Balnespick Wind Farm

SCOPING REPORT

July 2023

Fred. Olsen Renewables

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Introduction

1.1. Background & Context

1.1.1. Fred. Olsen Renewables (hereafter referred to as "the Applicant") intends to apply to the Scottish Ministers for consent under Section 36 of the Electricity Act 1989 (the 'Electricity Act') to construct and operate Balnespick Wind Farm (hereafter referred to as the "Proposed Development") at site centre British National Grid (BNG) 286646 829834. The application will be supported by an Environmental Impact Assessment Report (EIA Report) as required by the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) (the EIA Regulations). This document forms the EIA Scoping Report submitted to the Energy Consents Unit in order to request an EIA Scoping Opinion, on the context of Environmental Impact Assessment (EIA) of the Proposed Development.

1.1.2. The Proposed Development will comprise 9 wind turbines, each up to 200 m blade tip height, as well as an associated on-site energy storage system. Its generating capacity is anticipated to be around 55.8 MW with an additional 10 MW of energy storage, giving around 65.8 MW in total. The associated infrastructure will include site access, crane hardstanding's and laydown areas, underground cabling, an on-site substation, battery energy storage system, external transformers, temporary construction compound, potential excavations/borrow workings, and a meteorological mast.

1.2. The Applicant

1.2.1. Fred. Olsen Renewables is a leading developer, owner and operator of renewable energy assets, primarily onshore wind farms. The Applicant has been developing and operating wind farms in the UK since the mid 1990's demonstrating long term commitment to the renewable energy generation market in the UK, Scotland and the north-east of Scotland in particular.

1.2.2. The company's first large scale wind farm, Crystal Rig, commenced operation in 2003. Fred. Olsen now own and operate twelve wind farms across Scotland, Norway and Sweden which brings Fred. Olsen Renewables' total installed capacity up to 787.7 MW.

1.2.3. Fred. Olsen Renewables is a wholly owned subsidiary of Bonheur ASA and is responsible for the group's renewable energy activities.

1.3. The Purpose of the Scoping Report

1.3.1. The purpose of this EIA Scoping Report is to request a Scoping Opinion as per Regulation 12 (1) of the EIA Regulations setting out the information that ought

to be provided by the EIA and included in the EIA Report. The Scoping Opinion is to be adopted following discussion with the consultation bodies.

1.3.2. The Applicant recognises the value of the scoping approach and the purpose of this report aims to ensure that relevant issues are identified and to confirm that the assessment process described will meet legislative requirements.

1.3.3. This EIA Scoping Report:

- describes the existing site and its context;
- identifies key organisations to be consulted in the EIA process (Appendix 1.1);
- establishes the format of the EIA Report;
- provides baseline information; and
- describes potential significant effects and the proposed assessment methodologies for various technical assessments to be covered in the EIA Report.

1.4. Environmental Impact Assessment

1.4.1. The EIA Regulations require that before consent is granted for certain types of development, an EIA must be undertaken. The EIA Regulations set out the types of development which must always be subject to an EIA (Schedule 1 development) and other developments which may require EIA if there is the potential for significant environmental effects as a result of the development (Schedule 2 development).

1.4.2. The Proposed Development falls within Schedule 2 of the EIA Regulations and has the potential to have some significant environmental effects. Therefore, it is the opinion of the Applicant that the Proposed Development qualifies as “EIA Development” and therefore the Applicant will voluntarily submit an EIA Report, as part of the application for consent under Section 36 of the Electricity Act and has not requested an EIA Screening Opinion.

1.4.3. EIA is an iterative process, which identifies the potential environmental effects that in turn inform the eventual design of the proposals. It seeks to avoid, reduce, offset and minimise any adverse environmental effects through mitigation. It considers the effects arising during the construction, operation and decommissioning phases. Consultation is an important part of the EIA process and assists in the identification of potential effects and mitigation measures.

1.4.4. The structure of the EIA Report will follow the requirements of the EIA Regulations (Schedule 4) and other relevant good practice guidance. Essentially, the EIA Report will comprise five volumes:

- Volume 1 – Written Statement
- Volumes 2 & 3 – Figures
- Volume 4 – Technical Appendices
- Volume 5 – Confidential Appendices (if required)

1.4.5. A Non-Technical Summary (NTS) will also be provided.

1.4.6. Chapters 1 to 5 of Volume 1 will comprise:

- An introduction;
- a description of the site selection and design iteration process;
- a description of the site and its context;
- a description of the Proposed Development;
- information on the approach to EIA and determination of significance of effects; and
- a summary of the relevant planning and energy policy considerations.

1.4.7. The remainder of Volume 1 will present an assessment of a range of environmental topics. Based on the available baseline environment information and the details of the Proposed Development, the environmental topics have been scoped on the basis of the potential for significant environmental effects. This has determined the need to undertake impact assessment to investigate each potential effect. Each of the topics will be reported as a chapter of Volume 1. The EIA Report will reference figures and technical studies, which will correspond to Volumes 2 to 5. The following topics will be considered:

- Chapter 6: Landscape and Visual;
- Chapter 7: Ecology;
- Chapter 8: Ornithology;
- Chapter 9: Hydrology, Geology and Hydrogeology;
- Chapter 10: Noise;
- Chapter 11: Cultural Heritage;
- Chapter 12: Traffic and Transport;
- Chapter 13: Socio-economics, Recreation and Tourism;
- Chapter 14: Aviation and Radar;
- Chapter 15: Telecommunications; and
- Chapter 16: Carbon Calculator.

1.4.8. Potential effects will be assessed based on the sensitivity of identified receptors, and the magnitude of potential impacts arising from the construction, operation and decommissioning of the Proposed Development. Clear criteria for the determination of receptor sensitivity and impact magnitude will be set out in the EIA Report, together with criteria for determining the resultant significance of effect.

1.4.9. The EIA Report will also include a schedule of mitigation measures and a summary of residual effects.

1.4.10. A standalone Planning Statement assessing the Proposed Development against all relevant planning and energy policy, along with a Pre-Application Consultation (PAC) Report explaining the consultation carried outwith the local communities about the Proposed Development will also accompany the Section 36 application.

1.4.11. Early consultation is key in the development process, and throughout the Applicant will ensure that local communities and stakeholders are given the opportunity to provide feedback and are kept informed of project progress.

2. Proposed Development

2.1. Site Description

2.1.1. The site is located approximately 5 km east of Tomatin and 6 km north-west of Carrbridge in The Highland Council (THC) area (refer to Figure 2.1).

2.1.2. The site ('Proposed Development Area') is approximately 1,020 hectares (ha) and comprises upland moor, currently managed as a sporting estate. There are two fairly prominent hill features, separated by the Allt Loisgte watercourse. The Proposed Development Area is immediately adjacent to the boundary of the Cairngorms National Park (CNP) and approximately 14 km north of the Cairngorm Mountains National Scenic Area (NSA). It is approximately 9.8 km north-east of the Monadhliath Wild Land Area (WLA) and 18.3 km north-west of the Cairngorm WLA.

2.1.3. The nearest main highways are the A9 between Inverness and Aviemore that passes 4 km to the south-west and the A938 between Carrbridge and Grantown-on-Spey approximately 3.8 km to the south. The A939 between Nairn and Grantown-on-Spey passes approximately 14.2 km to the east of the proposed turbines. The B9007 between Ferness and Duthil passes 4.2 km to the east-south-east.

2.1.4. An initial design layout was developed that comprised 29 turbines and sought to maximise wind yield. This has since evolved through the feasibility study process and after detailed consideration of environmental constraints, a nine-turbine layout with tip height of 200 m has been produced.

2.1.5. There are no residential properties within 2 km of the proposed turbines and no settlements within 5 km of the Proposed Development Area.

2.2. Proposed Development Description

2.2.1. The Proposed Development will consist of nine stand-alone, three-bladed horizontal axis turbines as well as an associated on-site battery energy storage system (BESS). An indicative site layout is provided in Figure 2.2. Indicative turbine locations are noted in Table 2.1 below.

Table 2.1 Proposed Indicative Turbine Co-ordinates (BNG)

Turbine Number	X Co-ordinate	Y Co-ordinate
1	285996	830062
2	286671	830433
3	286317	829571
4	286993	829886
5	286590	829209
6	286935	828887
7	287428	829645
8	287527	828718
9	287602	829228

2.2.2. Although the final specification of the turbines is not known at this time, they are likely to be up to 200 m to maximum tip height, each with a generating capacity of approximately 6.2 MW. A summary of the turbine locations and specifications is provided in Appendix 2.1.

2.2.3. The battery energy storage system will consist of containerised battery units with a grid capacity up to 10 MW covering a site area of c.0.2 ha.

2.2.4. There are two access routes to the site being considered; one for abnormal indivisible loads (AIL) and the other for operational vehicles. The access route for operational vehicles, likely to be occasional 4X4 or vans, will be from the A9 with access via Raigbed Road.

2.2.5. The access route for AIL turbine movements will be as follows:

- Loads would depart the harbour at Inverness and would then proceed eastbound on Longman Drive and Stadium Road;
- At the Longman Roundabout, loads would turn left onto the A9 southbound
- Loads would turn left from the A9 onto the A95
- To the east of Dulnain Bridge, loads would turn left from the A95 onto the A938
- Loads would turn right from the A938 onto the B9007 and proceed north for approximately 14 km before turning before turning left to access the site via the B9007.

2.2.6. In addition to the turbines, associated works will be required for the following:

- turbine foundations;
- crane hardstandings;
- external transformers
- onsite access tracks between turbines and from the point of access to the turbines;
- onsite substation and maintenance building with welfare facility;
- battery energy storage system;

- on site electrical cabling between the turbines and the substation and energy storage system;
- temporary construction compound; and
- potential onsite borrow pit(s) depending on the suitability of site-won materials to provide aggregate for the construction of the development.

2.2.7. The parameters of the EIA will be such that an appropriate level of assessment will be undertaken for a given hub height and rotor diameter, within the envelope of a maximum tip height. The indicative turbine locations will evolve in response to the ongoing detailed assessment work, taking consideration of the environmental effects, terrain, current land use, technical and health and safety issues. The parameters of the Proposed Development will be explicitly identified in the EIA Report. The final locations of the turbines will be 'frozen' at an appropriate time in order to enable the EIA Report to describe fully the Proposed Development for which Section 36 consent is sought.

2.2.8. Whilst the location of the infrastructure will be determined through an iterative environmental based design process, there is the potential for these exact locations to be further optimised through micro-siting allowances prior to construction. In this regard, there will be a micro-siting allowance of up to 50 m in all directions in respect of each turbine and the associated infrastructure in order to address any potential difficulties which may arise in the event that preconstruction surveys identify unsuitable ground conditions or environmental constraints that could be avoided.

2.2.9. Consent will be sought for an operational life of 35 years from the date of commissioning the turbines. Before the end of this period, the Applicant will consider whether the Proposed Development should be decommissioned and removed, refurbished or repowered. Should the Applicant decide to refurbish or repower the Proposed Development, it will make the necessary consent applications required in terms of the legislation in force at that time. The assessment reported within the EIA Report will assume that the Proposed Development will be decommissioned.

2.2.10. Based on the preliminary, indicative layout being considered, the Proposed Development would provide a total generating capacity of approximately 55.8 MW (based on 9 turbines each with a 6.2 MW rated capacity) and an additional 10 MW of battery energy storage).

2.2.11. Based on a total installed capacity of 55.8 MW from the wind farm and a community benefit contribution of £5,000 per MW of installed capacity, the Proposed Development could generate up to £279,000 per annum (approximately £9 million over its operational life) to support local groups and projects in the settlements closest to the site.

2.3. Cumulative Developments

2.3.1. The EIA Regulations state that cumulative effects should be considered as a part of the EIA. It will therefore be important to consider the cumulative effects of the Proposed Development with other developments in the area, including those that are currently operational, consented and in planning. The cumulative assessment will also consider the cumulative effects of different elements of the Proposed Development on the environment and sensitive receptors, and in particular the cumulative effects of different effects upon individual and groups of receptors.

2.3.2. There are a number of operational and wind farm developments in planning within 15 km of the Proposed Development. Wind farm developments of relevance will be considered in the cumulative assessment, with the main neighbouring projects shown in Figure 4.3. The methodology to be adopted for assessing the cumulative effects of wind energy developments will be in accordance with the Scottish Natural Heritage (SNH, 2012) Guidance '*Assessing Cumulative Impacts of Onshore Wind Energy Developments'*. The scope of the cumulative assessment will be agreed through consultation with The Highland Council, (THC) and NatureScot (NS) (formerly SNH).

2.3.3. Other operational and consented wind farms as well as those at the application stage, within 35 km of the Proposed Development, are illustrated and listed on Figure 4.3 and Table 4.2 (see Section 4, Landscape and Visual, below).

2.3.4. It should be noted that this record will be updated throughout the EIA process, up to an agreed point prior to submission of the application. The Applicant welcomes any further information from stakeholders on additional proposed wind farm developments that should be considered.

3. Planning Policy

3.1. Introduction

3.1.1. This section summarises the relevant legislative and planning and renewable energy policy context that will be considered in the preparation of the Environmental Impact Assessment (EIA) Report. The EIA Report will set out the key policies that have been considered in the context of the Proposed Development.

3.1.2. The EIA Report will not assess the Proposed Development against the relevant legislative and policy context rather this will be undertaken in a separate Planning Statement.

3.2. Guidance and Legislation

The Electricity Act 1989

3.2.1. Section 36 of the Electricity Act provides that a generating station with a capacity in excess of 50 MW shall not be constructed, extended or operated in Scotland except in accordance with a consent granted by the Scottish Ministers.

3.2.2. Paragraph 3(2) of Schedule 9 of the Electricity Act requires the Scottish Ministers, in considering any relevant proposals for which their consent is required under Section 36, to have regard to:

- the desirability of the matters mentioned in paragraph 3(1)(a) of the Schedule; and
- the extent to which the person by whom the proposal were formulated has complied with his duty.

3.2.3. The matters mentioned in paragraph 3(1)(a) are: the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historical or archaeological interest.

3.2.4. The duty under paragraph 3(1)(b) requires the person who formulated the proposals to do what he reasonably can to mitigate any effect that the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects. Sub-paragraph 1 can be relevant to an applicant if they hold a licence under section 6 of the Electricity Act to generate, transmit, distribute of supply electricity at the date a Section 36 application is made.

3.2.5. Paragraph 3(3) of Schedule 9 stipulates a further requirement to seek to avoid as far as possible, causing injuries to fisheries or to the stock of fish in any waters.

3.2.6. The Electricity Act does not say that these are the only matters to be considered. Scottish Ministers will take into account other matters which would be material to their decision. These will include national energy policy, national and local planning policy as well as the full scope of the environmental information submitted with the application.

Town & Country Planning (Scotland) Act 1997

3.2.7. The principal planning statute in Scotland is the Town and Country Planning Act (Scotland) 1997 (the 'Planning Act'). That Act has recently been amended by the Planning (Scotland) Act 2019, however, not all provisions within this piece of legislation are in force.

3.2.8. Section 57 of the Planning Act addresses development with Government authorisation. When granting consent under section 36 of the Electricity Act, Scottish Ministers may, under section 57 (2), direct that planning permission is deemed to be granted.

3.2.9. Section 57 (2) states that: "*On granting or varying a consent under section 36 or 37 of the Electricity Act 1989, the Scottish Ministers may give a direction for planning permission to be deemed to be granted, subject to such conditions (if any) as may be specified in the direction, for – (a) so much of the operation or change of use to which the consent relates as constitutes development; (b) any development ancillary to the operational change of use to which the consent relates*".

3.2.10. As an application under the Electricity Act, the duty under Section 25 of the Planning Act to determine the application in accordance with the provisions of the development plan, unless material considerations indicate otherwise, does not apply. The Development Plan is however a relevant and important material consideration.

Climate Change Acts

3.2.11. The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 amends the Climate Change (Scotland) Act 2009 (the '2009 Act'). This legislation introduced legally binding targets to reduce Scotland's net greenhouse gas emissions and sets a target date for net-zero emissions of all greenhouse gases by 2045 at the latest. Interim targets for reductions are also established with at least 48.5% by 2020, 75% by 2030, 90% by 2040.

3.2.12. The target of net-zero emissions by 2045 is firmly based on what the independent Committee on Climate Change (CCC) advise is the limit of what can currently be achieved. The effect of these target changes requires a doubling of response to reduce emissions over the period from 2020 to 2030.

3.3. Renewable Energy Policy

3.3.1. The commitment to increase the amount of electricity generated from renewable sources is a vital response to climate change. Renewable energy generation will contribute to more secure and diverse energy supplies and support sustainable economic growth.

3.3.2. The renewable energy policy framework at the international and national level applies to renewable electricity generation and related climate change action and is an important consideration.

3.3.3. The EIA Report will examine these policy documents in detail and set out the hierarchy of UK, and Scottish Government energy policy.

3.3.4. In terms of the relevant policy framework at the International level, the following key documents are of relevance:

- The Conference of Parties (COP) 26 Glasgow Climate Pact (2021);
- Intergovernmental Panel on Climate Change (IPCC) Reports on the Impacts of Global Warming (2016 and 2021); and,
- The COP 21 UN Paris Agreement (2015);

3.3.5. In terms of UK renewable energy policy, the following documents are of relevance:

- Committee on Climate Change (CCC) Progress Reporting on Reducing Emissions (2019-2022);
- The UK Government's Energy Security Strategy (2022); and,
- The UK Government's Energy White Paper Powering our Net Zero Future (2020).

3.3.6. The most relevant policy documents published by the Scottish Government include:

- Scotland's Draft Energy Strategy and Just Transition Plan (2023);
- Scotland's Onshore Wind: Policy Statement (2022);
- Scottish Government's Response to the 2021 CCC Progress Report (2022);
- Scottish Energy Strategy (2017) and associated Position Statement (2021); and,
- The Climate Change Plan (2018) and associated update: Securing a Green Recovery on a Path to Net Zero (2020).

3.4. Planning Policy

3.4.1. The planning policy review will consider the national, regional and local policy documents of relevance. The EIA Report will describe the applicable planning policy framework insofar as it relates to onshore wind energy developments as well as other national policy documents which are relevant to the consideration of the Proposed Development.

National Policy and Guidance

3.4.2. Where applicable national planning policy, guidance and advice will be considered in the preparation of the EIA Report. These include but are not limited to the following documents:

- Flood risk: planning advice (2015);
- National Planning Framework (NPF) 4 (2023);
- PAN 1/2011 Planning and Noise (2011);
- PAN 2/2011 Planning and Archaeology (2011);
- PAN 1/2013 Environmental Impact Assessment (2013);
- PAN 60 Planning for Natural Heritage (2000);
- PAN 61 Planning and Sustainable Urban drainage Systems (2001);

- PAN 75 Planning for Transport (2005);
- PAN 3/2010 Community Engagement (2010); and
- Protecting Scotland, Renewing Scotland – The Scottish Government's Programme for Government 2020-21.

National Planning Framework 4

3.4.3. On 13 February 2023, the Scottish Government adopted National Planning Framework (NPF)4, which updates and replaces Scottish Planning Policy (SPP) and NPF3. It sets out the Government's spatial principles, regional priorities, national developments and national planning policy up to 2045. Crucially, NPF4 now forms part of the Development Plan for planning purposes.

3.4.4. The response to the climate emergency has a prominent position in NPF4, which makes it clear that Scotland must make significant progress by 2030 in order to achieve net zero emissions target by 2045. It also provides clear support for continued renewables provision, confirming that "*every decision on our future development must contribute to making Scotland a more sustainable place. We will encourage low and zero carbon design and energy efficiency, development that is accessible by sustainable travel, and expansion of renewable energy generation*" (Pg.7).

3.4.5. Policy 1 – 'Tackling the Climate and Nature Crises' states that, "*When considering all development proposals significant weight will be given to the global climate and nature crises*." Policy 2 - Climate Mitigation and Adaptation' seeks to encourage, promote and facilitate development that minimises emissions and adapts to the current and future impacts of climate change.

3.4.6. Policy 11 – 'Energy' seeks to "*encourage, promote and facilitate all forms of renewable energy development onshore and offshore. This includes energy generation, storage, new and replacement transmission and distribution infrastructure and emerging low-carbon and zero emissions technologies." The overall policy outcome is the "expansion of renewable, low-carbon and zero emissions technologies*".

3.4.7. In addition to the key policy principles discussed above, there are a number of further primary policy provisions within NPF4 which will be considered as part of the EIA process and design development. These include:

- Policy 3, Biodiversity;
- Policy 4, Natural Places;
- Policy 5, Soils;
- Policy 6, Forestry, Woodland and Trees;
- Policy 7, Historic Assets and Places;
- Policy 12, Zero Waste;
- Policy 13, Sustainable Transport;
- Policy 22, Flood Risk and Water Management;
- Policy 23, Health and Safety; and,

- Policy 25, Community Wealth Building.

3.4.8. As well as establishing a policy framework to guide development decision-making, NPF4 also identifies 18 'National Developments'. These are "*significant developments of national importance that will help to deliver the spatial strategy*" (p97).

3.4.9. National development status does not grant planning permission for the development and all relevant consents are required. However, designation as a National Development does mean that the principle of development does not need to be agreed in later consenting processes, in turn "*providing more certainty to communities, business and investors*" (p97).

3.4.10. National Development 3, 'Strategic Renewable Electricity Generation and Transmission Infrastructure' supports renewables electricity generation, re-powering, and expansion of the electricity grid. Specifically, onshore electricity generation, including electricity storage, exceeding 50 megawatts (MW) capacity will be considered to be development of national significance.

3.4.11. As such, the principle of the Proposed Development is established and a needs case does not require to be presented.

3.4.12. In the NPF4 Delivery Programme (Scottish Government, November 2022), the Scottish Government has committed to progress work on a new suite of guidance and advice that will support activity to deliver the policy intent of NPF4. Any guidance coming forward through the proposed development design and life-cycle will be appropriately considered by the Applicant and should be afforded appropriate weight in decision-making.

The Development Plan

3.4.13. In addition to NPF4, the Development Plan applicable to the Proposed Development Area comprises:

- Highland wide Local Development Plan (HwLDP) (2012);
- Inner Moray Firth Local Development Plan (IMFLDP) (2015); and
- Relevant Supplementary Guidance:
  - Onshore Wind Energy Supplementary Guidance (November 2016) and Addendum Supplementary Guidance 'Part 2b', December 2017;
  - Physical Constraints Supplementary Guidance;
  - Flood Risk and Drainage Impact Assessment Supplementary Guidance (2013); and
  - Highland Statutorily Protected Species Supplementary Guidance (2013).

3.4.14. Policy 67 of the HwLDP has been specifically formulated to deal with renewable energy developments and is the 'lead' policy, supported by Supplementary Guidance. The relevant policies of the HwLDP which will be considered as part of the EIA are as listed in Table 3.1 below:

Table 3.1 HwLDP Policies

Highland Wide Local Development Plan Policies	
Policy 67	Renewable Energy Developments
Policy 28	Sustainable Design
Policy 30	Physical Constraints
Policy 31	Developer Contributions
Policy 53	Minerals
Policy 55	Peat and Soils
Policy 56	Travel
Policy 57	Natural, Built and Cultural Heritage
Policy 58	Protected Species
Policy 59	Other Important Species
Policy 60	Other Important Habitats
Policy 61	Landscape
Policy 63	Water Environment
Policy 64	Flood Risk
Policy 66	Surface Water Drainage
Policy 72	Pollution
Policy 77	Public Access
Policy 78	Long Distance Routes

3.4.15. The HwLDP contains the general policies for determining planning applications in the Highlands. The IMFLDP is one of three area Local Development Plans – the Inner Moray Firth, Caithness and Sutherland and West Highland and Islands. The purpose of the area Local Development Plans is to set out plans and proposals for delivering development reflecting on the unique characteristics and attributes of these three areas.

3.4.16. The IMFLDP is largely of limited relevance to the assessment of the Proposed Development, given its main focus is on directing development within settlement areas and Growth Areas. The HwLDP contains policies that provide protection of the Highlands' natural environment, but the IMFLDP provides additional detail on Special Landscape Areas (SLA), which is relevant to the Proposed Development as the Proposed Development Area is located within an SLA.

3.4.17. The IMFLDP will be assessed and considered insofar as it is relevant to the Proposed Development.

Onshore Wind Energy Supplementary Guidance

3.4.18. The Highland Council's Onshore Wind Energy Supplementary Guidance was adopted in November 2016. This sets out the Council's spatial framework for onshore wind development in accordance with the requirements of Scottish Planning Policy (2014). As indicated within the Supplementary Guidance, the Spatial Framework contains information on the requirements for safeguarding areas concerning onshore wind energy development. There are three groupings within the Spatial Framework as described below:

- Group 1: Areas where wind farms will not be acceptable;
- Group 2: Areas of significant protection; and
- Group 3: Areas with potential for wind farm development

3.4.19. Based on initial review, the Proposed Development falls primarily within Group 2, requiring significant protection due to Class 1 priority peatland. Pockets of the Proposed Development Area lie within Group 3, which describes land which may be suitable for wind farm development.

3.4.20. The spatial framework established in THC's Onshore Wind Supplementary Guidance is based on the policy principles established in SPP. Given that SPP is now superseded by NPF4 which itself does not include an onshore wind spatial framework, it is considered that that overall weight of THC's Supplementary Guidance in decision-making is diminished. Notwithstanding this, the broad principles of this document will be considered through the EIA process.

Assessment of Highland Special Landscape Areas

3.4.21. The Proposed Development Area lies within the Drynachan, Lochindorb and Dava Moors Special Landscape Area (SLA).

3.4.22. The SLA comprises high rolling moorland, including gentle gradients, limited relief, and management of much of the area as grouse moor. Key characteristics of the SLA are the homogeneity of the landscape, its sense of spaciousness, wide views, and sparse human presence.

Emerging Local Development Plan

3.4.23. The Highland Council started the process of reviewing the HwLDP with a Main Issues Report consultation in 2016. The publication of the Planning Bill in 2017, which has since been enacted as the Planning (Scotland) Act 2019, outlined changes to the Scottish planning system, including changes to the content of Local Development Plans and how they are prepared,. In light of the changes, THC paused the review of the HwLDP until the implications for Development Planning were more clearly understood.

3.4.24. Based on an initial review of all the comments received on the Main Issues Report, an interim position on the issues raised was agreed by THC's Planning,

Development and Infrastructure Committee on 17 August 2016. This interim position will inform the future stages of the HwLDP review.

3.4.25. The second IMFLDP is currently under preparation. The Highland Council published the Proposed IMFLDP for consultation between March and June 2022. The Proposed plan sets out future development and key priorities for communities across the Inner Moray Firth region. The Highland Council submitted the Proposed IMFLDP 2 to Scottish Ministers for examination on 24th March 2023.

The Cairngorms National Park Partnership Plan

3.4.26. The Proposed Development Area is located in proximity to (but entirely outwith) the Cairngorms National Park Authority (CNPA).

3.4.27. The Cairngorms National Park Partnership Plan 2022 – 2027 (NPPP) is the management plan for the area and is approved by Scottish Ministers. The Plan contains policies relevant to development outwith the boundary of the National Park, but which may have an affect on its special qualities. It will therefore be a material consideration for the Proposed Development. .

3.4.28. The relevant policies of the Cairngorms National Park Partnership Plan will be considered where appropriate within each topic specific chapter of the EIA Report.

3.4.29. For the avoidance of doubt, as the Proposed Development Area lies outwith the Park Authority boundary, the Cairngorms Local Development Plan (adopted 2021) is not specifically relevant and is therefore not considered further with respect to the EIA process.

3.5. Conclusions

3.5.1. The EIA Report will include a comprehensive overview of the up-to-date planning and energy policy at the time of submission. The Section 36 application will be accompanied by a Planning Statement which will assess the Proposed Development against the relevant policy provisions.

4. Landscape and Visual

4.1. Introduction

4.1.1. It is acknowledged from the outset that, in common with almost all commercial wind energy developments, some landscape and visual effects would occur as a result of the Proposed Development.

4.1.2. A key principle of the European Landscape Convention is that all landscapes matter and should be managed appropriately. It is also acknowledged that landscapes provide the surroundings for people's daily lives and often contribute positively to the quality of life and economic performance of an area.

4.1.3. Therefore, it is proposed that a Landscape and Visual Impact Assessment (LVIA) is undertaken as part of the EIA and an LVIA Chapter be included in the EIA Report. The LVIA will be undertaken by Chartered Landscape Architects, who are experienced in the assessment of large scale, onshore wind energy projects and are fully familiar with the landscape in the vicinity of the Proposed Development Area.

4.1.4. It is proposed that the LVIA will consider the potential effects of the Proposed Development upon:

- Individual landscape features and elements;
- Landscape character; and
- Visual amenity and the people who view the landscape.

4.2. Guidance and Legislation

4.2.1. The LVIA will be prepared in accordance with the principles of best practice, as outlined in published guidance documents, notably the third edition of the Guidelines for Landscape and Visual Assessment (GLVIA3)[1].

4.2.2. The methodology and assessment criteria proposed for the LVIA will be developed in accordance with the principles established in this best practice document. It should be acknowledged that GLVIA3 establishes guidelines, not a specific methodology. The preface to GLVIA3 states: "*This edition concentrates on principles and processes. It does not provide a detailed or formulaic 'recipe' that can be followed in every situation – it remains the responsibility of the professional to ensure that the approach and methodology adopted are appropriate to the task in hand*."

4.2.3. The approach has therefore been developed specifically for this assessment to ensure that the methodology is fit for purpose. Consideration has also been given to the following documents:

[1] Landscape Institute and the Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment, 3rd Edition

- NatureScot (2022) Landscape Sensitivity Assessment Guidance (Methodology);
- The Highland Council (2011) Assessment of Highland Special Landscape Areas
- The Highland Council (July 2016) Visualisation Standards for Wind Energy Developments; and
- The Highland Council (2016) Onshore Wind Energy Supplementary Guidance, November 2016 and Addendum Supplementary Guidance: 'Part 2b', December 2017.
- The Countryside Agency and SNH (2002) Landscape Character Assessment Guidance for England and Scotland: Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity, The Countryside Agency and SNH;
- Landscape Institute (2021) Assessing landscape value outside national designations, Technical Guidance Note 02/21;
- SNH (2018) A Handbook on Environmental Impact Assessment, Appendix 2: Landscape and Visual Impact Assessment, Version 5;
- SNH (2017) Siting and Design of Wind farms in the Landscape, Version 3;
- SNH (2017) Visual Representation of Wind farms Version 2.2;
- Landscape Institute (2019) Technical Guidance Note 06/19, Visual Representation of Development Proposals;
- Landscape Institute (2019) Technical Guidance Note 02/19, Residential Visual Amenity Assessment;
- NatureScot (2020) General pre-application and scoping advice for onshore wind farms;
- NatureScot (September 2020) Assessing impacts on Wild Land Areas – technical guidance; and
- NatureScot (2021) Guidance - Assessing the cumulative landscape and visual impact of onshore wind energy developments.

4.2.4. Full details of the methodology will be provided within the LVIA chapter of the EIA Report.

4.3. Proposed Scope of Assessment

4.3.1. It is proposed that the main objectives of the LVIA will be as follows:

- To identify, evaluate and describe the current landscape character of the Proposed Development Area, its surroundings and any notable individual or groups of landscape features within it;
- To determine the sensitivity of the landscape to the type of development proposed;
- To identify potential visual receptors (i.e. people that would be able to see the Proposed Development) and evaluate their sensitivity to the type of changes proposed;

- To identify and describe any impacts of the Proposed Development in so far as they affect the landscape and/or views of it and evaluate the magnitude of change due to these impacts;
- To identify and describe any mitigation measures (including mitigation which is inherent in the design and layout of the Proposed Development) that have been adopted to avoid, reduce and compensate for landscape and visual effects;
- To identify and assess any cumulative landscape and visual effects;
- To evaluate the level of residual landscape and visual effects; and
- To make a professional judgement about which effects, if any, are significant.

4.4. Distinction between Landscape and Visual Effects

4.4.1. In accordance with the published guidance, landscape and visual effects will be assessed separately, although the procedure for assessing each of these is closely linked. A clear distinction has been drawn between landscape and visual effects as described below:

- landscape effects relate to the effects of the Proposed Development on the physical and perceptual characteristics of the landscape and its resulting character and quality; and
- visual effects relate to the effects on specific views experienced by visual receptors and on visual amenity more generally.

4.5. Study Area

4.5.1. In order to assist with defining the study area, a digital Zone of Theoretical Visibility (ZTV) model has been produced as a starting point to illustrate the geographical area within which views of development on the Proposed Development Area are theoretically possible. This was based on a 'bare-earth' scenario, whereby the screening effect of areas of existing vegetation or built features in the landscape are not taken into account. The ZTV was modelled to blade tip height using the currently proposed turbine height of 200 m and is presented at Figure 4.1.

4.5.2. With reference to Visual Representation of Wind Farms, Version 2.2[2] based on the preliminary blade tip height, an initial study area of up to 45 km should be considered for the purposes of establishing a preliminary evaluation of the likely receptors. However, the preliminary ZTV which accompanies this Scoping Report illustrates that visibility would be limited at distances greater than 20 km with large areas of no ZTV coverage to the north, east, south and west. It is therefore proposed that the LVIA will consider an initial 35 km radius LVIA study area. Detailed assessment will then be provided for a 20 km section of this study area, which it is considered represents a proportionate extent of the study

[2] Scottish Natural Heritage (February 2017) Visual Representation of Wind Farms Guidance. Version 2.2

area and the area within which potential significant effects are most likely to occur.

4.5.3. The cumulative effect of the Proposed Development in association with other wind energy developments will also be considered. Consideration was initially given to a 60 km radius from the site, accounting for NatureScot[3] guidance. Following this review, it is proposed that a 20 km detailed study area be adopted to consider cumulative effects, which is considered represents a proportionate extent of the study area and the limit within which any potential significant cumulative effects might occur.

4.6. Baseline Description

4.6.1. Initial studies have been undertaken to identify the potential landscape and visual receptors to be considered within the LVIA and the viewpoint locations to inform the assessment (15 proposed viewpoints are set out in Table 4.1). This is based on the initial ZTV (Figure 4.1) illustrating the initial 35 km study area and knowledge of the area surrounding the Proposed Development Area.

4.6.2. The key receptors are outlined in turn below. For the final LVIA detailed baseline information on the landscape and visual resource will be gathered through a combination of desk studies, consultation and field surveys.

Landscape Character

4.6.3. The most up to date and relevant landscape character assessment covering the study area is the NatureScot 2019 landscape character assessment[4].

4.6.4. The Proposed Development Area is located within Landscape Character Type (LCT 221) Rolling Uplands – Inverness which is described as:
"A series of large scale, smooth, rounded hills with summits of similar height forming broad, undulating upland plateaux containing occasional steep-sided straths."

4.6.5. Key characteristics of the LCT 221 are defined as:

- "*Open heather moorland dominates, the uniform colour and texture accentuating the landform;*
- *Straths floors contain inbye pastures, trees and small patches of woodland;*
- *Conifer forests limited to the lower edges of uplands and strath sides;*
- *Settlement limited to a few isolated farms in remote straths;*
- *A few mainly single-track roads, integrated within the landform;*
- *Uninhabited interior, largely inaccessible to vehicles;*
- *Archaeological evidence of settlement and farming from prehistoric times to the 19th century;*

[3] NatureScot (2021) Assessing the cumulative landscape and visual impact of onshore wind energy developments
[4] NatureScot (2019 web based resource) Scottish Landscape Character Types Map and Descriptions

- *Striking colour and textural contrast between strath floors and moorland vegetation above;*
- *Expansive views from the hill tops and plateaux create a strong sense of openness and exposure;*
- *Scale and distance difficult to judge; and*
- *Few signs of active management in the interiors, creating a strong perception of remoteness, although this is affected by a number of large wind farm developments."*

4.6.6. The LVIA will include an assessment of the sensitivity of landscape character, based on the NatureScot LCTs. An assessment of the potential for the Proposed Development to result in significant effects on the character of the LCT will then be provided.

Highland Council Onshore Wind Energy Supplementary Guidance (2016) and Addendum (2017)

4.6.7. The THC Onshore Wind Energy Supplementary Guidance (OWESG) and Addendum[5] considers the landscape sensitivity to large-scale wind farms, small individual turbines and access infrastructure. The OWESG includes landscape sensitivity appraisals and strategic capacity conclusions for a number of areas. The OWESG uses the former landscape character assessments undertaken in the 1990s and early 2000s that informed the 2019 NatureScot assessment. The OWESG refines landscape character and assigns a reference code and a geographic place name to identify Landscape Character Areas (LCAs) within Landscape Character Types.

4.6.8. The Proposed Development Area lies between OWESG study areas Loch Ness and the Black Isle, surrounding Hills and the Moray Firth Coast. With reference to the Loch Ness Landscape Character Area Map, the Proposed Development Area is located within the north-eastern corner of LCA 6, LN6: Monadhliath ridge and tops, Rolling Uplands outside of the study area defined by the OWESG.

4.6.9. The analysis of the 'Landscape Sensitivity' of the LN6 study area identified a score of '2-3' for Large Scale Wind Farm development (on a scale of 1-4, with 1 being the most susceptible to change). It should be noted that, while the site is located outside of the core LN6 study area, where relevant OWESG recommendations will be considered within the LVIA.

4.6.10. Where other landscapes within the study area are covered by the OWESG landscape and visual matters of relevance to the Proposed Development Area and the Proposed Development will also be considered.

[5] The Highland Council (2016) Onshore Wind Energy Supplementary Guidance, November 2016 and Addendum Supplementary Guidance: 'Part 2b', December 2017

Dava Moor, Nairn and Monadhliath Wind Energy Landscape Sensitivity Study (The Highland Council, 2021)

4.6.11. The Proposed Development is located within the study area of this wind energy landscape sensitivity study[6] and specifically within the Rolling Uplands assessment unit (AU) which is described as: "*an extensive upland plateau with a strong homogeneity of landform and landcover and an expansive scale. Smooth, rounded hills, with summits of similar height, form broad, undulating plateaux, interspersed with lower-lying wet basins and cut by occasional steep-sided straths and narrow glens. The landform is generally simple although higher and more pronounced hills lie on the south-eastern boundary of these uplands with the Cairngorms National Park (CNP). A series of smaller, and more complex, craggy and steep-sided hills abut Strathnairn/the upper Foyers valley on the north-western boundary. Landcover principally comprises grass and heather moorland and areas of bog. Woodland is sparse with some coniferous plantations present on the lower edges of these uplands and close to Strathdearn. Native woodlands are largely associated with the narrow and deeply incised glens which cut into the north-western edge of these uplands near Fort Augustus. The interior of these uplands is uninhabited with settlement and communications, including the A9 and railway, focussed within adjacent Strathdearn in the north-eastern part of this landscape. There are very few public roads although these uplands are accessed by many tracks. Operational wind farms and the Glendoe Hydro scheme are located in these uplands. The Monadhliath Wild Land Area (WLA) covers the southern part of this AU. The Cairngorms National Park abuts the southern boundary of this AU, the Braeroy, Glenshirra and Creag Meagaidh WLA borders the south-western boundary and the Loch Ness and Duntelchaig SLA lies to the north-west of this landscape."*

4.6.12. The analysis of the sensitivity of the unit notes that: *"While the extensiveness and simplicity of landform and landcover of much of this AU reduces susceptibility to larger wind turbines, there are constraints relating to the Monadhliath WLA which covers part of this landscape and the close proximity of the Cairngorms National Park and the Braeroy, Glenshirra and Creag Meagaidh WLA. In addition, the north-western edge of these uplands is of increased sensitivity because of the presence of pronounced smaller scale craggy hills and dramatic glens, the proximity of the Upper Farmed Strath AU and the Loch Ness and Duntelchaig SLA and long views from vantage points above Loch Ness."*

4.6.13. It goes on to identify a "*high-medium*" sensitivity to wind turbines over 150 m in height.

Landscape Designations

4.6.14. Landscape Designations within the initial 35 km study area are shown on Figure 4.2. The site is located within the south-western corner of the locally

[6] The Highland Council (December 2021) Dava Moor, Nairn and Monadhliath Wind Energy Landscape Sensitivity Study Pilot Study.

designated Drynachan, Lochindorb and Dava Moors Special Landscape Area (SLA), adjacent to the CNP, and 14 km north of the Cairngorm Mountains National Scenic Area (NSA).

4.6.15. The nearest Gardens and Designed Landscapes (GDLs) are Aultmore (GDL 00032) located 15.3 km to the south-east and Castle Grant (GDL 00092) 15.6 km to the east of the site.

Cairngorms National Park

4.6.16. The CNP is divided into LCAs which are in turn underpinned by the Special Landscape Qualities (SLQs)[7] which define the qualities of the National Park. The Special Landscape Qualities of the Cairngorms National Park are defined as:

*"**General Qualities***

- *Magnificent mountains towering over moorland, forest and strath;*
- *Vastness of space, scale and height;*
- *Strong juxtaposition of contrasting landscapes;*
- *A landscape of layers, from inhabited straths to remote uninhabited upland;*
- *'The harmony of complicated curves'; and*
- *Landscapes both cultural and natural.*

The Mountains and Plateaux

- *The unifying presence of the central mountains;*
- *An imposing massif of strong dramatic character;*
- *The unique plateaux of vast scale, distinctive landforms and exposed, boulder strewn high ground;*
- *The surrounding hills;*
- *The drama of the deep corries;*
- *Exceptional glacial landforms; and*
- *Snowscapes.*

Moorlands

- *Extensive moorland, linking the farmland, woodland and the high tops; and*
- *A patchwork of muirburn.*

Glens and Straths

- *Steep glens and high passes;*
- *Broad, farmed straths;*
- *Renowned rivers; and*
- *Beautiful lochs.*

[7] SNH (2010) Commissioned Report No. 375 The Special Landscape Qualities of the Cairngorms National Park

Trees, Woods and Forests

- *Dark venerable pine forest;*
- *Light and airy birch woods;*
- *Parkland and policy woodlands; and*
- *Long association with forestry.*

Wildlife and Nature

- *Dominance of natural landforms;*
- *Extensive tracts of natural vegetation;*
- *Association with iconic animals;*
- *Wild land; and*
- *Wildness.*

Visual and Sensory Qualities

- *Layers of receding ridge lines;*
- *Grand panoramas and framed views;*
- *A landscape of many qualities;*
- *Dark skies;*
- *Attractive and contrasting textures; and*
- *The dominance of natural sounds.*

Culture and History

- *Distinctive planned towns;*
- *Vernacular stone buildings;*
- *Dramatic, historical routes;*
- *The wistfulness of abandoned settlements;*
- *Focal cultural landmarks of castles, distilleries and bridges; and*
- *The Royal connection.*

Recreation

- *A landscape of opportunities; and*
- *Spirituality."*

4.6.17. Having reviewed the above SLQs, it is proposed that an assessment of the effects of the Proposed Development will be undertaken on the following SLQs:

- Layers of receding ridgelines;
- Grand panoramas and framed views; and
- Dark skies.

Cairngorm Mountains National Scenic Area

4.6.18. The Cairngorm Mountains NSA is situated approximately 14 km to the south of the Proposed Development and covers the foothills and mountainous core of the Cairngorm Mountains. The LVIA will consider the potential effects of the Proposed Development on the NSA.

4.6.19. However, it should be noted that as set out in NatureScot (formerly SNH) Commissioned Report No.374[8] specific Cairngorm Mountains NSA SLQs are not defined because their qualities are set in the separate report on the special qualities of the CNP[6].

Drynachan, Lochindorb and Dava Moors Special Landscape Area

4.6.20. The Proposed Development is located within the south-western corner of the Drynachan, Lochindorb and Dava Moors SLA. Policy 57 of the Highland-wide Local Development Plan (HwLDP)[9] provides for the protection of SLAs, which notes that development will be allowed in areas of local importance if it can be satisfactorily demonstrated that they will not have an unacceptable impact. Policy 57 is accompanied by the background paper The Assessment of Highland Special Landscape Areas[10].

