



Rothes III

SECTION 36C ORNITHOLOGY AND ECOLOGY
APPRAISAL

JULY 2024



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1 Introduction

The Ornithology and Ecology EIA Report (EIAR) chapters for the consented Rothes III Wind Farm have been reviewed for information of relevance in the context of the proposed changes to the tip height of Turbines T9, T13 and T14 from 149.9m to 200m, to compare impacts and effects of the consented turbines with the new proposals and identify key considerations and any constraints arising from the proposed variation.

Turbines T9, T13 and T14 are located on the open moorland on the northern slopes of Carn na Cailliche. This open moorland primarily comprises blanket bog, with some smaller areas of heath, marshy grassland and flush.

The Section 36C application applies to dimensions of the turbines only, with no change to turbine locations or to any ground-level infrastructure, and so it is considered that potential routes to impact for ornithological and ecological features associated with the amended turbine dimensions relate to changes to potential collision risks only.

Turbine parameters used for the 2018 collision risk analysis for T9, T13 and T14 are presented below, alongside the alternative parameters proposed for the revised turbines.

Turbine Parameter	2018	2023(a)	2023(b)
Hub height (m)	84.9	122.5	118.5
Blade length (m)	65	77.5	81.5
Max tip height (m)	149.9	200	200
Lowest rotor sweep height AGL (m)	19.9	45	37

As such, this Report considers and assesses the potential for change in significance of collision effects reported within Chapter 6: Ecology and Chapter 7: Ornithology of the Rothes III Wind Farm EIAR (2018), based on the revised turbine dimensions, with reference also made to the Additional Information (AI) Report (2019) where relevant.

Methods, results and discussion provided in the 2018 EIAR Chapters and 2019 Additional Information (AI) Report Chapters are not repeated here, other than where required to inform, or provide context to, the updated assessment presented herein.

A Habitat Management Plan (HMP) was included in the consented development and secured under Planning Condition 17. A review of the HMP in the context of the recently adopted National Planning Framework (NPF) 4 is also included within this report.

2 Ornithology

2.1 Established Baseline

Ornithological survey work has been being undertaken on and around the Rothes III Wind Farm site since before 2005, when ongoing operational monitoring for the Rothes I Wind Farm commenced (with baseline, pre-construction and construction phase monitoring also conducted prior to that). Baseline ornithological surveys within various iterations of the Rothes III Site were conducted from 2011 to 2017. As such, the ornithological baseline conditions within and surrounding the Rothes III Site are well established and understood.

Baseline survey work in 2014 and 2015 established that the open moorland habitat at Carn na Cailliche supports a limited and typical open ground breeding bird assemblage, most notably golden plover, curlew and snipe, with species breeding onsite reflected in the flight activity data recorded during VP surveys. No Schedule 1 raptors were found to be breeding within 2km of the turbines on Carn na Cailliche, and flight activity for Schedule 1 species was consequently recorded at low levels, principally comprising occasional foraging flights recorded below collision risk height.

The only species recorded flying at >18m in height within the Collision Risk Zone (CRZ) of T9, T13 and T14 comprised:

- Pink-footed goose;
- Greylag goose;
- Hen harrier; and
- Golden plover.

There was also a single black grouse flight, for which no Collision Risk Assessment (CRA) was conducted. The only other species for which collision risk assessment was carried out for the EIA (goshawk and goosander) were flights either associated with, or commuting across, the forestry habitats of Elchies and Rothes Plantations.

2.2 Turbine Changes in the Context of Collision Risk

At Rothes III, the height bands used during VP surveys were:

- <18 m
- (2) 18-32 m
- (3) 32-125 m
- (4) >125 m

Collision risk assessment was carried out and presented in Chapter 7: Ornithology of the EIAR for species with sufficient recorded flight activity within the Collision Risk Zone (CRZ; a precautionary 275m buffer around each turbine) at Collision Risk Height (CRH; i.e. the height at which rotor blades sweep). Sufficient flight activity was defined as ≥ 3 flights or ≥ 10 individuals at CRH in the CRZ.

For the consented development, the lowest rotor sweep for consented turbines T9, T13 and T14 is 19.9 m above ground level (AGL). As such, and as described in the EIAR and subsequent AI, all flights above 18m were treated as being at CRH for the purposes of assessment, with no flights excluded from the analysis based on being at above CRH. In view of this, the assessment carried out was highly precautionary as many of the flights included in the analysis for collision risk, particularly those of goose species, will in fact have been flying above the maximum tip height of the turbines.

