

CLASHINDARROCH II

WIND FARM

Outline Bird Protection Plan
Prepared for: Vattenfall Wind Power Ltd

Technical Appendix 8.4

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Clashindarroch II Wind Farm EIA Report

Chapter 8 Technical Appendix:

8.4. Outline Bird Protection Plan

November 2019

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1. INTRODUCTION

1.1 Purpose of this Document

- 1.1.1 This document sets out the proposed approach to avoid / minimise impacts on breeding birds during construction of the Clashindarroch II wind farm (the 'proposed development') in the form of an outline Bird Protection Plan (BPP).
- 1.1.2 All breeding birds are legally protected in Scotland, under the Wildlife & Countryside Act 1981 (as amended), and there is a requirement to ensure that all works required to construct the proposed development, including tree felling and clearance, proceed lawfully with respect to this legislation.
- 1.1.3 There is the potential for the use of the area by breeding birds to change with time. Therefore, information from pre-construction surveys and any ongoing and future monitoring in Clashindarroch Forest will be taken into account prior to the BPP being finalised and implemented.
- 1.1.4 This document provides an outline BPP which would be developed into detailed documents in advance of the commencement of works (i.e. prior to any tree felling related to wind farm construction and following the proposed pre-works surveys).

1.2 Relevant Legislation & Guidance

- 1.2.1 The key EU directives and domestic legislation relevant to this document are as follows:
 - Directive 2009/147/EC on the conservation of wild birds (codified version of Council Directive 79/409/EEC, as amended), known as the 'Birds Directive'; and
 - Wildlife and Countryside Act 1981 (the 'WCA' as amended, including by the Nature Conservation (Scotland) Act 2004).
- 1.2.2 The proposed approach and measures outlined in this document are based on current best practice guidance, including consideration of the following publications:
 - SNH (2019). Good Practice during Wind Farm Construction (4th Edition). A joint publication by Scottish Renewables, Scottish Natural Heritage, Scottish Environment Protection Agency, Forestry Commission Scotland, Historic Environment Scotland, Marine Scotland Science, AEECoW;
 - Ruddock, M. & Whitfield, D.P. (2007). A Review of Disturbance Distances in Selected Bird Species. A report from Natural Research (Projects) Ltd to Scottish Natural Heritage;
 - SNH (2016). Dealing with construction and birds. Guidance document produced by Scottish Natural Heritage (March 2016);
 - Forestry Commission Scotland (2006). FCS Guidance Note 32: Forest operations and birds in Scottish forests - the law and good practice; and
 - SNH (2016). Wind farm proposals on afforested sites - advice on reducing suitability for hen harrier, merlin and short-eared owl (January 2016).

1.3 Consultation

- 1.3.1 It is intended that following completion of the pre-works surveys and ahead of works for the proposed wind farm commencing (this includes tree felling operations) a fully detailed version of the BPP will be provided for review and comment by SNH.

1.4 Summary of Relevant Legal Framework

- 1.4.1 The information provided here is primarily derived from the SNH website¹. The original legislation should be referred to for definitive guidance. Copies of the original, i.e. as enacted, and revised versions of all UK and Scottish Government legislation are available online from <http://www.legislation.gov.uk>.

EU Birds Directive

- 1.4.2 The Birds Directive is a legal act of the European Union which was produced in response to commitments made under the Bern and Bonn Conventions. The Birds Directive requires member states to implement measures and legislation to protect bird populations. The Birds Directive mandates protection against deliberate disturbance of birds, particularly during the breeding period. This includes a high level of protection for species listed on Annex I of the Directive as well as certain general provisions for all naturally occurring birds in the wild.
- 1.4.3 The main provisions of the Birds Directive relevant to the proposed development include:
- The maintenance of the populations of all wild bird species across their natural range (Article 2) with the encouragement of various activities to that end (Article 3);
 - The identification and classification of Special Protection Areas (SPAs) for rare or vulnerable species listed in Annex I of the Directive, as well as for all regularly occurring migratory species; and
 - The establishment of a general scheme of protection for all wild birds (Article 5).
- 1.4.4 Full consideration of the potential implications of the proposed development on the maintenance of bird populations across their natural range and specifically in relation to SPAs has been given in the assessment (further detail is provided in Chapter 9 and Technical Appendix 8.4). This document focuses on the implications of Article 5 and specifically how the legal protections afforded to all wild birds, and the enhanced protections to certain scarce species, will be followed during the construction of the proposed development (including the associated tree felling operations).

