be counteracted by mitigation (within a reasonable timescale).

6.3.6.3 Conservation Importance

CIEEM guidance on ecological impact assessment requires that nature conservation importance is defined in a geographical context as defined in Table 6.2. Evaluating a designated site is straightforward because the designation(s) indicate the importance. In the

[6] CIEEM (2024) Guidelines for Ecological Impact Assessment in the UK and Ireland. Accessed at: https://cieem.net/wp-content/uploads/2018/08/EcIA-Guidelines-v1.3-Sept-2024.pdf

[7] CIEEM (2024) Guidelines for Ecological Impact Assessment in the UK and Ireland. Accessed at: https://cieem.net/wp-content/uploads/2018/08/EcIA-Guidelines-v1.3-Sept-2024.pdf

case of habitats and species, assigning value is dependent upon contextual information about designations, distribution, extent/abundance, historical records, and national trends. Consequently, even though a habitat or species may be protected through legislation at the national or international level, the importance of the population on a site may be quite different. For example, a single transitory animal or isolated patch of degraded habitat within the context of a thriving metapopulation or wider extent is of less importance than its designation.

Table 6.2: Geographical context for assessing conservation importance

Context	Criteria
International	• An internationally designated site. • Site meeting criteria for international designations or there is qualifying habitat/species connectivity with such a site. • Habitat/species present in internationally important numbers/extents (>1 % of national resource).
National	• A nationally designated site (e.g. SSSI or National Nature Reserve), or there is qualifying habitat/species connectivity with such a site. • Habitat/species present in nationally important extents/numbers (>1 % national resource).
County - Regional	• Habitat/species present in county or regionally important numbers (>1% of county or Biodiversity Action Plan resource, for example). • Areas of habitat falling below criteria for selection as a SSSI (e.g. areas of semi-natural ancient woodland >0.25 ha).
Local	• Local Nature Reserves (LNR). • Areas of semi-natural ancient woodland <0.25 ha. • Areas of habitat or species that contribute to the local ecological resource within the local context, (e.g. species-rich flushes or hedgerows).
Negligible	• Widespread, common and/or reproducible habitats/species. • Negligible features are not normally considered in the assessment process.

6.3.6.4 Magnitude of Effects

Effect magnitude relates development-related changes in the extent/abundance and/or the integrity of an ecological feature (habitat or species). 'Integrity' is defined by the European Commission as "the lasting preservation of the constitutive characteristics of the site that are connected to the presence of a priority natural habitat". This definition that is related to the Habitats Directive can be extended more widely to include species and non-designated habitats, and it is reiterated in Scottish Planning Policy. For example, the Scottish Executive circular 6/1995 states that "*The integrity of a site is the coherence of its ecological structure and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified*".

Determining the magnitude of likely effects is therefore based on assessment of how inter-related ecological features (habitats or species) and their supporting process (e.g. water supply or prey availability) will respond to the Development at its different stages (i.e. construction, operation & decommissioning). Effects can be adverse, neutral, or beneficial and are assessed in relation to their spatial extent and temporal magnitude. The latter includes consideration of the duration, frequency, and persistence of effects; and their reversibility (passively or through mitigation). There are five magnitudes of spatial or temporal effect, respectively described in Table 6.3 and Table 6.4.

Table 6.3: Spatial effect magnitude levels

Magnitude	Definition
Very high	Almost complete loss of a feature (>80 %) or its supporting processes (e.g. water supply) that affects its long-term persistence.
High	Major loss of a feature (>20 %) or its supporting processes (e.g. water supply) that affects its long-term integrity.
Moderate	Moderate loss (10 % to 20 %) of a feature or its supporting processes that may result in its degradation.
Low	Minor loss (<10 %) of a feature or its supporting processes that may result in its modification.
Negligible	Minimal change or loss (<1 %) with effects not dissimilar to those expected within the semi-natural variability of the 'do nothing' scenario (e.g. drought).

Table 6.4: Temporal effect magnitude levels

Magnitude	Definition
Permanent	Effects continuing indefinitely beyond the lifespan of the wind farm (40 years), except where there is likely to be substantial improvement after this period in which case 'Long Term' is appropriate.
Long term	Effects persisting for up to 40 years.
Medium term	Effects persisting for up to 15 years.
Short term	Effects persisting for up to 5 years.
Negligible	No effect.

6.3.6.5 Cumulative Effects

NatureScot's current guidance[8] informs the cumulative assessment of effects in combination with neighbouring developments, plans or projects. To focus on significant effects, this assessment considers the potential for effects from the Development together with other EIA developments. The context in which these effects are considered is dependent on the behaviour and/or ecology of the feature. For example, an animal population is considered in the context of its habitat (e.g. a catchment or woodland) and the connectivity of this with additional, necessary resources (e.g. for foraging, roosting, or breeding). Alternatively, extensive blanket bog may require to be considered at a larger/regional scale. Accordingly, assessment of cumulative effects for each feature is undertaken at the scale appropriate to its behaviour and ecology.

6.3.6.6 Significance

Habitats/species of negligible or low conservation importance and those that are unaffected by the development are screened out of further assessment. The significance of effects upon the remaining Important Ecological Features is determined through a combination of their conservation importance; the magnitude (nature, extent, and timescales) of the predicted effect; and professional judgement.

The latest CIEEM EcIA guidance[9] discourages use of the matrix approach to determine significance and describes only two categories: 'significant' or 'not significant.' A 'significant effect' is an effect that either supports or undermines conservation objectives for ecological features.

Maintenance of favourable conservation status involves a series of inter-connected principles. These are summarised in the CIEEM EcIA guidance for habitats and species as follows:

[8] NatureScot (2025) Assessing the cumulative landscape and visual impact of onshore wind energy developments. Accessed at: https://www.nature.scot/doc/guidance-assessing-cumulative-landscape-and-visual-impact-onshore-wind-energy-developments

[9] CIEEM (2024) Guidelines for Ecological Impact Assessment in the UK and Ireland. Accessed at: https://cieem.net/wp-content/uploads/2018/08/EcIA-Guidelines-v1.3-Sept-2024.pdf

- Habitat conservation status is determined from impacts on distribution, extent, structure, and function, as well as typical species/communities; and
- Species conservation status is determined from impacts on abundance, behaviour, and distribution.

6.3.7 Assessment Limitations

As the survey area is dominated by plantation coniferous woodland, areas deemed to be unsafe such as areas of windfall or dense woodland could not be surveyed. However, these do not significantly affect the results of the habitats or protected species.

6.4 BASELINE CONDITIONS

6.4.1 Desk Study

Ecologically designated sites within 5 km of the Development boundary are presented in Table 6.5 below and shown on Figure 6.5.

Table 6.5: Ecologically Designated Sites

Site	Designation	Distance from Development Boundary	Qualifying Features
River Spey	SAC and SSSI	600 m South and East	Otter *Lutra lutra*, freshwater pearl mussel *Margaritifera margaritifera*, Atlantic salmon *Salmo salar* and sea lamprey *Petromyzon marinus*.
Coleburn Pasture	SSSI	2.3 km West	Lowland acid grassland.
Loch Oire	SSSI	3.4 km North	Mesotrophic loch.
Gull Nest	SSSI	4.3 km Southwest	Blanket bog.
Lower River Spey – Spey Bay	SAC and SSSI	4.9 km North	Shingle habitats and wet (alder) woodland.

A desk-based search for species records has been carried out for the purpose of this assessment. No notable plant records were available under the terms of the creative commons non-commercial license (CC BY-NC).

Searches of the NBN Atlas returned observational records of otter, red squirrel, pine marten, badger and single hybrid wildcat sighting (recorded in 2016), within 2 km of the Development boundary. There were no records of any resting places for any of these receptors.

NESBReC provided records of roosting pipistrelle bats within a group of four bat boxes within the survey area from 1989. The bat boxes are located over 200m from the footprint of the development.

They also provided records of two badger setts and a single otter couch within the 2km desk study area. All of these resting places lie over 1km from the footprint of the development.

6.4.2 The locations of the NESBReC records mentioned above are illustrated on Figure 6. Field survey results – Protected mammals

The results of the protected mammal surveys are provided in TA A6.2. This data has been evaluated and identified the following species as being of local or greater nature conservation importance:

- Otter;
- Pine marten;
- Red squirrel;
- Wildcat; and
- Badger.

The following sections describe these species in more details below.