4.6.21. The Drynachan, Lochindorb and Dava Moors SLA covers an area of over 245 km^2 and is defined as follows:

"Location and Extent:

'*This area covers most of the higher moorland which separates the Cawdor-Ferness-Beachans area of Nairn district from Strathspey to the south and the route of the A9 to the west. It incorporates the continuous moors of Drynachan, Lochindorb and Dava and extends from Carn nan Tri-tighearnan in the west to Lang Hill and Carn Kitty in the east'*.

Overview:

This landscape comprises high rolling moorland, which has a consistency of character derived from gentle gradients, limited relief, and management of much of the area as grouse moor. Although this moorland is not as extensive as other moorlands further north, it is valuable for being located mid-way between a number of settlements and for being easily accessible via several roads which pass through the area.

Elements of human intervention are evident within this landscape, most obviously in the form of tracks, fences, muirburn patterns and fencing. However, it retains a strong sense of tranquillity as well as some wildness qualities, which are emphasised by an almost complete absence of built structures."

4.6.22. The 2011 assessment also considered 'Key Landscape and Visual Characteristics' and 'Special Qualities' of the SLA before identifying a series of matters relating to its 'Sensitivity to change' which included the following:

[8] Scottish Natural Heritage (2010). The special qualities of the National Scenic Areas. Scottish Natural Heritage Commissioned Report No.374 (iBids and Project no 648).
[9] The Highland Council (2012) Highland-wide Local Development Plan.
[10] The Highland Council (2011) The Assessment of Highland Special Landscape Areas

- *"The undifferentiated moorland landscape, characterised by expansive horizons and broad panoramas may be diminished by further features which break up the composition;*
- *The sense of isolation, extensive panoramas and impression of wildness could be compromised by the introduction of further buildings or other structures; and*
- *Key landscape management priorities should be to protect it from fragmentation and encroachment by unsympathetic forms of development which could disrupt the wide and uncluttered horizontal views."*

4.6.23. Potential effects on this SLA will be considered within the LVIA.

Wild Land

4.6.24. Wild Land Areas are mapped and described by NatureScot[11] and are considered sensitive to development. The Proposed Development is not located within a Wild Land Area (WLA). The nearest WLA areas are WLA 20 – Monadhliath located approximately 9.8 km south-west of the site and WLA 15 Cairngorms located approximately 19.2 km south-east of the site.

4.6.25. Given the distance from these WLAs and with reference to Policy 4 (g) of National Planning Framework 4[12] that states that "*Buffer zones around wild land will not be applied and effects of development outwith wild land areas will not be a significant consideration.*", the effects of the Proposed Development on wild land will be scoped out of the assessment and will not be assessed.

Visual Receptors

4.6.26. A detailed consideration of the potential for effects on the visual amenity of receptors in the landscape surrounding the site will be set out in the LVIA. This visual assessment will be informed by a selection of representative assessment viewpoints, which are listed in Table 4.1.

4.6.27. The LVIA will focus on the potential effects of the Proposed Development on different visual receptors comprising settlements, footpath users, recognised tourist routes, long distance walking routes, cycle routes, centres for tourism and road and rail routes.

4.6.28. Given the upland moorland and afforested landscapes in relative close proximity to the site, key visual receptors would largely constitute visitors to high points within and outside the CNP and local SLA, and those within nearby valleys including road and recreational users and settlements.

4.6.29. The assessment of visual effects will also be supported by sequential route assessments from the A9, the B9007 and the Highland Mainline railway.

[11] Available at: https://www.nature.scot/wild-land-area-descriptions
[12] The Scottish Government (2023). National Planning Framework 4

Residential Visual Amenity

4.6.30. Consideration of the visual amenity of the nearest residential properties to the Proposed Development Area will be given within the LVIA. However, there are no residential properties located within 2 km of the Proposed Development. As such, it is proposed that a separate standalone Residential Visual Amenity Assessment (RVAA) will not be undertaken as part of the LVIA and that effects on residential visual amenity are scoped out of the assessment.

Proposed Viewpoints

4.6.31. It is proposed that the 16 locations set out in Table 4.1 and shown on Figures 4.1 and 4.2 are included as assessment viewpoints in the LVIA. The viewpoints represent visual receptors, LCTs and landscape designations at a range of distances and directions from the site.

Table 4.1 Proposed LVIA Viewpoints

No.	Viewpoint Location	Distance and direction from nearest turbine	OS Grid Reference	Receptors
1	Carn Glas-Choire	1.8 km east	289286, 829087	LCT 125 Rolling Uplands – Cairngorms, CNP, and hill summit
2	Minor Road north of Drynachan	10.5 km north	286582, 840960	LCT 294 Upland Valleys - Moray & Drynachan, Lochindorb and Dava Moors SLA, and road users
3	B9007 near Lochindorb	10.1 km north-east	294681, 836774	LCT 291 Open Rolling Upland, Drynachan, Lochindorb and Dava Moors SLA, and road users
4	B970	13.1 km north-east	298223, 837166	LCT 291 Open Rolling Upland, Drynachan, Lochindorb and Dava Moors SLA, and road users
5	Creag Ealraich	6.7 km east	294315, 830467	LCT 291 Open Rolling Upland, Drynachan, Lochindorb and Dava Moors SLA, and hill summit
6	Beinn Mhor	11.8 km east	299342, 828170	LCT 125 Rolling Uplands - Cairngorms CNP, and hill summit
7	Carrbridge	6.6 km south-east	290850, 822862	LCT 127 Upland Strath, settlement
8	Nethy Bridge	15.1 km south-east	300357, 820724	LCT 128 Forested Upland Fringe, settlement
9	Auchgourish	14.6 km south-east	293859, 815517	LCT 127 Upland Strath, road users and residents
10	Carn nam Bain-tigheama	4.1 km south-west	284827, 825369	LCT 125 Rolling Uplands – Cairngorms, CNP, and hill summit
11	Càrn Dubh'lc an Deòir	13.1 km south-west	277455, 819793	LCT 221 Rolling Uplands – Inverness WLA, and hill summit

No.	Viewpoint Location	Distance and direction from nearest turbine	OS Grid Reference	Receptors
12	Tomatin	6.4 km west	279569, 829708	LCT 221 Rolling Uplands – Inverness, settlement
13	A9 west of site	7.6 km north-west	278669, 832280	LCT 221 Rolling Uplands – Inverness, and road users
14	A9	11.9 km north-west	275098, 834731	LCT 221 Rolling Uplands – Inverness, and road users
15	Carn nam Tri-tigheaman	10 km north-east	282302, 838973	LCT 221 Rolling Uplands, and hill summit
16	Cairngorm	27.9 km south-east	300525, 803955	LCT 122 Mountain Massif-Cairngorms, hill summit and visitors

4.6.32. Each of the representative viewpoints will be visited to evaluate the sensitivity of views. In addition, the study area will also be extensively visited to consider visibility of the Proposed Development as receptors move through the landscape.

4.6.33. The viewpoints will be used as the basis for determining the effects on visual receptors within the study area. The sensitivity of different receptor groups will be set out in the LVIA methodology.

4.6.34. The level of effect experienced by different visual receptors will be determined by considering the sensitivity of the receptors with the magnitude of change resulting from the introduction of the Proposed Development.

Visualisations

4.6.35. Each viewpoint will be illustrated with visualisations prepared in line with the Highland Council and NatureScot best practice guidance[13].

4.7. Night-time Lighting Assessment

4.7.1. Under Civil Aviation Authority (CAA) Regulations structures over 150m in height are required to be lit with visible aviation lighting.

4.7.2. In accordance with the NatureScot guidance[14] the LVIA will assess the additional visual effects of the aviation lighting in the main body of the LVIA chapter. The additional change introduced by the aviation lighting will form a component of the magnitude of change.

4.7.3. It has been established in a recent appeal decision that the effects of visible aviation lighting are “wholly a visual concern” and that “without being able to see and fully appreciate the features of the landscape and the composition of

[13] The Highland Council (July 2016) Visualisation Standards for Wind Energy Developments & SNH (2017) Visual Representation of Wind farms Version 2.2
[14] NatureScot (2020) General pre-application and scoping advice for onshore wind farms

views it is not possible to carry out a meaningful landscape character assessment."[15]

4.7.4. Therefore, the assessment of the visible aviation lighting will be concerned solely with the visual effects associated within the lighting. This consideration will be informed by a ZTV of the lit turbines, a turbine lighting intensity ZTV and night-time visualisations from a selection of viewpoints, illustrating the proposed lighting effects. In line with NatureScot Visualisation Guidance, the viewpoints selected represent locations from where people are most likely to experience the wind farm at night.

4.7.5. It is proposed that the following night-time visualisations will be produced:

- VP 7. Carrbridge
- VP 12. Tomatin; and
- VP 13. A9 west of site.

4.7.6. The viewpoints will be used to inform consideration of the potential visual effects on key visual receptors in nearby residential properties, settlements and users of the road network.

4.8. Cumulative Assessment

4.8.1. The LVIA will also consider the potential for any cumulative effects to arise. The requirement for consideration of cumulative effects under the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 is set out in Schedule 4, part 5, as follows:

4.8.2. "*A description of the likely significant effects of the development on the environment resulting from, inter alia: (e) the cumulation of effects with other existing and/or approved development, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources*."

4.8.3. This represents a change to the wording of the previous Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2010 which stated: "*A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development*".

4.8.4. Therefore, there is no longer any requirement under the current EIA Regulations to consider the potential for cumulative impacts in relation to other developments which are yet to be awarded consent.

[15] The Scottish Government. Crystal Rig IV Report to the Scottish Ministers. (2021) page 8.

4.8.5. However, it is acknowledged that NatureScot's[16] current best practice guidance for cumulative impact assessment still refers to a consideration of proposals which are 'awaiting determination within the planning process with design information in the public domain' and states that "*The decision as to which proposals in the planning / consenting system should be included in an assessment is the responsibility of the determining authority.*"

4.8.6. As such, it is proposed in this LVIA to consider cumulative effects caused by the development of the site in conjunction with other sites which are either operational, under construction consented or the subject of a full planning application. The NatureScot[16] best practice guidelines identify two principal types of cumulative visual impact:

- Combined visibility – where the observer is able to see two or more developments from one viewpoint; and
- Sequential visibility – where two or more sites are not visible at one location but would be seen as the observer moves along a linear route, for example, a road or public right of way.

4.8.7. The guidelines state that 'combined visibility' may either be 'in combination' (where two or more sites are visible from a fixed viewpoint in the same arc of view) or 'in succession' (where two or more sites are visible from a fixed viewpoint, but the observer is required to turn to see the different sites). Each of the above types of cumulative effect will be considered in the LVIA.

4.8.8. The assessment will also consider the potential cumulative effects of wind turbine aviation lighting, with reference to other wind farms that are either operational, under construction, consented or the subject of a full planning application which also have visible aviation warning lighting.

4.8.9. In order that the cumulative assessment remains focussed on other developments that have the greatest potential to give rise to significant cumulative effects it is necessary at the outset to decide which developments need to be considered in detail, as to consider all developments within 35 km of the Proposed Development would detract attention from the key issues relating to the application. In this landscape and visual context wind farms over 20 km away are highly unlikely to give rise to significant cumulative effects. It is also considered appropriate and proportionate to scope out all turbines under 50 m, and any turbines between 50 m and 80 m which are located over 10 km distance from the site. The cumulative impact assessment will therefore focus primarily on developments within approximately 20 km of the Proposed Development.

4.8.10. The wind farms identified within Table 4.2 and shown on Figure 4.3 are therefore the developments on which the cumulative assessment will be primarily focussed.

[16] NatureScot 2021 Assessing the Cumulative Impact of Onshore Wind Energy

Table 4.2 Developments within 35 km of the site

Wind Farm	Status	No. of Turbines	Blade Tip Height	Approximate Distance and Direction from the Site
Tom nan Clach	Constructed	13	125m	3.7 km north
Moy	Constructed	20	126.5m	9.1 km north-west
Farr	Constructed	40	101m	11.1 km west
Hill of Glaschyle	Constructed	12	100m	23.9 km north-east
Berry Burn	Constructed	29	100m	24 m north-east
Paul's Hill I	Constructed	28	100m	17 km north-east
Corriegarth	Constructed	20	120m	31.7 km south-west
Glen Kyllachy	Constructed	20	110m	10.7 km south-west
Dunmaglass	Constructed	33	117.5m	23.2 km south-west
Meikle Hill	Operational	6	126.5	34.2 km north-east
Aberarder	Approved or Under Construction	12	130m	22.2 km south-west
Cairn Duhie	Approved or Under Construction	20	110m	15.7 km north-east
Clash Gour	Approved or Under Construction	48	130-180m	21.4 km north-east
Berry Burn Extension	Approved or Under Construction	9	149.9m	17 km north-east
Paul's Hill II	Approved or Under Construction	7	149.9m	19 km north-east
Tom na Clach Extension	In Planning	7	149.9m	3.2 km north
Cairn Duhie Redesign	In Planning	16	149m	6 km north-east
Lethen Wind Farm	In Planning	17	185m	6.5 km north-east
Corriegarth II	In Planning	16	149.9m	31 km south-west
Ourack	In Planning	18	180m	19.6 k north-east

4.9. Potential Mitigation

4.9.1. Mitigation measures may include:

- avoidance of effects;
- reduction in magnitude of effects; and
- compensation for effects (which may include enhancements to offset any adverse effects).

4.9.2. The primary mitigation adopted in relation to landscape and visual matters is likely to be embedded within the design of the Proposed Development and will comprise the consideration given to avoiding and minimising landscape and visual effects during the evolution of the Proposed Development layout. This is sometimes referred to as 'mitigation by design'.

4.10. Potential Landscape and Visual Effects

4.10.1. The LVIA will consider the potential effects of the Proposed Development upon:

- individual landscape features and elements;
- landscape character;
- visual amenity and the people who view the landscape; and
- landscape designations as appropriate.

4.10.2. The LVIA will considers the effects at three different stages in the lifetime of the Proposed Development:

- during construction of the Proposed Development;
- during the operational lifetime of the Proposed Development; and
- during decommissioning of the Proposed Development.

4.10.3. Effects during the first and third of these phases are considered to be temporary and would have a short duration. Effects associated with the operational phase of the Proposed Development are considered to be long term effects.

4.10.4. Following the judgement of the sensitivity of the landscape or visual receptor, the LVIA will provide a judgement as to the magnitude of change and the level of the effect experienced by each receptor, along with a statement to clarify whether the effect resulting from the Proposed Development is significant or not.

4.11. Scoping Questions to Consultees

4.11.1. The following are considered to be the key issues which require consideration by the consultees:

- Are there any comments on the proposed study areas?
- Are there any comments on the proposed list of viewpoint locations?
- Are there any further wind farm sites, in addition to those listed in Table 4.2, to consider as part of the cumulative assessment?
- Do consultees agree with the list of Cairngorms National Park SLQs that are proposed to be assessed?
- It is noted that within 'Visualisation Standards for Wind Energy Developments (July 2016)' the need to provide 'monochrome' images (a black and white photo with red turbines) is set out to be 'if required' by The Highland Council. Can The Highland Council provide confirmation for which viewpoints, if any, this will be required?
- It is also noted that there is also a requirement within 'Visualisation Standards for Wind Energy Developments (July 2016)' for any existing cumulative turbines in the view to be digitally removed and re-photomontaged back into the photograph so that they are orientated to face towards the viewer. Can Highland Council confirm if this will be required if the turbines are already orientated to face towards the viewer in the baseline photograph?

- Do consultees agree that effects on wild land can be scoped out of the assessment?
- Do consultees agree that residential visual amenity can be considered within the LVIA and that a standalone Residential Visual Amenity Assessment (RVAA) is not required?
- Do consultees agree that the proposed scope of assessment is appropriate?
- Do consultees agree with the proposed viewpoints for night-time visualisations?

5. Ecology

5.1. Introduction

5.1.1. This section of the scoping report sets out the proposed approach to the assessment of potential effects on important ecological features (IEFs). IEFs are species (except birds) and habitats that are protected by legislation, which are of high conservation importance or are particularly sensitive to impacts. This will allow for an EIA Report (EIAR) that focuses on features which could be significantly affected, or for which the predicted effects are currently unknown. Important ornithological features (IOFs) are discussed separately in Section 6 Ornithology.

5.1.2. This report provides details on the baseline ecology surveys which have been undertaken at the Proposed Development. Survey results have been used to inform scoping within the proposed EIA and assessment methods.

5.1.3. This section also provides information on statutory sites of international importance, upon which the Proposed Development may have a 'Likely Significant Effect' (LSE). A screening process will be undertaken alongside the EIA to determine whether the predicted impacts of the Proposed Development will result in an LSE. The screening process will allow the competent authority to determine whether an Appropriate Assessment (AA) will be required.

5.2. Legislation, Policy and Guidance

5.2.1. The proposed ecological baseline surveys and preliminary assessment presented in this report will be carried outwith reference to a number of national and international policy documents. Legislative and guidance documents with relevance to ecology are listed below.

Legislation

- Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive);

- Environmental Impact Assessment Directive 2011/92/EU as amended by Directive 2014/52/EU (the EIA Directive);
- The Conservation (Natural Habitats, &c.) Regulations 1994 (the Habitats Regulations), which transposes the Habitats Directive into UK law as it applies in Scotland;
- The Conservation of Habitats and Species Regulations 2017, relating to reserved matters in Scotland;
- Wildlife and Countryside Act (WCA) 1981 (as amended);
- The Nature Conservation (Scotland) Act 2004;
- The Wildlife and Natural Environment (Scotland) Act 2011; and
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, which implement the EIA Directive in relation to consents required under sections 36 and 37 of the Electricity Act for projects in Scotland.

National Policy Guidance

- Scottish Government (2006) Planning Advice Note (PAN) 51: Planning, Environmental Protection and Regulation;
- Scottish Government (2000 (updated 2008)) PAN 60: Planning for Natural Heritage;
- Scottish Government (2013 (updated 2017)) PAN 1/2013 – Environmental Impact Assessment;
- Scottish Executive (1995 (updated 2000)) Nature Conservation: Implementation in Scotland of the Habitats and Birds Directives: Scottish Executive Circular 6/1995 as amended; and

Other Guidance

5.2.2. Particular attention has also been given to the guidance documents listed below, that are applicable to assessing the effects of wind farm developments on ecology. Reference has also been made to guidance documents through the report where relevant:

- Scottish Executive (2001 (updated 2006)) European Protected Species, Development Sites and the Planning System: Interim guidance for local authorities on licensing arrangements;
- CIEEM(2018) Guidelines for Ecological Impact Assessment in the UK and Ireland;
- SEPA (2017a) Land Use Planning System SEPA Guidance Note 4: Planning Guidance on Windfarm Developments
- SEPA (2017b) Land Use Planning System SEPA Guidance Note 31: Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems;
- Scottish Renewables, SNH, SEPA, Forestry Commission Scotland, Historic Environment Scotland, Marine Scotland Science, AEECoW. (2019) Good Practice during Wind Farm Construction, Version 4;

- NatureScot (2022) General pre-application and scoping advice for onshore wind farms;
- SNH, Bats and Onshore Wind Turbines (January 2019) and (August 2021); and
- NatureScot. (n.d.) Scottish Biodiversity List (SBL)[17].

5.3. NatureScot Consultation

5.3.1. Table 5.1 details correspondence between Natural Power and NatureScot, and the resulting NatureScot requirements, indicating the ecological features that are likely to be key elements in the Ecological Impact Assessment (EcIA) of the Proposed Development. Ornithology related responses and requirements are detailed in Section 6.

Table 5.1 Correspondence between Natural Power and NatureScot for Ecological Surveys

Date	Communication Details	Summary of NatureScot Requirements
April 2020	Natural Power initially consulted with NatureScot, regarding survey methods being employed at the Proposed Development. NatureScot were notified of access limitations at the Proposed Development.	
January 2021	Natural Power shared a report[18] with NatureScot and requested feedback on survey methods and the requirement for further surveys in 2021.	Recommendation that NVC surveys should be undertaken, in conjunction with a statement that the Carbon and Peatland 2016 map[19] shows that much of the Indicative Turbine Development Area is mapped as Class 1 peatland. Recommendation to undertake site specific peat and vegetation surveys to confirm the quality, condition, extent and distribution of peatland habitat across the Indicative Turbine Development Area, plus an appropriate buffer[20]. The survey recommendations were noted and NVC planned to be carried out in 2021.
March 2021	NatureScot responded with further details on surveys required.	In March 2021 correspondence, it was highlighted that the Proposed Development is adjacent to a wildcat (*Felis silvestris*) priority area[21] and surveys should be considered in line with NatureScot guidance[22].
April 2021	Natural Power sent consultation letter advising of 2021 survey approaches, accounting for NatureScot requirements.	

[17] The SBL forms a list of species and habitats of importance for biodiversity conservation in Scotland, produced by the Scottish Government.
[18] Natural Power - Balnespick - Ornithology and Ecology Survey Report: Breeding Season 2020 (1237863)
[19] map.environment.gov.scot - *Scotland's Soils - soil maps*: https://map.environment.gov.scot/Soil_maps/?layer=10
[20] NatureScot *Advising on carbon-rich soils, deep peat and priority peatland habitat in development management*: https://www.nature.scot/advising-carbon-rich-soils-deep-peat-and-priority-peatland-habitat-development-management.
[21] The Strathspey Wildcat Priority Area is situated 60 m to the south-east of the boundary of the Proposed Development Area, within the Cairngorms National Park.
[22] NatureScot *Standing advice for planning consultations - Wildcats*: https://www.nature.scot/doc/standing-advice-planning-consultations-wildcats.

Date	Communication Details	Summary of NatureScot Requirements
May 2021	NatureScot responded confirming survey approach was adequate.	

5.4. Baseline Description

Methods

Desk-based Review

Designated Sites

5.4.1. A desk study was undertaken using online search tools[23,24] in order to assess any connectivity between ecological features recorded at the Proposed Development with populations protected on designated sites. This included all sites with an international or national designation for ecological interests within a 10 km radius of the Indicative Turbine Development Area[25], namely:

- Special Areas of Conservation (SACs);
- Sites of Special Scientific Interest (SSSIs); and
- National Nature Reserves (NNR) within 5 km of the Indicative Turbine Development Area.

Species of note (existing data)

5.4.2. Data from the Highland Biological Recording Group (HBRG) was requested in 2019 and the results were used to inform relevant ecological surveys required for the Proposed Development, based on species and habitats identified as potentially present during desk-based study.

5.4.3. Records of relevant ecological data were requested from HBRG for all species of conservation interest and protected sites within the Indicative Turbine Development Area and a 5 km buffer, extended to 10 km for bat species.

5.4.4. For the purpose of the data search, these species and habitats are classified as:

- Habitats listed in Annex I and species listed in Annex II under the Habitats Directive;
- Species listed under Schedules 5, 8 and 9 of the WCA[26]; and
- Species and habitats as listed under the Scottish Biodiversity List (SBL)[27,17].

[23] DEFRA (2019). *Magic Map Application* Defra.gov.uk: https://magic.defra.gov.uk/MagicMap.aspx.

[24] Sitelink -NatureScot.: https://sitelink.nature.scot/home.

[25] The Indicative Turbine Development Area that was used when surveys commenced differed slightly from the current Indicative Turbine Development Area shown on figures. The Indicative Turbine Development area in relation to survey buffers as shown on figures is referred to as the previous Indicative Turbine Development Area.

[26] Legislation.gov.uk. (2011). Wildlife and Countryside Act 1981: https://www.legislation.gov.uk/ukpga/1981/69.

[27] NatureScot. (n.d.). Scottish Biodiversity List: https://www.nature.scot/doc/scottish-biodiversity-list.

Relevant Contextual Data

5.4.5. A review of all wind farm applications with survey data from 2014 to 2022 from within a 10 km radius of the Proposed Development, was undertaken as part of this scoping report. These applications were identified using the local planning application portal[28].

5.4.6. The ecology survey information from relevant wind farm Environmental Statement (ES) / EIAR chapters were reviewed.

Habitat Surveys

5.4.7. The study areas for all ecological surveys are shown in Figure 5.1.

Phase 1 Habitat Survey

5.4.8. A Phase 1 habitat survey of the previous Indicative Turbine Development Area[29] plus 250 m buffer was undertaken, following standard habitat survey methodology outlined in JNCC (2010)[30]. This survey aimed to characterise and map the habitats present within the Indicative Turbine Development Area, and to identify any habitats of significant conservation value or the presence of protected plant species.

5.4.9. The Phase 1 survey was extended to include signs or potential habitats to support protected species (e.g. wildcat), in order to identify whether species specific surveys were required. The 'extended Phase 1' approach took target notes of any protected species when encountered. The survey was carried out in late-May to mid-June 2020.

NVC Survey

5.4.10. A National Vegetation Classification (NVC) survey was undertaken between August and October 2021 (inclusive), based on information about priority habitats obtained from the Phase 1 Habitat survey undertaken in 2020 (Natural Power, 2021)[31].

5.4.11. The standard survey method as described in Rodwell (2006)[32] was followed to assess habitat classification in regard to potential Annex 1 of the EU Habitats Directive[33], SBL[27]and Ground Water Dependent Terrestrial Ecosystems (GWDTE). Quadrat data were collected for any priority habitats encountered, with at least one quadrat per habitat type. Quadrats were 2 m x 2 m in size, and species and percentage cover of species were recorded in each quadrat.

[28] https://www.highland.gov.uk/info/180/planning_-_applications_warrants_and_certificates/143/planning_permission/4
[29] The Indicative Turbine Development Area that was used when surveys commenced differed slightly from the current Indicative Turbine Development Area shown on figures.
[30] JNCC (2010) Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit
[31] Natural Power (2021). Ornithology and Ecology Survey Report: Breeding Season 2020 (1237863)
[32] Rodwell, J. S. (2006). National Vegetation Classification: Users' handbook. JNCC, Peterborough

[33] European Commission (2019). *The Habitats Directive - Environment - European Commission*: https://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm.

Protected Species Surveys

5.4.12. The extended Phase 1 habitat survey undertaken in 2020 highlighted suitable habitat for several protected mammal species within the Indicative Turbine Development Area. Species specific surveys were conducted as outlined below.

Otter

5.4.13. Surveys for otter (*Lutra lutra*) were undertaken in suitable habitat within the previous Indicative Turbine Development Area, in a 250 m buffer around watercourses (Figure 5.1). Surveys were carried out between August and September 2021, and followed standard methods as described in Chanin (2003)[34] and Sargent & Morris (2003)[35].

Water Vole

5.4.14. Surveys for water vole (*Arvicola amphibius*) were undertaken in suitable habitat within the previous Indicative Turbine Development Area, in a 30 m buffer around watercourses (Figure 5.1). Surveys were carried out between August and September 2021, and followed standard methods as described in Strachan *et al.* (2011)[36].

Badger

5.4.15. Surveys for badger (*Meles meles*) were undertaken in suitable habitat within the previous Indicative Turbine Development Area and a 150 m buffer, where access allowed. (Figure 5.1). Surveys were carried out in April 2021 and consisted of searches for field signs and setts as described by Bang & Dahlstrøm (2001)[37] and Sargent *et al*. (2003)[38].

Bat Surveys

5.4.16. A bat roost survey and activity surveys (using static detectors) were carried out between April and September 2021. These surveys were based on NatureScot guidance (SNH, 2019)[39] and undertaken as described below (Figure 5.1).

Roost Surveys

5.4.17. A potential roost assessment was undertaken on all appropriate trees and/or structures present within the previous Indicative Turbine Development Area

[34] Chanin, P. (2003). Monitoring the Otter *Lutra lutra*. Conserving Natura 2000 Rivers: Monitoring Series No. 10. English Nature, Peterborough
[35] Sargent, G. & Morris, P. 2003. How to Find & Identify Mammals. The Mammal Society, London
[36] Strachan, R., Moorhouse, T. & Gelling, M. (2011). The Water Vole Conservation Handbook. Third Edition, Wildlife Conservation Research Unit, University of Oxford, Abingdon
[37] Bang, P. & Dahlstrøm, P. (2001). Animal Tracks and Signs. Oxford University Press, Oxford
[38] Sargent, G., Morris, P. and Troughton, G. (2003). How to Find and Identify Mammals, 3rd Edition. The Mammal Society, Southampton
[39] SNH (2019) Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation

and a 200 m buffer (where access permitted) in order to determine suitability to support roosting bats, in line with guidance[40].

Static Bat Detector Surveys

5.4.18. Static bat detectors were utilised to record bat activity during the active season, details of detector deployment times are summarised in Table 5.2.

5.4.19. Nine detectors were deployed at suitable locations (Figure 5.2), within 200 m of each proposed turbine where possible, in line with guidance[39,41]. Locations of detectors are summarised in Table 5.3.

5.4.20. The numbering of the detectors used is not sequential. Two detectors (3 and 9) were removed due to changes in turbine numbers/layout between the spring and summer deployment. 11 detectors were installed for the planned 13 turbine layout proposed (May). Two turbines were later removed from this layout (June) and the number of detectors required for the updated nine turbine layout was reduced accordingly, following guidance[39,41].

5.4.21. Bat activity was recorded for a minimum of 10 consecutive nights during spring (May - June), summer (July - August) and autumn (September).

Table 5.2 Bat Detector Deployment Dates 2021

Season	Deployment	Retrieval	No. Nights Deployed
Spring	13 - 14 May	3 June	20
Summer	22 - 23 July	8 August	17
Autumn	7 - 8 September	21 September	15

Table 5.3 Bat Detector Deployment Locations 2021

Detector ID	Detector Location	Distance to nearest Turbine (m)	Habitat Type at Detector Location
1	NH86029 29979	90	Dry dwarf shrub heath
2	NH86759 30403	90	Marshy grassland
4	NH 86221 29649	125	Dry modified bog; dry heath
5	NH 87038 29885	45	Dry modified bog
6	NH 87734 30418	830	Dry dwarf shrub heath; dry modified bog
7	NH 86625 29030	180	Dry modified bog; watercourse within 100 m
8	NH 87352 29712	100	Dry modified bog
10	NH 86942 28896	10	Dry modified bog
11	NH 87638 29180	60	Dry modified bog; water body 750 m east of detector

[40] Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists. Good practice Guidelines *(3rd edition).* The Bat Conservation Trust, London.
[41] NatureScot (August 2021)- Bats and onshore wind turbines - survey, assessment and mitigation: https://www.nature.scot/doc/bats-and-onshore-wind-turbines-survey-assessment-and-mitigation

5.4.22. Acoustic data analysis was undertaken using Kaleidoscope automatic identification software. Signal parameters were 16-120 kHz, 2-500 ms, 500 ms maximum inter-syllable gap with a minimum of two pulses.

5.4.23. The Kaleidoscope software provides automatic identification to species level which were assumed to be correct for common pipistrelles (*Pipistrellus pipistrellus*), soprano pipistrelles (*Pipistrellus pygmaeus*) and noise and these records were not investigated further. Automatic identification of other bat species records is considered less reliable and manual QA checks were therefore performed on all other acoustic records.

5.4.24. Myotis species were not identified further than genus due to the overlap between species frequency calls. Pipistrelle and Nyctalus bats were manually identified to species when possible but as genus when it was not possible to distinguish call types to species level.

5.4.25. A bat pass was defined as a sequence of bat pulses captured on a 15 second sound file. One sound file was counted as one bat pass and different species within the same 15 second sound file were counted as separate bat passes.

5.4.26. The Bat Activity Index (BAI) is calculated by Natural Power as the median of bat passes per night, based on the number of calls per night of a given species and on the number of hours between sunset and sunrise[42]. Bat passes provide an index of bat activity rather than a measure of the actual number of individuals in a population. BAI are therefore indices of the amount of use bats make of an area.

5.4.27. Following guidance and to aid interpretation of all bat activity data, robust site-specific weather data were recorded for each period through the deployment of a weather station in an area of open felled ground near the detector closest to Turbine 1.

Survey Limitations

Access Limitations

5.4.28. Due to the confidential nature of the Proposed Development during the baseline stage, areas outwith the Survey Access Area[43] were not accessible for surveys (see Figure 5.1). Access to Glenkirk Forest, which lies to the north-west of the Proposed Development was not permitted. These restrictions resulted in lack of access to part of the buffer zone incorporated into the ecological survey areas, thus these areas did not receive the same ground coverage as land within the Survey Access Area.

[42] Lintott, P.R., Mathews, F. 2018. Basic mathematical errors may make ecological assessments unreliable. *Biodivers Conserv* **27,** 265–267. https://doi.org/10.1007/s10531-017-1418-5

[43] The "Survey Access Area" is shown in Figure 5.1 as the areas surveyed within relevant buffers surrounding the Indicative Turbine Development Area. The area to the north-west at Carn na Croite is not included in these survey areas, but is within the Indicative Site Boundary

5.4.29. The access limitations which affected relevant buffers were discussed with NatureScot in January 2021. NatureScot responded in May 2021, advising that the unsurveyed area was likely to be relatively low risk and ecological survey methods regardless of access limitations were acceptable.

5.4.30. Despite the access restrictions, all land within the 250 m buffer of proposed turbines was surveyed as part of the baseline for the Proposed Development. Apart from a small area of forest located north-west of the Indicative Turbine Development Area (Figure 5.1), most of the area that lies outwith the survey buffer is of similar character to land found within the Survey Access Area and is therefore unlikely to contain any species or habitats not already discussed within this report. Under the current proposed turbine layout, the forest is c.1.5 km from the nearest turbine.

Bat Surveys

5.4.31. Bat surveys at the Proposed Development were undertaken between April and September 2021, therefore methodology was based on 2019[39] guidance. NatureScot replaced this guidance with a renewed version of advice in August 2021[41] ,however, this does not affect bat survey methodology applied during the surveys used at the Proposed Development, as the methodologies did not change in the updated guidance.

5.4.32. Weather data gathered in conjunction with the bat surveys was assessed in order to identify when conditions were appropriate. As the Proposed Development is located in upland habitats in Northern Scotland, appropriate weather conditions have been interpreted as nights when overnight temperatures were above 5°C and wind speed was below 8 m/s.

5.4.33. Additionally, three bat detectors did not record any acoustic data in spring: (T1, T2, T11). This is not considered to be significant limitation, as activity records on all remaining detectors was low during this time period. During the summer deployment – T4, T7 and T10 were deployed one day later than other detectors, however, this is not considered to be a significant limitation as all detectors recorded more than ten days of data in the summer deployment period.

Other Survey Limitations

5.4.34. Survey information was collected for proposed turbines only, however the access track location has not been defined as yet. If the access track location is outwith the existing survey area, further ecology surveys will be undertaken in 2023 to account for habitats and species along the access track route.

5.5. Results

Desk-based Review

Designated Sites

5.5.1. Results obtained for protected areas within the vicinity of the Proposed Development, based upon the search criteria described in Section 5.4. have located seven sites designated for ecological interests within a 10 km radius of the Proposed Development (Figure 5.3).

5.5.2. Details of all designated sites are provided in Table 5.4.

5.5.3. No NNRs are located within the specified range of the Proposed Development.

Table 5.4 Ecologically Designated Sites within 10 km of the Indicative Turbine Development Area

Site Name	Designation	Distance from Proposed Development (km)	Ecological Designation Criteria
River Spey	SSSI	11.0	Atlantic salmon (*Salmo salar*) Freshwater pearl mussel (*Margaritifera margaritifera*) Otter Lamprey (*Lampetra fluviatilis*)
	SAC	2.1	Atlantic salmon Freshwater pearl mussel Otter Lamprey
Slochd	SAC	3.7	Dry heaths
Carn nan Tri-tighernan	SSSI	3.7	Blanket bog Sub-alpine dry heath
	SAC		Blanket bog
Kinveachy Forest	SSSI SAC	5.7	Native pinewood Bog woodland Caledonian forest

Species of Note

5.5.4. Records of ecological data for protected species obtained from HBRG, comprising field observations for the Proposed Development and the surrounding area are summarised in Table 5.5.

5.5.5. No records of bats were obtained within 10 km of the Proposed Development.

Table 5.5 Protected species - Summary of Field Recordings (HBRG)

Within 5 km of Proposed Development	No of records obtained
Otter	1
Adder (*Vipera berus*)	1
Common lizard (*Zootoca vivipara*)	2
Common toad (*Bufo bufo*)	1
Common frog (*Rana temporaria*)	5
Clubmoss *(Lycopodium clavatum*)	3

Relevant Contextual Data

5.5.6. Ecology information was obtained for one consented and operational wind farm Environmental Statement (ES): Tom nan Clach Wind Farm[44], which is approximately 3 km north from the Indicative Turbine Development Area.

5.5.7. A previously submitted and rejected application (dated 23 May 2005) for the Glenkirk Wind Farm, Balnespick Estate in the Indicative Turbine Development Area was unable to be obtained. From the Glenkirk decision notice it was noted that the application was refused due to landscape and visual impacts and was not refused on ecology grounds.

5.5.8. Tom nan Clach ES data contained records of a number of protected or priority vertebrate species, including:

- Four bat species (common pipistrelle, soprano pipistrelle, Myotis sp., brown long-eared bat (*Plecotus auratus*));
- Two protected mammals (otter, water vole); and Two fish species (Atlantic salmon (*Salmo salar*) and brown trout (*Salmo trutta*)).

5.5.9. No significant impacts were predicted for this site on any of these species.

Habitat Surveys

Extended Phase 1 Habitat and NVC Survey

5.5.10. All habitats recorded during the extended Phase 1 habitat surveys in the Indicative Turbine Development Area and survey buffer are shown in Figure 5.5.

5.5.11. The majority of the Indicative Turbine Development Area consists of dry modified bog, which is listed as a potentially sensitive habitat under both Annex 1 of the EU Habitats Directive[33]and SBL[27] There is a large area of dry dwarf shrub heath to the north-west and scrub habitat which borders the estate

[44] InfinEnergy - Tom nan Clach Wind Farm - Repowering Environmental Statement 2015: https://her.highland.gov.uk/api/LibraryLinkWebServiceProxy/FetchResource/298169/full_298169.pdf

tracks and watercourses. Details of the predominant habitats are listed in Table 5.6.

Table 5.6 Broad Habitat Types Recorded

Habitat Type	Area cover (ha)
Dry modified bog	1004.07
Dry dwarf shrub heath/dry heath	71.70
Scrub habitat (dense continuous scrub/scattered scrub)	25.03
Acid/neutral flush	10.51
Marsh/Marshy grassland	10.41
Acid grassland	5.24

5.5.12. All habitats recorded during Phase 1 and NVC surveys in the Indicative Turbine Development Area and survey buffer are shown in Figure 5.6. All potentially sensitive habitats that were recorded within the surveyed area are listed in Table 5.7.

5.5.13. Four NVC communities were present which are classed in SEPA guidance (SEPA, 2014)[45] as indicative of potential GWDTEs, meaning that they have moderate or high dependency on groundwater in certain hydrological settings.

Table 5.7 Summary of protected habitats with potential for impact during development

Phase 1 Habitat	NVC community	Conservation Status
Dense/continuous scrub (A2.1)	U19	Annex 1; SBL
Scattered scrub (A2.2)	H12	Annex 1; SBL
	H22	Annex 1; SBL
	U19	Annex 1; SBL
Acid grassland – semi-improved (B1.2)	U4	SBL
	U5	SBL
Marshy grassland (B5)	M23	SBL; Potential GWDTE (high)
	U5	SBL
Dry dwarf shrub heath (D1.1)	H10	Annex 1; SBL
	H12	Annex 1; SBL
Lichen/bryophyte heath (D3)	H13	Annex 1; SBL
Dry heath/acid grassland (D5)	U5	SBL
Dry modified bog (E1.8)	M17	Annex 1; SBL
	M19	Annex 1; SBL
	M20	Annex 1; SBL
Flush and spring – acid/neutral (E2.1)	M1	Annex 1; SBL
	M2	Annex 1; SBL

[45] SEPA (2014) Land Use Planning System SEPA Guidance Note 4: Planning Guidance on Windfarm Developments

Phase 1 Habitat	NVC community	Conservation Status
	M4	Annex 1; SBL
	M6	SBL; Potential GWDTE (high)
	M10	Annex 1; SBL; Potential GWDTE (high)
	U6	SBL; Potential GWDTE (moderate)

Annex 1: Listed on Annex 1 of the EU Habitats Directive
SBL: Listed on the Scottish Biodiversity List
GWDTE: Potential groundwater dependent terrestrial ecosystem

5.5.14. Following the extended Phase 1 survey, habitats within the Indicative Turbine Development Area were identified that had potential to support protected species (otter, water vole and bats). Although suitable reptile habitat is present within the Indicative Turbine Development Area, no species-specific surveys were undertaken for reptiles, and their presence is assumed.

5.5.15. There were no habitats present that have the potential to support wildcat, red squirrels (*Sciurus vulgaris*) or pine marten (*Martes martes*), species specific surveys were therefore not undertaken. These species are not considered any further within this report and will be scoped out of future assessment.

Protected Mammal Surveys

Otter

5.5.16. Evidence of otter was found within the Indicative Turbine Development Area, with a small number of spraints and one resting place being identified in the survey area (Confidential Figure 5.4). There were also two incidental recordings of otter tracks in peat hags.

Water Vole

5.5.17. Water vole signs were recorded along watercourses within the survey area (Confidential Figure 5.4). A water vole run was recorded at Allt Bruachaig. Water vole burrows and latrines were recorded at Allt Bruachaig and Allt Sguabach.

Badger

5.5.18. No signs of badger activity were recorded within the survey area.

Bats

5.5.19. A bat roost assessment found that there was low potential for bats to be roosting within the Indicative Turbine Development Area, as very few good quality mature trees able to support bats were observed and no other potential roosting sites (e.g., buildings, bridges) were identified.

5.5.20. Table 5.8 provides a summary of the nights that activity surveys were conducted in each season and the data that has been collated for analysis.

Table 5.8 Bat detector deployment dates and summary of activity

Season	Survey period	Dates removed for weather	Number of nights used in analysis	Notes
Spring	13 May – 4 June 2022	13-14, 20-25, 30-31 May	10	No data due to technical issues for T1, T2, T11
Summer	22 July – 09 August 2022	28, 30-31 July, 5-7 August	12	All detectors working During the summer deployment – T4, T7 and T10 were deployed one day later than other detectors
Autumn	7– 22 September 2022	11, 13, 16, 20-21 September	10	All detectors working

5.5.21. Table 5.9 presents the number of calls recorded at each detector, of each species.

Table 5.9 Total number of passes recorded for each bat species across the survey period (May – September 2021) at each detector location

	Detector ID									Total
Species	**1**	**2**	**4**	**5**	**6**	**7**	**8**	**10**	**11**	
Common pipistrelle	40	41	106	51	23	133	58	8	32	**492**
Soprano pipistrelle	30	40	41	28	14	45	21	6	9	**234**
Unknown *Pipistrellus* sp.	0	0	2	0	0	1	1	0	0	**4**
Myotis sp.	45	11	3	5	0	2	6	2	0	**74**
Brown long-eared bat	3	2	0	0	0	0	1	0	1	**7**
Total	**118**	**94**	**152**	**84**	**37**	**181**	**87**	**16**	**42**	**811**

5.5.22. Detectors 4 and 7 recorded the highest number of calls and are located 100 m and 200 m from turbines 3 and 5 respectively. Combined, these detectors accounted for 41% of the total bat passes. The habitat surrounding Detector 4 comprises dry modified bog/dry dwarf shrub heath and is situated around 250 m from a watercourse, whilst the habitat surrounding Detector 7 comprises dry modified bog and it is located adjacent to a watercourse. Detectors 4 and 7 are located close to each other, and close to watercourses, which provide good quality foraging habitat for bats.

5.5.23. The most frequently recorded species were common and soprano pipistrelle, which accounted for 90% of all bat activity. There were no records of Nyctalus species, whilst Myotis species and brown long-eared bat were infrequently recorded, equating to 9% and <1% of overall passes respectively.