For either of the potential new turbine models proposed for T9, T13 and T14 locations, the lowest rotor sweep would be 37m AGL, and so no new flights are drawn into the CRZ by the proposed dimension change. Additionally, the swept area would no longer include any of the flights in Height Band 2 (18-32m). As such, re-running the CRA would reduce rather than increase collision risk estimates for Important Ornithological Features (IOFs). In view of this, the CRA carried out previously is highly precautionary, and it is considered that there is no route to a change in significance of predicted effects from non-significant to significant due to the proposed change to turbine specification.

Potential changes to the predicted magnitude of impact may also arise from a change in conservation status, and so sensitivity, of the feature in question. This is not applicable to the four species considered in this assessment; the conservation status for all are unchanged from those assessed in the EIAR.

The magnitude and significance of residual effects of the consented Rothes III development for all IOFs of relevance to this application, along with a summary of changes assessed for the revised proposed development and associated updated residual effects are reported in Table 1 below.

Table 1: Summary of predicted changes to impacts and effects on Important Ornithological Features based on the revised turbine parameters.

IOF	Consented Rothes III development			Proposed revised Rothes III development				Comments
	Magnitude of residual collision impacts	Residual significance	Specific mitigation proposed	Change due to the new turbine layout	Any further mitigation required	Magnitude of residual effects based on revised turbine parameters	Residual significance	
Pink-footed goose	4.51/Year Low	Not significant	None required	None	None required	Low	Not Significant	All flights of this species are considered likely to have been above Height Band 2 (32m) and so collision risk estimates would be unchanged.
Greylag goose	3.83/Year Low	Not significant	None required	A likely reduction in collision risk	None required	Low	Not Significant	Greylag goose bred on Site in 2014 and so some flights used in the CRA may have occurred within Height Band 2 (18-32m). If so, collision risk estimates may be reduced by exclusion of these flights from the risk zone.

IOF	Consented Rothes III development			Proposed revised Rothes III development				Comments
	Magnitude of residual collision impacts	Residual significance	Specific mitigation proposed	Change due to the new turbine layout	Any further mitigation required	Magnitude of residual effects based on revised turbine parameters	Residual significance	
Hen harrier	0.01/Year Negligible	Not significant	None required	A likely reduction in collision risk	None required	Negligible	Not Significant	Hen harrier activity on Site was noted to principally comprise low-level hunting flights, and so some of the flights used in the CRA will have occurred within Height Band 2 (18-32m). Collision risk estimates would be reduced by exclusion of these flights from the risk zone.

IOF	Consented Rothes III development			Proposed revised Rothes III development				Comments
	Magnitude of residual collision impacts	Residual significance	Specific mitigation proposed	Change due to the new turbine layout	Any further mitigation required	Magnitude of residual effects based on revised turbine parameters	Residual significance	
Golden plover	3.96/Year Low	Not significant	None required	A likely reduction in collision risk	None required	Low	Not Significant	Some of the golden plover flights recorded over the open moorland on Carn na Cailliche, and so some of the flights used in the CRA may have occurred within Height Band 2 (18-32m). Collision risk estimates would be reduced by exclusion of these flights from the risk zone.

2.3 Route to Changes to Baseline

As noted above, due to extensive surveys and monitoring of the wider area over a c. 20-year period, the ornithological baseline conditions within and surrounding the Rothes III Wind Farm site are well established and understood, and it can be determined that they have remained relatively stable throughout this period.

The main factors which could potentially lead to a change in baseline conditions in the period since survey work for the consented development were completed are:

- Changes to local population densities; and
- Changes to habitats.

2.3.1 Changes to Bird Populations

Activity levels recorded at the Proposed Development may be influenced by the size of local populations of bird species, with increases in Local or Regional population size potentially leading to higher activity levels being observed on Site. However, an increase in population size may also decrease the proportion of that population which is affected by a given development, and so decrease the significance of impacts at a population level. The converse is that a decrease in population size may increase the sensitivity of a population to impacts, but decreases the likelihood that individuals may occur in any given area and so be subject to such impacts.

The population estimates used in the 2018 assessment for the four IOFs under consideration have been reviewed and compared to up-to-date estimates where these are available, to establish whether in the intervening period there has been a change in population numbers such that a substantial change to levels of recorded flight activity might be reasonably expected at the Site.