6.4.2.1 *Otter*

No sightings of otter were recorded during the protected mammal surveys. Evidence of presence was noted in two locations, a single dried fragmented spraint along the Sauchenbush Burn and a footprint was noted in soft sand under the bridge on the Red Burn in the north-west of the survey area. No temporary or permanent places of rest were recorded within the survey area.

Otter activity within the survey area is very low, this is due to the lack of suitable habitat. Watercourses within the survey area are small to moderate in size, with slow flow and little volume, most watercourses are considered sub-optimal for permanent territories of otter within the survey area.

Due to the low levels of evidence recorded and the overall unsuitability of the habitats within the survey area, it is considered that otters are likely to use watercourses within the survey area as transitory routes or occasional foraging sites.

6.4.2.2 *Pine marten*

Evidence of pine marten was recorded in three locations throughout the survey area, all were scats recorded on forestry tracks. No dens were recorded but they may well be present and not discovered where stands of woodland were dense or difficult to access.

As the coniferous woodland is of plantation origin, there is a lack of mature trees that contain large cavities or crevices suitable for dens. This may be one of the limiting factors for breeding success within the survey area. Felled, or immature stands of woodland were not suitable for dens but likely still provide suitable foraging opportunities for pine marten.

6.4.2.3 *Red squirrel*

No sightings of red squirrel were recorded during the field surveys. Red squirrel feeding signs were recorded in three locations however, which were widely distributed throughout the survey area. As much of the survey area is coniferous woodland, suitable habitat is abundant. Suitable areas are largely confined to mature stands of Scot's pine where tree density is moderately low which supports greater biodiversity.

One possible old drey was located in the south of the survey area (approximately 350 m from the nearest proposed Development infrastructure including felling associated with the Development), however it could not be confirmed as active. Given the location of the site and the overall suitability of the habitats within it, red squirrel are considered resident within the survey area.

6.4.2.4 *Wildcat*

No evidence, signs or sightings of wildcat were observed during the surveys. However, they are a notoriously elusive species. On the whole, the site is largely unsuitable for the species due to a lack of suitable places of rest. This is due to the dense plantations with few open areas, a lack of prey availability and shallow topography with few features suitable for natal dens or places of rest.

6.4.2.5 *Badger*

Field survey results for badger are detailed within the confidential TA A6.3. Four badger setts were recorded within the survey area, but the closest of these was over 400 m from the nearest proposed Development infrastructure including felling required for the Development.

6.4.2.6 *Bats*

A total of 9,360 bat passes were recorded over the entire monitoring period from at least four species over 30 monitoring nights equating to an overall bat activity rate of 24 bats per night (B/n). Static detectors deployed at L3 recorded 20% of total bat activity, at L10 recorded 19% of total bat activity and at L9 recorded 11% of total bat activity; the highest number of bat passes were notable during the autumn survey period (see TA A6.6 for more detail). The four species recorded were common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared bat (*Plecotus auritus*) and the bats from the genus Myotis (*Myotis spp*.). Of the species recorded, the highest number of bat passes was attributed to by common pipistrelle (n=5450, 58.2% of total bat activity) followed by soprano pipistrelle (n=3202, 34.2% of total bat activity). Myotis sp. accounted for

3.4% of overall bat activity (n=316) whilst brown long-eared bat made up less than 4.2 % of bat activity (n=391).

Using the Ecobat tool, the median percentile, common and soprano pipistrelle bat activity was in the Low activity category; *Myotis* and brown long-eared bat were categorised as Low to Moderate activity.

An assessment of potential collision risk was completed for all species. This included assessing the activity level, together with the specific species collision risk and site risk level. In line with site and species risk levels provide by NatureScot et al[5], the Site was assessed to be risk level 3. Common and soprano pipistrelle bats are considered to be high risk of collision with brown long-eared and Myotis spp. low risk of collision. The overall risk level was assessed as being moderate for common and soprano pipistrelle species and low for brown long-eared bat and *Myotis spp*. Full details of this risk assessment is provided in TA A6.6.

Ecobats also provides an analysis of bat passes times which potentially indicate proximity to a roost. Static detector locations L10, L11, L12, L2, L13, L3, L4, L5 and L9 all indicate potential proximity of a roost of common or soprano pipistrelles. The location with the most passes within the correct time period was L9 with maximum number of 50 passes (on the 17 July 2024). L2 (n=1), L10 (n=1) and L11 (n=1) show potential for proximity of a brown long-eared or *Myotis spp* roost.

6.4.3 Field survey results – Other species

6.4.3.1 Hairy wood ant

Hairy wood-ant has been identified in a number of locations within the survey area. Many of these are along existing track edges or within woodland rides where they can receive sunshine for a part of the day. The main population/s are centred around the western edge of the Development boundary.

6.4.4 Field survey results – habitats and vegetation

The results of the Phase 1 Habitat and NVC surveys are provided in TA A6.1. This data has been analysed and interpreted highlighting two elements within the overall habitat assemblage that are of local or greater nature conservation importance:

- Woodlands of Long-Established of Plantation Origin (LEPO) (Class 2b); and
- Peatlands and related habitats.

The following sections describe these habitats in more details below.

6.4.4.1 Woodlands of Long-Established of Plantation Origin (LEPO) (Class 2b)

Approximately 82% of the Extended survey area is commercial forestry plantation. Within the plantation woodland, a large percentage of woodland is categorised within the Ancient Woodland Inventory (AWI) as LEPO (See Figure 6.2). As a part of the habitat surveys, an assessment was carried out to establish what sections of these were considered semi-natural.

Some areas planted with Scot's pine show some superficial similarities to the W18 *Pinus sylvestris – Hylocomium splendens* woodland NVC community. These areas are dominated by Scot's pine trees with a ground flora assemblage including heather *Calluna vulgaris* and *Vaccinium myrtillus* in varying amounts.

Considering the full vegetation assemblage and negative factors including uniformity of tree spacing, the age and structure of the trees, non-native tree species regeneration within these areas, they fail to meet the criteria for the National Vegetation Classification (NVC) community W18 *Pinus sylvestris – Hylocomium splendens* woodland.

As areas of LEPO fail to meet the threshold to be classed as semi-natural[10], they are not considered to be of regional importance. As a result of the vegetative assemblage, current condition and structure, areas that are dominated by Scot's pine with a ground cover of

[10] JNCC (1993) Phase 1 Habitat Survey manual (revised 2016). Accessed at:
https://data.jncc.gov.uk/data/9578d07b-e018-4c66-9c1b-47110f14df2a/Handbook-Phase1-HabitatSurvey-Revised-2016.pdf

heather *Calluna vulgaris* and robust pleurocarpous mosses have been identified as having moderate conservation value at a local level.

6.4.4.2 Peatlands and related habitats

This receptor has three main components within the survey area; blanket bog, wet heath and dry heath.

Blanket bogs within the survey area have been evaluated using the guidelines for the selection of SSSIs[11]. This guidance provides criteria and thresholds that is used to assess areas of peatlands that qualify for selection as a SSSI. Within this guidance, functioning hydrological peatland units are assessed based upon a range of criteria including size, peat formation capabilities, surface patterning, vegetation, and indicator species. In addition, the geographical location of the peatlands is taken into consideration. This is due to blanket bogs in the north and west of the UK typically supporting a different range of vegetation types to those in the south and east.

The single polygon of blanket bog failed to meet the criteria for being considered as potentially nationally important for a range of factors. The area has vegetation consisting of wet heath NVC community M15b *Trichophorum germanicum – Erica tetralix* wet heath. It is classed as blanket bog as it occurs on a peat depth greater than 0.5 m[12]. This community has a lack of Sphagnum species abundance which is the primary peat building component of blanket bog. It is therefore considered not 'active' (i.e. not actively forming peat). A range of other factors including grazing pressure, forestry and the fragmented nature of the site mean that the vegetation and structure of the peatland is degraded.

FLS have been carrying out positive remedial works within the Development boundary where deep peat connects to the identified blanket bog in the buffer. These have included felling areas with deep peat and retaining it as open ground. Blanket bog within the survey area is considered to be of value at a county level.

6.4.5 Scope of Assessment

6.4.5.1 Effects assessed in full

The following receptors are considered to be Important Ecological Features (IEFs) and have been assessed in full within this chapter:

- Effects on ecologically designated sites;
- Direct habitat loss of woodland categorised as Long Established of Plantation Origin (LEPO) (Class 2b);
- Direct effects on peatlands and related habitats;
- Indirect effects on peatlands and related habitats;
- Otters;
- Badgers;
- Pine marten;
- Red squirrel;
- Hairy wood-ants *Formica lugubris;*
- Bats; *and*
- Cumulative effects on the above IEFs.

