PROPOSED AULTMORE WIND FARM REDESIGN

Scoping Report

Vattenfall Wind Power Limited

SLR Ref: 404.03640.00016
Version No: FINAL
October 2021

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1.0 Introduction

1.1 Background

Vattenfall Wind Power Ltd ('Vattenfall') is seeking to redesign the consented Aultmore Wind Farm at Aultmore Forest, Moray (the Site). The location of the Site is shown in **Figure 1.1.** The proposed Aultmore Wind Farm Redesign (the Proposed Development) would be sited within Aultmore Forest, which sits across two hill tops, between Keith and Buckie.

Whilst the Proposed Development is at an early stage in the Environmental Impact Assessment (EIA) development process, there is a large amount of historical baseline data for parts of the proposed Site from the Environmental Statement (ES) and Supplementary Environmental Information (SEI) that accompanied the original planning application (ref 07/02375/EIA) for the consented Aultmore Wind Farm. Updated survey data for the whole Site is being captured through new desk and field based survey work.

For the purposes of this Scoping request, an initial Scoping Layout has been developed, based on the knowledge of the Site gathered to date and with a view to optimising energy production. It is expected that the layout will evolve through the EIA process.

The current Proposed Development comprises 16 turbines with a maximum height to blade tip of up to 200 m and a maximum installed capacity for each turbine of 6MW. The precise generating capacity is yet to be determined, but is expected to exceed 50 MW; Vattenfall will select the candidate turbine prior to construction. The potential for battery storage and other renewable technology is also being explored as part of the Proposed Development.

On the basis of the anticipated generational capacity, Vattenfall intends to submit an application for consent for the Proposed Development to Scottish Ministers under section 36 of the Electricity Act 1989. In addition to the application for consent in terms of section 36 of the Electricity Act, a request will also be made that a direction be issued under section 57(2) of the Town and Country Planning (Scotland) Act that planning permission be deemed to be granted.

The Proposed Development will constitute a Schedule 2 development as provided for by the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the 'EIA Regulations') by virtue of being a generating station requiring a section 36 consent but which is not Schedule 1 development. As the Proposed Development is located within a commercial forestry plantation and will require some felling of trees, the assessment will also consider the Environmental Impact Assessment (Forestry) (Scotland) Regulations 2017. The aforementioned Electricity Works and Forestry EIA Regulations will be referred to collectively hereafter as the 'EIA Regulations'.

Vattenfall has appointed SLR Consulting Ltd (SLR) to undertake a Scoping study and prepare this Scoping Report to accompany a request to Scottish Ministers to adopt a Scoping Opinion under the EIA Regulations.

The findings of the EIA process will be used to inform the final design of the Proposed Development and assess its predicted environmental effects. The results will be presented in an Environmental Impact Assessment Report (EIA Report) that will be submitted with the application for consent.

1.2 Purpose of the Scoping Report

Undertaking an EIA Scoping study is regarded as good practice[1] and is considered to be an important step in the EIA process as it allows all parties involved to agree the key environmental issues relevant to the Proposed Development as well as the methodology to be used for their assessment.

The specific aims of this Scoping Report are:

- To identify the technical factors that may be subject to significant environmental effects, as a result of the development proceeding, and therefore require further study.
- To identify the technical factors that are unlikely to be subject to significant environmental effects and can be scoped out from further study.
- To provide a basis for a consultation process with key consultees to agree the scope and content of the EIA with Scottish Ministers.
- To provide a basis for agreeing methodologies for undertaking required studies with the Local Planning Authority (LPA), based upon currently available baseline data, Site characteristics and best practice in individual technical disciplines.

In arriving at its formal Scoping Opinion, it is anticipated that Scottish Ministers will consult with the LPA (the Moray Council (TMC)), as well as a number of other key consultees in order to incorporate their feedback within the Scoping Opinion.

1.3 Vattenfall Wind Power Ltd

Vattenfall is one of Europe's largest producers and retailers of electricity and heat. Vattenfall's main markets are Sweden, Germany, the Netherlands, UK and Denmark, where it has 20,000 employees. The parent company, Vattenfall AB, is 100% owned by the Swedish state, and its headquarters are in Solna, Sweden.

For over a century, Vattenfall has electrified industries, supplied energy to people's homes and modernised our way of living through innovation and cooperation. Vattenfall is determined to make fossil-free living possible within one generation and is driving the transition to a more sustainable energy system through growth in renewable production and climate smart energy solutions for its customers.

Vattenfall has been in the UK since 2008, having grown its own wind business from one project to 10 today – including five onshore wind farms totalling 382MW and a further 240MW under construction. Vattenfall has invested more than £3.5 billion in enough wind to power 800,000 homes and is a key partner in enabling the UK to reach net zero. Vattenfall is on track to help save 8 million tonnes of CO_2 a year by 2030, the same as taking 4 million cars off the road, and continues to grow in district heating and power networks to make fossil free living possible within one generation.

Further information on Vattenfall can be found at https://group.vattenfall.com.

[1] A Handbook on EIA, SNH (now NatureScot) revised 2018

1.4 SLR Consulting Limited

SLR is one of the UK's fastest growing multi-disciplinary environmental consultancies. Within the energy sector, SLR provides a wide range of planning, environmental and technical services relating to the design and development of wind farms and other renewable energy projects. The company becomes involved in all aspects of facility development, from initial concept design, through planning and permitting to the detailed design, construction management and closure stages.

SLR is a registered Environmental Impact Assessor and Member of the Institute of Environmental Management and Assessment (IEMA). The company has significant experience in the preparation of planning applications and undertaking EIA for a wide variety of projects, including renewable energy, minerals, waste and infrastructure developments.

Further information on SLR Consulting Limited can be found on its corporate website at www.slrconsulting.co.uk.

1.5 Report Structure

The remainder of this report comprises the following sections:

Section 2	Provides a description of the Site and its surroundings.
Section 3	Provides a description of the Proposed Development.
Section 4	Describes the process of 'scoping' the EIA, as well as the proposed approach to consultation with regard to the Scoping Report.
Section 5	Outlines the planning and energy policy context for the Proposed Development.
Sections 6 to 15	Describes the specialist environmental studies that are proposed to be undertaken to assess the impact of the Proposed Development on the environment and those areas which are proposed to be 'scoped out' of the assessment.
Section 16	Describes the other environmental topics which have been considered and proposed to be undertaken, and those that are proposed to be 'scoped out' of the assessment.
Section 17	Summarises the findings of the Scoping Report.

2.0 Site and Surroundings

The application Site is located within Aultmore Forest, approximately 6 km to the north of the settlement of Keith, Moray. The entire Site is located within the Moray Council administrative boundary. The Site is managed by Forestry and Land Scotland (FLS), on behalf of Scottish Ministers, and is shown in **Figure 2.1.**

The area of the Site extends to approximately 2,400 ha, with the proposed wind turbines located in the eastern and western parts of the Site. Access to the Site is likely to be taken from the minor road running from the B9016, to the west of the Site, and would utilise the existing onsite access tracks wherever possible.

The Site consists predominantly of commercial forestry and comprises one large parcel of land, with turbines proposed to be located in the eastern and western sections. The central part of the Site is separated by a small strip of non-forested land. The three highest hills found across the Site are Millstone Hill (301 m above ordnance datum (AOD)) in the west, Addie Hill (272 m AOD) in the centre of the Site and Old Fir Hill (262 m AOD) to the east.

The area surrounding the Site consists primarily of pastoral and arable farmland, interspersed with small groups of residential properties and farms. The closest residential property in the surrounding area is within 50 m of the Site boundary, more than 800m from the nearest turbine.

2.1.1 Historic and Current Development Site Uses

Current Land Use

The Site is predominately covered by commercial forestry but has some relatively small areas of bog/heath and a limited amount of areas defined as ancient woodland (long established of plantation origin) but which have been incorporated into the commercial forestry. The forestry is of varying ages and will be felled at the appropriate time in accordance with the FLS land management plan.

Planning History

Planning permission (07/02375/EIA) for the 13 turbine Aultmore Wind Farm was granted in 2014, and a section 42 application to vary condition 1, 18 and 24 of this permission was subsequently approved by TMC in February 2017 which brought with it a new permission (16/01657/APP). A further section 42 application to vary a condition of that permission was subsequently granted in August this year. This brought with it a new planning permission (21/00484/APP) with a three-year timescale for the commencement of development (i.e. by August 2024).

The layout plan for the consented Aultmore Wind Farm is included as **Appendix 2A**. The consented Aultmore Wind Farm consists of 13 wind turbines with a blade tip height of 90/110 m, and includes provision for access tracks, borrow pits, substation/control building and temporary construction compounds.

2.1.2 Statutory Designations

There are no statutory or non-statutory ecological designations within the Site. Nearby statutory designations are shown on **Figure 2.2** and include:

- River Spey Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC);
- Moray Firth Special Protection Area (SPA);

- Mill Wood SSSI;
- Shiel Wood Pastures SSSI;
- Reidside Moss SSSI and SAC;
- Moss of Crombie SSSI; and
- Cullen to Stake Ness Coast SSSI.

There are no landscape designations within the Site. Nearby landscape designations are shown in **Figure 2.3** and include:

- Portgordon to Cullen Coast Special Landscape Area (SLA);
- Lower Spey and Gordon Castle SLA;
- The Spey Valley SLA; and
- Deveron Valley SLA.

The Cairngorms National Park (CNP) (including Wild Land and National Scenic Area designations) is located approximately 35 km to the south west of the Site.

There are no archaeological or cultural heritage designations within the Site; although there are a number of archaeological records (Canmore and HER) within the Site. A number of listed buildings and conservation areas are found within 2 km of the Site boundary as shown on **Figure 2.4**, and Gordon Castle Garden and Designed Landscape is located approximately 4 km to the north west of the Site.

3.0 Description of the Development

3.1 The Proposed Development

Aultmore Wind Farm was granted planning permission in 2014. However, since then significant changes in both turbine technology and the UK electricity market have taken place. The turbines originally proposed are now harder to obtain and the market support system existing at the time has been withdrawn. Further, it is considered that the turbine layout for the consented scheme underutilises the site's potential for clean energy generation. Recent studies completed by Vattenfall have identified the potential to redesign the Site using up-to-date turbine technology and a wider footprint to increase its contribution to government climate targets and policy, including its 2018 declaration of a Climate Emergency.

This combination of factors provides the rationale for the redesign and optimisation of the Aultmore Site - reconfiguring it using up-to-date turbine technology thereby increasing its clean energy productivity and enhancing its commercial viability in the foreseeable electricity market.

The key changes to the Site are as follows:

- Increase in the area of the Site utilised;
- Increase in the proposed number of wind turbines from 13 to 16; and
- Increase in the turbine tip height from 90/110 m to up to 200 m.

Since consent was granted for the 2007 application, one of the key changes to the cumulative baseline in the area has been the granting of planning permission in 2019 for Lurg Hill Wind Farm (5 turbines, maximum height 130 m to blade tip), which lies approximately 3 km across the valley to the east of the Site, on Lurg Hill.

Careful consideration has been given to the provisional layout of the Proposed Development, and the design will evolve as the EIA progresses, taking into account environmental and technical constraints, and feedback obtained during consultation with both key consultees as well as the local community.

Although the layout will be optimised through the EIA and conceptual design process, based on preliminary feasibility work it is anticipated that the Proposed Development would consist of the following components:

- 16 turbines with an installed capacity in excess of 50 MW;
- power cables laid in trenches underground;
- meteorological mast;
- substation and control building;
- energy storage facility;
- new onsite access tracks with associated watercourse crossings and widening/improvement works to existing onsite access tracks;
- crane hard-standings adjacent to each turbine;
- temporary construction compound and associated infrastructure; and
- borrow pits.

3.1.1 Turbines

A final choice of wind turbine will be made through a competitive tendering exercise post consent and as such these details are yet to be finalised. It is anticipated that the turbines for the Proposed Development would not exceed the dimensions shown in **Table 3-1.**

Table 3-1
Candidate Turbines

Turbine Element	Candidate Turbine
Blade Tip Height	Up to 200 m
Rotor Diameter	Up to 175 m
Hub Height	Up to 125 m

An indicative layout of 16 turbines is shown on **Figure 3.1.** This layout will be refined throughout the assessment process.

3.1.2 Grid Connection

A high-level assessment of the proposed grid connection will be provided in the EIA Report, although the grid connection will be subject to a separate consent under Section 37 of the Electricity Act 1989. It is anticipated that the connection to the grid will likely be made at the Blackhillock substation near Keith. The precise route of cabling has not yet been determined and will be the responsibility of the network operator in due course.

3.1.3 Access

There are currently a number of existing access points into the forest, developed by FLS for forestry activities. The most likely access point for wind farm construction traffic will be taken from a minor road leading from the B9016, to the west of the Site, which was also the proposed access route for the consented Aultmore Wind Farm.

3.1.4 Borrow Pits

Material for the construction of onsite tracks would, where possible, be derived from borrow pits within the Site should the materials found be suitable. The potential for borrow pits and their location and design will be defined as part of the EIA and Site design process. Onsite borrow pits were also proposed to be used for sourcing materials under the consented Aultmore Wind Farm.

3.1.5 Forestry

Some felling will be required to accommodate the wind turbines and ancillary infrastructure. Where possible, this will be undertaken in line with the existing FLS felling plan, but an amended felling plan will be produced in consultation with FLS and Scottish Forestry. Further studies will be undertaken to establish if clear felling of coupes will be required.

Keyhole replanting, whereby woodland is replanted up to an operationally defined keyhole around turbines and infrastructure, is the preferred option for the Site to minimise the requirement for compensatory planting.

3.2 Wind Farm Lifecycle

The Proposed Development would be designed with an operational life of 35 years. At the end of its operational life the Proposed Development would then be decommissioned in accordance with a Decommissioning and Restoration Plan (DRP) which would be submitted to TMC for approval not later than 12 months prior to the start of decommissioning. Alternatively, a new application could be made to extend its operational life.

4.0 Environmental Impact Assessment

4.1 Introduction

EIA is a systematic process that must be followed for certain categories of development before they can receive consent. It aims to identify a project's likely significant effects through the Scoping process, and then assess those effects, which are then reported in an EIA Report. This ensures that the predicted effects, and the scope of mitigation measures to reduce them where necessary, are properly understood by the public and the determining authority, in this case Scottish Ministers, before it makes its decision.

The EIA process should be systematic, analytical, impartial, consultative and iterative, allowing opportunities for environmental concerns to be addressed in the design of a project. Typically, a number of design iterations take place in response to environmental constraints identified during the EIA process prior to the final design being developed.

The EIA will be undertaken in accordance with the EIA Regulations and recognised good practice and guidelines specific to each technical area, and identify the likely significant environmental effects arising from the Proposed Development. Consultees are also encouraged to provide confirmation of agreement to the proposed scope in terms of what is included and excluded, the methodology and the receptors identified.

4.2 EIA Terminology

4.2.1 Baseline

For the purposes of the EIA, it is proposed that each of the technical assessments takes the current Site environment and an outline of the likely evolution in the absence of the Proposed Development as far as that is possible, using reasonable effort and taking account of available relevant information and scientific knowledge. It is not proposed that this includes consideration of the presence of the consented Aultmore Wind Farm.

Notwithstanding the above, given the materiality of the consented Aultmore Wind Farm it is proposed that comparative information showing the consented scheme against the redesigned scheme be included in a separate document to be appended to the Planning Statement. It is anticipated that the scope of this document will focus on comparative zones of theoretical visibility, wirelines and photomontages to enable comparison to be made of the landscape and visual effects between the consented and proposed redesign schemes.

4.2.2 Impacts and Effects

EIA is concerned with the identification of likely significant effects on the environment; however the terms impact and effect are often used interchangeably and this can lead to confusion. For clarity, the following terms are defined:

Impact: any change attributable to the Proposed Development.

Effect: the consequence of any impacts arising from the Proposed Development on an environmental receptor.

4.2.3 Type of Effect

The EIA Regulations (Schedule 4, Part 5)[2] require consideration of a variety of types of effect, namely direct/indirect, secondary, cumulative, positive/negative, short/medium/long-term and permanent/temporary. In the EIA Report which will be submitted after this Scoping report, effects are considered in terms of how they arise, their nature (i.e. whether they are positive or negative) and their duration. Each will have a source originating from the development, a pathway and a receptor, and may fall into one of several categories:

- Direct effects – which occur because the Proposed Development (or part of) is directly connected to the environmental receptor.
- Indirect effects – which arise as a consequence of a connected environmental receptor being directly impacted by the Proposed Development.
- Secondary effects – these typically require pathway connections, for example, an effect on receptor population A could have a secondary effect on receptor population B, if B was itself dependent on A in some way e.g. as a food source.
- Cumulative effects – these result due to a number of concurrent projects influencing the same environmental receptor.

The assessment of effects upon environmental receptors will cover the period over the construction and operation of the Proposed Development. These are considered as follows:

- Construction – environmental effects may result from construction activities; these effects are likely to be temporary in duration.
- Operation – environmental effects may result from the Proposed Development during the operational phase; these effects are likely to be long term or permanent.

4.2.4 Temporal and Spatial Scope

In its broadest sense the spatial scope is the area over which changes to the environment would occur as a consequence of the development. In practice, an EIA should focus on those areas where these effects are likely to be significant.

The spatial scope will differ between disciplines. The proposed geographical survey areas will be outlined and agreed for each individual scope area.

The temporal scope is stated where known and effects are typically described as:

- Temporary – likely to be related to a particular activity and will cease when the activity finishes. The terms ‘short term’ and ‘long term’ may also be used to provide a further indication of how long the effect will be experienced; and
- Permanent – this typically means an unrecoverable change.

[2] And Schedule 3, Part 6 of The Forestry (Environmental Impact Assessment) (Scotland) Regulations 2017

4.2.5 Assessment of Effects

Effects are generally considered in relation to the following key stages of a Proposed Development:

- Construction.
- Operation.
- Decommissioning.

The assessment of potential effects, using appropriate methodologies, will take into account the construction and operation of the Proposed Development in relation to the Site and its environs.

An assessment of the effects of the decommissioning of the Proposed Development at the end of its operational life will not be undertaken as part of the EIA as the future baseline conditions (environmental and other developments) cannot be predicted accurately at this stage. Furthermore, the proposals for decommissioning and Site restoration as well as the future regulatory context are unknown. It is also envisaged that the decommissioning effects would be equal to or less than those effects experienced during the construction phase.

For these reasons, it is proposed that the assessment of effects resulting from decommissioning activities is scoped out of the EIA.

Methodologies for predicting nature and magnitude of any potential environmental effects vary according to the technical subject area. Numerical or quantitative methods of assessment can predict values which can be compared against published thresholds and indicative criteria contained in relevant guidance and standards.

Not all technical subject areas are capable of being assessed numerically or quantitatively, and thus, qualitative assessments are used. Such assessments rely on previous experience of similar projects, environments and professional judgement.

4.2.6 Sensitivity of Receptors

The sensitivity of the baseline conditions is defined according to the relative sensitivity of existing environmental features on or in the vicinity of the Site, or by the sensitivity of receptors which would potentially be affected by the Proposed Development. Criteria for the determination of sensitivity or importance will be established based on prescribed guidance, legislation, statutory designation and/or professional judgement. The criteria for each environmental parameter will be outlined in the EIA Report according to the technical subject area.

4.2.7 Magnitude of Effects

The magnitude of effects on environmental baseline conditions will be identified through detailed consideration of the Proposed Development, taking due cognisance of any legislative or policy standards or guidelines, and/or the following factors:

- The degree to which the environment is affected, e.g. whether the quality is enhanced or impaired;
- The scale or degree of change from the baseline situation;
- Whether the effect is temporary or permanent, indirect or direct, short term, medium term or long term;
- Any in-combination effects; and

- Potential cumulative effects.

In some cases the likelihood of effect occurrence may also be relevant, and where this is a determining feature of the assessment this will be clearly stated.

4.2.8 Significance of Effects

Assessing the significance of effects relies, at least in part, on value judgements, including placing weight or value on the environment likely to experience the change. The significance of an effect is derived from an analysis of:

- The sensitivity of the environment to change, including its capacity to accommodate the kinds of changes the Proposed Development may bring about;
- The amount and type of change, often referred to as the impact magnitude which includes the timing, scale, size and duration of the effect;
- The likelihood of the effect occurring, which may range from certainty to a remote possibility;
- Comparing the effects on the environment which would result from the Proposed Development with the changes that would occur without the Proposed Development – often referred to as the "do nothing" or "do minimum" comparison; and
- Expressing the significance of the effects of the Proposed Development, usually in relative terms, based on the principle that the more sensitive the resource, the more likely the changes and the greater the magnitude of the changes, compared with the do nothing comparison, the greater will be the significance of the effect. Where relative significance is reported the assessment will identify the threshold for significant effects.

4.3 EIA Scoping

The results of the EIA process are reported in an EIA Report and Schedule 4(4) of the EIA regulations specifies that it should describe those:

"…factors…likely to be significantly affected by the development: population, human health, biodiversity (for example flora and fauna), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape".

Regulation 4(2) of the EIA Regulations requires the interaction between these factors to be considered. In addition, Regulation 4(4) requires EIA Reports to consider:

"…the expected effects deriving from the vulnerability of the development to risks, so far as relevant to the development, of major accidents and disasters".

Establishing which aspects of the environment are likely to be significantly affected by a particular project is captured in the EIA Scoping process which aims to identify those aspects of the environment and associated issues that need to be considered when assessing the potential effects resulting from a Proposed Development. This recognises that there may be some environmental elements for which the project is unlikely to have a significant effect and hence where there is no need for further investigation to be undertaken as part of the EIA.

Previous experience of other wind farm development sites, combined with knowledge of the Site from the Scoping and assessment work previously undertaken for the extant permission, has identified the following topics for consideration in the EIA. A summary of known baseline conditions of relevance, predicted effects, any outline mitigation measures that can be recommended at this stage and the proposed scope for the EIA is provided for each of these topic areas in Sections 6 to 16.

These are:

- Landscape and Visual;
- Ecology;
- Ornithology;
- Hydrology, Hydrogeology and Geology;
- Noise;
- Historic Environment;
- Access, Traffic and Transportation;
- Socio-economics, Tourism and Recreation;
- Forestry;
- Aviation and Defence; and
- Infrastructure, Shadow Flicker and Other Issues.

For each topic that is identified as requiring further study, a detailed technical assessment will be carried out in accordance with the scope and methodology agreed with relevant consultees. Each technical assessment will be carried out by an appropriately qualified consultant to prevailing technical standards and reported in a dedicated EIA Report chapter.

The technical assessments will each aim to give a detailed assessment of potential impacts, identification of mitigation measures and description of the significance of residual effects (those remaining after the mitigation measures have been implemented).

The EIA will identify direct and indirect impacts, positive (beneficial) and negative (adverse) impacts, and seek to identify, as far as possible, the duration of impacts, whether short term, long term, permanent, temporary, periodic, etc.

The results of each technical assessment will be reported in the EIA Report and will be accompanied by technical appendices and illustrative material where appropriate. A Non-Technical Summary will also be produced.

4.4 Cumulative Effects

An assessment will be made of the likely cumulative effects of the Proposed Development in combination with other wind farm developments in proximity to the proposed Site which:

- Are the subject of valid applications or appeals but not yet determined;
- Consented;
- Are under construction; or

- Are operational.

The extent to which the potential combined effects through that co-existence will be considered, is described (as appropriate) throughout Sections 6 to 16 of this Scoping Report. The results of each technical assessment will be reported in the EIA Report and will be accompanied by technical appendices and illustrative material where relevant.

4.5 Mitigation

Mitigation is considered an integral part of the overall design strategy for the Proposed Development. SLR and Vattenfall adopt an iterative approach to design whereby mitigation is assessed and considered at all stages.

Where significant environmental effects are predicted in the EIA process, the EIA Report will provide measures to eliminate or ameliorate the effects to acceptable levels. Mitigation measures are envisaged through the consideration of alternatives, physical design, project management and/or operation to prevent, reduce or, where possible, offset any adverse significant effects. Mitigation measures follow standard techniques and best practice and are, therefore, considered to be effective for the purposes of assessment.

It is proposed that the following outline management plans will be submitted as part of the EIA, with detailed plans to be submitted for approval post consent:

- Outline Construction Environmental Management Plan (CEMP).
- Outline Habitat Management Plan (HMP).
- Outline Peat Management Plan (PMP).
- Outline Construction Traffic Management Plan (CTMP).

4.6 Residual Effects

Any remaining effects of the Proposed Development, following implementation of available mitigation measures, will be referred to as ‘residual effects’. The EIA will assess each residual effect and identify a significance level.

4.7 EIA Methodology

The EIA Report will identify the assessment methodologies based on recognised good practice and guidelines specific to each of the relevant environmental topic areas where the Proposed Development could result in significant effects. In general terms, the technical studies undertaken for each topic area and chapter included in the EIA Report to accompany the planning application would include:

- Collection and collation of existing baseline information about the receiving environment and surveys to fill any gaps in knowledge or to update any historic information, together with identification of any relevant trends in, or evolution of, the baseline.
- Consultation with experts and relevant consultees as necessary.
- Consideration of the potential effects of the Proposed Development on the baseline, followed by identification of any additional mitigation measures to seek to avoid or reduce any predicted adverse effects.

- Assessment and evaluation of any residual significant effects after mitigation measures have been implemented.
- Compilation of the EIA Report chapter and any supporting appendices.

4.8 Consultation

Consultation is an important part of the EIA process and will be reported within the EIA Report and supporting documentation as necessary.

The Applicant is committed to constructive dialogue with statutory and non-statutory consultees as well as the local community and others who have an interest in the Proposed Development, in order to consider feedback and inform the design development process.

4.9 Questions for Consultees

Q1. Are consultees content with the proposed approach to the baseline?

5.0 Planning and Energy Policy Context

5.1 Project Need and the Renewable Energy Policy Framework

The EIA Report will describe, in summary, the renewable energy policy framework and associated need case for renewables, identified as a matter of both law and policy, at international and domestic levels.

The Proposed Development relates to the generation of electricity from renewable energy sources and comes as a direct response to national planning, energy policy and climate change objectives. The clear objectives of the UK and Scottish Governments will be summarised, in relation to encouraging increased deployment and application of renewable energy technologies, consistent with sustainable development policy principles and national and international obligations on climate change.

At a Scottish Government level, a "*Climate Emergency*" was declared by the First Minister in April 2019. Furthermore, the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 received Royal Assent on 31 October 2019. The Act sets a legally binding 'net zero' target for Scotland for 2045 (with challenging interim targets), five years ahead of the date set for the whole of the UK.

The Proposed Development would clearly make a contribution to the attainment of renewable energy, electricity and climate change targets at both the Scottish and UK levels and the quantification of this contribution will be described in the EIA Report. The description of the renewable energy policy framework will also refer to the Scottish Government's Climate Change Plan, Energy Strategy and Onshore Wind Policy Statement.

5.2 Scottish Planning Policy & Guidance

Reference will be made in the EIA Report to various national planning policy and guidance documents including:

- The National Planning Policy Framework 3 (NPF3);
- Scottish Planning Policy (SPP), noting that NPF4 will, in effect, replace NPF3 and the SPP;
- Scottish Government web-based Renewables Guidance; and
- Scottish Government policy and good practice guidance on community benefit funding and community shared ownership.

5.3 Local Development Plan

The planning policy context applicable to the Proposed Development will be taken into account in the iterative EIA design process. The relevant planning policy framework will also be described in the EIA Report.

5.3.1 The Moray Council Local Development Plan

The statutory Development Plan applicable to the Proposed Development comprises the Moray Local Development Plan (LDP) (2020) and associated statutory Supplementary Guidance. The LDP was formally adopted on the 27th July 2020 and sets out how the Moray Council (TMC) sees the Moray LDP area developing over the next 10 years and beyond.

The key policy within the Moray Local Development Plan 2015 relevant to the Proposed Development is Policy DP9 and is outlined below.

Policy DP9 states:

"All renewable energy proposals will be considered favourably where they meet the following criteria:

i) They are compliant with policies to safeguard and enhance the built and natural environment;
ii) They do not result in the permanent loss or permanent damage of prime agricultural land;
iii) They avoid or address any unacceptable significant adverse impacts including:

- *Landscape and visual impacts.*
- *Noise impacts.*
- *Air quality impacts.*
- *Electromagnetic disturbance.*
- *Impact on water environment.*
- *Impact on carbon rich soils and peat land hydrology.*
- *Impact on woodland and forestry interests.*
- *Traffic impact -mitigation during both construction and operation.*
- *Ecological Impact.*
- *Impact on tourism and recreational interests.*

In addition to the above criteria, detailed assessment of impact will include consideration of the extent to which the proposal contributes to renewable energy generation targets, its effect on greenhouse gas emissions and net economic impact, including socio-economic benefits such as employment.

b) Onshore wind turbines
In addition to the assessment of the impacts outlined in part a) above, the following considerations will apply:

i) The Spatial Framework
Areas of Significant Protection (Map 2): where the Council will apply significant protection and proposals may be appropriate in circumstances where any significant effects on the qualities of these areas can be substantially overcome by siting, design and other mitigation.
Areas with Potential (Map 1): where proposals are likely to be acceptable subject to Detailed Consideration.
ii) Detailed Consideration
The proposal will be determined through Site specific consideration of the following on which further guidance will be set out in supplementary guidance and as informed by the landscape capacity study:
Landscape and visual impact:

- *the landscape is capable of accommodating the development without unacceptable significant adverse impact on landscape character or visual amenity.*
- *the proposal is appropriate to the scale and character of its setting, respects the main features of the Site and the wider environment and addresses the potential for mitigation.*

Cumulative impact

- *unacceptable significant adverse impact from two or more wind energy developments and the potential for mitigation is addressed.*

Impact on local communities

- *the proposal addresses unacceptable significant adverse impact on communities and local amenity including the impacts of noise, shadow flicker, visual dominance and the potential for associated mitigation.*

Other

- *the proposal addresses unacceptable significant adverse impacts arising from the location within an area subject to potential aviation and defence constraints including flight paths and aircraft radar.*
- *the proposal avoids or adequately resolves other impacts including on the natural and historic environment, cultural heritage, biodiversity, forest and woodlands and tourism and recreational interests - core paths, visitor centres, tourist trails and key scenic routes.*
- *the proposal addresses any physical Site constraints…"*

Other key policies that will be referred to in the EIA Report are in **Table 5-1.**

Table 5-1
Relevant Policies contained within the Moray LDP

Volume 1 - Vision, Spatial Strategy and Policies
Primary Policies
PP2: Sustainable Economic Growth
Development Policies
DP9: Renewable Energy
Environment Policies
EP1: Natural Heritage Designations
EP2: Biodiversity
EP3: Special Landscape Areas and Landscape Character
EP7: Forestry, Woodlands and Trees
EP8: Historic Environment
EP9: Conservation Areas
EP10: Listed Buildings
EP12: Management and Enhancement of the Water Environment
EP13: Foul Drainage
EP14: Pollution, Contamination & Hazards
EP16: Geodiversity and Soil Resources

Volume 1 - Vision, Spatial Strategy and Policies
Volume 5 - Supplementary Guidance
Moray Onshore Wind Energy Policy Guidance, including Moray Wind Energy Landscape Capacity Study
Flood Risk and Drainage Impact Assessment for New Developments
Moray Forestry and Woodland Strategy
Developer Obligations

5.3.2 Moray Onshore Wind Energy (MOWE) NON Statutory Guidance 2020 and Moray Wind Energy Landscape Capacity Study 2017

The MOWE was originally approved as statutory supplementary guidance in support of the Moray Local Development Plan 2015. The MOWE was subsequently updated by TMC in 2020 as non-statutory guidance. Whilst the MOWE therefore remains a material consideration in decision making, it therefore no longer has the enhanced status of forming part of the Development Plan that it previously had.

The MOWE supports Policy DP9 of the MLDP 2020 and provides more detailed policy guidance on the benefits and constraints thatTMC will take into account when considering wind farm proposals. This includes detailed guidance on landscape sensitivity/capacity and landscape strategy, which is discussed in greater detail below in the context of the Moray Wind Energy Landscape Capacity Study (MWELCS) 2017 from which it originates.

5.3.3 Moray Wind Energy Landscape Capacity Study (MWELCS) 2017

The MWELCS provides guidance on the capacity of the local landscape in Moray to accommodate wind turbines. The MWELCS was originally prepared on behalf of TMC and NatureScot by Alison Grant and Carol Anderson in 2011 and was originally adopted as statutory supplementary guidance by TMC in June 2012. The MWELCS was reviewed and updated in 2017. Although the MWECLS 2017 no longer has statutory status and is currently under review, it remains the most recent landscape capacity guidance endorsed by TMC and therefore a material consideration in determining applications for wind turbine developments.

As made clear in the supporting text to Policy DP9 of the MLDP, the MWELCS is intended to be used as a supportive study that provides strategic level guidance. It is therefore not intended to be used to replace proposal-specific detailed assessment contained in an individual Landscape and Visual Impact Assessment.

A Planning Statement will be provided with the application (but separate from the EIA Report) which will contain an assessment of the accordance of the Proposed Development with the relevant policy and guidance documents as referred to above.

5.4 Questions for Consultees

Q2: Confirmation is sought that the identified development plan policies are appropriate.

Q3: Are there any further policies which would be considered likely to be material to the determination of the application?

6.0 Landscape and Visual

6.1 Environmental Baseline and Potential Sources of Impact

6.1.1 Site location and description

The Proposed Development is located in east Moray, approximately 6 km north of Keith and 7 km south of Buckie, and around 5-6 km from the border with Aberdeenshire to the east. The Site is comprised of a broad upland area up to approximately 250-300 m AOD with dense commercial forestry cover which is dissected by forestry tracks and small waterways. Landform slopes away from the Site in all directions into improved grassland with agricultural settlements dispersed in lowland pasture between low rising forested hills.

Operational and consented wind developments located within 15 km of the Proposed Development include a number of single turbines and the wind farms at Lurg Hill (2 km east), Edintore (9.5 km south), and Hill of Towie (12 km south west).

6.1.2 Landscape character context

Local landscape character is described in the SNH Landscape Character Assessment in Scotland digital map-based character assessment (2019) and within the Moray Wind Energy Landscape Capacity Study (MWELCS, 2017). The Proposed Development lies within SNH Landscape Character Type (LCT)293 Low Forested Hills and within area 8a Broad Forested Hills within Upland Farmland in the MWELCS.