5.5.24. Detectors 10 and 11 which are closest to turbines 6 and 9 respectively (<10 m and 20 m) had the lowest number of calls. Both detectors are located in open moorland. Detector 6 which is an outlier on the eastern boundary of the Proposed Development (>900 m from closest turbine), also had the lowest number of calls, and is located in open moorland.

5.5.25. Bat activity was highest during the autumn survey period in early September (Table 5.10), which coincides with when young become independent.

Table 5.10 Total number of passes recorded per season at each detector location

Detector ID	Spring	Summer	Autumn
1	0*	38	82
2	0*	36	60
4	0	20	135
5	1	11	74
6	0	8	29
7	0	48	135
8	0	34	53
10	0	7	10
11	0*	16	27
Total	1	214	596

Note: Where indicated with a *, the detector failed to record any data in the spring deployment.

5.6. Assessment Methodology

5.6.1. The approach to the Ecological Impacts Assessment (EcIA) will follow the Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines[46] It should be noted that these criteria are intended as a guide and are not definitive; professional judgement will also be applied in determining value level for IEFs. IEFs have been scoped in or out of further assessment based on these guidelines and with consideration of effects that are potentially significant as set out under the EIA Directive.

5.6.2. The guidelines set out the EcIA process through the following stages:

- Identification of IEFs through ecological field survey and /or research;
- Determination of the geographical importance of each identified IEF;
- Assessment of impacts affecting those IEFs and/or resources, using a defined importance threshold with reference to ecological processes and functions as deemed appropriate;
- Determining the extent, magnitude, duration, timing and frequency of the impacts;
- Assessing the potential for impact reversibility;

[46] CIEEM. (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester

- Determining the level of confidence in the above impact predictions;
- Identification of likely significant impacts in the absence of mitigation; and
- The identification of residual impacts following implementation of mitigation.

5.7. Standard Mitigation

5.7.1. To ensure compliance with legislation, and to follow good practice guidance and consultation recommendations, a number of standard measures will be implemented should the application be consented. The standard measures which are relevant to avoiding and reducing impacts on IEFs include:

- A maximum of eight months prior to commencement of works, pre-construction ecology walkover surveys will be carried out, including surveys for protected species. This will enable any refinements to be made, if necessary, to mitigation, micro-siting and/or the construction programme to take account of any updated distribution or presence of protected species, with a suitable mitigation plan adopted on a case-by-case basis;
- No development shall take place (including demolition, ground works, vegetation clearance) until a Construction Environmental Management Plan (CEMP), incorporating a Construction Method Statement (CMS), has been submitted to and approved in writing by the local planning authority. The CEMP shall include the following:
  - Practical measures (both physical measures and sensitive working practices) to avoid or reduce impacts during construction (may be provided as a set of method statements), including a Pollution Prevention Plan outlining measures to control pollution and a Drainage Management Plan outlining measures for management of surface and groundwater;
  - The location and timing of sensitive works to avoid harm to ecological features;
  - The times during construction when specialist ecologists need to be present at the Proposed Development to oversee works;
  - Species Protection Plans (SPP) outlining specific measures to avoid and reduce impacts on protected species;
  - Responsible persons and lines of communication; and
  - The role and responsibilities on the Proposed Development of an Environmental Clerk of Works (ECoW) or similarly competent person.
- No development shall commence until the role and responsibilities and operations to be overseen by an appropriately competent ECoW have been submitted to and approved in writing by the local planning authority. The appointed person shall undertake all activities, and works shall be carried out, in accordance with the approved details. The ECoW will monitor and advise on potential effects on ecological features during construction in order that impacts are avoided or minimised through best practice. This includes maintaining water quality and minimising the potential for disturbance or risk of injury/death for protected species which may be using the Indicative Turbine Development Area.

5.7.2. The approved CEMP shall be adhered to and implemented throughout the construction period strictly in accordance with the approved details, unless otherwise agreed in writing by the local planning authority.

5.8. Potential Impacts

5.8.1. Potential impacts will be assessed on the basis that the standard good practice mitigation outlined above will be implemented.

Designated Sites

5.8.2. The Proposed Development is not hydrologically connected to the River Spey SSSI/SAC as all watercourses at the Proposed Development drain into the River Findhorn. Therefore, the River Spey SSSI/SAC does not have the potential to be affected by the Proposed Development.

5.8.3. Other designated sites at Slochd SAC, Kinveachy Forest SSSI/SAC and Carn nan Tri-tighearnan SSSI/SAC will not be affected by the Proposed Development. These sites are designated for upland habitats and are located at a sufficient distance from the Indicative Turbine Development Area that no route to impact will be present.

5.8.4. It is therefore proposed that designated sites are scoped out of the EIA.

Species and Habitats

5.8.5. The following section identifies which species are proposed to be scoped into the EIA. Justification is given for those to be scoped out only.

Habitat Surveys

5.8.6. Phase 1 habitat and NVC survey results show that a major part of the Indicative Turbine Development Area and survey buffer consists of potentially sensitive habitats, the majority of which is dry modified bog. Construction at the Proposed Development is likely to result in habitat loss.

5.8.7. It is therefore proposed that habitats are scoped into the EIA.

Protected Mammals

Otter

5.8.8. Otter were recorded as being active within the Indicative Turbine Development Area.

5.8.9. It is therefore proposed that otter are scoped in to the EIA.

Water Vole

5.8.10. Water vole were recorded as being active within the Indicative Turbine Development Area.

5.8.11. It is therefore proposed that water vole are scoped in to the EIA.

Badger

5.8.12. There is forested habitat adjacent to the Indicative Turbine Development Area. However, the moorland habitat which dominates the Proposed Development is of low suitability for badger (see Figure 5.5 for extent and location of woodland peripheral to Proposed Development).

5.8.13. The methods outlined in the standard mitigation would be sufficient to minimise any impacts on species present in the adjacent woodland, if badger are present. Badger activity would be picked up during pre-construction and construction surveys carried out by the ECoW and mitigation would be implemented under the CEMP. Therefore, the Proposed Development should not have a significant effect on badger.

5.8.14. It is therefore proposed that badger are scoped out of the EIA.

Scottish Wildcat

5.8.15. The Proposed Development is adjacent to a priority wildcat area, however no evidence of wildcat activity was found during ecology surveys within the Indicative Turbine Development Area and the majority of habitat within the site consists of bog habitat which is unsuitable for wildcat.

5.8.16. No previous records of wildcat were listed within 5 km of the Proposed Development.

5.8.17. It is therefore proposed that wildcat are scoped out of the EIA.

Other Protected Mammals

5.8.18. The Indicative Turbine Development Area is bounded by plantation conifers (with no permitted access) on the northern boundary and the remainder of the Proposed Development has no forest cover, therefore dedicated surveys for red squirrel or pine marten were not carried out.

5.8.19. No previous records of red squirrel or pine marten activity was found within the Indicative Turbine Development Area, thus it is likely that these species are not present.

5.8.20. It is therefore proposed that red squirrel and pine marten are scoped out of the EIA.

Bats

5.8.21. Bat activity was relatively low at the Proposed Development, possibly due to the lack of available forested habitat.

5.8.22. Whilst activity appears to be low and unlikely to result in a significant impact, further assessment including ecobat analysis will be presented in the EIA Report to take into account any potential updates to turbine locations and buffers required following guidance[39,41].

5.8.23. It is therefore proposed that bats are scoped into the EIA.

Reptiles and Amphibians

5.8.24. No specific surveys were undertaken, however, the presence of reptiles and amphibians is assumed due to previous records of their existence within the Indicative Turbine Development Area.

5.8.25. Reptile and amphibian activity would be picked up during pre-construction and construction surveys carried out by the ECoW and embedded mitigation would be implemented under the CEMP. Therefore, the Proposed Development should not have a significant effect on reptiles and amphibians.

5.8.26. It is therefore proposed that reptiles and amphibians are scoped out of the EIA.

Aquatic Habitats and Species

5.8.27. Fish habitat and aquatic species surveys were not carried out as part of the ecological baseline surveys undertaken.

5.8.28. There are watercourses within the Proposed Development and adjacent areas, which may be suitable to support sensitive aquatic species. Habitat suitability surveys will be conducted in 2023 and fish and freshwater pearl mussel will be considered in the EIA submission.

5.8.29. It is therefore proposed that fish and freshwater pearl mussel are scoped into the EIA.

5.9. Receptors and Impacts Scoped in or out of Assessment

5.9.1. In order to ensure that the EIA Report is compliant with the EIA Directive, and to ensure that the EcIA is focussed on potentially significant effects only, we propose that only those IEFs and impacts identified in Table 5.11, as being scoped in are carried forward for EcIA within the relevant EIA Report chapter.

Table 5.11 Important Ecological Features Proposed for Assessment in the EIA Report

Receptor	Scoped in/out	Development Phase	Potential Impact	Assessment
Designated sites	Out			
Habitats	**In**	**Construction and Decommissioning**	**Habitat loss, pollution**	**EcIA**

Receptor	Scoped in/out	Development Phase	Potential Impact	Assessment
Otter	**In**	**Construction and Decommissioning**	**Disturbance/ displacement**	**EcIA**
Water Vole	**In**	**Construction and Decommissioning**	**Disturbance/ displacement**	**EcIA**
Badger	Out			
Scottish Wildcat	Out			
Red Squirrel	Out			
Pine Marten	Out			
Bats	**In**	**Construction and Decommissioning Operation**	**Disturbance/ displacement Collision**	**EcIA**
Reptiles and amphibians	Out			
Fish and freshwater pearl mussel	**In**	**Construction and Decommissioning Operation**	**Habitat loss, pollution, Disturbance/ displacement**	**EcIA**

5.10. Scoping Questions to Consultees

5.10.1. The questions below are for consultees regarding the information provided in this scoping chapter, which would be useful to receive feedback on. Not all questions will be relevant to all consultees; therefore, we request that consultees provide feedback only on those questions appropriate to them.

5.10.2. The questions should not be considered an exhaustive list, and consequently consultees are welcome to provide feedback on any issue they consider relevant to the Proposed Development. If consultees elect not to respond, the Applicant will assume that consultees are satisfied with the approach adopted/proposed.

- Do consultees have any comments regarding the EcIA only concentrating on those receptors which may be subject to significant effects from the Proposed Development (either directly or indirectly)?
- Table 5.11above notes the receptors and potential impact proposed to be included within the EcIA. Do consultees agree with the list of receptors and impacts to be included within the EIA Report?
- Do consultees have any comment regarding this sufficiently covering the potential impacts from the Proposed Development on important ecological features and what is proposed to be scoped out?
- Are consultees satisfied that bat detector data gathered is sufficient to support a robust assessment of bat activity at the Proposed Development?

6. Ornithology

6.1. Introduction

6.1.1. The intention of this chapter of the scoping report is to provide the competent authority and its advisors with sufficient information (where it currently exists) as to the likely impacts of the Proposed Development on important ornithological features (IOFs). IOFs are species that are protected by legislation, are of high conservation importance and/or are particularly sensitive to impacts. Important ecological features (IEFs) are discussed separately in Section 5.

6.1.2. This section describes the baseline ornithology surveys carried out between March 2020 and February 2022 for the Proposed Development and presents the results in order to identify IOFs that could be affected by the Proposed Development. Where likely non-significant impacts are identified for an ornithological feature, it is proposed that these features are not carried forward for inclusion in the relevant EIA Report and are 'scoped out'. This will allow for an EIA Report that focuses on features which could be significantly affected, or for which the predicted effects are currently unknown.

6.1.3. In addition, this chapter also provides information on statutory sites of international importance, upon which the Proposed Development may have a 'Likely Significant Effect' (LSE). A screening process will be undertaken alongside the EIA to determine whether the predicted impacts of the Proposed Development will result in an LSE. The screening process will allow the competent authority to determine whether an Appropriate Assessment (AA) will be required.

6.2. Legislation, Policy and Guidance

6.2.1. The ornithological baseline surveys and preliminary assessment presented in this report have been carried outwith reference to a number of national policy documents. Legislative and guidance documents with relevance to ornithology are listed below:

Legislation

- Council Directive 2009/147/EC on the Conservation of Wild Birds (the Birds Directive);
- Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive);
- The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) (the Habitats Regulations), which transposes the Habitats Directive into UK law as it applies in Scotland;
- The Conservation of Habitats and Species Regulations 2017, relating to reserved matters in Scotland;

- Wildlife and Countryside Act 1981 (as amended);
- The Nature Conservation (Scotland) Act 2004; and
- The Wildlife and Natural Environment (Scotland) Act 2011.

National Policy Guidance

- Scottish Executive (2000) Planning Advice Note (PAN) 60: Planning for Natural Heritage (Scottish Executive 2000) and;
- Scottish Executive (1995 (updated 2000)) Nature Conservation: Implementation in Scotland of the Habitats and Birds Directives: Scottish Executive Circular 6/1995 as amended.

Other Guidance

- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine 2018;
- SNH (2017) Recommended bird survey methods to inform impact assessment of onshore wind farms;
- Birds and Wind Farms: Risk Assessment and Mitigation[47];
- Developing field and analytical methods to assess avian collision risk at wind farms[48];
- SNH (2000) Windfarms and birds: calculating a theoretical collision risk assuming no avoidance action;
- SNH (2018) Assessing significance of impacts from onshore windfarms on birds outwith designated areas;
- SNH (2009) Monitoring the impacts of onshore wind farms on birds;
- SNH (2009) Guidance on methods for monitoring bird populations at onshore wind farms;
- SNH (2017) Avoidance rates for onshore SNH wind farm collision risk model;
- SNH (2018) Assessing the cumulative impact of onshore wind energy developments;
- SNH (2016). Assessing the connectivity with Special Protection Areas (SPAs);
- A Review of Disturbance Distances in Selected Bird Species[49];
- British Standard 42020:2013 Biodiversity – code of practice for planning and development;
- Natural Heritage Zone (NHZ) bird population estimates. Scottish Windfarm Bird Steering Group (SWBSG). Commissioned report number 1504[50];
- Bird Monitoring Methods[51];

[47] de Lucas, M., Janss, G. & Ferrer, M. (eds.) (2007). *Birds and Wind Power*. Quercus, Madrid.
[48] Band, W., Madders, M. & Whitfield, D.P. (2007). *Developing field and analytical methods to assess avian collision risk at wind farms*. In de Lucas, M., Janss, G. & Ferrer, M. (eds.) Birds and Wind Power. Quercus, Madrid.
[49] Goodship, N.M. & Furness, R.W. (MacArthur Green) (2022) *Disturbance Distances Review: an updated literature review of disturbance distances of selected bird species*. NatureScot Research Report 1283.
[50] Wilson, M.W., Austin, G.E., Gillings, S. & Wernham, C.V. (2015). *Natural Heritage Zone bird population estimates*. SWBSG commissioned report number 1504. Pp72. Available from www.swbsg.org
[51] Gilbert, G., Gibbons, D.W. & Evans, J. (1998). *Bird Monitoring Methods*. RSPB, Sandy.

- A method for censusing upland breeding waders[52];
- Raptors: A Field Guide to Survey and Monitoring[53];
- Birds of Conservation Concern 5: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man[54]; and
- NatureScot (2022) Scottish Biodiversity List[55].

6.3. Study Area

6.3.1. The 'Indicative Site Boundary' marks the area that was originally identified for the Proposed Development (Figure 6.1). However, this area covers a larger extent than that which is being proposed for development. The baseline ornithological surveys focussed on an area referred to as the 'Indicative Turbine Development Area'. The baseline surveys covered the previous Indicative Turbine Development Area[56] plus a surrounding area, which was dependent on the survey type. The associated survey-specific buffers, were as follows:

- Breeding bird survey (BBS) – 500 m;
- Black grouse (*Lyrurus tetrix*) survey – 1.5km;
- Raptor survey – 2 km; and
- Eagle survey – 6 km

6.3.2. Access to land surrounding the Indicative Turbine Development Area was not possible within the full extent of all the survey buffers. The area to which there was full access for undertaking the ornithological surveys is referred to as the 'Survey Access Area' (Figure 6.1).

6.3.3. Changes in the proposed turbine layout were made in May 2021 (i.e. partway through the baseline survey period). Turbine locations were moved slightly. The currently proposed turbines are still located within the Indicative Turbine Development Area and existing ornithological survey areas. 97% of the 500 m buffer around turbines continued to be covered by the viewsheds of the three vantage pointss under this new layout. The whole area of new turbine buffers was covered by the breeding bird survey area. Therefore, no additional survey effort was required following this layout change.

[52] Brown, A. F. & Shepherd, K. B. (1993). *A method for censusing upland breeding waders*. Bird Study, 40: 189-195.
[53] Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. & Thompson, D. (2013). *Raptors: a field guide to survey and monitoring*. 3rd Edition. The Stationery Office, Edinburgh.
[54] Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021). *The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain*. British Birds 114: 723-747.
[55] NatureScot (2022). Available from: Scottish Biodiversity List | NatureScot
[56] The Indicative Turbine Development Area that was used when surveys commenced differed slightly from the current Indicative Turbine Development Area shown on figures.

6.4. Baseline Description

Methods

Desk-based Review

Designated Sites

6.4.1. A desk study was undertaken using online search tools[57,58,59] in order to assess any potential connectivity between ornithological features recorded at the Proposed Development with populations protected on designated sites. This included all sites with an international and national designation for ornithological interests within a 10 km radius of the Indicative Turbine Development Area, namely:

- Ramsar sites;
- Special Protection Areas (SPAs); and
- Sites of Special Scientific Interest (SSSIs).

6.4.2. This search was extended to 20 km for those sites with geese and gulls listed as a qualifying feature (due to the larger foraging ranges of these species).

6.4.3. In addition, as a result of consultation with NatureScot during the baseline survey period (email dated 06 April 2020), it was understood that capercaillie (Tetrao urogallus) will likely form an important part of the impact assessment, due to the possibility of birds transiting the Indicative Turbine Development Area[60] when dispersing between the Darnaway and Lethen Forest SPA and the SPAs in Strathspey. On this basis, the desk study also searched for SPAs within 30 km of the Proposed Development that have capercaillie as a designated feature (30 km being the maximum dispersal distance recorded for capercaillie[61]).

Species of Note (Existing Data)

6.4.4. To provide additional background information regarding the baseline status of protected species in the local environment, records of relevant ornithological data were sought during a desk study undertaken in September 2019. A data request for records within the previous ten years (2008-2018) from within 10 km of the central grid reference of the Proposed Development (within a 20 km radius for geese) was made to the Royal Society for the Protection of Birds (RSPB). In addition, raptor records within 10 km of the central grid reference of the Proposed Development were requested from the Highland Raptor Study Group (HRSG). Both the RSPB and HRSG reported that the data search area

[57] Joint Nature Conservation Committee (2022). Available from: http://www.jncc.gov.uk [Accessed 09/11/2022]
[58] Sitelink-NatureScot (2022). Available from: https://sitelink.nature.scot/home [Accessed 09/11/2022]
[59] DEFRA Magic Map Application (2022).Available from: https://magic.defra.gov.uk/MagicMap.aspx [Accessed 09/11/2022]
[60] The Indicative Turbine Development Area that was used when surveys commenced differed slightly from the current Indicative Turbine Development Area shown on figures. The Indicative Turbine Development area in relation to survey buffers as shown on figures is referred to as the previous Indicative Turbine Development Area.
[61] Moss, R., Picozzi, N. & Catt., D.C. (2006). *Natal dispersal of capercaillie Tetrao urogallus in northeast Scotland*. Wildlife Biology 12(2): 227-232.

is under-recorded, with very few records returned. Before the EIA Report is submitted, further records from both organisations shall be requested in order that the most contemporary records are included within the assessment.

Field Surveys

6.4.5. The baseline ornithology surveys undertaken are described below. A suite of complementary surveys was carried out, comprising: vantage point (VP) surveys, breeding bird surveys, dedicated black grouse, raptor and eagle surveys.

6.4.6. Survey guidance[62] recommends a baseline survey period of two years unless it can be shown that a shorter time period is sufficient. Due to the level of ornithological activity recorded during the first breeding and non-breeding season, the baseline surveys for the Proposed Development covered the recommended period of 24 months: two breeding seasons (March to August 2020 and March to August 2021) and two non-breeding seasons (September 2020 to February 2021 and September 2021 to February 2022).

6.4.7. Survey methodology followed standard NatureScot guidance[62]. Surveys were all carried out by appropriately qualified and experienced personnel, in possession of a Schedule 1 licence where appropriate, and were undertaken in suitable weather conditions.

Target and Secondary Species

6.4.8. NatureScot guidance[62] states that work to establish the ornithological baseline should focus on those species which are afforded a higher level of legislative protection, or those which, as a result of their behaviour, may be more likely to be subject to impact from wind farms.

6.4.9. There are three important species lists from which target species may be drawn:

- Annex I of the EC Birds Directive;
- Schedule 1 of the Wildlife & Countryside Act 1981; and
- Red-listed Birds of Conservation Concern (BoCC)[54]

6.4.10. Target species should be restricted to those likely to be affected by wind farms. It is generally considered that passerine species are not significantly impacted by wind farms.

6.4.11. As such, and in accordance with NatureScot guidance, surveys focused on the following target species:

- All species of raptors and owls listed in Annex I of the EC Birds Directive and/or Schedule 1 and 1A of the WCA 1981 (as amended);

[62] SNH (2017). Recommended bird survey methods to inform impact assessment of onshore wind farms. Scottish Natural Heritage, Battleby.

- All species of wildfowl (with the exception of Canada goose *Branta canadensis* and mallard *Anas platyrhynchos*, which are widespread and abundant in many parts of Scotland);
- Black grouse;
- All diver species[63]; and
- All wader species.
- Widespread raptor species that do not appear on the Annex I or Schedule 1 lists (such as kestrel *Falco tinnunculus*), are termed secondary species. Recording of secondary species was undertaken during baseline surveys but their recording was subsidiary to recording of target species.
- Other species considered to be secondaries were large non-passerines considered at risk of collision, but which have a favourable conservation status, and other non-passerines of regional conservation concern (as listed on the SBL[27] or the Local (Highland) Biodiversity Action Plan (LBAP)[64]). Although passerine species are not considered to be significantly impacted by wind farms, Schedule 1 passerines and notable records of red-listed passerines were also recorded as secondaries.

6.4.12. As such, the following species were considered secondary species for the purposes of flight activity surveys:

- All other raptor species (buzzard *Buteo buteo*, sparrowhawk *Accipiter nisus*, kestrel);
- Gull species;
- Grey heron (*Ardea cinerea*);
- Red grouse (*Lagopus lagopus*);
- Raven (*Corvus corax*);
- Schedule 1 passerines (e.g. common/Scottish crossbill, *Loxia curvirostra*/*scotica*); and
- Any large aggregations of red-listed passerines.

Vantage Point Surveys

6.4.13. VP surveys were undertaken during the breeding season 2020, non-breeding season 2020/21, breeding season 2021 and non-breeding season 2021/22 to complete a full two years of baseline monitoring. These surveys were used to record the flight activity of target species within the vicinity of the Proposed Development, with the data collected used to undertake Collision Risk Modelling (CRM). The flight activity of secondary species was also recorded, but in less detail than that of target species[62].

6.4.14. Three vantage point locations were selected on the basis of achieving maximum visibility across the Indicative Turbine Development Area and a 500 m buffer, in such a way as to best meet NatureScot guidance[62]

[63] Although divers would have been treated as target species should they have been encountered, no divers were recorded during any of the baseline surveys and the data search showed no presence of diver species in the wider area around the Proposed Development.

[64] Highland Nature Partnership (2021). Highland Nature Biodiversity Action Plan 2021 – 2026. Available from: Highland Nature 2021 - 26 first discussion (highlandenvironmentforum.info) [Accessed 09/11/2022]

(Figure 6.2). The three VP locations were carefully selected based on viewshed analysis and a ground-truthing visit prior to surveys commencing. The VP locations are specified in Table 6.1.

Table 6.1 Vantage Point Locations

VP	Grid reference	Location and direction of view
1	286169/830868	On Carn Leathan looking south-east
2	287331/829003	On Carn Iain Ruaidh looking south-east
3	285480/828902	To the west of the Indicative Turbine Development Area looking north-east

6.4.15. Guidance recommends that VPs use a 180° viewing angle and have a viewshed radius of 2 km. The proposed turbine locations all lie within 2 km of a VP location and 97% of the 500 m surrounding buffers are also located within the viewsheds. Thus, the Indicative Turbine Development Area is well covered by the three VPs utilised for the flight activity surveys. The parts of the wider Indicative Site Boundary that were not covered by the viewsheds will not have turbines sited there. NatureScot were consulted on the VPs being utilised, and their limitations, during the baseline survey campaign, and NatureScot accepted that survey coverage was adequate (see Section 'Summary of NatureScot Consultation' below).

6.4.16. VP1 used a 2.5 km viewshed during the first year of flight activity surveys. This was in order to close a coverage gap between the viewsheds of VP1 and VP2 and so to provide maximum coverage of the Indicative Turbine Development Area, before the proposed turbine locations were identified. However, following consultation with NatureScot this was reduced to 2 km for the second year of VP surveys. As stated above, the proposed turbine locations are all located within the 2 km viewshed in any case. However, it should be noted that the data recorded for VP1 during the first year of surveys covers this larger viewshed and so includes records that might have been classed as off-effort under a 2 km viewshed.

6.4.17. Following NatureScot guidance[62], the VP surveys aimed to complete a minimum of 36 hours of survey effort at each VP during the breeding and non-breeding seasons, with these hours spread across the season (six hours per month, where possible). However, due to poor weather conditions, there were some months when this level of survey effort was not achieved (Table 6.2). In most cases the missing survey hours were completed within the first few days of the following calendar month (August/September 2020, September/October 2021 and February/March 2022). As no noticeable ecological difference can be expected as a result of undertaking a survey a few days later, these hours have been treated as being completed within the survey season of the preceding month. Across the 2020 and 2021 breeding season and 2021/22 non-breeding season, the recommended hours were completed. However, the full complement of hours could not be completed during the 2020/21 non-breeding season due to unfavourable winter weather conditions on site at that time (see

paragraph 6.4.34). Despite this, over the course of the two years of baseline surveys, survey effort is considered to have been sufficient given the level of flight activity within the Proposed Development.

6.4.18. Additional VP effort in order to detect movements of migratory geese over the Proposed Development was not undertaken; this approach having been discussed during consultation with NatureScot (email dated 6 April 2020). Given that the Proposed Development is further than 20 km from any sites designated for migratory bird interests, any geese would be considered as being 'wider countryside' geese, rather than connected to any particular SPAs.

Table 6.2 Vantage Point Survey Effort

Month	VP1 (hours per month)	VP2 (hours per month)	VP3 (hours per month)
Late March 2020	6	6	6
April 2020	6	6	6
May 2020	6	6	6
June 2020	6	6	6
July 2020	6	6	6
August/early September 2020	6	6	6*
Total breeding season 2020	**36**	**36**	**36**
Mid-late September 2020	6	6	6
October 2020	6	6	6
November 2020	6	6	6
December 2020	6	6	6
January 2021	0	0	0
February 2021	0	0	0
Early March 2021	6*	6*	6*
Total non-breeding season 2020/21	**30**	**30**	**30**
March/early April 2021	6	6**	6
April 2021	6	6	6
May 2021	6	6	6
June 2021	6	6	6
July 2021	6	6	6
August 2021	6	6	6
Total breeding season 2021	**36**	**36**	**36**
September/early October 2021	6	6	6**
Mid-late October 2021	6	6	6

Month	VP1 (hours per month)	VP2 (hours per month)	VP3 (hours per month)
November 2021	6	6	6
December 2021	6	6	6
January 2022	6	6	6
February/early March 2022	6	6	6*
Total non-breeding season 2021/22	**36**	**36**	**36**

Breeding Bird Surveys

6.4.19. Moorland breeding bird surveys (BBS) were undertaken in 2020 and 2021, following standard NatureScot guidance[62]. These surveys covered all parts of the previous Indicative Turbine Development Area plus a 500 m buffer (Figure 6.1), where access allowed. Areas within the 500 m survey buffer, but outside the Survey Access Area, were surveyed by scanning from within the Survey Access Area. Full access to a 500 m buffer around all proposed turbine locations was achieved.

6.4.20. The surveys followed the widely used Brown & Shepherd (1993)52 methodology, but utilising four survey visits, as is currently recommended (Calladine *et al*., 2009) [65]. Survey guidance62 recommends that only waders, skuas, gulls, red grouse and some wildfowl species are targeted during moorland BBS, and moorland passerine species do not need to be recorded. For the BBS, undertaken for the Proposed Development, passerines were recorded but instead of being mapped, as for non-passerine species, passerines encountered were simply listed on field maps to summarise species present. This allowed surveyors to concentrate their efforts on species that are considered to be at greater risk of being adversely impacted upon by wind farm developments.

6.4.21. Upon completion of the fourth survey visit in each year, records from all visits were combined and analysed to estimate the location of breeding territories; based upon the territory analysis method outlined in Bibby *et al.,* (2000)[66]. Full details as to how the data were analysed to produce the territory maps can be provided on request.

Black Grouse Surveys

6.4.22. Dedicated black grouse surveys, covering the previous Indicative Turbine Development Area and a 1.5 km buffer (Figure 6.1), where access allowed, were carried out in spring 2020 and 2021. See paragraph 6.4.37 for further details.

[65] Calladine, J., Garner, G., Wernham, C. & Thiel, A. (2009). *The influence of survey frequency on population estimates of moorland breeding birds*. Bird Study, 56, 381-388.
[66] Bibby, C. J., Burgess, N. D., Hill, D. A. & Mustoe, S. (2000). *Bird Census Techniques*. Second Edition. Academic Press, London.

6.4.23. Surveys were undertaken by experienced surveyors holding a Schedule 1 Licence and following methods outlined in The National Black Grouse Survey Instructions (Etheridge and Baines, 199567; summarised in Gilbert *et al.* 199851).

Raptor Surveys

6.4.24. Dedicated breeding raptor surveys, covering the previous Indicative Turbine Development Area and a 2 km buffer (Figure 6.1), where access allowed, were carried out during 2020 and 2021. See paragraph 6.4.36 for further details.

6.4.25. The nature of these surveys was determined by the target species recorded during the VP surveys and BBS and by those species considered to have the potential to breed within the survey area, based upon the available habitat. Surveys involved walkovers and short VP watches to identify breeding sites and, where possible, productivity. Surveys were undertaken by experienced surveyors holding a Schedule 1 Licence. Species-specific survey methods were informed by the methods outlined in Gilbert *et al*. (1998)[51]and Hardey *et al.* (2013)[53].

Eagle Surveys

6.4.26. Due to the known presence of eagles in the local area, dedicated eagle surveys were conducted to look for signs and potential nesting locations of both white-tailed eagle (*Haliaeetus albicilla*) and golden eagle (*Aquila chrysaetos*). Due to the large territories occupied by these species, surveys covered the previous Indicative Turbine Development Area and a 6 km buffer (Figure 6.1), where access allowed (see paragraph 6.4.38' for more information). Surveys were undertaken by experienced surveyors holding a Schedule 1 Licence and followed methods outlined in Hardey et al. (2013)[53].

6.4.27. The Highland Raptor Study Group (HRSG) carried out monitoring of a known golden eagle territory during the 2020 and 2021 breeding season.

Collision Risk Modelling

6.4.28. CRM uses data collected during flight activity surveys to predict the number of individuals per species that have the potential to collide with turbine rotors. The modelling methods proposed for the Proposed Development are based on the Band *et al*.[48] collision risk model recommended by NatureScot. When using the Band model, the height bands used for recording birds during the VP surveys are typically chosen such that all flights recorded within certain height bands can be considered to be at potential collision height (PCH); i.e. the height at which rotor blades sweep.

6.4.29. At the Proposed Development, flight activity data were recorded into the following height bands, based on the expected turbine specifications that were current at the time survey work commenced:

[67] Etheridge, B. & Baines, D. (1995). *Instructions for the Black Grouse Survey* 1995/6: a Joint RSPB/GCT/JNCC/SNH Project. Unpublished.

- **Height Band 1** between 0 m – 20 m (above ground level)
- **Height Band 2** between 20 m – 150 m
- **Height Band 3** between 150 m – 200 m
- **Height Band 4** above > 200 m

6.4.30. The current layout for the Proposed Development comprises nine turbines, all of which are proposed to be up to 200 m in height (to blade tip), with a proposed PCH between 38 and 200 m. Under this scenario all flights in height bands 2 and 3 are considered to be within PCH, although this will be a precautionary approach as some flights at the lower end of height band 2 will lie outside the PCH. Flights in height band 1 are below PCH and flights in height band 4 are above PCH, therefore both can be excluded from the CRM. Any change to the final project design will be incorporated into the collision assessment in the EIA Report.

6.4.31. CRM is undertaken when sufficient flight activity occurs within the collision risk zone (CRZ) at PCH, as per the Band *et al.*48 collision risk model. Sufficient flight activity is defined as three or more flights, or more than 10 individuals, at PCH and these are the criteria that will be used for the Proposed Development as qualifying a species for CRM. Thus, species that rarely pass through the Indicative Turbine Development Area and which are not considered to be at risk of significant effects, will not undergo CRM.

6.4.32. CRM assesses collision risk by season (breeding and non-breeding) with the summed estimate providing the annual predicted mortality. The CRM will utilise the VP seasons (March to August and September to February) with the exception of eagle species, which begin their breeding season earlier in the year. For eagles the breeding season is classed as being February to August (September to January for the non-breeding season).

6.4.33. CRM has not been undertaken at this stage but is described here in order to confirm that this shall be an important part of the ecological impact assessment (EcIA). CRM will be undertaken for the EIA Report, using the finalised layout and dimensions of the proposed turbines and full determination of those flights that occurred at PCH within the CRZ.

Survey Limitations

6.4.34. The VP surveys scheduled for January and February 2021 were impacted by winter conditions on site with lying snow and ice preventing access to the VP locations. As a result, no VP survey effort was completed in these two months. Access was gained as soon as was feasible in early March 2021 and extra survey effort (equivalent to the missed February hours) was undertaken at this time. In the second non-breeding season (2021/22) survey effort met recommended guidance, with the months of January and February adequately covered. It can be expected that a lower level of flight activity would have been recorded during the period when the Indicative Turbine Development Area lay under snow. CRM will take into account the level of VP survey effort.

6.4.35. Due to the confidential nature of the Proposed Development during the baseline stage, areas outwith the Survey Access Area were not accessible to the surveyor (see Figure 6.1). This meant that a part of the buffer zone incorporated into the bird survey areas could not be physically accessed and therefore did not receive the same ground coverage as land within the Survey Access Area. However, the Indicative Turbine Development Area, covers an area that extends beyond the proposed turbine locations and so already incorporates a surrounding buffer of variable extent (between 500 m and 1,300 m beyond the proposed turbine locations).

6.4.36. Access restrictions resulted in 43% of the 2 km buffer of turbines not being surveyed directly on the ground during raptor surveys. However, the large majority of the area outside the Survey Access Area was visible through scanning from the edge of the Survey Access Area and indicative raptor breeding activity would have been picked up. Breeding raptor data will be supplemented by other data sources, where possible, and the HRSG will be contacted going forward to get the most recent data on breeding raptors in the vicinity.

6.4.37. For black grouse surveys, access restrictions resulted in 27% of the 1.5 km buffer not being surveyed on foot, however, most of the open ground outside the Survey Access Area was visible from within. As lekking black grouse are readily detected by sight and/or sound from distance in suitable weather conditions, it is considered that any lekking birds within the survey area would have been detected.

6.4.38. Eagle surveys covering the immediate surrounding of the Indicative Turbine Development Area were surveyed from the Survey Access Area. Parts of the wider survey area were accessed and surveyed from publicly accessible land and roads within the 6 km buffer. Eagle data will be supplemented by other data sources and liaison with the HRSG will be sought in advance of an assessment to get the most recent data on eagle territories around the Proposed Development.

6.4.39. NatureScot recommended following consultation in March 2021 that capercaillie surveys be undertaken. However, the only suitable habitat within a 1.5 km buffer of the Indicative Turbine Development Area was a small corner of the forest to the north-west of the Proposed Development, to which there was no agreed access. Therefore, the RSPB Capercaillie Project Officer will be consulted prior to undertaking the EIA to obtain data concerning capercaillie in the vicinity of the Proposed Development. This approach has been agreed with NatureScot (email dated 20 April 2021).

6.4.40. Survey coverage was discussed with NatureScot in spring 2021 and the bird survey and assessment approach of the inaccessible areas was deemed sensible (email dated 14 May 2021).

Summary of NatureScot Consultation

Table 6.3 Summary of consultation with NatureScot during baseline period

Date	Details
March 2020	Initial contact with NatureScot regarding ornithology surveys at the Proposed Development. Enquiry about migration VP surveys and surveys for other species including capercaillie.
April 2020	NatureScot highlighted that capercaillie will likely form an important part of the assessment as there is dispersion of birds between Darnaway Forest SPA and the Strathspey SPAs which could cross the Proposed Development. It was stated that, given the distance between the Proposed Development and the Inner Moray Firth SPA is more than 20 km, any geese would be 'wider countryside' geese, rather than connected to the SPAs.
April 2020	A VP viewshed map and details on VP location selection approach was shared with NatureScot asking for feedback. NatureScot confirmed that the approach for VPs seemed reasonable.
January 2021	The desk study and a report summarising the breeding season survey findings were shared with NatureScot alongside a request for feedback on the survey methods employed, initial findings and requirement for a second breeding season. It was highlighted to NatureScot that access to the neighbouring forest was not possible for conducting capercaillie surveys.
February 2021	NatureScot was informed that adverse weather conditions had prevented VP surveys being carried out in January and most of February 2021. NatureScot appreciated that it had been a difficult period and advised to try and get out for surveys as soon as feasible.
March 2021	NatureScot responded the following comments to the January request: - It was mentioned that there was no record of NatureScot commenting on VP locations and viewsheds. NatureScot pointed out that 2 km is the maximum viewing distance recommended for VPs. The viewshed for VP1 surveys was reduced from 2.5km to 2 km as of May 2021; - NatureScot supported the recommendation of a second year of bird survey work; - NatureScot asked for clarifications on the survey coverage for raptor, eagle and black grouse surveys; - NatureScot asked for clarifications on the approach for obtaining information on breeding eagles within 6 km of the Proposed Development; - NatureScot asked if diver surveys were considered; - It was recommended to either carry out capercaillie surveys or contact the RSPB Capercaillie Project Officer and Forestry and Land Scotland (FLS) to determine if areas around the Proposed Development are suitable and surveyed and get monitoring data if possible. The HRA report produced for Cairn Duhie Wind Farm was cited in relation to the dispersal of capercaillie in the area.
April 2021	NatureScot was sent a consultation letter addressing the points raised within their response from March. Previous correspondence in relation to VP locations and viewsheds was shared. The Applicant advised it will consult with the HRSG to get the most recent raptor data to inform the impact assessment. The impacts to capercaillie will be fully considered in the assessment and information in regard to capercaillie presence surrounding the Proposed Development sought from the RSPB Capercaillie Project Officer and FLS.
May 2021	NatureScot responded to April consultation letter saying that the explanation for survey approach and assessment of areas with limited access seems sensible. Ongoing liaison with the HRSG

Date	Details
	will be of particular importance to get information they may hold that is relevant to the site, particularly in relation to any golden eagle territories within 6 km of the Proposed Development. NatureScot expect the Applicant to contact the RSPB Capercaillie Project Officer to discuss potential use of the adjacent forest, likely risk of collision to dispersing birds and potential for cumulative impacts. A future application should include details of the correspondence with the RSPB Capercaillie Project Officer and provided information required to complete a Habitats Regulations Appraisal (HRA).
July 2021	NatureScot was provided with a summary of findings of the non-breeding season 2020/21 and feedback on the requirement of a second non-breeding season requested.
August 2021	NatureScot confirmed that a second non-breeding season of VP survey work is recommended as part of the baseline surveys.

Results

Desk-based Review

Designated Sites

6.4.41. Table 6.4 lists the protected areas within the vicinity of the Proposed Development, based upon the search criteria described in paragraph 6.4.1. See Figure 6.3.

Table 6.4 Summary of protected sites designated for their ornithological interest, within 10 km of the Proposed Development (within 20 km for geese and gulls, within 30 km for capercaillie)

Site	Designation	Distance from Proposed Development	Designation criteria
Kinveachy Forest	SPA	5.7 km	Capercaillie (breeding)
Abernethy Forest	SPA/SSSI	11.5 km	Capercaillie (breeding)
Craigmore Wood	SPA	14.2 km	Capercaillie (breeding)
Anagach Woods	SPA	15.0 km	Capercaillie (breeding)
Cairngorms	SPA	15.6 km	Capercaillie (breeding)
Darnaway and Lethen Forest	SPA	19.6 km	Capercaillie (breeding)

Species of Note

6.4.42. The ornithological data received from the RSPB returned few records due to the data search area being under-recorded. Table 6.5 shows the RSPB records received for target species within 10 km of the Proposed Development and Table 6.6 the records within 20 km of the Proposed Development for geese. The search did not highlight any species of note for which surveys, supplementary to those already undertaken, were required.

Table 6.5 RSPB records (individuals) per target species within 10 km of the Proposed Development 2008 – 2018

Species	Individual	Female	Male	Roost	Lekking male	Droppings	Most recent record
Capercaillie	3 (3)	20 (24)	40 (48)	108	17 (34)	274	2018
Red kite (*Milvus milvus*)	1 (1)						2010

Table 6.6 RSPB records (individuals) of geese within 20 km of the Proposed Development 2008 – 2018

Species	No. records	Most recent record
Canada goose	1	2015
Greylag goose (*Anser anser*)	15	2018
White-fronted goose (*Anser albifrons*)	1	2015

6.4.43. During consultation with the HRSG it was mentioned that hen harrier (*Circus cyaneus*) and peregrine (*Falco peregrinus*) have attempted to breed in the vicinity of the Proposed Development on several occasions in the last 30 years but have always 'disappeared' or the nest has failed. The HRSG also highlighted that there is an active golden eagle nest within 6 km of the Proposed Development. The golden eagle pair successfully fledged chicks in 2019, 2020 and 2021 at this historic breeding site. 2019 marked the first year this territory was used since the 1940s.

Field Surveys

Vantage Point Surveys

Target Species: Breeding season 2020 and 2021

6.4.44. The breeding season surveys during both years recorded flight lines from a total of nine target species. Table 6.7 summarises the levels of flight activity for each species and the level of flight activity which was at PCH. This shows that red kite and curlew (*Numenius arquata*) were the most frequently recorded species, but 'unidentified goose' and pink-footed goose (*Anser brachyrhynchus*) were recorded in the greatest numbers overall. The associated flight lines are shown in Figure 6.4 (2020: geese), Figure 6.5 (2020: waders and raptors) and Figure 6.6 (2021: all target species). In bold are species for which flight activity meets the required criteria for conducting CRM at this stage (Table 6.7).