Wildlife & Countryside Act 1981 (as amended)

- 1.4.5 In the UK, the provisions of Article 5 of the Birds Directive are implemented through the Wildlife & Countryside Act 1981 (as amended).
- 1.4.6 With the exception of birds listed in Schedule 2, and for certain specified purposes under licence, the WCA makes it an offence to intentionally or recklessly:
- kill, injure or take a wild bird;

- take, damage, destroy or interfere with a nest of any wild bird whilst it is in use or being built (or at any time for a nest habitually used by any bird listed in Schedule A1);
 - obstruct or prevent any wild bird from using its nest;
 - take or destroy an egg of any wild bird;
 - disturb any wild bird listed on Schedule 1 whilst it is building a nest or is in, on, or near a nest containing eggs or young, or whilst lekking;
 - disturb the dependent young of any wild bird listed on Schedule 1.
- 1.4.7 Those birds listed on Schedules A1 and 1A receive additional protection which makes it an offence to intentionally or recklessly:
- at any time take, damage, destroy or interfere with any nest habitually used by any wild bird included in Schedule A1; and
 - at any time harass any wild bird included in Schedule 1A.
- 1.4.8 In outline, to comply with the WCA there should be no disturbance of breeding birds listed on Schedule 1, no interference with the nests of species listed on Schedule A1 at any time, nor disturbance/ harassment of birds listed in Schedule 1A at any time.
- 1.4.9 There should also be no direct physical interference with any wild birds, or their nests, whilst they are in use or being built or while they have dependent young. It is not, however, an offence to physically interfere with old nests - except for birds listed in Schedule A1.

1.5 National and Local Status for Key Species

- 1.5.1 As noted above, all wild birds, their nests, eggs and young are protected under the WCA. This outline BPP includes consideration of all birds, including common and widespread species, which could be affected by the proposed works. Details of the bird species which have been recorded as breeding within the proposed development area during the baseline surveys is provided in Technical Appendix 8.1.
- 1.5.2 Table 8.4.1 provides a summary of the conservation and statutory designations applicable to certain key species of national conservation concern and/or special legal protection that have been recorded breeding within or near to the proposed development area. Also provided is a summary of the local (i.e. in the context of the proposed development area) status of the species considered in this document.

Table 8.4.1: Summary of National Status and Legal Protection of Key Bird Species of Conservation Concern relevant to the Proposed Development Area

Species	Key Conservation and Statutory Taxon Designations	Summary of Proposed Development Area Presence / Status
Black grouse (<i>Lyrurus tetrix</i>)	<ul style="list-style-type: none"> • UK Red list (BoCC4) ⁱ • UK BAP Priority Species ⁱⁱ • Scottish Biodiversity List ⁱⁱⁱ • Birds Directive Annex II ^{iv} 	Not recorded within the proposed development area during baseline surveys. However, there is a population present in the wider area (c. 2 km from the proposed wind farm). Use of the proposed development area could increase following tree felling and forest restructuring.