For the 2018 EIAR population estimates were taken from Musgrove *et al.* (2013)¹ for the national estimates, and Wilson *et al.* (2015)² for the Natural Heritage Zone (NHZ) estimates. A new revision of Population Estimates of Birds in Great Britain and the United Kingdom was published in 2020³, and so national population numbers are compared to this more recent publication. There has been no published update to the NHZ bird population estimates. Regional population trends have been informed for hen harrier by the most recent (2016) census⁴ and Scottish Raptor Monitoring

¹ Musgrove, A., Aebischer, N., Eaton, M., Hearn, S., Newson, S., Noble, D., Parsons, M., Risely, K. & Stroud, D. 2013. Population estimates of birds in Great Britain and the United Kingdom. *British Birds* 106:64-100

² Wilson, M.W., Austin, G.E., Gillings, S. & Wernham, C.V. (2015) Natural Heritage Zone bird population estimates. SWBSG commissioned report number 1504. Pp72

³ Woodward, I., Aebischer, N., Burnell, D., Eaton, M., Frost, T., Hall, C., Stroud, D.A. & Noble, D. (2020). Population estimates of birds in Great Britain and the United Kingdom. *British Birds* 113: 69–104.

⁴ Simon R. Wotton, Stephen Bladwell, Wendy Mattingley, Neil G. Morris, David Raw, Marc Ruddock, Andrew Stevenson & Mark A. Eaton (2018) Status of the Hen Harrier *Circus cyaneus* in the UK and Isle of Man in 2016, *Bird Study*, 65:2, 145-160

Reports⁵, and for geese and golden plover by Wetland Bird Survey (WeBS) data⁶. It should be noted that the monitoring regions for these surveys do not correspond with NHZ boundaries, and so numbers cannot be used for direct comparison with numbers reported previously in the EIA. Instead, population estimates for the region within which the Site is located are compared within the sources specified, for information to inform recent trends.

A summary comparison of population estimates used in the 2018 EIA for the consented development with more recent estimates, where these are available, is provided in Table 2.

⁵ Available at <https://raptormonitoring.org/annual-report> last accessed 06/12/2023

⁶ Available at <https://app.bto.org/webs-reporting/numbers.jsp> last accessed 05/12/2023

Table 2: Summary of comparison of population estimates for IOF's from the EIAR with contemporary sources (where available).

IOF	Conservation Status	Assigned value level	National		Regional	
			Population Estimate (2018 EIAR)	Current Population Estimate	Population Estimate (2018 EIAR)	Current Population Estimate
Pink-footed goose	Amber	Local	GB/UK: 360,000 wintering individuals	GB/UK: 510,000 wintering individuals	NHZ10: 7 wintering individuals NHZ16: (Eastern Lowlands) 162,039 wintering individuals	Comparing WeBS data for sites within Moray shows a trend of numbers of this species having increased in Moray in the five years from 2017/2018 to 2021/2022 compared to the previous 5yr mean (12/13-16/17), with total averages for the Grampian Moray sites increasing from 25,947 to 33,302.
Greylag goose	Amber	Local	GB/UK: 46,000 pairs in the breeding season	GB/UK: 47,000 pairs in the breeding season	No NHZ estimate	No Regional breeding population estimate.
			UK: 230,000 wintering individuals	UK: 230,000 wintering individuals	No NHZ estimate	Comparing WeBS data for sites within Moray shows a trend of wintering numbers of this species remaining relatively stable in Moray in the five years from 2017/2018 to 2021/2022 compared to the previous 5yr mean (12/13-16/17), with total averages for the Grampian Moray sites decreasing slightly from 1,485 to 1,342.

IOF	Conservation Status	Assigned value level	National		Regional	
			Population Estimate (2018 EIAR)	Current Population Estimate	Population Estimate (2018 EIAR)	Current Population Estimate
Hen harrier	Sch 1, Ann 1, SBL, LBAP, Red	Regional	UK: 630 pairs in the breeding season	UK: 545 pairs in the breeding season	NHZ10: 18 breeding pairs	No up-to-date NHZ population numbers are available. The Scottish Raptor Monitoring Scheme (SRMS) numbers for West Moray from 2018-2020 range from 0 pairs (2019) to three pairs (2020) occupying home ranges. The 2016 hen harrier census indicates a significant decreasing trend for hen harrier populations in the census monitoring region in which the Site is located (East Highland).
Golden plover	Annex 1, SBL, LBAP. Mentioned in Gull Nest SSSI citation (not a designated feature)	Regional	GB/UK: 38,000 – 59,000 pairs in the breeding season	GB/UK: 32,500 - 50,500 pairs in the breeding season	NHZ10: 2,702 breeding pairs	No up-to-date regional breeding population estimate.
			420,000 wintering individuals	410,000 wintering individuals		Comparing WeBS data for sites within Moray shows a trend of wintering numbers of this species remaining relatively stable in Moray in the five years from 2017/2018 to 2021/2022 compared to the previous 5yr mean (12/13-16/17), with total averages for the Grampian Moray sites decreasing slightly from 146 to 132.