Table 6.7 Results of breeding season vantage point surveys in 2020 and 2021

Species	No. of flights (individuals) – 2020	No. of flights (individuals) at PCH – 2020	No. of flights (individuals) – 2021	No. flights (individuals) at PCH – 2021
Greylag goose	3 (37)	**3 (37)**	-	-

Species	No. of flights (individuals) – 2020	No. of flights (individuals) at PCH – 2020	No. of flights (individuals) – 2021	No. flights (individuals) at PCH – 2021
Pink-footed goose	8 (574)	**7 (565)**	1 (40)	**1 (40)**
Unidentified goose	7 (777)	**6 (772)**	**-**	**-**
Golden eagle	2 (2)	2 (2)	11 (13)	**11 (13)**
Hen harrier	2 (2)	2 (2)	1 (1)	1 (1)
Red kite	7 (7)	**7 (7)**	15 (19)	**12 (13)**
Merlin (*Falco columbarius*)	-	-	2 (2)	-
Golden plover (*Pluvialis apricaria*)	4 (4)	1 (1)	6 (9)	**3 (6)**
Curlew	16 (19)	**9 (12)**	6 (6)	2 (2)

Target species: Non-breeding season 2020/21 and 2021/22

6.4.45. A total of seven target species were recorded during non-breeding season VP surveys in 2020/21 and 2021/22. All of these species were also recorded during the breeding seasons. Table 6.8 summarises levels of flight activity for each species and the level of flight activity which was at PCH. In terms of number of records, golden eagle was the most frequently recorded species. However, pink-footed goose was recorded in greatest numbers. The flight lines for the non-breeding season target species are shown in Figure 6.7 (2020/21: all target species), Figure 6.8 (2021/22: golden eagle) and Figure 6.9 (2021/22: other target species). In bold are species for which flight activity meets the required criteria for conducting CRM (Table 6.8).

Table 6.8 Results of non-breeding season vantage point surveys in 2020/21 and 2021/22

Species	No. of flights (individuals) – 2020/21	No. of flights (individuals) at PCH – 2020/21	No. of flights (individuals) – 2021/22	No. flights (individuals) at PCH – 2021/22
Greylag goose	2 (18)	**2 (18)**	-	-
Pink-footed goose	-	-	8 (916)	**7 (796)**
Unidentified goose	-	-	1 (15)	**1 (15)**
Golden eagle	14 (14)	**11 (11)**	30 (31)	**23 (24)**
Red kite	5 (7)	**3 (3)**	20 (23)	**17 (20)**
Merlin	2 (2)	2 (2)	-	-
Golden plover	1 (1)	-	4 (35)	**1 (9)**

Incidental Records

6.4.46. A number of incidental records of target species were made during VP surveys. Records in this category include birds not in flight; birds heard only; birds seen simultaneously where only one could be tracked; birds recorded before/after formal survey effort; and, most commonly, birds beyond the 2 km viewshed. These records are summarised in Table 6.9 for completeness.

Table 6.9 Summary of incidental records of target species recorded during all VP surveys

Species	Number of records/flights	Number of individuals
Greylag goose	2	25
Pink-footed goose	2	550
Unidentified goose	1	82
Golden eagle	8	9
Red kite	2	3
Merlin	1	1
Peregrine	1	1
Golden plover	30	36
Curlew	5	6

Secondary Records

6.4.47. Table 6.10 summarises the secondary species recorded during the VP surveys (March 2020 to February 2022). The species have been separated into those recorded infrequently, i.e. less than ten times during the survey period and those recorded more frequently (more than ten times).

Table 6.10 Summary of secondary species recorded during all VP surveys

Species	Infrequently recorded (< 10 times)	Frequently recorded (> 10 times)
Mallard	X	
Red grouse		X
Common gull (*Larus canus*)	X	
Buzzard		X
Kestrel		X
Raven		X

Breeding Bird Surveys

6.4.48. The results of the BBS and subsequent territory analysis are presented in Table 6.11. It should be noted that these do not include breeding raptor territories on site, as these were recorded during their own dedicated surveys. Raptor findings are discussed in paragraph 6.4.54.

6.4.49. A total of 38 species were recorded across the BBS area. Nine target species, excluding passerine and raptor species, were considered to have held territories that overlapped with the survey area (previous Indicative Turbine Development Area and a 500 m buffer) (Table 6.11). The locations of these territories (mapped by estimated central point) are shown in Figure 6.10 (2020) and Figure 6.11 (2021). Passerine species were not mapped, with surveyors instead recording species in a list format. An exception was made for a red-listed passerine species, ring ouzel, for which territories were mapped.

Table 6.11 Abundance estimates for target species (not including raptors) breeding in the previous Indicative Turbine Development Area and 500 m buffer, recorded during BBS in 2020 and 2021

Species	Estimated number of territories in 2020	Estimated number of territories in 2021
Teal (*Anas crecca*)	-	1
Red grouse	29	20
Lapwing (*Vanellus vanellus*)	-	1
Golden plover	16	14
Curlew	2	2
Dunlin (*Calidris alpina*)	2	4
Snipe (*Gallinago gallinago*)	1	-
Common sandpiper (*Actitis hypoleucos*)	-	1
Ring ouzel (*Turdus torquatus*)	1	2

6.4.50. Table 6.12 shows species recorded in the survey area during BBS for which no evidence of breeding was identified.

Table 6.12 Species (not including Schedule 1 raptors or passerines) recorded during breeding season surveys in 2020 and 2021 for which no evidence of breeding was observed

Species	Status
Greylag goose	Recorded on site
Wigeon (*Mareca penelope*)	Recorded on site
Mallard	Recorded on site
Cuckoo (*Cuculus canorus*)	Recorded on site
Woodpigeon (*Columba palumbus*)	Recorded on site
Redshank (*Tringa totanus*)	Recorded on site
Common gull	Recorded on site
Buzzard	Recorded on site, breeding beyond survey buffer
Kestrel	Recorded on site, breeding beyond survey buffer
Raven	Recorded on site

6.4.51. Upland passerine species recorded during BBS that showed evidence of breeding were: skylark (*Alauda arvensis*), stonechat (*Saxicola rubicola*), wheatear (*Oenanthe Oenanthe*) and meadow pipit (*Anthus pratensis*).

6.4.52. 'Non-upland' breeding species consisted of passerines only and the highest diversity of breeding birds was observed along the scrub slopes of the main watercourses. Species that were recorded comprised: sand martin (*Riparia riparia*), swallow (*Hirundo rustica*), willow warbler (*Phylloscopus trochilus*), wren (*Troglodytes troglodytes*), robin (*Erithacus rubecula*), dipper (*Cinclus cinclus*), dunnock (*Prunella modularis*), grey wagtail (*Motacilla cinerea*), pied wagtail (*Motacilla alba*), chaffinch (*Fringilla coelebs*) and redpoll (*Acanthis cabaret*).

Black Grouse Surveys

6.4.53. The dedicated black grouse surveys in 2020 and 2021 recorded no signs of black grouse. However, a black grouse lek was discovered in March 2020 during a golden eagle survey c. 4.7 km to the east of the Proposed Development.

Raptor Surveys

6.4.54. This section presents the results of the dedicated raptor surveys, as well as records of Schedule 1 raptors recorded during other surveys. The results of the dedicated breeding raptor surveys carried out during 2020 and 2021 are shown in Figure 6.12 (2020) and Figure 6.13 (2021). The surveys did not locate any active target species raptor nests.

6.4.55. An osprey was seen flying along the valley of Allt Loisgte in May 2020 during a BBS survey. A further osprey was seen catching a fish in Loch Bràigh Bhruthaich in June 2021, also during a BBS survey. This species showed no evidence of breeding within the survey area, instead using the site for foraging and commuting.

6.4.56. One female goshawk flight was observed circling over the forest to the north-west of the Indicative Turbine Development Area and dropping down into a conifer ride during an eagle survey in June 2020. No further goshawk sightings were made during baseline surveys.

6.4.57. No hen harrier activity was recorded during raptor surveys in 2020 and 2021. Two flights, one of which was a ringtail, were noted over the Indicative Turbine Development Area during VP surveys in May 2020. A female bird was flying across the Indicative Turbine Development Area in April 2020 during a dedicated eagle survey. In addition, one male was observed during VP surveys in August 2021. There was no evidence of hen harrier breeding in the Indicative Turbine Development Area during the baseline survey period. Given the activity observed, hen harrier is likely to be nesting in the wider area surrounding the

Proposed Development and occasionally using the site for hunting and commuting.

6.4.58. Red kite was present within the Indicative Turbine Development Area and survey buffer all year round in 2020 and 2021, mainly hunting and commuting (15 flights during raptor surveys). In August 2021, at least two juvenile birds were seen flying within the 2 km survey buffer of the Indicative Turbine Development Area, along a forested section of the Allt Bruachaig.

6.4.59. A pair of merlin was recorded in the 2 km survey buffer flying along the Allt Loisgte valley in May 2020 and female and male were seen flying northwards along the Allt Bruachaig valley during the 2020 raptor surveys. Territorial behaviour was observed in the survey buffer during a BBS survey in June 2020. However, as activity decreased over the course of the breeding season, and no young birds were recorded, it is considered likely that breeding occurred but that the breeding attempt failed. In April 2021, four definite and two potential merlin plucks were recorded within the Indicative Turbine Development Area, with merlin being observed twice during VP surveys between April and June 2021 (inclusive). Further visits to the pluck locations located no new plucks or any other signs of occupancy, and therefore breeding of merlin in that area was unlikely.

6.4.60. Peregrine have historically attempted to breed within the Indicative Site Boundary, but no sighting of peregrine was made throughout the breeding seasons 2020 and 2021. The only record of peregrine was an incidental sighting in December 2020 during a VP survey.

6.4.61. One probable buzzard nest was recorded in May 2021 and showed recent signs of use (adult feathers and prey remains in and around nest) when revisited in August, but productivity was never confirmed. This nest was located on the edge of the 2 km survey buffer, 140 m from the access track.

6.4.62. One kestrel nest with five eggs was recorded in April 2020, to the west of the Indicative Turbine Development Area at Creagan na Sloich. Breeding occurred at the same nest location in 2021, with six eggs recorded in May 2021. The nest was located 980 m from the edge of the Indicative Turbine Development Area and over 1.5 km from the closest proposed turbine.

6.4.63. The HRSG were not able to provide records of breeding raptors for the desk study due to the data search area being under-recorded. However, consultation with the HRSG will be carried out again prior to submission of the EIA Report, for any further contemporary data that may be available.

Eagle Surveys

6.4.64. The results of the dedicated eagle surveys carried out during 2020 and 2021 are shown in Confidential Figure 6.14. Eagle flights recorded during dedicated raptor surveys are shown in Figure 6.12 and Figure 6.13.

6.4.65. Golden eagle were regularly seen flying over the Indicative Turbine Development Area during baseline surveys with nine flights recorded during dedicated eagle surveys in 2020 and 2021. During raptor surveys in the 2020 and 2021 breeding season, 11 golden eagle flights were recorded in each year with some individuals identified as immature birds.

6.4.66. Two adult white-tailed eagle sightings were made in the survey buffer during eagle surveys in March and June 2020. The March record was an adult bird being mobbed by a buzzard south of the Proposed Development next to the A9. The individual registered in June was flushed out of a ride by a golden eagle in the forest to the north-west of the Proposed Development. One white-tailed eagle was being mobbed by ravens within the Indicative Turbine Development Area during a raptor survey in March 2021. These occasional records are not suggestive of breeding within the vicinity of the Proposed Development.

6.4.67. The numerous mountain hare remains found scattered across the Indicative Turbine Development Area in 2020 and 2021 are an indicator that golden eagle use the site regularly for hunting and foraging.

6.4.68. The HRSG, who monitors the golden eagle nest site within the 6 km survey buffer, have found that golden eagle has successfully fledged chicks in 2019, 2020 and 2021.

6.5. Assessment Methodology

6.5.1. Baseline ornithological surveys for the Indicative Turbine Development Area have been completed and no more ornithological surveys are proposed. Associated infrastructure, such as access tracks, may require additional surveys, which will be completed prior to application submission.

6.5.2. The approach to the EcIA adopted within this assessment follows the Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines. It should be noted that these criteria are intended as a guide and are not definitive; professional judgement will also be applied in determining the value level for IOFs. IOFs have been scoped in or out of further assessment based on these guidelines and with consideration of effects that are potentially significant as set out under the EIA Directive.

6.5.3. The guidelines set out the EcIA process through the following stages:

- Identification of IOFs through ornithological field survey and/or research;

- Determination of the importance of each identified IOF;
- Assessment of impacts affecting those IOFs and/or resources, using a defined importance threshold with reference to ecological processes and functions as deemed appropriate;
- Determining the extent, magnitude, duration, timing and frequency of the impacts;
- Assessing the potential for impact reversibility;
- Determining the level of confidence in the above impact predictions;
- Identification of likely significant impacts in the absence of mitigation; and
- The identification of residual impacts following implementation of mitigation.

6.5.4. Before the EIA Report is submitted, further records from third party organisations shall be requested in order that the most contemporary records are included within the assessment, including records from the wider area outside the Indicative Turbine Development Area.

6.5.5. The relevant documents associated with existing, consented and submitted wind farm developments (of three or more turbines) within 10 km of the Proposed Development will also be consulted for additional data when undertakingthe EIA and in particular the assessment of cumulative impacts.

6.6. Standard Mitigation

6.6.1. To ensure compliance with legislation, and to follow good practice guidance and consultation recommendations, a number of embedded mitigation measures will be implemented should the application be consented. The Applicant would suggest that in order to ensure these practices are adopted that they be included as planning conditions.

6.6.2. The proposed wording of these conditions, which can easily be transposed into the planning consent, is as follows:

- No vegetation stripping or removal of trees or shrubs shall take place between 1 March and 31 August inclusive, unless a competent Environmental Clerk of Works (ECoW) has undertaken a careful, detailed check of vegetation for active birds' nests in advance of vegetation being cleared and provided written confirmation that no birds will be harmed and/or that there are appropriate measures in place to protect nesting bird interest on site. Any such written confirmation should be submitted to the local planning authority;
- No development shall take place (including demolition, ground works, vegetation clearance) until a Construction Environmental Management Plan (CEMP), incorporating a Construction Method Statement (CMS), has been submitted to and approved in writing by the local planning authority. The CEMP shall include the following:
  - Risk assessment of potentially damaging construction activities;
  - Identification of 'biodiversity protection zones';

- Practical measures (both physical measures and sensitive working practices) to avoid or reduce impacts during the construction phase (may be provided as a set of method statements);
- The location and timing of sensitive works to avoid harm to ornithological features;
- The times during construction when specialist ecologists need to be present on site to oversee works;
- Responsible persons and lines of communication;
- The role and responsibilities on site of an ECoW or similarly competent person; and
- Use of protective fences, exclusion barriers and warning signs.

- No development shall commence until the role and responsibilities and operations to be overseen by an appropriately competent ECoW have been submitted to and approved in writing by the local planning authority. The appointed person shall undertake all activities, and works shall be carried out, in accordance with the approved details. The ECoW will monitor and advise on potential effects on ornithological features during construction in order that impacts are minimised through good practice. This includes maintaining water quality and minimising the potential for disturbance or risk of injury/death for protected species which may be using the site; and

6.6.3. Should there be any other specific impacts predicted as a result of the EcIA, there may also be further planning conditions specific to the particular impact that the Applicant will discuss with consultees on a case by case basis.

6.6.4. The approved CEMP shall be adhered to and implemented throughout the construction phase strictly in accordance with the approved details, unless otherwise agreed in writing by the local planning authority.

6.7. Potential Impacts

6.7.1. This section outlines any potential impacts of the Proposed Development on protected sites and bird species after considering implementation of the embedded mitigation measures outlined above.

Designated Sites

SPA with Capercaillie as a Designated Feature

6.7.2. The Proposed Development lies in the Strathspey, Moray and Nairn Capercaillie Core Area and numerous designated sites for capercaillie are located within 30 km of the Proposed Development. The Indicative Turbine Development Area itself does not provide suitable habitat for capercaillie. Capercaillie do not disperse far from their natal site (typically <5 km for males and 5-10 km for females), although females have been recorded dispersing up to a maximum of 30 km[61]. Due to the low number of capercaillie remaining in north-east Scotland and the fragmented nature of suitable habitat, its

conservation requires consideration on a meta-population scale. For this reason, any dispersal of birds between SPAs, that could theoretically result in movements of capercaillie across the Indicative Turbine Development Area, will be considered in the assessment.

6.7.3. Due to the potential adverse effects of the Proposed Development on the integrity of sites designated for capercaillie, it is proposed that all the mentioned SPAs are scoped into the EIA.

Ornithology

Greylag Goose

6.7.4. Greylag goose is a resident breeder and winter migrant. It is BoCC amber-listed[54] due to its localised non-breeding population. In much of Scotland, the breeding population is considered to be a naturalised feral population, with only the wintering population being of conservation importance.

6.7.5. Greylag goose was not frequently recorded during VP surveys but flight activity during the 2020 breeding season meets the required criteria for conducting CRM.

6.7.6. The site is over 20 km from the Inner Moray Firth SPA designated for a variety of wetland birds including non-breeding greylag geese. The SPA is at the maximum range of connectivity for this species to the Proposed Development. Records of this species are considered to be of migrant flocks on passage that are not connected to any particular designated site. The area of the Proposed Development does not offer suitable foraging habitat for wintering geese. Although recorded during the BBS, greylag goose was not recorded as breeding within the surveyed area. The impacts of disturbance/displacement are likely to be negligible.

6.7.7. As there is a potential for collision risk posed by the Proposed Development on this species during operation, it is proposed that greylag goose is scoped into the EIA, for collision effects only.

Pink-footed Goose

6.7.8. Pink-footed goose is a common winter migrant that is amber-listed[54] due to the international importance of the UK non-breeding population.

6.7.9. Flight activity fulfils the requirement for conducting CRM. There were no records of pink-footed goose roosting or foraging at the Proposed Development and habitat within the Indicative Turbine Development Area is not considered favourable for this species.

6.7.10. The site is over 20 km from the Inner Moray Firth SPA designated for a variety of wetland birds, including non-breeding pink-footed goose. The SPA is at the

maximum range of connectivity for this species to the Proposed Development, therefore impact of disturbance/displacement are likely to be nil or negligible. Records of this species are considered to be of migrant flocks on passage that are not connected to any particular designated site but, nevertheless, these birds may be at potential risk of collision or barrier effects.

6.7.11. As such, it is proposed that pink-footed goose is scoped into the EIA, for collision effects only.

Wigeon

6.7.12. Wigeon is a localised breeder and common winter visitor to Scotland. It is a BoCC amber-list species[54] due to the recent breeding and winter population declines.

6.7.13. No wigeon flights were recorded during baseline VP surveys. One male and two females were observed in mid-May 2020 on Loch Bràigh Bhruthaich during breeding bird surveys but there was no evidence of breeding.

6.7.14. Due to the low numbers of records and lack of breeding activity during baseline surveys the impacts of disturbance/displacement and collision posed by the Proposed Development are considered to be nil or negligible. It is therefore proposed that wigeon is scoped out from the EIA.

Teal

6.7.15. Teal is a resident breeder and winter migrant, which is included on the BoCC amber-list[54] due to the international importance of the British wintering population.

6.7.16. No flights were recorded during the baseline VP surveys. Breeding was confirmed in 2021 on Loch Bràigh Bhruthaich. This loch is over 800 m from the nearest proposed turbine.

6.7.17. The lack of flight activity suggests the impacts of collision during operation will be nil or negligible, and no significant potential disturbance/displacement effects during construction and operation are predicted after embedded mitigation measures are implemented given the distance to the nesting site. It is proposed that teal is scoped out from the EIA.

Capercaillie

6.7.18. Capercaillie is a localised breeding species and is BoCC red-listed[54] due to its rapid population declines and risk of extinction within the UK. It is listed on the SBL and LBAP.

6.7.19. The habitat in the Indicative Turbine Development Area consists of blanket bog, dry modified bog, upland wet and dry heath and marshy grassland with no woodland being present i.e., no suitable habitat for breeding and lekking capercaillie. There is, however, coniferous woodland to the north-west of the Proposed Development. As baseline surveys could not be completed within the forest, consultation with the RSPB Capercaillie Project Officer will be undertaken prior to undertaking the the EIA to obtain data on the status of capercaillie in the vicinity of the Proposed Development.

6.7.20. Under the current proposed turbine layout, the forest is c. 1.5 km from the nearest turbine. Potential leks in the forest would therefore lie outside the stated disturbance buffer of 1,000 m for lekking birds[49]. No records were made for capercaillie within the Indicative Turbine Development Area or survey buffers and no capercaillies were recorded on the flight activity surveys.

6.7.21. Disturbance/displacement and collision effects are therefore likely to be not significant but further information is required to make a robust assessment.

6.7.22. It is therefore proposed that capercaillie is scoped into the EIA for both disturbance/displacement and collision effects.

Black grouse

6.7.23. Black grouse is a BoCC red-list species[54] due to both historical and recent population declines. It is listed on the SBL and LBAP.

6.7.24. No black grouse lek or signs of presence were recorded during 2020 and 2021 dedicated surveys within the survey area. A lek was discovered in 2020 during a golden eagle survey, c. 4.7 km to the east of the Proposed Development.

6.7.25. The distance between the Proposed Development and the lek, suggests that there is no, or negligible, potential for disturbance/displacement effect on black grouse as a result of the Proposed Development during operation (maximum disturbance distance of 1,000 m[49]).

6.7.26. The amount of suitable black grouse breeding habitat to be lost directly to components of the Proposed Development will be negligible.

6.7.27. No black grouse were recorded during VP surveys and thus there is considered to be no, or negligible, collision risk (with turbine blades or towers).

6.7.28. As there is no route to significant impact upon this species, it is proposed that black grouse is scoped out from the EIA.

Lapwing

6.7.29. Lapwing is a resident breeder and winter migrant and is a BoCC red-list species[54] due to severe long-term breeding population declines and also severe breeding population declines within a recent 25-year period. Lapwing is listed on the SBL and LBAP.

6.7.30. One pair was observed breeding within the survey buffer of the Indicative Turbine Development Area during the breeding bird surveys in 2021 (but not in 2020). The distance between the breeding territory and nearest proposed turbine is over 950 m. No further lapwings were observed during any other baseline surveys.

6.7.31. Due to the low numbers of records and distance between the 2021 breeding territory and nearest proposed turbine there is no, or negligible, potential for disturbance/displacement effects and collision risk posed by the Proposed Development to this species after embedded mitigation measures are implemented. It is therefore proposed that lapwing is scoped out from the EIA.

Golden plover

6.7.32. Golden plover is a resident breeder, and winter and passage migrant. Golden plover is an Annex I species and is both SBL and LBAP listed.

6.7.33. Flight activity information gathered during VP surveys is sufficient to qualify the species for CRM.

6.7.34. Sixteen golden plover territories were recorded in 2020 of which 15 were within the Indicative Turbine Development Area (eight territories were located within 500 m of proposed turbines). In 2021, 14 territories were recorded of which all were within the Indicative Turbine Development Area (eight territories were located within 500 m of proposed turbines).

6.7.35. Due to the breeding activity recorded during baseline surveys there is a potential for disturbance/displacement and collision risk effects on this species during construction, operation and decommissioning. As such it is proposed that golden plover is scoped into the EIA for both disturbance/ displacement effects and collision effects.

Curlew

6.7.36. Curlew is a resident breeder and winter migrant. It is listed on the LBAP and is a BoCC red-list species[54] due to a severe long-term breeding population decline.

6.7.37. All curlew flights recorded during VP surveys were at PCH, qualifying the species for CRM. No flights were recorded during non-breeding season VP surveys.

6.7.38. Curlew bred within the Indicative Turbine Development Area with two territories recorded in 2020 and 2021. For both years, one territory was located within 500 m of proposed turbines.

6.7.39. This species has been shown to be affected by disturbance, particularly during construction. Due to the breeding activity recorded within the Indicative Turbine Development Area during baseline surveys there is a potential for disturbance/displacement effects and collision risk for this species during the construction, operation and decommissioning. On this basis, it is proposed that curlew is scoped into the EIA for both disturbance/displacement effects and collision effects.

Dunlin

6.7.40. Dunlin is a localised migrant breeder in Scotland and a common passage and winter migrant. It is a BoCC red-list species[54] due to a severe long-term non-breeding population decline, moderate breeding range declines and breeding and non-breeding localisation. Dunlin is also listed on the LBAP.

6.7.41. No dunlin flights were noted during baseline VP surveys. Two territories were recorded within the Indicative Turbine Development Area in 2020, three in 2021 (one territory outwith Indicative Turbine Development Area in survey buffer). Of the two territories found in 2020, one was located within 500 m of proposed turbines. None of the territories recorded in 2021 were within 500 m of proposed turbines.

6.7.42. Due to the breeding activity recorded during baseline surveys there is a potential for disturbance/displacement on this species during construction, operation and decommissioning. As such it is proposed that dunlin is scoped into the EIA for disturbance/displacement effects only.

Snipe

6.7.43. Snipe is a resident breeder and winter migrant, which is LBAP listed and included on the BoCC amber-list[54] due to moderate long-term declines in breeding range.

6.7.44. No flights were recorded during baseline VP surveys. One record of the species was made in March 2020 during an eagle survey outwith the Indicative Turbine Development Area. One territory was found outside the southern edge of the Indicative Turbine Development Area, over 850 m from the nearest proposed turbine, during breeding bird surveys in 2020.

6.7.45. Due to the low numbers of records and distance between the 2020 breeding territory and nearest proposed turbine there is no, or negligible, potential for disturbance/displacement effects and collision risk posed by the Proposed Development to this species after embedded mitigation measures are implemented. It is therefore proposed that snipe is scoped out from the EIA.

Common sandpiper

6.7.46. Common sandpiper is a common migrant breeder and passage visitor to Scotland. It is a BoCC amber-list species[54] due to a moderate decline in the UK breeding population size over a recent 25-year period and longer-term.

6.7.47. One territory (1.1 km to nearest turbine) was estimated during breeding bird surveys in 2021 on the eastern edge of Loch Bràigh Bhruthaich outwith the Indicative Turbine Development Area. No further records were made for this species during any of the other baseline surveys.

6.7.48. Given the lack of flights activity observed and this species' behaviour (low flights over water), risk of collision during operation is considered to be nil or negligible. Given the distance between the territory located in 2021 and the nearest proposed turbine, the potential disturbance/displacement effects during construction and operation after embedded mitigation measures are implemented, are also considered to be negligible. It is therefore proposed that common sandpiper is scoped out from the EIA.

Osprey

6.7.49. Osprey is a rare, but increasing, migrant breeder. It is a Schedule 1 and Annex I species and also a BoCC amber-list species[54] due to a historic decline in the breeding population and subsequent partial recovery.

6.7.50. Two individuals were recorded during baseline breeding bird surveys.

6.7.51. This species showed no evidence of breeding within the survey area, instead using the site for foraging and commuting.

6.7.52. The Indicative Turbine Development Area does not offer suitable breeding habitat for osprey, the potential for disturbance/displacement effects on this species during construction, operation and decommissioning are therefore likely to be nil or negligible. Osprey may use the site for foraging and commuting and therefore there is potential for collision risk and barrier effects during operation. The very low number of osprey flights, however, does not qualify the species for CRM and no significant effect is predicted. As such it is proposed that osprey is scoped out from the EIA.

Golden Eagle

6.7.53. Golden eagle is a rare resident breeder and is an Annex I and Schedule 1 species. It is SBL and LBAP listed.

6.7.54. It was the most frequently recorded raptor species during VP surveys. Numerous flights noted during baseline VP surveys were at PCH and hence there is enough flight activity data to conduct CRM on this species. Further sightings of golden eagle were made during the dedicated eagle surveys as well as the breeding bird and raptor surveys.

6.7.55. One golden eagle territory is located within 6 km of the Proposed Development. The territory had golden eagles recorded in all survey years, with successful breeding confirmed in 2019, 2020 and 2021.

6.7.56. There is a potential risk of collision during operation for golden eagle. Due to the presence of a golden eagle territory within the 6 km buffer of the Proposed Development and the number of foraging flights observed, there is also potential for disturbance/displacement effects during construction and operation. A detailed impact assessment for golden eagle is required, which will include use of the Golden Eagle Topographical Model (GET) to inform the assessment. As such it is proposed that golden eagle is scoped into the EIA.

Goshawk

6.7.57. Goshawk is a rare breeding resident and is a Schedule 1 and LBAP listed species.

6.7.58. One female goshawk was observed circling over the forest to the north-west of the Indicative Turbine Development Area during an eagle survey in June 2020. No further goshawk sightings were made during baseline surveys. There is therefore no flight activity information to carry out CRM.

6.7.59. There is no suitable breeding or foraging habitat for goshawk in the Indicative Turbine Development Area but breeding in the adjacent forest that lies within the survey buffer cannot be ruled out. However, under the proposed turbine layout, the forest is c.1.5 km from the nearest turbine, which is above the maximum disturbance distance stated for this species (500 m)[49].

6.7.60. Given the absence of flight activity observed within the Indicative Turbine Development Area, risk of collision during operation is considered to be nil, or negligible. Given the distance between the forest and nearest proposed turbine, the potential disturbance/displacement effects during construction and operation are not predicted to be more than negligible following the implementation of embedded mitigation measures. It is therefore proposed that goshawk is scoped out from the EIA Report.

Hen harrier

6.7.61. Hen harrier is a rare resident breeder. It is a Schedule 1, Annex I and a BoCC red-list species[54] due to both historical and recent population declines. Hen harrier is also listed on the SBL and LBAP.

6.7.62. Three flights of hen harrier were observed during baseline VP surveys, all of which were recorded in the breeding seasons. These flights were recorded at PCH and therefore the flight activity information is sufficient to conduct CRM for this species. No hen harrier activity was recorded during raptor surveys in 2020 and 2021.

6.7.63. Although no breeding was recorded during baseline surveys within the Indicative Turbine Development Area, it is possible that hen harriers breed in the wider environs around the Proposed Development and use the site occasionally as hunting grounds and to commute through. Therefore, there is the potential for disturbance/displacement effects associated with construction and operation of the Proposed Development. As such, it is proposed that hen harrier is scoped into the EIA for both disturbance/displacement effects and collision effects.

Red kite

6.7.64. Red kite is an increasing resident breeder and wintering species. Red kite is a Schedule 1 and Annex I species and is SBL and LBAP listed.

6.7.65. Red kite was present within the Indicative Turbine Development Area and survey buffer all year round in 2020 and 2021, mainly hunting and commuting.

6.7.66. It was one of the more frequently recorded raptor species during VP surveys. Numerous flights noted during baseline VP surveys were at PCH and the flight activity fulfils the criteria for conducting CRM. During raptor surveys, 15 flights were seen and at least two juvenile birds were noted flying around within the 2 km survey buffer.

6.7.67. The habitat within the Indicative Turbine Development Area is not considered suitable for breeding red kite due to the lack of mature woodland. The open moor within the Indicative Turbine Development Area is, however, suitable for foraging birds. The potential for disturbance/displacement effects during construction, operation and decommissioning therefore needs to be considered. In addition, there is potential for collision risk during wind farm operation. As such it is proposed that red kite is scoped into the EIA for both disturbance/displacement effects and collision effects.

White-tailed eagle

6.7.68. White-tailed eagle is a rare, but increasing, resident breeder. It's a Schedule 1, Annex I and a BoCC red-list species[54] due to its small and localised population. It is also SBL and LBAP listed.

6.7.69. No white-tailed eagle flights were recorded during baseline VP surveys. Two adult white-tailed eagle sightings were made in the 6 km survey buffer during eagle surveys in 2020 and within the Indicative Turbine Development Area during a raptor survey in 2021.

6.7.70. Surveys did not find any signs of breeding white-tailed eagles within the Indicative Turbine Development Area or surrounding 6 km survey buffer. No breeding white-tailed eagle records were obtained for the wider area from the data requests, despite white-tailed eagle being a well monitored species.

6.7.71. The level of recorded flight activity does not qualify this species for CRM. The habitat within the Indicative Turbine Development Area is not suitable for breeding white-tailed eagle. Territories within the surrounding environs cannot be ruled out but only a few birds were observed hunting across the Proposed Development, which suggests the Turbine Development Area is not a core area of any nearby territories. The HRSG will be contacted to obtain further records of white-tailed eagle prior to submission of the EIA Report, but unless a territory within 10 km of the Turbine Development Area is highlighted, it is proposed that white-tailed eagle is scoped out from the EIA.

Merlin

6.7.72. Merlin is a resident breeder and winter migrant. It is a Schedule 1, Annex I and a BoCC red-list species[54] due to historic declines in its breeding population. Merlin is also listed on the SBL and LBAP.

6.7.73. Merlin was recorded four times during the baseline VP surveys, two flights in the non-breeding season 2020/21 and two flights in the breeding season 2021. Two of those flights were at PCH, which means they are not numerous enough to fulfil the criteria for conducting CRM. Territorial behaviour was observed in 2020 in the survey buffer surrounding the Proposed Development. Due to a decrease in activity, it is considered that the breeding attempt in 2020 failed. In 2021, two merlin records came from the VP surveys, but there was no evidence of merlin having bred.

6.7.74. The level of recorded flight activity does not qualify this species for CRM and therefore potential collision effects are predicted to be not significant. Due to breeding activity being recorded in the survey buffer in 2020 and signs seen within the Proposed Development in 2021, there is a potential for disturbance/displacement effects during construction, operation and

decommissioning. On this basis, it is proposed that merlin is scoped in to the EIAfor disturbance/displacement effects only.

Peregrine

6.7.75. Peregrine is a resident breeder in Scotland and is classed as a Schedule 1 and Annex I species. Peregrine appears on the SBL and LBAP lists.

6.7.76. There was only one incidental record of peregrine during baseline surveys. This does not fulfil the criteria for conducting CRM.

6.7.77. Potential disturbance/displacement and collision impacts to peregrine during construction, operation and decommissioning are considered to be negligible. It is therefore proposed that peregrine is scoped out from the EIA.

Secondary raptor species

6.7.78. Buzzard (no species-specific conservation designations) and kestrel (BoCC amber-list[54]) were regularly recorded during the VP surveys. A potential buzzard nest was discovered in 2021 at the edge of the raptor survey area outwith the Indicative Turbine Development Area, c. 140 m from a track. A pair of kestrel bred to the west of the Indicative Turbine Development Area in 2020 and 2021, at a site located over 1.5 km from the nearest proposed turbine.

6.7.79. Should the Proposed Development receive consent, best practice mitigation measures (e.g. pre-construction nest checks, use of exclusion zones etc.) will be followed during the pre-construction and construction phases, to ensure compliance with the Wildlife and Countryside Act 1981.

6.7.80. Turbine collision during operation is a potential risk for these species, which spend a considerable amount of time hunting over open ground. However, any such impacts are considered unlikely to have any more than a local impact on these populations.

6.7.81. With the embedded mitigation measures described in Section 6.6 in place no significant effects are predicted and so it is proposed that buzzard and kestrel are scoped out from the EIA Report.

Other secondary species

6.7.82. Raven (no species-specific conservation designations) and red grouse (BoCC amber-list[54]) were regularly recorded during baseline VP surveys. Common gull was recorded sporadically, and mallard was recorded on one occasion. Of these species, red grouse bred within the Indicative Turbine Development Area.

6.7.83. Should the Proposed Development receive consent, good practice mitigation measures (e.g. pre-construction nest checks, use of exclusion zones etc.) will be followed during the pre-construction and construction phases, to ensure compliance with the Wildlife and Countryside Act 1981.

6.7.84. Turbine collision is a potential risk for these species, particularly for raven and gulls which spend more time flying at PCH than other non-raptor secondary species (i.e. scavenging over open ground). However, any such impacts are considered unlikely to have any more than a local impact on these populations.

6.7.85. With the embedded mitigation measures described in Section 6.6 in place no significant effects are predicted and so it is proposed that raven, red grouse, common gull and mallard are scoped out from the EIA.

Passerines species

6.7.86. The community of passerines in the vicinity of the Proposed Development is typical for an upland area in the central Highlands. Three passerine species of high conservation concern (BoCC red-listed[54]) were recorded during the BBS: skylark, ring ouzel and redpoll. Of these three, skylark and ring ouzel were recorded within the Indicative Turbine Development Area. The Proposed Development is considered to have no more than a local level of importance for all the passerine species recorded.

6.7.87. Passerines are not considered to be significantly affected by collision with turbines. Embedded mitigation will protect against damage of nests during construction. As such, it is expected that there will be no significant population level impact of disturbance/displacement and/or collisions on these species as a result of construction, operation and decommissioning of the Proposed Development, and it is proposed that all passerines are scoped out from the EIA.

6.8. Receptors and Impacts Scoped in or out of Assessment

6.8.1. Table 6.13 provides a summary of the designated sites and ornithological features that will be ‘scoped in’ (i.e. progress to EIA) and those features that can be expected to experience no significant effects of the Proposed Development (‘scoped out’). Designated sites and ornithological features that are scoped in are shown in bold. This approach will ensure compliance with the EIA Directive but ensure that the EcIA is focussed on potentially significant effects only.

Table 6.13 Features and Impacts to be Assessed within the EIA Report

Receptor	Scope in/out	Development phase	Potential impact	Assessment
Designated Sites				
Kinveachy Forest SPA	**In**	**Operation**	**Adverse effects on site integrity**	**Screening for AA**
Abernethy Forest SPA/SSSI	**In**	**Operation**	**Adverse effects on site integrity**	**Screening for AA**
Craigmore Wood SPA	**In**	**Operation**	**Adverse effects on site integrity**	**Screening for AA**
Anagach Woods SPA	**In**	**Operation**	**Adverse effects on site integrity**	**Screening for AA**
Cairngorms SPA	**In**	**Operation**	**Adverse effects on site integrity**	**Screening for AA**
Darnaway and Lethen Forest SPA	**In**	**Operation**	**Adverse effects on site integrity**	**Screening for AA**
Ornithological Features				
Greylag goose	**In**	**Operation**	**Collision**	**EcIA, including CRM**
Pink-footed goose	**In**	**Operation**	**Collision**	**EcIA, including CRM**
Wigeon	Out			
Teal	Out			
Capercaillie	**In**	**Construction and Decommissioning, Operation**	**Collision and disturbance/ displacement**	**EcIA**
Black grouse	Out			
Lapwing	Out			
Golden plover	**In**	**Construction and Decommissioning, Operation**	**Collision and disturbance/ displacement**	**EcIA, including CRM**
Curlew	**In**	**Construction and Decommissioning, Operation**	**Collision and disturbance/ displacement**	**EcIA, including CRM**
Dunlin	**In**	**Construction and Decommissioning, Operation**	**Disturbance/ displacement**	**EcIA**
Snipe	Out			
Common sandpiper	Out			
Osprey	Out			
Golden eagle	**In**	**Construction and Decommissioning, Operation**	**Collision and disturbance/ displacement**	**EcIA, including CRM and GET**

Receptor	Scope in/out	Development phase	Potential impact	Assessment
Goshawk	Out			
Hen harrier	**In**	**Construction and Decommissioning, Operation**	**Collision and disturbance/ displacement**	**EcIA, including CRM**
Red kite	**In**	**Construction and Decommissioning, Operation**	**Collision and disturbance/ displacement**	**EcIA, including CRM**
Merlin	**In**	**Construction and Decommissioning, Operation**	**Disturbance/ displacement**	**EcIA**
White-tailed* eagle	Out			
Peregrine	Out			
Secondary raptor species	Out			
Other secondary species	Out			
Passerine species	Out			

*Should contemporary data be obtained from HRSG ahead of the EIA Report, which highlights breeding by white-tailed eagle (or any other Schedule 1 raptor that has been 'scoped out') within the vicinity of the Proposed Development, these receptors will instead be scoped into the EIA.

6.9. Scoping Questions to Consultees

6.9.1. The questions below are for consultees regarding the information provided in this Scoping chapter, for which it would be useful to receive feedback. Not all questions will be relevant to all consultees, therefore we request that consultees provide feedback only on those questions appropriate to them. The questions should not be considered an exhaustive list, and consequently consultees are welcome to provide feedback on any issue they consider relevant to the Proposed Development. If consultees elect not to respond, the Applicant will assume that consultees are satisfied with the approach adopted/proposed.

- Are consultees satisfied that the baseline surveys undertaken, additional data requested, and assessment proposed are sufficient to provide a robust assessment of effects?
- Do consultees have any comments regarding the EIA Report only concentrating on those receptors which may be subject to significant effects from the Proposed Development (either directly or indirectly)?
- Table 6.13 notes the receptors and potential impacts proposed to be included within the EIA. Do consultees agree with the list of receptors and impacts to be included within the EIA Report?

7. Hydrology, Geology and Hydrogeology

7.1. Introduction

7.1.1. As previously noted, the intention of this EIA Scoping Report is to provide the competent authority and its advisors with information (where it currently exists) on the likely impacts of the Proposed Development on individual receptors and important features. This will allow for an Environment Impact Assessment Report (EIA Report) that focusses on only those aspects of the Proposed Development that are likely to have a significant impact on known hydrological, geological and hydrogeological receptors, as well as those receptors that are currently unknown.

7.1.2. As part of the EIA, a Hydrological, Geological and Hydrogeological Impact Assessment will be undertaken on those receptors that are likely to experience a significant impact from the construction, operation and decommissioning of the Proposed Development.

7.2. Legislation, Policy and Guidance

International Legislation and Policy

7.2.1. The assessment takes into account the requirements of the Water Framework Directive (2000/60/EC) (WFD). The WFD aims to protect and enhance the quality of surface freshwater (including lakes, rivers and streams), groundwater, groundwater dependent terrestrial ecosystems (GWDTE), estuaries and coastal waters. The key objectives of the WFD relevant to this assessment are:

- To prevent deterioration and enhance aquatic ecosystems; and
- To establish a framework of protection of surface freshwater and groundwater.

7.2.2. The WFD resulted in The Water Environment and Water Services (Scotland) Act 2003, which gave Scottish Ministers powers to introduce regulatory controls over water activities in order to protect, improve and promote sustainable use of Scotland's water environment. These regulatory controls, in the form of The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) or CAR, have made it an offence to undertake the following activities without a CAR authorisation:

- Discharges to all wetlands, surface waters and groundwaters;
- Disposal to land;
- Abstractions from all wetlands, surface waters and groundwaters;
- Impoundments (dams and weirs) of rivers, lochs, wetlands and transitional waters; and
- Engineering works in inland waters and wetlands.

National & Regional Legislation and Policy

7.2.3. The assessment takes into account the following legislation and policy:

- The Water Environment and Water Services (Scotland) Act 2003;
- The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended);
- Flood Risk Management (Scotland) Act 2009;
- The Water Supply (Water Quality) (Scotland) Regulations 2001;
- Private Water Supplies (Scotland) Regulations 2006;
- The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017;
- Part IIa of the Environment Protection Act 1990;
- Waste Management Licensing (Scotland) Regulations 2011;
- Pollution Prevention and Control (Scotland) Regulations 2000; and
- Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.
- National Planning Framework 4 (NPF4, 2023)
- Land Use Planning System (LUPS) Guidance Note 4: Planning Guidance on Onshore Windfarm Developments;
- LUPS Guidance Note 31: Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems; and
- Scottish Environment Protection Agency (SEPA) Policies:

- No. 19 Groundwater Protection Policy for Scotland;
- No. 22 Flood Risk Assessment Strategy;
- No. 41 Development at Risk of Flooding: Advice and Consultation;
- No. 54 Land Protection Policy; and
- No. 61 Control of Priority & Dangerous Substances & Specific Pollutants in the Water Environment.