Within the surrounding area, there are further units of the 8a character type, along with 8 Upland Farmland surrounding these and areas of 4a Rolling Coastal Farmland and 4 Coastal Farmland to the north.

6.1.3 Visual Amenity

The Site is crossed by Core Path KT01, a promoted path running east-west, and a number of forestry routes. The B9016 passes through a valley to the west and the B9018 to the east. The A95 passes within 7 km south east of the Site, the A96 at 4 km south west, the A98 at 5 km north and the A990 runs along the coast approximately 7 km to the north.

Settlement within 5 km of the Site consists of individual properties along rural roads and hamlets. The larger settlements of Newmill and Keith are located approximately 5-6 km to the south, Buckie approximately 7 km to the north and Fochabers 6 km to the west. There are no settlements within the Site, but the nearest residential property is located approximately 50 m from the Site boundary.

There are a number of long-distance recreational routes within 10 km of the Site. The Speyside Way passes within approximately 7 km to the west and north of the Site as it runs along the River Spey through Fochabers before heading east along the coast. The Moray Coastal Trail extends west along the coast from Garmouth at around 10 km from the Site. The National Cycle Network (NCN) Route 1 passes around 7 km to the north through Buckie along the A990 to the west and an un trafficked cycle path lies to the east towards Aberdeenshire. The Bin of Cullen, a hilltop viewpoint which is popular with tourists and local walkers, is located 5 km to the northeast of the Site.

6.1.4 Landscape designations

The Site is not covered by any international, national, regional or local landscape-related planning designations. There are no National Parks, National Scenic Areas or areas of Wild Land within 30 km of the Site. However, as shown on **Figure 6.2**, local landscape designations and Gardens and Designed Landscapes (GDLs) are present within the study area, with the closest being Port Gordon to Cullen Coast Special Landscape Area (SLA, 4.5 km north east), Spey Valley SLA (4.8 km, west), Lower Spey and Gordon Castle Policies SLA (5 km, north west), Gordon Castle GDL (5 km, north west), Cullen House GDL (6.5 km, northeast), the Lossiemouth to Portgordon SLA at 7.4 km north west, the North Aberdeenshire Coast SLA (8.2 km north east), the Deveron Valley SLA (Aberdeenshire) at 10.1 km south east and the Deveron Valley SLA (Moray) at 10.6 km south east.

6.1.5 Potential Sources of Impact

Potential sources of significant impacts will include the construction process including the removal of forestry; ground works including the formation of the Site access, borrow pits (if used), tracks, turbine foundations and crane hard-standings; construction of the substation, and erection of the turbines. During operation, significant effects would be likely to arise from the moving turbines. The design of ancillary elements such as the substation and tracks would be expected to minimise effects arising from these elements such that they would not be significant.

6.2 Method of Assessment and Reporting

The Landscape and Visual Impact Assessment (LVIA) will consider direct and indirect effects on landscape resources, landscape character and designated landscapes. It will examine the nature and extent of effects on existing views and visual amenity. The effects of the Proposed Development, as well as the ancillary infrastructure (access track, masts, transformers etc.) will be assessed during the construction and operational phases of the Proposed Development. The LVIA will also consider cumulative effects i.e. the incremental effects of the Proposed Development in combination with other renewable energy developments.

The LVIA will inform modifications and refinements to the layout design and will be undertaken following the approach set out in Guidelines for Landscape and Visual Impact Assessment: Third Edition (GLVIA3) and other relevant guidance. The assessment will also draw upon current good practice guidance issued by NatureScot; in particular, visualisations will be prepared to 'Visual Representation of Wind Farms' (Version 2.2, 2017).

6.2.1 Wind Farm Design and Development

The design of the wind farm will take account of the previous consenting process; national and local guidance, and consultation feedback. Where significant landscape or visual effects are predicted as part of the EIA process, the design will be carefully considered to ensure that effects remain within acceptable levels, though it is likely that some significant effects will remain as a result of the nature of the proposed Development.

6.2.2 Study Areas

An initial study area of 45 km (as shown within the bare ground ZTV study (**Figure 6.1**)) from the outer turbines has been considered at this Scoping stage. Having reviewed the likely visibility, a study area of 25 km (as shown in the screening ZTV study (**Figure 6.2**)) is proposed to assess the relationship

between the Proposed Development and the wider area in terms of potential significant effects on landscape character and visual amenity.

6.2.3 Zones of Theoretical Visibility

Two ZTV studies have been provided as part of this Scoping report. **Figure 6.1** is a bare earth ZTV study with a 45 km radius study area prepared to meet the relevant guidance ('Visual Representation of Wind Farms', SNH, 2017). This 'worst case' study ignores other sources of screening in the landscape and indicates that terrain plays a notable role in screening views from inland areas towards the Site, with the majority of areas of visibility to the south of the Site beyond 20 km coinciding with areas of high open ground that host existing wind farms. More extensive areas of visibility are indicated along the coast – particularly to the west around Elgin and Lossiemouth.

Based on the visibility indicated, the LVIA study area is proposed as 25 km radius. **Figure 6.2** shows the visibility, taking account of screening by woodland and buildings, within this area. This provides a more realistic mapping of likely visibility and indicates:

- Relatively widespread visibility within 5 km, with the nearby valleys and road corridors to the east and west only likely to have views of the nearer turbine group.
- 3 key areas of visibility between 5-10 km – between Buckie, Garmouth and Fochabers; between Cullen, Fordyce and Portsoy; north facing slopes around Keith.
- Beyond 10 km visibility becomes patchy – but is more extensive along the coast, particularly to the west.

Both figures also show the proposed viewpoint locations, which have been selected within areas indicated to have visibility, and to represent receptors at a range of distances and directions. The proposed viewpoints are discussed further at section 6.2.10 below.

6.2.4 Landscape Character

The assessment of effects on landscape character will use the Moray Wind Energy Landscape Capacity Study (MWELCS) 2017 as the primary basis for assessment, drawing on the more recent online National Landscape Character Assessment (published in 2019) where it supplements the older local assessment, and in the consideration of effects on character within Aberdeenshire.

6.2.5 Visual Receptors

The assessment will be receptor-based – addressing visual effects on the local communities, key routes and visitors. The assessment will include potential effects on visual receptors where potential visibility is indicated by the Zone of Theoretical Visibility (ZTV), and the assessment of viewpoints indicates that a significant effect may arise which is likely to be those within 15 km of the proposed Development, but the full 25 km study area will be considered.

6.2.6 Designated Landscapes

As shown on **Figure 6.1**, the Cairngorms National Park is the only nationally designated landscape area within the initial 45 km study area at over 34 km south east of the Proposed Development. The ZTV indicates that there would be extremely limited potential visibility within the designation. Given the relative distance and limited potential for views of the Proposed Development it is proposed that effects on the Cairngorms National Park are scoped out of the assessment.

The assessment of effects on local landscape designations would be based on the potential impacts on the qualities set out within Statements of Importance for SLAs in Moray and Aberdeenshire as set out within:

- Moray Local Landscape Designation Review (2018);
- Aberdeenshire Special Landscape Areas Supplementary Guidance (2017); and
- Appendix 13 Special Landscape Areas to Aberdeenshire Proposed Local Development Plan 2020.

There are a number of Gardens and Designed Landscapes (GDLs) within the proposed 25 km study area, as illustrated on **Figure 6.2**. These are designated for their heritage value and will primarily be considered within the heritage assessment. Those with freely available public access and those which are visitor destinations will also be considered within the LVIA.

6.2.7 Night-time Assessment

This is an emerging area of assessment, but at present turbines of 150 m or greater tip height would require visible aviation lighting. A Lighting Strategy will be developed for the Proposed Development in conjunction with the aviation specialist. It is expected that a reduced intensity of lights (from 2000 candela (cd) to 200 cd in good visibility) would be included as mitigation. In additional to this, there is emerging acceptance by aviation bodies of cardinal or perimeter lighting schemes on suitable sites. If this is acceptable on this Site, this would reduce the overall number of turbines which require to be lit. Other forms of mitigation will also be investigated, such as radar activated lighting and siting/design considerations.

The agreed Lighting Strategy will form the basis of the assessment and visual material presented. An assessment of night-time impacts on landscape and visual receptors will be carried out within the LVIA.

At this stage, in line with the advice provided within 'General pre-application and Scoping advice for onshore wind farms' (SNH, 2020), the following scope of assessment is proposed:

- Night-time study area radius of 20 km from the turbines;
- ZTV studies to indicate visibility of nacelle and tower lighting;
- Wirelines and tables to indicate potential visibility of lighting from all LVIA viewpoints; and
- Night-time photomontages from up to 3 key viewpoints.

Further consultation will be undertaken to agree the night photomontage viewpoints when more is known regarding the mitigation which might be included in the Lighting Strategy.

6.2.8 Cumulative Assessment

In line with SNH guidance 'Assessing the Cumulative Impact of Onshore Wind Energy Developments' (SNH, 2012) the assessment will consider other wind farms within the LVIA study area including those which are operational, consented and those for which an application has been submitted but which are yet to be determined. Schemes in Scoping will only be included by exception where there is specific justification for doing so.

An initial cumulative search area of 45 km from the Proposed Development will be considered and all other wind farm developments identified. These will include all operational schemes, those schemes

under construction, consented schemes, those schemes in the planning system as valid applications (including schemes at appeal). Turbines below 50 m and single turbine developments will only be considered within a 5 km radius of the Proposed Development and would be scoped out beyond this distance.

The cumulative assessment will focus on where there may be likely significant effects which may influence the outcome of the consenting process, taking account of the outcomes of the main LVIA and the intervisibility of developments.

The developments to be included in the assessment may vary between this Scoping consultation and the time at which the assessment is finalised. Accordingly, a list is not provided here, and it is requested that the approach outlined is agreed. Further consultation will be undertaken prior to finalising the assessment to ensure that consultees have the opportunity to identify specific developments that they would wish to see included.

6.2.9 Residential Visual Amenity Assessment

It is proposed that a separate assessment of the effects on residential visual amenity will be undertaken as a standalone appendix/document. This will be undertaken in line with Landscape Institute Technical Guidance Note 2/19: Residential Visual Amenity Assessment (RVAA). For the purposes of the RVAA, we propose a 2 km study area from the outermost turbines.

6.2.10 Viewpoint Selection

The list of viewpoint locations proposed to be used in the assessment of the Proposed Development are detailed in **Table 6-1** below and illustrated on **Figures 6.1** and **6.2**. Some viewpoints, particularly more distant hill summits may be illustrated with wireframes only. Viewpoints have not been 'ground truthed', so grid references are approximate and locations may be micro sited to obtain the most representative view or greatest extent of views.

Table 6-1
Proposed Viewpoints

VP	Location	Distance/ Direction	Reason for Inclusion
1	Core Path KT01 - Burn of Aultmore	1.8 km S	Core path, local residents
2	Glen of Newmill	2.5 km S	Local residents
3	B9018 Grange Crossroads	3.2 km S	Key route, local residents
4	Aultmore	3.4 km SW	Key route, local residents
5	Local Road near Hill of Maud	3.5 km N	Local residents
6	Kirktown of Desford	4.1 km NE	Key route, local residents
7	Bin of Cullen	4.8 km N	Hill summit, recreational walkers, Portgordon to Cullen Coast SLA

VP	Location	Distance/ Direction	Reason for Inclusion
8	Broadley	5.1 km NW	Local residents
9	Keith - Broomhill Road	5.5 km S	Local residents
10	A98, Arradoul	6.0 km N	Key route, local residents
11	Buckie	6.2 km N	Key route, local residents
12	Knock Hill	6.8 km SE	Hill summit, recreational walkers
13	Speyside Way, west of Port Gordon	8.0 km NW	Key route, recreational walkers, SLA
14	Meikle Balloch	8.1 km S	Hill summit, recreational walkers
15	NCR1 Durn Hill	10.1 km NE	Key route, near to settlement
16	B9131 east of Portsoy	13.7 km NE	Key route, near to settlement, SLA
17	Hill of Maunderlea	15.8 km E	Panoramic viewpoint
18	Rothes	16.0 km SW	Settlement, SLA
19	Moray Coastal Trail Lossiemouth	22.4 km NW	Key route, settlement, SLA

6.2.11 Visualisations

The assessment will be supported by a series of photomontages and wireframes from agreed viewpoint locations. Visualisations from each viewpoint will be prepared in accordance with SNH, Visual Representation of Windfarms: Version 2.2, 2017.

Photomontages will be prepared for viewpoints within a 20 km radius. Ancillary elements will only be shown from close viewpoints where needed, as it is considered that from most viewpoints these ancillary elements would only form a minor element of the entire development.

6.2.12 Consultation

The content of this Scoping report represents an initial consultation in respect of landscape and visual matters. Further consultation will be undertaken, as set out above, with relevant consultees in respect of other elements of the assessment as required information becomes available.

6.2.13 Matters Scoped Out

Matters scoped out, as significant effects are not likely, are:

- Effects on landscape and visual receptors beyond 25 km from the turbines;
- Effects on the Cairngorms National Park;
- Cumulative sites in Scoping (unless by specific exception);

- Cumulative assessment of single turbines and turbines of 50 m or less beyond 5 km from the Site; and
- Effects on private residential amenity beyond 2 km from the turbines.

6.3 References and Standard Guidance

The LVIA will be prepared with reference to the following:

- Landscape Institute (LI) and the Institute for Environmental Management and Assessment (IEMA) (2013) Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA 3).
- Landscape Institute (2019) Technical Guidance Note 2/19 Residential Visual Amenity Assessment.
- Landscape Institute (2019) Technical Guidance Note 6/19 Visual Representation of Development Proposals.
- Scottish Natural Heritage (2012) Assessing the Cumulative Impact of Onshore Wind turbine developments.
- Scottish Natural Heritage (2015) Spatial Planning for Onshore Wind Turbines – Natural Heritage Considerations.
- Scottish Natural Heritage (2017) Visual Representation of Wind Farms (Version 2.2).
- Scottish Natural Heritage (2017) Siting and Designing Wind Farms in the Landscape (Version 3).
- Scottish Natural Heritage (2019) Landscape Character Assessment in Scotland digital map based LCA.
- Natural England (2014) An Approach to Landscape Character Assessment.
- Scottish Natural Heritage (2020) General pre-application and Scoping advice for onshore wind farms.
- Landscape Institute (2021) Technical Guidance Note 2/21 Assessing landscape value outside national designations
- Forestry Commission (2017) The UK Forestry Standard.
- Moray Council Local Development Plan 2020 (adopted July 2020).
- Moray Onshore Wind Energy (MOWE) NON Statutory Guidance 2020 and Moray Wind Energy Landscape Capacity Study 2017.
- Moray Wind Energy Landscape Capacity Study (MWELCS) 2017.
- Moray Council (2018) Local Landscape Designation Review.
- Aberdeenshire Local Development Plan 2017 (adopted April 2017).
- Aberdeenshire (2017) Special Landscape Areas Supplementary Guidance.
- Appendix 13 Special Landscape Areas to Aberdeenshire Proposed Local Development Plan 2020.

6.4 Questions for Consultees

Q4: Is the focused 25 km study area to assess the relationship between the Proposed Development and the wider area in terms of potential significant effects on landscape character and visual amenity considered to be appropriate?

Q5: Are the proposed viewpoint locations considered to be suitable for the LVIA?

Q6: Do consultees agree with the approach to the cumulative assessment?

Q7: Do consultees agree with the approach to graphic and visualisation production?

Q8: Do consultees agree with the landscape and visual methodology and assessment evaluation criteria presented?

Q9: Are there any other relevant consultees who should be contacted with respect to the LVIA?

7.0 Ecology

7.1 Introduction

The Ecology chapter of the EIA Report will identify the baseline ecology of the Site and the surrounding area and will assess the potential effects on any ecological features that are considered to be important. Relevant national and local planning policies, good practice guidance, consultation and any mitigation identified will be taken into account in the ecological impact assessment.

7.2 Environmental Baseline and Potential Sources of Impact

This section considers the scope of work required to assess potential significant effects associated with habitats and non-avian fauna during the construction and operational phases of the Proposed Development (the assessment of effects resulting from decommissioning activities is proposed to be scoped out of the EIA – see **Section 4.2.4**). Potential effects on birds are considered separately in **Section 8.0**. Together **Section 7.0** and **8.0** consider the scope of work required to assess potential significant effects on biodiversity.

7.2.1 Scope of Study

Desk Study

This section of the Scoping report includes a review of relevant existing data from the previously consented application; notably:

- Aultmore Wind Farm Environmental Statement: Ecology Chapter (Hyder, 2007) that also summarises relevant information from a previous Environmental Impact Assessment (AMEC, 2003).

The 2007 assessment was based on a footprint largely consistent within the current Site boundary and was informed by:

- Desk study (North East Scotland Biological Records Centre (NESBReC));
- Consultations with key stakeholders (the then Forestry Commission Scotland (FSC), RSPB and the then Scottish Natural Heritage (SNH) (now NatureScot)); and
- A suite of ecological surveys; including:
    - Phase 1 habitat;
    - Badger *Meles meles*;
    - Red squirrel *Sciurus vulgaris*;
    - Pine marten *Martes martes*;
    - Torchlight survey for amphibians;
    - Otter *Lutra lutra*;
    - Water vole *Arvicola aquaticus*; and
    - Bats.

In addition, a new data request was made to the NESBReC in June 2021 (refer to Aultmore Wind Farm Ecology Desk Study Report, 2021). Other online sources were also reviewed as part of the update desk study reported in **Technical Appendix 7.A**, including:

- Aerial photographs (Google Earth and Bing Maps);
- NatureScot SiteLink website;
- British Geological Survey;
- Ordnance Survey 1st and 2nd Edition Mapping;
- National Biodiversity Network (NBN) Gateway;
- North East Scotland Bat Group for records within 10 km of Site (whose website confirms that all records are held by NESBReC); and
- The relevant Geographic Information System (GIS) databases for woodland recorded on the Ancient Woodland Inventory (AWI).

Additional projects within 2 km for all receptors and 10 km for bats were consulted for additional records. This included Lurg Hill Wind Farm Environmental Statement (Vento Ludens, 2017) and Myreton Crossroads 2 Environmental Statement (RSK, 2009).

The North East Scotland Biodiversity Action Plan is no longer updated. The North East Scotland Biodiversity Partnership website was consulted to inform this Scoping assessment.

Field Survey Data

To date, only initial field survey data relating to bats activity has been collected and has not yet been analysed. Details of ongoing and intended surveys are provided in **Section 7.3**.

7.2.2 Baseline Conditions

Desk Study Data

Statutory Designated Sites

There are no statutory designated sites within the Site boundary. There are 14 statutory designated sites within 10 km of the Site, the closest of which is located just over 4.5 km from the Site. Of these designated sites, three are known to be hydrologically connected to the Site, as shown in **Figure 7.1** and summarised in **Table 7-1**.

Table 7-1
Statutory Designated Sites Within 10 km

Site Name	Designation	Approximate Distance (At Nearest Point) to Site / Direction	Hydrologically Connected	Reasons for Designation – Non-avian Ecology
Moray and Nairn Coast	Ramsar	6.16 km WNW	No. This Ramsar site is located on the River Spey Estuary, 3.5 km west of the closest surface water course connected to Site (Burn of Tynet).	Avian interest is addressed in **Section 8.0.**

Site Name	Designation	Approximate Distance (At Nearest Point) to Site / Direction	Hydrologically Connected	Reasons for Designation – Non-avian Ecology
				Intertidal mudflats and sandflats; saltmarsh; sand dunes; and shingle.
River Spey	Special Area of Conservation (SAC)	5.22 km SW	No surface water bodies connected to the Site are connected to the River Spey.	Atlantic salmon *Salmo salar*; otter; freshwater pearl *mussel Margaritifera margaritifera*; and sea lamprey *Petromyzon marinus*.
Lower River Spey Bay	SAC	6.16 km WNW	There is no hydrological connection between the Site and this SAC, which is Located to the west of the closest surface water body connected to the Site, with the River Spey acting as a barrier.	Alder woodland on floodplains; and coastal shingle vegetation outside the reach of the waves.
Southern Trench	Marine Protection Area (MPA)	6.81 km ENE	Yes	Borrowed mud; fronts; shelf deeps; and minke whale *Balaenoptera acutorostrata.*
Mill Wood	SSSI	4.56 km S	No. Mill Wood lies within the Burn of Drum nested catchment, which is a southern tributary of the River Deveron Catchment. Aultmore is located on a northern tributary of the River Deveron catchment and as such the SSSI is not hydrologically connected to the Site.	Upland birch woodland.
Spey Bay	SSSI	5.48 km WNW / 6.11 km WSW	Yes. Spey Bay SSSI lies at the estuary of Burn of Tynet, which is connected to the Site (red line boundary at least).	Dingy skipper butterfly *Erynnis tages*; small blue butterfly *Cupido minimus;* Hydromorphological mire range; saltmarsh; shingle; vascular plant assemblage; and wet woodland.
Lower River Spey	SSSI	6.16 km WNW	No, this SSSI lies upgradient of the River Spey estuary, so is not hydrologically connected to the Site.	River shingle/sand; and wet woodland.
Sheil Wood Pastures	SSSI	6.21 km ESE	No. Sheil Wood Pastures lies within the Shiel Burn nested catchment, a northern tributary of the River Deveron Catchment. Aultmore is also located on a northern tributary of the River Deveron catchment. Nevertheless, the	Fen meadow; lowland acid grassland; lowland calcareous grassland; and lowland neutral grassland.

Site Name	Designation	Approximate Distance (At Nearest Point) to Site / Direction	Hydrologically Connected	Reasons for Designation – Non-avian Ecology
			Shiel Burn lies downstream on the River Deveron catchment within a nested catchment and as such not hydrologically connected to the Site.	
Cullen to Stake Ness Coast	SSSI	6.79 km NNE	Yes. The Deskford Burn (Burn of Cullen) discharges at Cullen where one of the SSSI sites is located.	Lowland dry heath; saltmarsh; shingle; and springs (including flushes).
Moss of Crombie	SSSI	9.03 km ESE	No. Moss of Crombie lies over the watershed between Crombie Burn and Sheil Burn, both nested catchments lie upgradient of the River Deveron channel that is downstream of Aultmore. As such, there is no hydrological connection to Site.	Intermediate bog (blanket)
Den of Pitlurg	SSSI	9.75 km S	No. The Den of Pitlurg lies within the nested catchment of Cairnie Burn, that lies upgradient of the River Deveron main channel downstream of the Site. As such, there is no hydrological connection.	Upland birch woodland; and valley fen.
Whitehill	SSSI	9.91 km SSE	No. Whitehill lies within the nested catchment of Cairnie Burn, that lies upgradient of the River Deveron main channel downstream of the Site. As such, there is no hydrological connection to Site.	Fen meadow; lowland acid grassland; lowland calcareous grassland; lowland neutral grassland; and valley fen.

Non-statutory Designated Sites

One non-statutory designated site within 2 km of the Site is detailed in **Table 7-2**. The Site of Environmentally Sensitive Area (SESA) Botany site boundary is shown in the NESBReC data return in **Appendix 02** of the Desk Study Report (SLR, 2021; provided within **Technical Appendix 7A** of this report).

Table 7-2
Non-statutory Designated Sites Within 2 km of Site

Site Name	Designation	Approximate Distance and Direction from Site Boundary	Reasons for Designation
Craibstone Quarry	SESA - Botany	c. 0.8 km east	Botanical value of the disused flooded limestone quarry and mixed woodland

N.B. The Study of Environmentally Sensitive Areas (SESA) is an Aberdeenshire Council/Aberdeen City Council inventory and recognises areas that are locally important for a particular scientific interest.

Other Notable Site Designations

Ancient woodland sites and one Wildcat Priority Area within 10 km of Site are detailed in **Table 7-3**, shown in **Figure 7.1** and within **Technical Appendix 7A**.

Table 7-3
Non-statutory Designated Sites Within 2 km of Site

Site Name	Designation	Approximate Distance and Direction from Site Boundary	Reasons for Designation
Various	Ancient Woodland Sites	Various sites including three parcels noted within the Aultmore Site (albeit no woodland was recorded on Site whilst undertaking bat monitoring)	Ancient woodland value
Strathbogie	Wildcat Priority Area	c. 9 km south of Site	Wildcat value

Habitats

The AMEC (2003) study was based on both National Vegetation Classification (NVC; Rodwell, 2006) and JNCC Phase 1 habitat survey methodologies (2016). The Hyder (2007) study was based on the latter only.

The following habitats were recorded during the Aultmore Wind Farm ES study:

- Coniferous plantation and recently felled woodland;
- Improved grassland and arable;
- Verge habitats: Access road;
- Semi-natural broadleaved woodland and scattered broadleaved trees; and
- Scrub.

The 2007 ES also notes that small areas of remnant blanket bog and dry heath were also present yet at a very small scale that was unlikely to be impacted by the Proposed Development (and was therefore not taken further in the assessment). Some relatively small areas of bog/heath are likely to still be present on the Site.

The Site is surrounded by additional coniferous plantation woodland of similar or smaller size, and an agricultural landscape of arable and grazing fields with individual dwellings and small conurbations at a greater distance.

The North East Scotland Biodiversity Partnership has developed six broad habitat statements which give a summary of the habitats found in the area, useful information on habitat status and an outline of some of the species they support. These habitat statements build on the previous Local Biodiversity Action Plan Habitat and Species Plans and will be used to identify important habitats and opportunities for avoidance, mitigation, compensation and enhancement. The following may be applicable to the Site (to be confirmed by forthcoming habitat surveys):

- Wetlands Habitat Statement: Includes rivers and burns, lochs and ponds, lowland raised bogs, fens, reedbeds, lowland wet grassland.
- Woodlands Habitat Statement: Includes upland birch woodland, lowland mixed deciduous woodland, wet woodland, riparian woodland, oak woodland, upland mixed ash, wood pasture and parkland, native pine woodland, planted coniferous woodland, scrub and hedgerows.
- Grasslands Statement: Includes improved grassland, acid grassland, neutral grassland, amenity grassland, golf courses and roadside verges.
- Upland Heathland Statement: Upland heathland, also known as heather moorland, includes wet and dry heath plant communities and can occur in mosaic with acid grassland, blanket bog and montane plant communities as well as with upland broadleaved woodlands.
- Built Environment: Includes gardens, allotments, parks, playing fields, school grounds, golf courses, railway embankments, roadside verges, buildings and structures, development sites.

The 2007 ES noted very little change from the 2003 baseline conditions, with the exception of large areas of clear-felled woodland being present. The overall conclusion was of a largely poor-quality habitat assemblage (homogenous blocks of one or two coniferous tree species with little variation) benefitting few species. Where the habitat changed away from this assemblage, becoming more varied, more diversity in the biodiversity assemblage followed.

The Scottish Natural Heritage (SNH) (now NatureScot) Carbon and Peatland 2016 Map (SNH, 2016c) was reviewed. This provides a value indicating the likely presence of carbon-rich soils, deep peat and priority peatland habitat for each individually-mapped area, at a coarse scale across Scotland. The following habitats are indicated to be present onsite:

- Class 1: Peat soil supporting peatlands is present in parcels near the westernmost extent of the Site, near Herricks Moss/Burn of Thievesbush, east of Hayfield, part of Black Hill and two other locations on site;
- Class 3: Predominantly peaty soil with some peat soil supporting peatland with some heath is present in less extensive pockets interspersed throughout the Site;
- Class 4: Predominantly mineral soil with some peat soil that supports heath with some peatland covers a large proportion of the north western extent of the Site and interspersed throughout; and
- Class 5: Peat Soil (no peatland vegetation) covers the majority of the Site.

Protected and Otherwise Notable Species

Existing records of protected and notable species in the vicinity of the site, taken from the 2007 Aultmore Wind Farm ES and 2021 desk study, are listed in **Table 7-4**. Note that the North East Scotland Biodiversity Partnership list only legally protected species that are in the partnership area; therefore, we have not made reference to any Local Biodiversity Action Plan species.

Table 7-4
Desk Study: Protected and Otherwise Notable Species Records Within 2 km of Site

Species	Status	Notes
Botanical – 25 notable species including one invasive species	Included on the Scottish Biodiversity List (SBL) and/or UK Priority Species. The single invasive flora species is giant hogweed Heracleum mantegazzianum.	
38 notable species of invertebrate	UK Priority Species.	Assemblage of moths and butterflies namely.
Common lizard *Zootoca vivipara*	Partial protection under Schedule 5 of the Wildlife and Countryside Act (1981) (as amended in Scotland) and the Nature Conservation (Scotland) Act 2004. Included on the SBL.	
Amphibians incl. great crested newt (GCN) *Triturus cristatus*	GCN are Included for full protection under Schedule 2 of the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended in Scotland), Schedule 5 of the Wildlife and Countryside Act (1981) (as amended in Scotland) and the Nature Conservation (Scotland) Act 2004. Other native species are afforded limited protection under the Wildlife and Countryside Act 1981 (as amended in Scotland). GCN are included in the SBL.	Amphibian surveys were not conducted in 2003. GCN nearest known location over 30 km from Site, west of Elgin. Surveys in 2007 did not record great crested newts or their eggs (torch surveys and egg searches). Low populations of palmate newt *Lissotriton helveticus* and smooth newt *L. vulgaris* were identified in two non-acidic ponds onsite. Palmate newts were identified in one pond on the Site.
Otter	Included for full protection under Schedule 2 of the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended in Scotland), Schedule 5 of the Wildlife and Countryside Act (1981) (as amended in Scotland) and the Nature Conservation (Scotland) Act 2004. Included on the SBL.	Otter desk study record (detail not provided) 261 m south of the Site in 2000. Otters are known to reside at Spey Bay (hydrologically connected). No signs of otter shelters or activity were recorded during the 2003 and 2007 surveys on the Site. Lurg Hill EIA Report (Vento Ludens, 2017) confirmed no otter presence on that site.
Water vole	Receives partial protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended in Scotland) and the Nature Conservation (Scotland) Act 2004. Full protection is anticipated in due course. Included on the SBL.	Historical water vole desk study record 261 m south of Site in 1968. No signs of water vole were recorded during the 2003 and 2007 surveys on the Site. Part of the Tynet Burn was deemed suitable to potentially support this species. Lurg Hill EIA Report (Vento Ludens, 2017) confirmed no water vole presence on that site.
Pine marten	Pine martens and their dens are protected by the Wildlife and Countryside Act 1981 (as amended in Scotland) and by the Nature Conservation (Scotland) Act 2004. Included on the SBL.	Record on eastern Site boundary noted in data request from 2016 (Hyder, 2007). The 2003 ES noted a single record of pine marten, in the northern part of the forest, provided by the then FCS. Two additional

Species	Status	Notes
		sightings in 2004 were provided by FCS to inform the Aultmore Wind Farm ES (Hyder, 2007). No pine martens were recorded during the 2003 surveys. A pine marten was observed, adjacent to a sheep pass on the existing Site road, in June 2007, close to the location of the FCS record provided in 2004. A pine marten scat was also identified on the existing road in 2007. This was verified by DNA analysis. Lurg Hill EIA Report (Vento Ludens, 2017) two separate sightings of an individual.
Badger	Protected under the Protection of Badgers Act 1992 as amended by the Wildlife and Natural Environment (Scotland) Act 2011.	One active sett with 42 entrances was observed near Site (site confidential) in 2017. Setts in the wider area were identified by the Grampian Badger Surveys in 2003. These were revisited in the 2007 study. None were within the Site boundary. One single-hole, partially-used outlier sett was identified on the Site. Lurg Hill EIA Report (Vento Ludens, 2017) noted badger activity on the site. No setts were identified.
Bats *Pipistrellus sp.*	Included for full protection under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended in Scotland), Schedule 5 of the Wildlife and Countryside Act (1981) (as amended in Scotland) and by the Nature Conservation (Scotland) Act 2004. Bats included on SBL include: - Brandt's bat *Myotis brandtii* - Daubenton's bat *Myotis daubentonii* - Whiskered bat *Myotis mystacinus* - Natterer's bat *Myotis nattereri* - Noctule *Nyctalus noctule* - Nathusius' pipistrelle *Pipistrellus nathusii* - Common pipistrelle *Pipistrellus pipistrellus* - Soprano pipistrelle *Pipistrellus pygmaeus* - Brown long-eared bat *Plecotus auritus*	Possible roost sites were located in the old railway abutments and the occasional mature, ivy clad trees further west of the plantation forest. No emergence/re-entry surveys were conducted as they were beyond the zone of influence of the then proposed work. No activity was noted along the Site roads and the majority of the access road. Pipistrelles (non-species-specific) were recorded feeding and commuting from the dismantled railway westwards to the end of the access road, where the habitat was more suitable. Activity was found along linear features such as hedges, the existing road, broadleaved woodland edge and in the vicinity of the Burn of Tynet. No activity was noted along existing tracks through the plantation areas. Lurg Hill EIA Report (Vento Ludens, 2017) noted 1 to 3 common pipistrelle foraging in activity surveys.
Red squirrel *Sciurus vulgaris*	Red squirrel is protected under Schedules 5 of the Wildlife and Countryside Act 1981 (as amended in Scotland) and the Nature Conservation Act 2004. Included on the SBL.	Desk study notes observation on/near the Site on a forest track in 2017. No evidence of red squirrel activity was noted during the 2007 habitat or transect line surveys nor in a more detailed search in April 2003.
Wildcat *Felis sylvestris*	Included for full protection under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended in Scotland), Schedule 5 of the Wildlife and Countryside Act (1981) (as amended in Scotland) and by the Nature	Record of adult observed on western Site boundary in 2015 (as returned by data request).

Species	Status	Notes
	Conservation (Scotland) Act 2004. Included on the SBL.	
Mountain hare *Lepus timidus*	Full protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended in Scotland and the Nature Conservation (Scotland) Act 2004. Included on the SBL.	Historical record (1968) 261 m south of Site.
Brown hare *Lepus europaeus*	Included on the SBL. UK Priority Species.	Historical records in desk study return and observed in field 80 m from Site boundary.
West European hedgehog *Erinaceus europaeus*	Included on the SBL. UK Priority Species.	Historical record - observed 261 m south of Site.

Other Sites, Habitats and Species

Further information relating to the recent desk study are included in the Aultmore Wind Farm Redesign Desk Study Report (SLR, 2021 within **Appendix 7A**).

Field Survey Data

To date, only initial field data relating to bats has been collated. Details of ongoing and intended surveys are provided in **Section 7.3**.