6.4.5.2 Effects scoped out

On the basis of the desk based and field survey work undertaken, the professional judgement of the EIA team, experience from other relevant projects and policy guidance or standards, and feedback received from consultees, the following topic areas have been 'scoped out' of detailed assessment, as agreed through scoping opinion:

[11] JNCC (1994) Guidelines for the selection of biological SSSI's Part 2: Detailed guidelines for habitats and species groups. Chapter 8: Bog's. Accessed at: https://data.jncc.gov.uk/data/20534790-bb45-4f33-9a6c-2fe795fb48ce/SSSIs-Chapter08.pdf

[12] JNCC (1993) Phase 1 Habitat Survey manual (revised 2016). Accessed at: https://data.jncc.gov.uk/data/9578d07b-e018-4c66-9c1b-47110f14df2a/Handbook-Phase1-HabitatSurvey-Revised-2016.pdf

- Effects on common and widely distributed habitats outwith the following categories: Habitats listed in Annex I to the Habitats Directive, and species listed in Annex II to the Habitats Directive;
- Biodiversity Action Plan (UKBAP) or Scottish Biodiversity List (SBL) Priority Habitats; and
- Habitats or species protected by legislation such as The Wildlife and Countryside Act 1981 (as amended), the Nature Conservation (Scotland) Act 2004 (as amended).

Some communities were identified as having potential for Groundwater Dependence. Following assessment (details provided within TA A6.1) none are considered to be dependent on groundwater. As such, Ground Water Dependent Terrestrial Ecosystems (GWDTEs) have been scoped out for further assessment.

6.5 POTENTIAL EFFECTS

This section details the potential risks to ecological features that have been identified for wind farms projects. Effects associated with the Development and ecological features are assessed in Section 6.8 of this chapter.

6.5.1 Potential Direct Effects During the Construction Phase

6.5.1.1 Permanent Habitat Loss

Construction of infrastructure would result in permanent and temporary habitat loss. Direct losses from the footprint of the infrastructure would all be considered permanent. Habitat losses from earthworks or felling surrounding infrastructure would be lost initially, but reinstatement measures would restore habitats to their baseline condition (or enhanced where appropriate).

Habitat loss could result in a loss of communities or individual species that are reliant upon a particular niche. Habitat loss would also reduce the amount of available nesting and foraging opportunities for a range of species that are reliant upon it. Details regarding the effects on birds are set out in Chapter 7: Ornithology. Habitat loss could result in the destruction of mammal places of rest or natal dens/sites. Mortality and /or injury from construction activities is also possible in the absence of mitigation.

Direct habitat loss could also result in other taxonomic groups including (but not limited to) invertebrates and fungi being negatively impacted. Habitat loss could result in either the destruction of individuals and populations as a whole, where unable to be displaced or habitat loss renders conditions unsuitable.

6.5.1.2 Temporary Habitat Loss

Temporary losses from earthworks and felling have the ability to regenerate to their baseline condition in most cases, but disturbance of soils which changes soil chemistry will change the plant composition, particularly where acidic soils are mixed with mineral soils which would encourage ruderal species and be less favourable species dependent on acid (e.g. peaty) soils.

Mammal and invertebrate species which have small territories or the inability to be displaced into surrounding habitat (either because of restricted movement strategies or a lack of available suitable habitat) during the reinstatement/re-generation period could be lost or their populations reduced. The magnitude of the effects upon an individual species are heavily dependent upon their ecological requirements.

6.5.2 Potential Indirect Effects During the Construction Phase

Indirect effects on ecological features are likely wide ranging. The composition of habitats may become altered due to increase levels of nutrients from dust particulates from tracks or surface run-off from tracks. An increase in ruderal species may also be possible surrounding new access tracks which are likely to provide a pathway for invasive or ruderal species to establish. This will be restricted to areas immediately surrounding tracks.

6.5.3 Potential Direct and Indirect Effects During the Operational Phase

Increased levels of human activity from the current baseline would be expected, however levels of activity would be much lower than during the construction phase. This could result

in small displacement of mammal species which are sensitive to human activity or increased noise. This would be limited to areas immediately surrounding infrastructure where human activity such as servicing turbines and access along tracks is expected.

6.5.4 Potential Direct and Indirect Effects During the Decommissioning Phase

The effects for the decommissioning phase would be similar to those for the construction phase. However, the magnitude of the impacts would be expected to be lower.

6.6 EMBEDDED MITIGATION AND BEST PRACTICE MEASURES

6.6.1 Embedded Design Mitigation

Embedded mitigation measures are those that are built into the project to minimise potential negative effects associated with the Development. As outlined in the CIEEM impact assessment guidance and NPF4, the following mitigation hierarchy was adopted:

- Avoidance;
- Reduction;
- Compensation; and
- Remediation.

The following embedded mitigation measures have been included as part of the design process:

- Evolution of the design to avoid and minimise disturbance of areas of deep peat;
- Implementation of “key hole” areas, to be kept clear of trees, around the turbines, such that the minimum distance between at turbine blade and the nearest tree stem or crown is at least 50 m. The exact size of each key hole would be reviewed post-consent, when the specific turbine model to be installed is selected, to ensure the 50 m separation is maintained;
- Evolution of the design to maximise the distance of the Development footprint from the River Spey and main tributaries near to the development (notably the Broad Burn and the Red Burn); and
- Implementation of surface water mitigation measures prior to any site clearance or construction works.

Where embedded mitigation is considered sufficient to prevent significant adverse effects on ecological feature. This has been included within the impact assessment in order to produce conclusions that are proportionate to the risks posed by the Development

6.6.2 Embedded Best Practice Measures

In addition to embedded mitigation additional mitigation measures are considered necessary to address likely significant adverse effects, where these are concluded as part of the assessment. However, it is also good practice to propose measures to reduce impacts irrespective of whether significant effects are predicted.

The following best practice measures will be implemented (see TA A4.2 Outline Construction Environmental Management Plan for further detail on these):

- Covering of all excavations, or provision of mammal ramps, or shallow graded edges to eliminate the risk of animals becoming trapped;
- Implementation of a 15 mph speed limit to minimise the risk of vehicle collisions with wildlife;
- Dust suppression on tracks during periods of dry weather (as applicable);
- Safe storage of all fuel and COSHH chemicals within sealed, locked containers;
- Pre-felling checks to ensure that no protected species places of rest are removed without a licence; and
- Appointment of a suitably experienced ECoW to monitor ecological/environmental constraints, review and audit environmental performance and supervise construction works.

6.6.2.1 Construction Environmental Management Plan

TA A4.2 provides an outline Construction Environmental Management Plan (CEMP). This will be further developed alongside the detailed design proposals, post-consent.

The CEMP sets out measures to ensure that construction is carried out in accordance with industry good practice.

6.6.2.2 *Water Quality and Fish Monitoring Plan*

A Water Quality and Fish Monitoring Plan (WQFMP) will be developed to ensure compliance with surface water mitigation. This will set out measures regarding both pre-construction (12 months before construction) and post construction (12 months following construction) water quality monitoring and freshwater fish monitoring. The provision for this is included in the oCEMP (TA A4.2).

6.6.2.3 *Outline Habitat Management Plan*

TA A6.5 provides an outline Habitat Management Plan (oHMP). The development of a final Habitat Management Plan, based on the oHMP, will be prepared in consultation with Moray Council, NatureScot, FLS and other relevant stakeholders. The oHMP provides habitat enhancement measures including creating open space within the woodland, controlling rhododendrons and the creation of riparian corridors with native broadleaf species, which will enhance biodiversity within the Site.

6.7 IDENTIFICATION OF IMPORTANT ECOLOGICAL FEATURES

This section provides justification to what ecological receptors are considered Important Ecological Features (IEFs), which will be assessed in full, and ecological features where no significant effect is reasonably predicted and have been scope out.

The most notable effect of construction upon habitats will be direct loss from the enabling works and footprint of infrastructure (prior to any habitat reinstatement or restoration) and proposed felling activities. All infrastructure is considered permanent.

Direct effects involving habitat loss due to land take from permanent infrastructure is detailed in Table 6.6 below.