Other Guidance and Best Practice

7.2.4. Table 7.1 lists other key guidance and best practice documentation relevant to assessment

Table 7.1 Guidance and Best Practice

Topic	Source of Information
Scottish Government Planning Advice Notes (PANs)	PAN 50: Controlling the Environmental Effects of Surface Mineral Workings PAN 51 Planning, Environmental Protection and Regulation PAN 1/2013 Environmental Impact Assessment PAN 61 Planning and Sustainable Urban Drainage Systems PAN 79 Water and Drainage
SEPA Guidance for Pollution Prevention (GPPs) and Pollution Prevention Guidelines (PPGs)	GPP 1: Understanding your Environmental Responsibilities - Good Environmental practices GPP 2: Above Ground Oil Storage Tanks

Topic	Source of Information
	GPP 4 Treatment and Disposal of Wastewater Where there is no Connection to the Public Foul Sewer GPP 5: Works and maintenance in or near water PPG 6 Working at Construction and Demolition Sites PPG 7: Safe Storage - The Safe Operation of Refuelling Facilities; GPP 8: Safe Storage and Disposal of Used Oils GPP 13: Vehicle Washing and Cleaning GPP 21: Pollution Incident Response Planning GPP 22: Dealing with Spills GPP 26 Safe Storage - Drums and Intermediate Bulk Containers
SEPA Position Statements (Published)	WAT-PS-06-02 Culverting of Watercourses WAT-PS-07-02 Bank Protection WAT SG-78 Sediment Management Authorisation
Construction Industry Research and Information Association (CIRIA)	CIRIA C692 Environmental Good Practice on Site (third edition) CIRIA C753 The SuDS Manual CIRIA C532 Control of Water Pollution from Construction Sites CIRIA C648 Control of Water Pollution from Linear Construction Projects CIRIA C689 Culvert Design and Operation Guide
Other Guidelines	Scottish Renewables Joint Publication, (2019) Good Practice During Wind Farm Construction Version 4 FCE, NatureScot, (2010), Floating Roads on Peat Scottish Renewables, Joint Publication (2012), Development of Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste SEPA, The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended), A Practical Guide, Version 9, March 2022 River Crossings and Migratory Fish: Design Guidance, A Consultation Paper, The Scottish Executive WAT-SG-23: SEPA (2008), Engineering in the Water Environment, Good Practice Guide - Bank Protection Rivers and Lochs, First Edition WAT-SG-25: SEPA (2010), Engineering in the Water Environment, Good Practice Guide, River Crossings, Second Edition WAT-SG-26: SEPA (2010), Engineering in the Water Environment, Good Practice Guide, Sediment Management, First Edition WAT-SG-31: SEPA, (2006) Special Requirements for Civil Engineering Contracts for the Prevention of Pollution, Version 2 WAT-SG-75: SEPA, (2018), Sector Specific Guidance: Construction Sites, Version 1 & Supporting guidance (WAT-SG-75) Water Run-Off from Construction Sites September 2021 WAT-SG-78: SEPA (2012), Sediment Management Authorisation, Version 1

7.3. Study Area

7.3.1. The hydrological study area for the EIA Report will be larger in extent than the actual Proposed Development Area and includes the lower reaches of identified catchments. Designated sites, private water supplies and other relevant developments would also be considered from the perspective of assessing any potential hydrological linkages or cumulative effects.

7.4. Baseline Description

7.4.1. The following sections summarise the site investigations and desktop study that have been undertaken to inform the details presented in this scoping report. A site visit was undertaken in November 2019 to carry out a hydrological walkover and phase 1 (100 m grid) peat depth survey.

7.4.2. A desk-based study has been undertaken in order to establish the hydrology, hydrogeological and geological conditions underlying the area of the Proposed Development. A review of documentation and data sources has been undertaken, as detailed in Table 7.2.

Table 7.2 Baseline Information Sources

Topic	Sources of Information
Topography	1:10,000 Ordnance Survey Mapping 1:50,000 Ordnance Survey Mapping
Designated Nature and Conservation sites	NatureScot https://sitelink.nature.scot/home
Solid and Superficial Geology	1:50,000 Solid and Superficial Geology data provided by the British Geological Survey (BGS)
Soils and Peat	The James Hutton Institute 1:25,000 National soil map of Scotland Scotland's Soils - soil maps (environment.gov.scot) NatureScot, Carbon and Peatland 2016 Map | Scotland's environment web
Surface Water Hydrology	1:10,000 OS Raster Data 1:50,000 OS Raster Data
Flooding	Indicative River and Coastal Flood Map (SEPA) http://map.sepa.org.uk/floodmap/map.htm
Water Quality	SEPA, River Basin Management Plans, Web Mapping Application, https://www.sepa.org.uk/data-visualisation/water-classification-hub/
Hydrogeology	British Geological Survey, Aquifer Classification Map | Scotland's environment web 1:625,000 Hydrogeology data provided by the British Geological Survey http://mapapps2.bgs.ac.uk/geoindex/home.html

Surface Water Hydrology

7.4.3. The Proposed Development lies within the Allt Loisgte and Allt Sguabach sub-catchments of the Allt Bruachaig. These watercourses converge just outside the site boundary to become the Allt Bruachaig, which is part of the larger River Findhorn catchment. Surface water features on the site area include small streams, headwaters, and lochans.

7.4.4. Loch Braigh Bhruthaich is the largest lochan and lies on the eastern flank of the site.

7.4.5. The Allt Loisgte drains the majority of the site area, including Loch Braigh Bhruthaich. Its banks are characterised by bogs and deep peat in the upper catchment, before turning into a steep V-shaped valley at the confluence with the Allt Sguabach.

7.4.6. Manmade drainage channels were observed at several locations. Numerous other small watercourses were observed across the site; small streams were often channelled through peat hags.

Water Quality

7.4.7. The Allt Bruachaig including Allt Sguabach have been classified under SEPA's River Basin Management Plans (RBMP) (SEPA 2021). The RBMP provide recommendations on measures for protecting and improving the water environment and, in accordance with these recommendations, provide details on the current and projected ecological status of the waterbody. The details of the watercourses hydrologically connected within the Proposed Development that are classified under the RBMP classification scheme are provided in Table 7.3 below.

Table 7.3 RBMP classification of Watercourses in the Vicinity of the Proposed Development

	Current & Targeted Ecological Status (in line with first, second and third RBMP cycles)		
River	**2021**	**2027**	**Long Term**
Allt Bruachaig	Good	Good	Good
River Findhorn – Tomatin to Dorback Burn	Moderate	Good	Good

Designated Sites

7.4.8. There are four designated ecological sites within 5km of the Proposed Development, as summarised in Table 7.4 below.

Table 7.4 Designated Sites within 5 km of the Proposed Development (PD)

Site	Designation	Distance from PD	Designation Criteria	Hydrologically connected to the PD?
River Spey	SAC	3.6 km	Atlantic salmon, freshwater pearl mussel, otter, sea lamprey.	Not connected to the Proposed Development. The watercourses within the Study Area flow into the River Findhorn which is not within the catchment of the River Spey.
Carn na Tri-tighearnan	SAC/SSSI	3.7 km	Blanket bog, subalpine dry heath.	Not connected to the Proposed Development. Up catchment and in separate sub catchment of the River Findhorn on the opposite side of the river valley.
Allt na Feithe Sheilich	SSSI	1.7 km	Quaternary geology and geomorphology	Not connected to the Proposed Development. Up catchment and in separate sub catchment of the River Findhorn.
Slochd	SAC	3.7 km	Dry Heath	Not connected to the Proposed Development. Up catchment and in separate sub catchment of the River Findhorn.

Flood Risk

7.4.9. The Flood Risk Management (Scotland) Act 2009 sets in place a statutory framework for delivering a sustainable and risk-based approach to managing flooding.

7.4.10. A review of the SEPA flood risk map indicates that the Allt Loisgte and Allt Sguabach watercourses are at a high likelihood (1 in 10 years) of fluvial (watercourse) flooding, however 'at risk' areas do not extend far beyond river banks.

7.4.11. Very small pockets of land on the north-east and north-west slopes of Carn Loisgte are at high likelihood of pluvial (surface water) flooding.

7.4.12. A full qualitative flood risk assessment will be undertaken as part of the EIA. The assessment will be carried out in accordance with NPF4.

Soils and Peat

7.4.13. The distribution of soils across the Proposed Development is dependent upon land use, geology, topography and hydrological regime of the area. Information on the site soils has been provided by the National Soil Map of Scotland and is summarised in Table 7.5.

Table 7.5 Predominant Soil Types of the Proposed Development

Soil Association	Parent Material	Component Soils
Organic Soils	-	Dystrophic blanket peat
Arkaig	Drifts derived from schists, gneisses, granulites and quartzites principally of the Moine Series	Subalpine podzols with dystrophic peat
Arkaig	Drifts derived from schists, gneisses, granulites and quartzites principally of the Moine Series	Peaty gleyed podzols with dystrophic blanket peat

7.4.14. The above soils information indicates that the majority of the site is underlain by dystrophic blanket peat with peaty podzols in the south-east section of the Proposed Development and subalpine podzols in the east.

7.4.15. By referring to the Carbon and Peatland Map (2016), the peat deposits found at the Proposed Development are primarily Class 1 (Nationally important) and Class 5 (No peatland vegetation). Class 3 (Occasional peatland habitat) and Class 0 (Mineral soil) are also present, primarily located to the west of the development at Carn na Croite (563 m Above Ordnance Datum AOD)) and Carn Leathan (587 m AOD).

7.4.16. A phase 1 (100 m grid) peat depth survey was undertaken in November 2019 and comprised of 807 survey points. During the peat survey peat hags were observed across most of the survey area. A peat interpolation map was produced to highlight the survey results that have been used to help inform design as well as the phase 2 (detailed) peat depth survey which will be undertaken as part of the EIA (Figure 7.1). The assessment will be carried out in accordance with the Scottish Government Guidance[68]. SEPA will be engaged prior to carrying out the Phase 2 peat surveys to agree the approach. This will involve a dynamic approach to the probing to establish the extent of deep peat and peatland habit to demonstrate that the Proposed Development has been designed to avoid these areas as far as possible.

7.5. Bedrock Geology

7.5.1. According to the 1:50,000 scale British Geological Survey (BGS) Solid Bedrock, the Proposed Development site is underlain by Flichity semipelite formation – semipelite, migmatitic to the north-west underlying Carn Leathan (587 m AOD). A small segment on the eastern slopes of Carn Leathan is mapped as Grampian group – psammite and semipelite. A small section though the centre of the site encompassing Gruamach (633 m AOD) and the Allt Loisgte watercourse is underlain by Slochd psammite formation – migmatitic

[68] Scottish Government 2017, Guidance on Developments on Peatland – Peatland Survey. https://www.gov.scot/publications/peatland-survey-guidance/.

pelite and migmatitic semipelite. The area to the south-east encompassing Carn Iain Ruaidh (632 m AOD) and Loch Braigh Bhruthaich is underlain by Creag buidhe semipelite formation – semipelite gneissose. The remaining area to the south-east at Carn Loisgte (634 m AOD) is underlain by Dava subgroup – quartzite, feldspathic – gneissose. There is an inferred fault line running through Carn Leathan.

7.5.2. There are no apparent registered geologically derived SSSIs within the site boundary or within a 500 m buffer.

7.6. Superficial Geology

7.6.1. According to the 1:50,000 scale BGS Superficial Deposits the solid bedrock is likely to be overlain primarily by peat, with ardverikie till formation – Diamicton interspersed in the remaining areas. Alluvium – gravel, sand and silt deposits are found alongside the banks of the Allt Loisgte.

7.7. Hydrogeology

7.7.1. According to the BGS Aquifer Classifications, the Proposed Development site is classified as low productivity aquifers with small volumes of groundwater being found in near surface weathered zone, secondary fractures, and rare springs.

7.8. Water Resources

7.8.1. No private water supply infrastructure was identified within the Proposed Development boundary during the Phase 1 peat depth survey. The Highland Council will be contacted to obtain a list of private water supplies within 3 km of the Proposed Development and those supplies with potential hydrological or hydrogeological connection to the site will be considered further.

7.8.2. Scottish Water will also be consulted to determine whether any Scottish Water abstraction sources or assets are within 3 km of the Proposed Development.

7.9. Groundwater Dependent Terrestrial Ecosystems

7.9.1. Groundwater Dependent Terrestrial Ecosystems (GWDTE) will be fully assessed in the EIA Report, in line with SEPA LUPS-GU31[69] guidance, potential GWDTE habitats will be identified within 100 m or 250 m of excavations down to 1 m bgl (below ground level), and 2 m bgl respectively. Any identified GWDTE habitats will be subject to a detailed site-specific risk assessment.

[69] Scottish Environment Protection Agency, 2017, Land Use Planning System SEPA Guidance Note 31 (LUPS-GU31), lups-gu31-guidance-on-assessing-the-impacts-of-development-proposals-on-groundwater-abstractions-and-groundwater-dependent-terrestrial-ecosystems.pdf (sepa.org.uk)

7.10. Carbon Balance

7.10.1. A carbon balance assessment will be produced to give an indication of the Proposed Development's impact on the existing peat on site and to assess the potential effects in terms of carbon dioxide (CO_2) emissions against the total potential carbon savings attributed to the Proposed Development. The assessment will quantify the gains over the life of the project against the release of CO_2 during construction, including loss of peat bog and construction of roads/tracks and other infrastructure. The latest version of the Carbon Calculator that is available before the application is submitted will be used. It is not expected that there will be any requirement for the Carbon Balance assessment to be amended post submission should any further update of the Carbon Calculator occur.

7.11. Assessment Methodology

7.11.1. The greatest risk of the Proposed Development affecting the hydrological, geological and hydrogeological environment will occur during the construction phase, with effects reduced during the operational and decommissioning phase. Taking this into account, the EIA Report will address the following issues for all phases of development of the Proposed Development:

- Changes to existing drainage patterns;
- Effects on baseflow;
- Effects on run-off rates;
- Effects on erosion and sedimentation;
- Effects on groundwater levels;
- Effects on water resources;
- Effects on impediments to flow;
- Flood risk;
- Pollution risk;
- Effects on hydrological integrity of peat bodies; and
- Effects on groundwater and surface water quality.

7.11.2. The EIA Report assessment would involve the following:

- Further detailed desk studies and further site visits to establish baseline conditions of the area and carry out detailed site investigations;
- Evaluation of the likely significant environmental effects of the Proposed Development and the impacts that these could have on the current site conditions;
- Demonstrating how the embedded good practice measures help to avoid and mitigate against any identified adverse effects resulting from the Proposed Development;
- Evaluation of the likely significant environmental effects with consideration of the potential embedded mitigation measures, taking account of the

sensitivity of the baseline features, the potential magnitude of these effects and the probability of these effects occurring; and

- The residual significance of the environmental effects following the consideration of additional mitigation measures.

Effects Evaluation

7.11.3. The likely significant environmental effects of the Proposed Development will be defined by taking account of two main factors; the sensitivity of the receiving environment and the potential magnitude should that effect occur. The sensitivity of the receiving environment i.e. its baseline quality as well as its ability to absorb the effect without perceptible change is defined in Table 7.6.

Table 7.6 Definition of Sensitivity of the Receiving Environment

Sensitivity	Definition
High	National importance. Receptor with a high quality and rarity, local scale and limited potential for substitution/replacement or receptor with a medium quality and rarity, regional or national scale and limited potential for substitution / replacement.
Medium	Regional importance. Receptor with a medium quality and rarity, local scale and limited potential for substitution/replacement or receptor with a low quality and rarity, regional or national scale and limited potential for substitution / replacement.
Low	Local importance. Receptor with a low quality and rarity, local scale. Environmental equilibrium is stable and is resilient to changes that are greater than natural fluctuations, without detriment to its present character.

7.11.4. The magnitude of impact includes the timing, scale, size and duration of the likely significant environmental effects. For the EIA Report the magnitude of impact criteria would be defined in Table 7.7 below.

Table 7.7 Magnitude of Impact

Magnitude	Criteria	Definition
High	Total loss of or major/substantial alteration to key elements/features of the baseline (pre-development) conditions such that the post development character/composition/attributes will be fundamentally changed.	Fundamental (long term or permanent) changes to geology, hydrology, water quality and hydrogeology.
Medium	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.	Material but non-fundamental and short to medium term changes to the geology, hydrology, water quality and hydrogeology.
Low	A minor shift away from baseline conditions. Change arising from the loss/alteration will be	Detectable but non-material and transitory changes to the geology,

Magnitude	Criteria	Definition
	discernible/detectable but not material. The underlying character/composition/attributes of the baseline condition will be similar to the pre-development circumstances/situation.	hydrology, water quality and hydrogeology.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.	No perceptible changes to the geology, hydrology, water quality and hydrogeology.

7.11.5. Assuming the successful implementation of industry good practice and design mitigation measures, the sensitivity of the receiving environment together with the magnitude of the effect defines the significance of the effect.

7.12. Standard Mitigation

7.12.1. The design of the Proposed Development will avoid known impacts on hydrological receptors as far as possible (embedded mitigation). Throughout the EIA process and following further survey work and feedback from the consultation process, it is likely that the layout presented here in the Scoping Report, will further develop. Should the layout change from now to the application, it should be noted that the layout presented within this scoping report represents a 'worst case scenario' from the Proposed Development, and therefore generally any amendments to the design will not increase the likelihood of a significant impact. Should any changes occur that are likely to have a significant impact on the receptor these will be included within the EIA Report. If the changes are not likely to have a significant impact, these will first be discussed with the relevant consultees, to ensure that they too are in agreement with the Applicant's understanding and before excluding them from the EIA.

Mitigation by Design

7.12.2. A series of buffer distances have been adopted to help reduce effects of the Proposed Development on the hydrological environment. A 50 m buffer has been implemented for all identified natural hydrological features. Infrastructure will be located outside this buffer except where access necessitates.

7.12.3. Watercourse crossings associated with the new access track required as part of the Proposed Development will be minimised as far as practicable.

7.12.4. From the phase 1 peat survey it is known that there are pockets of deep peat underlying the Proposed Development site. Whilst taking into account other constraints, the layout will be designed to avoid deep peat (>0.5 m) as far as possible. As part of the EIA, detailed site investigations will take place and if required a peat slide risk assessment (PSRA) will be produced to make sure the Proposed Development is designed to avoid areas of high risk. A Stage 1

peat management plan (PMP) will also be produced and along with the PSRA will demonstrate how impact on peat will be minimised. The design of the Proposed Development and PSRA and PMP will include consideration of alternative construction techniques such as the use of floating track.

Good Practice Mitigation

7.12.5. Mitigation will follow the well-established principles of industry good practice so as to prevent or minimise effects on the surface and groundwater environment. The following good practice principles will be included as part of the embedded mitigation:

- Drainage – all runoff derived from works associated with the Proposed Development will not be allowed to directly enter the natural drainage network. All runoff will be adequately treated via a suitably designed drainage scheme with appropriate sediment and pollution management measures. The Proposed Development is situated in an upland hydrological area and it is imperative that the drainage infrastructure is designed to accommodate storm flows based on a 1 in 200 year event + climate change to help maintain the existing hydrological regime.
- Storage – all soil/peat stockpiles as well as equipment, materials and chemicals will be stored well away from any watercourses. Chemical, fuel and oil stores will be sited on impervious bases with a secured bund.
- Vehicles and Refuelling – standing machinery will have drip trays placed underneath to prevent oil and fuel leaks causing pollution. Where practicable, refuelling of vehicles and machinery will be carried out in designated areas, on an impermeable surface, and well away from any watercourse.
- Maintenance – only emergency maintenance to construction plant will be carried out within the Proposed Development Area, in designated areas, on an impermeable surface well away from any watercourse or drainage, unless vehicles have broken down necessitating maintenance at the point of breakdown, where special precautions will be taken.
- Welfare Facilities – on-site welfare facilities will be adequately designed and maintained to ensure all sewage is disposed of appropriately. This may take the form of a soakaway or tankering and off-site disposal depending on the suitability of the site for a soakaway and only with prior agreement with SEPA.
- Cement and Concrete – fresh concrete and cement are very alkaline and corrosive and can be lethal to aquatic life. The use of wet concrete in and around watercourses will be avoided and carefully controlled.
- Monitoring Plan – all activities undertaken as part of the Proposed Development will be monitored throughout the construction phase. Such monitoring will be to ensure environmental compliance.
- Contingency Plans – plans will ensure that emergency equipment is available on site i.e. spill kits and absorbent materials, advice on action to be taken and who should be informed in the event of a pollution incident.

- Training – All relevant staff personnel will be trained in both normal operating and emergency procedures, and be made aware of highly sensitive areas on site.

7.12.6. Further details on specific mitigation requirements will be provided as part of the EIA. This is likely to include the preparation of an outline site specific Construction Environmental Management Plan (CEMP) as well as associated appendices, including but not limited to, a peat slide risk assessment, a peat management plan, a watercourse crossing assessment and hydrological monitoring plan. Under the Water Environment (Miscellaneous) (Scotland) Regulations 2017, amendments were made to the Controlled Activities Regulations (CAR) and the Proposed Development will require a construction site licence for water management across the entirety of the wind farm site prior to any construction works taking place, including enabling works.

7.13. Potential Impacts

7.13.1. Potential impacts will be assessed on the basis that the standard good practice mitigation outlined above will be implemented. Regardless of the implementation of the standard mitigation, there remains the potential for impacts upon the hydrological, geological and hydrogeological environment to remain significant unless site specific conditions are understood.

7.13.2. Therefore, the potential impacts on the hydrological, geological and hydrogeological environment associated with the construction, operation and decommissioning of the Proposed Development include:

- The disturbance and loss of peatland habitat.
- The disturbance of peat resulting in increased risk of ground instability.
- Modifications to existing surface water and groundwater drainage patterns, impacting upon peatland habitats and GWDTE.
- Modifications to surface water drainage pathways resulting in increased flood risk to on site infrastructure and downstream receptors.
- Impacts on surface water and groundwater quality as a result of increased sediment loading of watercourses and pollution from fuels, oils or concrete.
- Interruption and disturbances to private water supplies.
- Increased risk of disturbances of watercourses, including sedimentation or blockage, through installation of culverts and other crossing structures.

7.13.3. Once the site design has been finalised further detailed site assessment will be carried out to inform any further mitigation requirements. Impacts on water quality, private water supplies, GWDTE and flood risk also require full assessment within the EIA Report.

7.14. Receptors and Impacts Scoped in or out of Assessment

7.14.1. Based on the findings of the baseline study and whether the significance of any impact on receptors can be quantified at this stage Table 7.8 identifies what is proposed to be scoped in and out of the EIA.

Table 7.8 Proposed Scoping Topics

Receptor	Scope in or out	Reason
Designated Sites	Scope Out	The designated sites are not hydrologically linked with the Proposed Development therefore there will not be any direct impacts from a hydrological perspective as a result of construction or operation of the Proposed Development.
Site Hydrology	Scope In	An appropriate level of assessment will need to be considered to understand the potential impacts of the development on water quality, flood risk and potential pollution following confirmation of the site design.
Flood Risk	Scope In	Whilst a high-level desk based assessment has been provided above, further assessment will be required due to the mapped water features in the proximity to proposed infrastructure.
Peat and Soils	Scope In	The initial desktop study and phase 1 peat survey has identified peat across the Proposed Development area. Further assessment will likely be required to inform a peat slide risk assessment, peat management plan and carbon balance assessment. Information on peat will also be utilised for production of a GWDTE assessment.
Geology	Scope Out	No specific mitigations to protect geodiversity are required. Review of the local geology information will be considered for the GWDTE assessment.
Hydrogeology	Scope In	Assessment will be required to confirm the presence of GWTDE on site based habitat, soils and hydrogeological information.
Water Resource	Scope In	Private water supplies are still to be identified within the surrounding area and further assessment will be required to confirm supply details and mitigation requirements.
Carbon Balance	Scope In	Initial desk top study and site visits indicate the presence of peat on site, and although careful siting of infrastructure will minimise the impact on peat, the use of the carbon calculator tool will assess the carbon impact of the Proposed Development.

7.15. Scoping Questions to Consultees

7.15.1. The questions below are for consultees regarding the information provided in this scoping chapter, which it would be useful to receive feedback on. Not all questions will be relevant to all consultees, therefore we request that consultees provide feedback only on those questions appropriate to them. The questions should not be considered an exhaustive list, and consequently consultees are welcome to provide feedback on any issue they consider

relevant to the Proposed Development. If consultees elect not to respond, the Applicant will assume that consultees are satisfied with the approach adopted/proposed.

- Do consultees have any comments regarding the EIA only concentrating on those receptors which may be subject to significant effects from the Proposed Development (either directly or indirectly)?
- Table 7.8 above notes the receptors and potential impacts proposed to be included within the EIA. Do consultees have any comment regarding this sufficiently covering the potential impacts on features from the Proposed Development and what is proposed to be scoped out?

8. Cultural Heritage

8.1. Introduction

8.1.1. This section outlines the baseline archaeological and cultural heritage conditions within the Proposed Development Area and Study Areas and outlines the methodology that will be utilised for the identification and assessment of direct and settings effects on heritage assets within the EIA Report. This section also considers the potential for significant effects on heritage assets arising from the Proposed Development and highlights instances where mitigation measures may be required.

8.2. Legislation, Policy and Guidance

Legislation

8.2.1. Legislation concerning the protection and conservation of cultural heritage assets includes:

- Ancient Monuments and Archaeological Areas Act 1979 (as amended);
- Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 (as amended);
- Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017

Planning Policy

8.2.2. National and local planning policy concerning the protection and conservation of cultural heritage assets includes:

- Scottish Government (2023) National Planning Framework 4;
- (Historic Environment Scotland (HES) (2019), including Designation Policy and Selection Guidance; and

- The Highlands Council (2012) Highland-wide Local Development Plan 2012.

8.2.3. The following guidance will be adhered to when undertaking the assessment:

- Historic Environment Scotland and Scottish Natural Heritage (SNH) (2018) Environmental Impact Assessment Handbook;
- Chartered Institute for Archaeologists (CIfA) (2014; updated 2020) Standard and guidance for commissioning work or providing advice on archaeology and the historic environment;
- CIfA (2014; updated 2017 and 2020) Standard and guidance for historic environment desk-based assessment; and
- Historic Environment Scotland (2020) Managing Change in the Historic Environment: Setting.
- Institute of Environmental Management and Assessment (IEMA), ClfA and the Institute of Historic Building Conservation (IHBC) (2021) Principles of Cultural Heritage Impact Assessment in the UK

8.3. Study Area

8.3.1. In order to assess the potential for effects on cultural heritage assets resulting from the Proposed Development, the following Study Areas (see Figures 8.1 and 8.2) have been identified:

- The Core Area which includes all land within the Proposed Development Area which is subject to assessment for potential direct effects. This Study Area will be used to identify cultural heritage assets which may be directly impacted by the Proposed Development and has been subject to an archaeological walkover survey.
- A 1 km Study Area for the identification of all known heritage assets and known previous archaeological interventions (referred to as “Events”) in order to help predict whether any similar hitherto unknown archaeological remains are likely to survive within the Core Area and thus be impacted by the Proposed Development.
- A 5 km Study Area for the assessment of potential effects on the setting of all designated heritage assets including Scheduled Monuments; all Listed Buildings; Inventoried Gardens and Designed Landscapes; Inventoried Battlefields and Conservation Areas.
- A 10 km Study Area for the assessment of potential effects on the setting of all nationally important heritage assets including Scheduled Monuments; Category A Listed Buildings; Inventoried Gardens and Designed Landscapes; and Inventoried Battlefields.

8.4. Baseline Description

Site Context

8.4.1. The British Geological Survey (BGS)[70] records that the Proposed Development is underlain by two different bedrocks both described as Gneissose to migmatitic semipelite, a type of bedrock found in the central Highlands of Scotland. The BGS records the majority of the Proposed Development as being underlain by peat, an organic accumulation from the Quaternary period. Archaeological and paleoenvironmental remains can survive within and beneath peat deposits. The BGS records till deposits, which originated in Ice Age conditions, extending into the west of the Proposed Development Area. No superficial deposits are recorded within the north-west of the Proposed Development Area.

8.4.2. The Historic Land-Use Assessment Data for Scotland (HLA)[71] identifies the Proposed Development within land characterised as "Rough Grazing". This means "*Hill ground or lower-lying land that shows no evidence of recent agricultural improvement… [and]can be used for rough grazing. Such areas are largely heather moorland or rough grassland*".

8.4.3. Historic mapping depicts landscape features such as waterbodies but does not annotate any anthropogenic features or activity within the Proposed Development site boundary until the 1970's.

Designated Heritage Assets

8.4.4. All designated heritage assets are detailed further in Appendix 8.1: Heritage Assets Gazetteer and are located on Figure 8.1.

8.4.5. No designated assets are situated within the Proposed Development Area boundary or within the 1 km Study Area.

8.4.6. There are seven Scheduled Monuments within the 5 km Study Area; five of which designate prehistoric settlements (Assets 5 & 11-14); with the other two representing depopulated settlements of the post-medieval period (Assets 1 & 10).

8.4.7. There are eight post-medieval Listed Buildings within the 5 km Study Area, of which; five are Category B Listed (Assets 17, 20, 21, 23 & 30); and three are Category C Listed (Assets 18, 19 & 22). These Listed Buildings, which date from the 18th and 19th centuries, are all located to the west of the Proposed Development site along the A9, a road which is largely attributed to 18th century military activity and General Wade.

[70] British Geological Survey (BGS). (2023). Geology of Britain Viewer. [Online] Available: https://geologyviewer.bgs.ac.uk/?_ga=2.36366630.788143614.1659519321-559490174.1659519321 [Accessed 15/05/2023]
[71] HES. (2023). HLA Map. [Online] Available at: https://hlamap.org.uk/ [Accessed 15/05/2023]

8.4.8. Seven Scheduled Monuments (Assets 2-4, & 6-9) and two Category A Listed Buildings (Assets 15 & 16) are located within the 5-10 km Study Area.

8.4.9. Following pre-application consultation with Historic Environment Scotland[72], the Scheduled Lochindorb Castle (Asset 57) c. 10.85 km north-east of the Proposed Development Area has also been scoped into the assessment.

Non-designated Heritage Assets

8.4.10. All non-designated heritage assets are detailed further in Appendix 8.1: Heritage Assets Gazetteer and are located on Figure 8.2.

8.4.11. There is a paucity of pre-post-medieval heritage assets recorded by the National Record of the Historic Environment (NRHE) and Historic Environment Record (HER) within the 1 km Study Area. This may reflect a bias of recording in the relatively lower lying land to the west or may be a true reflection of historic settlement pattern, with river valleys and fertile land being preferred for long term settlement and activity over higher and less productive ground.

8.4.12. The NRHE and HER record eight (Assets 24-29 & 31) post-medieval heritage assets reflective of a crofting, agricultural landscape along the Allt Bruchaig to the north-east of the Proposed Development Area. The HER records a 1942 aircraft crash site (Asset 58) to the east of the Proposed Development Area; a Whitley aircraft flew into the hill called 'Carn a Choire Moire'.

8.4.13. The Statistical Accounts of Scotland[73,74] note that game animals were prevalent in the uplands around the Proposed Development site and that cattle and sheep were also kept in the uplands with streams and burns being favoured.

8.4.14. A walkover survey of the Proposed Development site undertaken on the 19 and 20 May 2021 identified 21 modern shooting butts (Assets 33-48, 49-52, & 54-56); a mound formed at least partially of stones (Asset 32); a square cut into a hillside (Asset 31) which may be evidence of post-medieval livestock management; a marker stone (Asset 53); and a marker cairn (Asset 48). The results of the walkover survey likely reflect husbandry activities in the post-medieval period. They also reflect the modern use of the Proposed Development Area, which, as indicated by Ordnance Survey mapping, has been associated with shooting since at least the 1970's. It is likely that the above identified assets all relate to this activity in the Proposed Development Area. These remains are considered to be of Negligible to Low importance.

[72] HES. (2021). Balnespick Wind Farm, Highland Pre-Application Advice (historic environment baseline). Letter received 03/06/2021

[73] McBean, W. Rev. (1793). Moy and Dalarossie, County of Inverness, Old Statistical Account Volume VIII. [Online] Available at: https://stataccscot.edina.ac.uk/static/statacc/dist/viewer/osa-vol8-Parish_record_for_Moy_and_Dalarossie_in_the_county_of_Inverness_in_volume_8_of_account_1/ [Accessed 25/10/2022]

[74] McLauchlan, J. Rev. (1845). Moy and Dalarossie, County of Inverness, New Statistical Account of Scotland, Volume XIV. [Online] Available at: https://stataccscot.edina.ac.uk/static/statacc/dist/viewer/nsa-vol14-Parish_record_for_Moy_and_Dalarossie_in_the_county_of_Inverness_in_volume_14_of_account_2/ [Accessed 25/10/2022]

8.4.15. The walkover survey also identified tree remains within the peat, which were noted as being particularly prevalent within the northern portion of the Proposed Development site. The peat and indeed any preserved tree remains buried within the peat within the Proposed Development Area have the potential to provide additional information on the past environment and vegetational history in and around the Proposed Development site. As peat can also mask archaeological remains, the possibility that hitherto unknown heritage assets and/or paleoenvironmental remains survive within the Proposed Development site cannot be discounted.

8.4.16. No previous archaeological investigations (Events) have been identified by either the NRHE or the HER within 1 km of the Proposed Development.

8.5. Assessment Methodology

8.5.1. The assessment will establish the historic baseline for the site. Baseline data will be collated from the following sources:

- The NRHE as held by HES;
- The HER as supplied by Highland Council;
- National Library of Scotland (NLS) for published historic and Ordnance Survey maps;
- National Collection of Aerial Photography (NCAP) as held by HES for vertical and oblique aerial photographs;
- Published archival and online sources;
- British Geological Survey (BGS) for underlying bedrock and superficial deposit data and the location and transcripts of historic boreholes;
- Scottish Palaeoecological Archive Database (SPAD) for information regarding the palaeoecological and paleoenvironmental potential of the Site and surrounding landscape;
- Historic Land-Use Assessment Data for Scotland (HLAMap);
- Available client supplied data about the Proposed Development Area;
- LiDAR data and imagery as held by the Scottish Remote Sensing Portal;
- A walkover survey of the Proposed Development Area; and
- Setting assessment visits to designated assets within the ZTV with the potential to be impacted by the Proposed Development.

Impact Assessment

8.5.2. The EIA Report chapter will fully describe the baseline historic environment conditions and will assess the potential for direct impacts upon known heritage assets within the Proposed Development site, as well as outlining the potential for hitherto unknown buried remains to survive within the Proposed Development site, and thus potentially be impacted upon.

8.5.3. The assessment will distinguish between the term 'impact' and 'effect'. An impact is defined as a physical change to a heritage asset or its setting,

whereas an effect refers to the significance of this impact. The first stage of the assessment will involve establishing the importance of the heritage asset and assessing the sensitivity of the asset to change (impact). An assessment of the impact magnitude will be made, and a judgement regarding the level and significance of effect will be arrived at.

8.5.4. The assessment will also consider the identified heritage assets in the outlined Study Areas which could be subject to potential impacts upon setting, including the potential for cumulative impacts via individual setting assessments.

8.5.5. The setting assessment will be undertaken with reference to HES's Managing Change Guidance on setting[75] and will aim to establish the current setting of the identified heritage assets, how that setting contributes to the understanding, appreciation, and experience of those assets, and how the Proposed Development could impact upon this.

8.5.6. The EIA Report chapter will be supported by a detailed Zone of Theoretical Visibility (ZTV) which will be used to identify assets intervisible with the Proposed Development. In addition, a review of designated heritage assets beyond the ZTV will be undertaken, and any designated heritage assets which are of higher relative sensitivity will be included in the assessment and subject to a detailed settings assessment and site visit.

8.5.7. Cumulative effects will also be considered. The assessment of cumulative effects on heritage assets will be based upon consideration of the effects of the Proposed Development on the settings of heritage assets, in addition to the likely effects of other operational/under construction, consented and proposed (at the application stage) wind farm schemes. Cumulative effects will be considered for designated assets as identified in the 5 km and 10 km Study Areas.

8.5.8. The assessment will take into account the relative scale (i.e. size and number of turbines) of the identified developments, their distance from the affected assets, and the potential degree of visibility of the various developments from the assets. Cumulative wirelines from those assets most likely to experience significant cumulative impacts on their settings will be provided, if appropriate.

8.5.9. The schemes to be included in the cumulative impact assessment will be those identified through the proposed consultations with Highland Council, HES and NatureScot (NS) and will be undertaken according to the guidance in NatureScot's Assessing the Cumulative Impact of Onshore Wind Energy

[75] Historic Environment Scotland (2020). Managing Change in the Historic Environment: Setting. [Online] Available at: https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=80b7c0a0-584b-4625-b1fd-a60b009c2549 [Accessed 24 October 2022]

Developments[76] and Historic Environment Scotland's Environmental Impact Assessment Handbook[77].

8.5.10. NPF4 indicates that development proposals affecting Scheduled Monuments will only be supported where '*significant adverse impacts on the integrity of setting of a scheduled monument are avoided*'[78]. Significant adverse impacts on integrity of setting will be judged to relate to whether a change would adversely affect the asset's key attributes or elements of setting which contribute to the asset's significance, to the extent that the setting of the asset can no longer be understood or appreciated. It is considered that a significant impact upon the integrity of the setting of an asset would only occur where the degree of change that would be represented by the Proposed Development would adversely alter those factors of the monument's setting that contribute to cultural significance such that the understanding, appreciation, and experience of an asset are not adequately retained.

8.5.11. In terms of effects upon the setting of heritage assets, it is considered that only those effects identified as 'significant' in EIA terms will have the potential to cause significant adverse impact upon integrity of setting. Where no EIA significant effect is found, it is considered that there would be no significant impact upon the integrity of an asset's setting. This is because for many assets, setting may make a limited contribution to their significance. As such, changes would not significantly impact the integrity of their settings.

8.5.12. Where EIA significant effects are found, a detailed assessment of adverse impacts upon integrity of setting will be made. Whilst non-significant effects are unlikely to significantly impact integrity of setting, the reverse is not always true. That is, the assessment of an effect as being 'significant' in EIA terms does not necessarily mean that the adverse effect to the asset's setting will significantly impact its integrity. The assessment of adverse impact upon the integrity of an asset's setting, where required, will be a qualitative one, and will largely depend upon whether the impact predicted would result in a major impediment to the ability to understand or appreciate the heritage asset.

Preliminary Consultation

8.5.13. Pre-application advice was sought from HES and The Highland Council Historic Environment Team (THCHET) in June 2021. HES responded to initial consultation on an earlier version of the Proposed Development on 3 June 2021 (Case ID 300051030). HES were consulted to obtain their initial opinion

[76] Scottish Natural Heritage (2012). Assessing the Cumulative Impact of Onshore Wind Energy Developments. [Online] Available at: https://www.nature.scot/sites/default/files/2017-09/Guidance%20note%20%20-%20Assessing%20the%20cumulative%20impact%20of%20onshore%20wind%20energy%20developments.pdf [Accessed 24 October 2022]

[77] Scottish Natural Heritage & Historic Environment Scotland (2018). Environmental Impact Assessment Handbook v5. [Online] Available at https://www.nature.scot/sites/default/files/2018-05/Publication%202018%20-%20Environmental%20Impact%20Assessment%20Handbook%20V5.pdf [Accessed 24 October 2022]

[78] Scottish Government (2023) National Planning Framework 4 Policy 7h(ii), 46 Online] Available at https://www.gov.scot/publications/national-planning-framework-4/ [Accessed 15th May 2023]

on the potential for significant effects of the Proposed Development upon cultural heritage assets within their remit. HES identified the following Scheduled Monuments to be of possible concern:

- Edinchat, Cairn 415m NNW of (Asset 5, SM11734) within the 5 km Study Area;
- Eilean Nan Clach, Crannog (Asset 2, SM11447), within the 10 km Study Area;
- Isle of Moy, Fortified Island and Laird's House (Asset 3, SM11446) within the 10 km Study Area;

8.5.14. Cultural heritage visualisations from these designated heritage assets will be produced to inform the assessment. The type of visualisation to be provided will be pre-agreed with HES and THCHET.

8.5.15. The potential for impacts of the Proposed Development on the setting of the Scheduled Lochindorb Castle (SM123), c. 10.85 km north-east of the Proposed Development was also highlighted by HES and this asset will be subject to a detailed setting assessment. This assessment will be supported by a cultural heritage visualisation which will illustrate how the Proposed Development will appear behind the castle, looking east-south-east across Lochindorb.

8.6. Standard Mitigation

8.6.1. National planning policies and planning guidance as well as the local planning policies require that account is taken of potential effects upon heritage assets by proposed developments and that, where possible, such effects are avoided. Where avoidance is not possible, these policies require that any significant effects are minimised or offset.

8.6.2. The Proposed Development will be designed, wherever possible, to avoid direct impacts on known heritage assets, including those identified by the NRHE and HER, and those identified during desk-based assessment and the walkover survey.

8.6.3. Given the presence of known heritage assets within the Proposed Development Area, and the potential for unknown buried archaeological remains to be present, a programme of archaeological works may be required. The exact scope and extent of any programme of archaeological works would be required to be agreed in advance by THCHET, archaeological advisors to The Highland Council.

8.6.4. The Proposed Development will be designed, where possible, to minimise impacts on the settings of designated heritage assets. If, despite minimisation through design, significant effects are still possible, appropriate additional

compensatory mitigation will be proposed. Mitigation could also include a programme of public benefit[79,80].

8.7. Potential Impacts

Direct Impacts

8.7.1. The Proposed Development has the potential to directly impact known heritage assets within the site. Non-designated heritage assets within the site boundary mainly date to the post-medieval and modern period and provide evidence of animal husbandry and shooting activities which are also documented in these periods.

8.7.2. A shooting butt (Asset 34) is located c. 10 m north-east of T11 and another shooting butt (Asset 33) is located c. 45 m south of T11 (Figure 8.2). A shooting butt (Asset 52) is recorded c. 45 m north of T12. As such, there is judged to be the potential for direct impacts on known heritage assets from the construction of T11 and T12. No further known heritage assets have been identified within 50 m of the proposed turbines. As such, no further direct impacts from the proposed turbines are anticipated at this stage.

8.7.3. The Proposed Development will be designed to avoid direct impacts wherever possible. In the event that heritage assets cannot be avoided by design, a robust programme of mitigation will be required. This programme may include the micro-siting of infrastructure and/or the fencing of heritage assets to prevent accidental incursion during construction.

8.7.4. There is the potential for hitherto unknown archaeological deposits and remains to survive within the Proposed Development Area. As such, the Proposed Development may have the potential to directly impact hitherto unknown archaeological remains. An appropriate programme of archaeological mitigation will be outlined within the EIA Report to ensure that any hitherto unknown remains are adequately recorded and protected.

Setting Impacts

8.7.5. The Proposed Development has the potential to impact upon the settings of heritage assets. There is also the potential for cumulative impacts on the settings of heritage assets.

8.7.6. There are no designated heritage assets within the Proposed Development site boundary or within the 1 km Study Area.

[79] CIfA (2021). Professional Practice Paper: Delivering Public Benefit. [Online] Available at: https://www.archaeologists.net/profession/publicbenefit/professionalexpectations [Accessed 24 October 2022]
[80] Historic Environment Scotland (HES). (2015). Scotland's Archaeology Strategy. [Online] Available at: http://archaeologystrategy.scot/ [Accessed 24 October 2022]

8.7.7. Between 1 km and 5 km from the Proposed Development Area there are:
- seven Scheduled Monuments (Assets 1, 5 & 10-14);
- six Category B Listed Buildings (Assets 17, 20-23 & 30); and
- two Category C Listed buildings (Assets 18 & 19).

8.7.8. Between 5km and 10 km from the Proposed Development Area there are:
- seven Scheduled Monuments (Assets 2-4, & 6-9); and
- two Category A Listed Buildings (Assets 15 & 16).

8.7.9. The Scheduled Lochindorb Castle (Asset 57) will be included in the assessment of the impact of the Proposed Development on the settings of designated heritage assets, as requested by HES.

8.7.10. A bare earth ZTV has been produced for this assessment. The ZTV indicates that six Scheduled Monuments (Assets 2, 3, 6, 7, 5, 10), two Category A Listed Buildings (Assets 15 & 16), and one Category C Listed Building (Asset 19) within the 10 km Study Area would have intervisibility with the Proposed Development. In addition, the Scheduled Lochindorb Castle (Asset 57) beyond the 10 km Study Area would have intervisibility with the Proposed Development.

8.7.11. All designated heritage assets within the ZTV will be subject to a detailed settings assessment, informed by a detailed ZTV, a site visit and where appropriate, visualisations including wirelines and photomontages. It is envisaged that, in addition to the visualisations requested by HES in their pre-application consultation, wirelines, including cumulative developments, will be produced from Dalarossie Cottage, cairn 375 m SSE of (Asset 6) and Woodend, cairn 760 m NW of (Asset 7) to the south-west of the Proposed Development. All visualisations will be agreed in advance with HES and THCHET. The assessment will be undertaken with reference to HES' setting guidance and will aim to establish the current setting of the identified heritage assets, how that setting contributes to the understanding, appreciation and experience of those assets, and how the Proposed Development could impact upon this.