7.2.3 Potential Sources of Impact

Construction

During construction of the Proposed Development, in the absence of mitigation, it is anticipated that impacts may arise from:

- Habitat loss or damage (permanent and temporary) due to tree felling within Aultmore Forest and subsequent construction of wind farm infrastructure, including drainage impacts to bog habitats and impacts of airborne pollution, i.e. dust;
- Severance of habitat connectivity e.g., as a result of tree felling within Aultmore Forest and construction of wind farm infrastructure;
- Possible changes to groundwater flows affecting potential groundwater dependent terrestrial ecosystems (GWDTEs), if present, especially where deep excavations are required e.g., at proposed borrow pits and turbine locations;
- Loss of habitat suitable for shelter, foraging and commuting value to protected/notable species e.g., habitat suitable for pine marten;
- Disturbance to, displacement and inadvertent mortality/injuring of protected/notable fauna due to Site activities, e.g., inadvertent disturbance/displacement due to Site lighting; and
- Sedimentation or other pollution of watercourses from tree felling within Aultmore Forest, construction activities and vehicular traffic; including, indirect impacts to fish or other aquatic species and/or hydrologically connected designated sites.

Operation

During operation of the Proposed Development, in the absence of mitigation, it is anticipated that impacts may arise from:

- Vehicular traffic and presence of Site operatives, e.g. for maintenance, have potential to cause disturbance, displacement and inadvertent mortality/injury of fauna e.g., road collision risk to otter/badger);
- Moving turbine blades leading to mortality due to collision or barotrauma (bats only);
- Potential for aviation lighting (if required) to impact upon protected/notable species); and
- Environmental incidents and accidents (e.g. spillages) on freshwater habitats, fish and aquatic invertebrates.

7.2.4 Cumulative Assessment

The potential for cumulative impacts with other relevant developments will be assessed as detailed in **Section 7.3.4**.

7.3 Method of Assessment and Reporting

7.3.1 Baseline Data Collection

Desk Study

Further desk study will be undertaken to inform the assessment.

Relevant data, where made available and not already reviewed (**Appendix 7A**) will be incorporated into our future assessment.

Details of any other organisations who may be able to provide relevant data would be welcomed as part of the Scoping response.

Field Surveys

The following summarises field surveys to be undertaken in 2021 and early 2022.

- Habitat / protected and notable flora:
    - Habitat survey with the surveyor recording habitats that support and/or have the potential to support notable plant species and potentially support GWDTEs.
- Protected and notable fauna:
    - Bat surveys;
    - Otter and water vole survey;
    - Terrestrial mammals walkover survey including yet not limited to badger, red squirrel, pine marten and wildcat; and
    - Fish and freshwater pearl mussel habitat assessments.

Consideration of whether potentially suitable habitat for other protected or notable faunal species is present and could be affected (e.g. herptiles, brown hare and invertebrates) will be undertaken in conjunction with the other surveys.

Further details regarding each survey are provided below. The results of each survey will be reported in full within baseline survey reports, which will be Technical Appendices to the EIA Report.

Habitats / Protected and Notable Flora

Following recent discussions with NatureScot for another project, surveys would follow both the UKHab classification (UKHab, 2021) and the traditional NVC methodologies (Rodwell, 2006). UKHab vegetation polygons would also be co-tagged using the EUNIS habitat classification (European Environment Agency, 2019), to promote the harmonisation of vegetation survey reporting in the UK and Europe. Target notes would be used to identify any key features of interest, such as: areas of ecologically valuable habitat too small to map; protected, notable or invasive species; and habitats with good restoration/ enhancement potential or signs of habitat modification such as drainage. The survey area for the UKHab survey would include all land which may be affected by the Proposed Development plus a 250 m buffer, in order to meet SEPA guidelines with respect to Groundwater Dependant Terrestrial Ecosystems (GWDTE) (SEPA, 2017). The NVC survey would specifically cover semi-natural habitats of potential conservation value and would not include artificial habitats such as coniferous plantation, arable or improved grassland.

The surveyor will also note the presence of protected, notable or invasive non-native plant species.

Protected and Notable Faunal Species

Bats

A high level, daytime assessment was undertaken on Site (9th to 13th August 2021) to identify potential roosts, foraging and commuting bats, in accordance with current Bat Conservation Trust Guidelines (Collins, 2016). The Site was assessed to offer low value habitat for foraging and commuting bats and limited suitability for roosting bats (minimal mature trees onsite and trees planted very close together that had resulted in thin, long stems with no Potential Roost Features (PRFs). Furthermore, it is understood that trees have been subject to herbicide spraying to control beetle populations (Pers. Comm. between Nicola Faulks, SLR Principal Ecologist and Stuart Picken, Forestry Consultant, whilst onsite) that may act to minimise the invertebrate population/food resource for bats. No further roost surveys are required.

Full-spectrum, automated static bat detectors (Songmeter SM2s and SM4s) are being deployed onsite over spring, summer and autumn 2021 to provide at least 10 nights of data, recorded in suitable weather conditions, each season. Detectors are being deployed for a minimum of 15 days per season to maximise the chances of recording sufficient data during suitable weather conditions. These surveys commenced in June 2021 and are ongoing.

NatureScot *et al*. (2019) guidance requires one detector per turbine for the first 10 turbines and then one detector per three turbines for sites with more than 10 turbines. For a 16-turbine site 12 static detectors are being employed per season. Detectors are placed on stakes at ground level, at possible turbine locations where accessible and/or in locations selected to cover the full range of habitats in which turbines are likely to be positioned within the Site, to give a representative indication of bat activity in different locations and habitat types.

Bat activity survey data will be processed and analysed using appropriate software (e.g. Kaleidoscope Pro or Sonobat software) supplemented by manual checking by an experienced bat ecologist to determine the species and activity levels across the different parts of the Site. These data will be entered into the ECOBAT tool, as per NatureScot *et al*. (2019) guidelines, in order to provide a measure of bat activity relative to other sites.

Precipitation, temperature and wind speed data will be collected from weather stations located at nearby sites.

Otter & Water Vole

An otter survey will be conducted for all watercourses within the area which may be directly affected by the Proposed Development. The survey area will extend up to 250 m upstream and downstream of all potential watercourse crossings. This will be conducted during favourable weather conditions (i.e. following a dry period and avoiding elevated water flows) in 2021, with reference to standard methodologies (Chanin, 2003a).

An initial water vole activity survey will be conducted at the same time as the otter survey (likely August/September 2021 to coincide with the water vole active season) with reference to standard methodologies (Dean *et al.*, 2016). Should there be habitat suitability then a second water vole survey in spring 2022 may be required but this would only be undertaken if necessary.

Badger, Red Squirrel, Pine Marten & Wildcat

A badger survey was conducted of all suitable habitats on the Site over 9th to 13th August 2021 to detect places of badger shelter and signs of their activity (i.e. during a period of generally heightened badger activity). The methodology was made with reference to standard methodologies (e.g. Harris, Cresswell and Jefferies, 1989). No further surveys are necessary as no evidence of badger presence was observed on the Site.

A visual survey for signs of red squirrel activity was conducted, with reference to the Forestry Commission guidance methodology (Gurnell *et al*., 2009), at the same time as the other terrestrial mammal protected species surveys. No further surveys are necessary as no evidence of red squirrel presence was observed on the Site.

In the same visits, the standard methodology for detecting pine marten (Velander, 1983) and wildcat (SNH, 2018) were followed to detect these species and signs of their shelter and activity in key habitats within the same area. Pine marten scats were observed on forest edges near to secluded stream habitat (to be reported within forthcoming Protected Mammals Report). No evidence of wildcat was observed. No further surveys for wildcat or pine marten are recommended (due to lack of observed presence of wildcat and due to standard avoidance and mitigation methods plus a pre-construction survey being considered appropriate to minimise impacts to pine marten).

Fish /FWPM Habitat Assessment

A fish habitat and freshwater pearl mussel habitat assessment will be undertaken.

All watercourses within the area which may be directly affected by the Proposed Development would be subject to survey and assessment to identify in-stream habitat suitable for migratory fish (e.g. salmonids and lamprey) and freshwater pearl mussel. The survey would follow an adapted version of the Scottish Fisheries Coordination Centre (SFCC) methodology (Scottish Fisheries Co-ordination Centre, 2007) (Hendry and Cragg-Hine, 1997), as recommended by NatureScot. This will highlight specific habitat types and any sensitivities, such as important spawning locations, as well as identifying any issues, such as barriers to migration.

The need for additional surveys to inform the EIA Report, such as electrofishing or surveys for freshwater pearl mussel, will be confirmed following the fish and FWPM habitat assessments.

7.3.2 Approach to Mitigation

Mitigation, compensation and enhancement measures will be developed, as appropriate, and details will be provided in the Ecology chapter of the EIA Report. The primary form of mitigation will be avoidance by design, e.g., the avoidance, where possible, of important habitats and important areas for protected or notable species. A range of 'standard' good practice measures would be implemented during construction to avoid and reduce impacts with additional, more specific, mitigation measures developed if required, subject to the results of ongoing field surveys and the final project design. Proposals to provide compensation for habitat loss (if required) and additional biodiversity enhancement would be developed with details provided in an Outline Habitat Management Plan (HMP) as part of the EIA Report.

7.3.3 Assessment of Effects

The ecological impact assessment will be based on current Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines (CIEEM, 2019) which have been endorsed by NatureScot. It will also draw on other, more specific guidance as appropriate. Liaison with other technical specialists (e.g. with hydrogeologists with respect to GWDTEs and geologists with respect to peat) will be carried out as required.

The impact assessment process will involve the following steps:

- Identifying important ecological receptors, i.e. receptors of sufficient value and/ or receptors subject to legal protection, for which detailed assessment is necessary;
- Identifying and characterising impacts on important ecological receptors during the construction and operational phases: in accordance with the CIEEM guidelines when describing impacts, reference will be made to the following: magnitude (area or number of individuals to be impacted); extent; duration; and reversibility, i.e., will the impact be permanent or reversible over a given timescale;
- Assessing the significance of effects by considering unmitigated impacts using appropriate guidance and professional judgement;
- Incorporating measures to avoid and mitigate (reduce) potentially significant effects;
- Assessing the significance of any residual effects after mitigation;
- Identifying appropriate compensation measures to offset significant residual effects (if required);
- Identifying opportunities for biodiversity enhancements; and
- Cumulative impact assessment along with other developments (operational and planned).

7.3.4 Residual and Cumulative Effects

Residual effects will be assessed as set out in **Section 7.3.3**.

Given the nature of the Proposed Development, potential cumulative impacts are only likely to be significant where other developments are located within close proximity (i.e. c. 2 km for non-avian receptors with the exception of c. 10 km for bats) of the Site and/or within the same hydrological sub-catchment for aquatic receptors (i.e. fish and aquatic invertebrates).

7.4 Consultation

Further consultation will be undertaken with NatureScot and other relevant organisations, as required, following receipt of Scoping responses.

7.5 Matters Scoped Out

Based on the information currently available and the project description, a number of matters are proposed to be scoped out of the EIA for this topic. These matters are described below, together with a concise justification for Scoping them out:

- Excluding sites designated specifically for birds, which are considered in **Section 8.0**, significant effects on designated sites located over 2 km from the Site and which are not hydrologically connected to the Site (see **Table 7-1**) are not likely and the assessment of effects on such sites is not considered necessary.
- In accordance with current guidance (NatureScot, 2020), surveys for invertebrates and reptiles (plus any other species not mentioned in our proposed approach) are not considered necessary to inform the EIA. Instead, a habitat-based assessment will be undertaken to inform the assessment of potential impacts and the need for mitigation measures during construction.
- No records of great crested newt are known within 30 km of Site. Surveys in 2007 (Hyder) did not record great crested newts or their eggs (torch surveys and egg searches). No Habitat Suitability Index or activity surveys are considered necessary.
- No at-height bat detector surveys are proposed. Excluding at-height surveys is considered to be appropriate in this situation, as there is no supporting evidence (i.e. from the desk study) that suggest a high level of bat activity is likely and therefore surveys at height cannot be justified.
- A separate deer management statement is not considered necessary, based on it being unlikely that wild deer are present in significant numbers, so will not be provided.

7.6 References and Standard Guidance

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7.7 Questions for Consultees

Q10: Do consultees agree that the range of surveys carried out to date and those proposed to be carried out is sufficient and appropriate?

Q11: Confirmation of the approach to the ecological assessments is requested. Do consultees believe that there are further species or designated sites which need to be considered in the assessment?

Q12: Are there any other relevant consultees who should be contacted with respect to the ecology assessment?

Q13. Do Consultees agree with the proposed matters scoped out of the EIA?

8.0 Ornithology

8.1 Environmental Baseline and Potential Sources of Impact

8.1.1 Scope of Study

Desk Studies

A desk search was carried out via the NatureScot SiteLink website (NatureScot, 2021) to identify statutorily designated sites within 20 km of the Site which are designated for their avian interest (including Special Protection Areas (SPAs) and SSSIs). Beyond 20 km connectivity between SPAs and development proposals is unlikely and given the nature of the proposed development significant effects on terrestrial SACs are also unlikely beyond this distance. The distance of 20 km is, however, pertinent to grey geese species only such as greylag goose and pink footed goose. Further information on the interest features of sites was obtained through the JNCC and NatureScot websites.

In addition, the desk study considers data collected during ornithology surveys at the Aultmore Wind Farm Site during 2006/2007 (Hyder, 2007) and 2002/2003 (AMEC, 2003), as well as constructed wind farms within 10 km of the Site including Myreton Crossroads 2 (1.5 km from Site) (RSK, 2009) and Lurg Hill (2.5 km from Site) (Vento Ludens, 2017). This Scoping report contains a summary of these desk study data and full details can be found in the Ecology Desk Study: **Appendix 7A**).

Field Surveys

Ornithology surveys commenced in March 2021 and the scope of survey work is summarised in **Table 81**. This scope is based on SLR's understanding of the current ornithology within and around the Aultmore Wind Farm area, the results of the desk study, issues raised by NatureScot during previous consultations and consideration of current NatureScot guidance on bird survey methods for onshore wind farms (NatureScot, 2017).

It should be noted, however, that alongside this Scoping Report, a review of the extensive available ornithology data for the Site and surrounding area will be undertaken after one full year of surveys to inform consultation with NatureScot on any further survey effort required for the Site.

Survey areas are shown in **Appendix 7A**, Figure 1 (SLR 2021).

Table 8-1
Site specific ornithology data available for 2021

Survey Type	Methodology
Vantage Point (VP) Surveys	Standard VP surveys have currently been undertaken between March 2021 to August 2021 from each of four VPs covering the Site and a 500 m buffer. VP surveys are continuing on a monthly basis and will be reviewed in February 2022. Target species included: • All raptors and owls listed on Annex I of the Birds Directive or Schedule 1 of the Wildlife and Countryside Act 1981; • All wader species; • All diver species;

Survey Type	Methodology
	• All grouse species; and • All wild goose, swan and duck species, with the exception of Canada goose and mallard. There have been 48 hours of survey effort at each Vantage Point during the breeding season between March and August 2021 (see Table 8-2). Double the standard VP effort was conducted during March and April to improve the flight activity data for migratory geese.
Breeding Wader Surveys	Four surveys between April and July 2021 covering the Site development area plus a 500 m buffer.
Breeding Raptor Surveys	Four surveys of the Site and of suitable habitat within 2 km between April and July 2021. Methods following Hardey *et al* (2013).
Diver Lochan Surveys	One visit to small pools/ lochans within 1 km of the development area on 4th June 2021 to assess suitability and occupancy.Methods based on Gilbert *et al.* (1998).
Black Grouse Surveys	Four surveys between April and May 2021, covering all suitable habitat for lekking birds onsite and within 1.5 km within 2-3 hours of sunrise (NatureScot 2017).
Capercaillie Preliminary Assessment	Two Site visits in April 2021 to assess habitat suitability for this species.
Crested Tit Surveys	Two surveys in April 2021 to look for evidence of breeding.

Table 8-2
VP survey hours conducted to date for breeding season, March – August 2021

VP ID	Mar	Apr	May	Jun	July	Aug
1	12	12	6	6	6	6
2	12	12	6	6	6	6
3	12	12	6	6	6	6
4	12	12	6	6	6	6

8.1.2 Baseline Results

Desk Study

Designated Sites

The following Special Protection Areas (SPA) are located within a 20 km radius of the Site.

Moray Firth SPA (5.3 km north west of the Site) supports populations of non-breeding birds of high European importance under Annex 1 including great northern diver (*Gavia immer*), red-throated diver (*Gavia stellata*) and Slavonian grebe (*Podiceps auritus*). It also qualifies for supporting migratory species including greater scup (Aythya marila), common eider (*Somateria mollissima*), long-tailed duck (*Clangula hyemalis*), velvet scoter (*Melanitta fusca*), common goldeneye (*Bucephala clangula*), red-breasted merganser (*Mergus serrator*) and European shag (*Phalacrocorax aristotelis*).

Moray and Nairn Coast SPA (6.15 km northwest of the Site) supports internationally important migratory species including populations of pink footed goose (*Anser brachyrhynchus*), greylag goose (Anser anser) and redshank (*Tringa totanus*). It also supports Annex 1 species such as osprey (*Pandion haliaetus*) and bar-tailed godwit (*Limosa lapponica*).

Tips of Corsemaul and Tom Mor SPA (approximately 13 km south of the Site) supports breeding populations of European importance common gull (*Larus canus*).

Loch Spynie SPA (approximately 18 km northwest of the Site) qualifies for supporting internationally important populations of breeding greylag geese (*Anser anser*).

Existing Wind Farms

Information relating to ornithological surveys for the consented Aultmore Wind Farm, and the consented Lurg Hill Wind Farm, have been reviewed.

Ornithology Surveys

Ornithological field surveys have been underway since March 2021; key findings to date for the flight activity surveys are summarised in **Table 8-3**.

Flight Activity

Table 8-3
Flight activity surveys: number of target species flights, March – June 2021

Species	March	April	May	Jun	July
Greylag Goose	1	2	0	1	0
Pink footed goose	23 (max 200)	13 (max 100)	0	0	0
Whooper swan	1	0	0	0	0
Curlew	5	5	0	0	0
Hen harrier	1	1	0	0	0
Kestrel	5	5	0	2	0

Species	March	April	May	Jun	July
Sparrowhawk	0	0	2	0	0
Peregrine	1	0	0	0	0
Goshawk	8	3	0	0	0
Lesser black-backed gull	0	1	0	0	0

Breeding Raptors/Waders

There is very little breeding wader or raptor activity on the Site. The only wader records were curlew, snipe and lapwing. Raptors included occasional flights of buzzard, goshawk, kestrel and peregrine.

Black Grouse

No signs of black grouse were found on the April and May surveys.

Capercaillie

No evidence of Capercaillie was found on the April surveys so no further surveys were undertaken.

Crested Tit

The crested tit surveys in April did not find any evidence of this species so no further surveys were undertaken.

8.1.3 Potential Sources of Impact

The key ornithological issues relating to the proposed development are the potential for it to adversely affect the conservation status of bird species with statutory protection (through inclusion in Annex I of the EU Birds Directive or Schedule 1 of the Wildlife & Countryside Act, as amended) or otherwise those of high conservation concern, through habitat loss, disturbance, displacement, barrier effects and collisions with the proposed turbines. Potential negative impacts (direct or indirect) on ornithology could arise during the construction and operation stages. These are defined as follows:

Land Take Impacts

Direct land take for the installation of the proposed development infrastructure (turbine bases, substation, access tracks, etc.) could result in the long-term or permanent loss of habitat for birds within the Site, albeit such losses would be relatively small in the context of the Site as a whole.

Construction Impacts

Disturbance caused by construction could directly displace birds from breeding sites, directly affecting breeding success, or may temporarily displace birds from foraging areas, affecting their breeding success and winter survival.

In addition to these possible impacts on individuals and populations, any wind farm construction work undertaken during the bird breeding season (March to July/ August, inclusive) carries a risk of illegal destruction, damage or disturbance to occupied bird nests. The EIA Report will address and propose measures to reduce or eliminate this impact through mitigation such as seasonal timing of

construction works, preconstruction surveys and the employment of an Ecological Clerk of Works (ECoW) during construction.

Operational Impacts

Disturbance/Displacement and Barrier Effects

The operation and maintenance of turbines has the potential to cause disturbance and displace certain bird species from the Site. During the lifetime of the proposed development, birds of some species may habituate to the presence of turbines, and so this impact may decline in the long-term.

Collision

The EIA will consider the potential collision risk from the proposed turbines on the primary target species that have been identified as using the Site. The impact of potential collision mortality on a species population is influenced by several characteristics of the affected population, notably its size, density, recruitment rate (additions to the population through reproduction), mortality rate in the absence of collision mortality, and immigration and emigration rates to and from the population. These will be considered in the EIA.

In general, the impact of an individual (of breeding age) being lost from the population will be greater for species that occur at low density, are relatively long-lived and have low annual reproductive rates. Such species include wildfowl, waders and the larger raptors. Conversely, the impact will often be insignificant for short-lived species with high reproductive rates, including most passerines (e.g. skylark). Collision risk is perceived to be higher in species that spend much of their time in the air, such as foraging raptors and those that have regular flight paths between feeding and breeding/roosting grounds (e.g. geese). Vulnerability to collision is also influenced by factors such as the flight manoeuvrability of a species and its tendency to fly in conditions of reduced visibility (e.g. at night or in fog). These variances will be considered in the EIA as relevant to the identified species.

Cumulative Impacts

It is also important to assess the cumulative impacts of this and other operational and consented wind farms that may affect the broader populations of birds identified as target species in the survey area. NatureScot guidance (NatureScot, 2018) states that the concept of Favourable Conservation Status (FCS) should be used outside designated sites to determine whether an impact on a sensitive species is likely to be significant. A species' conservation status is favourable where:

- a species' population dynamics indicate that the species is maintaining itself on a long-term basis as a viable component of its habitats;
- a species' natural range is not being reduced, nor is it likely to be reduced for the foreseeable future; and
- there is (and will probably continue to be) a sufficiently large habitat to maintain its population(s) on a long-term basis.

A cumulative effect will be judged as significant where it would negatively affect the FCS of a sensitive species, whether exacerbating an existing decline or preventing a sensitive species that is recovering from reaching favourable conservation status. The premise here is that impacts from a number of developments, when assessed cumulatively, may exceed some threshold value (e.g. for loss of habitat or loss of breeding birds from collision), beyond which the impact becomes unacceptable.

8.2 Method of Assessment and Reporting

8.2.1 Ornithology data to be considered in the assessment

It is proposed that the data sets that will be used in the ornithology impact assessment for Aultmore are as follows:

- 2021/22 Flight activity survey data (year 1 and potentially year 2)
- 2021/22 Breeding wader survey data (year 1 and potentially year 2)
- 2021/22 Breeding raptor survey data (year 1 and potentially year 2)
- 2021/22 Black grouse survey data (year 1 and potentially year 2)
- Other surveys as required

Reference will also be made to any relevant ornithology data sets that are up to five years old.

8.2.2 Assessment of Effects

The assessment and reporting process will follow CIEEM guidelines (CIEEM, 2019) with reference to relevant NatureScot guidance as appropriate. The intended process is set out below:

- further detailed desk studies and collation of existing material, including all baseline survey data collected for the project, raptor study group data and information from other wind farm developments;
- identification of the Valued Ornithological Receptors (VORs) at the Site; from survey work completed to date these will likely include:
    - Pink footed goose
    - Hen harrier
    - Goshawk
    - Curlew
- evaluation of the potential impacts of the proposed development during construction and operation and the effects these could have on the VORs;
- analysis of data including collision mortality modelling, if required, for those VORs with sufficient flight activity within the collision risk zone (Band, 2007), and assessing the potential displacement of VORs with significant populations within the Site;
- evaluation of the significance of effects by considering the impacts on the VORs by employing appropriate guidance and professional judgement. When describing impacts, in accordance with CIEEM guidelines, reference will be made to the following: magnitude (area or number of individuals to be impacted); extent; duration; and reversibility, i.e. will the impact be permanent or reversible over a given timescale;
- incorporating measures to avoid and mitigate (reduce) potentially significant effects;
- assessing the significance of any residual effects after mitigation;
- identifying appropriate compensation measures to offset significant residual effects (if required);

- identifying opportunities for ecological enhancement; and
- cumulative effects assessment along with other developments.

8.2.3 Mitigation

Mitigation, compensation and enhancement measures are dependent on the assessment of impacts in the EIA Report. Outline details will be provided in the EIA Report with further details provided in an outline Habitat Management Plan, the detail of which would be agreed with TMC post-consent.

8.2.4 Cumulative Assessment

Cumulative assessment will be undertaken for each of the VORs identified within the EIA Report. The assessment will include operational projects, projects under construction, consented projects which are not yet under construction and projects for which planning applications have been submitted.

With regard to the scale of the cumulative assessment, NatureScot (NatureScot, 2018) guidance indicates that the default approach should be to assess cumulative effects at the Natural Heritage Zone (NHZ) scale, unless there is a reasonable alternative.

Further consultation will be undertaken with NatureScot, RSPB and other organisations as required following receipt of Scoping responses.

8.2.5 Matters Scoped Out

Matters to be scoped out of the EIA with respect to ornithology include:

- Impacts on capercaillie; and
- Impacts on crested tit.

8.3 References and Standard Guidance

AMEC. (2003). *Aultmore Wind Farm Environmental Impact Assessment.*

Band, W.M., Madders, Whitfield, D, P. (2007). *Developing field and analytical methods to assess avian collision risk at wind farms*.

CIEEM. (2019). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Version 1.1. Chartered Institute of Ecology and Environmental Management. Winchester.

Hardey, J., Crick, H.Q.P., Wernham, C., Riley, H., Etheridge, B., Thompson, D. 2013. *Raptors a field guide for surveys and monitoring*. 3rd Edition. The Stationery Office Edinburgh.

Hyder. (2007). *Aultmore Wind Farm Environmental Statement: Ecology Chapter*. Appendix 10A (Volume 3)

NatureScot. (2017). *Recommended bird survey methods to inform impact assessment of onshore wind farms*. Version 2. Scottish Natural Heritage.

NatureScot. (2018). *Guidance - Assessing the Cumulative Impact of Onshore Wind Farms on Birds*. Available at: https://www.nature.scot/doc/guidance-assessing-cumulative-impacts-onshore-wind-farms-birds

NatureScot. (2021). *SiteLink*. Available at: https://sitelink.nature.scot/home

RSK Group PLC. (2009). *Myreton Crossroads 2 Phase 1 Habitat Survey*.

Vento Ludens. (2017). *Lurg Hill Wind Farm Environmental Statement (Volume 1) Chapter 13: Ecology and Ornithology*.

8.4 Questions for Consultees

Q14: Do consultees agree that the range of surveys carried out to date is sufficient and appropriate?

9.0 Hydrology, Hydrogeology and Geology

9.1 Environmental Baseline and Potential Sources of Impact

9.1.1 Baseline Conditions

Much is already known about the Site and its setting regarding soils, geology and the water environment as a comprehensive suite of baseline studies were undertaken to characterise baseline conditions in support of the previous planning application for the consented wind farm. It is proposed that the conceptual site model that has previously been developed and was agreed with consultees is reviewed and updated, as necessary, as part of this application.

The Site has been subject to commercial forestry since the 1950s. The Proposed Development is shown by British Geological Survey (BGS) mapping to be largely underlain by deposits of glacial till and peat. Alluvium and river terrace deposits flank local watercourses and superficial deposits are absent on many hill tops including at Little Millstone Hill, Hill of Stonyslacks and Hill of Clashmadin. The published geology has been proven by previous site investigation. Where peat is present it is often degraded by previous forestry operations. The bedrock beneath the Site is mapped as Neoproterozoic age metasedimentary rocks of the Findlater Flag Formation comprising quartzite, psammite and semipelite.

Review of the Carbon and Peatland 2016 mapping published by Scottish Natural Heritage (now NatureScot) indicates the majority of the Site is not located within an area designated as a peatland habitat (predominately class 4, 5 and 0 peatland is recorded) with the exception of some small areas in the centre and north of the Site which are classified as Class 1 and 2 priority peatland habitats, which is described as nationally important carbon-rich soils, deep peat and priority peatland habitat and areas likely to be of high conservation value.

The bedrock deposits are classified by BGS as a low productive aquifer where small amounts of groundwater may be present within near surface weathered zone and in secondary fractures.

The Proposed Development is located within the surface water catchments of the Burn of Tynet, Burn of Gollachy, Buckie Burn and Deskford Burn to the north and sub catchments of the River Isla (which is part of the larger River Deveron catchment) to the south. The rivers are within the Deveron, Bogie and Isla Rivers Charitable Trust and Deveron District Salmon Fisheries Board (DSFB) management area.

SEPA flood mapping confirms flood extents within and surrounding the Site are typically confined to the watercourse corridors.

Review of NatureScot SiteLink website indicates that no designated sites are located within the Site. The northern surface water catchments drain to the Moray Firth Special Protection Area (SPA) which is designated for an assemblage of breeding birds; however this is located approximately 6 km north of the Proposed Development.

9.1.2 Potential Sources of Impact

The construction, operation and decommissioning of the Proposed Development has the potential to result in the following high-level types of effects:

- disturbance and loss of deposits of peat;

- ground instability (including peat slide risk);
- impairment of surface water and groundwater quality from pollution, fuel, oil, concrete or other hazardous substances;
- increased flood risk to areas downstream of the Site during construction through increased surface water runoff;
- changes in surface water quality and runoff characteristics as a result of forest felling;
- potential change of groundwater levels and flow paths and contribution to areas of peat and Groundwater Dependent Terrestrial Ecosystems (GWDTEs);
- disturbances of watercourse bed and banks from the construction of culverts; and
- potential pollution impacts to public and private water supplies.

9.2 Method of Assessment and Reporting

9.2.1 Method of Assessment

The potential effects from the Proposed Development on soils, geology and water environment will be assessed by completing a desk study, consultation and field investigation in order to confirm and verify the existing conceptual site model. This will be followed by an impact assessment, the process of which is detailed within this section.

Study Area

The impact assessment will identify and consider potential receptors within 1 km of the proposed Site infrastructure.

The impact assessment will also consider potential cumulative, or in-combination effects associated with other developments in the same hydrological or hydrogeological catchments and within 5 km of the Proposed Development.

Desk Study

A desk study will be undertaken to confirm the baseline characteristic by reviewing previous studies, and available information relating to soils, peat, geology, hydrology and hydrogeology in order that a contemporary assessment is prepared. The desk study review will be to initially characterise the following:

- the potential depth and distribution of peat;
- the nature of the underlying geology;
- groundwater resources;
- licenced and unlicenced groundwater and surface water abstractions;
- public and private water supplies;
- surface water flows;
- flood extents;
- rainfall data; and

- water quality data.

The baseline assessment will include review of published geological maps, Ordnance Survey maps, aerial photographs digital terrain models (slope plans) and geological literature.

The desk study will be used to verify and confirm the existing conceptual site model which would then be used to identify sensitive features or receptors which may potentially be affected by the Proposed Development, and which might warrant further investigation as part of the proposed field surveys.

Field Survey

The geological and water assessment specialists will liaise closely with each other as well as with the project ecologists and wider project team to ensure that appropriate information is gathered to allow potentially sensitive features or receptors to be adequately assessed and a comprehensive impact assessment to be completed.

A programme of Site visits and surveys will be undertaken to:

- verify the information collected during the desk study;
- undertake a visual assessment of the main surface waters and identify private water supplies;
- identify drainage patterns, areas vulnerable to erosion or sediment deposition, and any pollution risks;
- visit any identified Groundwater Dependent Terrestrial Ecosystems (GWDTEs) (in consultation with project ecologists);
- visit Private Water Supply (PWS) sources that might be affected by the Proposed Development to confirm details of the location of the abstraction, its type and use;
- prepare a schedule of potential watercourse crossings;
- inspect rock exposures;
- determine suitability of materials for re-use onsite;
- where required additional peat depth probing data will be collected to confirm areas of thick peat that may influence the Proposed Development in accordance with current best practice; and
- confirm substrate beneath areas of peat based on the type of refusal of peat depth probe.

The desk study and field surveys will be used to identify potential development opportunities and constraints and be used to inform the Site design.

Once the desk study and initial field surveys are completed and sensitive soil, geological and water features have been identified, this information will be used to inform the Site design and an impact assessment will be undertaken.

Peat Landslide Hazard and Risk Assessment

A Phase 1 peat probing survey has been undertaken at the Site (see **Figure 9.1**). Peat probing was undertaken on a 100 m grid (where appropriate) with further detailed probing to be undertaken following design freeze and will be used to support this assessment. Grid co-ordinates (recorded using GPS Handheld or similar) were collected for each probe and an indication of the substrate below the peat recorded e.g. bedrock, weathered rock, glacial till, glacial sands/gravels, silt/clay, to inform the peat stability, peat volumes and potential for avoidance, or reuse of peat. Some areas of the Site were

inaccessible during the Phase 1 probing programme due to wind blown trees, inaccessible forestry or ongoing felling and harvesting operations.

Following constraints mapping and further Site design a Phase 2 peat probing investigation will be completed if required. Peat probing and sampling along the proposed tracks and at turbine bases would be undertaken to establish the thickness of the peat on a targeted basis. The probing would also provide information on the substrate below the peat. The probing would be undertaken to complete coverage of the areas of the Site which will be occupied by infrastructure to accurately model the peat morphology. Probing will be undertaken at 50 m intervals to allow any minor adjustments to be undertaken.

As part of the programme of field work the following will be undertaken:

- a geomorphological mapping exercise to link the topographic features with the underlying geology and to visit those areas of the Site that may be identified as potentially 'at risk from peat slide';
- the thickness of the peat will be established by probing and the underlying sub-strata confirmed by inspections of watercourses; and
- signs of existing or potential peat instability will be recorded.

Output from the field surveys will comprise a record of investigation locations and summary of peat depths recorded.

If significant peat depths are proven a preliminary Peat Landslide Hazard and Risk Assessment (PLHRA) will be completed using the Site survey data and slope analysis (using DTM data), highlighting areas that may be impacted by a peat slide so that appropriate mitigation measures can be identified and included in the Site design.

Mitigation

Mitigation measures, where required, will be identified and be based on industry best practice techniques appropriate to Site conditions. Cognisance will also be made to the previous, consented application, and the mitigation measures agreed with consultees at that time.