Collision risks to Schedule 1 raptors, particularly open ground breeding species such as hen harrier and merlin, may be influenced by the proximity of their breeding sites, and flight behaviour such as display or juvenile dispersal flights, to proposed turbine locations. No hen harrier or merlin were recorded breeding within 2km of T9, T13 or T14 during the course of baseline survey work undertaken for the consented development, and consequently the only flight activity recorded in the CRZ of these three turbines was occasional low-height foraging flights of hen harrier.

The Highland Raptor Study Group (HRSG) were contacted in December 2023 to ascertain whether the status of breeding Schedule 1 raptors within 2km of the consented development has changed, and whether they hold any data for new raptor breeding sites from 2018 to present. They confirmed that there are no new records of raptors breeding in the area in question, additional to the regular merlin breeding location to the north of Rothes III already accounted for and considered in the 2018 EIAR and 2019 AI Report.

It can be concluded that there has been no change to the status of local populations of the four key IOFs such that it would be likely to have substantially changed activity levels previously recorded, and on which this assessment is based.

2.3.2 Changes in habitat

There have been no changes in land use and management of the open moorland habitats on Carn na Cailliche in the period since the EIA for the consented development was carried out and so there are unlikely to be changes to the species assemblage or numbers of birds present within the zone of influence of these turbines driven by habitat changes.

2.3.3 Summary

The predicted collision risk to IOFs from the consented development has been reviewed in the context of the proposed changes to the dimensions of T9, T13 and T14. Residual significance for all IOF's is considered to remain not significant.

There is no evidence of broad-scale changes to habitats present or to local populations of bird species, such to render the baseline used for assessment invalid. As such it is considered that baseline results recorded previously are likely to remain representative of conditions at the site, and so to be a sufficiently robust basis for updated assessment of impacts in the context of the proposed minor change to scheme design.

3. Ecology

3.1 Established Baseline

Survey work to establish the baseline in respect to bats took place in 2014 and 2017. Results of the surveys in both years showed that activity levels were highest at plantation forest edges adjacent to open moorland. Six confirmed species of bats were recorded during the activity surveys: common, soprano and nathusius' pipistrelle, daubenton's bat, Natterer's bat and brown long-eared bat. With the exception of Nathusius' pipistrelle, all of these species were recorded by the three static detectors placed on the open hillside of Carn na Cailliche during bat activity surveys in 2017. However, no bat roosts or potential bat roosts were identified on the Rothes III site, and overall recorded bat activity levels within the site were low. Most of the species recorded are common and widespread throughout Scotland. Common and soprano pipistrelle were the bats most frequently recorded and in the highest numbers.

A review of the 2018 impact assessment in the context of the 2019 changes to bat survey and assessment guidance⁷ was carried out for the 2019 AI Report for the consented development, and so is not repeated here. The bat impact assessment included in the AI Report updated the 2018 assessment to take account of the increased assessment of risks of impacts to common and soprano pipistrelle from turbines, from 'medium risk' to 'high risk'. However, the overall activity levels on the site were low for both these species, and so even though these species are now considered at higher risk, the conclusions based on the current guidance in the 2019 AI Report remained unchanged from those presented in the 2018 EIAR.

3.2 Turbine Changes in the Context of Collision Risk

3.2.1 Turbine buffers

Embedded mitigation proposed in the EIAR and AI Report to mitigate collision risk to bats included horizontal buffers between trees and turbine bases depending on turbine size, to be managed so that they remain free of tree and tall shrub growth in order to maintain a 50m buffer between potential bat features and the rotor blade tips, in line with guidance⁷.

Assuming a tree height of 30m, the buffer required for the 149.9m high turbines, and which is embedded in the consented development, is 101.05m, in order to achieve a 50m distance between treetops and blade tips. However, the actual horizontal distance from forestry edge achieved for T9, T13 and T14 is in excess of this.