8.7.12. The Category C Listed Moy, Bridge over Funlack Burn by Milton of Moy (Asset 19) is located in the valley of the Funlack Burn. An initial review of the characteristics of the setting of this Listed Building indicates that the Proposed Development would not impact the setting of the bridge, whose function is related to trade and communication routes, and thus this Listed Building will be scoped out of further assessment.

8.7.13. A preliminary review of designated heritage assets within the Study Areas outwith the ZTV has identified Assets 1, 4 and 11-14 as domestic and agricultural monuments. For each of these monuments, no locations have been identified where the Proposed Development would be likely to be seen backdropped in key views towards them and thus these assets will be scoped

out of further assessment. The two Category A Listed Buildings (Assets 15 & 16) between 5 km and 10 km from the Site are post-medieval bridges, and as such, their setting relates to their function and surrounding communication and transport routes. The Proposed Development will not feature in views towards these assets along the routes to which they relate and as such, these designated heritage assets have also been scoped out of further assessment.

8.8. Receptors and Impacts Scoped in or out of Assessment

8.8.1. Direct impacts on cultural heritage assets outwith the Core Area will be scoped out of the assessment.

8.8.2. Impacts on the settings of non-designated cultural heritage assets will be scoped out of the assessment as these assets are generally considered less sensitive to changes in their settings and are judged to be unlikely to be subject to significant settings effects. This will be confirmed with consultees.

8.8.3. An initial review of assets outwith the ZTV has been undertaken to identify any designated assets with key views towards them which may feature in the Proposed Development. No assets have been identified within this review. Therefore, designated assets falling outwith the ZTV will be scoped out of further assessment.

8.8.4. Impacts on the setting of the Category C Listed Moy, Bridge over Funlack Burn by Milton of Moy (Asset 19) will be scoped out of further assessment.

8.8.5. Impacts on the settings of heritage assets beyond 10 km of the Proposed Development Area, apart from Lochindorb Castle (Asset 57), will be scoped out, as most assets beyond that distance will be too distant to have their settings significantly adversely affected by the Proposed Development. This will be confirmed with consultees.

8.8.6. A detailed assessment of the cultural heritage effects of decommissioning the Proposed Development will be scoped out of the EIA because:

- the future baseline conditions (environmental and other developments) cannot be predicted accurately at this stage;
- the detailed proposals for decommissioning are not known at this stage; and
- the best practice decommissioning guidance methods will likely change during the lifetime of the Proposed Development.

8.9. Scoping Questions to Consultees

- Do consultees accept the proposed assessment methodology, including proposed Study Areas?
- Are the receptors and impacts scoped out of the assessment accepted by the consultees?
- Are there any additional assets beyond the proposed Study Areas that consultees would like to see scoped into the assessment?

- Are there any assets located outwith the ZTV that consultees would like to see scoped into the assessment?
- Are the proposed visualisations accepted by the consultees? And can the consultees indicate which form of visualisation would be acceptable?
- Are there any additional visualisations that the consultees would like to see included as part of the assessment?

9. Noise and Vibration

9.1. Introduction

9.1.1. This chapter considers the potentially significant effects of noise during the site preparation and construction, operation, and decommissioning phases of the Proposed Development which will require further consideration within the EIA Report.

9.1.2. This Scoping chapter sets out the key issues identified and proposes a method and standards for assessment of noise in the EIA Report.

9.1.3. Consultation with The Highland Council (THC) Environmental Health Officer (EHO) will be undertaken throughout the assessment process to agree the following:

- the status of identified potential Noise Sensitive Receptors (NSRs);
- the requirement to undertake a baseline noise survey and, if required, the location of representative noise monitoring positions;
- identification of potentially cumulative effects; and
- the derivation of appropriate ETSU noise limits, with apportionment for cumulative developments if appropriate.

9.2. Legislation, Policy and Guidance

9.2.1. The following documents will be referenced in the EIA Report chapter:

- The Working Group on Noise from Wind Turbines: The Assessment & Rating of Noise from Wind Farms (ETSU-R-97) (1996);
- Institute of Acoustics (IoA) (2013): A good practice guide to the application of ETSU-R-97 for wind turbine noise assessment (IoA GPG) and associated Supplementary Guidance Notes (SGS);
- British Standard (BS) 5228 (2009) + A1 (20214) Parts 1 and 2: Code of practice for noise and vibration control on construction and open sites; and
- The Control of Pollution Act (CoPA) 1974.

9.2.2. THC has its own noise-related requirements. These will also be considered in the EIA Report chapter and in the adoption of appropriate noise limits.

9.3. Study Area

9.3.1. The noise study area has been informed by preliminary modelling of the Proposed Development. The 35 dBLA90 noise contour is shown in Figure 9.1, for operation in isolation. A selection of representative NSRs is shown, but the final list of NSRs will be agreed with the EHO following a review of maps of the area, cumulative noise predictions and a site visit.

9.3.2. Following a review of the potential cumulative developments, if applicable, the study area will be extended beyond the 35 dBLA90 contour to consider NSRs at which the difference between the Proposed Development and cumulative schemes is less than 10 dB.

9.4. Baseline Description

9.4.1. A review of maps and arial images has identified that the Proposed Development site and surroundings comprise hillsides and fields, with the nearest roads being the A9, 4.5 km to the west of the Proposed Development and the B9007, 4.5 km to the east. The noise environment within the vicinity of the Proposed Development is therefore likely to be dominated by wind, wildlife and potentially livestock.

9.4.2. There are residential properties scattered along the banks of the river Findhorn, between 1 km and 3 km to the west of the Proposed Development. Due to closer proximity to the A9, the noise environment in the vicinity of these dwellings is likely to be characterised predominantly by road traffic during the daytime, and wind, wildlife etc. during the night-time. A review of THC renewables map has identified existing, in-planning, and consented wind turbines in the noise study area; however, these will be confirmed through direct consultation with the EHO.

9.5. Assessment Methodology

Aspects Scoped Out

9.5.1. The Applicant considers that construction noise impacts may be minimised by appropriate controls on working hours, specification of appropriate plant and methods and implementation of best practices. On this basis and given that the construction schedule is unlikely to be available at this stage, it is proposed to scope out prediction and evaluation of construction noise.

9.5.2. The Applicant will derive appropriate limits for construction noise from measured baseline data, in accordance with methods provided in BS5228. The limits will inform the Construction Environmental Management Plan (CEMP).

9.5.3. No significant sources of vibration are expected, and it is therefore proposed to scope out further consideration of vibration during the construction phase.

Should any blasting be required for the excavation of borrow pits, a blast vibration assessment will be undertaken following consent to determine the maximum blast parameters such that appropriate criteria are met at the closest NSRs.

Aspects Scoped In

9.5.4. The Applicant will consult directly with THC EHO to agree the detailed method of assessment, however, the general approach is outlined below.

9.5.5. The identity of the closest NSRs will be agreed and any NSRs with a financial involvement in an existing wind energy scheme established. Any relevant wind energy schemes that should be included in the cumulative assessment, whether in planning, consented or operational, will also be identified and agreed. Potentially cumulative developments will be excluded on the basis of a 10 dB difference in noise emissions at relevant NSRs, where this can be demonstrated through prediction. Initial predictive noise modelling indicates that cumulative effects may arise with the operational Tom-nan-Clach and proposed Lethen and Tom Na Clach Extension wind farms; locations at which cumulative effects may arise are shown in Figure 9.2.

9.5.6. Referring to Figure 9.1, there are no NSRs within the 35 dB noise contour for the Proposed Development operating in isolation., It is noted that, referring to Figure 9.2, the shaded areas which indicate where noise levels arising due to the Proposed Development and identified potentially cumulative developments are within 10 dB (and where cumulative effects may therefore occur) do not cover any NSRs. As such, the Applicant considers that a baseline noise survey will not be required, as the Proposed Development can meet the simplified ETSU limit of 35dB at all NSRs.

9.5.7. The assessment will consider consented noise limits at NSRs named in the noise assessments or planning conditions of existing/proposed potentially cumulative developments and will confirm whether the Proposed Development has a non-negligible contribution to overall noise levels at these properties. Should potential cumulative effects be identified at an NSR (i.e. predicted noise levels due to the Proposed Development are within 10 dB of other wind farms), then the apportionment of noise limits will be agreed in direct consultation with the EHO, and in accordance with the methods set out in the IoA GPG.

9.5.8. Should a baseline noise survey be required, it will be undertaken in accordance with the IoA GPG. Wind speed measurements will be collected, either at hub height or at a minimum of 75% of hub height and standardised to 10 m in accordance with the method provided in the IoA GPG. Micro-siting of the baseline survey locations will seek to exclude influence from non-representative noise sources such as plant, boiler flues, heat pumps, vegetation and any existing wind turbines. A record of the installation of

monitoring locations would be provided to the EHO for review following the commissioning visit.

9.5.9. Daytime and night-time operational noise limits across the range of critical wind speeds (typically 4 – 12 m/s) will be established at the closest identified NSRs in accordance with ETSU-R-97 and any specific requirements of THC. As noted above, it is expected that the Proposed Development will meet the simplified ETSU 35 dB noise limit, however, should apportionment of consented noise limits be required or baseline-derived noise limits be proposed, then a record of the data analysis will be provided to the EHO, detailing full details and rationale. Should a baseline survey be undertaken, noise limits will be applied at NSRs using monitoring locations as proxies. The approach to allocating proxy data to NSRs will be agreed with the EHO.

9.5.10. A candidate turbine will be selected for the Proposed Development, the noise emission details of which will be reproduced in the EIA Report chapter (A-weighted and octave band data) for critical wind speeds.

9.5.11. Noise levels will be predicted within noise modelling software CadnaA, in accordance with the ISO9613 method and the IoA GPG requirements. Corrections for concave topography and topographic screening corrections will be applied to predicted noise levels in accordance with the IoA GPG, where applicable. The two corrections will be assumed not to apply simultaneously, i.e. where topographic screening occurs, it will be assumed that concave topography corrections will not also apply.

9.5.12. Corrections for directivity may be applied within the cumulative assessment in accordance with the guidance set out in the IoA GPG, where appropriate, e.g., where NSRs lie between two developments and where simultaneous down-wind predictions are therefore overly conservative.

9.5.13. Predicted levels will be evaluated against proposed noise limits and the magnitude of impact and significance of effect determined accordingly. All residential NSRs will be assumed to be of high sensitivity. The sensitivity of any other type of receptor identified will be agreed with the EHO.

9.6. Standard Mitigation

9.6.1. It is anticipated that key controls for construction noise such as core hours of works would be imposed in consent conditions in accordance with the requirements of the EHO and that such controls would constitute effective mitigation measures.

9.6.2. Site-specific mitigation measures will be outlined to reflect the principles of Best Practicable Means, as set out in the Control of Pollution Act (CoPA) 1974. The purpose of these measures will be to reduce construction noise and, where relevant, vibration impacts insofar as is reasonably practicable.

9.6.3. Where predicted operational noise levels exceed the proposed noise limits at any wind speed, outline mitigation strategies will be proposed. Mitigation of operational noise, if required, may include an alternative selection of turbine, operating certain turbines in low noise modes under certain meteorological conditions, such as specific wind speeds and directions.

9.7. Potential Impacts

9.7.1. The Proposed Development will introduce new noise sources into the area, both during the construction and operational phases. Significant adverse effects can be prevented by restricting noise levels due to the Proposed Development to within noise limits determined in accordance with appropriate guidance, as detailed above.

9.8. Receptors and Impacts Scoped in or out of Assessment

9.8.1. As noted in Section 9.3, the occupational and sensitivity status of NSRs will be agreed directly with the EHO. Should any derelict properties fall within the study area, the necessity to consider these in the assessment this will be confirmed in consultation.

9.8.2. As noted in Section 9.5 it is proposed to scope out prediction of construction noise and vibration, however, appropriate noise limits will be identified.

9.8.3. Also noted in Section 9.5, areas where potential cumulative effects may arise have been predicted using modelling software CadnaA and no NSRs have been found within these areas. Furthermore, no NSRs have been found to lie within the predicted 35 dBLA90 contour, allowing the simplified ETSU-R-97 35 dB limit to be met at all identified NSRs. It is therefore proposed to scope out a baseline noise survey. This will be agreed with The Highland Council EHO.

9.9. Scoping Questions to Consultees

- Do consultees accept the proposed assessment methods and study area?
- Do consultees agree that construction noise and vibration can be scoped out of the assessment?
- Which potentially cumulative developments do consultees consider would require consideration?

10. Transport and Access

10.1. Introduction

10.1.1. This chapter covers the predicted transport and access issues that may arise from the construction of the Proposed Development, the significance of these effects and what suitable mitigation can be put in place to offset any adverse impacts.

10.1.2. The Transport and Access Chapter will be supported by a Transport Assessment report, Abnormal Load Route Survey and technical figures.

10.1.3. The key issues for consideration as part of the assessment will be:

- the temporary change in traffic flows and the resultant, temporary effects on the study network during the construction phase;
- the physical mitigation associated with the delivery of abnormal loads;
- the design of new access infrastructure; and
- the consideration of appropriate and practical mitigation measures to offset any temporary effects.

10.1.4. The potential effects of these will be examined in detail.

10.2. Legislation, Policy and Guidance

10.2.1. A Transport Assessment (TA) will be provided to review the impact of transport related matters associated with the Proposed Development. This will be appended to the EIA Report and will be summarised in a Transport and Access Chapter within the EIA Report.

10.2.2. The TA will include a detailed Route Survey Report as an appendix. This will detail the abnormal load access issues associated with the delivery route.

10.2.3. The following policy and guidance documents will be used to inform the Transport and Access Chapter:

- Transport Assessment Guidance (Transport Scotland, 2012);
- The Guidelines for the Environmental Assessment of Road Traffic (Institute of Environmental Assessment (IEA), 1993);
- The Highland Council Roads and Transport Guidelines for New Developments' guidelines (2013); and
- The Highland Council Transport Assessment guidelines (2014).

10.3. Study Area

10.3.1. There are two access routes for the Proposed Development, these being:

- Access Route 1 (for construction traffic and AIL): Access from the B9007, with access taken through Tom na Clach Wind Farm; or
- Access Route 2 (for operational access): Access from the Balvraid Road.

10.3.2. Both routes will be described in detail in the application.

10.3.3. Baseline traffic count data will be obtained from existing traffic data sources including the UK Department for Transport (DfT) database and from Traffic Scotland database. New Automatic Traffic Count (ATC) data may also be collected. The locations for survey data are based on the proposed access routes and may include the following:

Access Route 1:
- A9 to the north of Aviemore;
- A9 to the south of Aviemore;
- A95 to the west of Boat of Garten;
- A95 near Dulnanin Bridge;
- A938 in Dulnain Bridge; and
- B9007 in the vicinity of the site access junction.

Access Route 2:
- A9 to the north of Tomatin;
- A9 to the south of Tomatin;
- Tomatin Road; and
- Balvraid Road.

10.3.4. National Road Traffic Forecast (NRTF) Low Traffic Growth assumptions will be used to provide a common future year baseline to coincide with the expected construction traffic peak.

10.3.5. Traffic accident data would be obtained from Crashmap UK for the study network to inform the accident review for the immediate road study area. Three years' worth of data for the A938 and B9007 would be collated for Access Option 1. Similar data for the Tomatin Road and Balvraid Road will also be collected.

10.4. Baseline Description

10.4.1. It is proposed that all vehicular access during the construction phase will be capable of accommodating Abnormal Indivisible Loads (AIL). A detailed Route Survey Report will support the application and will identify the necessary access improvements that will be required to enable loads to access the site.

10.4.2. Local material sources will be used where feasible, and traffic will avoid impacting on local communities as far is possible.

10.4.3. The A9 dualling works will be considered for Access Route 2 and would be classed as committed development.

10.5. Assessment Methodology

10.5.1. The main transport impacts will be associated with the movement of general HGV traffic travelling to and from the Proposed Development Area during the construction phase of the Proposed Development.

10.5.2. The Guidelines for the Environmental Assessment of Road Traffic (IEMA 1993) set out a methodology for assessing potentially significant environmental effects. In accordance with this guidance, the scope of assessment will focus on:

- potential impacts (of changes in traffic flows) on local roads and the users of those roads; and
- potential impacts (of changes in traffic flows) on land uses and environmental resources fronting these roads, including the relevant occupiers and users.

10.5.3. The following rules taken from the guidance would be used as a screening process to define the scale and extent of the assessment:

- Rule 1: Include highway links where traffic flows are predicted to increase by more than 30% (or where the number of HGVs is predicted to increase by more than 30%); and
- Rule 2: Include any other specifically sensitive areas where traffic flows are predicted to increase by 10% or more.

10.5.4. Increases below these thresholds are generally considered to be insignificant given that daily variations in background traffic flow may fluctuate by this amount. Changes in traffic flow below this level predicted as a consequence of the Proposed Development will therefore be assumed to result in no discernible environmental impact and as such no further consideration will be given to the associated environment effects.

10.5.5. The estimated traffic generation of the Proposed Development will be compared with baseline traffic flows, obtained from existing traffic survey data, in order to determine the percentage increase in traffic.

10.5.6. Potentially significant environmental effects will then be assessed where the thresholds, as defined above, are exceeded. Suitable mitigation measures will be proposed, where appropriate.

10.5.7. Committed development traffic, i.e., traffic from proposals in the vicinity of the Proposed Development with planning consent, will be included in baseline traffic flows where traffic data for these schemes is considered significant and is publicly available. Developments that are at application stage or at scoping stage would not be included.

10.5.8. It is not anticipated that a full Transport Assessment will be required as these are not generally considered necessary for temporary construction works. A reduced scope Transport Assessment is therefore proposed.

10.5.9. Each turbine is likely to require between 11 and 14 abnormal loads to deliver the components to site. The components will be delivered on extendable trailers which will then be retracted to the size of a standard HGV for the return journey.

10.5.10. Detailed swept path analysis will be undertaken for the main constraint points on the route from the port of entry through to the site access junction, to demonstrate that the turbine components can be delivered to site and to identify any temporary road works which may be necessary.

10.6. Standard Mitigation

10.6.1. Standard mitigation measures that are likely to be included in the assessment are:

- production of a Construction Traffic Management Plan;
- the design of suitable access arrangements with full consideration given to the road safety of all road users;
- a Staff Sustainable Access Plan; and
- a Framework Abnormal Load Transport Management Plan.

10.6.2. Additional mitigation will be included should the assessment reveal criteria that are significant following the application of standard mitigation measures.

10.7. Potential Impacts

10.7.1. Potential impacts that may arise during the assessment may include the following for users of the road and those resident along the delivery routes:

- Severance;
- Driver delay;
- Pedestrian delay;
- Pedestrian amenity;
- Fear and intimidation; and
- Accidents and safety.

10.8. Receptors and Impacts Scoped in or out of Assessment

10.8.1. Traffic levels associated with the decommissioning phaseof the Proposed Development's life cycle will be less than those associated with the construction phase, as elements such as access junctions and associated items of infrastructure are likely to be retained on site following the decommissioning of

the turbine equipment. As such, the construction phase represents a worst-case assessment scenario.

10.8.2. Once operational, it is envisaged that the level of traffic associated with the Proposed Development would be minimal. Regular monthly or weekly visits would be made to the Proposed Development for maintenance checks. The vehicles used for these visits are likely to be 4x4 vehicles, and there may also be the occasional need for an HGV to access the Proposed Development for specific maintenance and/or repairs. It is considered that the effects of operational traffic would be negligible and therefore no detailed assessment of the operational phase of the Proposed Development is proposed.

10.8.3. The traffic generation levels associated with the decommissioning phase will be less than those associated with the development phase, as some elements such as access roads would be left in place on the site. As such, the construction phase is considered the worst-case assessment to review the impact on the study area. An assessment of the decommissioning phase would therefore not be undertaken, although a commitment to reviewing the impact of this phase would be made immediately prior to decommissioning works proceeding.

10.9. Scoping Questions to Consultees

10.9.1. Can the consultees please confirm:

- whether they agree that the proposed methodology is acceptable?
- whether they agree that the methods proposed for obtaining traffic flow data are acceptable?
- whether they agree that the use of Low National Road Traffic Forecasts (NRTF) is acceptable for the whole of the study?
- what developments consultees consider should be included as committed developments within the baseline traffic flows in the assessment, noting that these should have planning consent at the time of scoping?
- details of any upgrades or network changes that may be undertaken to the study area network within the next five years?

11. Socio-economics, Tourism and Recreation

11.1. Introduction

11.1.1. The socio-economics and tourism assessment will consider the potential land-use, socio-economic, reaction and tourism effects from the Proposed Development. This will include consideration of local tourism and recreation activity, employment generation and any indirect or induced effects from the Proposed Development.

11.2. Legislation, Policy and Guidance

11.2.1. There is no specific legislation or guidance available on the methods that should be used to assess the socio-economic impacts of a proposed onshore wind farm development. The proposed method has, however, been based on established best practice, including the method used in UK Government and industry reports on the sector. In particular, this assessment will draw from two studies by BiGGAR Economics on the UK onshore wind energy sector, a report published by RenewableUK and the Department for Energy and Climate Change (DECC) in 2012 on the direct and wider economic benefits of the onshore wind sector to the UK economy, and a subsequent update to this report published by RenewableUK in 2015. It will also draw on data gathered from the industry since those reports were published.

11.2.2. There is also no formal legislation or guidance on the methods that should be used to assess the effects that wind farm developments may have on general tourism and recreation interests. The proposed method will consider individual attractions and tourism facilities to assess if there could be any effects from the Proposed Development.

11.2.3. For recreational assets, guidance has been provided by NatureScot[81] (NS) (formerly Scottish Natural Heritage) on how to assess effects on recreational amenity and the approach outlined has been used. This takes into consideration a number of potential effects, including direct effect on facilities, such as limitation or restrictions on access, and effects on the intrinsic quality of the resources enjoyed by people. In general, this guidance would consider recreational and access impacts to potentially be significant where:

- there are permanent or long-term effects on the resources on which enjoyment of the natural heritage depends, in particular where facilities have been provided by NS or others under statutory powers;
- there is permanent or long-term change that would affect the integrity and long-term sustainable management of facilities which were provided by NS or others under statutory powers;

[81] Scottish Natural Heritage (2018) Environmental Impact Assessment Handbook

- there are recreational resources for open air recreation pursuits affected by the proposal which have more than local use or importance, especially if that importance is national in significance;
- there are major constraints on or improvements for access or accessibility to designated natural heritage sites]; and
- mitigation and/or compensatory or alternative recreational provision is considered to be inadequate.

11.2.4. Effects will be considered based on the guidance from Guidelines for Environmental Impact Assessment produced by the Institute of Environmental Management and Assessment (IEMA) in 2004 and the Environmental Impact Assessment Handbook published by NS in 2018.

11.2.5. The socio-economic and tourism assessment will also take account of relevant local and national policy objectives, including:

- Scotland's National Performance Framework;
- Scotland's National Strategy for Economic Transformation;
- Scotland Outlook 2030 (the national tourism strategy); and
- Relevant regional and local strategies, including Highlands and Islands Enterprise 2019-2022 Strategy (or updates to this strategy).

11.2.6. Any further strategies will be identified at the time of writing the EIA.

11.3. Study Area

11.3.1. The study areas of the assessment will be selected to meet the interests of key stakeholders. The assessment of economic impacts shall focus on the following study areas:

- Highland; and
- Scotland.

11.3.2. For land use, the study area will be the Proposed Development Area. For the recreation and tourism assessment, the study area will be a 15 km radius of the Proposed Development, consistent with previous research of the relationship between tourism and wind farm development (see Figure 11.1).

11.4. Baseline Description

11.4.1. The baseline assessment will include a description of the current socio-economic, recreation and tourism baseline within the study areas. The baseline study will cover:

- the demographic profile of the study areas within the context of national demographic trends;
- employment and economic activity in the study areas within the context of the national economy;

- the industrial structure of the study areas within the context of the national economy;
- wage levels within the study areas compared to the national level; and
- the role of the tourism sector in the local economy, with consideration of assets, including accommodation providers and public paths within the vicinity of the Proposed Development.

11.5. Assessment Methodology

11.5.1. Assessing the significance of effects will be based on assessing the sensitivity of an economy or tourism and recreation asset to change and then assessing the potential magnitude of change associated with the Proposed Development. When sensitivity and magnitude are combined, the significance of the effect will be assessed. Major and moderate effects will be considered significant in the context of the EIA Regulations.

11.5.2. In order to assess the magnitude of socio-economic impacts, the level of activity/employment supported during the construction and operation phases will be estimated.

11.5.3. Government and industry reports will be used to determine the expected capital and operational expenditure associated with the Proposed Development, as well as the breakdown of expenditure by different contracts (e.g. turbine, balance of plant). An assumption will then be made based on the share of each type of contract that can be secured locally and nationally. This increase in turnover will then be used to estimate the economic impact associated with the Proposed Development.

11.5.4. In order to assess effects on tourism and recreation assets, the features that make them distinctive and attractive, such as how they display local heritage, will be identified. The potential impact of the Proposed Development on those key features will then be assessed, with consideration of other chapters of the EIA Report, where relevant, to determine the magnitude of change.

11.6. Standard Mitigation

11.6.1. Proposed mitigation measures will depend on the findings of the assessment and potential effects identified.

11.7. Potential Impacts

11.7.1. The issues that will be considered in this assessment will include the potential socio-economic, tourism and recreation effects associated with the Proposed Development.

11.7.2. An economic impact analysis will be undertaken using the methodology developed by BiGGAR Economics, which has been used to assess over 140 onshore wind farms across the UK. The potential socio-economic effects that will be considered are:

- temporary effects on the local and national economy due to expenditure during the construction phase;
- permanent effects on the local and national economy due to expenditure associated with the ongoing operation and maintenance of the Proposed Development;
- permanent effects as a result of any additional public expenditure that could be supported by the additional tax revenue that would be generated by the development during the operational phase; and
- permanent effects on the local economy that could be supported by any community funding and/or shared ownership proposals during the operational phase of the Proposed Development.

11.7.3. The most recent research on onshore wind energy developments and the tourism sector has not found a link between tourism employment, visitor numbers and onshore wind development. For example, in 2021, BiGGAR Economics published a study that included 44 case studies of Scottish wind farms and found that there was no evidence of a relationship between the development of onshore wind farms and tourism employment at the level of the Scottish economy, at the local authority level, nor in the areas immediately surrounding wind farm developments.

11.7.4. Nevertheless, the tourism sector is an important contributor to the economy of Highland and so there is merit in considering whether the development will have any effect on the tourism sector. This assessment will consider the potential effects that the Proposed Development could have on tourism attractions, routes, trails, and local accommodation providers and consider the implications for the tourism sector in the local area.

11.8. Receptors and Impacts Scoped in or out of Assessment

11.8.1. There are no socio-economic, land use and tourism issues proposed for scoping out.

11.9. Scoping Questions to Consultees

11.9.1. Consultees are asked for suggestions on any socio-economic and tourism effects that should be specifically considered in the EIA Report.

12. Aviation and Radar

12.1. Introduction

12.1.1. This section provides an indication of the potential effects of the construction and operation of the Proposed Development on aviation. Further, it provides a summary of the full assessment methodology to be adopted and the key reference documents covering legislation, policy and guidance.

12.2. Legislation, Policy and Guidance

12.2.1. The Scottish Government's Onshore Wind Policy Statement 2022 states in Chapter 6, that wind turbines have the potential to impact aviation operations, including, but not limited to, impact on aviation radar.

12.2.2. The document recognises recent progress stating that, "Bespoke solutions which alleviated specific, individual objections have been deployed successfully over the last decade or more, releasing significant volumes of renewable generation. However, the pace of deployment necessitated by the climate emergency means we must find a way to alleviate these impacts in an effective, efficient and timely manner. It is also important that solutions are cognisant of the cost of deploying renewable energy, particularly given the need to focus on both security of supply and low-cost generation, given the current international and economic situation."

12.2.3. Beyond the above statement of need, the document sets out the structure and aims of Industry and Government groups set up to address the issues of radar impacts and aviation lighting; specifically the Onshore Wind Aviation Radar Delivery 2030 group and the Aviation Lighting Working Group.

12.2.4. The Aviation Lighting Working Group has developed draft guidance focussed on delivering consistent methods, practices and recommendations to aid in assessing aviation obstacle lighting impacts. The draft guidance is out to consultation with relevant stakeholders, with a final version expected to be published by the end of Q2 2023.

12.2.5. Planning Circular 2/2003, Safeguarding of Aerodromes, Technical Sites and Military Explosives Storage Areas, contains annexes which describe the formal process by which planning authorities should take into account safeguarding, including in relation to wind energy developments. As a statutory consultee, the Ministry of Defence (MOD) will be consulted through the Section 36 scoping application. The MOD publish a guidance document on www.gov.uk called 'Wind farms: MOD safeguarding', Updated 21 July 2021, which states that wind turbines can adversely affect a number of MOD operations including radars,

seismological recording equipment, communications facilities, naval operations and low flying. These effects are not limited to specific geographical areas.

12.2.6. The MOD wind energy team deals specifically with wind-related developments and processes planning applications and pre-application consultation requests for on- and offshore wind farm development The MOD wind energy team liaises with a broad range of experts to formulate a comprehensive MOD response. Where the MOD has concerns about a development the team will work with the Applicant to look for ways to mitigate them.

12.2.7. Civil Aviation Authority (CAA) CAP 393, The Air Navigation Order and Regulations, specifies the statutory requirements for the lighting of onshore wind turbines over 150 m tall.

12.2.8. CAA guidance, within CAP 764 (CAA Policy and Guidance on Wind Turbines), sets out recommended consultation and assessment criteria for the impacts of wind turbines on all aspects of civil aviation.

12.2.9. The CAA involvement in the Wind Farm Pre-Planning Consultation Process has ceased; CAP 764 now states that *"developers are required to undertake their own pre- planning assessment of potential civil aviation related issues" and that "it is incumbent upon the developer to liaise with the appropriate aviation stakeholder to discuss – and hopefully resolve or mitigate – aviation related concerns without requiring further CAA input*."

12.3. Study Area

12.3.1. The initial aviation impact assessment aims to exhaustively identify all potential issues and the associated stakeholders affected by the proposed development. This involves considering all military and civil aerodromes in the wider area within a circa 60 km radius, all radar installations out to the limit of their range, all navigational aids and air-ground-air communications stations to the limit of their safeguarding and low flying activities in the airspace above and around the Proposed Development Area.

12.4. Baseline Description

12.4.1. The Proposed Development Area is not in highly sensitive airspace, lying under uncontrolled airspace and just beyond the limits of the lower airspace airway N560, connecting Inverness and the north to the Scottish Terminal Area.

12.4.2. The site is located 23 km south of Inverness Airport, and it is therefore important to assess all potential impacts here. RAF Lossiemouth is over 50 km to the north-east and only radar impacts are of potential concern to this facility at this range.

12.4.3. A radar impact assessment has determined that the Proposed Development is highly unlikely to affect any of the sensitive radar in the area; specifically Inverness approach radar, RAF Lossiemouth ATC radar, RAF Buchan Air Defence radar and the NATS En-route radars at Allanshill and Perwinnes.

12.4.4. The Proposed Development Area is beyond the safeguarding limits for all air-ground-air radio communication stations and for all navigational aids.

12.4.5. Because the proposed turbines are over 150 m tall, visible spectrum obstacle lighting will be required in addition to Infra-Red lighting to mitigate impacts to night-time military low flying activities.

12.5. Assessment Methodology

12.5.1. The acceptability of the Proposed Development, in terms of net effects on aviation related interests, will be established through direct consultation with all relevant stakeholders within the consenting process. Principal stakeholders in this case are Highlands and Islands Airports Ltd, NATS and the MOD. The initial task is to independently assess the potential effects and, where significant effects may occur, to design the Proposed Development to minimise those impacts and as required, to enter a dialogue with the affected stakeholders. The initial assessment will include a review of the following:

- Airspace environment
- Proximity to all aerodromes
- Airspace class - Proximity to Air Traffic Service routes
- Transponder Mandatory Zones, Areas of Intense Aerial Activity, Control Areas, restricted areas etc
- Proximity to military training areas

- Checks for physical obstruction
- through an infringement of obstacle limitation surfaces
- potential for penetration of Instrument Flight Procedure safeguarding surfaces

- Radar Line of Sight analysis for the following radars
- NATS En-Route primary and secondary radar
- Civil and military aerodrome air traffic control radar
- Military precision approach radar
- Military Air Defence radar
- Weather radar

- Proximity to other technical sites
- Navigational aids such as beacons
- Air-ground-air communication stations operated by NATS En-Route

12.5.2. Where impacts are of concern additional analysis may be required and, where impacts are deemed unacceptable, mitigation solutions identified and explored

with the goal of reducing impacts to acceptable levels. While the aim of this dialogue is to enable the approval of all stakeholders before full submission of the Section 36 application, this is not always possible. In the case of impacts, typically solutions are identified but do not reach full maturity in terms of the assessment by the stakeholders and the contracting of mitigation (where required) until after full planning applications have been submitted.

12.6. Standard Mitigation

12.6.1. Impacts on low flying will be mitigated with aviation obstruction lighting on some turbines, operating from dusk until dawn.

12.6.2. Infra-Red lighting will be fitted on all turbines to mitigate impacts to military low flying.

12.7. Potential Impacts

12.7.1. The Proposed Development is not expected to have any impacts on sensitive radar in the area, air-ground-air radio stations or navigational aids. It will be necessary to conduct an Inverness Airport Instrument Flight Procedure impact assessment, through a CAA Approved Design Organisation, before the potential impacts on this facility can be fully determined.

12.8. Receptors and Impacts Scoped in or out of Assessment

12.8.1. There are no aviation issues proposed for scoping out.

12.9. Scoping Questions to Consultees

12.9.1. Are the consultees satisfied with the scope of assessment and proposed mitigation measures?

13. Telecommunications

13.1. Introduction

13.1.1. This section considers potential issues associated with telecommunications as a result of the Proposed Development during construction, operation and decommissioning phases.

13.2. Legislation, Policy and Guidance

13.2.1. The below relevant legislation, policy and guidance will be used to inform the telecommunication assessment.

- Wireless Telegraphy Act 2006;
- Inner Moray Firth- Local Development Plan (THC, 2015);
- The Highland-wide Development Plan Onshore Wind Energy Supplementary Guidance (THC, 2016) and Addendum Supplementary Guidance: Part 2b (THC, 2017);
- Planning Advice Note: PAN 62 Radio Telecommunications (Scottish Government, 2001b); and
- Tall structures and their impact on broadcast and other wireless services (Ofcom, 2009).

13.3. Study Area

13.3.1. The area of interest relating to telecommunications will be determined by considering all television transmitters and communication links within the region and identifying those receptors which could be impacted by the Proposed Development.

13.4. Baseline Description

Telecommunication

13.4.1. There are no telecommunication links located within the site. The nearest telecommunication link is located approximately 3 km to the west of the site.

Television

13.4.2. The closest television transmitters are the Tomatin and Grantown transmitters. The Tomatin Transmitter is located approximately 3.5 km west of the Proposed Development Area, and the Grantown transmitter is located approximately 11.5 km east of the Proposed Development Area.

13.5. Assessment Methodology

Telecommunications

13.5.1. The acceptability of the Proposed Development, in terms of its effects on telecommunications, will be established through direct consultation with all appropriate consultees within the consenting process, namely Airwave Solution, Arqiva, Atkins, BT, EE JRC, Spectrum Licensing and Vodafone.

13.5.2. The proposed turbine locations will be designed to take into account the minimum separation distance from the identified communication link.

Television

13.5.3. The Grantown and Tomatin transmitters have switched to digital transmission only. Currently, there is no widely accepted method of determining the potential effects of turbines on digital television reception; however, digital television signals are better at coping with signal reflections and do not suffer from ghosting that may occur with analogue signals.

13.5.4. To date, there are very few cases of turbine interference with digital television reception post-digital switchover. Given the strength of the digital signal in the area and the inherently resilient nature of digital television reception, there is considered to be a low risk of any interference from a wind energy development at this location on domestic television reception.

13.5.5. Due to the low risk of interference with television reception, the requirement to address any reception issues once the Proposed Development is operational could be conditioned in any consent granted. For the above reasons, it is not proposed to carry out a detailed assessment of potential effects on television reception and this topic will therefore be scoped out of further assessment.

13.6. Standard Mitigation

13.6.1. Mitigation of impact on telecommunications links will be by design where possible, i.e., the turbines will be sited outside the minimum separation distance from identified communication link(s). Where this is not possible, any other suitable mitigation measures will be discussed and agreed with link operators.

13.7. Potential Impacts

13.7.1. If turbines are not sited outside prescribed buffer zones, there is potential for the Proposed Development, once operational, to have an impact on telecommunications links.

13.7.2. No impacts are anticipated during construction or decommissioning.

13.8. Receptors and Impacts Scoped in or out of Assessment

13.8.1. Table 13.1 below summarises the potential impacts proposed to be scoped in and out of the EIA Report.

Table 13.1 Receptors and Impacts Scoped In and Out

Potential impacts/receptors	Construction	Operation	Decommissioning
Telecommunications	X	✓	X
Television	X	X	X

13.9. Scoping Questions to Consultees

13.9.1. The questions below are for consultees regarding the information provided in this Scoping chapter, for which it would be useful to receive feedback. Not all questions will be relevant to all consultees; therefore, we request that consultees provide feedback only on those questions appropriate to them. The questions should not be considered an exhaustive list, and consequently consultees are welcome to provide feedback on any issue they consider relevant to the Proposed Development. If consultees elect not to respond, the Applicant will assume that consultees are satisfied with the approach adopted/proposed.

- Do consultees agree to the above methodology?
- Do consultees have any comments regarding those receptors which may be subject to significant effects from the Proposed Development?

14. Shadow Flicker

14.1. Introduction

14.1.1. This section considers shadow flicker, which is an effect caused by the rotation of the turbine blades when the sun is shining, which can create a flickering or strobe-like effect. It can be distracting and disturbing for people who are affected. Effects usually occur when the frequency of the flicker is less than 1.5 Hz.

14.2. Legislation, Policy and Guidance

14.2.1. There are at present no formal guidelines available on what exposure would be acceptable in relation to shadow flicker. There is no standard for the assessment of shadow flicker. The specific advice sheet from Scottish Government, Onshore Wind Turbines, a web-based guide (Scottish Government, 2014) sets out the potential geographic area which may fall under assessment: "*Where this (shadow flicker) could be a problem, developers should provide calculations to quantify effect. In most cases however, where separation is provided between turbines and nearby dwellings (as a general rule ten rotor diameters), 'shadow flicker' should not be a problem.*"

14.2.2. Published research by the Department of Energy and Climate Change (DECC), Update of UK Shadow Flicker Evidence Base (DECC, 2011), evaluates the current international understanding of shadow flicker and confirms an acceptable study area for assessment is ten rotor diameters from each turbine and within 130 degrees either side of north. Given the northern latitudes of the Scottish Highlands, the Highland Council Onshore Wind Energy Supplementary Guidance (November 2016) states that an 11-rotor diameter study area should be used to assess the potential for shadow flicker on regularly occupied buildings.

14.3. Baseline Description

14.3.1. As detailed above the shadow flicker study area includes the area within a distance of 11 times the rotor diameter and 130 degrees either side of north for each turbine. No properties with the potential to be affected by shadow flicker have been identified within the 11 rotor diameters of the current turbine layout.

14.3.2. Shadow flicker only occurs during the operational phase of a wind farm and as no properties are within 11 rotor diameters of a wind turbine, no potential impacts are anticipated as a consequence of the operation of the Proposed Development.

14.3.3. If required, the Applicant will implement a shadow flicker protocol during construction to mitigate shadow flicker impacts.

14.3.4. It is therefore proposed to scope out shadow flicker from the EIA.

14.4. Scoping Questions to Consultees

14.4.1. The questions below are for consultees regarding the information provided in this Scoping chapter, for which it would be useful to receive feedback. Not all questions will be relevant to all consultees; therefore, we request that consultees provide feedback only on those questions appropriate to them. The questions should not be considered an exhaustive list, and consequently consultees are welcome to provide feedback on any issue they consider relevant to the Proposed Development. If consultees elect not to respond, the Applicant will assume that consultees are satisfied with the approach adopted/proposed.

- Do consultees agree that shadow flicker impacts can be scoped out of the assessment?

15. Summary

15.1.1. This EIA Scoping Report outlines the proposed technical and environmental assessments that will be included within the EIA 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.

Appendix 1.1 Scoping Consultee List

Table A1: List of consultees and interested stakeholders consulted as part of the Scoping process.

Organisation	Organisation
Aberdeen Airport	John Muir Trust
British Horse Society	Joint Radio Company
BT	Local District Salmon Fisheries Board
Cairngorms National Park Authority	Local Fisheries Trust Scotland
Carrbridge Community Council	Mountaineering Scotland
Cawdor and West Nairnshire Community Council	NATS Safeguarding
Civil Aviation Authority - Airspace	NatureScot
Crown Estate Scotland	RSPB Scotland
Defence Infrastructure Organisation	Scottish Forestry
Dulnain Bridge Community Council	Scottish Water
Defence Infrastructure Organisation	ScotWays
East Nairnshire Community Organisation	Scottish Environment Protection Agency (SEPA)
Edinburgh Airport	Strathdearn Community Council
Glasgow Airport	The Highland Council
Glasgow Prestwick Airport	Transport Scotland
Highlands & Islands Airport Limited (HIAL)	Visit Scotland
Historic Environment Scotland	

Appendix 2.1 Turbine Specifications

The indicative turbine locations and specifications are noted in Table A2 below.