It is anticipated that the following types of measures could be relevant:

- avoidance of areas of deep peat where possible;
- avoidance of areas that might be susceptible to peat slide or ground instability;
- appropriate location of proposed Site infrastructure, including access track crossings, with respect to watercourses, private water supplies and GWDTEs;
- the implementation of general pollution prevention measures so as to protect downstream water quality and safeguard fisheries interests;
- suitable surface water management and appropriate design of drainage features; and
- specification of a water monitoring plan.

Assessment of Effects

The purpose of the assessment will be to assess potential effects on soils, geology and the water environment and specifically:

- identify any areas susceptible to peat slide, using Site specific peat thickness and Digital Terrain Mapping (DTM) data to analyse slopes;
- assist with micro-siting of turbines, tracks and other proposed infrastructure in areas of no peat or shallow peat, and areas where there is little peat landslide hazard risk;
- if required, show how any disturbed peat will be managed and safeguarded by preparing a peat management plan;
- determine what the likely effects of the Proposed Development are on the hydrological and hydrogeological regimes, including water quality, flow and drainage;
- allow an assessment of potential effects on identified licenced and private water supplies;
- assess potential effects on water (including groundwater) dependent habitats; and
- assess potential effects of forestry felling on the water environment and water quality.

Where warranted, it is anticipated that the impact assessment might include the following technical appendices:

- peat landside and hazard risk assessment;
- outline peat management plan;
- schedule of watercourse crossings;
- private water supply risk assessment; and
- groundwater dependent terrestrial ecosystems risk assessment.

A qualitative risk assessment methodology will be used to assess the significance of the potential effects. Two factors will be considered: the sensitivity of the receiving environment and the potential magnitude should that potential impact occur.

This approach provides a mechanism for identifying the areas where mitigation measures are required, and for identifying mitigation measures appropriate to the risk presented by the Proposed Development. This approach also allows effort to be focused on reducing risk where the greatest benefit may result.

The sensitivity of the receiving environment (i.e. the baseline quality of the receiving environment as well as its ability to absorb the effect without perceptible change) and the magnitude of impacts will each be considered through a set of pre-defined criteria.

The sensitivity of the receiving environment together with the magnitude of the effect defines the significance of the effect, which will be categorised into level of significance.

9.2.2 Consultation

We will seek to obtain environmental data and preliminary views of the Proposed Development from relevant consultees, including:

- Scottish Environment Protection Agency;
- NatureScot;
- Moray Council;
- Aberdeenshire Council; and

- Deveron, Bogie and Isla Rivers Charitable Trust and Deveron District Salmon Fisheries Board.

9.2.3 Matters Scoped Out

It is proposed that the decommissioning stage of the wind farm lifecycle is scoped out of the EIA.

The study area will include all of the proposed Site infrastructure. In addition to this, information regarding local water use and quality will be obtained within a distance of 1 km from the proposed Site infrastructure.

It has been shown that the Site is unlikely to be at flood risk. It is proposed therefore to undertake a screening assessment of flood risk to assess all potential sources of flood risk and assuming this confirms no sources of flood risk to the Site a detailed Flood Risk Assessment will not be prepared. It is proposed a Drainage Impact Assessment is not prepared and that principles for the control and management of water quality are presented.

It is not proposed to undertake any groundwater or surface water quality or level monitoring.

9.3 References and Standard Guidance

There is much best practice guidance which has been developed to assist developers in minimising the risks associated with wind farm construction, operation and decommissioning and this will be used to develop Site specific mitigation measures. The guidance is outlined below.

Geology, Peat and Soils

- SEPA Regulatory Position Statement - Developments on Peat (Scottish Environment Protection Agency, 2010).
- Good Practice during Windfarm Construction, 4th Edition (Scottish Renewables, Scottish Natural Heritage (now NatureScot), Scottish Environment Protection Agency, Forestry Commission Scotland, Historic Environment Scotland, Marine Scotland Science and AEECoW, 2019).
- Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments (Scottish Government, January 2017).
- Developments on Peatland - Guidance on the assessment of peat volumes, re-use of excavated peat and the minimisation of waste (Scottish Renewables& SEPA, 2012).
- Floating Roads on Peat - Report into Good Practice in Design, Construction and Use of Floating Roads on Peat with particular reference to Wind Farm Developments in Scotland (Forestry Commission Scotland & Scottish Natural Heritage, 2010).
- Managing Geotechnical Risk: Improving Productivity in UK Building and Construction (Institution of Civil Engineers, 2001).
- Ground Engineering Spoil: Good Management Practice CIRIA Report 179 (CIRIA, 1997).
- Scottish Roads Network Landslides Study Summary Report (Scottish Executive, 2005).
- Guidelines for the Risk Management of Peat Slips on the Construction of Low Volume/Low Cost Roads on Peat (Forestry Commission, 2006).

Hydrology and Hydrogeology

- Scottish Planning Policy (SPP) (Scottish Executive, June 2014).
- EC Water Framework Directive (2000/60/EC).
- Water Environment and Water Services (Scotland) Act 2003.
- Water Environment (Controlled Activities) Regulations 2011.
- The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017.
- Good Practice during Windfarm Construction, 4th Edition (Scottish Renewables, Scottish Natural Heritage (now NatureScot), Scottish Environment Protection Agency, Forestry Commission Scotland, Historic Environment Scotland, Marine Scotland Science and AEECoW, 2019).
- Forests and Water Guidelines (Forestry Commission, 2012).
- Land Use Planning System – SEPA Guidance Note 31 (Guidance on Assessing Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems), Version 3, (SEPA, 11/09/2017).
- Control of Water Pollution from Linear Construction Projects – Technical Guidance, C648 (CIRIA, 2006).
- The SuDS Manual C753 (CIRIA, 2015).
- Environmental Good Practice on Site C741 (CIRIA, 2015).

9.4 Questions for Consultees

Q15: Is the spatial extent of the study area considered to be appropriate?

Q16: Are the survey methods for assessing likely effects on hydrology, hydrogeology, geology and peat considered to be suitable?

Q17: Are there any other relevant consultees who should be contacted with respect to the soils, geology and water environment assessment?

10.0 Cultural Heritage

10.1 Environmental Baseline and Potential sources of Impact

The 'cultural heritage' of an area comprises archaeological sites, historic buildings, Inventoried Gardens and Designed Landscapes (GDLs), Inventoried Battlefields and other historic environment features. The 'setting' of an asset within the wider landscape may contribute to its cultural heritage significance.

The cultural heritage impact assessment will identify cultural heritage assets that may be subject to significant effects, both within the limits of the Proposed Development and within 5 km of the proposed turbines; establish the potential for currently unknown archaeological assets that lie within the Site; assess the predicted effects on these assets; and propose a programme of mitigation where appropriate. It will consider direct effects (such as physical disturbance), indirect effects (such as caused by change within the settings of assets), and cumulative effects (where changes to an asset's setting which would result from the Proposed Development are also affected by other developments).

The proposed approach to the assessment of effects on cultural heritage is set out below.

10.2 Method of Assessment and Reporting

10.2.1 Study Area

There is no guidance from Historic Environment Scotland (HES) which defines a required study area for the archaeological and cultural heritage assessment of wind farms.

For purposes of this assessment, a Study Area has been defined extending 5 km from the proposed turbines. All nationally significant assets (**Figure 10.1**) within this Study Area have been subject to setting assessment in order to determine any indirect impacts. Non-Designated assets within the Site will be assessed for direct impacts, should Aberdeenshire Council Archaeology Services (ACAS) identify any assets they consider to be of significance where setting may indirectly impact these they should be made known to the proposer.

10.2.2 Consultation

Based on the results of the baseline study, constraint mapping will be generated by a GIS to show mapped heritage assets in relation to the ZTV. This will filter out those assets that will not require further assessment, and will be used to agree with consultees the most potentially sensitive assets that may require visualisations. Consultation will be undertaken with HES with respect to the method of assessment employed and those heritage assets within their remit, including: Scheduled Monuments, Category A Listed Buildings, Inventoried Gardens and Designed Landscapes (GDL's), and Inventoried Battlefields. ACAS will be consulted for designated heritage assets of regional and local importance, and any undesignated assets they consider to be of higher significance.

10.2.3 Field Surveys

A targeted Site inspection will be carried out of the location of the recorded assets likely to be impacted by the proposed Development, and the readily accessible elements of the proposed infrastructure, to establish the condition of recorded assets and identify the potential for the existence of additional assets not currently identified.

Asset mapping would also be compared with ZTV and satellite imagery in order to identify designated heritage assets for which the Proposed Development might cause indirect impacts on setting. This would be followed by a detailed analysis of those sites identified as potentially sensitive to impacts from setting change, including a targeted field inspection.

10.3 Assessment of Impact

The Proposed Development has the potential to result in impacts upon the significance of heritage assets where it changes their baseline condition and/or their setting.

In accordance with the EIA Regulations, this assessment will identify any development effects as either direct or indirect, adverse or beneficial, and short-term, long-term or permanent.

Assessment will be undertaken separately for direct impacts and indirect impacts. Direct impacts are those which would change the heritage significance of an asset through physical alteration; indirect impacts are those which would affect the heritage significance of an asset by causing change within its setting.

Direct impacts upon the significance of heritage assets will take into account the level of their heritage significance (where known) and the magnitude (extent) of the identified impacts.

Indirect impacts on the significance of heritage assets will be identified and assessed with reference to Managing Change in the Historic Environment: Setting (HES 2016b) and the guidance set out in SNH (2017) and HES (2018). Assessment will be carried out in the following stages:

- initial consideration of intervisibility and other factors leading to the identification of potentially affected assets;
- assessment of the heritage significance of potentially affected assets;
- assessment of the contribution of setting to the heritage significance of those assets;
- assessment of the extent to which change to any contributing aspects of the settings of those assets, as a result of the proposed Development, would affect their significance (magnitude of impact); and
- determination of the significance of any identified effects.

The settings assessment will be assisted by a ZTV calculation, prepared principally for the Landscape and Visual Impact Assessment and presented in **Figure 10.1**. The ZTV calculation will map the predicted degree of visibility of the proposed Development from all points within a proportionate, defined study area around the Site, as would be seen from an observer's eye level (two metres above ground level). The ZTV model presented in **Figure 10.1** is based on the maximum height of the blade tips of the Proposed Development.

10.3.1 Heritage Significance

The categories of heritage significance to be referred to are presented in **Table 10-1**, which will act as an aid to consistency in the exercise of professional judgement and provide a degree of transparency for others in evaluating the conclusions drawn.

The significance categories have been defined with regard to factors such as: designation, status and grading. For undesignated assets, consideration will be given to their inherent heritage interests, intrinsic, contextual, and associative characteristics as defined in Annex 1 of HEPS (2019b). In relation

to these assets, this assessment will focus upon an assessment of the assets' inherent capability to contribute to our understanding of the past; the character of their structural, decorative and field characteristics as determined from the HER and Canmore records and / or site visits; the contribution of an asset to their class of monument, or the diminution of that class should an asset be lost; how a site relates to people, practices, events, and/or historical or social movements. Assessments of the significance of specific assets, where recorded within the HER, will be taken into account.

Table 10-1
Heritage Significance

Heritage significance	Explanation
Highest	Sites of national or international importance, including: • World Heritage Sites.
High	Sites of National importance, including: • Scheduled Monuments; • Category A Listed Buildings; • Gardens and Designed Landscapes included on the national inventory; • Designated Battlefields; and • Non-designated assets of equivalent significance.
Medium	Sites of Regional/local importance, including: • Category B and C Listed Buildings; • Some Conservation Areas; and • Non-designated assets of equivalent significance.
Low	Sites of minor importance or with little of the asset remaining to justify a higher importance.
None	Sites that are of no heritage significance.
Unknown	Further information is required to assess the significance of these assets.

10.3.2 Magnitude of Impact

Determining the magnitude of any likely impacts will include consideration of the nature of the activities proposed during the construction and operational phases of the proposed Development.

Changes could potentially include direct change (e.g. ground disturbance), and indirect change (e.g. change to setting); this latter might include visual change, as well as noise, vibration, smell, dust, traffic movements etc. Effects may be beneficial or adverse, and may be short term, long term or permanent. The magnitude of any effects will be assessed using professional judgment, with reference to the criteria set out in **Table 10-2.**

Table 10-2
Magnitude of Impact

Magnitude of impact	Explanatory criteria
High Beneficial	The proposed Development would considerably enhance the heritage significance of the affected asset, or the ability to understand, appreciate and experience it.
Medium Beneficial	The proposed Development would enhance, to a clearly discernible extent, the heritage significance of the affected asset, or the ability to understand, appreciate and experience it.
Low Beneficial	The proposed Development would enhance, to a minor extent, the heritage significance of the affected asset, or the ability understand, appreciate and experience it.
Very Low Beneficial	The proposed Development would enhance, to a very minor extent, the heritage significance of the affected asset, or the ability understand, appreciate and experience it.
Neutral/None	The proposed Development would not affect (or would have harmful and enhancing effects of equal magnitude upon) the heritage significance of the affected asset, or the ability understand, appreciate and experience it.
Very Low Adverse	The proposed Development would erode, to a very minor extent, the heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of indirect effect would not be considered to affect the integrity of the asset's setting.
Low Adverse	The proposed Development would erode, to a minor extent, the heritage significance of the affected asset, or the ability understand, appreciate and experience it. This level of indirect effect would rarely be considered to affect the integrity of the asset's setting.
Medium Adverse	The proposed Development would erode, to a clearly discernible extent, the heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of indirect effect might be considered to affect the integrity of the asset's setting.
High Adverse	The proposed Development would considerably erode the heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of indirect effect would probably be considered to affect the integrity of the asset's setting.

10.3.3 Significance of Impact

The significance of impact criteria are presented in **Table 10-3**. **Table 10-4** provides a matrix that relates the heritage significance of the asset to the magnitude of impact on its significance, to produce the overall significance of impact. This assessment will be undertaken separately for direct effects and indirect effects, the latter being principally concerned with effects resulting from change to the setting of heritage assets.

Table 10-3
Significance of Impact Criteria

Significance of Impact	Description
Major	Severe harm or enhancement, such as total loss of significance of the asset or of the integrity of its setting, or exceptional improvement of the heritage significance of the asset and/or the ability to understand, appreciate and experience it.
Moderate	Harm or enhancement, such as the introduction or removal of an element that would affect the heritage significance of the asset and the ability to understand, appreciate and experience it to a clearly discernible extent.
Minor	Harm or enhancement to the asset's heritage significance and/or to the ability to understand, appreciate and experience it to a modest extent, such that the majority of the asset's inherent interests and aspects of setting would be preserved.
Very Minor	Harm or enhancement to the asset's heritage significance and/or to the ability to understand, appreciate and experience it, that is barely discernible.
Nil	The development would not affect the heritage significance of the asset and/or the ability to understand, appreciate and experience it, or would have harmful and enhancing effects of equal magnitude.

Table 10-4
Significance of Impact Matrix

Magnitude of Impact	Heritage Significance (excluding unknown)			
	Highest	**High**	**Medium**	**Low**
High beneficial	Substantial	Substantial	Moderate	Slight
Medium beneficial	Substantial	Moderate	Slight	Very slight
Low beneficial	Moderate	Slight	Very slight	Very slight
Very low beneficial	Slight	Very slight	Negligible	Negligible
Neutral/None	Neutral/Nil	Neutral/Nil	Neutral/Nil	Neutral/Nil
Very low adverse	Slight	Very slight	Negligible	Negligible
Low adverse	Moderate	Slight	Very slight	Very slight
Medium adverse	Substantial	Moderate	Slight	Very slight
High adverse	Substantial	Substantial	Moderate	Slight

Professional judgment will be used in the determination of any significant effects, with reference to the matrix presented in Table 10-5. Any impacts identified as 'Substantial' 'or 'Moderate' within the matrix would be considered 'Significant' for purposes of EIA.

Impacts will be defined as either 'Significant' or 'Not Significant'.

10.3.4 Mitigation

Where adverse effects on cultural heritage are identified, measures to prevent, reduce and/or, where possible, offset these effects, will be proposed. Potential mitigation measures can be discussed in terms of Direct and Indirect impact.

Suitable measures for mitigating direct impacts might include:

- the micro-siting of Proposed Development infrastructure away from sensitive locations;
- the fencing off or marking out of heritage assets or features in proximity to construction activity in order avoid disturbance where possible;
- a programme of archaeological work where required, such as an archaeological watching brief during construction activities in or in proximity to areas of archaeological sensitivity, or excavation and recording where impact is unavoidable; and/or
- a working protocol to be implemented should unrecorded archaeological features be discovered.

Suitable measures for mitigating any indirect impacts might include:

- alteration of the proposed turbine layout;
- reduction of proposed turbine heights; and/or
- changing the proposed colour of select turbines.

10.3.5 Residual Impact

Residual impacts are those that remain even after the implementation of suitable mitigation measures. Residual impacts will be identified, and the level of those residual impact defined with reference to **Table 10-4** and **Table 10-5**.

The significance of those residual impacts for purposes of EIA would then be defined as either 'Significant' or 'Not Significant'.

10.3.6 Cumulative Impacts

A cumulative effect is considered to occur when there is a combination of:

- an impact on an asset or group of assets due to changes resulting from the development subject of assessment; and
- an impact on the same asset or group of assets resulting from another development (consented or proposed) within the surrounding landscape.

Consideration of the other developments will be limited to:

- wind farm planning applications that are the subject of a valid application or appeal; and
- wind farm planning applications which have been granted permission but not yet constructed.

Any impact resulting from operational wind farms would be considered as part of the baseline impact assessment. Cumulative impact would be considered in two stages:

- assessment of the combined impact of the developments, including the Proposed Development; and
- assessment of the extent to which the Proposed Development contributes to the combined impact.

10.3.7 Technical Appendices

Findings of the targeted field survey and site gazetteer will be provided as technical appendices.

10.4 Baseline Study and Potential Sources of Impact.

Within the Site

There are no designated heritage assets within the Site itself. An online review of Pastmap has revealed that a number of undesignated heritage assets have been recorded within the Site. These are presented in **Table 10-5**.

Table 10-5
Non-Designated Assets within the Red Line Boundary

HER ID	Description
17338	Carved Stone Ball
17340	Cairn (Period Unassigned)
17342	Cairn (Period Unassigned)
17344	Cairn (Period Unassigned)
84530	Boundary Marker (Period Unassigned), Cairn (Period Unassigned)
127995	Bog Butter
156257	Farmstead (Period Unassigned)
217286	Pit(S) (20th Century)(Possible)
314586	Farmstead (19th Century), Field System (Medieval) - (18th Century)
314592	Farmstead (19th Century), Field System (Medieval) - (18th Century)
314593	Farmstead (Medieval) - (18th Century)
348735	Hollow Way(S) (Period Unassigned)
333264	Peat Workings (Period Unassigned)
333265	Cultivation Remains (Period Unassigned)
333266	Boundary Stone (Period Unassigned)
333267	Boundary Stone (Period Unassigned)
333269	Enclosure (Period Unassigned)
333270	Farmstead (Period Unassigned)

10.4.1 Outwith the Site

The designated heritage assets described below are all located within 5 km of the proposed turbine locations, and their locations are depicted on **Figure 10.1**. There are no Inventoried GDL's, Inventoried Battlefields or World Heritage Sites within 5 km of the Proposed Development.

Scheduled Monuments

As per the methodology outlined, all scheduled monuments within 5 km of the Proposed Development that fall within the ZTV, and any identified significant approaches, will be assessed.

Within 5 km of the Site, there are two Scheduled monuments:

- St John's church and Tower of Deskford (**SM90095**) (to be considered as a group with **LB2209**); and
- Ha' Hillock, Motte (**SM11046**).

Listed Buildings

As per the methodology outlined, all Category A Listed Buildings within 5 km of the Proposed Development that fall within the ZTV and any identified significant approaches will be assessed.

Table 10-6
Listed Buildings within 5 km

Designation Reference	Designation Title	Distance from Closest Turbine (km)	Within ZTV
LB15517 (Category A)	Cairnfield house	4.8	Yes (potentially 6 turbines visible)
LB15524 (Category A)	Preshome, St Gregory's roman catholic church	4	Yes (Potentially 16 turbines visible)
LB15525 (Category A)	Preshome, chapel house, garden store and wall enclosing house, garden and church	4	Yes (Potentially 16 turbines visible)
LB15541 (Category A) - grouping	Letterfourie house and fountains	3.3	Yes (Potentially 16 turbines visible)
LB15542 (Category A)	Letterfourie, craigmin bridge over burn of letterfourie	3.5	Yes (Potentially 12 turbines visible)
LB2209 (Category A)	Old Church of St John, burial ground excluding scheduled monument SM90095, Kirkton of Deskford	4.2	Yes (Potentially 11 turbines visible)

10.4.2 Matters Scoped Out

On the basis of the work undertaken to date, the professional judgement of the cultural heritage team, and experience of other comparable projects, it is considered that indirect and cumulative impacts of the Proposed Development on Category C Listed Buildings can be scoped out of the EIA in relation to cultural heritage. As per best practice guidance within SNH EIA Handbook (2018), Category C Listed

Buildings are of local rather than national or regional importance, unless in the opinion of an assessor the designation should be higher.

It is also considered that any assets that fall outwith the ZTV (and where those assets' approaches also fall outwith the ZTV) can be scoped out of the EIA in relation to cultural heritage.

10.5 References and Standard Guidance

Relevant legislation and policy documents include:

- The Ancient Monuments and Archaeological Areas Act 1979;
- The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997;
- The Historic Environment (Amendment) (Scotland) Act 2011 (this includes amendments to the above);
- Planning Advice Note Planning and Archaeology PAN 2/2011;
- Scottish Planning Policy 2014 (Scottish Government 2014);
- Historic Environment Policy for Scotland (HEPS 2019); and
- Historic Environment Circular 1, HES 2016.

A number of relevant pieces of guidance have been published by the national heritage agency, HES, and the professional archaeological body, the Chartered Institute for Archaeologists (CIfA). These publications are:

- *'Managing Change in the Historic Environment: Setting'* (HES 2016);
- *'Designation, Policy and Selection Guidance'* (HES 2019);
- *'Environmental Impact Assessment Handbook'* (SNH (Naturescot) and HES 2018);
- *'Standard and Guidance for Historic Environment Desk Based Assessment'* (CIfA 2014a), which gives best practice for the execution of desk-based assessments; and
- *'Code of Conduct'* (CIfA 2014b).

10.6 Questions for Consultees

Q18: Confirmation is requested that the cultural heritage study areas are considered appropriate for the assessment.

Q19: Are there any other relevant consultees who should be contacted with respect to the cultural heritage assessment?

11.0 Noise

11.1 Environmental Baseline and Potential Sources of Impact

11.1.1 Baseline

There are currently 6 wind energy developments, totalling 12 wind turbines in the vicinity of the Proposed Development (see **Figure 11.1**), which will contribute to the existing noise levels at nearby residential receptors. Other than these wind turbines, the Site location is rural in nature, and residential properties around the Site are likely to be free of any noise of human origin except for local noise in the vicinity of the properties, occasional traffic and the operation of farm machinery. Such other noise as there is, is likely to be from animals and birds, watercourses, and from wind around trees and foliage, depending on wind speed.

Baseline noise measurements have been carried out for the original Aultmore application, and for Lurg Hill Wind Farm. The results of these measurements will be used to establish the baseline noise levels where necessary. It should be noted that, for the purposes of the noise assessment, existing wind farm noise will not be considered as part of the baseline environment, as per the requirements of ETSU-R-97[3]. Additional baseline noise measurements will also be carried out at two locations. Where necessary, the measurements will be adjusted to exclude noise from operational turbines. The measurements will be carried out in accordance with ETSU-R-97 and the IoA Good Practice Guide[4].

11.1.2 Potential Sources of Impact

Sources of impact are construction noise (including decommissioning) and operational noise which is predominantly aerodynamic noise from the turbine blades as they rotate. The assessment methodology and limits prescribed by ETSU-R-97 refers to all wind turbine noise affecting a given residential property. In this respect, the sources of wind turbine noise that will be considered in the noise chapter are listed at **Table 11-1**.

Table 11-1
Wind Turbine Noise Sources

Wind Farm	Number of Turbines	Status
Myreton 1	1	Operational
Myreton 2	2	Operational
Netherton Windyhills	2	Operational
Drodland	1	Operational
Balnamoon	1	Operational

[3] ETSU-R-97: The Assessment and Rating of Noise from Wind Farms
[4] Institute of Acoustics, A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise

Wind Farm	Number of Turbines	Status
Lurg Hill	5	Consented

11.2 Method of Assessment and Reporting

The principal planning guidance on noise is contained in Planning Advice Note (PAN) 1/2011, Planning and Noise, which contains advice on assessment of noise from new sources as well as the effects of noise on new residential development. For construction noise it refers to the Control of Pollution Act (1974) and the Pollution and Prevention Control Act 1999 for relevant installations. The accompanying Technical Advice Note, Assessment of Noise, lists BS 5228, Noise and Vibration Control on Construction and Open Sites as being applicable for Environmental Impact Assessment (EIA) and planning purposes. In respect of operational noise from wind farms, PAN 1/2011 refers to 'web based planning advice' on renewables technologies which in turn refers to ETSU-R-97, The Assessment and Rating of Noise from Wind Farms, as the appropriate method for assessment of operational noise. Additional guidance on assessment of operational noise is contained in the UK Institute of Acoustics (IOA) document A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise (GPG) which has been endorsed by the Cabinet Secretary for Finance, Employment and Sustainable Growth of the Scottish Government.

11.2.1 Construction Noise

Due to the large separation distances (at least 800 m) from the Proposed Development to the nearest noise-sensitive receptors, significant construction noise effects are not anticipated, except where track works are proposed near to existing housing, and a detailed assessment of construction noise effects is scoped out of the noise assessment.

Nevertheless the noise assessment will provide a summary of relevant guidance and best practice construction methods, along with a commitment to adhere to best practicable means of controlling noise from construction activities, as advocated by BS 5228.

The potential influence of construction traffic will be reviewed and assessed as necessary in terms of the increase in traffic noise at roadside locations, except where there is little or very little existing traffic movement, in which case it will be assessed against the criteria in BS5228.

Vibration from construction vehicles accessing the Site may be perceptible at roadside properties, but will be no greater than from other heavy goods vehicles. This will not be significant, and will be scoped out of the assessment. There will be no perceptible vibration during operation, which is also scoped out.

11.2.2 Operational Noise

The assessment of operational noise will be carried out by comparing the cumulative noise from the Proposed Development and the neighbouring developments listed at **Table 11.1** with noise limits derived from previous background noise surveys and the planned noise survey at two additional locations. From these measurements a derived 'prevailing' background noise level will be calculated from the results, with limits set at 5 dB above this, subject to lower limiting values of the fixed overall noise limit of 35 and 43 dB L_{A90} for day-time and night-time hours respectively. These fixed limits correspond with the fixed limits used for the previous Aultmore planning application. This method of

assessment will be carried out according to the requirements of ETSU-R-97 as clarified and refined by the IOA GPG.

The results of the cumulative noise predictions will be in tabular form, showing the predicted noise levels in relation to the relevant noise limits.

Vibration due to the operation of the Proposed Development is scoped out of the assessment.

11.2.3 Consultation

Prior to the background noise measurement survey, TMC will be contacted to discuss the details of the survey and obtain approval.

11.2.4 Matters Scoped Out

As discussed at paragraph 11.2.1 a detailed construction noise assessment has been scoped out of the assessment, except in cases where track works are proposed near to existing housing. Vibration is also scoped out of the assessment.

11.3 References and Standard Guidance

- ETSU-R-97: The Assessment and Rating of Noise from Wind Farms
- Institute of Acoustics, A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise
- Planning Advice Note (PAN) 1/2011, Planning and Noise
- Control of Pollution Act (1974) and the Pollution and Prevention Control Act 1999
- BS 5228, Noise and Vibration Control on Construction and Open Sites

11.4 Questions for Consultees

Q20: Confirmation is sought from the Environmental Health Officer on the scope of the cumulative assessment.

Q21: Are there any other relevant consultees who should be contacted with respect to the noise assessment?

Q22: Confirmation that detailed construction noise and operational vibration can be scoped out of the assessment is requested.

12.0 Access, Traffic and Transport

This section considers the scope of work required to assess the potential significant effects associated with access, traffic and transport during the construction and operational phases of the Proposed Development. As stated within Section 3: Description of Development, decommissioning of the wind farm has been scoped out of all assessments.

12.1 Environmental Baseline and Potential Sources of Impact

12.1.1 Scope of Study

The port of entry for abnormal indivisible loads (AILs) has been identified as the port of Invergordon or Inverness, with a proposed route to Site travelling eastward via the A96 and A98, then south on to the B9016. Access to the Site would likely be via the existing Aultmore access track and it is anticipated that improvements may be required at the existing access junction or an alternative junction will be constructed to accommodate the wind turbine components. It is anticipated that this route would also be used for the majority of construction traffic however this will be confirmed within the EIA Traffic and Transport Chapter.

The assessment is required to evaluate the effects of the Proposed Development and to determine the scale of the impacts on the identified sensitive receptors. From a desktop study of the Site access and the proposed delivery route, the main sensitive receptors to increased traffic levels and environmental impacts are anticipated to be located along the B9016 where there are a small number of residential properties. There are also a number of individually placed farms along the delivery route. The assessment will focus on the delivery of construction materials with an Abnormal Loads Route Assessment (ALRA) included as a Technical Appendix to the EIA Report.

12.1.2 Base Line Conditions

All Abnormal Indivisible Loads (AILs) and most construction vehicles would travel along the A96 from the port of Invergordon or Inverness to the track access junction at Braes of Enzie (as currently assumed). The proposed route would not be assessed within this section of the EIA Report for AILs as a separate ALRA will be submitted as a Technical Appendix. The findings from the ALRA will be considered within this section of the EIA.

The study area for assessment will be the A9 from Invergordon to Inverness, the A96 north east from Inverness, the A98 from the A96 east to T-junction with the B9016 and the B9016 south to the junction with the (currently assumed) access track (at Braes of Enzie). Traffic data will be obtained, where available, so that existing traffic flows and vehicle classification using the key roads can be understood and used to inform the baseline situation. Traffic surveys will be dependent on any Covid19 restrictions being lifted. Injury accident data for the roads within the study area will be obtained to ensure any road safety issues are identified.

12.1.3 Potential Sources of Impact

The potential sources of impact have been divided into two development phases: construction and operation. In summary, the main potential sources of impact are likely to relate to the impact of construction traffic on the residential areas along the network route.

Construction Phase

The construction phase of Aultmore Wind Farm is likely to create the greatest environmental impact. This is due to the number of Heavy Goods Vehicles (HGVs) and Light Goods Vehicles (LGVs) required to transport the materials on to the site. As such there would be traffic impacts associated with the communities and roads along the delivery route.

Operational Phase

Once the Proposed Development is operational, the development would have negligible traffic/ transport related impacts caused by intermittent maintenance vehicles travelling to the Site.

12.1.4 Cumulative Assessment

The cumulative impacts from other local permitted wind farm developments will be a key consideration for the assessment, particularly in relation to the control of construction traffic in the local area. The cumulative assessment would focus on the construction phase as this would be the most likely period to create significant effects should construction phases overlap or occur sequentially amongst permitted developments.

The traffic assessment and draft traffic management plans would be reviewed for the other developments identified and taken into account if considered to be of direct relevance and on a similar construction timeline to the Proposed Development. If so, the proposed construction timescales for these developments would be carefully considered. Operational sites are unlikely to create significant traffic effects and will, therefore, not be considered within the cumulative assessment. The assessment would focus on consented but not yet built developments and development proposals at application stage within close proximity to the Site. Such sites will be identified and discussed with Energy Consents Unit (ECU) and TMC.

12.2 Method of Assessment and Reporting

The access, traffic and transport section of the Environmental Impact Assessment Report (EIA Report) will include a detailed evaluation of the baseline conditions and will focus on assessing the potential impacts to arise during the construction phase. This will include an abridged construction works programme, details of vehicle types and sizes to be used during the construction phase, and an estimate of the number of trips anticipated to be generated by HGVs, LGVs and light vehicles. Mitigation measures to alleviate the known local traffic issues arising from the wind farm construction traffic will be identified, with the aim of reducing the effect of the vehicle movements identified. Two traffic scenarios will be presented; a worst case assessment whereby aggregate is imported to Site, and a likely case assessment whereby aggregate is sourced onsite through the creation of borrow pits.

12.2.1 Desk Study

The following data collection and analysis will be undertaken:

- a review of available nearby wind farm development application documents;
- analysis of traffic count data and accident data;
- assessment of traffic impacts of previous and committed local wind farm developments to understand identified effects;

- compilation of data on the number of construction vehicles and staff numbers likely to be present on the local road network during the construction phase;
- a review of the anticipated construction programme (once available);
- a comparison between likely traffic flows on potentially affected roads against the baseline situation for a future year scenario with and without the development of Aultmore Wind Farm, reported as percentage increases;
- a review of height and weight restrictions along the proposed construction transport routes; and
- Identification of the impacts.

12.2.2 Field Surveys

An inspection will be undertaken over the course of one day. This will involve detailed visual inspection of the existing access junction off the B9016 at Braes of Enzie. Detailed visual inspection of the proposed Site access location will be undertaken to identify its suitability for construction access. It is noted that the access junction will require improvements and some upgrading and so it is anticipated that an outline design will be required; swept path analysis will also be required. The ALRA is to be prepared separately and so it is assumed that, as this will consider the route(s) to port with road inspections as required, no further Site work will be required along the route from port.

It would be common practice for traffic surveys to be commissioned in order to provide a baseline situation for traffic flows, movements and speeds. With the current pandemic and various national restrictions still in place, it may not be possible to commission traffic count surveys as they may not be fully representative of normal road operations. Should all restrictions be removed, an Automatic Traffic Counter (ATC) on the B9016 located at the Aultmore access junction would be commissioned to collected data for 24 hours a day across a seven day continuous period. This will provide classified and directional traffic flow data. Speeds would also be recorded in order to determine the 85th percentile speeds and would be used to determine whether the access junction has sufficient visibility splays. Should a traffic count be unable/ unacceptable for commissioning, the Local Highway Authority (LHA) and Transport Scotland would be further consulted for existing traffic data along the delivery route. A quick search on the DfT 'Road Traffic Statistics' website has identified that there is no available traffic count data on the B9016. There is a traffic count point (ref.20792) on the A98 to the east of the junction with the B9016 which could be used to identify existing flows on the A98.