Table 6.6: Habitat loss from infrastructure and permanent felling

Phase 1 code	Habitat type	NVC code	Area of habitat loss (ha)	% of Extended survey area
A1.2.2	Coniferous plantation woodland	N/A	34.2	2.22
A1.3.2	Mixed plantation woodland	N/A	0.03	>0.01
A4.2	Recently felled coniferous woodland	N/A	1.9	0.12
J4	Bare ground/tracks	N/A	0.78	0.05
		Total (ha)	36.91	2.4

No semi-natural habitats would be directly lost through the footprint of the proposed permanent infrastructure or permanent felling activities. Coniferous plantation woodland is the habitat that would have the greatest losses, amounting to 34.2 ha (2.22% of the Extended Survey Area). This habitat type is due to be clear felled within the current Teindland Forestry and Land Scotland (FLS) management plan[13]. Of the coniferous woodland within the Extended Survey Area, the majority is classed as being of Long Established of plantation Origin (LEPO). Some areas of LEPO woodland have been assessed within the Teindland Habitat Survey Report TA A6.1 as being of moderate conservation value at a local level (see Figure 6.2).

Effects on areas of LEPO woodland considered to be of moderate conservation value are assessed further. All other coniferous woodland (including low conservation value LEPO woodland) are scoped out.

Direct losses of habitat due to land take from temporary felling is detailed in Table 6.7 below.

[13] FLS (2025) Teindland Land Management Plan. Accessed at: https://forestryandland.gov.scot/what-we-do/planning/active/teindland-land-management-plan

Table 6.7: Habitat loss from temporary felling

Phase 1 code	Habitat type	NVC code	Area of habitat loss (Ha)	% of Extended survey area
A1.2.2	Coniferous plantation woodland	N/A	20.67	1.34
		Total (Ha)	20.67	1.34

Habitat losses from temporary felling are restricted to coniferous plantation woodland habitat of low conservation value. Effects on these areas are therefore scoped out.

6.8 IMPACT ASSESSEMENT

6.8.1 Construction Effects

This section assesses the IEFs and fully assesses the effects upon them from the construction phase.

6.8.1.1 Woodlands of Long-Established Plantation Origin (LEPO) (Class 2b)

Direct effects

Of the woodland within the Extended Survey Area, only LEPO woodland identified as having moderate conservation value at a local level is assessed further (ee section 6.7 for further details). All other LEPO woodland within the survey area is of low conservation value and has been scoped out as a result.

Losses of moderate conservation value LEPO woodland would occur where infrastructure and associated felling is proposed, for this particular IEF, it is restricted to areas surrounding turbines 1, 2 and a very small part of the keyhole area for turbine 4.

A total of 7.16 ha of LEPO woodland of moderate conservation value at a local level would be lost from the development. This equates to 3.06% of moderate conservation value LEPO resource within the survey area.

As this IEF is not semi-natural, sensitivity is considered to be low. The magnitude of the of the impacts on moderate conservation value LEPO woodland is therefore classed as **Low**. Taking into consideration mitigation outlined within the oHMP (see TA A6.5), the effect of direct loss of LEPO woodland is therefore **not significant**.

Indirect effects may change the structure of moderate conservation value LEPO. However, with embedded mitigation and best practice measures outlined in section 6.6, this will result in a **negligible** magnitude of impact and a permanent **not-significant** effect.

Indirect effects

Indirect effects on habitats are expected to occur from the Development. Indirect effects include temporary disturbance of habitats surrounding permanent and temporary infrastructure, alterations to topography, hydrology, and vegetation composition. Temporary disturbance is expected to occur within the following Zones of Influence (ZOI):

- A precautionary 30 m radius surrounding all infrastructure except tracks; and
- A 10 m radius surrounding all tracks and permanent felling areas.

Indirect effects are predicted to be wide ranging and are often difficult to quantify. Disturbance from earthworks surrounding infrastructure can result in temporary disturbance of habitats occurring in the ZOIs stated above. Indirect effects on all habitats are provided in Table 6.8 below.

Table 6.8: Indirect effects within buffer of infrastructure and felling

Phase 1 code	Habitat type	NVC code	Area of effect (ha)	% of Extended survey area
A1.2.2	Coniferous plantation woodland*	N/A	20.99	1.37
A1.3.2	Mixed plantation woodland	N/A	0.12	0.01
A4.2	Recently felled coniferous woodland	N/A	1.71	0.11
J4	Bare ground/tracks	N/A	2.25	0.15
		Total (Ha)	25.07	1.63

*3.12 ha of this habitat type is moderate conservation value LEPO woodland.

A total of 3.12 ha of moderate conservation value LEPO woodland (as defined in TA A6.1) is proposed to be indirectly affected. In the absence of mitigation, indirect effects are restricted to changes in drainage/water flow and increased nutrients from dust particulates from tracks/other infrastructure that have unsealed surfaces. An increased volume of traffic will contribute to the dust and changes in nutrient levels into the buffer areas. These indirect effects are likely to be of limited (low-negligible) magnitude as large sections of woodland within the identified buffer zones run parallel/adjacent to tracks of a similar nature which show little change between the edge and the middle of the plantations.

With the implementation of embedded mitigation as detailed in Section 6.6, the impact will be **negligible** resulting in **no significant effect**.

6.8.1.2 Peatland and related habitats

Direct effects

Through the design process, the limited areas of deep peat within the Development boundary (of Local importance) have been avoided. No infrastructure is proposed on areas of blanket bog, wet heath and dry heath communities in the buffer zone, therefore will not be directly impacted by the Development.

As such, direct impacts on peatland and related habitats are considered to be **negligible** resulting in a permanent **not significant effect**.

Indirect effects

Through the design process, areas of deep peat within the Development boundary have been avoided. Blanket bog, wet heath and dry heath communities in the buffer zone are beyond the ZOI (as defined in section 6.6.1.2) from proposed infrastructure.

As such, indirect effects on peatland and related habitats are considered to be **negligible** resulting in a permanent **not significant effect**.

6.8.1.3 Otter

Direct effects

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, no resting areas or holts were identified on during the field surveys and activity levels of otter were very low, and otter at the Site are assessed as being of Local importance.

Despite this, it is possible that otter will to be encountered during construction phase. This is most likely within 50 m of any watercourse crossings. There is a low risk to otter from vehicle collision along access tracks, particularly near watercourse crossings, or becoming entrapped in Site equipment or excavations.

Following implementation of embedded mitigation measures, the impact is predicted to be **negligible** resulting in **no significant effect** at a local level.

Indirect effects

The proposals will not result in a loss of suitable otter habitat. Construction or felling activities do pose a risk to watercourses from contamination or pollution events. However, no otter activity was recorded in areas where infrastructure bisects water crossings. An

increased volume of traffic and construction activities may also cause disturbance to otter. However, the site is currently managed as active forestry and is a popular recreational area for the public. Given this and that otter are tolerant and able to adapt to certain levels of human disturbance[14], effects are considered to be **not significant**.

6.8.1.4 Pine marten

Direct effects

No pine marten places of rest were identified within the survey area. The majority of the habitats proposed to be directly or indirectly effected are considered to be of low suitability for places of rest/den sites due to the age and condition of the trees present. The low possibility of a den being present does still persist, however, and pine marten at the Site are assessed as being of Local importance.

Felling as part of the proposals is considered the greatest threat to mortality, injury or disturbance of pine marten. Vehicle collision or entrapment in excavations is also a low possibility.

Through the implementation of embedded mitigation and best practices measures, impacts are considered to be **negligible** and effects are **not significant**.

Indirect effects

As part of the construction phase or enabling works, felling is required. This will likely result in a loss of suitable foraging habitat for the species. Much of the woodland to be felled is considered to be of low suitability for the species. In addition, the amount of forestry proposed to be felled is very small in proportion to the amount retained.

The loss of coniferous woodland is considered to have a **negligible** impact upon pine marten at a local level and the effect is therefore **not significant**.

6.8.1.5 Red squirrel

Direct effects

A single potential red squirrel drey was recorded within the survey area, but this is over 350 m from the footprint of the works. It is however possible that red squirrel dreys may be present in thicker areas of forestry, through which access for survey was compromised. Red squirrel at the Site are assessed as being of Local importance.

Felling as part of the proposals is considered the greatest threat to mortality, injury or disturbance of red squirrel. Vehicle collision or entrapment in excavations is also a low possibility.

Through the implementation of embedded mitigation and best practice measures, impacts are considered to be **negligible** and effects are **not significant**.

Indirect effects

The areas proposed to be felled are 40.18 ha of permanent removal and a further 33.23 ha of temporary removal (these will be felled then re-stocked or facilitated to re-generate naturally). Compensatory planting equal to the area proposed to be permanently lost (40.18 ha) will be provided.