Table 2.1 Proposed Indicative Turbine Co-ordinates (BNG), Hub Heights and Tip Heights

Turbine Number	X Co-ordinate	Y Co-ordinate	Hub Height (m)	Tip Height (m)
1	285996	830062	119	200
2	286671	830433	119	200
3	286317	829571	119	200
4	286993	829886	119	200
5	286590	829209	119	200
6	286935	828887	119	200
7	287428	829645	119	200
8	287527	828718	119	200
9	287602	829228	119	200

Appendix 8.1 Gazetteer of Heritage Assets

Appendix 8.1: Gazetteer of Heritage Assets

Asset/Event Number	1
Asset/Event Name	Alltlaoigh, farmstead 1990m NE of Cnapan a' Choire Odhair Bhig
Type of Asset/Event	Secular: settlement, including deserted and depopulated and townships
NRHE Number	NH93SW 6
HER Number	
Status	Scheduled Monument
Easting	292226
Northing	832909
Parish	Ardclach
Council	Highland
Description	SM11878 Canmore ID: 15481 Description The monument comprises a post-medieval rural settlement, visible as upstanding ruins. It lies in moorland on the W bank of the tributary Allt Laoigh (meaning 'Brook of the Calf'), approximately 1.5km NW of Loch Ille Mhor, at around 350m above sea level. The monument consists of five structures (one of which is a kiln barn) and an enclosure. The kiln barn is to the N of the complex and is orientated NNW-SSE. It measures 17.5m by 4.5m and has an internal partition to the NNW and a kiln to the SSE. The internal partition creates a small room that measures approximately 4.5m by 4.5m. The kiln bowl has an internal diameter of 2.7m and is 0.58m in depth, while the kiln walls measure approximately 1m in width at the top. The second structure consists of coarsely built wall-footings, is rectangular and measures 12.5m by 4.8m. The walls are approximately 1m wide. The third structure, is orientated NE-SW, and measures 17.5m by 5m. It includes identifiable architectural features such as internal walls, door lintels, cruck-frame slots, a bedneuk and niche. This structure is very well preserved and the walls stand to a maximum height of 1.8m with a width of 0.7m. The fourth structure is also rectangular and consists of coarsely built wall footings. It is orientated NW-SE and measures 15m by 6m. The fifth structure is rectangular and measures 17m by 4.3m. The walls are 0.7m in width, stand to 0.5m high on average and consist of 3-4 courses. The structure has an internal wall partition 9m from the NE end and a possible entrance in the most southerly compartment on the NW wall. In general this structure is well built, although still coarser in build than the third structure. The enclosure is roughly rectangular with slightly curved walls. The monument is a later historic rural settlement in high rough pasture and moorland. The Ordnance Survey First Edition map dating to 1871-5 describes it as 'in ruins' at this time. It is therefore likely to date to the early 19th century. Although the remoteness of the location in an area where the elements would have been harsh may suggest that this was a temporary residence in summer months, the complexity of the structures indicates that it is likely that this was a permanent residence. The third structure was the main dwelling and was surrounded by barns and other working structures, such as the kiln barn and the livestock enclosure to the south. The fifth structure may have been a secondary residence. There is also evidence of a head dyke and possible rig and furrow in the surrounding landscape, which would suggest that the inhabitants of this small farmstead or croft grew crops as well as farmed livestock. It is likely that the kiln barn is a corn drying kiln, which would have been used to dry grain before grinding. The area to be scheduled is irregular shape on plan, to include the visible remains described above and an area around in which evidence for their construction and use is likely to survive, as shown in red on the accompanying map. Statement of National Importance Cultural Significance The monument's archaeological significance can be expressed as follows:

Intrinsic characteristics: This is a well-preserved later historic rural settlement with many of its architectural features intact. Many of its elements would add to our understanding of rural settlement in the late 18th and early 19th century. The monument also has the archaeological potential to add to our understanding of farming, housing construction, and general living conditions in the post-medieval period prior to the Clearances in the Highland region.
Contextual characteristics: This monument is representative of the way the majority of the rural population lived and worked in the late 18th and early 19th century and shows a type of settlement that is associated with upland dwelling, in a location that would be perceived today as unsustainable. The monument exemplifies a complex settlement pattern associated with historical influences such as land tenure and population growth. It has the potential to allow us to add to our understanding of the differing types of settlement pattern throughout upland, lowland and marginal areas. It allows us to understand how people in the 19th century worked within the limitations of the landscape and how they adapted to accommodate those limitations.
Associative characteristics: Changes in the political climate in the second half of the 19th century, such as the Highland Clearances and the Industrial Revolution, caused major population movement and meant that many of these types of rural dwellings became unoccupied during the late 19th century. The archaeological potential of the monument may add to our understanding of the abandonment of this type of rural settlement.

National Importance
The complexity and preservation of this site has the potential to add to our understanding of later historic rural settlement both in the Highlands and in wider Scotland. The retention of structural and architectural elements to a marked degree will provide information about how these settlements were constructed and how each element was important to surviving in an upland environment during this period. This type of settlement is integral to understanding how the landscape was used historically and how it was perceived by the people in the late 18th and early 19th century.

References:
RCAHMS, 1978, THE ARCHAEOLOGICAL SITES AND MONUMENTS OF NAIRN DISTRICT, HIGHLAND REGION, The Archaeological Sites and Monuments of Scotland Series No 5, Edinburgh: Society of Antiquaries of Scotland.

Asset/Event Number	2
Asset/Event Name	Eilean nan Clach, crannog
Type of Asset/Event	Prehistoric domestic and defensive: crannog, Secular: crannog (with post-prehistoric use)
NRHE Number	NH73SE 3
HER Number	
Status	Scheduled Monument
Easting	277700
Northing	834052
Parish	Moy And Dalarossie
Council	Highland
Description	SM11447 Canmore ID: 14137

Description
The monument comprises a crannog (an artificial island) at the S end of Loch Moy that is between 2700 and 1000 years old.
The crannog is composed of well-compacted stones, although 19th-century investigations recorded that the stone rested on wooden piles. On top of the island is a rough pile of stones, or cairn, approximately 1.2 m in diameter at its base, and 0.9 m high.

Since its last occupation, the surrounding loch has been drained and considerably lowered. A history of the loch, written in the 1790s, suggests that the crannog was entirely submerged at this time.
Traditionally, the crannog was associated with the administration of justice by the local lord/chief, who had his residence on another island in the loch, 120 m to the north. However, details of the traditions conflict. One says that the crannog was the site of the gallows where wrong-doers were executed, which may account for the cairn, although crannogs with small cairns built on them are a common occurrence. The second states that the accused had to wait for 24 hours on the crannog until judgement was passed, with the guilty facing the gallows at the southern end of the loch.
The area to be scheduled is circular on plan, centred on the crannog, to include the crannog and any associated archaeological deposits above and below the present water mark, as marked in red on the accompanying map.

Statement of National Importance
Cultural Significance

The monument's archaeological significance can be expressed as follows:

Intrinsic characteristics: The monument is a good example of a little understood monument form that was constructed throughout northern and western Scotland in later prehistory and the early medieval period, remaining in use into the 17th century. The preservation of timbers at the base of the crannog mound suggests that there is high potential for the preservation of other organic archaeological deposits associated with the crannog's original use and occupation. The high levels of preservation at this site indicates that it can inform future research into crannog construction techniques and has the potential to shed light on the past environs of the crannog and the socio-economic lifestyles of its inhabitants.
Contextual characteristics: Numerous crannogs have small cairns built upon their summits, the reason for this is, as yet, unknown, but the preservation of any example can only aid future understanding of this issue. Additionally, it is common for crannogs that were in use in the Middle Ages to be associated with early ecclesiastical sites, lordly residences and judiciary administration. This example lies to the S of an island lordly residence, cartographic evidence reveals a church with a 'kirk' place-name on the shore immediately to the W of the crannog, and it has traditional associations with being a place of confinement and/or execution. This monument has the potential to inform on an understanding of these associations and their place at the heart of medieval Gaelic/Highland lordships.

National Importance
The monument is of national importance because it is a fine and well-preserved example of a monument of its type. It has the potential to inform upon the methods and dating of crannog construction, as well as about the status and life style of the difference people that may have occupied the crannogs throughout later prehistory and/or the early historic period. Together with an understanding of its landscape setting and associated monument types, it can also expand our understanding of the role of crannogs in the administration of lordly practices throughout the medieval period, and later. The loss of this example would severely hinder our understanding of these issues.

References

Aerial photographs:
91/01/1/26, 1991, Monument and Castle. Highland Regional Council.

References:
ISSFC 1888, 'Excursion to Craggie and Loch Moy. Saturday 4th June 1881', TRANS INVERNESS SCI SOC FLD CLUB 2, 109.
Meldrum E A 1972, LOCH MOY AND ITS ISLANDS. HIGHLAND INDUSTRIES AT MOY HALL.
Stuart J 1868, 'Notice of a group of artifical islands in the Loch of Dowalton, Wigtonshire, and of other artificial islands or Crannogs throughout Scotland', PROC SOC ANTIQ SCOT, 1868, 18-20.

Asset/Event Number	3
Asset/Event Name	Isle of Moy, fortified island and laird's house
Type of Asset/Event	Secular: castle; crannog (with post-prehistoric use); domestic buildings; house; monument
NRHE Number	NH73SE 2
HER Number	
Status	Scheduled Monument
Easting	277581
Northing	834333
Parish	Moy And Dalarossie
Council	Highland
Description	SM11446 Canmore ID: 14136 Description The monument comprises a largely artificial island in Loch Moy which was fortified, probably during the Middle Ages and which, by the 17th century, supported a laird's house along with a considerable number of service buildings. The island also supports a B-listed obelisk (HBNUM 14889). Since its last occupation, the surrounding loch has been drained and considerably lowered, and much of the island is covered in low vegetation and trees. The draining of the loch has exposed the natural rise of what was once the loch bed and that may have formed a small natural island with gently sloping sides. The higher elements of the island have been heavily modified, with near vertical edges steeply rising around the circumference of the interior. The interior was divided into two parts that a raised walkway, now 0.6 m high and almost 2 m across, perhaps initially separated and linked. In places a 0.3 m high, 1 m wide lip is visible around the circumference of the level surface of the interior, indicating that this once formed an outer ring-work or castellated wall. The enclosure wall may be contemporary with occupation attributed to the site in the 14th century by oral historical tradition, recorded in the late 18th century, both locally and in Moidart, linking the 'Isle' or 'Castle' to the chiefs of the Mackintosh lineage/Clann Mac an Tiosich. Written evidence for the site's occupation belongs to the 17th century when a number of documents were signed on the island. In the 1790s, a local writer and the Old Statistical Account record almost verbatim passages. These describe the island as comprising an abandoned house containing four fire-rooms, the remains of a street running the length of the island with the foundations of buildings visible on either side, and a garden with a gate bearing an inscription dating its construction to Lachlan, the 20th Laird of Mackintosh, in 1665. The gate no longer survives, but the ruined remains of the house remain on the southern half of the island. The S gable still stands to 2.7 m in height, indicating a multi-storeyed dwelling, with mortared walls 1 m thick and an interior measuring 15.75 m long from N to S, by 4.65 m transversely. Much of the interior is now infilled with rubble. A drystone structure, measuring 6 m by 4.5 m, has been built onto the southern end. Only the footings of some of the external buildings remain at the southern end of the S island. Cartographic evidence, provided by Robert Gordon and General Roy, additionally indicates occupation of the island in the 17th and mid-18th centuries. Much of the northern and central area of the southern island has subsequently been capped by a 0.3 m deep layer of concreted pebbles, associated with the construction of the large early 19th-century obelisk. A well-built causeway/boat noost, with iron rings inserted into it, extending to the W of the southern island may also belong to this phase. With the exception of the raised walkway, no remains are visible through the undergrowth on the northern island. The area to be scheduled is irregular polygon on plan, to cover the whole surface of the island, its associated structures and archaeological deposits, as marked in red on the accompanying map. The scheduling excludes the above-ground elements of the B-listed obelisk. Statement of National Importance Cultural Significance

The monument's archaeological and historical significance can be expressed as follows:

Intrinsic characteristics: The well-preserved structural remains chart developments in the dwelling patterns and architectural styles employed by the upper strata of Gaelic/Highland society, from the construction of modified islands, to a castellated monument form resembling a motte-and-bailey, and eventually a more genteel domestic dwelling with a range of supporting outbuildings. The draining of the loch means that there is little likelihood of the preservation of waterlogged deposits at the surface of the island, and in parts this will be exacerbated by the growth of trees. However, the lower portions are likely to remain waterlogged, and the build up of deposits over numerous phases of occupation means that there is a high potential for well-preserved structural, environmental and other archaeological deposits to have survived. This evidence can provide essential information for the future study of the status, life-style and consumption patterns of the island's occupants and for how they lived in and interacted with the communities and environments within the surrounding landscape.

Contextual characteristics: These types of monument sit at the centre of medieval and post-medieval Gaelic/Highland lordships. This example has the potential to inform future research into the mechanics of those lordships. In particular, it can tell us about how people might use island occupation to fulfil a multitude of roles, including display, defence and domesticity, and to demonstrate reclusiveness or accessibility. Developments at this site can therefore illuminate changes in the practice of lordship in this region, as well as its cultural and architectural accoutrements. This lordship sat on the border between the Highlands and the Lowlands, each with differing cultural concepts of society, religion and politics. Central Highland lordships were also very different in practice from those Gaelic lordships further N and W. Study of this monument, when compared with those from elsewhere, has the potential to reveal much about the interactions of these spheres of Scottish society.

Associative characteristics: The later stages of occupation on this island reveal how Highland lairds in the 1600s and 1700s were adopting Lowland architectural styles and practices, such as building gardens.

National Importance
The monument is of national importance because it is a fine example of monument of its type, reflecting changes in the practice of Gaelic/Highland lordship. This includes developments in the architectural styles employed to demonstrate the cultural and social position of the social elite during the transformation of the heads of the Clann Mac an Toisich/Mackenzies from lords to chiefs and eventually lairds. The likelihood of preserved archaeological and environmental remains has the potential to support and sustain future research into life, society and culture in this part of the Highlands. Differences between this monument and others of a similar type elsewhere in the Highlands and the rest of Scotland can reveal much about the local and wider social, political and cultural interactions between lords in this region, fellow Gaels and Lowlanders. The loss of this example would severely hinder our understanding of these issues.

References

Aerial photographs:
91/01/1/01, 1991, Castle (remains of) and monument. Highland Regional Council.
91/01/1/02, 1991, Castle (remains of) and monument. Highland Regional Council.
91/01/1/26, 1991, Monument and Castle. Highland Regional Council.

References:
ISSFC 1888, 'Excursion to Craggie and Loch Moy. Saturday 4th June 1881', TRANS INVERNESS SCI SOC FLD CLUB 2, 109.
Meldrum E A 1972, LOCH MOY AND ITS ISLANDS. HIGHLAND INDUSTRIES AT MOY HALL.
Stuart J 1868, 'Notice of a group of artifical islands in the Loch of Dowalton, Wigtonshire, and of other artificial islands or Crannogs throughout Scotland', PROC SOC ANTIQ SCOT, 1868, 18-20.

Asset/Event Number	4
Asset/Event Name	Inverlaidnan Old House
Type of Asset/Event	Secular: house
NRHE Number	NH82SE 5
HER Number	
Status	Scheduled Monument
Easting	286195
Northing	821448
Parish	Duthil And Rothiemurchus
Council	Highland
Description	SM10481 Canmore ID: 14968 Description The monument comprises the upstanding ruins of Inverlaidnan Old House, an 18th-century laird's house, located in a shallow valley, 350m SW of the confluence of the Allt an Aonaich burn and the River Dulnain, at about 300m OD. The house was built almost certainly by John Grant of Dalrachney sometime between 1717 and his death in 1736. He was succeeded by his son, Alexander, but the house was extensively damaged by fire in 1739. It was rebuilt by 1746, when Bonnie Prince Charlie is thought to have stayed there one February night. The Grants continued to occupy the house for some time thereafter, but, by 1851, the roof of 'the old house of Inverlaidnan' had fallen in. The remains today consist principally of the W and N walls of the house, which stand to full height, and the E and N corners of the S elevation. The outbuildings survive as turf-covered footings and the enclosure as a substantial bank, in parts spread to 3m across, and ditched along its W side. The laird's house was originally rectangular in plan, of two storeys and garret, and aligned N-S with subsidiary buildings to its E. The house measures about 16m N-S by 11.5m E-W over walls about 0.9m thick. The original entrance was located probably midway along the E elevation; at a later date a doorway was inserted at the N end of this same elevation. Each floor would have been two rooms deep with a stairway located centrally along the W elevation. Windows were positioned between the flues at attic level on the end gables and two small fireplaces would have provided warmth to each of the four principal rooms on the first floor. The large W-facing first floor windows had inner relieving arches behind their lintels. The house and outbuildings stood in the centre of a walled enclosure which measures approximately 65m N-S by 40m E-W over all. One of the outbuildings probably housed the kitchen. Evidence of some re-building survives, in particular at the NW corner. The area proposed for scheduling comprises the remains described and an area around them within which related material may be expected to survive. It is rectilinear on plan with maximum dimensions of 79m N-S by 54m W-E, as marked in red on the accompanying map. Statement of National Importance The monument is of national importance as a good example of the layout and architecture of a type of monument about which little is presently known. Its importance is enhanced by its potential, together with the contemporary documentary sources available, to improve our understanding of the social structure and culture of landed families in the 18th century. Given its early abandonment and lack of later disturbance, the monument also has high archaeological potential. References Blaikie, W. B. (1897) Itinerary of Prince Charles Edward Stuart, Scottish History Society, reprinted 1975, 39. Fraser, W. (1883) The Chiefs of Grant, Vol. 1, 505, and 526-527. Mac William, H. D. (1927) Letters of Patrick Grant, Lord Elchies with Memoir, etc., 94, 103, and

225.
The Seafield Estate Papers, National Archives of Scotland, GD248/170/3 and GD248/38/1.

Asset/Event Number	5
Asset/Event Name	Edinchat, cairn 415m NNW of
Type of Asset/Event	Prehistoric ritual and funerary: cairn (type uncertain)
NRHE Number	NH83SW 4
HER Number	
Status	Scheduled Monument
Easting	281665
Northing	831177
Parish	Moy And Dalarossie
Council	Highland
Description	SM11734 Canmore ID: 14992

Description
The monument comprises a cairn situated on the summit of a small hill in a field of rough grazing 415m NNW of the buildings at Edinchat.
The circular cairn measures approximately 9m in diameter and, in its denuded condition, it stands about 0.4m high. The centre of the cairn appears to be undisturbed. A modern marker cairn has been built on top of the monument.
The area to be scheduled is circular on plan, centred on the middle of the cairn at NH 81664 31177, to include the visible remains of the cairn and an area around it within which evidence relating to its construction and use may survive, as shown in red on the accompanying map. The scheduling excludes the modern marker cairn situated on top of the monument.

Statement of National Importance
Cultural Significance

The monument's archaeological significance can be expressed as follows:

Intrinsic characteristics: Although the cairn is denuded and does not retain distinct field characteristics, it appears undisturbed. It therefore retains high potential for the preservation of archaeological evidence to enhance our understanding of Bronze Age funerary practices. Capacity exists for deposits relating to the prehistoric environment to be present; a buried soil would reveal important details about the environment during which the cairn was constructed. A lack of intensive landuse combined with an awareness of the monument appears to have benefited the cairn's survival.

Contextual characteristics: Given the undisturbed nature of this cairn, the potential exists for the site to add value to the knowledge of the monument class as a whole. Comparing and contrasting the cairn to nearby Bronze Age funerary monuments can enable an understanding of how prehistoric people positioned such sites within the landscape, as well as provide contexts for identity and society.

Associative characteristics: The deliberate positioning of the monument, on a small hill with good views over the valley below, adds an aesthetic attribute to its overall significance.

National Importance: The monument is of national importance because it is a valuable example of a relatively undisturbed, although denuded, Bronze Age cairn. It has the potential to add to our understanding of the monument site type as a whole, as well as the relationship of this site to its class. Its loss would impede our ability to understand the placing of such

monuments within the landscape, as well as our knowledge of Bronze Age funerary rites.

References
Bibliography

RCAHMS record the site as NH83SW 4.

Asset/Event Number	6
Asset/Event Name	Dalarossie Cottage, cairn 375m SSE of
Type of Asset/Event	Prehistoric ritual and funerary: ring cairn; saucer barrow
NRHE Number	NH72SE 5
HER Number	
Status	Scheduled Monument
Easting	276718
Northing	824067
Parish	Moy And Dalarossie
Council	Highland
Description	SM11815 Canmore ID: 14097

Description
The monument is a ring cairn, a form of prehistoric burial mound. It is situated at a height of approximately 350m above sea level, in an area of rough grazing on a shelf overlooking the River Findhorn and Dalarossie Church.
The monument consists of a circular stony bank surviving up to 0.7m high, spread to an average of 3m wide and measuring approximately 18m in diameter overall. The bank encloses a slight central stony mound 8m in diameter and 0.3m high. There are traces of a possible break in the bank on the E side. No kerbstones are evident. The form of the monument bears comparison with other ring cairns, such as Weird Law in Peeblesshire, which provided a radiocarbon date of approximately 1500 BC. An interpretation as a more rare saucer cairn or barrow is, however, also a possibility.
The cairn lies on the N edge of a relic field system and also within sight of two burial cairns to the S and a hut circle to the E.
The area to be scheduled is circular on plan, centred on the cairn, to include the visible remains and an area around in which evidence relating to its construction and use may survive, as shown in red on the accompanying map.

Statement of National Importance
Cultural Significance

The monument's archaeological significance can be expressed as follows:

Intrinsic characteristics: The monument appears to be in a good state of preservation under the cover of heather. It is upstanding and clearly visible in the landscape and retains the field characteristics that identify it as a Bronze-Age ring cairn or, perhaps, a saucer cairn, a rare form of prehistoric burial site. It is likely that the monument preserves high quality archaeological deposits relating to prehistoric burial rites, as well as sealing evidence for the earlier environment.

Contextual characteristics: The cairn was a highly visible component of the Bronze-Age landscape and can be compared and contrasted to nearby prehistoric funerary monuments and others outside the region to create an understanding of regional identity and society during this period. The monument is located within a complex of prehistoric settlement sites,

both domestic and funerary, in this part of the Findhorn Valley, further enhancing the value of the monument.

National Importance
This monument is of national importance because it is a prominent, upstanding Bronze-Age cairn with the capacity to reveal much about funerary practice in the prehistoric communities of NE Scotland. It has the potential to make a significant contribution to our knowledge of prehistoric society in this locality and, by association, the rest of Scotland. The loss of the monument would affect our future ability to appreciate and understand the prehistoric landscape and its inhabitants.

References:
Ritchie J N G and MacLaren A 1972, 'Ring cairns and related monuments in Scotland', SCOTT ARCHAEOL FORUM 4.

Asset/Event Number	7
Asset/Event Name	Woodend, cairn 760m NW of
Type of Asset/Event	Prehistoric ritual and funerary: cairn (type uncertain); cist
NRHE Number	NH72NE 4.01
HER Number	
Status	Scheduled Monument
Easting	278622
Northing	826795
Parish	Moy And Dalarossie
Council	Highland
Description	SM11739 Canmore ID: 291110

Description

The monument is a well-preserved cairn situated on a sloping hillside above the River Findhorn, 760m NW of the buildings at Woodend.
The circular cairn measures 6.4m in diameter, about 0.5m in height, with nine intermittent kerb-stones visible around its perimeter. At its centre an exposed open cist survives, formed with four slabs set on edge. The cist is orientated E to W, and internally measures 1.2m in length, 0.6m in width at the W and 0.5m in width at the E, and 0.5m deep. Neither a capstone nor skeletal/artefact remains are visible in the cist. The W edge of the cairn is less disturbed by vegetation growth than the E side.
The area to be scheduled is circular on plan, centred on the cairn, to include the remains described and an area around it within which evidence relating to its construction and use may survive, as shown in red on the accompanying map.

Statement of National Importance
Cultural Significance

The monument's archaeological significance can be expressed as follows:

Intrinsic characteristics: A well-preserved cairn with a central cist, this monument can add a great deal of information to our understanding of burial cairns, in particular their structure and association with the immediate landscape. Cairns of this type date from the Bronze Age, between 3500 and 4000 years ago. Situated on a grouse moor surrounded by blanket peat and heather moorland, a lack of intensive land use combined with an awareness of the monument appears to have benefited its survival.

Funerary remains potentially exist within the mound, which would enhance our understanding of Bronze Age burial practices. Given the good level of preservation, there is a likelihood that deposits relating to the prehistoric environment, such as an old ground surface, will be preserved beneath and within the cairn.

Contextual characteristics: The cairn lies on a false crest overlooking the River Findhorn, and is in view of three possible prehistoric hut circles and an associated field system. The association of the cairn with the wider prehistoric landscape may reveal information that can facilitate our understanding of prehistoric identity and society. The potential for an integrated analysis of a variety of possibly contemporary monument types is high, and the cairn can play a key role in such a study.

Associative characteristics: Being in a prominent position on a false crest, the deliberate positioning of the monument adds an aesthetic attribute to its overall significance. Prehistoric people deliberately built the cairn to look over a landscape, as well as to be seen from within it.

National Importance: The monument is of national importance because it is a well-preserved example of a largely undisturbed Bronze Age burial cairn with central stone-lined cist which is situated within a possible contemporary landscape. It has the potential to add value to our understanding of the monument site type as a whole, as well as the relationship of this site to its class. The capacity exists for this monument to form the key part of an integrated landscape study. Its loss would harm our ability to understand the placing of such monuments within the landscape, as well as our knowledge of cairn structure and funerary rites.

Asset/Event Number	8
Asset/Event Name	Little Banchor, depopulated settlement 1130m WSW of Banchor
Type of Asset/Event	Secular: enclosure; kiln; settlement, including deserted and depopulated and townships
NRHE Number	NH94SW 13
HER Number	
Status	Scheduled Monument
Easting	290212
Northing	840153
Parish	Ardclach
Council	Highland
Description	SM11818 Canmore ID: 15501

Description
The monument comprises the ruins of a farmstead and associated buildings and structures, including a kiln and large enclosure, situated on a terrace next to the River Findhorn, 1140m WSW of Banchor. The settlement is named as Little Banchor on the Ordnance Survey (OS) First and Second Edition maps. Its name reflects the older, larger settlement of Banchor 1140m to the E.
The settlement consists of an enclosed area surrounded by three buildings, a kiln with enclosure and a length of walling, and a fourth building to the NW separated from the others by a modern road.
The three buildings to the S of the enclosure are marked on the OS First and Second Edition maps. Of this group, the easternmost building is split into three compartments, with the pair to the W being separated only by a narrow passage. A possible trackway runs NNW from the W end of the easternmost building to join up with the line of the modern road, crossing in front of the pair of buildings and alongside the W edge of the enclosure.
To the E of the enclosure lie the ruins of a kiln, approximately 2m high, with an associated enclosure. This kiln enclosure measures 14m by 21m, and is aligned NE-SW, with an

entranceway on its SE side. The OS First and Second Edition maps appear to indicate the enclosure wall curving around to join a section of straight walling that runs NE-SW along the SE boundary of the farmstead.
The fourth building lies to the N of the kiln, on the N side of what is now a modern road, but may in the past have been a trackway or drove road. This building stands one course high (0.3m), with walls indicated by a spread of rubble approximately 0.75m wide. It measures 18m from E to W and 5m transversely, with three internal compartments - the W one being 7.5m long, the central one 5.5m long, and the E one 6m long.
A fence running NE to SW along the line of what could be an old stream leading down to the river forms the SE boundary of the farmstead. To the S of the farmstead a small eroding cliff-face drops down to the River Findhorn.
The area to be scheduled is a pair of irregular polygons, separated by the modern road, to include the remains described and an area around in which associated evidence may survive, as shown in red on the accompanying map.

Statement of National Importance
Cultural Significance

The monument's archaeological significance can be expressed as follows:

Intrinsic characteristics: The farmstead buildings and associated structures survive in good condition, indicating that this monument dates from the late 18th or early 19th century; the layout here next to the river, with buildings organised around a central enclosure and an associated kiln, is typical of low-lying farmsteads of the post-medieval period. The kiln and its enclosure is an interesting feature, in that there is no evidence of burning. This suggests that it was not a limekiln (as labelled on the OS First Edition map) but perhaps a hop kiln; comparable examples are found elsewhere. Differences in build quality may indicate a developmental sequence between the isolated building to the N, the kiln and enclosure to the E, and the three buildings to the SW. Potential exists for this monument to add a great deal of information to our understanding of post-medieval farmsteads, in particular their structure and association with the landscape around them.

Contextual characteristics: A complete kiln and associated enclosure ensure that this well-preserved farmstead is a valuable representation of its class of monument. Possible complexities in type of building suggest some element of longevity at the site. Analysis of the surrounding landscape may enhance our understanding of settlement location and economy, in particular the relationship between this site and nearby contemporary post-medieval settlements. The farmstead's location, on reasonable agricultural land adjacent to a steady water source and upland pasture, helps us to identify the economical and practical concerns that would have been considered prior to the settlement being constructed.

National Importance
The monument is of national importance because it is a well-preserved example of a late 18th- or early 19th-century farmstead with associated kiln and enclosure. It has the potential to contribute towards our understanding of post-medieval settlement patterns, structures, and economy. The unusual kiln has the ability to provide important information about resource processing. The capacity exists for this monument to form part of an integrated landscape study, and so its loss would harm our ability to understand the distribution of post-medieval farmsteads and their structure, as well as our understanding of early 19th century environmental constraints upon agriculture.

References
RCAHMS 1978, THE ARCHAEOLOGICAL SITES AND MONUMENTS OF NAIRN DISTRICT, HIGHLAND REGION, The archaeological sites and monuments of Scotland series No. 5, 21, No. 175, Edinburgh, Society of Antiquaries of Scotland.

Asset/Event Number 9

Asset/Event Name Balnught, hut circle 1225m ENE of

Type of Asset/Event	Prehistoric domestic and defensive: hut circle, roundhouse
NRHE Number	NH84SE 7
HER Number	
Status	Scheduled Monument
Easting	289430
Northing	840660
Parish	Ardclach
Council	Highland
Description	SM11798 Canmore ID: 15087

Description
The monument comprises a single hut circle, a Bronze-Age domestic structure dating to the first or second millennium BC. It lies in rough moorland on a hillside 1225m ENE of Balnught. The hut circle comprises a 3 m wide by 0.7m high circular bank enclosing a central area 8 m in diameter. An entrance (2.5m wide) is visible to the E, at either side of which the bank ends taper slightly to 2.5m wide. The hut circle is covered by up to 0.25m of peat. The outer face of the bank to the N is indistinct, as it is set into the slope of the hillside. Probing suggests that the bank is built with stone and turf and possibly has a stone facing.
The area to be scheduled is a circle, centred on the hut circle, to include the hut circle and an area around it within which evidence relating to its construction and use may survive, as shown in red on the accompanying map.

Statement of National Importance
Cultural Significance

The monument's archaeological significance can be expressed as follows:

Intrinsic characteristics: A well-preserved hut circle on a hillside above the river Findhorn, the site has potential to further our understanding of prehistoric domestic structures. Associations with the surrounding field clearance heaps can provide information on landuse and economy. Hut circles like this date to the first or second millennium BC. Lack of cultivation and intensive landuse indicates that the potential exists for the preservation of archaeological deposits relating to the monument's construction, use and abandonment. In addition, it is likely that deposits survive that could provide data relating to the later prehistoric environment.
The site has considerable potential to enhance understanding of later prehistoric roundhouses and the daily lives of the people who occupied them.

Contextual characteristics: This hut circle is situated on a sloping hillside adjacent to cultivable land, with views over the river below. As it is not a complex site, it lies undisturbed and thus offers potential to add value to the group as a whole. Comparing and contrasting the hut circle to other nearby sites of the same type or date can enable an understanding of how such monuments are positioned within the landscape and their relationships with one another.

National Importance
The monument is of national importance because it is an excellent example of an undisturbed single hut circle. It has potential to add to our knowledge of the monument type as a whole, given its level of preservation and association with the surrounding field clearance heaps. The capacity exists for this monument to form part of a wider study of the later prehistoric upland landscape. Its loss would impede our ability to understand the placing of such monuments within the landscape, as well as our knowledge of later prehistoric domestic structures and economy.

References:
RCAHMS 1978, THE ARCHAEOLOGICAL SITES AND MONUMENTS OF NAIRN DISTRICT, HIGHLAND REGION, The archaeological sites and monuments of Scotland series No. 5, Edinburgh, p14, No. 90.

Asset/Event Number	10
Asset/Event Name	Ruthven, depopulated township 600m S of
Type of Asset/Event	Secular: field system; kiln; settlement, including deserted and depopulated and townships
NRHE Number	NH83SW 10
HER Number	
Status	Scheduled Monument
Easting	281515
Northing	832420
Parish	Moy And Dalarossie
Council	Highland
Description	SM11901 Canmore ID: 116052

Description
The monument comprises a depopulated township visible as upstanding ruins. It lies 600m S of the occupied farmstead at Ruthven, to the south of the River Findhorn on a raised platform above the flood plain, at around 260-90m above sea level.
The township comprises two main areas of settlement that are partially separated by a copse marked on the Ordnance Survey First Edition mapping of 1871-5. The first group consists of 15 structures and a small enclosure. These structures are spread out in a widely linear fashion, covering an area of 240m by 100m, and could possibly be grouped into three smaller clusters of buildings. The structures consist of stone footings that have been partially covered by turf with only the four main corner stones visible on some of the structures. There was no evidence of bonding on any of the masonry and it is likely that the stone footings are of drystone construction. The first cluster of five buildings is orientated ENE-WSW and consists of two long houses, measuring between 21m and 25m in length and 4.7m to 5.2m in width. These structures are probably dwellings, as they both retain more complex architectural elements than the other buildings, such as internal divisions and more complicated floor plans. One of these buildings has an alcove that measures 4.5m by 2m and is possibly interpreted as a bedneuk, where the family would sleep, although archaeological evidence from other townships, such as Easter Raitts, has interpreted similar architectural additions as dairies and even stalls for the cattle. The other three buildings have no internal divisions and measure between 10m to 12.5m in length by 4m to 5m in width. The lack of architectural features and internal compartments may indicate that these structures are either barns or possibly even industrial buildings. However, this is again difficult to ascertain from the form alone, as simple buildings, such as these, have been interpreted as dwellings in the past. This cluster of structures has a trapezoidal-shaped enclosure to the west, probably for animals. It measures 17.1m in width and narrows to 12.4m, with a length of 16.2m.
The second cluster of five structures, to the east, consists of a similar mix of possible dwellings and barns orientated NW-SE. There are three possible dwellings, one of which is slightly different from those described above. Although it has an internal division, the building is shorter and only measures 15.9m in length. It is also simpler in design with no additional alcoves. The other two structures measure between 10.8m and 11.7m in length and 4.7m and 5m in width. They are similar in design and size to the structures in the first cluster that were interpreted as barns. There is a further structure approximately 50m to the N of this group, which measures 17m by 4.7m. It has no evidence of internal partitions but the measurements of this building are very similar to the more 'simple' dwelling noted in this cluster of structures.
The third cluster consists of three dwellings to the E of the second group. All of these buildings are slightly different. The first building is orientated N-S and measures 15m by 5m with no internal partitions. The second building is orientated NE-SW and measures 13.1m in length by 5.3m wide with one internal partition. The third building measures 18m by 5m and also has one internal partition. This building is orientated ENE-WSW in parallel with the track. The

second group of seven buildings seem to be more formalised and is situated around a large rectangular enclosure. These buildings sit on the high ground above the first group of structures, to the east of the copse. These structures appear to be better preserved as the stone footings, of drystone construction, are visible above the ground and stand to a height of approximately 0.7m high. The buildings consist of three possible dwellings, measuring approximately 24m in length and 5 m in width with two internal partitions. The dwellings appear to be more formulaic in comparison to the first group of structures and are orientated NE to SW. The other four structures have no internal divisions and vary in length from 12.5m to 20.5m and 4.5m to 5m in width. One of the structures is outwith the main group. However, it is aligned with the two dwellings to the SE of the enclosure and so is likely to be associated.
The township also has other features that are commonly associated with this type of settlement, such as rig and furrow down on the floodplain, a head dyke separating the second group of structures from the common grazing land, cultivation beds or lazy beds within the settlement and a kiln barn. The kiln barn is situated to the NW of the settlement on a lower terrace next to a small spring. It measures 12.8m by 6.3m and the interior of the kiln bowl measures 2.2m. There is also an additional enclosure, measuring 4.6m by 4.1m, abutting the kiln barn to the east.
The monument is a good example of a well-preserved post-medieval early township in this region. It is a complex site and the levels of preservation between the two groups may suggest that there are at least two phases to this particular settlement. It includes evidence of how townships were constructed. The form of the township exemplifies how its inhabitants used and perceived the land. This is illustrated by the divisions of land within the township, such as 'outfields' (on the floodplain), 'doorland' (lazybeds within the settlement), enclosures for animals, and the head dyke, dividing the township from the wild common summer grazing land immediately above the settlement. It is an example of a way of life that was eradicated by changes in land divisions and agricultural techniques. Although in some parts of Scotland this way of living lasted until the 19th century, this type of communal township had largely come to an end. This is partly attributable to the change in land ownership from common to private in the Highland region, the push to tie single people to the land through crofting tenures and the agricultural revolution, which dramatically changed the way people farmed the land.
The area to be scheduled has two parts - one is irregular on plan (the boundary to the SE follows, where applicable, the copse's boundary), and the other rectangular on plan - to include the remains described and an area around in which evidence for their construction and use may survive, as shown in red on the accompanying map. Both scheduled areas specifically exclude the above-ground elements of fences and gates and the enclosure that abutts the sheepfank to the east, to allow for their maintenance.

Statement of National Importance
Cultural Significance

The monument's archaeological significance can be expressed as follows:

Intrinsic characteristics: This well-preserved early post-medieval township contains many different construction styles and architectural elements. It shows a level of complexity, both in its layout and building types, as well as the potential for two phases of occupation. This site therefore adds to our understanding of how people laid out rural townships and what was important to the people who lived and worked on the land at this period. The monument also has the archaeological potential to add to our understanding of how people in the Post-Medieval Period worked and lived within the limitations of the landscape and how they adapted to accommodate those limitations. It could also add additional information to the historical sources that already exist.

Contextual characteristics: This monument is representative of the way the rural population lived and worked in early townships in the Highland region prior to the changes in land management that led to the demise of this type of settlement. It is also part of a wider complex settlement pattern associated with historical influences such as tenure, common grazing rights and population growth. It has the potential to allow us to add to our understanding of the differing types of settlement pattern and farming styles, both geographically and historically

Associative characteristics: This settlement exemplifies a way of living commonly associated

with the Pre-Improvement Period, prior to land and settlements being divided into consolidated holdings. This type of monument is set within an important and turbulent part of Scottish history. Its demise marks major political changes as the clan system begins to fade and a union with England brings major change to Scotland's traditions. The end of the old clan system and the role of the clan chief as a father figure brought major changes in the perception of who owned land and subsequently how this land could be used by the lower levels of society. Therefore this type of settlement may add to our understanding about this important aspect of the region's and Scotland's history.

National Importance
The site is of national importance because it has the inherent potential to make a significant addition to our understanding of later rural settlement in the Highlands as well as in wider Scotland. The retention of structural and architectural elements to a marked degree also allows us to understand how these settlements were constructed and how people lived and worked in rural Scotland in the Pre-Improvement Period. This type of settlement is integral to understanding how the rural population exploited the landscape in the Post-Medieval Period and adds to our understanding of the history of that period.

Asset/Event Number	11
Asset/Event Name	Drumbain Cottage, hut circles 725m, 845m and 975m ESE of
Type of Asset/Event	Prehistoric domestic and defensive: hut circle, roundhouse
NRHE Number	NH82NW 7
HER Number	
Status	Scheduled Monument
Easting	281733
Northing	826949
Parish	Moy And Dalarossie
Council	Highland
Description	SM11673 Canmore ID: 14959

Description
The monument comprises the remains of three hut circles, visible as low circular banks in heather moorland, located on a gentle SW-facing slope to the E of the river Findhorn in Strathdearn, at around 400m OD. The hut circles are likely to be Late Bronze Age or Iron Age, dating to the first or second millennium BC.
Each hut circle measures approximately 10m in diameter and survives as a circular stone and earth bank measuring about 2 m wide with an entrance gap in the SE quadrant. Inner and outer facing stones are visible in each hut circle, and all three have been terraced into the slope. The entrance is visible as a gap in the wall on the S. The E hut circle, measuring about 12m in diameter, survives as a stone and earth bank about 1.2m wide. Inner and outer facing stones are visible on this wall and the N part of the interior has been terraced into the slope. The entrance is visible as a gap in the wall on the S.
The scheduled area comprises three separate circular areas, centred on each hut circle, to include the remains described and an area around them within which related material may be expected to be found, as shown in red on the accompanying map. The above-ground elements of the fenceline running NNE through the easternmost of the three hut circles and the top 300mm of the track running WNW to ESE are specifically excluded from the scheduling, to allow for their maintenance.

Statement of National Importance
Cultural Signifcance

The monument's archaeological significance can be expressed as follows:

Intrinsic Characteristics: The monument comprises three well-preserved examples of later prehistoric roundhouse, with upstanding remains dating to the first or second millennium BC. The monument retains well-constructed drystone walls, with some facing stones still evident. The upland location of the hut circles and relatively low impact landuse since their construction suggests that deposits, materials and features relating to the roundhouses' construction and use, and evidence for the prehistoric environment, are likely to survive below the surface. Archaeological investigation within the confines of the wider group of roundhouses and field system has confirmed the presence of a buried hearth and charcoal material. The site has considerable potential to enhance understanding of later prehistoric roundhouses and the daily lives of the people who occupied them.

Contextual characteristics: The monument is a good representative of a once common class, and part of a larger complex of similar but more poorly surviving monuments and agricultural enclosures. These elements have the potential to provide a better understanding of later prehistoric domestic arrangements and, specifically, the inter-relationship between individual buildings and their place in a worked agricultural landscape.

National Importance: The monument is of national importance because it has an inherent potential to make a significant addition to the understanding of the past, in particular Bronze or Iron Age society and the nature of later prehistoric domestic practice. This potential is enhanced by a good state of preservation and the survival of marked field characteristics. The loss of the example would significantly impede our ability to understand the Bronze and Iron Ages in northern Scotland.

References:
Council for Scottish Archaeology 1999, 'Creag an Bhig, Tomatin (Moy & Dalarossie parish), prehistoric field system', DISCOVERY EXCAV SCOT, 59.

Asset/Event Number	12
Asset/Event Name	Drumbain Cottage, hut circles 725m, 845m and 975m ESE of
Type of Asset/Event	Prehistoric domestic and defensive: hut circle, roundhouse
NRHE Number	NH82NW 7
HER Number	
Status	Scheduled Monument
Easting	281860
Northing	826967
Parish	Moy And Dalarossie
Council	Highland
Description	SM11673 Canmore ID: 14959

Description
The monument comprises the remains of three hut circles, visible as low circular banks in heather moorland, located on a gentle SW-facing slope to the E of the river Findhorn in Strathdearn, at around 400m OD. The hut circles are likely to be Late Bronze Age or Iron Age, dating to the first or second millennium BC.
Each hut circle measures approximately 10m in diameter and survives as a circular stone and earth bank measuring about 2 m wide with an entrance gap in the SE quadrant. Inner and outer facing stones are visible in each hut circle, and all three have been terraced into the slope. The entrance is visible as a gap in the wall on the S. The E hut circle, measuring about 12m in diameter, survives as a stone and earth bank about 1.2m wide. Inner and outer facing

stones are visible on this wall and the N part of the interior has been terraced into the slope. The entrance is visible as a gap in the wall on the S.
The scheduled area comprises three separate circular areas, centred on each hut circle, to include the remains described and an area around them within which related material may be expected to be found, as shown in red on the accompanying map. The above-ground elements of the fenceline running NNE through the easternmost of the three hut circles and the top 300mm of the track running WNW to ESE are specifically excluded from the scheduling, to allow for their maintenance.

Statement of National Importance
Cultural Signifcance

The monument's archaeological significance can be expressed as follows:

Intrinsic Characteristics: The monument comprises three well-preserved examples of later prehistoric roundhouse, with upstanding remains dating to the first or second millennium BC. The monument retains well-constructed drystone walls, with some facing stones still evident. The upland location of the hut circles and relatively low impact landuse since their construction suggests that deposits, materials and features relating to the roundhouses' construction and use, and evidence for the prehistoric environment, are likely to survive below the surface. Archaeological investigation within the confines of the wider group of roundhouses and field system has confirmed the presence of a buried hearth and charcoal material. The site has considerable potential to enhance understanding of later prehistoric roundhouses and the daily lives of the people who occupied them.

Contextual characteristics: The monument is a good representative of a once common class, and part of a larger complex of similar but more poorly surviving monuments and agricultural enclosures. These elements have the potential to provide a better understanding of later prehistoric domestic arrangements and, specifically, the inter-relationship between individual buildings and their place in a worked agricultural landscape.

National Importance: The monument is of national importance because it has an inherent potential to make a significant addition to the understanding of the past, in particular Bronze or Iron Age society and the nature of later prehistoric domestic practice. This potential is enhanced by a good state of preservation and the survival of marked field characteristics. The loss of the example would significantly impede our ability to understand the Bronze and Iron Ages in northern Scotland.

References:
Council for Scottish Archaeology 1999, 'Creag an Bhig, Tomatin (Moy & Dalarossie parish), prehistoric field system', DISCOVERY EXCAV SCOT, 59.