12.2.3 Mitigation Measures

Mitigation measures will be proposed following the completion of the impact assessments, as informed by the baseline. The purpose of these measures is to aim to remove, minimise, or compensate any significant effects. These mitigation measures will be agreed with ECU, TMC, Transport Scotland and Sustrans. An Outline CTMP would be presented as part of the EIA Report.

12.3 Assessment

The Institute of Environmental Management and Assessment (IEMA) guidance (1993) would form the basis for which the effects of traffic during the construction phase would be assessed. Based on the IEMA guidance, the factors identified as being the most discernible potential environmental effects likely to arise from changes in traffic movements have been set out below and would be considered

in the assessment as potential effects which may arise from changes in traffic flows from the Proposed Development.

- noise and vibration – the potential effect caused by additional traffic on sensitive receptors, which in this case would relate to residential areas fronting the B9016;
- driver severance and delay – the potential delays to existing drivers and their potential severance from other areas;
- community severance and delay – the potential severance to communities and the delays to movements between communities;
- vulnerable road users and road safety – the potential effect on vulnerable users of the road (i.e. pedestrians and cyclists);
- hazardous and dangerous loads – the potential effect on road users and local residents caused by the movement of abnormal loads; and
- dust and dirt – the potential effect on dust, dirt and other detritus being brought onto the road.

The IEMA guidelines provide two thresholds when considering predicted increase in traffic, whereby a full assessment is required:

- where the total traffic would increase by 30% or more (10% in sensitive areas); and/ or
- where the HGV traffic would increase by 30% or more (10% in sensitive areas).

The potential sensitivity of the receptors to changes in traffic levels would be determined by considering the study area and presence of receptors in relation to each potential impact. The receptors would be assessed individually to determine its sensitivity and the assessment criteria is set out in **Table 12-1.**

Table 12-1
Receptor Sensitivity

Impact	Low Sensitivity	Medium Sensitivity	High Sensitivity
Noise and Vibration	No sensitive receptors	Presence of sensitive receptors near to the road	Presence of sensitive receptors adjacent to the road
Driver Severance and Delay	Road network not affected	Road network not experiencing congestion at peak times	Road network experiencing congestion at peak times
Community Severance and Delay	No presence of existing communities severed by road	Presence of existing communities with a moderate level of existing severance (subjective assessment)	Presence of existing communities with low existing severance (subjective assessment)
Vulnerable Road Users and Road Safety	High sensitive receptor		

Impact	Low Sensitivity	Medium Sensitivity	High Sensitivity
Hazardous and Dangerous Loads	No hazardous or dangerous loads on the road network	Some hazardous or dangerous loads on the road network[5]	Abnormal and oversized loads to use road network
Dust and Dirt	Limited presence of sensitive receptors (subjective assessment)	Low to medium presence of sensitive receptors (subjective assessment)	High presence of sensitive receptors (subjective assessment)

The magnitude of impact or change has been considered according to the criteria defined in **Table 12-2**.

Table 12-2
Magnitude Criteria

Impact	Negligible	Minor	Moderate	Major
Noise and Vibration	<25% increase in traffic	>25% increase in traffic Quantitative assessment based on predicted increase in traffic against measured baseline		
Driver Severance and Delay	<10% increase in traffic	>10% increase in traffic Quantitative assessment of road capacity based on existing traffic flows and predicted future traffic levels		
Community Severance and Delay	<10% increase in traffic	<30% increase in traffic	<60% increase in traffic	>60% increase in traffic
Vulnerable Road Users	<10% increase in traffic	>10% increase in traffic Quantitative assessment of existing provision and future traffic levels		
Road Safety	<10% increase in traffic	>10% increase in traffic Quantitative assessment of existing accident records and predicted increases in traffic		
Hazardous and Dangerous Loads	0% increase in traffic	<30% increase in traffic	<60% increase in traffic	>60% increase in traffic
Dust and Dirt	<10% increase in traffic	<30% increase in traffic	<60% increase in traffic	>60% increase in traffic

[5] Loads are legally permitted on UK roads.

12.3.1 Technical Appendix – ALRA

A high level baseline assessment as to the preferred access route will be undertaken to confirm the locations for potential constraints when transporting the wind turbine components. The route from Invergordon has been considered as part of previous route assessments and so it is likely that the main roads along this route are suitable for the transport of abnormal loads.

An initial desktop review has highlighted that the following locations will require further assessment:

- A section of the road near Lidl at Dalmore;
- The roundabout in the centre of Nairn;
- The A98/B9016 junction; and
- The Site access.

Base OS mapping at 1:1,250 scale would be obtained for these locations as a minimum and a swept path analysis will be completed to test the movement of the blade transport and to confirm any constraints. The requirements for any off-Site road improvements would be identified and outline designs prepared. The Abnormal Load Assessment would be presented as a technical report, with suitable drawings and outline designs, to be used as a Technical Appendix to the relevant chapter of the EIA Report.

12.3.2 Consultation

The scope of the study and assessment for the Proposed Development in relation to access, traffic and transport will seek to identify potential issues which may result from the construction of the development.

The Proposed Development will continue to be discussed with the following statutory bodies/ organisations:

- ECU – Consultation to discuss the potential impacts of the Proposed Development on the local road network and cumulative traffic effects;
- MC – Consultation to discuss the potential impacts of the Proposed Development on the local road network and cumulative traffic effects;
- Transport Scotland – Consultation to discuss the potential impact of the Proposed Development on the trunk roads used for the transport of abnormal loads; and
- Sustrans – Consultation in relation to potential impacts of the Proposed Development on pedestrians and cyclists.
- In addition, feedback will also be sought from the local community with respect to traffic management proposals as part of the wider pre-application consultation.

12.3.3 Matters Scoped Out

Due to the negligible environmental effects which would occur during the operational and decommissioning phases of the Proposed Development, it is proposed that operational effects and decommissioning effects are scoped out of the access, traffic and transport assessment for the EIA.

AILs would be considered in more detail within a separately submitted ALRA; the findings and recommendations from the report will be discussed within the access, traffic and transport section of the EIA Report, with any impacts identified and assessed as required.

12.4 References and Standard Guidance

The access, traffic and transport assessment will be carried out in accordance with the following policy and guidance documents:

- Scottish Planning Policy (SPP);
- Institute of Highways and Transportation (IHT) publication 'Guidelines for Traffic Impact Assessment';
- 'Guidelines for the Environmental Assessment of Road Traffic' (1993) for the IEMA;
- Transport Scotland 'Transport Assessment and Implementation: A Guide'; and
- DfT 'Design Manual for Roads and Bridges' (DMRB).

12.5 Questions for Consultees

Q23: Confirmation is sought on the acceptability of the proposed transport route to the Site.

Q24: Are there any other relevant consultees who should be contacted with respect to the access, traffic and transport assessment?

13.0 Socio-Economics, Tourism, Recreation and Land Use

This section considers the scope of work required to assess potential significant effects associated with socio-economics, tourism, recreation and land use during the construction and operational phases of the Proposed Development. Effects may be both beneficial and adverse.

The socio-economics, tourism, recreation and land use chapter of the EIA Report will not assess the forestry use of the Site, which is addressed in Chapter 16 of this Report.

13.1 Environmental Baseline and Potential Sources of Impact

Although relatively close to the coast, the area in the immediate vicinity of the Site does not have any particular interest as a tourist destination other than people looking for quiet relaxation, with a number of scattered holiday accommodation locations. The Moray Coast comprises a series of small towns and villages with low-key tourist accommodation and tourist attractions with the main attractions of regional significance being the Scottish Dolphin Centre at Spey Bay, the Moray Coast Trail, running from Findhorn to Cullen, and the Speyside Way.

Construction activities may have a temporary adverse impact on certain local receptors including users of tourism routes and the coastal landscape. Effects on local accommodation businesses could be adverse (for example if there is any disruption caused by construction traffic) or beneficial (if used by construction workers).

In terms of the wider economic impact of the Proposed Development, there is opportunity for the construction and operational phases to bring economic value to the Moray area. During construction there are likely to be beneficial effects on the local and Scottish economy, including direct employment, opportunities for provision of goods and services for construction businesses in the region, and increased spend on local services and accommodation for workers. The Proposed Development would lead to investment within the Moray region and Scotland and the assessment will identify and quantify the potential benefit to the regional supply chain.

Socio-economic effects during operation of the Proposed Development include employment on management and maintenance of the wind farm.

There is potential for further beneficial effects on the local economy arising from shared ownership and community benefit funds. These income streams would provide benefit to the local area for the lifetime of the wind farm and potentially beyond, and will be reported in the EIA Report.

The presence of the wind farm may also adversely affect individual tourism receptors through visual and other impacts; these will be assessed taking account of the findings of other assessments such as Landscape and Visual Impact Assessment.

The baseline description will cover the following topic areas:

- demographic and labour market characteristics (covering the occupational profile and the availability of skills within the labour force);
- employment, economic activity and unemployment trends;
- commuting and travel to work relationships;
- business demography: the number, size profile and sectoral representation of the business base;

- the tourism profile for the area, including tourism attractions and accommodation businesses; and
- recreational receptors that may contribute to the tourism economy such as long distance walking and cycling routes, footpaths (rights of way and core paths) and access land.

13.2 Method of Assessment and Reporting

There is no industry standard guidance for this assessment. The proposed method for assessment, based on experience on similar projects, is detailed below and will take into consideration any matters raised in this Scoping exercise. The assessment will:

- consider the social and economic policy context at the local, regional and national level;
- review socio-economic and recreation baseline conditions within the relevant study areas;
- undertake a quantitative assessment of the economic effects due to direct, indirect and induced expenditure arising from the construction and operational phases;
- assess the likely scale, scope, permanence and significance of identified effects, taking account of any embedded environmental or social measures proposed within the planning application;
- recommend mitigation measures, where appropriate; and assess cumulative effects of the scheme with other proposed schemes.

Study Areas

A two-tiered study area is proposed for the assessment and these are defined as follows:

Wider Study Area (WSA)

The WSA is intended to encompass the area within which significant effects on employment and the local economy, including the tourism economy, could occur. The WSA is required for certain receptor groups because the majority of the business and labour market effects that could occur would be experienced by population and business centres located across a wide area. The WSA area is primarily set at the area of the Moray administrative area but effects are also considered within the rest of Scotland and the UK where relevant.

Local Area of Influence (LAI)

The LAI forms the focus for assessment of both direct and indirect effects on those recreation and tourism receptors that are likely to experience effects at a more local level. The LAI for such projects is generally defined by the application boundary together with an area extending to 5 km from the Site. Given the scale of the landscape, which is very open and the sparsity of receptors in this area, it is proposed that the LAI would be extended to include an enlarged LAI of that would encompass the stretch of coast from Spey Bay to Sandend.

Desk Study

It is proposed that the socio-economics, tourism, recreation and land use effects would be based on a desk study, and would not require any bespoke studies.

Field Survey

Whilst there would be no requirement for field studies the assessment would take account of findings from other EIA Report chapters, in particular landscape and visual and traffic and transport.

Assessment of Effects

Establishing receptor sensitivity will be based on its importance or scale and the ability of the baseline to absorb or be influenced by the identified effects. For example, a receptor (such as the local construction supply chain or a tourist route) is considered less sensitive if there are alternatives with capacity within the relevant study area. In assigning receptor sensitivity, consideration has been given to the following:

- the capacity of the receptor to absorb or tolerate change;
- importance of the receptor e.g. local, regional, national, international;
- the availability of comparable alternatives;
- the ease at which the resource could be replaced; and
- the level of usage and nature of users.

In order to aid clear and robust identification of significant effects, specific and targeted criteria for defining the magnitude of impacts have been developed for this assessment based on experience on other similar projects. The following four levels of magnitude will be adopted using professional judgement: high; medium; low and negligible. These reflect the level of change relative to baseline conditions and /or whether the change would affect a large proportion of the existing resident population or would result in a major change to existing patterns of use.

These impacts can be beneficial, adverse or neutral.

The level of effect of an impact on socio-economic receptors is initially assessed by combining the magnitude of the impact and the sensitivity of the receptor. Where an effect is classified as major, this is considered to represent a 'significant effect' in terms of the EIA Regulations. Where an effect is classified as moderate, this may be considered to represent a 'significant effect' but would be subject to professional judgement and interpretation, particularly where the sensitivity or impact magnitude levels are not clear or are borderline between categories or the impact is intermittent.

Effects can be beneficial, neutral or adverse and these would be specified where applicable. It should be noted that significant effects need not be unacceptable or irreversible.

A statement of residual effects, following consideration of any specific mitigation measures, will be provided.

13.2.1 Cumulative Effects

There is potential for cumulative effects to arise with regard to a number of prospective or consented projects at both construction and operational stage. Other projects to be assessed for cumulative effects will take account of the likely timing of construction, and proximity to the Site.

13.2.2 Approach to Mitigation

The assessment will take account of any environmental principles that are incorporated into the design of the proposed wind farm. These may include good practice construction measures with regard to matters such as traffic management and provisions for maintaining access for walkers.

Any additional mitigation measures that would reduce the level of any significant effects will be set out in the chapter and will be taken into account prior to assessing residual effects.

13.2.3 Consultation

The assessment will use desk-based information sources to assess the likely effects, supplemented by consultation with stakeholders if relevant. Information to inform the baseline will be sought from various sources, including:

- Office of National Statistics;
- The Moray Council;
- British Horse Society Scotland;
- Cycling Scotland;
- Community councils;
- Scottish Association for Country Sports;
- Scottish Rights of Way and Access Society (ScotWays);
- Sustrans Scotland; and
- VisitScotland.

Any consultation would have three key objectives:

- to verify published information;
- to identify potential effects; and
- to help assess significance of potential impacts here.

13.3 Matters Scoped Out

Land use is proposed to be scoped out as the predominant land uses on the Site currently comprise commercial forestry, which will be addressed elsewhere within the EIA Report.

Based on past experience of onshore wind farm projects of this scale, it is not expected that there will be a large influx of workers to the area during the construction phase; and consequently it is not expected that there would be a significant effect on the demand for housing, health or educational services. These matters will therefore be scoped out.

Recreational activities outwith the Site are scoped out unless they are promoted regionally/nationally and are therefore likely to draw in visitors from outside the area.

Effects on the tourism economy due to the presence of the wind farm (operational phase) are scoped out as a number of published studies have examined whether there is a link between the development of wind farms and changes in patterns of tourism spend and behaviour, and the consistent conclusion is that there is little or no adverse effect. Two of the most recent studies were undertaken by ClimateXChange for Scottish Government in 2012 and BiGGAR Economics in 2016; both studies found that despite a large increase in installed onshore wind capacity over their respective study periods, tourism had also increased and there was little or no adverse impact on tourism in Scotland.

13.4 References and Standard Guidance

The assessment will follow current best practice guidance as set out in the following documents:

- Scottish Planning Policy (2014), in particular paragraph 169;
- National Planning Framework 3 (2014);
- Scottish Natural Heritage (2013), A Handbook on Environmental Impact Assessment.
- Scottish Government (2015), Good Practice Principles for Shared Ownership of Onshore Renewable Energy Developments;
- Scottish Government (2014), Good Practice Principles for Community Benefits from Onshore Renewable Energy Developments;
- Scottish Government (2016), Draft Advice on Net Economic Benefit and Planning; and
- Scottish Natural Heritage (2015), Good Practice During Wind Farm Construction.

13.5 Questions for Consultees

Q25: Confirmation that the proposed study area is considered appropriate for the assessment is requested.

Q26: Are there any other relevant consultees who should be contacted with respect to the socio-economic assessment?

14.0 Forestry

14.1 Introduction

In the UK there is a strong presumption against permanent deforestation unless it addresses other environmental concerns. In Scotland, such deforestation is dealt with under the Scottish Government's "Control of Woodland Removal Policy" (Forestry Commission Scotland, 2009). The purpose of the policy is to provide direction for decisions on woodland removal in Scotland. It will be essential that the Proposed Development addresses and satisfies the requirements of the Policy.

14.2 Environmental Baseline and Potential Sources of Impact

14.2.1 Baseline Conditions

The forestry baseline will describe the crops existing at the time of preparation of the EIA Report. This will include current species; planting year; felling and restocking plans contained within the existing Land Management Plan; and other relevant woodland information. It will be prepared from existing forest records; desk based assessments; site visits; and aerial photographs.

The Proposed Development is located within an extensive area of commercial forestry. The land is part of Scotland's National Forest Estate, owned by Scottish Ministers on behalf of the nation, and managed by Forestry and Land Scotland (FLS).

The woodlands are managed under the Aultmore Land Management Plan (LMP) which has been developed in accordance with the requirements of the UK Forestry Standard (UKFS) and its supporting guidelines. The UKFS is the benchmark for sustainable forestry practice, and the Scottish Government is committed to its use.

The land available for the Proposed Development is largely forested, with the remainder comprising open ground for management boundaries, roads, unplantable land and margins beyond the woodland edge. The woodlands within the land available for the Proposed Development consist primarily of commercial conifers.

A desk based assessment reveals that part of the woodland is recorded in the Ancient Woodland Inventory Scotland (AWI) as "Long Established of Plantation Origin". Other areas are identified as Primary and Secondary Zones for potential native woodland expansion under the Native Woodland Integrated Habitat Network. The associated core areas of the Native Woodland Integrated Habitat Network are largely located out with the application boundary The commercial conifer crops are a mixture of first and second rotation with ongoing felling and replanting of mature woodlands.

14.2.2 Potential Effects and Assessment

There is potential for changes to the forest structure resulting from the Proposed Development, with consequential implications for the wider felling and restocking plans across the remaining parts of the woodlands. Areas of woodland are anticipated to be required to be felled for the construction and operation of the Proposed Development including for access tracks, wind turbine locations and other infrastructure. The potential effects will be changes to the structure of the woodlands, which may result in a loss of woodland area.

The changes to the woodlands for a particular development are regarded as site specific and it is considered there are no cumulative onsite forestry issues to be addressed, therefore cumulative forestry effects are scoped out of the EIA Report.

14.3 Method of Assessment and Reporting

14.3.1 Guidance and Legislation

The Proposed Development forestry proposals will be prepared in accordance with current policies, guidance and best practice, including, but not limited to:

- The Moray Council (2018): The Moray Forestry and Woodland Strategy Supplementary Guidance;
- Forestry Commission (2017): The UK Forestry Standard: The Government's Approach to Sustainable Forestry, Forestry Commission, Edinburgh;
- Forestry Commission Scotland (2009): The Scottish Government's Policy on Control of Woodland Removal, Edinburgh;
- Forestry Commission Scotland (2013): The Native Woodland survey of Scotland;
- Forestry Commission Scotland (2018): The National Forest Inventory Woodland Scotland;
- Forestry Commission Scotland (2019): Guidance to Forestry Commission Scotland staff on implementing the Scottish Government's Policy on Control of Woodland Removal;
- Scottish Natural Heritage (2010). Ancient Woodland Inventory Scotland. Available at: https://map.environment.gov.scot/sewebmap/.
- SEPA (2013): SEPA Guidance Notes WST-G-027 "Management of Forestry Waste";
- SEPA (2014): LUPS-GU27 "Use of Trees Cleared to Facilitate Development of Afforested Land;
- The Scottish Government (2016): A Land Use Strategy for Scotland, Edinburgh;
- The Scottish Government (2018): The Forestry and Land Management (Scotland) Act 2018, Edinburgh;
- The Scottish Government (2019): Scotland's Forestry Strategy 2019 -2029, Edinburgh; and
- UKWAS (2018): The UK Woodland Assurance Standard 4th Edition, UKWAS, Edinburgh.

14.3.2 Assessment

Commercial forests are dynamic and constantly changing through, for example, landowner activities; market forces; natural events, such as windblow or pest and diseases; or developments. The forestry assessment will be a factual assessment describing the changes to the forest structure resulting from the incorporation of the Proposed Development into the forest, in particular the loss of woodland area. Other Chapters within the EIA Report will identify the sensitive receptors relevant to their disciplines and report on the effects of the Proposed Development due to the forestry proposals.

The Forestry Study Area will be limited to the woodlands within the Aultmore LMP. A Proposed Development Forest Plan will be prepared. This will include a felling plan to show which woodlands are to be felled, and when, for the construction and operation of the Proposed Development. It will

further include a restocking plan showing any areas which are to be replanted with which species and which areas are to be left unplanted for Proposed Development infrastructure.

A key issue will be the integration of the Proposed Development infrastructure into the forest structure to minimise the loss of woodland area and to prevent fragmentation of the remaining woodlands. Forest design and the effect of the Proposed Development infrastructure on it is an important part of the overall design process.

The changes to the woodland structure will be analysed and described including changes to woodland composition, timber production, traffic movements and the felling and restocking plans. The resulting changes to the woodland structure will be assessed for compliance against the UKFS and the requirement for compensation planting to mitigate against any woodland loss. The Proposed Development Forest Plan will be assessed against the baseline data in line with the methodology outlined in the Control of Woodland Removal Policy Guidance (Forestry Commission Scotland, 2019).

14.4 Consultation

The main forestry consultee will be Scottish Forestry (SF). SF would be consulted throughout the development of the proposals to ensure that the proposed changes to the woodlands are appropriate and address the requirements of the Control of Woodland Removal Policy and other guidance. In addition, there may be interrelated issues raised by other consultees which would be addressed within the forestry report, for example from SEPA on forestry residues and the Local Authority on timber transport issues.

14.5 Questions for Consultees

The following questions have been designed to ensure that the proposed methodologies and assessment are carried out in a robust manner and to the satisfaction of the determining authorities.

Q27. Are consultees content with the proposed methodology and scope for the forestry assessment?

Q28. Do consultees have any information, particularly with reference to new guidance, which should be taken into account?

15.0 Aviation and Defence

The operation of wind turbines has the potential to cause a variety of adverse effects on aviation during turbine operation.

These include but are not limited to:

- Physical obstructions;
- Generation of unwanted returns on Primary Surveillance Radar (PSR); and
- Adverse effects on overall performance of Communications, Navigation and Surveillance (CNS) equipment.

15.1 Baseline Conditions

The Site is approximately 60 km north west of Aberdeen Airport and approximately 65 km east of Inverness Airport, the two major airports in the north east of Scotland. From previous assessments it has been deemed that the Proposed Development is not within radar line of sight of either airport.

Furthermore, the Site is understood to have no visibility from any NATS (En Route) plc (NERL) radar or any other airport radars.

The Proposed Development is located approximately 20 km south west of RAF Lossiemouth and its radar arrays. The MOD was consulted during the original development and a planning condition for a Radar Mitigation Scheme formed part of the consent to ensure no impact on the MOD radar systems arose from the turbines. Additional consultation is ongoing with the MOD with regards to the Proposed Development.

As the proposed turbines would exceed 150 m to tip height it is understood that Civil Aviation Authority Article 222 requires 2000 candela aviation lighting on the hub of the turbines and 32 candela on the towers of the turbines.

15.2 Consultation

The scope of any aviation impact assessment, if required, will be based on the outcome of consultation discussions with the relevant aviation consultees, including:

- Civil Aviation Authority (CAA);
- Defence Estates (MoD); and
- National Air Traffic Services (NATS) Safeguarding.

16.0 Other Issues

16.1 Introduction

A single chapter will be prepared to draw together the implications of the Proposed Development on other facets of the environment that have been scoped out of the EIA process, or to signpost readers to where they are dealt with within technical chapters of the EIA Report. It is anticipated that this Chapter would include discussion of the following issues:

- Infrastructure;
- Telecommunications;
- Television Reception;
- Shadow Flicker;
- Climate and Carbon Balance;
- Air Quality;
- Population and Human Health;
- Major Accidents and Disasters; and
- Waste and Environmental Management.

16.2 Existing Infrastructure, Telecommunications and Broadcast Services

A range of investigations will be undertaken to establish the presence of existing infrastructure associated with utilities such as water, gas, electricity and telecommunication links to establish either the absence of effects or to identify appropriate mitigation to overcome any effects. These matters would be addressed through consultation with the relevant system operators.

16.2.1 Telecommunications

Wind turbines have the capability of affecting electromagnetic transmissions by physically blocking or dispersing the transmission/signal. This means that telecommunications and/or broadcast signals could experience interference.

Two microwave link communication towers are located on Millstone Hill within Aultmore Forest. These towers do not form part of the Site boundary but nonetheless the microwave links originating from them will be considered during the design phase through liaison with the microwave link operators.

Consultation will be undertaken with Ofcom and key providers of these services in order to ascertain any potential Telecommunications issues.

16.2.2 Television Reception

Wind turbines have the potential to adversely affect analogue television reception through either physical blocking of the transmitted signal or, more commonly, by introducing multi-path interference where some of the signal is reflected through different routes.

The Proposed Development is located in an area which is served by a digital transmitter and, therefore, television reception is unlikely to be affected by the development of the windfarm as digital signals are rarely affected. In the unlikely event that television signals are affected by the Proposed Development, mitigation measures will be considered by the applicant.

Television reception is, therefore, scoped out from further assessment in the EIA.

16.3 Shadow Flicker

Shadow flicker occurs when a certain combination of conditions prevail at a certain location, time of day and year. It firstly requires the sun to be at a certain level in the sky. The sun then shines onto a window of a residential dwelling from behind the wind turbine rotor. As the wind turbine blades rotate it causes the shadow of the turbine to flick on and off. This may have a negative effect on residents in affected properties. If shadow flicker cannot be avoided through design, technical mitigation solutions are available, such as shutting down turbines when certain conditions prevail.

In the UK, significant shadow flicker is only likely to occur within a distance of ten times the rotor diameter (of a wind turbine), from an existing residential dwelling and within 130 degrees either side of north[6].

The rotor diameter of the proposed turbines would be up to 175 m; so the potential area in which shadow flicker could occur would be up to 1,750 m from the proposed turbine locations. Once the final turbine layout and parameters are fixed, the locations of residential properties in proximity to the Site will be verified and if any are situated within ten rotor diameters from the proposed turbine positions, a shadow flicker model will be run to predict potential levels of effect. Shadow flicker is considered as an environmental constraint during the design process.

The location of all residential dwellings in proximity to the Site will be verified during the EIA to ensure no new dwellings have been built since the EIA was undertaken for the consented Aultmore Wind Farm in 2014.

Based on the design of the Proposed Development undertaken to date, and the number of residential properties found in the surrounding area, it is likely that a full shadow flicker assessment will be required for the EIA, covering residential properties within 10 rotor diameters of turbines, within 130 degrees either side of north.

16.4 Climate and Carbon Balance

The EIA Regulations 2017 include for consideration of potentially significant effects on climate which includes greenhouse gas emissions. As a renewable energy project, the Proposed Development is likely to result in a significant saving in carbon and therefore benefit and make an important contribution to the Scottish Government's Climate Change targets.

The main aims of the calculation are: to quantify sources of carbon emissions associated with the proposed Development (i.e. from construction, operation and transportation of materials, as well as loss of peat as relevant); to quantify the carbon emissions which would be saved by constructing the proposed Development; and to calculate the length of time for the project to become a 'net avoider',

[6] Parsons Brinckerhoff Consultants on behalf of DECC (2010) Update of UK Shadow Flicker Evidence Base. Available at: http://www.decc.gov.uk/en/content/cms/meeting_energy/renewable_ener/ored_news/ored_news/uk_shad_flick/uk_shad_flick.aspx (Accessed on 28/03/2017)

rather than a 'net emitter' of carbon dioxide emissions. The length of time is termed the 'payback time'.

A carbon balance assessment will be undertaken for the Proposed Development using guidance Calculating Potential Carbon Losses and Savings from Wind Farms on Scottish Peatlands[7].

16.5 Air Quality

Given the relatively remote location of the Site, the generation of dust during construction activity is unlikely to have a direct impact on any human receptors and will be controlled by means of best practice to be described in the EIA Report.

Consideration will be given within the Ecology and Hydrology Chapters to the potential impacts that dust generation could have on any identified sensitive ecological or hydrological receptors. If required, detailed mitigation measures will be proposed within these EIA Report Chapters.

16.6 Population and Human Health

The potential effects on population and human health arising from the Proposed Development would be considered in the context of the other factors identified in Schedule 4(4) of the 2017 EIA Regulations, given that any environmentally related health issues (both beneficial and adverse) are likely to result from, for example, exposure to traffic, changes in living conditions resulting from noise and increased employment opportunities.

It is therefore proposed that population and human health effects of the Proposed Development are incorporated within the relevant chapter of the EIA Report, as appropriate, under each of the other topic headings e.g. noise or socio-economic effects. Where no significant effects are likely these are scoped out of the assessment.

16.7 Major Accidents and Disasters

The Scope for the EIA to consider major accidents and disasters has been initially considered in **Table 16.1**. Major accidents or disasters have been scoped in where they represent a risk to the Proposed Development, either from the proposed location or the project itself. A high risk is considered to be where there is reasonable likelihood of the accident or disaster occurring, or where the effect of the accident or disaster would lead to the requirement for mitigation which is beyond the usual scope of construction or operational activities.

Where an accident or disaster is scoped in, the EIA Report chapter(s) identified would consider the matter in more detail. This further detail may show that no further assessment is needed, or it may lead onto an appropriate level of assessment and/or identification of mitigation.

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[7] Calculating Potential Carbon Losses and Savings from Wind Farms on Scottish Peatlands, Technical Note Version 2.1.0 https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2018/12/carbon-calculator-technical-guidance/documents/calculating-potential-carbon-losses-and-savings-from-wind-farms-on-scottish-peatlands-technical-guidance/calculating-potential-carbon-losses-and-savings-from-wind-farms-on-scottish-peatlands-technical-guidance/govscot%3Adocument/Calculating%2Bpotential%2Bcarbon%2Blosses%2Band%2Bsavings%2Bfrom%2Bwind%2Bfarms%2Bon%2BScottish%2Bpeatlands%2B-%2Btechnical%2Bguidance.pdf

Table 16-1
Major Accidents and Disasters

Major Accident or Disaster	Risk due to location	Risk due to Project	Scoped in/out due to risk	Rationale	EIA Report Chapter
Biological hazards: epidemics	Very Low	Very Low	Out	The probability of epidemics which would affect the construction or operation of the Proposed Development is considered to be very low.	n/a
Biological hazards: animal and insect infestation	Very Low	Very Low	Out	The probability of animal and insect infestations which would affect the construction or operation of the Proposed Development is considered to be very low	n/a
Earthquakes	No	No	Out	Any earthquakes in the vicinity of the Proposed Development would be of a very small magnitude and the design of turbine foundations etc. is adequate to withstand such low magnitude events.	
Tsunamis	No	No	Out	The general location of the Proposed Development and its distance from the coast means there is no risk of these phenomena affecting the Proposed Development	
Volcanic eruptions	No	No	Out	There are no active volcanos in the vicinity.	
Famine / food insecurity	Negligible	Very Low	Out	The probability of famine/food insecurity which would affect the construction or operation of the Proposed Development is considered to be Negligible.	n/a
Displaced populations	Negligible	Very Low	Out		
Landslide/subsidence	Low	Low	In	A peatslide risk assessment would be undertaken if peat was identified on the Site.	Peat Management, Carbon Balance
Severe Weather; storms	Medium	No	Out	Turbines are equipped with lightning conductors and automatically shut down when wind speeds are at a level which could damage components.	n/a

Major Accident or Disaster	Risk due to location	Risk due to Project	Scoped in/out due to risk	Rationale	EIA Report Chapter
Severe weather; droughts	Very low	No	Out	Turbines would be unaffected by drought conditions.	n/a
Severe weather; extreme temperatures	Low	Very low	In – severe cold weather could lead to build up of ice on blades	Ice build-up could lead to ice-throw.	Project Description
Floods	Low	Very Low	In	Damage to turbines or infrastructure from flooding, or increased flood risk elsewhere.	Site Selection and Design Evolution, Hydrology, Hydrogeology and Geology.
Terrorist Incidents	No	No	Out	n/a	N/a
Cyber attacks	No	No	Out	n/a	n/a
Disruptive industrial activities	No	No	Out	n/a	n/a
Public disorder	No	No	Out	n/a	n/a
Wildfires	No	No	Out	n/a	n/a
Poor Air Quality events	No	No	Out	n/a	n/a
Transport accidents	No	Yes	In – abnormal loads and increase in traffic from construction.	Abnormal loads or an increase in traffic could lead to an increased risk of accidents. Highway network may be unsuitable for such traffic, further increasing risk.	Design evolution and Traffic and Transport.
Industrial accidents	No	Yes	In – from construction and maintenance	Manual labour, working at height, working with high voltages and use of specialist plant all bring risk of industrial accidents. All relevant health and safety legislation and industry best practice followed.	Site Selection and Design Evolution, Utilities and Infrastructure.
Urban Fires	No	No	Out	n/a	n/a

16.8 Waste and Environmental Management

Vattenfall is committed to pollution prevention and environmental protection. As such an environmental management strategy to minimise environmental effects of the Proposed Development will be developed as part of the Outline CEMP.

An Outline Peat Management Plan will be prepared as a supporting technical appendix in line with the SEPA Regulatory Position Statement: Developments on Peat (2012). If significant peat deposits are

proven, a Peat Landslide Hazard and Risk Assessment will be completed using the Site survey data and slope analysis (using DTM data), highlighting areas that may be impacted by a peat slide so that appropriate mitigation measures and can be identified.

If granted planning permission, a Site specific Waste Management Plan which addresses storage and final disposal of surplus material will be produced as part of an anticipated planning condition. All potential waste streams will be identified and what construction practices can be incorporated into the development to minimise the use of raw materials and maximise the use of secondary aggregates.

16.9 Matters Scoped Out

As discussed at Section 16.4 and 16.7 television reception and air quality assessment are proposed to be scoped out of the EIA. Section 16.8 proposes to scope out the major accident and disasters not considered to be high risk as a result of the location of the project or the nature of the works.

16.10 Questions for Consultees

Q29: Confirmation that television reception, air quality and major accidents and disasters can be scoped out of the assessments.

Q30: Are there any other relevant consultees who should be contacted with respect to the other issues?

17.0 Summary

This EIA Scoping Report outlines the proposed technical and environmental assessments that will be included within the EIA Report for the Proposed Development. The proposed scope and methodologies for each assessment have been provided and the guidance to be followed set out. Should any further information be required in order that a full EIA Scoping Opinion can be provided we would be happy to provide further information and/or discuss any further requirements.