Species	Key Conservation and Statutory Taxon Designations	Summary of Proposed Development Area Presence / Status
Goshawk (<i>Accipiter gentilis</i>)	<ul style="list-style-type: none"> • UK Green list (BoCC4) ⁱ • WCA 1981 Schedule 1 ^v 	One regularly used nesting area is located within 500m of the proposed wind farm. The wider area, within c. 2 km of the proposed development, supports a population of 2-3 pairs which is considered to be of Regional scale importance for the species.
Hen harrier (<i>Circus cyaneus</i>)	<ul style="list-style-type: none"> • UK Red list (BoCC4) ⁱ • Scottish Biodiversity List ⁱⁱⁱ • Birds Directive Annex I ^{iv} • WCA 1981 Schedule 1 ^v 	Not recorded as breeding within the proposed development area during the baseline surveys. However, there are recent breeding records in the wider area (c. 2 km from the proposed wind farm). Use of the proposed development area by this species could increase following tree felling and forest restructuring.
Woodcock (<i>Scolopax rusticola</i>)	<ul style="list-style-type: none"> • UK Red list (BoCC4) ⁱ • Scottish Biodiversity List ⁱⁱⁱ • Birds Directive Annex II ^{iv} 	Breeding occurs within the proposed development area. This is not a rare species in the region but the national population is on the UK Red list primarily due to a severe decline in breeding range.
Merlin (<i>Falco columbarius</i>)	<ul style="list-style-type: none"> • UK Red list (BoCC4) ⁱ • Scottish Biodiversity List ⁱⁱⁱ • Birds Directive Annex I ^{iv} • Bern Convention Appendix II ^{vi} • WCA 1981 Schedule 1 ^v 	Not recorded as breeding within the proposed development area during the baseline surveys. However, there are recent breeding records in the wider area (c. 1 km from the proposed wind farm) including tree and ground nests. Use of the proposed development area by this species could increase following tree felling and forest restructuring.
Common kestrel (<i>Falco tinnunculus</i>)	<ul style="list-style-type: none"> • UK Amber list (BoCC4) ⁱ • Scottish Biodiversity List ⁱⁱⁱ 	One pair recorded in the wider survey area, potential breeding species within the proposed development area.
Common crossbill (<i>Loxia curvirostra</i>)	<ul style="list-style-type: none"> • UK Green list (BoCC4) ⁱ • WCA 1981 Schedule 1 ^v 	Potentially present as a breeding species within the proposed development area.
Scottish crossbill (<i>Loxia scotica</i>)	<ul style="list-style-type: none"> • UK Amber list (BoCC4) ⁱ • UK BAP Priority Species ⁱⁱ • Scottish Biodiversity List ⁱⁱⁱ • Birds Directive Annex I ^{iv} • WCA 1981 Schedule 1 ^v 	Potentially present as a breeding species within the proposed development area.

- i. Eaton, M. A., Aebischer, N. J., Brown, A. F., Hearn, R. D., Lock, L., Musgrove, A. J., Noble, D. G., Stroud, D., & Gregory, R. D. (2015). Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds* 108: 708-746.
- ii. The UK List of Priority Species and Habitats was published in 2007 after adoption by the Governments of all four UK administrations as part of the UK contribution to the Convention on Biological Diversity (1992). The 'UK Post-2010 Biodiversity Framework' succeeded the UK BAP in 2012 and set out the strategy for England, Wales, Scotland and Northern Ireland, and the UK as a whole, to meet internationally agreed biodiversity targets. However the 2007 UK BAP priority species and habitats remain relevant in the nature conservation / biodiversity policies.
- iii. The Scottish Biodiversity List is a list of flora, fauna and habitats considered by the Scottish Ministers to be of principal importance for biodiversity conservation. The publication of the Scottish Biodiversity List satisfies the requirements of Section 2(4) of The Nature Conservation (Scotland) Act 2004.
- iv. EU Directive 2009/147/EC on the conservation of wild birds (codified version of Council Directive 79/409/EEC, as amended).
- v. Species listed on Schedule 1 of The Wildlife & Countryside Act 1981 (as amended).
- vi. The Bern Convention on the Conservation of European Wildlife and Natural Habitats (or Bern Convention), is a binding international legal instrument in Europe. The Convention came into force on 1 June 1982.

1.6 Nesting Periods and Protection Zones

- 1.6.1 Table 8.4.2 provides a summary of the distances and periods over which the relevant bird species are considered to be particularly vulnerable to impacts from felling or construction works. This information is provided for general guidance only. NB all wild birds, not only the species listed here, are protected during the nesting period. Specific mitigation requirements for all species nesting within or near to works areas will need to be determined by a suitably experienced ornithologist on a case-by-case basis.