Asset/Event Number	13
Asset/Event Name	Drumbain Cottage, hut circles 725m, 845m and 975m ESE of
Type of Asset/Event	Prehistoric domestic and defensive: hut circle, roundhouse
NRHE Number	NH82NW 7
HER Number	
Status	Scheduled Monument
Easting	281954
Northing	826768
Parish	Moy And Dalarossie
Council	Highland
Description	SM11673

Canmore ID: 14959

Description
The monument comprises the remains of three hut circles, visible as low circular banks in heather moorland, located on a gentle SW-facing slope to the E of the river Findhorn in Strathdearn, at around 400m OD. The hut circles are likely to be Late Bronze Age or Iron Age, dating to the first or second millennium BC.
Each hut circle measures approximately 10m in diameter and survives as a circular stone and earth bank measuring about 2 m wide with an entrance gap in the SE quadrant. Inner and outer facing stones are visible in each hut circle, and all three have been terraced into the slope. The entrance is visible as a gap in the wall on the S. The E hut circle, measuring about 12m in diameter, survives as a stone and earth bank about 1.2m wide. Inner and outer facing stones are visible on this wall and the N part of the interior has been terraced into the slope. The entrance is visible as a gap in the wall on the S.
The scheduled area comprises three separate circular areas, centred on each hut circle, to include the remains described and an area around them within which related material may be expected to be found, as shown in red on the accompanying map. The above-ground elements of the fenceline running NNE through the easternmost of the three hut circles and the top 300mm of the track running WNW to ESE are specifically excluded from the scheduling, to allow for their maintenance.

Statement of National Importance
Cultural Signifcance

The monument's archaeological significance can be expressed as follows:

Intrinsic Characteristics: The monument comprises three well-preserved examples of later prehistoric roundhouse, with upstanding remains dating to the first or second millennium BC. The monument retains well-constructed drystone walls, with some facing stones still evident. The upland location of the hut circles and relatively low impact landuse since their construction suggests that deposits, materials and features relating to the roundhouses' construction and use, and evidence for the prehistoric environment, are likely to survive below the surface. Archaeological investigation within the confines of the wider group of roundhouses and field system has confirmed the presence of a buried hearth and charcoal material. The site has considerable potential to enhance understanding of later prehistoric roundhouses and the daily lives of the people who occupied them.

Contextual characteristics: The monument is a good representative of a once common class, and part of a larger complex of similar but more poorly surviving monuments and agricultural enclosures. These elements have the potential to provide a better understanding of later prehistoric domestic arrangements and, specifically, the inter-relationship between individual buildings and their place in a worked agricultural landscape.

National Importance: The monument is of national importance because it has an inherent potential to make a significant addition to the understanding of the past, in particular Bronze or Iron Age society and the nature of later prehistoric domestic practice. This potential is enhanced by a good state of preservation and the survival of marked field characteristics. The loss of the example would significantly impede our ability to understand the Bronze and Iron Ages in northern Scotland.

References:
Council for Scottish Archaeology 1999, 'Creag an Bhig, Tomatin (Moy & Dalarossie parish), prehistoric field system', DISCOVERY EXCAV SCOT, 59.

Asset/Event Number	14
Asset/Event Name	Soilsean, deserted township and hut circle 745m ESE of
Type of Asset/Event	Prehistoric domestic and defensive: hut circle, roundhouse, Secular: field system; kiln; settleme

NRHE Number	NH82NW 37
HER Number	
Status	Scheduled Monument
Easting	281496
Northing	827817
Parish	Moy And Dalarossie
Council	Highland
Description	SM11806 Canmore ID: 116055

Description
This monument comprises the remains of a late prehistoric hut circle and Sheanevall, a deserted rural township of post-medieval date, surviving as a series of upstanding rectangular and sub-rectangular building plots and stone courses, earthen banks, dykes, corn-drying kiln and a single hut circle. The monument lies at approximately 380 above sea level in open and rough pasture on the E side of Strathdearn and the river Findhorn.
Seven unroofed buildings are depicted and named on the Ordnance Survey First Edition map, all of which survive today as upstanding remains. These remains survive up to four or five stone courses high. The structures of the township include five buildings oriented N-S and measuring 10m and 25m long by approximately 5m wide, a sixth rectangular building adjoining one of these and measuring approximately 12m by 5m oriented E-W, and a seventh building appearing as a corn-drying kiln measuring approximately 5m by 5m. Likely to be associated with the township in the area immediately to the W and N are the remains of enclosures and agricultural boundaries, surviving as low stone walls. Immediately to the N of the township is a late prehistoric hut circle measuring approximately 10m in diameter and surviving to a height of 1m. There is a break in the structure of the hut circle in its southern arc, likely to be the entrance. Lastly, there is a linear, earthen bank feature running across the contours and overlain by a later stone wall that may be associated with the hut circle.
The area proposed for scheduling is irregular on plan, to include the remains described and an area around them within which evidence relating to their construction and use may survive, as shown in red on the accompanying map. Specifically excluded from the schedule area is the fenced bird pen fence located to the NW of the site.

Statement of National Importance
Cultural Significance

The monument's archaeological significance can be expressed as follows:

Intrinsic characteristics: The monument is a well-preserved example of a hut circle and highland rural township with upstanding remains dating from the Late Bronze Age/ Iron Age and post-Medieval periods. The hut circle has survived well with evidence of its circular rough stone construction and entrance intact, alongside a curious earthen bank, overlain by a later stone wall. The individual buildings and enclosure walls that define the later township retain their basic architectural detail, in places up to several courses high and despite stone robbing. The site has considerable potential to enhance our understanding of settlement and small-scale rural economy during later prehistory. It also represents the agricultural economy of highland Scotland during more recent times.

Contextual characteristics: As a well preserved example of an upland rural settlement and single hut circle, this monument reflects landuse and settlement over an extensive time-frame, dating back to the Late Bronze Age / Iron Age. The comparison of this example to others in Strathdearn and the wider landscape of the highlands will help to create a fuller picture of the region's character during later prehistory and in more recent times, such as the periods of agricultural improvement or widespread clearance.

National Importance
The monument is of national importance because it is well preserved and has inherent

potential to add to our understanding, not only of settlement and upland economy in later prehistoric and post-medieval times, but also how monuments like these from different periods inter-relate. The loss of this example would impede any future ability to understand this time-depth and sequence of landuse and the intrinsic nature of the settlement, its structures and the people who lived here.

Asset/Event Number	15
Asset/Event Name	SLUGGAN BRIDGE OVER RIVER DULNAIN
Type of Asset/Event	Bridge (18th century)
NRHE Number	
HER Number	
Status	Listed Building - Category A
Easting	286989
Northing	822008
Parish	Duthil And Rothiemurchus
Council	Highland
Description	LB240

Description
1729-30, General George Wade military bridge substantially repaired 1830-40. Single span rubble bridge with drystone causeway approach from E and W banks. Dressed rubble arch ring springing from squared rubble footings; slight remains of parapet; turf roadway. Pinned rubble buttress at S side of W bank causeway. Approximate span; 65'.

Statement of Special Interest
Between 1798 and 1813 the military roadfrom Carrbridge to Dalmagarrie was realigned, by-passingSluggan Bridge. In 1838 said to be still be "scarcelypassable" after flood damage in 1829.

Formerly a scheduled monument. Scheduled on 09/10/1958 and descheduled on 23/03/2016.

References
NEW STATISTICAL ACCOUNT xiii (1838), p. 134.
William Taylor, THE MILITARY ROADS IN SCOTLAND (1976), p. 52.
Ted Ruddock, ARCH BRIDGES AND THEIR BUILDERS (1979), pp. 21, 22.

Asset/Event Number	16
Asset/Event Name	MOY, AULTNASLANACH VIADUCT OVER ALLT NA SLANAICH BURN
Type of Asset/Event	Bridhe (19th Century)
NRHE Number	NH73SE 12
HER Number	
Status	Listed Building - Category A
Easting	276010
Northing	834937
Parish	Moy And Dalarossie
Council	Highland

Description	LB14887 Canmore ID: 14130 Description 1897. 5-span wooden trestle railway bridge; heavy timbers, each trestle with substantial buttress props either side; all bolted and braced with metal ties. Metal plated parapet with simple strut and wire guard rail. Statement of Special Interest Built by the Highland Railway. The only wooden trestle railway bridge on a mainline railway in Scotland. Built and retained owing to difficulty of securing foundations for a steel or masonry bridge. References John Hume THE INDUSTRIAL ARCHAEOLOGY OF SCOTLAND ii (1977) p 211

Asset/Event Number	17
Asset/Event Name	SLOCHD MHUIC RAILWAY VIADUCT
Type of Asset/Event	Railway Viaduct (19th Century)
NRHE Number	NH82SW 5
HER Number	
Status	Listed Building - Category B
Easting	284643
Northing	823777
Parish	Duthil And Rothiemurchus
Council	Highland
Description	LB237 Canmore ID: 14977 Description Murdoch Paterson, 1897. Tall 8-span viaduct; bull faced rubble, bullfaced granite quoins to pylons; brick arch rings. Length; 400' (122m). NH82SW 5 84643 23777 Location formerly cited as NH 84578 23792 to NH 84701 23767. (Location cited as NH 847 237). Slochd Mhuic Viaduct, opened 1897 by the Highland Rly. A picturesquely-situated 8-span masonry viaduct with round-headed arches. J R Hume 1977. This viaduct was designed by Murdoch Paterson to carry the (Aviemore-Carr Bridge-Inverness) 'Direct' Line of the Highland Rly across the Allt Slochd Mhuic. It opened on 19 July 1897, and remains in use. M Smith 1994. This viaduct is situated within dense forestry, and is depicted, but not noted, on the 1982 edition of the OS 1:10,000 map.

The location assigned to this record defines the midpoint of the structure. The available map evidence indicates that it extends from NH c. 84598 23788 to NH c. 84652 23776.

Information from RCAHMS (RJCM), 24 March 2006.

Statement of Special Interest
Built by the Highland Railway.

References
John Hume, THE INDUSTRIAL ARCHAEOLOGY OF SCOTLAND ii (1977), p. 205.
Nelson, G. (1990) Highland bridges. Aberdeen. Page(s): 49 RCAHMS Shelf Number: J.6.3.NEL
Smith, M. (1994) British railway bridges and viaducts. Shepperton. Page(s): 144-7

Asset/Event Number	18
Asset/Event Name	SLOCHD, ORTUNAN BRIDGE
Type of Asset/Event	Bridge (18th Century)
NRHE Number	NH82SW 6
HER Number	
Status	Listed Building - Category C
Easting	284263
Northing	823782
Parish	Duthil And Rothiemurchus
Council	Highland
Description	LB238 Canmore ID: 14978

Description
Probably 1729, General George Wade. Diminutive rubble bridge; dressed rubble arch ring; turf surface; no parapet. Approximate span; 10'

NH82SW 6 84263 23782

On the Wade Road of 1728-30 (Lin 501) a low arched bridge (span 4.57m) over a small stream at Ortunan Farm (ruins) had deteriorated in past years; the upstream and downstream spandrels and a large part of the arch had fallen, the upper courses of the abutments had become loose or missing and most of the roadway had gone. In 1988 all these parts were reconstructed up to one course above roadway level, using the original stone and local sand. One training wall was extended on the upstream side.

G R Curtis and R L Smith 1988.

Statement of Special Interest
On line of 1729-30 military road, later re-aligned.

References
Curtis and Smith, G R and R L. (1988) 'Ortunan (Duthil and Rothiemurchus p) masonry bridge', Discovery Excav Scot, 1988. Page(s): 15

Asset/Event Number	19
Asset/Event Name	MOY, BRIDGE OVER FUNLACK BURN BY MILTON OF MOY
Type of Asset/Event	Bridge (19th Century)
NRHE Number	NH73SE 29
HER Number	
Status	Listed Building - Category C
Easting	279686
Northing	831980
Parish	Moy And Dalarossie
Council	Highland
Description	LB14888 Canmore ID: 229015 Description Earlier 19th century; single span, slightly hump-back rubble bridge; roughly tooled rubble arch ring and low parapet; pair metal stays at south end. Statement of Special Interest Possibly 1832, rebuild of "small bridge on Moy road" after flood damage, 1829. Engineer named Mitchell. References INVERNESS JOURNAL 13 August 1832 Advertisement for tenders. Nelson, G. (1990) Highland bridges. Aberdeen. Page(s): 49, 51 RCAHMS Shelf Number: J.6.3.NEL

Asset/Event Number	20
Asset/Event Name	TOMATIN, RAILWAY VIADUCT OVER RIVER FINDHORN
Type of Asset/Event	Railway Viaduct (19th Century)
NRHE Number	NH82NW 28
HER Number	
Status	Listed Building - Category B
Easting	280720
Northing	828819
Parish	Moy And Dalarossie
Council	Highland
Description	LB14893 Canmore ID: 14953 Description John Fowler and Murdoch Paterson 1897. 9-span steel lattice-girder bridge carried on tall slender tooled rubble piers, a pair of which are in the River Findhorn and have rounded cutwaters. End masonry abutments with paired narrow round-headed arch rings; viaduct on slight curve. Overall length: 445 yards (405m). Statement of Special Interest Built by the Highland Railway. A fine example of a lattice-girder railway viaduct. Constructed with double-warren steel trusses. Similar construction is to be found at Larkhall viaduct, and, more notably, the Forth Rail Bridge, which Fowler was also involved with. Murdoch Paterson

was appointed architect to the Highland Railway in 1874.

NH82NW 28 80720 28819
Findhorn Viaduct [NAT]
OS 1:10,000 map, 1982.
Not to be confused with Tomatin Viaduct (NH 802 290) or Forres, Findhorn Viaduct (NJ 0207 5868), for which see NH82NW 30 and NJ05NW 102 respectively.
For corresponding road bridge (downstream, to NE), see NH82NW 33.
Location formerly entered as NH 80547 28943 to NH 80836 28683.
Opened to traffic 19.7.1897.
(Undated) information in NMRS.

(Location cited as NH 806 288). Findhorn Viaduct, Tomatin: opened in 1897 by the Highland Rly. A 9-span structure with steel trusses supported on slender masonry piers, 1335 ft (407m) long.
J R Hume 1977.

Findhorn viaduct, by John Fowler and Murdoch Paterson, 1894-7. The curved railway viaduct is over 400m long, and stands 43m above the river. Nine spans of steel lattice girders on tapering stone piers.
J Gifford 1992.

This viaduct was designed by Murdoch Paterson to carry the (Aviemore-Carr Bridge-Inverness) Direct Line of the Highland Rly across the River Findhorn. It opened on 19 July 1897, and remains in use.
M Smith 1994.

This viaduct carries the Aviemore-Inverness 'direct' main line of the former Highland Rly over Strathdearn and the River Findhorn to the SE of Tomatin. It remains in regular use by passenger traffic.

The location assigned to this record defines the midpoint of the structure; the river crosses under the viaduct some distance to the NW of this. The available map evidence suggests that it extends from NH c. 80546 28945 to NH c. 80838 28682.

Information from RCAHMS (RJCM), 23 March 2006.

Publication Account (2007)
Civil Engineering heritage: Scotland - Highlands snd Islands
Findhorn Viaduct (Railway), Tomatin
(Institute Civil Engineers Historic Engineering Works no. HEW 0601/01)

This viaduct was built to carry the former Highland Railway across the valley of the Findhorn south of Tomatin. It is a striking and well-proportioned example of Victorian railway engineering. Its construction is unusual for the Highlands as it has slender masonry piers of wellcut stone that carry double-triangulated steel trusses.
The viaduct, built on a curve of about 35 chains, has nine truss spans of 132 ft flanked at either end with abutments pierced by small masonry arches. It reaches a maximum height of 144 ft.
The engineer was Murdoch Paterson, and Butterley Iron Company was the contractor for the girders.
Construction was completed in 1897.

It is said that Sir John Fowler, as consulting engineer, persuaded the directors to adopt a more direct line for the railway over this viaduct saving over a mile in length. The stone used for the viaduct was from the quarries which had supplied granite for the Forth Bridge (Kemnay, Aberdeenshire).

R Paxton and J Shipway, 2007.

Reproduced from 'Civil Engineering heritage: Scotland - Highlands and Islands' with kind permission from Thomas Telford Publishers.

References

Close-Brooks, J. (1995a) The Highlands, Exploring Scotland's Heritage series, ed. by Anna Ritchie. 2nd. Edinburgh. Page(s): 66 RCAHMS Shelf Number: A.1.4.HER
Gifford, J. (1992) Highland and Islands, The buildings of Scotland series. London. Page(s): 216 RCAHMS Shelf Number: Ref
Hume, J R. (1977a) The industrial archaeology of Scotland, 2, the Highlands and Islands. London. Page(s): 211 RCAHMS Shelf Number: J.4.11.HUM
Nelson, G. (1990) Highland bridges. Aberdeen. Page(s): 48 pl. 32 RCAHMS Shelf Number: J.6.3.NEL
Paxton and Shipway, R and J. (2007b) Civil Engineering heritage: Scotland - Highlands and Islands. London. Page(s): 144-145 RCAHMS Shelf Number: J.5.41.PAX
Smith, M. (1994) British railway bridges and viaducts. Shepperton. Page(s): 144-7

Asset/Event Number	21
Asset/Event Name	TOMATIN RAILWAY VIADUCT OVER (OLD) A9 ROAD
Type of Asset/Event	Railway Viaduct (19th Century)
NRHE Number	NH82NW 30
HER Number	
Status	Listed Building - Category B
Easting	280262
Northing	829061
Parish	Moy And Dalarossie
Council	Highland
Description	LB14894 Canmore ID: 87493 Description 1897. 9-span viaduct; tall round-headed arch rings; all tooled rubble with tooled rusticated ashlar dressings; ashlar string course and parapet, terminating in square and piers. Each arch ring approx 36' wide. Statement of Special Interest Carries the Highland Railway over (old) A9 road. Not to be confused with Findhorn Viaduct at NH 806 288, for which see NH82NW 28. (Location cited as NH 803 290). Viaduct, Tomatin, opened 1897 by the Highland Rly. A 9-span masonry bridge, with semicircular arches. J R Hume 1977. This viaduct carries the Aviemore-Inverness 'direct' main line of the former Highland Rly over the former line of the A9 public road to the N of Tomatin church (NH82NW 58) and on the W side of Strathdearn. It remains in regular use by passenger traffic. The viaduct is depicted (but not noted) on the 1982 edition of the OS 1:10,000 map. The location assigned to this record defines the point where the viaduct passes over the road, a short distance ESE of its midpoint. The available map evidence indicates that it extends from NH c. 80167 29099 to NH c. 80288 29050.

Information from RCAHMS (RJCM), 28 March 2006.

References
Hume, J R. (1977a) The industrial archaeology of Scotland, 2, the Highlands and Islands. London. Page(s): 211 RCAHMS Shelf Number: J.4.11.HUM
Nelson, G. (1990) Highland bridges. Aberdeen. Page(s): 48-9 RCAHMS Shelf Number: J.6.3.NEL

Asset/Event Number	22
Asset/Event Name	FINDHORN BRIDGE, OLD FREE CHURCH MANSE
Type of Asset/Event	Manse (19th Century)
NRHE Number	
HER Number	
Status	Listed Building - Category C
Easting	280663
Northing	827596
Parish	Moy And Dalarossie
Council	Highland
Description	LB14896

Description
1861. 2-storey and attic, west facing 3-bay house. Harled rubble with tooled ashlar margins. Centre door masked by projecting gabled porch; small first floor windows in outer bays with later centre bathroom window. Single-storey lean-to extension across north gable; 15-pane glazing in ground floor windows, 12-pane in first floor and 4-pane in 2 piended dormers. Coped end stacks; Slate roof

References
INVERNESS ADVERTISER 23 April 1861. Advertisement for tenders.

Asset/Event Number	23
Asset/Event Name	FORMER MOY PARISH MANSE (CHURCH OF SCOTLAND), NEAR TOMATIN
Type of Asset/Event	Church (19th Century)
NRHE Number	NH82NW 51
HER Number	
Status	Listed Building - Category B
Easting	280683
Northing	827585
Parish	Moy And Dalarossie
Council	Highland
Description	LB14892 Canmore ID: 171676

Description
1765, with front wing of 1839. Older, rear portion, harl pointed rubble with ashlar margins;

front portion, squared tooled rubble front, with random rubble flanks and tooled ashlar dressings. 2-storey, 3-bay front (1839) with recessed centre bay with centre door. Narrow side lights to door; flanking bipartites and similar fenestration in first floor. Lying-pane glazing to front windows; contrasting tooled long and short angle detailing and window margins. Shallow pienced slate roof with paired ridge stacks. Rear portion of house formed the earlier manse, a 2-storey, 3-bay house; regular fenestration to elevation elevation, the centre first floor window having been doubled later. Mainly 12-pane glazing; tall coped gable end stacks; slate roof.

Site Management (11 April 2017)
Buildings at Risk Register BARR

The former Moy Free Church was constructed circa 1844–48, with later additions and alterations added in 1853 and 1900. It is a shallow, rectangular-plan, single storey church building of plain classical design and proportion, orientated north-south. The external walls are of rendered coursed rubble with ashlar dressings. A shallow corniced and pilastered porch with a timber two-leaf entrance door is located to the centre of the north gable. Above the porch is a round-arched gallery window that has moulded jambs, with a projecting keystone dated 1900. The north gable has shouldered skewputts with carved urn finials and a prominent pedimented and pilastered bellcote (containing no bell), terminated with another urn finial at the apex. (Historic Environment Scotland List Entry)

References
THE STATISTICAL ACCOUNT, viii (1793) p 508. NEW STATISTICAL
ACCOUNT, xiv (1836) p 112 INVERNESS COURIER 23 January 1839. Advertisement for tender for demolition of former wing and for new additions.

Asset/Event Number	24
Asset/Event Name	Glenkirk
Type of Asset/Event	Farmstead (Period Unassigned)
NRHE Number	NH83SW 16
HER Number	
Status	Non-designated heritage asset
Easting	283460
Northing	831770
Parish	Moy And Dalarossie
Council	Highland
Description	Canmore ID: 115997

NH83SW 16 8346 3177

A farmstead, comprising two roofed buildings, one partially roofed L-shaped building, one unroofed building, three enclosures and a field is depicted on the 1st edition of the OS 6-inch map (Inverness-shire 1875, sheet xxxiii). One roofed building, two unroofed buildings and two enclosures are shown on the current edition of the OS 1:10000 map (1974).

Information from RCAHMS (AKK) 3 July 1996.

External Reference (2010)

One roofed building and 3 unroofed and overgrown buildings and an enclosure survive (2010). (Grid reference is for roofed building). Easy access by parking near the gate at Balvraid.

Photographs taken of one of the derelict buildings by Ann Glynne-Percy in the 1990s show

remains of cruck beams.

Information from the ARCH Community Timelines Course, 2010

Asset/Event Number	25
Asset/Event Name	Allt Bruachaig
Type of Asset/Event	Enclosure (Post Medieval), Wall (Period Unassigned)
NRHE Number	NH83SW 17
HER Number	
Status	Non-designated heritage asset
Easting	284050
Northing	830950
Parish	Moy And Dalarossie
Council	Highland
Description	Canmore ID: 115998 Field Visit (24 October 2013) Woodland Creation Scheme, Balvraid, Tomatin A standalone tree marks the spot of a built platform on a river terrace. There is visible stone walling 0.3-0.6m high and 1m wide on the NW/SW sides and a bank forming the edge of the platform on the NE side. Information from Oasis (rosscrom1-163021) 26 November 2015 RCAHMS First Edition Survey Project An enclosure with an attached short length of wall are depicted on the 1st edition of the OS 6-inch map (Inverness-shire 1875, sheet xxxiii), but they are not shown on the current edition of the OS 1:10000 map (1974). Information from RCAHMS (AKK) 3 July 1996. References Peteranna, M. (2014) Moy and Dalarossie, Balvraid, Tomatin, Walkover survey, Discovery Excav Scot, New, vol. 14, 2013. Cathedral Communications Limited, Wiltshire, England. Page(s): 114

Asset/Event Number	26
Asset/Event Name	Allt Bruachaig
Type of Asset/Event	Enclosure (Period Unknown)
NRHE Number	NH83SW 22
HER Number	
Status	Non-designated heritage asset
Easting	283878
Northing	830983
Parish	Moy And Dalarossie

Council	Highland
Description	Canmore ID: 358838 Field Visit (24 October 2013) Woodland Creation Scheme, Balvraid, Tomatin The faint remains of a rectangular enclosure under dense heather underlie the new fence line. It measures 19m NE-SW by 16m over stone/turf banks spread 1-1.2m wide and up to 0.4m high. Information from Oasis (rosscrom1-163021) 26 November 2015

Asset/Event Number	27
Asset/Event Name	Allt Bruachaig
Type of Asset/Event	Structure (Period Unknown)
NRHE Number	NH83SW 23
HER Number	
Status	Non-designated heritage asset
Easting	283898
Northing	830977
Parish	Moy And Dalarossie
Council	Highland
Description	Canmore ID: 358840 Field Visit (24 October 2013) Woodland Creation Scheme, Balvraid, Tomatin The faint remains of a heather-covered stone/turf subrectangular structure, possibly a house, is attached to the SE side of an enclosure. It measures 14m NE-SW by 4.5m over walls which are difficult to define, surviving only up to 0.3m high. Information from Oasis (rosscrom1-163021) 26 November 2015

Asset/Event Number	28
Asset/Event Name	Allt Bruachaig
Type of Asset/Event	Wall (Post Medieval)
NRHE Number	NH83SW 24
HER Number	
Status	Non-designated heritage asset
Easting	283859
Northing	830997
Parish	Moy And Dalarossie
Council	Highland
Description	Canmore ID: 358841

Field Visit (24 October 2013)
Woodland Creation Scheme, Balvraid, Tomatin

A short section of single-coursed stone walling lies below the line of an old fence line. It stands up to 0.6m high.

Information from Oasis (rosscrom1-163021) 26 November 2015

Asset/Event Number	29
Asset/Event Name	Allt Bruachaig
Type of Asset/Event	Croft(S), Enclosure
NRHE Number	NH83SW 25
HER Number	
Status	Non-designated heritage asset
Easting	283582
Northing	831491
Parish	Moy And Dalarossie
Council	Highland
Description	Canmore ID: 358842 Field Visit (24 October 2013) Woodland Creation Scheme, Balvraid, Tomatin (283558 831465) A T-shaped farmstead built with mortared stone: E-W aligned wing stands almost to roof height with the W gable end wall dismantled, there are 2 nearly opposing entrances in N/S walls; N-S wing stands up to 0.6m high and is mostly in ruins. (283595 831507) A second, probably older, house or byre is located NE of the main farmstead. It is stone-built, with no visible mortar, and there is no visible entrance. It measures 11m N-S by 5m over walls standing 0.5-0.6m high. (283601 831475) Stone-built walling forming at least one enclosure is attached to the E side of the main farmstead. There is a possible byre or bothy attached to the E side of the enclosure. Information from Oasis (rosscrom1-163021) 26 November 2015

Asset/Event Number	30
Asset/Event Name	TOMATIN, FINDHORN BRIDGE
Type of Asset/Event	Road Bridge(S) (Period Unassigned)
NRHE Number	NH82NW 57
HER Number	
Status	Listed Building - Category B
Easting	280417
Northing	827741
Parish	Moy And Dalarossie
Council	Highland

Description	LB14885 Canmore ID: 279908 Description Sir Owen Williams (engineer) with Maxwell Ayrton (architect), dated 1926. 2-span shuttered-concrete girder bridge with deep canted abutments containing refuges, high parapet with polygonal openings and central concrete pier with open centre and triangular cutwaters rising to top of parapet. Inscription cast in centre of parapet, facing road. Each span measures 29.3m. Statement of Special Interest Findhorn Bridge is the largest, most expensive, and arguably most striking of a number of bridges constructed by Sir Owen Williams and Maxwell Ayrton along the route of the old A9 in the Highlands. The road deck is suspended from deep vierendeel girders, the form of which dictate the shape of the shuttered concrete arches that line the parapet. The ground on which the bridge was ill-suited to contain the thrusts of an arched bridge. While there are other methods of overcoming this difficulty, this bridge both solves the engineering problem and provides a monumental visual effect. The inscription reads: THIS BRIDGE WAS BUILT IN 1926 TO REPLACE THE BRIDGE BUILT BY THOMAS TELFORD IN 1833. The bridge is situated on the course of the old A9, just to the South of Tomatin. Williams, one of the most celebrated engineers of the modern movement era of design, was commissioned to design this series of landmark bridges working with the architect Maxwell Ayrton. Designed and built between 1924 and 1928, the bridges combine imaginative aesthetics with innovative structural design in reinforced concrete. There were eight bridges by Williams on the A9, the others being two-arch bridges at Loch Alvie and Crubenmore, larger bridges at Dalnamein and over the Spey near Newtonmore, and a small single-span bridge also at Dalnamein (all listed seperately). Small bridges at Aviemore and Brora have been remodelled and remain unlisted. References John Hume The Industrial Archaeology of Scotland Volume II (1977) pp210-1. David Cottam Sir Owen Williams 1890-1969 (1986). David Yeomans & David Cottam, The Engineer's Contribution to Contemporary Architecture: Owen Williams (2001).

Asset/Event Number	31
Asset/Event Name	Livestock Feature, Balnespick
Type of Asset/Event	Livestock Feature (possible)
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	286043
Northing	830170
Parish	
Council	Highland
Description	Square cut into the hillside with about 1m wide channel running down the hill - for livestock management? Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	32
Asset/Event Name	Cairn, Balnespick

Type of Asset/Event	Cairn (possible)
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	286933
Northing	831376
Parish	
Council	Highland
Description	Possible cairn oval moss and lichen covered mound approx 7x4m aligned east to west small pile of stones at west end and set upright at east end. Other stones could be felt under the moss. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	33
Asset/Event Name	Shooting Butt, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	286666
Northing	830389
Parish	
Council	Highland
Description	Shooting butt. Timber, nearly intact. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	34
Asset/Event Name	Shooting Butt, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	286679
Northing	830440
Parish	
Council	Highland
Description	Shooting butt. Timber, base and sides are generally intact but the butt is starting to collapse. Recorded by AOC Archaeology during walkover survey

Asset/Event Number	35
Asset/Event Name	Shooting Butt, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	286692
Northing	830485
Parish	
Council	Highland
Description	Shooting butt. Timber, in poor state. Recorded by AOC Archaeology during walkover survey

Asset/Event Number	36
Asset/Event Name	Shooting Butt, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	286707
Northing	830532
Parish	
Council	Highland
Description	Shooting butt. Timber, in poor state. Recorded by AOC Archaeology during walkover survey

Asset/Event Number	37
Asset/Event Name	Shooting Butt, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	286650
Northing	830346
Parish	

Council	Highland
Description	Shooting butt. Timber shooting butt. It is generally structurally intact but deteriorating. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	38
Asset/Event Name	Shooting Butt, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	286632
Northing	830292
Parish	
Council	Highland
Description	Shooting butt. Timber, in very poor state. Foundations and peaty ground eroded. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	39
Asset/Event Name	Shooting Butt, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	286631
Northing	829730
Parish	
Council	Highland
Description	Shooting butt. Timber shooting butt with earthern embankment . It is structurally intact but deteriorating. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	40
Asset/Event Name	Shooting Butt 8, Balnespick
Type of Asset/Event	Balnespick
NRHE Number	
HER Number	

Status	Non-designated heritage asset
Easting	286664
Northing	829706
Parish	
Council	Highland
Description	Shooting butt 8. Timber shooting butt in very good condition. Although slightly overgrown it is probably in use. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	41
Asset/Event Name	Shooting Butt 7, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	286695
Northing	829685
Parish	
Council	Highland
Description	Shooting butt 7. Timber shooting butt in very good condition and in use. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	42
Asset/Event Name	Shooting Butt, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	286737
Northing	829655
Parish	
Council	Highland
Description	Shooting butt. Timber shooting butt in very poor condition. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	43

Asset/Event Name	Shooting Butt, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	287297
Northing	829268
Parish	
Council	Highland
Description	Shooting butt. Embankment style shooting butt. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	44
Asset/Event Name	Shooting Butt, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	287318
Northing	829297
Parish	
Council	Highland
Description	Shooting butt. Embankment shooting butt. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	45
Asset/Event Name	Shooting Butt, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	287336
Northing	829329
Parish	
Council	Highland
Description	Shooting butt. Drystone wall and earthern embankment shooting butt. Drystone wall aspect slightly overgrown but clearly visible

	Recorded by AOC Archaeology during walkover survey

Asset/Event Number	46
Asset/Event Name	Shooting Butt, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	287350
Northing	829365
Parish	
Council	Highland
Description	Shooting butt. Embankment style shooting butt. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	47
Asset/Event Name	Shooting Butt, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	287377
Northing	829405
Parish	
Council	Highland
Description	Shooting butt. Earthern embankment shooting butt. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	48
Asset/Event Name	Cairn, Balnespick
Type of Asset/Event	Cairn
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	287355
Northing	829337

Parish	
Council	Highland
Description	Small stone cairn approx 1.5m high. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	49
Asset/Event Name	Shooting Butt, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	287629
Northing	828724
Parish	
Council	Highland
Description	Shooting butt with other stances in background running approx south-southeast. Simple timber barricade style in reasonable condition. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	50
Asset/Event Name	Shooting Butt, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	287602
Northing	828754
Parish	
Council	Highland
Description	Shooting butt. Simple shooting butt (barricade style), in poor condition. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	51
Asset/Event Name	Shooting Butt 5, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	

HER Number	
Status	Non-designated heritage asset
Easting	286357
Northing	829608
Parish	
Council	Highland
Description	Shooting butt 5 - no 6 to east not recorded. Timber, in good condition and in use. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	52
Asset/Event Name	Shooting Butt 4, Balneespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	286312
Northing	829612
Parish	
Council	Highland
Description	Shooting butt 4. Timber, in very good condition and in use, partially overgrown. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	53
Asset/Event Name	Marker Stone, Balnespick
Type of Asset/Event	Marker Stone (possible)
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	286279
Northing	829617
Parish	
Council	Highland
Description	Possible marker stone. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	54

Asset/Event Name	Shooting Butt 3, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	286268
Northing	829619
Parish	
Council	Highland
Description	Shooting butt 3. Timber, in very good condition and inuse, although partially overgown. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	55
Asset/Event Name	Shooting Butt 2, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	286228
Northing	829623
Parish	
Council	Highland
Description	Shooting butt 2. Timber, in very good condition and in use. Recorded by AOC Archaeology during walkover survey

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Asset/Event Number	56
Asset/Event Name	Shooting Butt 1, Balnespick
Type of Asset/Event	Shooting Butt
NRHE Number	
HER Number	
Status	Non-designated heritage asset
Easting	286181
Northing	829628
Parish	
Council	Highland
Description	Shooting butt 1. Timber, in very good condition and in use. Recorded by AOC Archaeology during walkover survey

Asset/Event Number	57
Asset/Event Name	Lochindorb Castle
Type of Asset/Event	Scheduled Monument
NRHE Number	SM1231
HER Number	
Status	Scheduled Monument
Easting	297471
Northing	836324
Parish	Cromdale, Inverallan And Advie
Council	Highland
Description	Identifying the asset – Lochindorb Castle Lochindorb Castle stands out as one of the most important and distinctive medieval castles in Scotland. Built by the Comyn Lords of Badenoch in the 13th Century, it acted as an important strategic base during the First War of Scottish Independence, before performing a key role in northern Scotland in the 14th Century as the home of Alexander Stewart, Earl of Buchan. Due to its 'situation and power', Lochindorb was dismantled in 1455 on the orders of the Crown and has since lain in ruin. The castle's form Lochindorb is a castle ofenceinte, or enclosure, a fortification comprising a massive and imposing, largely featureless, curtain wall protecting an enclosed courtyard. These castles' internal features and buildings are typically built against the inner face of the curtain, a scheme to which Lochindorb conforms. In layout the castle comprises a high quadrilateral curtain wall enclosing a large area, with stout round towers strengthening each corner. The castle is constructed of roughly-coursed rubble masonry with ashlar-framed arrowslits in the towers. Structural evidence suggests that at least part of the castle once reached four storeys in height. Construction Lochindorb was constructed in two main phases dating to c. AD 1260-1280 and c. AD 1300-1450. The island upon which the castle is built is likely to be at least partly artificial; the Old Statistical Account for the parish of Cromdale (1791) notes that 'great rafts or planks of oak' could occasionally be seen protruding from the island, suggesting some form of piling. Enclosure castles represent the first stone-built castles in Scotland and mark a significant move away from the established earth-and-timber motte-and-bailey form of construction. The Comyn family embraced the enclosure castle with enthusiasm, constructing Lochindorb and Inverlochy Castle during a 1260-1280 building campaign. The Comyns These fortresses helped the Comyns establish dominance in northern Scotland, controlling an area stretching from the nation's west (Lochaber) to east (Aberdeenshire) coasts. These stout, functional strongholds demonstrate the Comyns' clear intent of establishing dominance in the region, and their rising power in 13th century Scotland. The Comyns, along with the Bruces, became contenders for the Scottish Crown during the First War of Scottish Independence (1296-1328). John 'the Red' Comyn and Robert the Bruce vied for control during this complex war. John Comyn established himself and gained political influence in Scotland as the war progressed, and both he and Bruce served as Guardians of Scotland. In the autumn of 1303, Edward I of England spent a month at Lochindorb while on campaign, using the castle as a base from which to stage raids elsewhere in Comyn lands. Known for initiating construction programmes while occupying castles, Edward I may have overseen the construction of the castle's second phase. Later period of use Following the murder of Comyn by Bruce and the latter's seizure of the Scottish throne, Bruce

made the destruction of the Comyns a priority and ruthlessly set about overthrowing them. This resulted in the Harrying of Buchan during which several Comyn-controlled castles were destroyed and their lands raided. This effectively put an end to the Comyn dynasty and their supremacy in northern Scotland.
Lochindorb passed to Alexander Stewart, Earl of Buchan, in 1370. A son of Robert II, Stewart became popularly known as 'the Wolf of Badenoch' for his ruthlessness. From Lochindorb, Stewart controlled Buchan with his own private forces, fostering a climate of lawlessness in northern Scotland and discontent among the Scottish nobility. This reached a climax in 1390 with Stewart leading raids into Moray, during which Elgin was sacked and its cathedral destroyed by fire, cementing Stewart's infamous reputation.
The castle was refortified in 1455 by Archibald 'the Black' Douglas, Earl of Moray. The Black Douglases broke into open rebellion later that year and were quickly crushed by the Crown. Lochindorb was then destroyed on the orders of James II.

National importance
The monument is of national importance as one of the most distinctive and historically significant medieval castles in Scotland. It is an early and particularly large example of enclosure castle, with considerable potential to contribute to the study of medieval domestic and defensive architecture in Scotland.
Its significance is enhanced by its unusual and dramatic location in a loch on a remote moor, and by its strong associations with several pivotal figures in Scottish and English history.

Analysing the castle's setting
Current landscape context
The castle is in a relatively remote and featureless upland landscape of largely unimproved moorland. It lies in the centre of a loch which sits in a large depression in the landscape with higher land surrounding it. This means that there is a relatively short distance to the horizon in almost all directions. These effects combine to create a topographic bowl, which is perceived to enclose the landscape features within it.
The result of this is the castle is well-hidden from most directions until this topographic bowl is entered. Lochindorb Castle is striking in its conspicuousness as a large and monolithic human-made structure appearing as a dominating presence within this secluded landscape.
The moors around the castle are empty except for some forestry to the west and south, Tirriemore croft on the north-west shore of Lochindorb, and Tom nan Clach wind farm 11km to the west. This further emphasises Lochindorb Castle's presence as a lone, commanding presence in the landscape.

Historic context
The land between the rivers Findhorn and Spey was once afforested, with Lochindorb possibly performing a dual role of strategic fortress and impressive hunting lodge at the centre of this forest. A woodland setting would have further heightened the castle's sense of seclusion and its imposing appearance.

Though the castle is likely to have always been remote, historic mapping suggests it lay on the most direct route through this section of the central Highlands, demonstrating the castle's strong position and strategic intent. Roy's Military Survey of Scotland (1747-52) depicts a now-unused road leading from the west (the present A9 corridor) through the mountains and along the east shore of Lochindorb. This loch-side section of the road survives as the minor road connecting the current B9007 to the A939 and lies on or close to the line of that depicted by Roy.
Lochindorb has a strong association with this communication route. The castle would have been built to control it, to exploit the access it provided to other lands, and to impress people passing along it. Visitors would have also used these routes to directly approach the castle. Views from the road to the castle were therefore important in the past and remain so today. The hills encircling the loch are an important backdrop to these views giving a sense of enclosure.

Current experience
Lochindorb is well-hidden by the surrounding landscape until the topographic bowl containing it is arrived at, at which point the castle appears quite suddenly as a looming, formidable presence in the landscape. This effect is heightened by the stark isolation in which the castle

stands and the massive scale of its construction.
Approaching the castle from the modern road therefore allows the castle's current and historic settings to be readily understood and appreciated. As the castle is approached, its impressive size and austere character become apparent, the foreboding bulk of its masonry subtly changing in profile and form as the road is traversed. This provides the viewer with a feeling of Lochindorb's function as a place from which to watch and be watched.
Notwithstanding the section of road passing the woodland around Lochindorb Lodge, the castle remains the dominant presence as the loch-side is traversed. The castle's bulky, angular form contrasts sharply with the low, gently sloping uplands which form its backdrop, and the flat loch in which it sits. This further establishes the castle's role as the focal point within its setting.

Aesthetic value
Lochindorb's strong aesthetic value as a scenic ruin in a relatively undeveloped Highland glen provides a juxtaposition that has been celebrated in art since the Victorian period. This is evidenced by several depictions of the castle by artists such as: Sir David Murray (1929), M. Sinclair (19th Century) and E.J. Maybery (1887-1964). Many views to the castle have strong aesthetic qualities that contribute to a distinct sense of place.

Assessing the impact
57)
Landscape context
Lochindorb Castle appears as a formidable and striking construction in an otherwise largely featureless landscape. The proposals would impact on both the enclosed nature of the topographic bowl in which the castle stands, as well as the relatively featureless nature of this landscape. Positioned behind the hills immediately west of the loch, the turbines would alter the sense of enclosure, drawing the eye away from the bowl and the castle to the landscape beyond, undermining the castle's contained and secluded setting.

Asset/Event Number	58
Asset/Event Name	Aircraft Crash Site, Carn a Choire Moire
Type of Asset/Event	AIRCRAFT CRASH SITE (CRASHED 1901; CRASHED 2100; , Modern - 1901 AD to 2100 AD)
NRHE Number	
HER Number	MHG30822
Status	Non-designated heritage asset
Easting	284290
Northing	829790
Parish	MOY AND DALAROSSIE
Council	Highland
Description	A Whitley aircraft crashed on Jan. 6th, 1942. It flew into the hill called 'Carn a Choire Moire'. A memorial was erected at the top of the wreckage trail 20 yards from the Trig point. Serial No. N1498. Sqd. 19 O.T.U. Information supplied by Alan Clark, 11/04/02. Macclesfield Aviation Group, a member of the British Aviation Archaeological Council. See assoc. docs. File. J Aitken : 15/04/02. Website - www.the-ateam.supanet.com or e-mail at Clark@theateam69.fsnet.co.uk Website details supplied by A Clark, 11/04/02. J Aitken : 17/04/02. Email correspondence from Andrew Ker in May 2012 provided a record of the text, now

apparently illegible, on the memorial. It read:
"THIS MEMORIAL PLAQUE IS IN MEMORY OF THOSE
PERSONNEL KILLED WHEN
WHITLEY MK V AIRCRAFT
OPERATING WITH 19 OTU RAF KINLOSS
CRASHED ON 6 JANUARY 1942
KILLED
PLT OFF J G IRVINE
PLT OFF J G CASTLING
SGT C S GEORGE
SGT C W GREEN
INJURED
SGT D PIKE
SGT E F J KANE RCAF
SGT C M EDGHILL" <1>

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