17.1 Schedule of Mitigation

A Schedule of Mitigation will be included in the EIA Report. This Chapter will summarise the mitigation and enhancement measures proposed in the preceding Chapters of the EIA Report to reduce or offset the effects of the proposed Development on the environment. These are the measures that have been agreed with the relevant stakeholders and will be applied during the construction and operation of the Proposed Development. A number of these measures are embedded mitigation, undertaken through good practice and to adhere to relevant legislation during all stages of the Proposed Development.

APPENDICES

APPENDIX 1A PROPOSED SCOPING CONSULTEES

Proposed Consultees

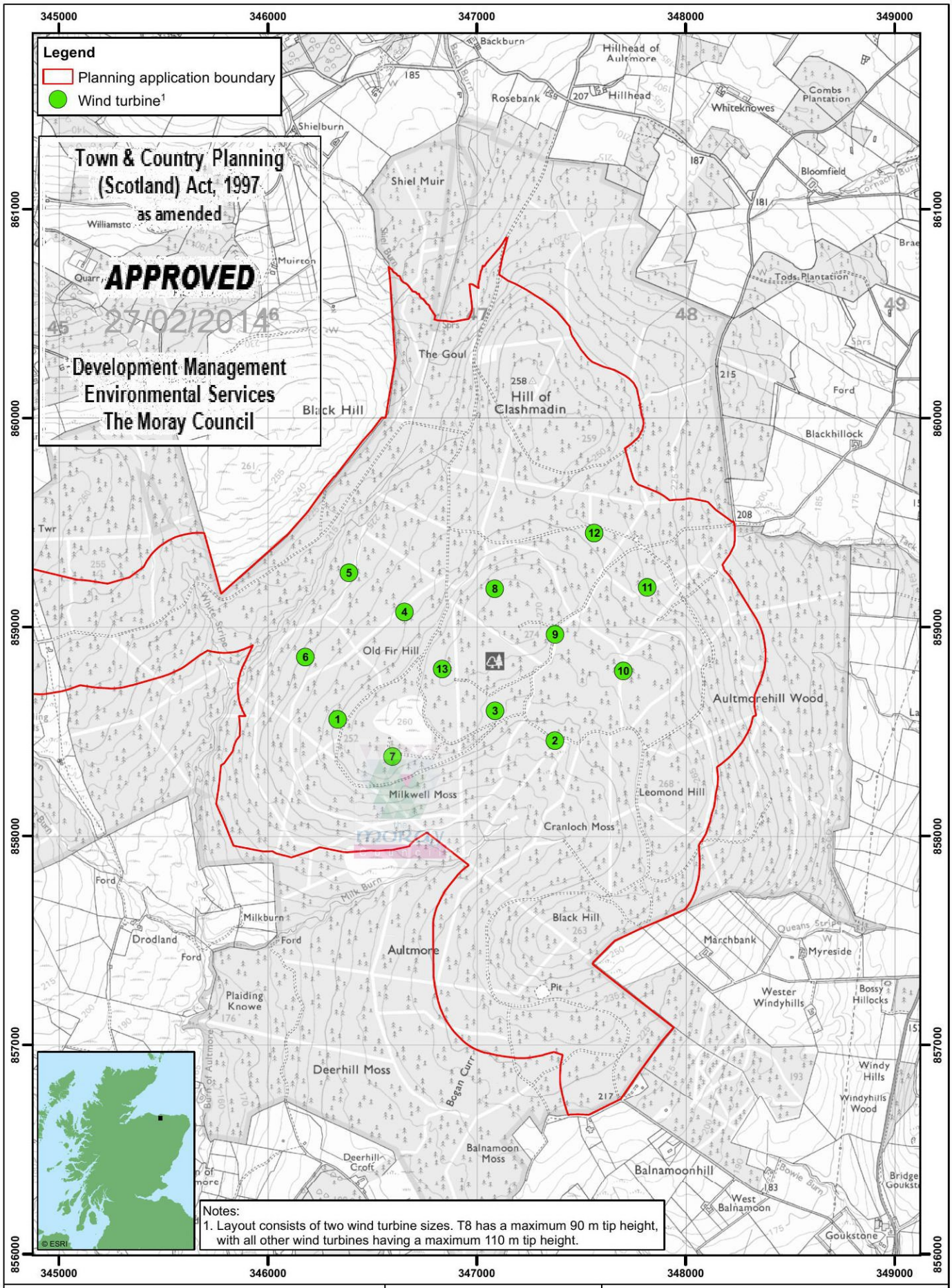
Stakeholder Name	Address	Topics
Statutory Consultees		
NatureScot (NS)	Holmpark Industrial Estate New Galloway Road Newton Stewart Wigtownshire DG8 6BF	Ecology Ornithology Peat
Historic Environment Scotland	Longmore House Salisbury Place Edinburgh EH9 1SH	Archaeology
Scottish Environment Protection Agency (SEPA)	Inverdee House Baxter Street Torry Aberdeen AB11 9QA	Water Environment Geology
The Moray Council	Development Management Economic Growth & Development The Moray Council PO Box 6760 Elgin IV30 9BX	General consultation, landscape and visual, noise methodology, cultural heritage, private water supply information, flood risk, socio-economics, traffic and transport, ecology and ornithology.
Aberdeenshire Council	Viewmount Arduthie Road Stonehaven AB39 2DQ	General consultation, landscape and visual, noise methodology, cultural heritage, private water supply information, flood risk, socio-economics, traffic and transport, ecology and ornithology.
Internal Scottish Government Advisors		
Transport Scotland	Transport Scotland Buchanan House 58 Port Dundas Road Glasgow G4 0HF	Access
Scottish Forestry	Grampian Conservancy Portsoy Road Huntly AB54 4SJ	Forestry
Non-Statutory Consultees		
Aberdeenshire Council Archaeology Service (ACAS)	Woodhill House Westburn Road	Archaeology and Cultural Heritage

Stakeholder Name	Address	Topics
	Aberdeen AB16 5GB	
BAA Aerodrome Safeguarding (Aberdeen)	Safeguarding Manager Aberdeen International Airport Dyce Aberdeen AB21 7DU	Aviation
British Telecom (BT)	BT Business Accounts Providence Row Durham DH98 1BT	Telecommunications
British Horse Society	The British Horse Society Abbey Park Stareton Warwickshire CV8 2XZ	Socio-economic
Buckie & District Community Council	buckieanddistrictCC@outlook.com	General consultation
Civil Aviation Authority (CAA)	45-59 Kingsway London WC2B 6TE	Aviation
Cullen & Deskford Community Council	cullendeskfordcc@gmail.com	General consultation
Crown Estate Office	6 Bells Brae Edinburgh EH4 3BJ	Land use, Access
Defence Estates (MoD)	DIO Headquarters Kingston Road Sutton Coldfield West Midlands B75 7RL	Aviation
Findochty & District Community Council	Contact details not yet available (following CC elections)	General consultation
Fisheries Management Scotland	Fisheries Management Scotland 11 Rutland Square Edinburgh EH1 2AS	Ecology
Highlands and Islands Airport, Inverness	Operations Manager Head Office Inverness Airport Inverness IV2 7JB	Aviation
John Muir Trust Contact: John Low	Tower House Station Road Pitlochry PH16 5AN	Land use, Landscape and Visual

Stakeholder Name	Address	Topics
Joint Radio Company	Joint Radio Company Ltd Friars House Manor House Drive Coventry CV1 2TE	Telecommunications
Keith Community Council	keithcommunitycouncil@gmail.com	General consultation
Lennox Community Council	Contact details not yet available (following CC elections)	General consultation
Mountaineering Council of Scotland	Mountaineering Scotland The Granary West Mill Street Perth PH1 5QP	Recreation
National Air Traffic Services (NATS) Safeguarding	NATS 4000 Parkway Whiteley Fareham Hants PO15 7FL	Aviation
Ofcom	125 Princes Street Edinburgh EH2 4AD	Telecommunications
Portknockie Community Council	portknockiecc@gmail.com	General consultation
River Deveron District Salmon Fishery Board	The Offices Avochie Stables Avochie Huntly Aberdeenshire AB54 7YY	Aquatic Ecology
River Spey Fishery Board	1 Nether Borlum Knockando, Morayshire AB38 7SD	Aquatic Ecology
RSPB Scotland	North Scotland Regional Office Etive House Beechwood Park Inverness, IV2 3BW	Ornithology
Scottish Rights of Way and Access Society (Scotways)	24 Annandale Street Edinburgh EH7 4AN	Access

Stakeholder Name	Address	Topics
Scottish Water	Strategic Planner-EIA Development Planning & Liaison Team The Bridge, Buchanan Gate Business Park Cumbernauld Road Stepps, G33 6FB	Public water supply infrastructure
Scottish Wildlife Trust	Harbourside House 110 Commercial St Edinburgh EH6 6NF	Ecology and Ornithology
Strathisla Community Council	strathislacc@gmail.com	General consultation
Visit Scotland	Webpage: http://www.visitscotland.org/main/send_related_contacts_email.aspx?id=17	Socio-economic

APPENDIX 2A CONSENTED AULTMORE WIND FARM LAYOUT



VATTENFALL
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St Andrews House, Haugh Lane, Hexham, NE46 3RB
Tel +44 (0) 1434 611300 Fax +44 (0)1434 611301

0 0.25 0.5 0.75 km

Aultmore Wind Farm

Wind Turbine Layout

Rev	Date	Drawn By	Checked By	Comment
A	26/09/13	BO	AH	First Issue

Datum	Projection	Plot	Scale	Purpose	Layout	Rev	Drg No
OSGB36	OSNG	A4	1:25,000	For Information	LAULT065	A	6117-700-PA-099

Ref: AULT_SiBdry_v04_ah070806

APPENDIX 7A ECOLOGY DESK STUDY

AULTMORE WIND FARM REDESIGN

Scoping Appendix 7A: Ecology Desk Study Report

Prepared for: Vattenfall

SLR Ref: 404.03640.00016
Version No: 1
August 2021

BASIS OF REPORT

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Table 3-1: Designated Sites Summary ..... **Error! Bookmark not defined.**

APPENDICES

Appendix 01: Protected/ Notable Species Records
Appendix 02: Non-statutory Sites, Designations and Consultation Zones (provided by NESBReC)
Appendix 03: Figure 1: Statutory Designated Sites and Ancient Woodland within 10 km

1.0 Introduction

SLR was commissioned by Vattenfall in June 2021 to undertake an ecological desk study for the proposed Aultmore Wind Farm Redesign (the Site). The Site is located approximately 6km north of the nearest large settlement, which is the town of Keith, and approximately 7km south of the town of Buckie on the Moray coast. The desk study was completed in August 2021 and the results have been used to inform constraint plans for the Proposed Development and the associated Environmental Impact Assessment (EIA) Report.

1.1 Site Description

The Site is centred on grid reference NJ 42740 58155 and lies between the B9016 and B9018. The site consists predominantly of an upland plateau of commercial forestry which is managed by Forestry and Land Scotland (FLS) on behalf of Scottish Ministers. The forest covers a total area of approximately 2,400 hectares (ha) and is defined in the Scottish Natural Heritage (SNH) *Moray and Nairn Landscape Assessment* (1998) as an '*Uplands*' regional landscape character type and locally as an area of '*Upland Farmland*', although this site is completely forested.

A number of small, mostly unnamed watercourses are found across the site; however, none are located with the areas marked for development.

1.2 Surrounding Area

The surrounding area is rural in nature, with land predominantly used for farming, commercial forestry and areas of open moorland. The Site is located within the Moray Council administrative boundary and lies approximately 7 km east of the River Spey. There are a number of small groups of residential properties and farms close to the site, the nearest of which is within 50 m of the Site boundary and edge of the forest (and more than 800 m from the nearest turbine). The three highest hills found across the Site are Millstone Hill (301 m above ordnance datum (AOD) in the west, Addie Hill (272 m AOD) in the centre of the Site and Old Fir Hill (262 m AOD) in the east.

1.3 Site History

The Site has been used for commercial forestry from the 1960s and consists of trees of varying ages, managed by FLS.

Aultmore Wind Farm was granted planning permission in 2014 for the construction of 13 turbines. Subsequently, two Section 42 applications to vary conditions of the planning consent have been submitted and approved by the Moray Council in 2017 and 2021.

1.4 Desk Study Scope

This desk study is designed to give an overview of relevant existing ecological data, including data for protected and notable (e.g. rare or invasive), species and designated sites nearby (up to 10 km for statutory designated sites and bats plus up to 2 km for other protected/notable species and for non-statutory designated sites). The desk study summarises the results of data obtained from the North East Scotland Biological Records Centre (NESBReC), NatureScot Site Link and from the MAGIC online GIS tool (MAGIC).

2.0 Methods

2.1 Protected and Notable Species

Desk study data were acquired from North East Scotland Biological Records Centre (NESBReC) for protected and notable species within 2 km of the site boundary. Searches for protected and notable species data from NESBReC were limited to:

- Data from all years;
- Data from within 10 km of the Site for all bat species; and
- Data from within 2 km of the Site for all other species.

EIA reports and any post consent/construction information for wind farms and other developments within 2 km of the Site (where available), including:

- Aultmore Wind Farm Environmental Statement: Ecology Chapter (Hyder, 2007) that also summarises relevant information from a previous Environmental Impact Assessment (AMEC, 2003);
- Lurg Hill Wind Farm Environmental Statement (Volume 1) Chapter 13: Ecology and Ornithology (Vento Ludens, 2017); and
- Myreton Crossroads 2 Phase 1 Habitat Survey (RSK, 2009).

The following constructed wind farms were identified within 2 km and 10 km of the Site; however, environmental documentation was not available for review:

- Myreton Crossroads 1 Wind Farm (1 x 800 kW turbine);
- Netherton of Windyhills Wind Farm (2 x 2.3 MW turbine); and
- Garellhill Wind Farm (1 x 800 kW turbine).

2.2 Designated Sites

Information regarding statutory sites designated for ecological interest, within 10 km of the Aultmore site, was obtained from the MAGIC online GIS tool (MAGIC). NESBReC provided information relating to non-statutory designated sites with ecological interests up to 2 km from the Aultmore site. Designation types searched for included:

- Ramsar sites;
- Special Areas of Conservation (SACs);
- Special Protection Areas (SPAs);
- Sites of Special Scientific Interest (SSSIs);
- Locally designated sites such as Local Nature Conservation Sites (LNCS) or Local Wildlife Sites (LWS); and
- Local Nature Reserves (LNR), National Nature Reserves (NNR) and RSPB and Wildlife Trust Reserves.

In addition, the search included woodlands listed on the Ancient Woodland Inventory within 10 km.

2.3 Nomenclature

The common (English) names and Latin names for species are used within the main body of the report and appendices (unless a species has no common name).

3.0 Results

The information below summarises information on records of all protected/ notable species and designated sites within 2 km of the site (10 km for statutory designated sites). A more detailed summary is provided in **Appendix 01**: Protected/ Notable Species Records (from all data sources) and **Appendix 02**: Non-statutory Sites, Designations and Consultation Zones (provided by NESBReC).

3.1 Designated Sites

3.1.1 Statutory Designated Sites

There are 18 designated sites located within 10 km of the site boundary, including eleven SSSIs, two SACs, two SPAs, two Ramsar sites and one Marine Protected Area (MPA). **Table 3.1** details the sites and their distance and direct from the application site.

Table 3.1
Statutory Designated Sites

Site Name and Designation	Distance from Application Site	Direction from Application Site
Mill Wood (SSSI)	4.56 km	S
River Spey (SAC)	5.21 km	SW
Moray Firth (SPA)	5.28 km	WNW
Spey Bay (SSSI)	5.47 km	WNW
River Spey (SSSI)	6.11 km	WSW
Lower River Spey – Spey Bay (SPA)	6.15 km	WNW
Lower River Spey (SSSI)	6.15 km	WNW
Moray and Nairn Coast (SPA)	6.15 km	WNW
Moray and Nairn Coast (Ramsar)	6.15 km / 7.93 km	WNW / NW
Lower River Spey Bay (SAC)	6.16 km	WNW
Shiel Wood Pastures (SSSI)	6.21 km	ESE
Cullen to Stake Ness Coast (SSSI)	6.79 km	NNE
Southern Trench (MPA)	6.81 km	ENE
Moss of Crombie (SSSI)	9.03 km	ESE
Den of Pitlurg (SSSI)	9.75 km	S
Whitehill (SSSI)	9.90 km	SE

3.1.2 Non-statutory Designated Sites

One Site of Environmentally Sensitive Area (SESA) Botany is located c. 0.8 km east of the Aultmore site (at OS NGR NJ 44822 58180) as shown on the penultimate map within **Appendix 02**. The Craibstone Quarry SESA Botany site relates to a disused flooded limestone quarry with an adjacent area of mixed woodland and a section of the Deskford Burn. The flooded quarry is largely covered by broadleaved pondweed (*Potamogeton natans*) and holds a few species of amphibians. The trees near the quarry appear to have been planted, possibly to screen the scars of the disused quarry. There is some reseeding of ash (*Fraxinus excelsior*) and sycamore (*Acer pseudoplatanus*). The ground flora near the quarry include species such as common twayblade (*Neottia ovata*) and Intermediate enchanter's nightshade (*Circaea x intermedia*) which are locally scarce.

No further non-statutory designated sites are currently known within 2 km of site.

3.1.3 Ancient Woodlands

NESBReC confirmed there were no ancient woodland sites within 2 km of the Aultmore site. Nevertheless, a desk study search of Nature Scot SiteLink evidenced various sites; including three areas within the site boundary (on **Appendix 03**) around the Hill of Stonyslacks, Corsekell Moss and Millstone Hill in the north west of the Site defined as ancient woodland of plantation origin (note that no ancient woodland has been recorded on Site during surveys and it has likely been subsumed into the commercial forestry).

3.1.4 Wildcat Priority Site

A Wildcat Priority Area, c. 9 km south of site, is located at Strathbogie.

3.1.5 Carbon and Peatland Map

The Scottish Natural Heritage (SNH) (now NatureScot) Carbon and Peatland 2016 Map (SNH, 2016c) was reviewed. This provided a value indicating the likely presence of carbon-rich soils, deep peat and priority peatland habitat for each individually-mapped area, at a coarse scale across Scotland. The following habitats are indicated to be present on site:

- Class 1: Peat soil supporting peatlands is present in parcels near the westernmost extent of site, near Herricks Moss/Burn of Thievesbush, east of Hayfield, part of Black Hill and two other locations on the Site;
- Class 3: Predominantly peaty soil with some peat soil supporting peatland with some heath is present in less extensive pockets interspersed throughout the Site;
- Class 4: Predominantly mineral soil with some peat soil that supports heath with some peatland covers a large proportion of the north western extent of the Site and interspersed throughout; and
- Class 5: Peat Soil (no peatland vegetation) covers the majority of the Site.

3.2 Protected and Notable Species

Details of protected or notable species recorded on and within 2 km (10 km for bats) of the proposed site can be found in Table 1, **Appendix 01**. The combined desk study data (from the local records centre and relevant ecological reports), included records of:

- 25 species of plant; including, records of invasive giant hogweed;
- 38 species of notable invertebrates;
- Three species of reptiles and amphibians; namely, palmate newt (*Lissotriton helveticus*), common newt (*Lissotriton vulgaris*) and common lizard (*Zootoca vivipara*);

- Nine species of protected/notable mammals; namely, the legally protected otter *Lutra lutra*), water vole (*Arvicola aquaticus*), mountain hare (*Lepus timidus*), pine marten (*Martes martes*), red squirrel (*Sciurus vulgaris*), wildcat (*Felis silvestris*) and badger (*Meles meles*) plus notable West European hedgehog (*Erinaceus europaeus*) and brown hare (*Lepus europaeus*); and
- At least five species of bat (within 2 km of the Site; including, common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Daubenton's bat (*Myotis daubentonii*), brown long-eared (*Plecotus auritus*) and noctule (*Nyctalus noctula*), all of which are considered to be at high risk from wind turbines under current guidelines (NatureScot, 2019).

3.2.1 Invertebrates

Records of 38 species of invertebrates recorded within 2 km of the application Site were returned in the data search. For details of the closest and most recent records see **Appendix 01, Table 1** for details.

3.2.2 Fish and Aquatic Invertebrates

No records of fish or aquatic inverts were returned in the data search records or held within previous assessments within 2 km of the site boundary.

3.2.3 Ornithology

The data search found 56 species of bird recorded within 2 km of the proposed Site, see **Appendix 01, Table 1** for details. Protected species recorded include osprey (*Pandion haliaetus*), hen harrier (*Circus cyaneus*), red kite (*Milvus milvus*), peregrine falcon (*Falco peregrinus*), barn owl (*Tyto alba*), redwing (*Turdus iliacus*) and white-tailed eagle (*Haliaeetus albicilla*).

3.2.4 Invasive/Non-native Species

Records of one invasive species, giant hogweed (*Heracleum mantegazzianum*), were included in the desk study data.

References

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APPENDIX 01

Protected/ Notable Species Records

Appendix 01, Table 1: Summary of Protected/ Notable Species Records

Species	Nearest Location to Site	Data Source	Last Record	Details/additional comments on record closest to site	Protection/ Conservation Status (see Table 2 for Definitions)
Flora					
Annual knawel *Scleranthus annuus subsp. Annuus*	261 m, S	NESBReC	1845	Name in Craib's Flora = Scleranthus annuus. Whole County status = Frequent	UKPS
Bendy ditrichum *Ditrichum flexicaule*	261 m, S	NESBReC	1977		SBL S3
Black-bindweed *Fallopia convolvulus*	261 m, S	NESBReC	1956	Locality given as Keith, Grange Station & Aultmore. Card annotated as SW quadrant, but sites given appear to be from whole hectad.	SBL S5
Caraway *Carum carvi*	261 m, S	NESBReC	1912	Name in Craib's Flora = Carum carvi Whole County status = Alien	UKPS
Charlock *Sinapis arvensis*	261 m, S	NESBReC	2016	Name in Craib's Flora = Brassica arvensis Whole County status = Colonist?	SBL S5
Corn mint *Mentha arvensis*	261 m, S	NESBReC	1972	Card 421	SBL S5
Cornflower *Centaurea cyanus*	261 m, S	NESBReC	1845	Name in Craib's Flora = Centaurea cyanus Whole County status = Colonist - not common	UKPS

Species	Nearest Location to Site	Data Source	Last Record	Details/additional comments on record closest to site	Protection/ Conservation Status (see Table 2 for Definitions)
Field gentian *Gentianella campestris*	261 m, S	NESBReC	1912	Name in Craib's Flora = Gentiana campestris.	UKPS
Field madder *Sherardia arvensis*	261 m, S	NESBReC	1912	Name in Craib's Flora = Sherardia arvensis Whole County status = Rather common	SBL S5
Frog orchid *Coeloglossum viride*	261 m, S	NESBReC	1912	Name in Craib's Flora = Habernaria viridis. Whole County status = Rare	UKPS
Good-King-Henry *Chenopodium bonus-henricus*	261 m, S	NESBReC	1912	Name in Craib's Flora = Chenopodium bonus - henricus.	SBL S5
Harsh downy-rose *Rosa tomentosa*	261 m, S	NESBReC	1912	Name in Craib's Flora = Rosa tomentosa	SBL S4
Heath cudweed *Gnaphalium sylvaticum*	710 m, WSW	NESBReC	1972	From Scarce Plants Project print out.	SBL S5
Intermediate wintergreen *Pyrola media*	261 m, S	NESBReC	1912	Name in Craib's Flora = Pyrola media. Whole County status = Rare	SBL S5
Juniper *Juniperus communis*	154 m, WNW	NESBReC	2004	R	UKPS , SBL
Large-flowered hemp-nettle *Galeopsis speciosa*	261 m, S	NESBReC	1956	Locality given as Keith, Grange Station & Aultmore. Card annotated as SW quadrant, but sites given appear to be from whole hectad.	SBL S5
Lesser butterfly-orchid *Platanthera bifolia*	173 m, SE	NESBReC	1999		UKPS
Pretty cord-moss *Funaria pulchella*	261 m, S	NESBReC	1977		UKPS
Shepherd's-needle *Scandix pecten-veneris*	261 m, S	NESBReC	1912	Name in Craib's Flora = Scandix pecten-veneris Whole County status = Local	UKPS

Species	Nearest Location to Site	Data Source	Last Record	Details/additional comments on record closest to site	Protection/ Conservation Status (see Table 2 for Definitions)
Sun spurge *Euphorbia helioscopia*	261 m, S	NESBReC	1981	Root field	SBL S5
Twinflower *Linnaea borealis*	261 m, S	NESBReC	1905	Name in Craib's Flora = Linnaea borealis Whole County status = Local	UKPS
White mustard *Sinapis alba*	1.4 km, WNW	NESBReC	1983	Distribution Map Card gives date as 7/1983.	SBL S5
White ramping-fumitory *Fumaria capreolata*	261 m, S	NESBReC	1845	Name in Craib's Flora = Fumaria capreolata. Whole County status = Colonist. Same record also in Dickie (1860).	SBL S5
Wild pansy *Viola tricolor*	0 m, W	NESBReC	1954	Date range = when AJS recorded. Road to Tor Sliasg, near summit.	SBL S5
Giant hogweed *Heracleum mantegazzianum*		NESBReC, Hyder 2007	1992		Invasive non-native plant
Invertebrates					
Anomalous *Stilbia anomala*	1791 m WNW	NESBReC	2014	Adult, MV Light Trap	UKPS
Autumnal rustic *Eugnorisma glareosa*	186 m SSE	NESBReC	2016	No quantity given	UKPS
Brindled beauty *Lycia hirtaria*	1791 m WNW	NESBReC	2015	Adult, MV Light Trap	UKPS
Brindled ochre *Dasypolia temple*	80 m SE	NESBReC	2016	Adult, MV Light Trap,	UKPS
Broom moth *Ceramica pisi*	80 m SE	NESBReC	2016	Adult, Skinner Trap (125W MV)	UKPS
Brown-spot pinion *Agrochola litura*	80 m SE	NESBReC	2016	Adult, MV Light Trap,	UKPS

Species	Nearest Location to Site	Data Source	Last Record	Details/additional comments on record closest to site	Protection/ Conservation Status (see Table 2 for Definitions)
Centre-barred sallow *Atethmia centrago*	1791 m WNW	NESBReC	2016	Adult, Light Trapping	UKPS
Dark brocade *Mniotype adusta*	80 m SE	NESBReC	2016	Adult, Skinner Trap (125W MV), photo seen, early date	UKPS
Double dart *Graphiphora augur*	261 m S	NESBReC	2016	Quantity not given	UKPS
Dusky brocade *Apamea remissa*	80 m SE	NESBReC	2016	Adult, MV Light Trap,	UKPS
Garden tiger *Arctia caja*	80 m SE	NESBReC	2016	Adult, MV Light Trap,	UKPS
Ghost moth *Hepialus humuli*	80 m SE	NESBReC	2013	Adult, MV Light Trap,	UKPS
Green-brindled crescent *Allophyes oxyacanthae*	80 m SE	NESBReC	2016	Adult, MV Light Trap	UKPS
Grey dagger *Acronicta psi*	80 m SE	NESBReC	2016	Adult, MV Light Trap	UKPS
Grey mountain carpet *Entephria caesiata*	261.2 S	NESBReC	1960	Quantity not given	UKPS
Haworth's minor *Celaena haworthii*	80 m SE	NESBReC	2013	Adult, MV Light Trap, photo seen	UKPS
Heath rustic *Xestia agathina*	80 m SE	NESBReC	2016	Adult, Skinner Trap (125W MV), photo seen	UKPS
Knot grass *Acronicta rumicis*	80 m SE	NESBReC	2016	Adult, Skinner Trap (125W MV), photo seen	UKPS
Large wainscot *Rhizedra lutosa*	186 m SSE	NESBReC	2011	No quantity given	UKPS
Latticed heath *Chiasmia clathrata*	80 m SE	NESBReC	2014	Adult, MV Light Trap, only the third VC94 record	UKPS

Species	Nearest Location to Site	Data Source	Last Record	Details/additional comments on record closest to site	Protection/ Conservation Status (see Table 2 for Definitions)
Minor shoulder-knot *Brachylomia viminalis*	186 m SSE	NESBReC	2010	No quantity given	UKPS
Mottled rustic *Caradrina morpheus*	1791 m WNW	NESBReC	2014	Adult, MV Light Trap, The 2nd for VC94. Photo seen.	UKPS
Mouse moth *Amphipyra tragopoginis*	1791 m WNW	NESBReC	2016	Adult, Light Trapping	UKPS
Neglected rustic *Xestia castanea*	186 m SSE	NESBReC	2010	No quantity given	UKPS
Pale eggar *Trichiura crataegi*	186 m SSE	NESBReC	2010	No quantity given	UKPS
Rosy minor *Litoligia literosa*	80 m SE	NESBReC	2016	Adult, MV Light Trap,	UKPS
Rosy rustic *Hydraecia micacea*	80 m SE	NESBReC	2016	Adult, MV Light Trap,	UKPS
Sallow *Cirrhia icteritia*	80 m SE	NESBReC	2016	Adult, MV Light Trap	UKPS
Shaded broad-bar *Scotopteryx chenopodiata*	80 m SE	NESBReC	2013	Adult, MV Light Trap,	UKPS
Shoulder-striped wainscot *Leucania comma*	80 m SE	NESBReC	2015	Adult, MV Light Trap, photo seen, RL	UKPS
Small heath *Coenonympha pamphilus*	187 m WSW	NESBReC	2018		UKPS
Small pearl-bordered fritillary *Boloria selene*	75 m SE	NESBReC	1999	1 adult	UKPS
Small pheonix *Ecliptopera silaceata*	80 m SE	NESBReC	2016	Adult, MV Light Trap	UKPS
Small square-spot *Diarsia rubi*	80 m SE	NESBReC	2016	Adult, MV Light Trap,	UKPS

Species	Nearest Location to Site	Data Source	Last Record	Details/additional comments on record closest to site	Protection/ Conservation Status (see Table 2 for Definitions)
Streak *Chesias legatella*	80 m SE	NESBReC	2016	Adult, MV Light Trap,	UKPS
Sword-grass *Xylena exsoleta*	80 m SE	NESBReC	2015	Adult, MV Light Trap	UKPS
White ermine *Spilosoma lubricipeda*	80 m SE	NESBReC	2016	Adult, MV Light Trap	UKPS
White-line dart *Euxoa tritici*	1791 m WNW	NESBReC	2015	Adult, MV Light Trap	UKPS
Reptiles and Amphibians					
Common lizard *Zootoca vivipara*	Within 10 km square	NESBReC, Hyder 2007	1970-94	-	WCA Sch5
Palmate newt *Lissotriton helveticus*	On site	Hyder 2007		Low populations identified in two non-acidic ponds on site (Hyder, 2007).	Bern3
Smooth newt *L. vulgaris*	0 SE	Hyder 2007		Low populations identified in two non-acidic ponds on site (Hyder, 2007).	Bern3
Birds					
Barn owl *Tyto alba*	222 m E	NESBReC	2018	(Probable breeding) PAIR in breeding habitat	ScotBL, BoCC Amber, WCA S1
Black-headed gull *Chroicocephalus ridibundus*	0 ESE	NESBReC, Hyder 2007	2007	(Possible breeding) Bird(s) in possible breeding HABITAT 12 passing over site (Hyder, 2007)	ANNEX 2.2, BoCC Amber, ScotBL

Species	Nearest Location to Site	Data Source	Last Record	Details/additional comments on record closest to site	Protection/ Conservation Status (see Table 2 for Definitions)
Bullfinch *Pyrrhula pyrrhula*	0 NE	NESBReC, Vento Ludens 2017	2003, 2015	(Probable breeding) PAIR in breeding habitat Breeding (Vento Ludens, 2017)	UKPS, ScotBL, BoCC Amber
Buzzard *Buteo buteo*	1447 m ESE	RSK 2009, Amec 2003, Vento Ludens 2017	2015	Observed offsite between Site and Keith (RSK, 2009) Breeding (Vento Ludens, 2017)	WCA, UKPS
Capercaillie *Tetrao urogallus*	0 WSW	NESBReC, Hyder 2007	2011	No evidence of capercaillie within the forest (Amec, 2003) Adult female observed on two occasions by local deer stalker in western section of forest in winter 2006/2007 (Hyder, 2007) Adult female	ANNEX 1, ScotBL, BoCC Red, WCA S1
Common gull *Larus canus*	0 WSW	Hyder 2007	2007	c.40 passing over site (Hyder, 2007)	BoCC Amber
Corn bunting *Emberiza calandra*	1657 m NW	NESBReC	2002	(Possible breeding) SINGING bird present	UKPS, ScotBL, BoCC Red
Crossbill *Loxia spp.*	0 NNW	Hyder 2007	2007	Crossbill species recorded on all breeding bird surveys (Hyder, 2007)	UKPS, S1 WCA, ScotBL
Cuckoo *Cuculus canorus*	0 ENE	NESBReC , Amec 2003	2016	(Possible breeding) Bird(s) in possible breeding HABITAT	UKPS, ScotBL, BoCC Red

Species	Nearest Location to Site	Data Source	Last Record	Details/additional comments on record closest to site	Protection/ Conservation Status (see Table 2 for Definitions)
				Breeding bird surveys (Amec, 2003)	
Curlew *Numenius arquata*	0 ENE	NESBReC, Amec 2003	2015	(Probable breeding) PAIR in breeding habitat Breeding bird surveys (Amec, 2003) 1-2 individuals recorded in flight over site on 4 occasions (Hyder, 2007)	UKPS, BoCC Amber, ScotBL
Dunnock *Prunella modularis*	0 WSW	NESBReC, Vento Ludens, Hyder 2007	2005, 2015	(Possible breeding) SINGING bird present Breeding (Vento Ludens, 2017)	UKPS, BoCC Amber
Golden plover *Pluvialis apricaria*	0 NNE	NESBReC, Hyder 2007	2007	OBSERVED using tetrad during breeding season (not flying over) Flock of 55 observed flying over Site (Hyder, 2007)	ANNEX 1, ScotBL, BoCC Amber
Goshawk *Accipiter gentilis*	0 WSW	NESBReC, Vento Ludens 2017, Hyder 2007	2015	Adult Goshawk recorded and known within area (Vento Ludens, 2017) Male observed twice (Hyder, 2007)	ONS, S1 WCA
Grasshopper warbler *Locustella naevia*	0 NE	NESBReC	2014	(Probable breeding) TERRITORY (repeated territorial behaviour)	UKPS, ScotBL, BoCC Red
Greylag goose *Anser anser*	0 NE	Hyder 2007, Vento	2014	2 birds over site (Hyder, 2007)	UKPS, S2 WCA, BoCC Amber