The areas required to be felled is small in comparison with the woodland resource within the area. The permanent loss of 44.18 ha is 3.1% of the total woodland habitat within the survey area (prior to compensatory planting). The temporary removal of 33.23 ha is 2.56% of the woodland resource (prior to re-stocking). Combined this is a total of 5.67% of the total woodland resource before compensatory or re-stocking.

This will result in a low magnitude (<10%) of loss of potentially suitable foraging and breeding habitat in the medium term.

Fragmentation of woodland is considered to be negligible in this instance due to the location and nature of the felling operations proposed. However, as the woodland within the

[14] Chanin, P. (2003) Ecology of the European Otter. Conserving Natura 2000 Rivers, Ecology Series No. 10. English Nature, Peterborough.

Developable boundary is currently managed as a commercial forest, these impacts are also present within the current management regime.

Red squirrel are a highly mobile species and will adapt their behaviour to avoid human activities where possible. Following the implementation of embedded mitigation and best practice measures (See section 6.6), the impact is considered to be **negligible** and effect is **not significant**.

6.8.1.6 Wildcat

Direct effects

No signs or sightings of wildcat were recorded during the field surveys. The desk-based study returned a record of a sighting of a wildcat (hybrid) in 2016 in the north east of the survey area. As this was based on a sighting, it was considered a hybrid based upon pelage characteristics. Pure strained wildcats are very rare and hard to identify[15]. As such it is likely that this was a hybrid of sorts even in the absence of DNA evidence.

Habitat suitability is considered to be low throughout the majority of the survey area, primarily due to low suitable prey abundance and lack of topographical features that could be used as natal dens. The possibility that a pure strained wildcat does reside within the survey area cannot be discounted however. If there was heavy disturbance or a mortality during the construction phase this would amount to a **moderate to low** magnitude impact at a regional level.

Habitats surrounding the proposed infrastructure are sub-optimal for wildcat, which also is a reclusive species with a tendency to shy away from human activity. Following the implementation of embedded mitigation measures (as detailed in Section 6.6), impacts on this species are considered to **negligible** and the effect is **not significant**.

Indirect effects

The felling proposals will result in a loss of habitat in the medium term (prior to any re-stocking/compensatory planting). Similar other woodland protected species in this instance such as red squirrel, the amount of woodland resource within the survey area where felling required is small and a low magnitude of effect is predicted. Indirect impacts upon wildcat are considered to be a permanent **not significant** effect.

6.8.1.7 Badger

Direct effects

Potential effects on badgers are discussed in TA A6.3: Confidential Protected Species Survey Report.

No setts have been identified that would be affected by the Development. The risk of badger mortality during felling/construction is considered to be **low** at Local level.

Following the implementation of embedded mitigation and best practice measures (See Section 6.6) the impact is considered **negligible** and the effect is **not significant**.

Indirect effects

Identified indirect impacts, particularly in relation to permanent or temporary habitat loss, is considered to be **low** due to the sub-optimal nature as a foraging resource of the areas of habitat lost. The risk of disturbance to badger during felling/construction is also low and the impact negligible.

Indirect impacts are therefore considered to be **negligible** and the effect is **not significant** at a local level.

[15] NatureScot (2023) Definition of a wildcat – updated guidance. Accessed at:

https://www.nature.scot/doc/definition-wildcat-updated-guidance#:~:text=An%20LBQ%20greater%20than%200.75,pelage%20score%20becomes%20more%20influential.

6.8.1.8 *Hairy wood-ants*

Direct effects

Hairy wood-ant were identified as being widespread throughout the survey area. The main population is centred to the west of the Development boundary. Direct impacts are likely to occur from construction related activities which could destroy the wood-ant nest. Most of the recorded wood-ant nests were recorded outwith the footprint of the proposed infrastructure. However, earthworks surrounding infrastructure could also risk the destruction of a wood-ant nest.

Of all the identified populations, only two nests were identified within the ZOI (As defined in section 6.8.1.1) of where infrastructure or felling activity is proposed. This concerns the nests on an existing track within the Wood of Orton (grid reference: NJ2950653693) and one to the south of Findlay's seat (grid reference: NJ2822653625). In the absence of mitigation, the loss of these nests would amount to a **low** impact at a Local scale. However, considering the specific location of these nests, it is considered that a 2 m exclusion zone is appropriate from the nest and both are areas where this exclusion zone is achievable without disturbance. Where not possible, translocation may be possible with successful methods being documented previously[16]. As such, following the implementation of mitigation measures, the impact of the Development are considered to be **negligible** and the effect is considered **not significant**.

Indirect effects

Indirect effects are likely to occur where there is a loss of habitat or disruption to established foraging trails. However, the species appears to be well established within the current clear felling management regime which is the most likely cause of indirect effects upon wood-ants within the Site. As such, while there may be some disruption to foraging pathways it is considered that these will be re-established without long-term negative effects. Indirect impacts upon wood-ants are considered to be **negligible** and the effect is **not significant.**

6.8.1.9 *Bats*

Direct effects

Construction of the Development may result in noise, vibration and lighting above levels currently experience within the woodland. These effects may result in disturbance to bat using the woodland for roosting, foraging and commuting. Slower flying, broad winged species have been shown to avoid commuting and foraging routes when illuminated. This includes Myotis and long-eared species[17]. This will result in a significant negative, low magnitude effect at the Local (site) level**.** The effect will be reversible and temporary and limited to the period of construction.

The construction phase will require the felling of sections of woodland to allow the installation of turbines and associated infrastructure. Although felling has been limited to key-holing' at turbine locations. The design incorporated two turbine heights; 200 m high turbines will require a c. 21 m keyhole and 230 m high turbine will require a c. 140 m diameter keyhole, with these sizes depending on the dimensions of the turbine to be installed. Analysis of bat pass times indicates that there is potential for close proximity of roosts to the detector locations. For soprano pipistrelle, this was evident at static location L9 which recorded 50 bat passes within the correct time window on a single night (TA A6.6). The number of bat passes does not represent the number of bats present; it is a measure of relative abundance and as such these bats could be made by a single individual or small number of individuals. The number of passes was not consistent on consecutive evening for any location. For all other static locations, the number of passes within the correct time window was less than 10, with the most frequently recorded number of passes n=1. The woodland may support individual or small numbers of roosting bats, but it is acknowledged that high value structures exist, which are the preferred maternity sites for present species,

[16] Wood-ant Translocation – Good Practice Guidance (2022) Available at: https://cairngorms.co.uk/wp-content/uploads/2022/07/CNPA2022Wood-Ant-Translocation-Guidance.pdf

[17] Institute of lighting Professionals (2023) Guidance Note 08/23. Bats and Artificial Lighting at Night. Institute of Lighting Professionals, Rugby. [online]. Available at: < https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>

in the surrounding environment (greater than 200 m from the Development boundary) within the subsistence zone of these species[18].

Felling of trees has the potential to impact bats in a number of ways. Felling a tree while a bat is present may result in the direct mortality of the bat. For those individuals this would be a significant negative, low magnitude effect at the Local (site) level. At a population level, and therefore in terms of the EIA Regulations, this effect would be **negligible**. It is possible that the feeling of trees may result in the loss of roosting habitat assumed to be suitable for individual or low number of individuals. This would be a significant negative, low magnitude effect at the Local (site) level. At a population level, and therefore in terms of the EIA Regulations, this effect would be **negligible.**

Indirect effects

All effects on bats during construction are likely to be direct effects. The indirect effects upon bats will therefore be **not significant.**

6.8.2 Operation Phase Effects

Operation phase effects are addressed for the relevant receptors below.

6.8.2.1 Habitats

During the operational phase, **no significant effects** on retained habitats are predicted. Infrastructure would be in place and the only risk would be pollution events from infrastructure or associated maintenance vehicles. Providing good practice measures and embedded mitigation are followed the risk is considered to be very low.

6.8.2.2 Otter

Considering the specific location and surrounding habitats, otter presence within the areas of permanent infrastructure during the operational phase is low.

Compared to the construction phase, there will be a significant reduction in traffic and no excavations activities. As such, the risk of mortality is considered to be a **negligible** magnitude resulting in a **not significant** permanent effect.

6.8.2.3 Pine marten

No felling activities in relation to the Development are anticipated during the operational phase. This will reduce the risk of disturbance or displacement to pine marten. No long term or permanent direct or indirect impacts are predicted for pine marten, the effect is therefore considered to be **not significant**.