Table 2: Summary of Indicative Disturbance Protection Zones and Main Nesting Periods for Selected Species.

Species	Indicative Protection Zone & Breeding Season*	Notes
Black grouse	750m (lek site), April to September (see notes)	Males lek mainly around dawn and dusk and therefore the presence of a lek would not necessarily represent a constraint in terms of disturbance during the day, between the times of two hours after sunrise and two hours before sunset. The peak lekking period is April to May.
Goshawk	500m, mid-March to mid-August (see notes)	This includes the pre-egg-laying period with birds occupying their territories from March. Present year round. Nest building September to April, egg laying early April, incubation early April to mid-May, young in nest mid-May to early July, fledging late May to late July. Most young fledge in July and are independent at about 70 days (approximately one month after fledging).
Hen harrier	750m, mid-March to mid-August (see notes)	The species is not fully migratory in Scotland and birds can be seen on breeding grounds in almost any month, although generally they return in March. The first egg is usually laid between late April and mid-May but sometimes earlier. Early failures can see the replacement clutch not complete until mid-June. Incubation takes about 30 days for each egg (normal clutch size is 5 with 48 hour interval between laying) and chicks fledge at between 30 and 35 days old. This means that occasionally chicks may not fledge until August.
Woodcock	150m, March to August	Resident breeding species, males undertake circular display flights ('roding') at height of 10-15m around dawn and dusk during March to July. Single brooded. Incubation period is 21 - 24 days. The young are precocial, fledging period is 15 - 20 days.
Kestrel	200m, March to mid-August	Territories re-established during March-April. Nest site on wide range of features including crags, old nest of other species particularly crows, large ruined buildings. Egg-laying late April to mid-May, incubation late April to early June, young in nest late May to early July, fledging early June to early August.
Merlin	500m, April to mid-August	Adults return to breeding sites in April (but sometimes earlier) with peak egg laying late May to early June in Scotland. Incubation is 28-32 days and fledging period 25-27 days, becoming independent two to four weeks later. This means young birds will often still be dependent on their parents for food in August.
Common crossbill	50-150m February to May (see notes)	It should be noted that this represents a typical peak nesting period but that the species can essentially nest all year round depending on the abundance of cone crops.

Species	Indicative Protection Zone & Breeding Season*	Notes
Scottish crossbill	50-150m February to mid-June	The breeding season can occasionally be later than this with eggs recorded into June which could mean young not leaving the nest until early August, assuming a late June laying date and an incubation and fledging period of 13 days and 21 days respectively. Typically however young would have fledged before the end of June.

*Primary source for disturbance distances is: Whitfield, D.P., Ruddock, M., Bullman R. (2008). Expert opinion as a tool for quantifying bird tolerance to human disturbance. *Biological Conservation*, 141 (2008) 2708–2717.

- 1.6.2 The disturbance of birds which are not specially protected (i.e. not listed on Schedule to the WCA) is not an offence. However, intentional or reckless damage to, or destruction of nests is a potential offence. The felling of trees during the breeding season which contain nests of any wild birds could be considered an offence unless it can be shown that the felling was a lawful operation, and that reasonable precautions were taken to avoid the damage/destruction, (or it could not have reasonably been foreseen), and that reasonable steps to mitigate damage had been taken once it was apparent that it had or would occur. An approach to achieve reasonable precautions for common and widespread species is provided in Section 2.3 below.