⁷ NatureScot (2019 – updated with minor revisions 2021). Bats and onshore wind turbines - survey, assessment and mitigation. Joint Agency Guidance prepared by NatureScot (Scottish Natural Heritage), Natural England, Natural Resources Wales, RenewableUK, Scottish Power Renewables, Ecotricity Ltd, the University of Exeter and the Bat Conservation Trust (BCT).

Table 3: Turbine details assessed.

Turbine Parameter	2018	2023(a)	2023(b)
Hub height (m)	84.9	122.5	118.5
Blade length (m)	65	77.5	81.5
Buffer required to bat habitat features up to 30m in height (m)	101.05	87.75	97.26

As such, due to the greater height that the rotors of the proposed turbines would sweep, the bat buffer embedded in the consented scheme is greater than that which would be required for the proposed amended turbines.

3.2.2 Aviation Lighting

Aviation lighting on turbines may attract insects which in turn may attract foraging bats. An assessment in respect to bats of the lighting proposed to be used on 26 turbines for the consented development, including the use of red light, predicted negligible impacts to bat species associated with aviation lighting. The lighting assessment undertaken was highly precautionary, in actuality only eight perimeter turbines are to be lit.

The three turbines under consideration in this assessment are not proposed to be lit (see Section 4.5 of the Planning and Environmental Report for further details) and so there is no change to the previously assessed impacts for bats associated with turbine lighting.

3.2.3 Impact Assessment Review

The magnitude and significance of residual effects of the consented Rothes III development for all Important Ecological Features (IEFs) of relevance to this application, along with a summary of changes assessed for the revised proposed development and associated updated residual effects are reported in Table 4 below.

Table 4: Summary of predicted changes to impacts and effects on Important Ecological Features (IEFs) based on the revised turbine parameters.

IEF	Consented Rothes III development				Proposed revised Rothes III development			
	Nature of potential effect	Embedded mitigation proposed	Magnitude of effect assuming embedded mitigation	Significance	Any changes to nature of potential effect	Further embedded mitigation proposed	Magnitude of effect assuming embedded mitigation	Significance
Bats common and soprano pipistrelle	Collision: Common and soprano pipistrelle are at medium ⁸ risk of harm to individuals from wind turbines; however, based on the combined effects of the risk to individuals and the ability of the Scottish population to recover from the loss of a few individuals, populations of both these species are assessed as being at low risk from wind farm developments ⁹ . Given the very low	A minimum 101.05m buffer to be retained between turbine bases and the nearest bat habitat features. Pre-construction check for bat roosts also included	Negligible	Not significant	No, the higher proposed rotor sweep requires a smaller horizontal buffer to bat habitat features to reduce collision risk than that embedded in the consented development.	Nothing in addition to embedded mitigation.	Negligible	Not Significant

⁸ Now noted to be high risk based on updated guidance, and assessed accordingly in the 2019 AI Report, with no change to impact assessment conclusions.

⁹ Based on: Natural England, 2014. Technical Information Note TIN051 Bats and onshore wind turbines interim guidance, 3rd Edition. Updated guidance (NatureScot 2019) assesses common and soprano pipistrelle populations as at 'Medium' vulnerability. The 2019 AI Report reviewed the impact assessment in the context of the 2019 guidance.

IEF	Consented Rothes III development				Proposed revised Rothes III development			
	Nature of potential effect	Embedded mitigation proposed	Magnitude of effect assuming embedded mitigation	Significance	Any changes to nature of potential effect	Further embedded mitigation proposed	Magnitude of effect assuming embedded mitigation	Significance
	activity levels recorded for these two species, collision risk for both these species is considered likely to be very low.							
Bat Daubenton's bat, Natterer's bat, brown long-eared bat	Collison: <i>Myotis</i> sp. and brown long-eared bats are assessed by Natural England 2014 guidance to be of low risk from wind turbines both at an individual and population level ¹⁰ . All three of these species were only recorded in very low numbers during the two years of survey at Rothes III	A minimum 101.05m buffer to be retained between turbine bases and the nearest bat habitat features. Pre-construction check for bat roosts also included.	Negligible	Not significant	No, the higher proposed rotor sweep requires a smaller horizontal buffer to bat habitat features to reduce collision risk than that embedded in the consented development	Nothing in addition to embedded mitigation.	Negligible	Not significant

¹⁰ Also assessed in the current NatureScot guidance (2019) as at Low Collision Risk and Low population vulnerability.