6.8.2.4 Red squirrel

As with pine marten, no felling activities in relation to the Development are anticipated during the operational phase. This will reduce the risk of disturbance or displacement to pine marten. No long term or permanent direct or indirect impacts are predicted for red squirrel, the effect is therefore considered to be **not significant**.

6.8.2.5 Wildcat

The majority of the site will remain managed as a commercial forestry plantation. There will be a slight increase in traffic activity and vehicle movement due to ongoing Development maintenance works. These activities will largely be within daylight hours when wildcat are less likely to be active. Considering this and providing all good practice measures are implemented/followed, effects on wildcats during the operational phase are predicted to be **not significant**.

6.8.2.6 Badger

Details of the operation phase effects on badgers are contained in the Confidential Annex to TA A6.3: Confidential Protected Species Survey Report.

It is considered the risk to badgers is **negligible** and effects are therefore **not significant**.

[18] Collins, J. (ed.)(2023) Bat Surveys for Professional Ecologists: Good Practice Guideline (4th Edition). The Bat Conservation Trust, London. ISBN-978-1-7395126-0-6

6.8.2.7 *Hairy wood-ants*

During the operational phase of the Development, the habitats and management regimes will be similar to those within the baseline. As such operational effects are predicted to be **not-significant**.

6.8.2.8 *Bats*

Bat species considered to be at 'high' collision risk were recorded using the site, in particular common and soprano pipistrelle bats. These species were noted at static detector locations L3, L9 and L10. Studies have shown that where clear felling has been used in forestry, edge foraging bat species (which includes pipistrelle bats) use of the area has increased[2021]. Both common and soprano pipistrelles are considered to be 'common' species. In Scotland, both species are considered to have a stable population with a widespread distribution. The current population estimates for common pipistrelle 875,000 and for soprano pipistrelles it is 1,210,000[19] as such, these populations are of medium vulnerability to collision[20,21]. The felling design has taken into consideration the need to maintain a 50 m distance from the created edge habitat and the blade sweep (see Section 6.6.1, Embedded Design Mitigation). The use of two different turbine heights has resulted in two different key hole sizes, as detailed above (Section 6.6.1.9). The implementation of this is in line with best practice guidance and seek to design in a reduction to collision risk. This effect is, therefore, considered to be a negative effect; significant only at a Local (site) level. At a population level, and therefore in terms of the EIA Regulations, this effect would be **negligible.**

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Clear felling to facilitate the Development will result in the loss of habitat for narrow / closed habitat foragers such as brown long eared bats and *myotis spp*[20]. In addition, these species may be displaced from a wider area extending beyond the felled area which may be as a result of operational noise[21]. This effect is, therefore, is considered to be a negative effect; significant only at a Local (site) level. At a population level, and therefore in terms of the EIA Regulations, this effect would be **negligible.**

Conversely, the felling of spruce plantation may result in increased foraging by edge and open space foraging bat[21]. Pipistrelle bats are an edge foraging species and the works may increase activity within the plantation[20]. **This is not considered to be a significant effect.**

6.8.3 Decommissioning Effects

Effects during decommissioning are expected to be similar to those during construction, however no additional loss of habitat would be expected, and habitat would be reinstated following removal of any infrastructure as appropriate. Embedded mitigation would be the same as during construction. Therefore, **no significant** effects are anticipated during decommissioning.

6.9 MITIGATION MEASURES, ENHANCEMENT AND MONITORING

As set out in the oCEMP (TA A4.2), generic mitigation measures that would apply during the enabling works (i.e. felling), construction and operation phases are outlined below. The following measures represent general best practice and would reduce potential effects on a number of receptors:

- Not more than 16 weeks prior to the start of enabling works and/or construction of the Development and within the correct survey season, the Applicant will engage a Suitably Qualified Ecologist (SQE) to undertake a series of repeat ecological surveys to update the baseline data;
- The aim of the repeat ecological surveys will be to provide up to date information in order to confirm required mitigation, including the need for protected species licensing and species protection plans for the site. The result of the pre-construction surveys will

[19] Bat Conservation Trust (2024). The National Bat Monitoring Programme Annual Report 2023. Bat Conservation Trust [online]. Available at <www.bats.org.uk/our-work/national-bat-monitoring-programme/reports/nbmp-annual-report.

[20] Kirkpatrick, L., Oldfield, I.F., and Park, K. (2017) Responses of bats to clear fell harvesting in Sitka Spruce plantations and implications for wind turbine installation. Forest Ecology and Management. 395, pp1-8.

21 Ellerbrok, J.S., Farwig, N., Peter, F., Rehling, F., and Voigt, C.C. (2023) Forest gaps around wind turbines attract bat species with high collision risk. Biological Conservation. 288. 110347.

be communicated to the Contractor by the SQE and will be fed into the final CEMP (an outline of which is provided as TA A4.2). The recommendations will ensure compliance with the necessary wildlife legislation;

- Adherence to SEPA Guidance Pollution Prevention (GPP) in respect to working in and around watercourses as covered in the CEMP and PPP (which is part of the CEMP);
- Implementation of an agreed Biosecurity Method Statement;
- Pre, during and post construction water quality and fish fauna population monitoring;
- Adherence to NatureScot (formally SNH) guidance on upland track construction, unless this is contradicted by Forestry and Land Scotland required methods;
- All vehicles will be restricted to 5 mph while within 100 m of watercourses and 15 mph elsewhere;
- Avoidance of unnecessary disturbance to habitats by minimising the extent of vegetation clearance and other construction practices;
- Restriction of plant and personnel to a prescribed working corridor through the use of temporary barriers or fences, minimising damage to habitats and potential direct mortality and disturbance to species;
- Adherence to best practice guidance with respect to culvert and bridge design;
- Any trenches dug during construction and decommissioning operations will be covered at the end of each day to prevent mammals becoming trapped. Alternatively, mammal ramps will be positioned in such a way that trapped mammals may be allowed to escape;
- All exposed pipes and trenches will be checked each morning prior to starting construction activities. If trapped animals are found, the SQE will be contacted; and
- Provide a 2 m exclusion zone around identified wood-ant nests (Grid references: NJ2950653693 & NJ2822653625).

Ecological toolbox talks will be provided to all site staff on the potential presence of protected species and any measures that need to be undertaken.

6.9.1 Construction Mitigation

The Development has sought to implement the mitigation hierarchy in relation to the effects on habitats through the design process. Embedded mitigation has been largely effective in implementing avoidance of effects on IEFs.

6.9.1.1 Construction Mitigation Measures for Bats

Prior to felling operations and within the correct survey season, all trees within the felling plan will be further surveyed from the ground to determine the potential to support roosting bats. Should feature be identified trees will be inspected at height and presence / absence surveys will be conducted where necessary. It is acknowledged that, as a result of age, infection or mechanical damage (i.e. directly from weather such as winter storms or indirectly from other trees falling) the presence of feature suitable to support bats may change over time. Should a roost be identified, a Licence from NatureScot will be sought prior to the continuation of works.

All site lighting (if required) will be directed to the area of works and light spill minimised. No lighting of woodland edges or tree/structures with suitable features should be undertaken.

6.9.2 Operation Phase Mitigation

Monitoring of the proposed mitigation and enhancement activities outlined above will be carried out to measure effectiveness during the lifespan of the wind farm (40 years). There is currently not a strict timeline for many of the proposals, though recommended timelines have been provided within the oHMP (TA A6.5).

6.9.3 Decommissioning Mitigation

During the decommissioning of the Development, potential effects on IEFs will be similar to those during the construction phase. Similar measures to minimise impacts will be employed but will use any updated published guidance or legislation which will be incorporated into the relevant management plan/s prior to decommissioning.

6.9.4 Enhancement

An Outline Habitat Management Plan (OHMP) (TA A6.5) details the proposed mitigation and enhancement measures designed to reduce negative impacts and provide substantial enhancement to the future baseline. In summary, these proposals include:

- Provide compensatory planting (40.18 ha) for permanently felled areas;
- Temporary felled areas (33.23 ha) will be replanted or facilitated to regenerate naturally in line with standard forestry practice;
- Riparian corridors (30 m buffer) will be felled and re-planted with native broadleaf species and created in suitable locations;
- Fell coniferous woodland surrounding identified wetlands and re-plant with native broadleaves; and
- Remove/control Rhododendron populations.