2. OUTLINE BIRD PROTECTION PLAN

2.1 Introduction

- 2.1.1 The purpose of the outline BPP is to set out, in sufficient detail for the purposes of EIA, how the potential effects on breeding birds arising from the construction and operation of the proposed development will be avoided or minimised so that the works can proceed lawfully and following current best practice.
- 2.1.2 The measures proposed in the outline BPP will be subject to further review and consultation with SNH before any works (including tree felling) occur. This is to ensure that any relevant information that emerges, subsequent to the EIA-Report being submitted, is taken into consideration and that the proposed measures follow current best-practice.
- 2.1.3 The proposed tree felling is entirely within a conifer plantation that is managed, primarily, on a commercial rotation. The tree felling for the proposed development brings forward the date when the trees would have been felled under the FLS felling plan. It is therefore important that the BPP is consistent with FLS practice with respect to the safeguarding of nesting birds during forest felling operations. The approach proposed during tree felling has been adapted from FCS (Forestry Commission Scotland, now known as Scottish Forestry) Guidance (see Section 1.2).
- 2.1.4 The decommissioning of the proposed development is anticipated to occur 25 years after the wind farm becomes operational. There is the potential for what is currently considered to be best practice to change over this period. It is also possible that the range of bird species that need to be considered will be different. It is therefore proposed that the methods of the pre-decommissioning surveys for breeding birds and the proposed BPP (or equivalent as required at that time) would be reviewed, in

consultation with the relevant authorities, not more than 12 months before decommissioning works are due to commence.

2.2 Ecological Clerk of Works

- 2.2.1 The proposed development will appoint suitably experienced and qualified Ecological Clerk of Works (ECoW) for the duration of the pre-works, construction and site restoration phases. The appointment of the individual(s) covering the ECoW role will be agreed in advance in consultation with SNH. The ECoW will have authority to immediately halt any works that have the potential to affect nesting birds or that would contravene the ecological / environmental commitments.
- 2.2.2 The ECoW will have responsibility for checking that the SPP measures, as set out in this document, are properly implemented and adhered to. Also that the potential presence of nesting birds is regularly monitored during the works and that appropriate action is taken should any nests be at risk of disturbance (e.g. active nest sites not previously identified during the pre-works surveys).
- 2.2.3 The ECoW will provide monthly reports on the progress of the works in relation to the implementation of the environmental protection measures (including measures under the BPP) and a final report at the end of the construction and site restoration works. Copies of these reports will be provided to SNH.

2.3 Outline Bird Protection Plan

Pre-works Surveys

- 2.3.1 A detailed survey method statement will be developed, discussed and agreed with SNH well in advance of any felling or construction works commencing for the proposed development (i.e. at least 12 months in advance). All survey methods will follow current best practice and surveys will be completed by suitably experienced ecologists/ornithologists.
- 2.3.2 The surveys will be completed at the appropriate time of year and not more than 12 months prior to the commencement of felling / construction.
- 2.3.3 The surveys will include appropriate buffer zones related to the focal species (or group of species) and their potential zone of disturbance from the works (see Table 1). For example, surveys for black grouse would be completed in all areas of suitable habitat within 750m of proposed works and surveys for goshawk within 1000m.
- 2.3.4 In relation to goshawk, due to the potential presence of nest sites relatively close to the works, it is particularly important that pre-felling surveys are completed during the appropriate time of year (i.e. starting during the peak display period in March) and that they are informed by current information on use of the area by goshawk from the FLS ranger service. Additional species-specific measures to protect goshawk during the works and in the long-term may be appropriate and will depend on the outcome of the pre-construction surveys / desk study. This will be discussed and agreed in consultation with FLS.
- 2.3.5 The findings of the pre-felling/construction bird surveys will be submitted to SNH and the local authorities.

Pre-felling / Pre-construction Induction

- 2.3.6 Prior to any personnel working within the felling or construction area they will be fully briefed by the ECoW on the potential for nesting birds to be present in the area, their status and legal protection, relevant details of the BPP and what actions they need to take should any nesting birds be encountered or suspected as present during their work.

Felling / Works Extents

- 2.3.7 The extent of advanced tree felling required for the construction of the wind farm will be kept to the minimum necessary.

Timing of Felling

- 2.3.8 Tree felling and site clearance will be programmed, where possible, outside of the main wildcat breeding season (see Technical Appendix 9.4), which is March to August inclusive. This will ensure that potential impacts on the majority of nesting birds is also minimised.
- 2.3.9 Where tree felling and site clearance has to occur within this period it will only be carried out following a suitably thorough survey and assessment of the area by the ECoW (see proposed method below).