Species	Nearest Location to Site	Data Source	Last Record	Details/additional comments on record closest to site	Protection/ Conservation Status (see Table 2 for Definitions)
		Ludens 2017			
Grey partridge *Perdix perdix*	0 NNE	NESBReC	2005	(Probable breeding) PAIR in breeding habitat	ANNEX 2.1, ScotBL, BoCC Red
Grey wagtail *Motacilla cinerea*	0 NNE	Hyder 2007	2007	In flight from VP watch (Hyder, 2007)	BoCC Red
Hen harrier *Circus cyaneus*	0 ENE	NESBReC, Hyder 2007	2014	male	ANNEX 1, ScotBL, BoCC Red
Herring gull *Larus argentatus*	0 NNE	NESBReC, Hyder 2007	2019	OBSERVED using tetrad during breeding season (not flying over) c.15 passing over site (Hyder, 2007)	UKPS, BoCC Red, ScotBL
Hooded crow *Corvus cornix*	0 WSW	NESBReC, Hyder 2007	2005	(Possible breeding) Bird(s) in possible breeding HABITAT	ScotBL
House martin *Delichon urbicum*	0 NW	Hyder 2007	2007		BoCC Amber
House sparrow *Passer domesticus*	0 ESE	NESBReC	2005	(Confirmed breeding) OCCUPIED NEST (adults sitting/entering)	UKPS, ScotBL
Kestrel *Falco tinnunculus*	0 ENE	NESBReC, Amec 2003, Hyder 2007	2015	(Possible breeding) Bird(s) in possible breeding HABITAT Breeding bird survey (Amec, 2003)	ScotBL, BoCC Amber

Species	Nearest Location to Site	Data Source	Last Record	Details/additional comments on record closest to site	Protection/ Conservation Status (see Table 2 for Definitions)
Lapwing *Vanellus vanellus*	0 NE	NESBReC	2005	(Confirmed breeding) FLEDGED YOUNG (recent; downy young)	UKPS, ScotBL, BoCC Red
Lesser black-backed gull *Larus fuscus*	0 NE	Hyder 2007	2007	C.25 passing over site (Hyder, 2007)	BoCC Amber
Linnet *Linaria cannabina*	0 WSW	NESBReC, Hyder 2007	2007	(Possible breeding) Bird(s) in possible breeding HABITAT Pair observed along access track (Hyder, 2007)	UKPS, S2(4), BoCC Red, ScotBL
Mallard *Anas platyrhynchos*	0 SW	Hyder 2007	2007	In flight over site (Hyder, 2007)	BoCC Amber, S2 WCA,
Meadow pipit *Anthus pratensis*	0 NE	Amec 2003, Hyder 2007	2007	Breeding bird surveys 202 and 2007 (Amec, 2003) (Hyder, 2007)	WCA, UKPS, BoCC Amber
Merlin *Falco columbarius*	0 ENE	NESBReC	2013		ANNEX 1, ScotBL, BoCC Amber
Mistle thrush *Turdus viscivorus*	0 NE	Vento Ludens 2017, Hyder 2007	2015	Breeding bird surveys (Vento Ludens, 2017) 2-3 pairs breeding (Hyder, 207)	UKPS, BoCC Amber
Osprey *Pandion haliaetus*	0 ENE	NESBReC	2013	circling around near masts	ANNEX 1, ScotBL, BoCC Amber
Peregrine *Falco peregrinus*	0 W	NESBReC, Hyder 2007, Vento	2014	Peregrine recorded in 2007 surveys considered likely to be passing through area (Hyder, 2007)	ANNEX 1, ScotBL

Species	Nearest Location to Site	Data Source	Last Record	Details/additional comments on record closest to site	Protection/ Conservation Status (see Table 2 for Definitions)
		Ludens 2017		Breeding and foraging in area (Vento Ludens, 2017)	
Pink-footed goose *Anser brachyrhynchus*	810m NE	NESBReC, Hyder 2007, Vento Ludens 2017	2017	Dropping into roost at 1630. Large flock (c, 2500 birds) approx. 2km west of site (Hyder, 2007) Intermittently passing over area, flights above collision risk zone (Vento Ludens, 2017)	ANNEX 2.2, S2 WCA, BoCC Amber
Raven *Corvus corax*	0 NE	Hyder 2007	2007	Two birds noted on one VP watch (Hyder, 2007)	
Red grouse *Lagopus lagopus*	0 NE	NESBReC	2006	(Possible breeding) Bird(s) in possible breeding HABITAT	UKPS, ScotBL
Redpoll *Carduelis flammea*	0 NE	Vento Ludens 2017	2015	Singing (Vento Ludens, 2017) Song-flight recorded by single male (Hyder, 2017)	UKPS, BoCC Amber
Redwing *Turdus iliacus*	0 ESE	NESBReC	2013	Flock of redwings flying over cpt 2633 and neighbouring farmland	ANNEX 2.2, ScotBL, BoCC Red
Reed bunting *Emberiza schoeniclus*	0 WSW	NESBReC	2007	(Possible breeding) Bird(s) in possible breeding HABITAT One singing male access track (Hyder, 2007)	UKPS, S2(4), BoCC Amber, ScotBL
Ring ouzel (Turdus torquatus)	0 WSW	Hyder 2007	2007	Single male perched nr access track (Hyder, 2007)	BoCC Red, ScotBL

Species	Nearest Location to Site	Data Source	Last Record	Details/additional comments on record closest to site	Protection/ Conservation Status (see Table 2 for Definitions)
Rook *Corvus frugilegus*	0 NE	Hyder 2007	2007		
Scottish crossbill *Loxia scotica*	0 NNW	NESBReC, Hyder 2007	2006	(Possible breeding) Bird(s) in possible breeding HABITAT Breeding bird survey, two family parties recorded (Hyder, 2007)	ANNEX 1, Schedule 1 WCA, S2(4), BoCC Red, ScotBL
Short-eared owl *Asio flammeus*	0 SSW	NESBReC, Vento Ludens 2017	2014	Two passage flights (Vento Ludens, 2017)	ANNEX 1, ScotBL, BoCC Amber
Siskin *Spinus spinus*	0 WSW	NESBReC	2006	(Probable breeding) PAIR in breeding habitat	ScotBL
Skylark *Alauda arvensis*	0 WNW	NESBReC, Amec 2003, Hyder 2007	2014	(Probable breeding) PAIR in breeding habitat Breeding bird surveys 202 and 2007 (Amec, 2003) (Hyder, 2007) Breeding on clear-felled area	UKPS, BoCC Red, S2(4)
Snipe *Gallinago gallinago*	0 NNE	NESBReC	2006	(Probable breeding) DISPLAY and courtship	ANNEX 2.1
Song thrush *Turdus philomelos*	0 WSW	NESBReC, Vento Ludens 2017, Hyder 2007	2006, 2015	(Possible breeding) SINGING bird present Breeding bird surveys (Vento Ludens, 2017) (Hyder, 207)	UKPS, S2(4), BoCC Red, ScotBL

Species	Nearest Location to Site	Data Source	Last Record	Details/additional comments on record closest to site	Protection/ Conservation Status (see Table 2 for Definitions)
Sparrowhawk *Accipiter nisus*	0 NE	Amec 2003, Vento Ludens 2017, Hyder 2007	2014	Breeding and foraging Male noted (Hyder, 2007)	UKPS, ANNEX 1
Spotted flycatcher *Muscicapa striata*	261 m S	NESBReC	2006	(Probable breeding) PAIR in breeding habitat	UKPS, ScotBL, BoCC Red
Starling *Sturnus vulgaris*	0 NE	NESBReC, Hyder 2007	2015	(Confirmed breeding) FOOD for YOUNG, or faecal sacs c.40 (Hyder, 2007)	UKPS, BoCC Red, ScotBL
Swift *Apus apus*	0 NE	NESBReC, Hyder 2007	2019	(Possible breeding) Bird(s) in possible breeding HABITAT 4 recorded (Hyder, 207)	ScotBL, BoCC Amber
Tree pipit *Anthus trivialis*	0 ENE	NESBReC, Amec 2003	2005	(Possible breeding) Bird(s) in possible breeding HABITAT Breeding bird surveys (Amec, 2003)	UKPS, ScotBL, BoCC Red
Tree sparrow *Passer montanus*	222 m E	NESBReC	2016	(Confirmed breeding) OCCUPIED NEST (adults sitting/entering)	UKPS, ScotBL, BoCC Red
Willow warbler *Phylloscopus trochilus*	0 NE	Amec 2003, Vento Ludens 2017,	2015	Breeding bird surveys 15+ singing birds (Hyder, 2007)	UKPS, BoCC Amber

Species	Nearest Location to Site	Data Source	Last Record	Details/additional comments on record closest to site	Protection/ Conservation Status (see Table 2 for Definitions)
		Hyder 2007			
White-tailed eagle *Haliaeetus albicilla*	0 ENE	NESBReC	2011		ANNEX 1, ScotBL, BoCC Red
Woodcock *Scolopax rusticola*	0 SE	NESBReC	2014	Flushed from edge of wet heath in cpt 2670f	ANNEX 2.1, ScotBL, BoCC Amber
Yellowhammer *Emberiza citrinella*	0 NE	NESBReC, Hyder 2007	2018	(Probable breeding) PAIR in breeding habitat Two singing males along access track (Hyder, 2007)	UKPS, BoCC Red, ScotBL
Mammals					
Brown hare *Lepus europaeus*	80m, SE	NESBReC, Hyder 2007	2016	Eating grass in field	UKPS, ScotBL,
Eurasian badger *Meles meles*	0m, S	NESBReC, Hyder 2007, Vento Ludens 2017	2017	Active sett with 42 entrances (26 active) No setts found during badger surveys, however, signs of activity and scats recorded (Vento Ludens 2017)	BA1992, HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, UKPSDGLBAP09, ScotBL, UKPS.
Eurasian red squirrel *Sciurus vulgaris*	0m, E	NESBReC, Hyder 2007	2017	On forest road and on deadwood on edge of roadside.	WCA5/9.1k/l, WCA5/9.1t, WCA5/9.2, WCA5/9.4.a, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, UK BAP, ScotBL, UKPS

Species	Nearest Location to Site	Data Source	Last Record	Details/additional comments on record closest to site	Protection/ Conservation Status (see Table 2 for Definitions)
European otter *Lutra lutra*	261m, S	NESBReC, Hyder 2007	2000	Otter Survey of Scotland 1977-79 record. No otter were recorded during survey in 2003 (AMEC), 2007 (Hyder) or 2015 (Vento Ludens).	HabRegs2, WCA5/9.4b, WCA5/9.4C, WCA5/9.5A, ScotBL, UKPS
European water vole *Arvicola amphibius*	261m, S	NESBReC, Hyder 2007, Vento Ludens 2017	1968	No water vole were recorded during survey in 2003 (AMEC), 2007 (Hyder) or 2015 (Vento Ludens).	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, UKPSDGLBAP09, ScotBL, UKPS.
Mountain hare *Lepus timidus*	261m, S	NESBReC, Hyder 2007	1965		WCA5, UK PS, ScotSBL.
Pine marten *Martes martes*	0m, ENE	NESBReC, Hyder 2007, Vento Ludens 2017	2016	Single record, provided by Forestry Commission Scotland (FCS), of pine marten in the northern part of the forest within the previous ES submission (AMEC, 2003) and FCS provided records of two additional sightings made in 2004 (Hyder, 2007) Two separate sightings of an individual pine martin during surveys in 2014 (Vento Ludens 2017)	WCA5, UK PS, ScotSBL.
Roe deer *Capreolus capreolus*	1447m, ESE	RSK 2009	2009	A number of roe deer were observed on Myreton Wind Farm development site	Deer Act 1991
West European hedgehog *Erinaceus europaeus*	261m, S	NESBReC, Hyder 2007	1969		ScotBL, UKPS

Species	Nearest Location to Site	Data Source	Last Record	Details/additional comments on record closest to site	Protection/ Conservation Status (see Table 2 for Definitions)
Wildcat *Felis silvestris*	0m, W	NESBReC, Hyder 2007	2015	Adult	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, UK PS.
Bats					
Brown long-eared bat *Plecotus auritus*	510m, NW	NESBReC	2019	Recorded and seen	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, UKPS
Common pipistrelle *Pipistrellus pipistrellus*	0m, SW	NESBReC, Hyder 2007, Vento Ludens 2017	2019	Bat detector recording analysed by Batscan software 1-3 common pipistrelle recorded in 2015 (Vento Ludens)	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, UKPS
Daubenton's bat *Myotis daubentonii*	4.28km, SSW	NESBReC	1994	Record Key: 3503	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, UKPS
Noctule bat *Nyctalus noctula*	5.87km, NE	NESBReC	2012	Fresh dead male found by house owner	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, UKPS
Unconfirmed bat species *Pipistrellus sp.*	0m, SW	NESBReC, Hyder 2007, RSK 2009	2015	Record Key: 1067 Records of bats within the town of Keith	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, UKPS
Soprano pipistrelle *Pipistrellus pygmaeus*	189m, W	NESBReC	2019	Foraging	HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, UKPS

Appendix 01, Table 2: Glossary of Codes for Species Protection/ Conservation Status

Abbreviation	Full Designation	Type	Description
ANNEX 1	Annex 1 listed species European Commission Birds Directive	International	Annex 1 is a list of 194 species and sub-species which are particularly threatened under the European Commission Birds Directive. Now legislated for purely via the 'Habitat Regulations'.
ANNEX 2.1 & 2.2	Annex 2.1/2.2 listed species European Commission Birds Directive	International	Annex 2 is a list of 82 bird species can be hunted European Commission Birds Directive. However, the hunting periods are limited and hunting is forbidden when birds are at their most vulnerable: during their return migration to nesting areas, reproduction and the raising of their chicks. Now legislated for purely via the 'Habitat Regulations'.
Bern-A3	Bern Convention Appendix 3	International	Special protection through 'appropriate and necessary legislative and administrative measures', of the listed wild fauna species. Now legislated for purely via the 'Habitat Regulations'.
BoCC Amber/Red	Birds of Conservation Concern 4 Amber Birds of Conservation Concern 4 Red	National	Birds of Conservation Concern 4: the Red List for Birds, is a standardised criteria and assessment for assigning 244 species with breeding, passage or wintering populations in the UK. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group.
HabRegs2	The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended in Scotland) (Schedule 2)	National Legislation	Schedule 2- European protected species of animals.
HabRegs4	The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended in Scotland) (Schedule 4)	Legislation	Schedule 4- Animals which may not be taken or killed in certain ways.
HabRegs5	The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended in Scotland) (Schedule 5)	National Legislation	Schedule 5- European protected species of plants.
Protection of Badgers Act (1992)	Protection of Badgers Act (1992)	National Legislation	The Protection of Badgers Act 1992 protects badgers from taking, injuring, killing, cruel treatment, selling, possessing, marking and having their setts interfered with, subject to exceptions.

Abbreviation	Full Designation	Type	Description
S1 WCA	Schedule 1 listed species Wildlife and Countryside Act 1981 (as amended)	National Legislation	Schedule 1 of the Wildlife and Countryside Act 1981 lists species of birds and their young, for which it is an offence to intentionally or recklessly disturb at, on or near an 'active' nest.
S2 WCA	Schedule 2 listed species Wildlife and Countryside Act 1981 (as amended)	National Legislation	Schedule 2 of the Wildlife and Countryside Act 1981 lists birds which are protected during the close season (1 February to 31 August).
S2(4)	Section 2 (4) Nature Conservation (Scotland) Act	National Legislation	Nature conservation orders and related orders
ScotBL	Scottish Biodiversity List of species of principal importance for biodiversity conservation	National	The Scottish Biodiversity List is a list of flora, fauna and habitats considered by the Scottish Ministers to be of principal importance for biodiversity conservation. The development of the list has been a collaborative effort involving a great many stakeholders.
UKPS	UK Priority Habitats and Priority Species	UKPS	The UK List of Priority Species and Habitats contains 1150 species and 65 habitats that have been listed as priorities for conservation action. The UKPS is no longer extant but many of the priority habitats and species remain conservation priorities.
VC75RPR	Ayrshire Rare Plant Register	Local	Species listed in the VC rare plant register.
WCA5/9.1k/l	Wildlife and Countryside Act 1981 (as amended in Scotland)(Schedule 5 Section 9.1 (killing/injuring))	National Legislation	Section 9.1. Animals which are protected from intentional killing or injuring.
WCA5/9.1t	Wildlife and Countryside Act 1981 (as amended in Scotland) (Schedule 5 Section 9.1 (taking))	National Legislation	Section 9.1 Animals which are protected from taking.
WCA5/9.2	Wildlife and Countryside Act 1981 (as amended in Scotland) (Schedule 5 Section 9.2)	National Legislation	Section 9.2 Animals which are protected from being possessed or controlled (live or dead).
WCA5/9.4a	Wildlife and Countryside Act 1981 (as amended in Scotland)	National Legislation	Section 9.4 subdivision a - Animals which are protected from intentional damage or destruction to any structure or place used for shelter or protection.

Abbreviation	Full Designation	Type	Description
	(Schedule 5 Section 9.4, subdivision a)		
WCA5/9.4b	Wildlife and Countryside Act 1981 (as amended in Scotland) (Schedule 5 Section 9.4b)	National Legislation	Section 9.4 Animals which are protected from intentional disturbance while occupying a structure or place used for shelter or protection.
WCA5/9.4c	Wildlife and Countryside Act 1981 (as amended in Scotland) (Schedule 5 Section 9.4c)	National Legislation	Animals which are protected from their access to any structure or place which they use for shelter or protection being obstructed.
WCA5/9.5a	Wildlife and Countryside Act 1981 (as amended in Scotland) (Schedule 5 Section 9.5a)	National Legislation	Section 9.5 Animals which are protected from being sold, offered for sale or being held or transported for sale either live or dead, whole or part.
WCA5/9.5b	Wildlife and Countryside Act 1981 (as amended in Scotland) (Schedule 5 Section 9.5b)	National Legislation	Section 9.5 Animals which are protected from being published or advertised as being for sale.
WCA8	Wildlife and Countryside Act 1981 (as amended in Scotland) (Schedule 8)	National Legislation	Plants which are protected from intentional picking, uprooting or destruction (Section 13 1a); selling, offering for sale, possessing or transporting for the purpose of sale (live or dead, part or derivative) (Section 13 2a); advertising (any of these) for sale.
WCA9/INV	Wildlife and Countryside Act 1981 (as amended in Scotland) (Schedule 9)	National Legislation	Includes all non-native species listed in Schedule 9 (parts 1 and 2) covering animals and plants which may not be released or allowed to escape into the wild plus additional invasive non-native species.

APPENDIX 02

Non-statutory Sites, Designations and Consultation Zones (provided by NESBReC)

Our ref: N:\GIS\Requests\Consultants\20210624 RoisinJones SLR\20210624 Aultmore - NESBReC Report

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24 June 2021

Dear Roisin

NESBReC report - Aultmore

Please find below the results of the data search you requested from NESBReC.
The search was carried out for all notable species and nature conservation sites (statutory and non-statutory) within a 2km radius of the site boundary, as outlined in red in the maps below and with a centre point at NJ 44822 58180. An additional search for all bat records within a 10km search of the site boundary was also carried out.

Results table 2km search:

Ref No.	Dataset	Interest	Locality	Grid Reference
20210624	Designated Species	**Protection of Badgers Act (1992)** Eurasian Badger (Meles meles) **ANNEX 1** Capercaillie (Tetrao urogallus) Golden Plover (Pluvialis apricaria) Hen Harrier (Circus cyaneus) Merlin (Falco columbarius) Osprey (Pandion haliaetus) Peregrine (Falco peregrinus) Scottish Crossbill (Loxia scotica) Short-eared Owl (Asio flammeus) White-tailed Eagle (Haliaeetus albicilla) **ANNEX 2.1** Grey Partridge (Perdix perdix) Snipe (Gallinago gallinago) Woodcock (Scolopax rusticola) **ANNEX 2.2** Black-headed Gull (Chroicocephalus ridibundus) Pink-footed Goose (Anser brachyrhynchus) Redwing (Turdus iliacus) **UK BAP** Brown Hare (Lepus europaeus) Brown Long-eared Bat (Plecotus auritus) Common Lizard (Zootoca vivipara) Eurasian Red Squirrel (Sciurus vulgaris) European Otter (Lutra lutra) European Water Vole (Arvicola amphibius) Mountain Hare (Lepus timidus) Pine Marten (Martes martes) Soprano Pipistrelle (Pipistrellus pygmaeus) West European Hedgehog (Erinaceus europaeus) Wildcat (Felis silvestris) Bullfinch (Pyrrhula pyrrhula) Corn Bunting (Emberiza calandra) Cuckoo (Cuculus canorus) Curlew (Numenius arquata) Dunnock (Prunella modularis) Grasshopper Warbler (Locustella naevia) Herring Gull (Larus argentatus)	Aultmore	NJ 44822 58180

		House Sparrow (Passer domesticus) Lapwing (Vanellus vanellus) Linnet (Linaria cannabina) Red Grouse (Lagopus lagopus) Reed Bunting (Emberiza schoeniclus) Skylark (Alauda arvensis) Song Thrush (Turdus philomelos) Spotted Flycatcher (Muscicapa striata) Starling (Sturnus vulgaris) Tree Pipit (Anthus trivialis) Tree Sparrow (Passer montanus) Yellowhammer (Emberiza citrinella) Anomalous (Stilbia anomala) Autumnal Rustic (Eugnorisma glareosa) Brindled Beauty (Lycia hirtaria) Brindled Ochre (Dasypolia templi) Broom Moth (Ceramica pisi) Brown-spot Pinion (Agrochola litura) Centre-barred Sallow (Atethmia centrago) Dark Brocade (Mniotype adusta) Double Dart (Graphiphora augur) Dusky Brocade (Apamea remissa) Garden Tiger (Arctia caja) Ghost Moth (Hepialus humuli) Green-brindled Crescent (Allophyes oxyacanthae) Grey Dagger (Acronicta psi) Grey Mountain Carpet (Entephria caesiata) Haworth's Minor (Celaena haworthii) Heath Rustic (Xestia agathina) Knot Grass (Acronicta rumicis) Large Wainscot (Rhizedra lutosa) Latticed Heath (Chiasmia clathrata) Minor Shoulder-knot (Brachylomia viminalis) Mottled Rustic (Caradrina morpheus) Mouse Moth (Amphipyra tragopoginis) Neglected Rustic (Xestia castanea) Pale Eggar (Trichiura crataegi) Rosy Minor (Litoligia literosa) Rosy Rustic (Hydraecia micacea) Sallow (Cirrhia icteritia) Shaded Broad-bar (Scotopteryx chenopodiata) Shoulder-striped Wainscot (Leucania comma) Small Heath (Coenonympha pamphilus) Small Pearl-bordered Fritillary (Boloria selene) Small Phoenix (Ecliptopera silaceata) Small Square-spot (Diarsia rubi) Streak (Chesias legatella) Sword-grass (Xylena exsoleta) White Ermine (Spilosoma lubricipeda) White-line Dart (Euxoa tritici) Annual Knawel (Scleranthus annuus subsp. annuus) Caraway (Carum carvi) Cornflower (Centaurea cyanus) Field Gentian (Gentianella campestris) Frog Orchid (Coeloglossum viride) Juniper (Juniperus communis) Lesser Butterfly-orchid (Platanthera bifolia) Pretty Cord-moss (Funaria pulchella) Shepherd's-needle (Scandix pecten-veneris) Twinflower (Linnaea borealis) **SBL S2** Common Pipistrelle (Pipistrellus pipistrellus) Pipistrelle Bat species (Pipistrellus) **SBL S3** Bendy Ditrichum (Ditrichum flexicaule) **SBL S4** Harsh Downy-rose (Rosa tomentosa)		

		SBL S5 Barn Owl (Tyto alba) Hooded Crow (Corvus cornix) Kestrel (Falco tinnunculus) Siskin (Spinus spinus) Swift (Apus apus) Black-bindweed (Fallopia convolvulus) Charlock (Sinapis arvensis) Corn Mint (Mentha arvensis) Field Madder (Sherardia arvensis) Good-King-Henry (Chenopodium bonus-henricus) Heath Cudweed (Gnaphalium sylvaticum) Intermediate Wintergreen (Pyrola media) Large-flowered Hemp-nettle (Galeopsis speciosa) Sun Spurge (Euphorbia helioscopia) White Mustard (Sinapis alba) White Ramping-fumitory (Fumaria capreolata) Wild Pansy (Viola tricolor) **Other Notable Species** Goshawk (Accipiter gentilis)		
	Bat records	Brown Long-eared Bat (Plecotus auritus) Soprano Pipistrelle (Pipistrellus pygmaeus) Common Pipistrelle (Pipistrellus pipistrellus) Pipistrelle Bat species (Pipistrellus)		
	Common Swift records	Swift (Apus apus)		
	Geese	Pink-footed Goose (Anser brachyrhynchus)		
	NE LBAP Locally Important Species	Black Bog-rush (Schoenus nigricans) Bluebell (Hyacinthoides non-scripta) Clustered Dock (Rumex conglomeratus) Common Cornsalad (Valerianella locusta) Common Twayblade (Neottia ovata) Common Yellow-sedge (Carex viridula subsp. oedocarpa) Early-purple Orchid (Orchis mascula) Eurasian Water Shrew (Neomys fodiens) Floating Bur-reed (Sparganium angustifolium) Fragrant Orchid (Gymnadenia conopsea) Great Sundew (Drosera anglica) Hedge Bedstraw (Galium mollugo) Herb-paris (Paris quadrifolia) Least Bur-reed (Sparganium natans) Lesser Tussock-sedge (Carex diandra) Many-stalked Spike-rush (Eleocharis multicaulis) Musk Thistle (Carduus nutans) Rough Horsetail (Equisetum hyemale) Scotch Grass-veneer (Catoptria permutatellus) Small Cudweed (Filago minima) Small-fruited Yellow-sedge (Carex viridula subsp. viridula) Yellow-sedge (Carex viridula)		
	Invasive Non-Native Plant Species	Giant Hogweed (Heracleum mantegazzianum)		
	SESA botany	B138:Craibstone Quarry - A disused flooded limeston quarry with an adjacent area of mixed woodland and a section of the Deskford Burn. The flooded quarry is largely covered by Broadleaved Pondweed and holds a few species of amphibians. The trees near the quarry appear to have been planted, possibly to screen the scars of the disused quarry. There is some reseeding of Ash and Sycamore. The ground flora near the quarry include species such as Common Twayblade and Intermediate Enchanter's Nightshade which are locally scarce.		

Results table 10km search – bats only:

Ref No.	Dataset	Interest	Locality	Grid Reference
20210624	Bat records	Brown Long-eared Bat (Plecotus auritus) Daubenton's Bat (Myotis daubentonii) Noctule Bat (Nyctalus noctula) Soprano Pipistrelle (Pipistrellus pygmaeus) Common Pipistrelle (Pipistrellus pipistrellus) Pipistrelle Bat species (Pipistrellus) Bats (Chiroptera)	Aultmore	NJ 44822 58180

Maps showing all the search results are included below.

Yours sincerely

D Caffrey
GIS Project Officer

PLEASE READ THE FOLLOWING NOTES:

1) **Search was done to within 2000 metres of the area of interest for notable species and nature conservation sites, and within 10000 meters for bats. These are indicated on the map by a broken line around the site.**
2) **Search areas or centroids are highlighted in red.**
3) **The dots on any maps depicting the locations of a species are positioned at the centre of a square representing the resolution of the recorded grid reference. Care should be taken over interpretation**
4) **Due to the limits of the map display function, all records may not be visible on the species maps. However, all species are listed in the relevant table above the map and a full list of records can be supplied in Excel format.**
5) **Scientific names are only used to identify species on maps when no common name is in general accepted usage.**
6) **For maps without a key, the relevant information is provided in the table.**
7) **The ownership of the data within this report remains with the original recorder and is subject to the laws defining Intellectual Property Copyright.**
8) **This report and the data held within it are to be used solely for those purposes described under the terms of any agreement between the applicant and NESBReC.**
9) **Some, or all of the data held within this report may be of a sensitive or confidential nature. Such information will be marked as such and if required an appropriate contact for further correspondence will be given (otherwise NESBReC should be contacted).**
10) **Although NESBReC makes every possible effort to ensure that the data it provides is accurate and up to date, this report should only be considered to represent the most recent version of each dataset as available at the time of the search.**
11) **NE LBAP Locally Important Species are species that are not on existing designated species lists but have been identified as important in the local context.**

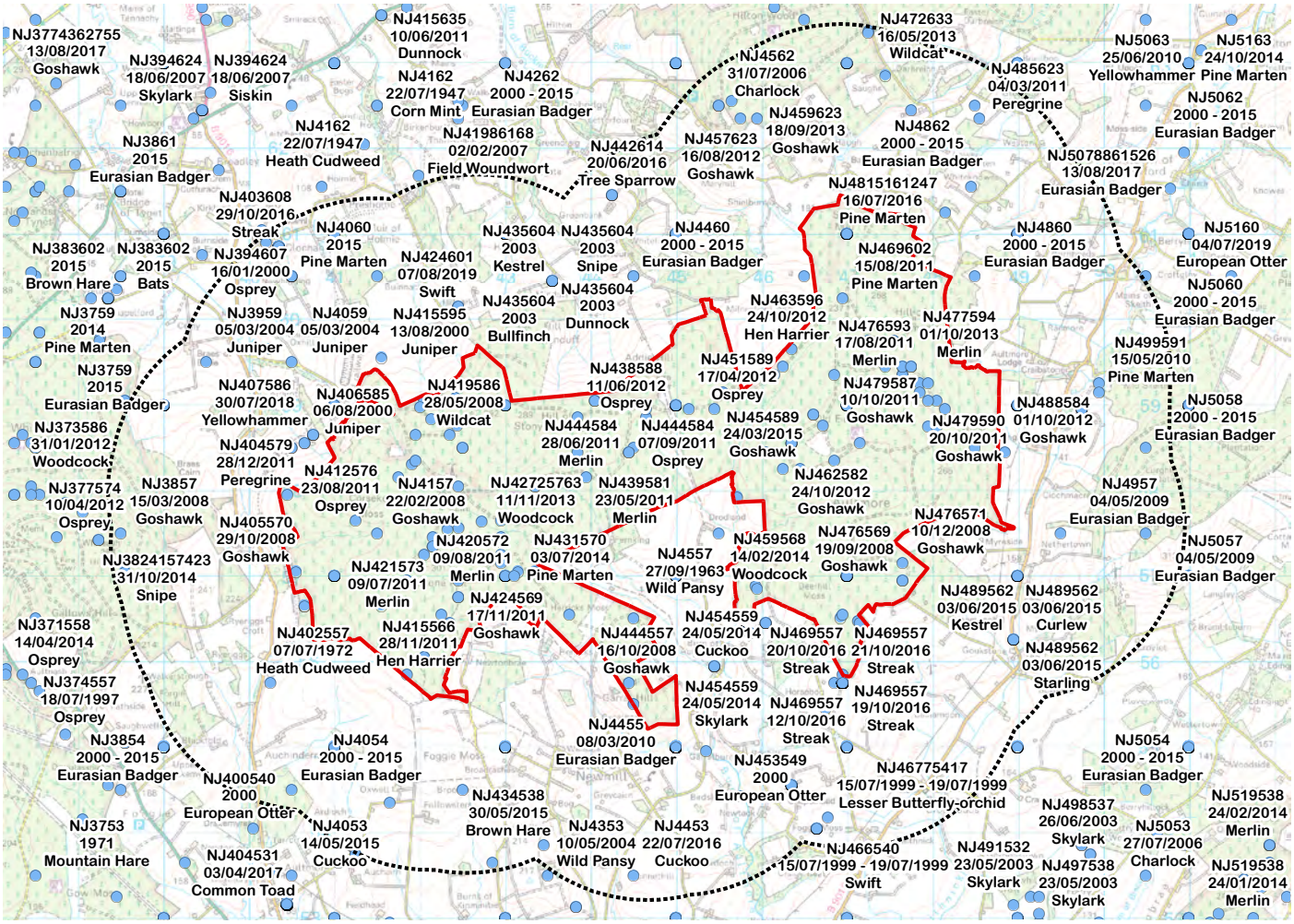
For designated species, the following abbreviated sub-headings are used to describe different levels of importance:
Protection of Badgers Act (1992)
ANNEX 1, 2.1, 2.2 – EC Birds Directive
UK BAP - UK BAP list of Priority Species
SBL S2 - Scottish Biodiversity List: International Obligations
SBL S3 - Scottish Biodiversity List: Nationally Rare at UK level, found in only 1-15 10km squares
SBL S4 - Scottish Biodiversity List: Present in 5 or fewer 10km squares or sites in Scotland
SBL S5 - Scottish Biodiversity List: Decline of 25% or more in Scotland in last 25 years

Note, a species may be designated under several of these lists, but will only be listed under its highest level designation within this report. The ranking order used here is Protection of Badgers Act (1992), ANNEX 1, ANNEX 2.1, UK BAP, ANNEX 2.2, SBL S2-SBL S5.