IEF	Consented Rothes III development				Proposed revised Rothes III development			
	Nature of potential effect	Embedded mitigation proposed	Magnitude of effect assuming embedded mitigation	Significance	Any changes to nature of potential effect	Further embedded mitigation proposed	Magnitude of effect assuming embedded mitigation	Significance
Bats, All	Lighting, attraction of insects and subsequently foraging bats.	Red, radar activated lighting fitted to 26 turbines will reduce attraction to insects and avoid bat fatalities	Negligible	Not significant	No. The three turbines subject to the proposed tip height increase (T9, T13 and T14) will not be lit.	No	Negligible	Not Significant

3.2.4 Changes to Bat Populations

Due to their nocturnal and highly mobile nature, and the fact that it is impossible to identify individuals and so to discern numbers from calls, bats are extremely difficult to count. In addition, Scotland is currently under-represented by survey participation in the National Bat Monitoring Programme (NBMP)¹¹. As such, accurate population estimates for bat species, particularly in a Regional context, are not readily available.

The NBMP 2022 Annual Report¹² has been reviewed to inform likely overall population trends in Scotland relative to the baseline year (1996) for the key IEFs. This indicates that populations of common pipistrelle, Daubenton's bat, Natterer's bat and brown long-eared bat are likely to have remained stable relative to the baseline, while soprano pipistrelle shows a probable increasing trend.

Soprano pipistrelles, the commonest and most widespread of bat species in the UK, usually feed over lakes and watercourses, and also around tree lines and woodland edge¹³. As such, although recorded by the detectors on the open ground of Carn na Cailliche, the open moorland habitat in this location is not of sufficiently high value to soprano pipistrelle that numbers of this species in the vicinity of T9, T13 and T14 are likely to have increased notably in the period since baseline surveys were carried out.

It can be concluded that there is unlikely to have been a change to the status of local populations of the five key IEFs such that it would be likely to have substantially changed activity levels previously recorded, and on which this assessment is based.

3.2.5 Changes in habitat

As noted above, there have been no notable changes in land use and management of the open moorland habitats on Carn na Cailliche in the period since the EIA for the consented development was carried out.

Rotational harvesting and replanting of adjacent forestry is a baseline condition already accounted for in the assessment for the consented development; given the distance of the turbines from the forest edge it is considered unlikely that this will influence activity at the turbines located on the open hillside. As such, there are unlikely to be changes to the species assemblage or numbers of bats present within the zone of influence of these turbines driven by habitat changes.

¹¹ SNH (2015). Developing Scottish bat population trends through the National Bat Monitoring Programme. Commissioned Report No. 796

¹² Bat Conservation Trust, 2023. The National Bat Monitoring Programme Annual Report 2022. Bat Conservation Trust, London. Available at www.bats.org.uk/our-work/national-bat-monitoring-programme/reports/nbmp-annual-report. Last accessed 07/12/2023

¹³ Bat Conservation Trust species factsheet, available at https://cdn.bats.org.uk/uploads/pdf/About%20Bats/sopranopipistrelle_11.02.13.pdf?v=1541085183 Last accessed 07/12/2023

3.3 Summary

The predicted collision risk to IEFs from the consented development has been reviewed in the context of the proposed changes to the dimensions of T9, T13 and T14. Residual effects for all IEF's is considered to remain not significant.

There is no evidence of notable changes to habitats present or to indicate changes may be expected to have occurred in local populations of bat species, such to render a re-assessment of the baseline necessary. As such it is considered that baseline results recorded previously are likely to remain representative of conditions at the site, and so to be a sufficiently robust basis for updated assessment of impacts in the context of the proposed minor change to scheme design.

4 Habitat Management Plan Review

4.1 Introduction

The consented Rothes III development included an ambitious Outline Habitat Management Plan (OHMP) with an extensive scope, focussed on peatland restoration and on providing significant future benefits for both local and regional populations of capercaillie.

The overarching Aims of the OHMP, which will form the basis of the future Habitat Management Plan (HMP) as conditioned by Planning Condition 17, are:

- To create, enhance and manage habitat to increase suitable habitat availability and connectivity for capercaillie in Moray, with associated benefits for other native woodland species; and
- To decrease blanket bog drying and drainage effects associated with the previous planting of conifer crop on deep peat and improve carbon sequestration, via restoration of peat forming habitats.