ECoW Role

- 2.3.10 The ECoW will attend site as required throughout the felling/construction period to ensure all environmental mitigation relevant to birds is delivered, and ensure compliance with the mitigation including the BPP.
- 2.3.11 The ECoW will ensure that due regard is given to the statutory protection of all breeding birds under the WCA and take into account early nesting species e.g. crossbill (*Loxia* spp.).
- 2.3.12 Appropriate protection zones will be established for any breeding sites confirmed during the pre-construction surveys and during the works. Nest protection zones will vary between 100m to 1000m (see Table 2 above). However, the exact extents of the protection zones will be determined by the ECoW on a site-specific basis, and this will depend on the species, local topography, existing woodland screening and the type and level of potential disturbance from the works.

Nest Check Methods for Common Species

- 2.3.13 Methods to determine whether breeding is occurring and, if so, the nest site location will vary between species. The survey method statement will detail the proposed approach for certain key species such as Schedule 1 raptors.
- 2.3.14 In relation to common and widespread species the following general method will be followed.
- 2.3.15 Systematic pre-works checks of the felling/construction working area will be undertaken to establish if birds are nesting, involving an experienced ornithological surveyor walking and scanning the area of works to confirm breeding birds based on audio and/or visual signs.

- 2.3.16 Nest searches will also be completed on a rolling programme by the ECoW in order to provide the most up-to-date information in all areas where proposed development works are being undertaken that could impact on nesting birds.
- 2.3.17 The nest check methods and extent of the search areas covered per survey per day will vary considerably between open ground and woodland habitats. In open habitats (such as moorland and agricultural fields) all areas of works and extending to c. 25m beyond will be systematically walked and scanned to detect signs of ground-nesting songbirds. Where waders are seen or suspected to be potentially breeding the area of search will be extended to include c. 50 m beyond the area of works.
- 2.3.18 In broad-leaved woodland and coniferous woodland surveyors will locate potential breeding birds and observe their behaviour in order to establish if they are nesting to c. 15m beyond works for common songbirds and 200m for non-Schedule 1 raptors, owls, raven and grey heron.
- 2.3.19 Active breeding sites for the purpose will be defined as follows:
- Presence of nest sites with eggs and/or young;
 - Observation of birds carrying nest material to a nest site (e.g. hole in tree, etc.);
 - Birds carrying food to a nest site;
 - Birds carrying faecal sacs away from a nest site; and
 - Birds observed behaving in a highly agitated manner (e.g. alarm calling), performing distraction display and/or feigning injury when approached by a surveyor.
- 2.3.20 Birds seen singing will not be classified as definitive evidence of an active nest site near-by as birds are known to sing, for example, whilst migrating and during the establishment of territories (NB see below in relation to singing birds in dense plantation). Any bird singing will be observed for other more definitive signs of breeding, and/or tracked to see if the presence of the surveyor elicits a response indicative of a breeding site.
- 2.3.21 In coniferous plantations the density of trees (>2000 trees per ha) and growth stage (e.g. thicket stage trees), and areas of windthrow may not allow the surveyor to navigate through these types of woodland/stands, thereby preventing the surveyor from following and observing birds to a degree that nesting can be confirmed. This situation is particularly likely to arise in dense plantations of Sitka spruce (*Picea sitchensis*) and other commercial tree crops. The ECoW will decide if such conditions are limiting the ability of the surveyor to check for nests on an area by area basis. In such circumstances the presence of singing birds during the nesting period for the species may be used to determine areas of constraint which are required to be buffered.
- 2.3.22 Where breeding is proven or is suspected though no nest site location is confirmed (see above) the area will be marked so that no felling/construction works takes place until monitoring confirms the absence of an active nest site, e.g. birds have fledged the nest or no activity indicative of on-going nesting is observed after a number of monitoring visits (e.g. allowing for the potential for some species to raise more than one brood within a breeding season).