2km search area maps

20210624	Designated Species	**Protection of Badgers Act (1992)** Eurasian Badger (Meles meles) **ANNEX 1** Capercaillie (Tetrao urogallus) Golden Plover (Pluvialis apricaria) Hen Harrier (Circus cyaneus) Merlin (Falco columbarius) Osprey (Pandion haliaetus) Peregrine (Falco peregrinus) Scottish Crossbill (Loxia scotica) Short-eared Owl (Asio flammeus) White-tailed Eagle (Haliaeetus albicilla) **ANNEX 2.1** Grey Partridge (Perdix perdix) Snipe (Gallinago gallinago) Woodcock (Scolopax rusticola) **ANNEX 2.2** Black-headed Gull (Chroicocephalus ridibundus) Pink-footed Goose (Anser brachyrhynchus) Redwing (Turdus iliacus) **UK BAP** Brown Hare (Lepus europaeus) Brown Long-eared Bat (Plecotus auritus) Common Lizard (Zootoca vivipara) Eurasian Red Squirrel (Sciurus vulgaris) European Otter (Lutra lutra) European Water Vole (Arvicola amphibius) Mountain Hare (Lepus timidus) Pine Marten (Martes martes) Soprano Pipistrelle (Pipistrellus pygmaeus) West European Hedgehog (Erinaceus europaeus) Wildcat (Felis silvestris) Bullfinch (Pyrrhula pyrrhula) Corn Bunting (Emberiza calandra) Cuckoo (Cuculus canorus) Curlew (Numenius arquata) Dunnock (Prunella modularis) Grasshopper Warbler (Locustella naevia) Herring Gull (Larus argentatus) House Sparrow (Passer domesticus) Lapwing (Vanellus vanellus) Linnet (Linaria cannabina) Red Grouse (Lagopus lagopus) Reed Bunting (Emberiza schoeniclus) Skylark (Alauda arvensis) Song Thrush (Turdus philomelos) Spotted Flycatcher (Muscicapa striata) Starling (Sturnus vulgaris) Tree Pipit (Anthus trivialis) Tree Sparrow (Passer montanus) Yellowhammer (Emberiza citrinella) Anomalous (Stilbia anomala) Autumnal Rustic (Eugnorisma glareosa) Brindled Beauty (Lycia hirtaria) Brindled Ochre (Dasypolia templi) Broom Moth (Ceramica pisi) Brown-spot Pinion (Agrochola litura) Centre-barred Sallow (Atethmia centrago) Dark Brocade (Mniotype adusta) Double Dart (Graphiphora augur) Dusky Brocade (Apamea remissa) Garden Tiger (Arctia caja) Ghost Moth (Hepialus humuli) Green-brindled Crescent (Allophyes oxyacanthae) Grey Dagger (Acronicta psi) Grey Mountain Carpet (Entephria caesiata) Haworth's Minor (Celaena haworthii) Heath Rustic (Xestia agathina)	Aultmore	NJ 44822 58180

		Knot Grass (Acronicta rumicis) Large Wainscot (Rhizedra lutosa) Latticed Heath (Chiasmia clathrata) Minor Shoulder-knot (Brachylomia viminalis) Mottled Rustic (Caradrina morpheus) Mouse Moth (Amphipyra tragopoginis) Neglected Rustic (Xestia castanea) Pale Eggar (Trichiura crataegi) Rosy Minor (Litoligia literosa) Rosy Rustic (Hydraecia micacea) Sallow (Cirrhia icteritia) Shaded Broad-bar (Scotopteryx chenopodiata) Shoulder-striped Wainscot (Leucania comma) Small Heath (Coenonympha pamphilus) Small Pearl-bordered Fritillary (Boloria selene) Small Phoenix (Ecliptopera silaceata) Small Square-spot (Diarsia rubi) Streak (Chesias legatella) Sword-grass (Xylena exsoleta) White Ermine (Spilosoma lubricipeda) White-line Dart (Euxoa tritici) Annual Knawel (Scleranthus annuus subsp. annuus) Caraway (Carum carvi) Cornflower (Centaurea cyanus) Field Gentian (Gentianella campestris) Frog Orchid (Coeloglossum viride) Juniper (Juniperus communis) Lesser Butterfly-orchid (Platanthera bifolia) Pretty Cord-moss (Funaria pulchella) Shepherd's-needle (Scandix pecten-veneris) Twinflower (Linnaea borealis) **SBL S2** Common Pipistrelle (Pipistrellus pipistrellus) Pipistrelle Bat species (Pipistrellus) **SBL S3** Bendy Ditrichum (Ditrichum flexicaule) **SBL S4** Harsh Downy-rose (Rosa tomentosa) **SBL S5** Barn Owl (Tyto alba) Hooded Crow (Corvus cornix) Kestrel (Falco tinnunculus) Siskin (Spinus spinus) Swift (Apus apus) Black-bindweed (Fallopia convolvulus) Charlock (Sinapis arvensis) Corn Mint (Mentha arvensis) Field Madder (Sherardia arvensis) Good-King-Henry (Chenopodium bonus-henricus) Heath Cudweed (Gnaphalium sylvaticum) Intermediate Wintergreen (Pyrola media) Large-flowered Hemp-nettle (Galeopsis speciosa) Sun Spurge (Euphorbia helioscopia) White Mustard (Sinapis alba) White Ramping-fumitory (Fumaria capreolata) Wild Pansy (Viola tricolor) **Other Notable Species** Goshawk (Accipiter gentilis)		



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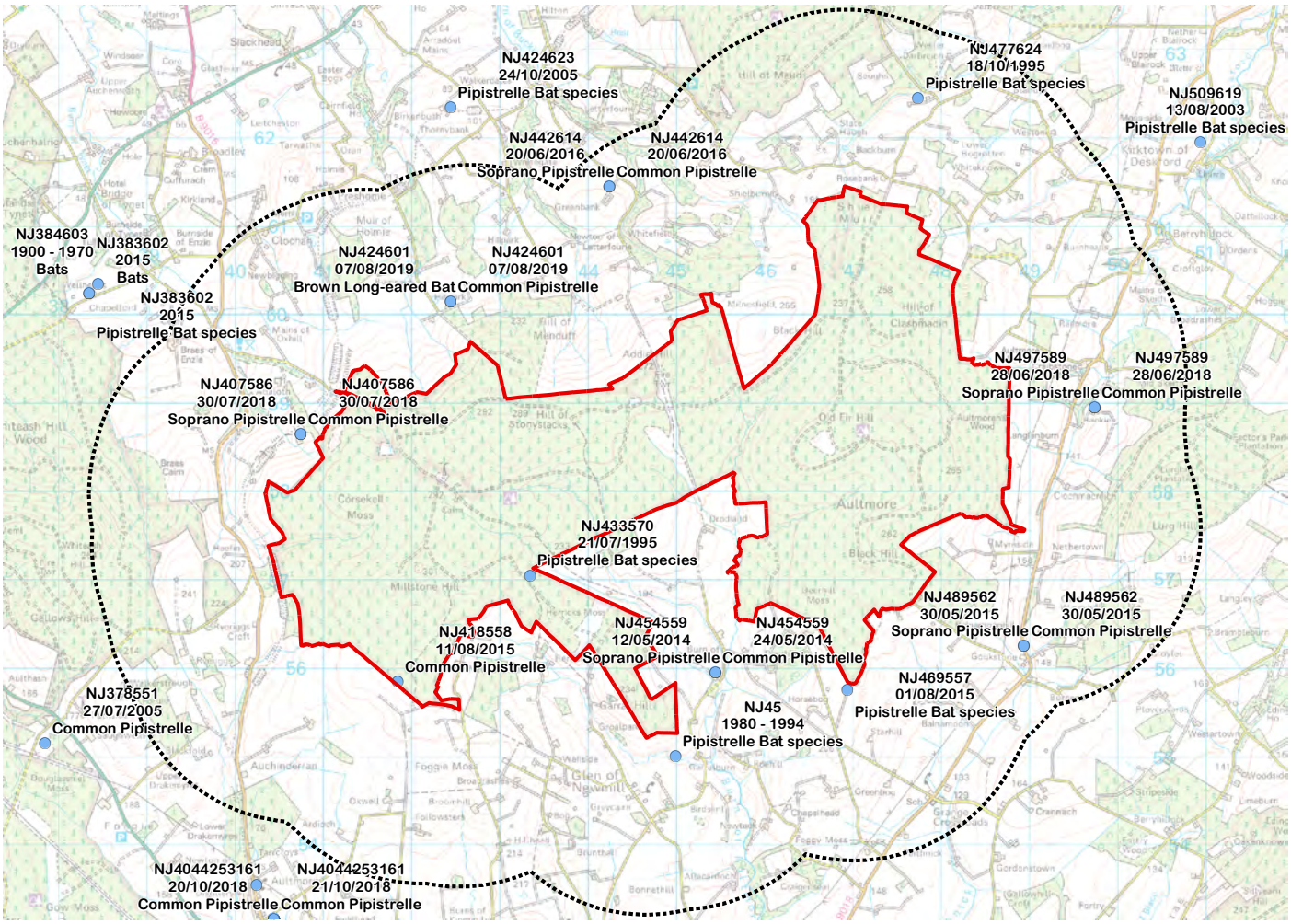
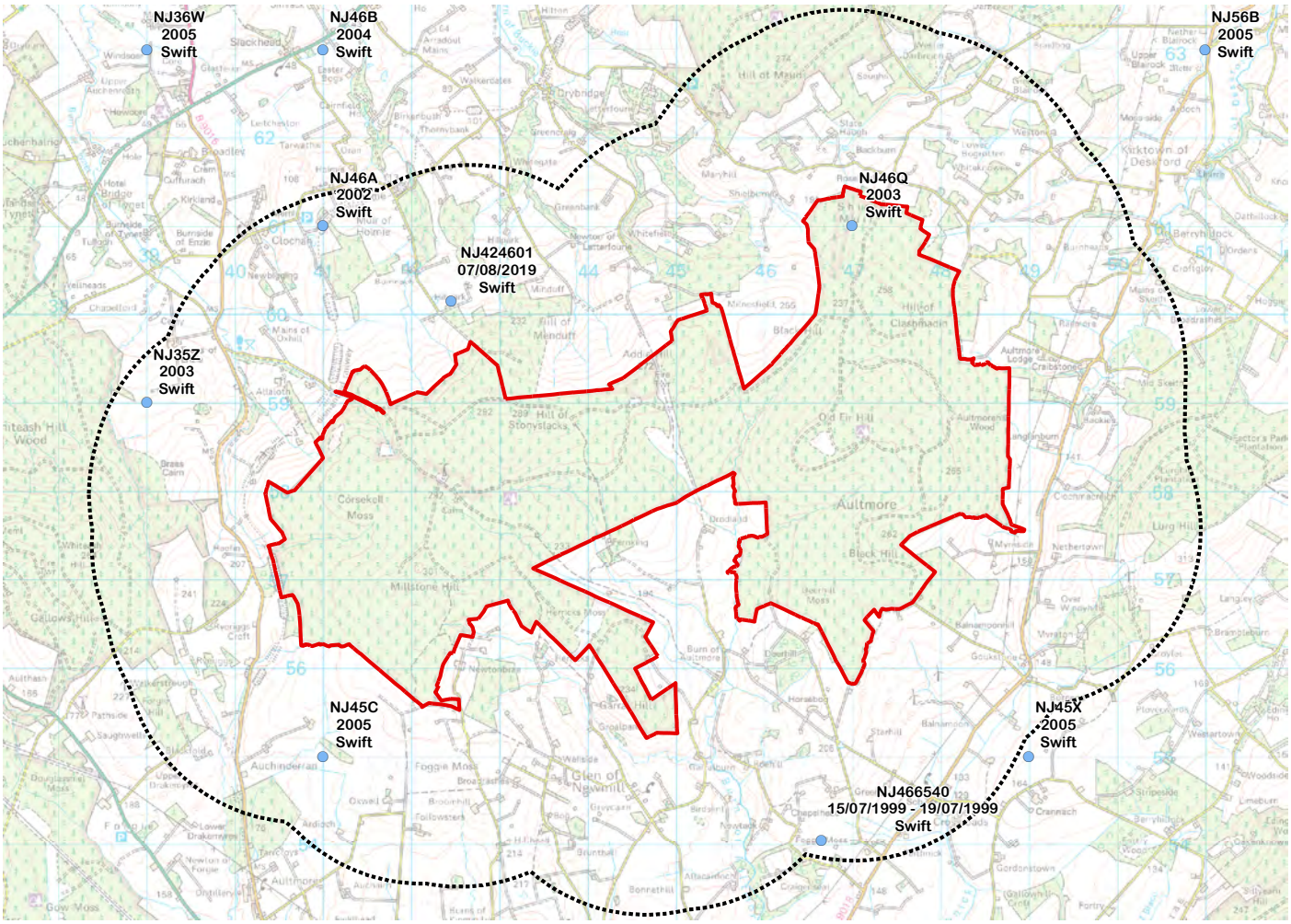
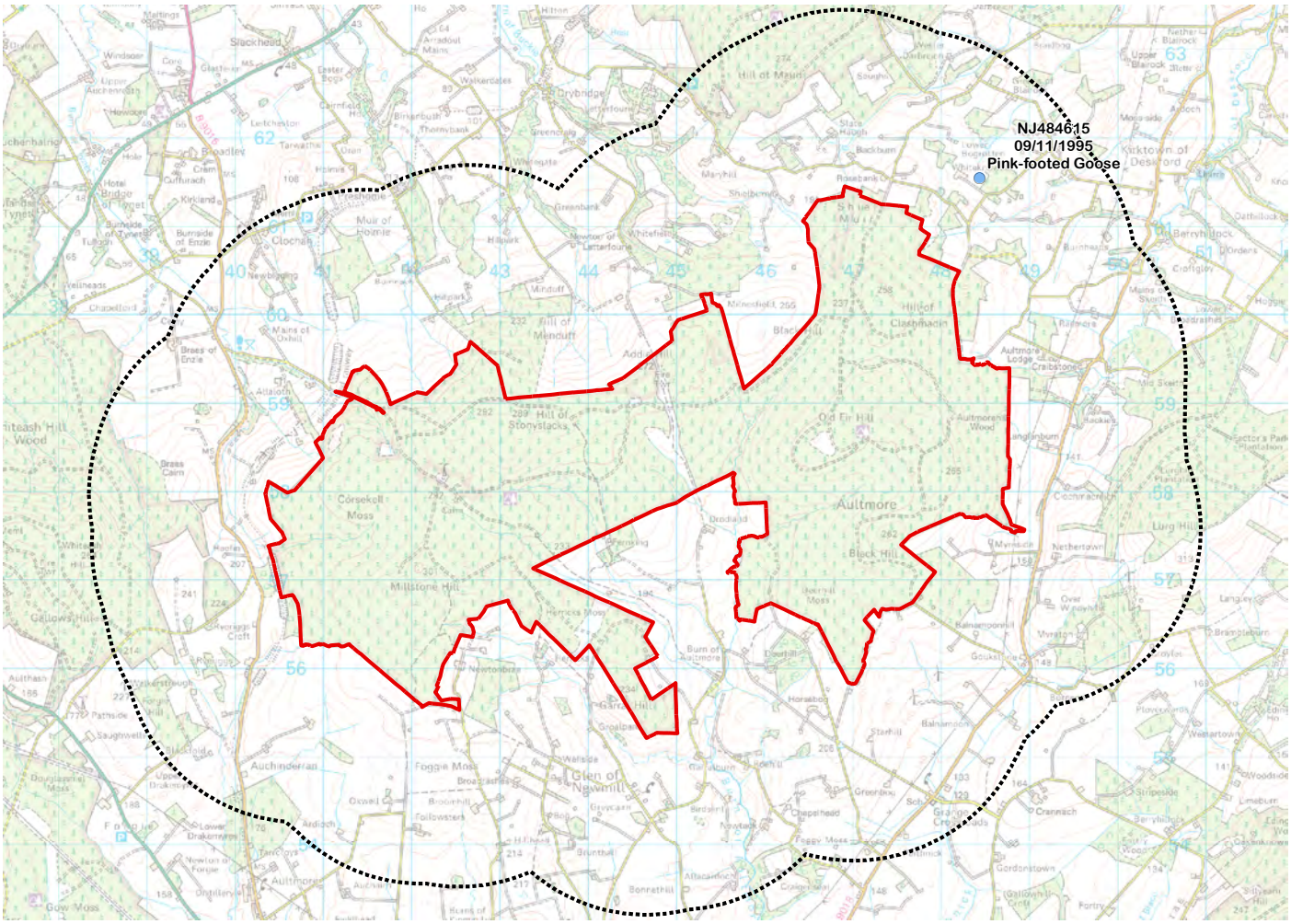


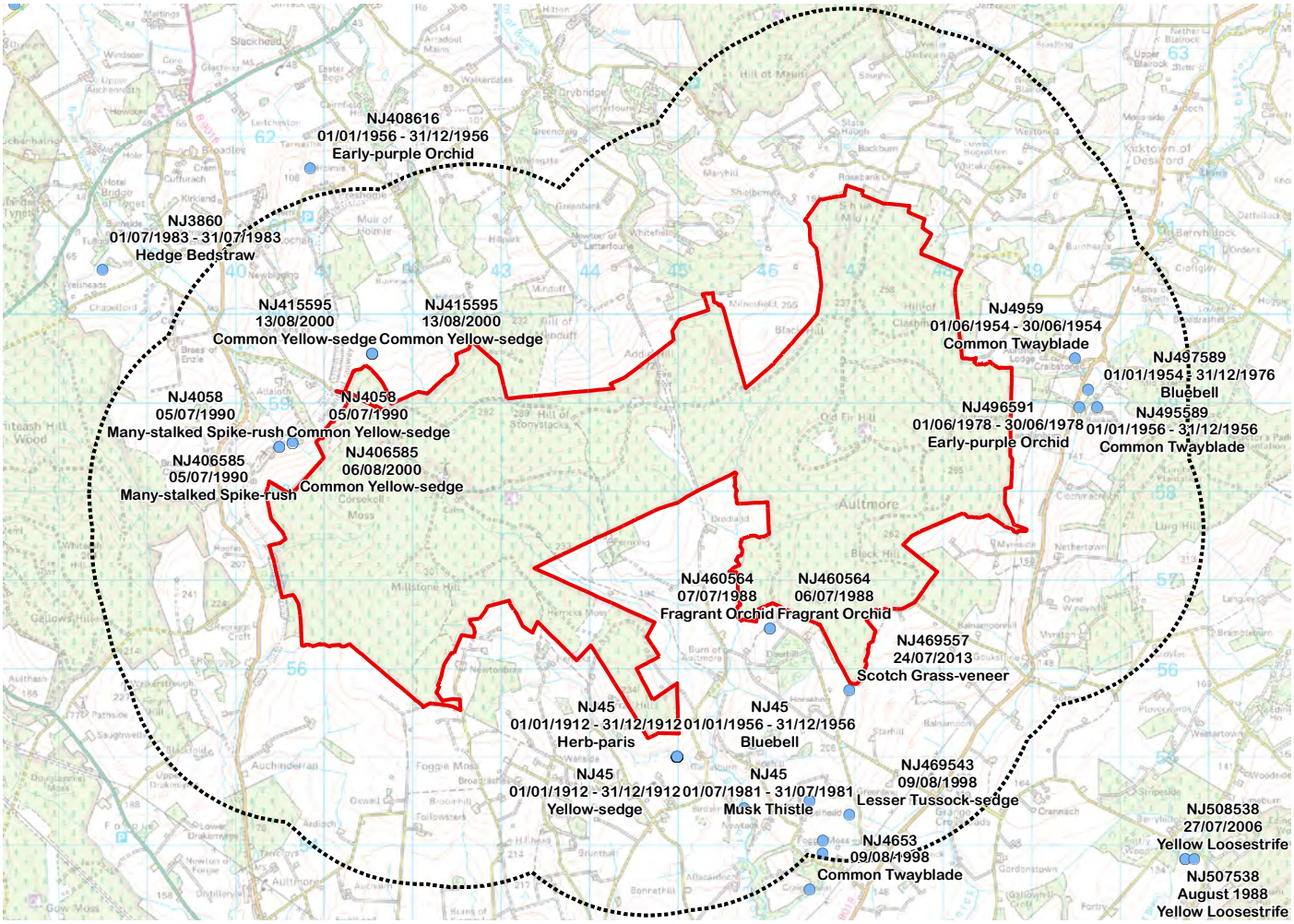
20210624	Common Swift records	Swift (Apus apus)	Aultmore	NJ 44822 58180



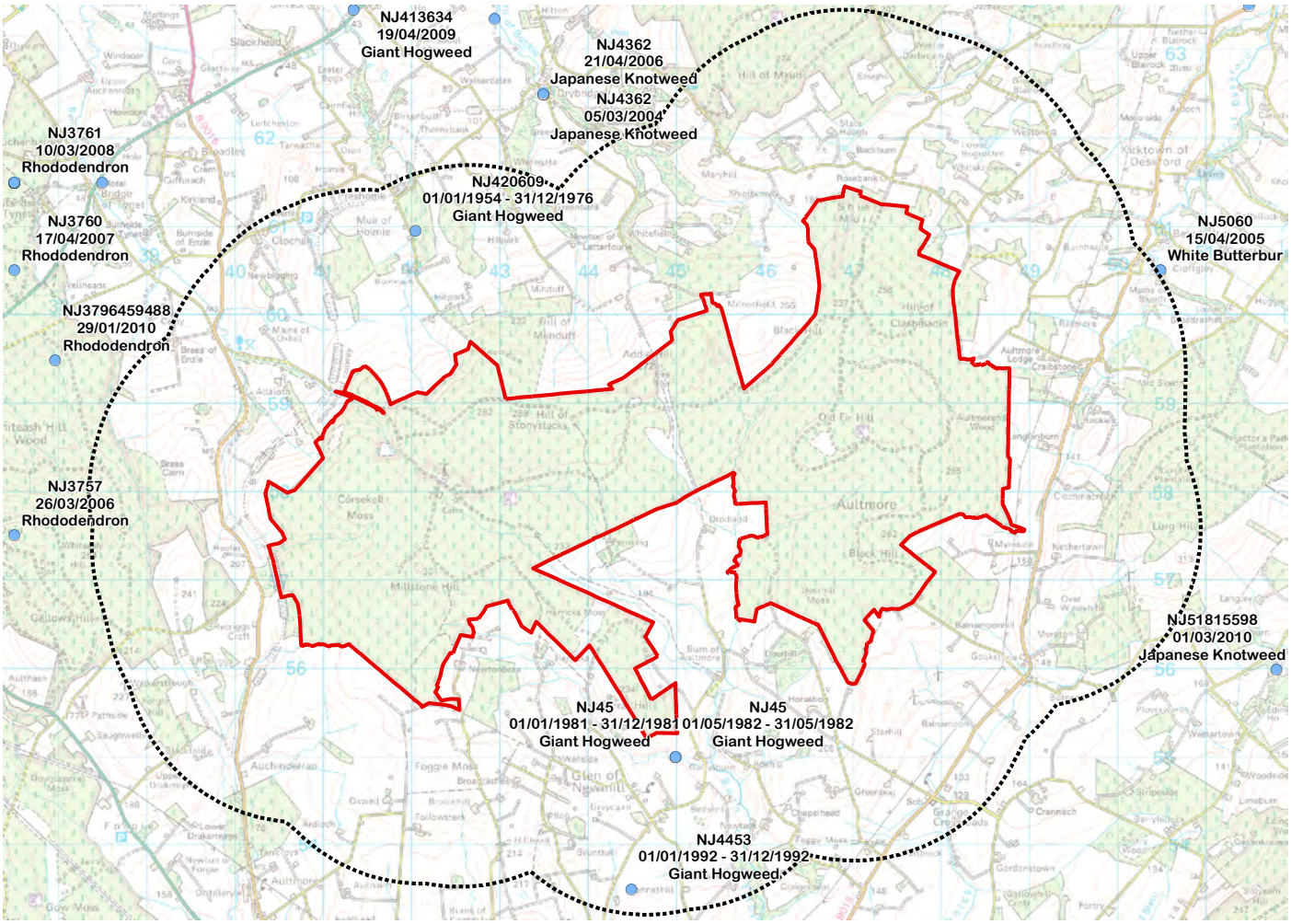
20210624	Geese	Pink-footed Goose (Anser brachyrhynchus)	Aultmore	NJ 44822 58180



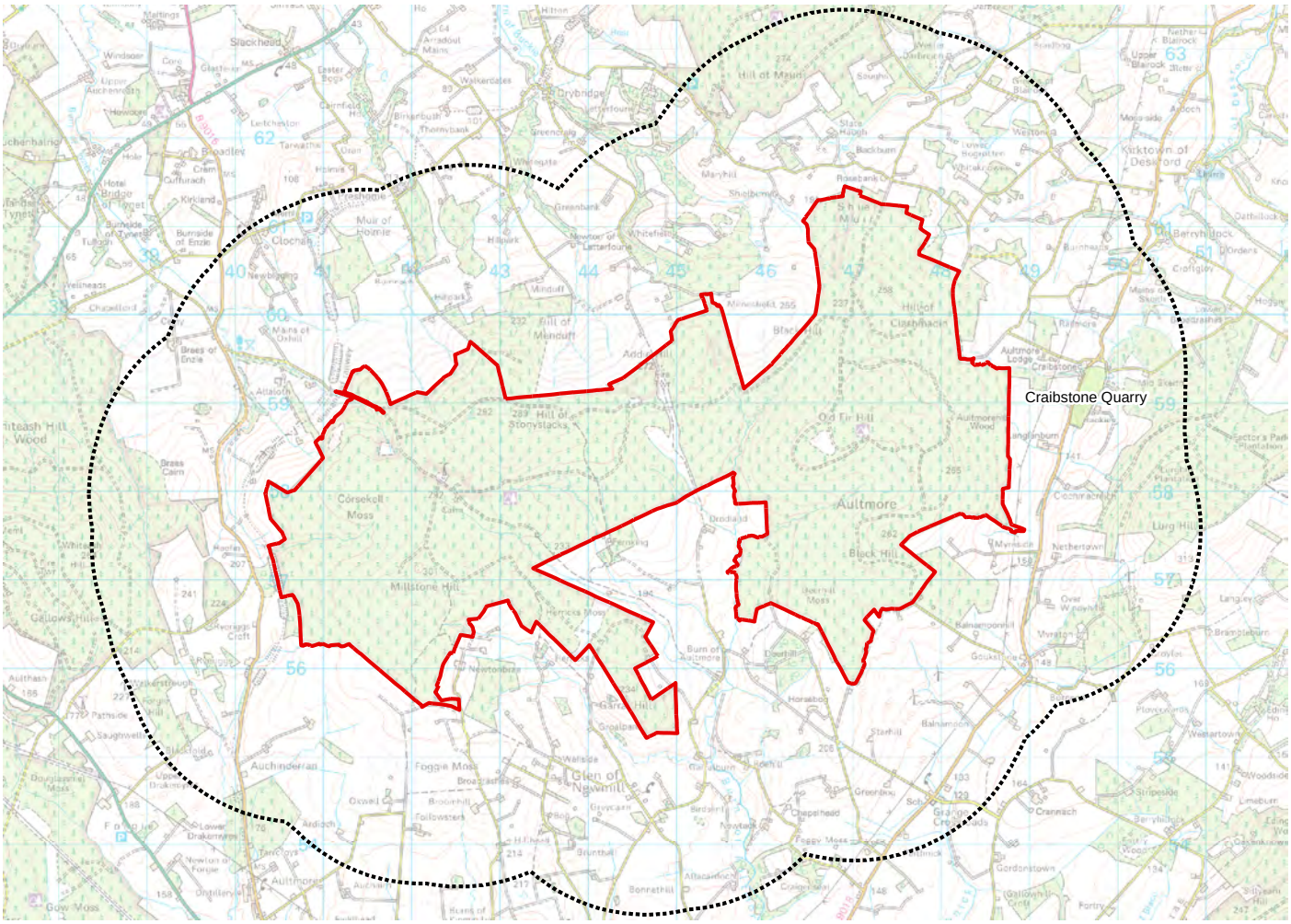
20210624	NE LBAP Locally Important Species	Black Bog-rush (Schoenus nigricans) Bluebell (Hyacinthoides non-scripta) Clustered Dock (Rumex conglomeratus) Common Cornsalad (Valerianella locusta) Common Twayblade (Neottia ovata) Common Yellow-sedge (Carex viridula subsp. oedocarpa) Early-purple Orchid (Orchis mascula) Eurasian Water Shrew (Neomys fodiens) Floating Bur-reed (Sparganium angustifolium) Fragrant Orchid (Gymnadenia conopsea) Great Sundew (Drosera anglica) Hedge Bedstraw (Galium mollugo) Herb-paris (Paris quadrifolia) Least Bur-reed (Sparganium natans) Lesser Tussock-sedge (Carex diandra) Many-stalked Spike-rush (Eleocharis multicaulis) Musk Thistle (Carduus nutans) Rough Horsetail (Equisetum hyemale) Scotch Grass-veneer (Catoptria permutatellus) Small Cudweed (Filago minima) Small-fruited Yellow-sedge (Carex viridula subsp. viridula) Yellow-sedge (Carex viridula)	Aultmore	NJ 44822 58180



20210624	Invasive Non-Native Plant Species	Giant Hogweed (Heracleum mantegazzianum)	Aultmore	NJ 44822 58180

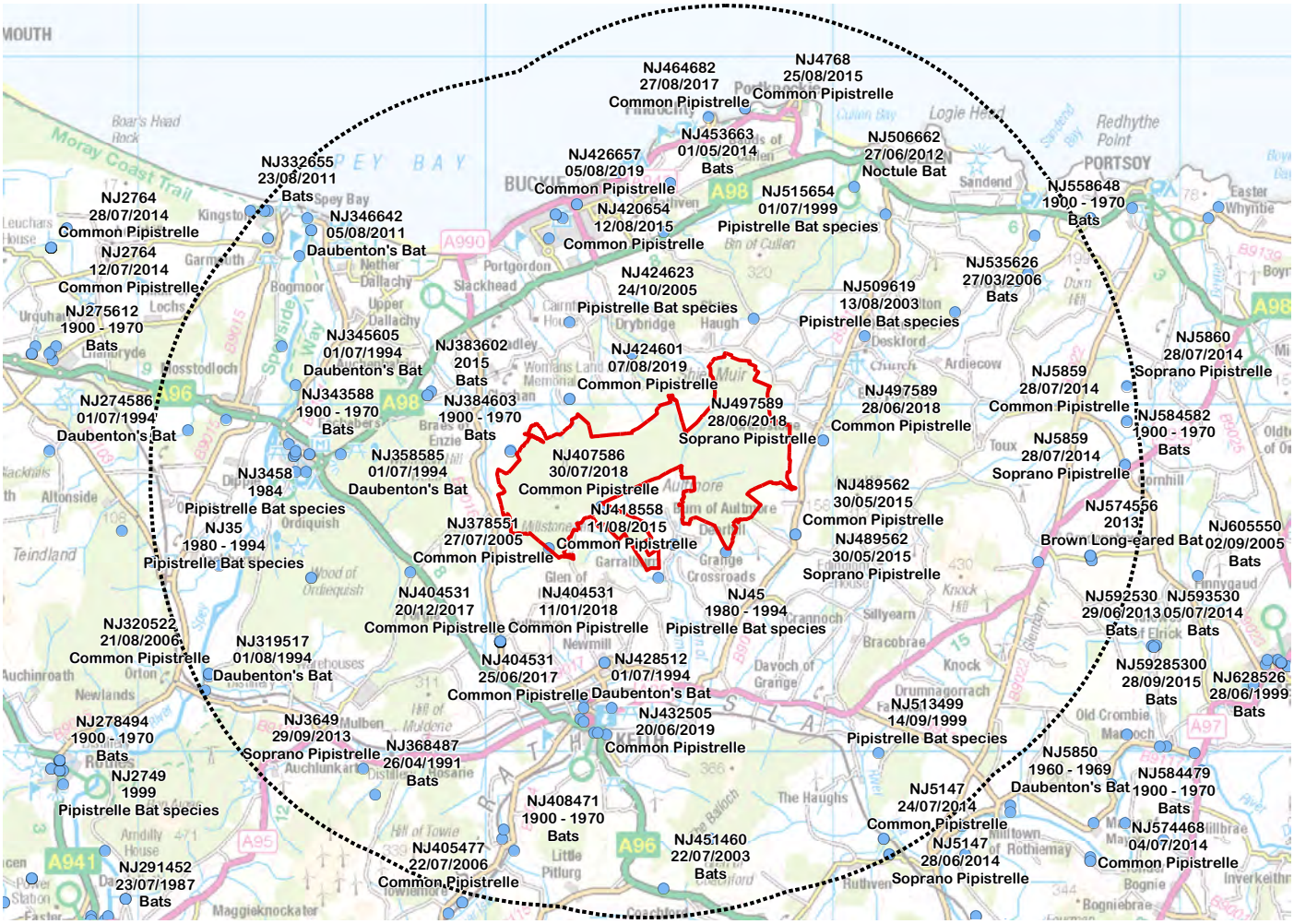


20210624	SESA botany	B138:Craibstone Quarry - A disused flooded limeston quarry with an adjacent area of mixed woodland and a section of the Deskford Burn. The flooded quarry is largely covered by Broadleaved Pondweed and holds a few species of amphibians. The trees near the	Aultmore	NJ 44822 58180



10km search area maps

20210624	Bat records	Brown Long-eared Bat (Plecotus auritus) Daubenton's Bat (Myotis daubentonii) Noctule Bat (Nyctalus noctula) Soprano Pipistrelle (Pipistrellus pygmaeus) Common Pipistrelle (Pipistrellus pipistrellus) Pipistrelle Bat species (Pipistrellus) Bats (Chiroptera)	Aultmore	NJ 44822 58180



APPENDIX 03

Figure 1:

Statutory Designated Sites and Ancient Woodland within 10 km

330000 340000 350000 360000

870000

860000

Moray Firth SPA

Spey Bay SSSI

Lower River Spey - Spey Bay SAC

Moray and Nairn Coast SPA

Moray and Nairn Coast Ramsar

Lower River Spey SSSI

SOUTHERN TRENCH MPA

Cullen to Stake Ness Coast SSSI

River Spey SAC

Reidside Moss SAC

Shiel Wood Pastures SSSI

Moss of Crombie SSSI

Mill Wood SSSI

Whitehill SSSI

Ben of Piturg SSSI

Strathbogie Wildcat Priority Area

Mortlach Moss SAC

0 2 4 6 8

Kilometres

N

LEGEND

- Site Boundary
- 10 km Site Boundary Buffer
- Turbine Location
- Special Area of Conservation (SAC)
- Ramsar
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)
- Ancient Woodland
- Wildcat Priority
- Marine Protection
- Watercourse (OS OpenMap)
- Waterbody (OS OpenMap)

VATTENFALL

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EDINBURGH PARK
EDINBURGH
EH12 9DH

T: +44 (0)131 335 6830
www.slrconsulting.com

AULTMORE WIND FARM

ECOLOGY DESK STUDY

DESIGNATIONS WITHIN 10KM

Figure 1

Scale 1:100,000 @ A3

Date AUGUST 2021

03640.00016.0027.0 Figure 1 Designations within 10kms

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France

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