6.10 CUMULATIVE EFFECTS

In line with NatureScot's guidance on cumulative assessment in relation to wind farms[22] this assessment process focuses upon the likely significant effects. Natural heritage zones NHZs) are a useful spatial scale in which to assess cumulative effects, however the site is located within two different NHZ's and is adjacent to a third. As such, using a singular NHZ would not be appropriate in this instance, or using all three would be considered disproportionate. As such, a 10 km buffer from the Development boundary has been used as a suitable spatial scale in which to assess cumulative effects.

The cumulative effects upon designated sites are considered in TA A6.6.

Table 6.9 below details the information returned from search results from the 10 km search buffer.

Table 6.9: Wind farm developments or development proposals within a 10 km radius from the Development boundary

Site name	Approximate distance from Development	Turbines	Significant effects	Evaluation	Progress
Hill of Towie	c. 9 km	21	No information available	No information is available to provide an appropriate evaluation	Installed
Hill of Towie II	c. 9 km	19	No information available	No information is available to provide an appropriate evaluation	Installed
Blackhills wind farm	Adjacent on the western boundary	8	No information available	No information is available to provide an appropriate evaluation	Scoping
Rothes III	c. 9 km	29	No significant effects anticipated	Coniferous woodland plantation of low-conservation value is proposed to be lost the most compared to all other habitat types.	Consented
Rothes (Cairn Uish)	c. 9 km	22	No information available	No information is available to provide an appropriate evaluation	Installed
Kellas Drum	c. 9 km	8	Not significant to minor effect on otter during the	Direct effects during construction are expected to be non-significant to minor	Consultation

[22] NatureScot (2025) Assessing the cumulative landscape and visual impact of onshore wind energy developments. Accessed at: https://www.nature.scot/doc/guidance-assessing-cumulative-landscape-and-visual-impact-onshore-wind-energy-developments

			construction phase		

Within a 10 km distance of the Site, six wind farms were identified. A further wind farm (Bodinfinnoch) was identified in one dataset[23], however the project seems to have been shelved and has therefore been excluded from further assessment here.

Of the six wind farms developments identified, information was publicly available for two projects: Rothes III and Kellas Drum.

The Rothes III development has been consented (although there is an application to increase the tip heights of three of the consented turbines). Within the Ecology Chapter of the EIAR for Rothes III, direct and indirect effects were identified, however with relevant mitigation, none were considered to be significant. The greatest habitat loss within this development is low value coniferous plantation woodland.

Ecological effects were all considered to be not significant for the Kellas Drum wind farm, with the exception of direct impacts on Otter where the effect was considered to be Not Significant to Minor. A predicted loss of 9.57% of *M16 Erica tetralix – Sphagnum compactum* wet-heath has been identified. In the absence of mitigation, moderately significant indirect effects could occur. Following implementation of mitigation measures effects were considered to be not significant.

Considering the effects identified for this Development, and assessing them in conjunction with the significance, magnitude and spatial importance of the impacts identified from all projects within a 10 km radius from the Site, no cumulative effects are predicted.

6.11 RESIDUAL EFFECTS

6.11.1 Construction

Mitigation measures have been outlined in the oHMP (TA A6.5). These involve (but are not limited to) creating riparian woodland, providing compensatory planting for areas proposed to be permanently felled and improving the structure and diversity of the retained woodland.

As no significant effects are predicted as part of this assessment and considering the mitigation and enhancement measures (both embedded and within the OHMP), direct and indirect impacts are considered to have a negligible impact upon all identified IEFs and effects are therefore **not significant.**

The low risk of direct mortality of bats cannot be mitigated and as such there remains a low magnitude negative significant effect only at a Local (site) level, which is negligible at a population level and therefore **not significant** in terms of the EIA Regulations.

Compensatory planting to ameliorate the loss of foraging habitat would, in the medium to long term provide new foraging areas for bats.

6.11.2 Operation

Beyond the effects identified with respect to construction, no further effects are predicted.

Compensatory planting to ameliorate the loss of foraging habitat would, in the medium to long term provide new foraging areas for bats.

6.11.3 Decommissioning

Beyond the effects identified with respect to construction, no further effects are predicted.

[23] Scottish Government (2025) Wind farm Proposals in Scotland. Accessed at (06/03/2025): https://www.data.gov.uk/dataset/3219c645-9664-4e86-b73b-e36190626ef8/wind-farm-proposals-scotland

6.12 SUMMARY OF EFFECTS

Table 6.10 below summarises the effects on key receptors, together with any mitigation measures

Table 6.10: Summary of Ecological Effects

IEF	Conservation value within the Survey Area	Magnitude of effect (in absence of mitigation)	Magnitude of effect (following implementation of mitigation)	Significance	Specific mitigation advised
Long-established woodland of Plantation Origin (class 2b) (LEPO)	Stands with Scot's pine and a heathy understory are of moderate conservation value at a Local level	Negligible	Negligible	Not significant	Recommendations have been provided within the OHMP to improve biodiversity value of retained woodland within the Developable area
Peatland and related habitats	County	Negligible	Negligible	Not significant	Nothing in addition to embedded mitigation
Otters	Local	Low	Negligible	Not significant	Nothing in addition to embedded mitigation
Pine marten	Local	Negligible	Negligible	Not significant	Nothing in addition to embedded mitigation
Red squirrel	Local	low	Negligible	Not significant	Nothing in addition to embedded mitigation
Wildcat	Regional	Moderate to low	Negligible	Not significant	Nothing in addition to embedded mitigation. Though the OHMP provides recommendations for the improvement of the structure and diversity of the woodland which would benefit the species.
Badger	Local	Low	Negligible	Not significant	Nothing in addition to embedded mitigation
Hairy wood-ants	Local	Low	Negligible	Not significant	2 m exclusion zones from identified or newly identified nests. In addition, the OHMP provides recommendations for the improvement of the structure and diversity of the woodland which would benefit the species.
Bats	Local	Low	Negligible	Not Significant	Generic Mitigation. Pre works survey of all trees to be felled. Licence and SPP (if necessary) following surveys. Minimised and directional lighting.

6.13 STATEMENT OF SIGNIFICANCE

This Chapter has assessed the likely significance of effects of the Development on ecological resources. The Development has been assessed as having the potential to result only in effects that are assessed as being not significant.

6.14 HABITATS REGULATIONS APPRAISAL

The purpose of the following section is to provide information in order to give the competent authority sufficient information to undertake a Habitats Regulations Appraisal (HRA) of the development and the River Spey SAC.

The Lower River Spey - Spey Bay SAC is at the outer edge of the ecology designated site search area (4.9 km from the Development boundary and 6.5 km from the Development footprint. As such, it is considered to be a sufficient distance from the site that any effects are extremely likely to be negligible and that a detailed HRA is not considered to be necessary to support this conclusion.

6.14.1 Context - River Spey SAC

The River Spey qualifies as an SAC on account of supporting populations of four Annex 2 species considered to be of international importance.

6.14.1.1 Freshwater pearl mussel

The River Spey is a large Scottish east coast river that drains an extensive upland catchment and supports a significant freshwater pearl mussel population in its middle to lower reaches. In parts of the River Spey, dense mussel colonies have been recorded (225 per m^2) and the total population is estimated at several million. As the population also shows evidence of recent recruitment and a high proportion of juveniles, the River Spey is considered to support a pearl mussel population of international significance.

6.14.1.2 Sea lamprey Petromyzon marinus

The River Spey represents the northernmost extent of the sea lamprey's range in the UK. It is absent from rivers north of the Great Glen. Recent surveys show that sea lamprey larvae are widely distributed throughout the middle and lower reaches of the river, where the particularly fast-flowing waters of the River Spey provide ideal spawning conditions for this species. In addition, as an unpolluted and relatively little modified system, the River Spey matches the other key habitat requirements of the sea lamprey in terms of good water quality, clean gravels and marginal silts and an unhindered migration route to the sea.

6.14.1.3 Atlantic salmon

The Spey supports one of the largest Atlantic salmon populations in Scotland, with little evidence of modification by non-native stocks. Adults spawn throughout virtually the whole length of the river, and good quality nursery habitat is found in abundance in the main river and numerous tributaries. For a system of its size, the Spey is also relatively free from flow modifications such as abstractions, diversions and impoundments and has good water quality. The salmon population includes fish of all ages including migrating smolts and returning adults.