- 2.3.23 The ECoW will confirm when breeding has been completed at any nest sites, and when the protection zone can be removed.
- 2.3.24 It is acknowledged that locating nest sites of many bird species and proving that birds are breeding can be a very difficult and time consuming task. However, it is considered that an appropriate level of survey by experienced ornithological surveyors will be undertaken in order to confirm active nest sites. In addition, where breeding is suspected though a nest has not been confirmed a conservative approach will be taken and the area classified as an active breeding site, allowing appropriate mitigation to be applied.

Watching Brief / Works Supervision

- 2.3.25 There will be a watching brief in place during the felling and construction works to help ensure that the relevant BPP measures are correctly and consistently applied and also to react to any new evidence of breeding birds that may be found during the felling and construction phases. This will be the responsibility of the appointed ECoW.

2.4 Wind Farm Operation

- 2.4.1 There is the potential for the felling associated with the proposed development (key-holing and re-structuring) to increase the extent and suitability of habitats within the site to species such as hen harrier, merlin and short-eared owl. This is due to the increase in small mammal populations during the post-felling and pre-thicket phases of the commercial forestry cycle creating good hunting opportunities for these species. Additionally, suitable nesting habitat could be created. This increase in general habitat suitability could expose these species to collision risk from the operational wind farm.
- 2.4.2 It should be noted that the proposed forest restructuring has been kept to the minimum necessary to accommodate the wind farm and the design of the felling will not open up foraging corridors connecting existing breeding areas to the proposed turbine locations. This will help reduce the potential risk from bird species at risk of collision with the wind turbines being attracted to the wind farm area.
- 2.4.3 The following measures are intended to address the potential for adverse effects from the operation of the wind farm on certain bird species that could be attracted to the wind farm area following tree felling and forest restructuring.

Outline of Proposed Monitoring

- 2.4.4 Breeding bird surveys would be undertaken for goshawk, merlin and hen harrier. These would be undertaken in the breeding season prior to works commencing (including felling) and for at least the first 10 years of the development (i.e. annually for the first 3 years, then 5th and 10th years) and then the need for further monitoring would be reviewed.
- 2.4.5 Surveys of black grouse and capercaillie would be undertaken in the Spring prior to works commencing (including felling) and for at least the first 10 years of the development (i.e. annually for the first 3 years, then 5th and 10th years), at which point the need for further monitoring would be reviewed.
- 2.4.6 The potential collision risk to hen harrier, in particular, due to habitat change as a result of the proposed tree felling, would be monitored as part of the proposed post-construction breeding bird surveys and for the duration of the wind farm through

habitat monitoring. The location, extent and quality of habitat suitable for nesting hen harrier would be monitored at the start of wind farm operation and then at 5-year intervals during the lifetime of the proposed development to inform the need for any habitat management measures. If monitoring indicates a greater level of impact than has been anticipated in this assessment, then the wind farm operator would, in consultation with SNH, seek solutions to attempt to further mitigate these effects through vegetation management measures (see below).

Potential Measures to Reduce Habitat Suitability

- 2.4.7 Should any action need to be taken to reduce habitat suitability near to the wind turbines the following measures will be implemented, as appropriate:
- Manage ground vegetation height to 30cm or less in any permanent, large, open areas that are within 500m of turbines. This should help reduce the likelihood of nesting, and associated aerial courtship behaviour, around turbines.
 - Employ measures to achieve more rapid canopy closure in any restocked areas close to turbines (e.g. replanting at higher stocking densities and targeted use of fertiliser). This would help reduce opportunities for both foraging and nesting by reducing the time that felled coupes remain open.

2.5 Wind Farm Decommissioning

- 2.5.1 The wind farm would be decommissioned at the end of its life (typically 25-years). During this process there is the potential for disturbance to nesting / breeding birds, including species listed on Schedule 1 of the WCA. Pre-works survey and the relevant BPP measures proposed for the construction phase (see Sections 2.3 and 2.5) will apply to the decommissioning works. However, these measures will be reviewed, in advance of the decommissioning, in order to take into account the results of monitoring during the operation of the wind farm, advances in best practice approaches to mitigate impacts on breeding birds that will have emerged since the wind farm was constructed.