6.14.1.4 Otter

The Spey represents an important otter site in Scotland, with good quality freshwater habitat. Surveys have identified high levels of otter presence throughout the Spey catchment. Riverine habitat features which are known to be important to otters are present, such as reedbeds and islands, and populations of important prey species are relatively healthy. The persistence of a strong population of otter on this river indicates that habitat conditions are particularly favourable for the survival of the species.

6.14.2 Conservation Objectives

Conservation objectives should define the desired state for a designated site in terms of the features for which it has been designated. The aim of the conservation objectives for a designated site is to maintain the favourable conservation status of the qualifying interests.

This requires definition of "favourable conservation status". The Habitats Directive[24] defines the 'conservation status' of a species as "the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within a national level."

The conservation status will be taken as 'favourable' when:

- "population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis".

The overarching conservation objectives for each of the River Spey SAC are:

- To ensure that the qualifying features of the River Spey SAC are in favourable condition and make an appropriate contribution to achieving favourable conservation status; and
- To ensure that the integrity of the River Spey SAC is restored by meeting objectives 2a, 2b and 2c for each qualifying feature (and 2d for freshwater pearl mussel). See below.

Conservation Objectives for freshwater pearl mussel

- 2a. Restore the population of freshwater pearl mussel as a viable component of the site;
- 2b. Restore the distribution of freshwater pearl mussel throughout the site;
- 2c. Restore the habitats supporting freshwater pearl mussel within the site and availability of food; and
- 2d. Restore the distribution and viability of freshwater pearl mussel host species and their supporting habitats.

Conservation Objectives for Sea Lamprey

- 2a. Maintain the population of sea lamprey as a viable component of the site;
- 2b. Maintain the distribution of sea lamprey throughout the site; and
- 2c. Maintain the habitats supporting sea lamprey within the site and availability of food.

Conservation Objectives for Atlantic salmon

- 2a. Restore the population of Atlantic salmon, including range of genetic types, as a
- viable component of the site;
- 2b. Restore the distribution of Atlantic salmon throughout the site; and
- 2c. Restore the habitats supporting Atlantic salmon within the site and availability of food.

Conservation Objectives for Otter

- 2a. Maintain the population of otter as a viable component of the site;
- 2b. Maintain the distribution of otter throughout the site; and
- 2c. Maintain the habitats supporting otter within the site and availability of food.

6.14.3 Overview of the HRA Process

The European Union Council Directives on the Conservation of Wild Birds (2009/147/EC) – the Birds Directive – and on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC) – the Habitats Directive – are implemented in Scotland by the Conservation of Habitats and Species Regulations 2017[25], known as the 'Habitat Regulations'. The Habitat Regulations place a statutory duty on Planning Authorities to meet the requirements of these Directives.

[24] 92/43/EEC

[25] https://www.legislation.gov.uk/uksi/2017/1012/contents/made

The Habitats Regulations impose specific and strict legal 'tests' that must be met before plans or projects, not directly connected with or necessary to the management of a site, can be approved by the competent authority (in this case the Moray Council).

The competent authority must determine whether the plan or project is likely to have a significant effect on the site. If the plan or project is deemed to have a likely significant effect (LSE), either individually or in combination with other plans or projects, it will be subject to 'appropriate assessment'

The competent authority may only agree to the proposals after having ascertained that they will not, in combination with other plans or projects, adversely affect the integrity of the site based on its qualifying species and the conservation objectives for the site (required to maintain Favourable Conservation Status). The competent authority may consider any mitigation measures committed to maintain site integrity when undertaking the Appropriate Assessment.

In Scotland, the competent authority must consult NatureScot, as the Statutory Nature Conservation Organisation, for advice during the HRA process prior to making their determination.

The European Commission has provided guidance in relation to the appropriate assessment process[26]. This guidance sets out the procedure for an appropriate assessment and provides help in defining the terms used in the Habitats Directive. In simple terms, this means that if a Development, such as a wind farm, is likely to have a significant effect on an SAC, then the competent authority must undertake an 'Appropriate Assessment'. The mechanism of this is described in more detail below.

The key considerations to inform the appropriate assessment are to:

- Describe the potential impacts of the proposal on the qualifying species detailing which aspects or effects of the proposal could impact them and their conservation objectives;
- Characterise the potential impacts, e.g. e.g. whether short/long term, reversible or irreversible, and in relation to the proportion/importance of the interest affected, and the overall effect on the site's conservation objectives, taking into account any possible 'in combination' effects with other plans or projects;
- Each conservation objective should be considered to determine whether the conservation objective will still be maintained in the event of consent of the development;
- If an adverse effect on site integrity is concluded there is a requirement to consider alternative solutions which could avoid the effect; and
- Where there are no satisfactory alternative solutions, a project can only proceed where there are imperative reasons of overriding public interest.

6.14.4 Potential Effects on SAC Species

The River Spey SAC lies 600 m from the Development site boundary and almost 1 km from the Development footprint. Having said that there are numerous tributaries of the River Spey SAC that lie within the Development site. However, this has been a key focus of the evolution of the Development layout and, accordingly, watercourse crossings have been minimised and largely restricted to existing culverts along existing tracks. A figure illustrating the new and existing crossings is included on Chapter 12: Hydrology. All new crossings are at minor peaty headwaters, considered to be of negligible suitability for fish fauna.

6.14.5 Summary of Baseline for SAC Species

The reaches of the watercourses that lie within the Development boundary largely comprise very minor peaty headwaters, which are overshaded by commercial forestry, thus limiting their suitability for fish fauna. There is also a lack of suitable fast flowing watercourses over gravel beds favoured by freshwater pearl mussel and a lack of marginal, depositional silt favoured by lamprey. Evidence of otter activity within the site is very infrequent. There were no places of rest recorded and the presence of only a single spraint and print, indicates that the site is only used for occasional commuting only and not an important resource for otter.

[26] European Commission 2000. Managing Natura 2000 Sites: The provisions of Article 6 of the "Habitats" Directive 92/43/EEC. Office for official publications of the European Communities, Luxembourg.

6.14.6 Summary of Development

The Development is fully described in Chapter 4: Development Description.

The Development comprises:

- 12 turbines;
- Associated turbine compound areas including foundations and hardstanding areas for erecting cranes at each turbine location;
- On-site tracks connecting each turbine, which largely utilise existing forestry tracks;
- Construction compound
- Substation compound;
- BESS compound;
- Met mast; and
- Forestry keyholing.

6.14.7 Predicted Effects on SAC

Given the proximity of the Development footprint from the River Spey SAC, there will be no loss of habitat. In addition, the habitats within the site are of limited suitability for SAC qualifying species. Having said that, in the absence of mitigation there remains the risk of surface water pollution to the SAC via upstream tributaries that lie within the site.

6.14.8 Mitigation for Predicted Effects on SAC

In order to minimise the risk of surface water pollution and closely monitor any effects of the construction of the Development the following measures are prescribed to protect the River Spey SAC and its qualifying features:

- Following a consent and prior to any clearance or construction works a Pollution Prevention Plan (PPP) as part of the Outline Construction Environmental Management Plan (oCEMP; TA A4.2) will be implemented in agreement with key stakeholders, including SEPA, the Spey Fisheries Board and FLS. The will detail the type and locations of agreed surface water mitigation measures to safeguard the Spey SAC;
- Following a consent a Biosecurity Method Statement will be agreed with SEPA, the Spey Fisheries Board and FLS. This will be informed by SEPA guidance[27]. All footwear, vehicles and equipment, will require cleaning prior to arrival and leaving site to ensure there is no cross-catchment contamination, or transport of invasive species between catchments;
- A suitably experienced ECoW will be present to oversee the implementation of surface water mitigation measures, to ensure they are fit for purpose, and to continually monitor their effectiveness; and
- Commitment to a WQFMP to include water quality sampling and fully quantitative electrofishing surveys are undertaken at least 12 months prior to the commencement of enabling/construction works and for at least 12 months after the completion of construction. Monitoring to be undertaken by the Spey Fisheries Board.

It is also anticipated that the Development will be subject to the surface water conditions (such as maximum levels of suspended solids, pH etc) as set out in a Construction Site Licence from SEPA.

6.14.9 Future Baseline

With the implementation of the above mitigation measures, effects on the River Spey SAC are predicted to be negligible, and no additive adverse effect is predicted on the SAC qualifying features and their Conservation Objectives in combination with other projects. As such, it is concluded that there is no likely significant effect on the integrity of the SAC.

[27] https://www.sepa.org.uk/media/163480/biosecurity-and-management-of-invasive-non-native-species-construction-sites.pdf