The OHMP objectives are:

- To create and maintain preferred brood rearing habitat for capercaillie at the proposed Rothes III Wind Farm development site;
- To limit collision and predation mortality of capercaillie within the proposed Rothes III Wind Farm development site;
- To implement measures to reduce potential disturbance to capercaillie in key areas within the proposed Rothes III Wind Farm development site;
- To complement and enhance measures to develop connectivity corridors through the site and into neighbouring areas (such as through new planting area on Knockando Estate, the habitat management area on Rothes II and new woodland habitat planting proposals elsewhere within the Rothes Estate as shown on the Concept maps, in Appendix A of the OHMP);
- To provide opportunities for partnership working, to allow for more widespread benefits for capercaillie in the locality of the wind farm and the wider Moray region; and
- To restore peat forming habitats in an area of existing poor-quality commercial conifer plantation over deep peat within the turbine area (the 'HMA').

4.2 Proposed management

Detailed management measures proposed include:- work to develop a Moray-wide capercaillie conservation plan, via partnership working with relevant stakeholders, and supporting educational and research opportunities; blocking drains to create areas of forest bog; thinning and/or creation of clearings within the forestry and control of heather to allow blaeberry to develop; deer control to reduce browsing; planting of suitable native tree species to provide further foraging opportunities and cover alongside commercial conifer crop, to facilitate movement of capercaillie around the proposed windfarm; creation of brood cover; linking the HMP to other planting and

habitat management initiatives in areas surrounding the Rothes III Wind Farm Site, to provide a strategic approach; and post-felling, to restore peatland habitats and encourage establishment of bog plants where appropriate within the 172ha habitat management area (HMA).

Proposals for habitat creation, enhancement and management across the whole development area will be developed initially in collaboration with Forestry and Land Scotland and other landowners, with opportunities for input by stakeholders (including NatureScot and RSPB), to develop a strategic plan that delivers significant potential future benefits for capercaillie.

Due to its commitment to seek opportunities for strategic measures outside the Rothes III site, to help increase habitat connectivity between metapopulations and provide stepping stone habitats for dispersal of capercaillie in the wider landscape, both the Reporters in their Inquiry Report and NatureScot made reference to the substantial benefits that may be delivered for this species by the HMP.

The Reporters found that the consented development, subject to the implementation of mitigation measures, would not have significant adverse effect on natural heritage, including capercaillie and other bird species, with overall positive effects regionally on capercaillie and black grouse as a consequence of habitat management, and further that there would not be a significant adverse effect on peat.

The Reporters further examined the proposals in the context of the Draft NPF4, and in their report stated that they found the proposal to be not only aligned with existing policy, but also emerging policy.

NPF4 has since been adopted (February 2023) and includes a range of policies that will contribute to delivering Scotland's commitment to net zero emissions by 2045 and tackling the climate emergency. Policy 3: 'Biodiversity', and to a lesser extent Policy 5: 'Soils'; and Policy 6: 'Forestry, Woodland and Trees' are of relevance in the context of the OHMP for the Rothes III development. The Policy Intent for each of these policies are outlined below:

- Policy 3:- *To protect biodiversity, reverse biodiversity loss, deliver positive effects from development and strengthen nature networks.*
- Policy 5:- *To protect carbon-rich soils, restore peatlands and minimise disturbance to soils from development.*
- Policy 6:- *To protect and expand forests, woodland and trees.*

Table 5 below sets out the principles of NPF4 Policy 3 'Biodiversity' and summarises how the OHMP for Rothes III Wind Farm complies/contributes to these principles, with reference also made to Policy 5 and Policy 6 where appropriate.

Table 5: Summary of Rothes III Compliance with NPF4 Policy 3.

Policy	Principle(s)	How Development Complies/Contributes
Policy 3 Biodiversity	a) Development proposals will contribute to the enhancement of biodiversity, including where relevant, restoring degraded habitats and building and strengthening nature networks and the connections between them. Proposals should also integrate nature-based solutions, where possible.	<p>The development includes for extensive biodiversity enhancements, facilitated through developer investment and the implementation of an ambitious Habitat Management Plan (HMP), the Aims of which are:</p> <ul style="list-style-type: none"> • To create, enhance and manage habitat to increase suitable habitat availability and connectivity for capercaillie in Moray, with associated benefits for other native woodland species; and • To decrease blanket bog drying and drainage effects associated with the previous planting of conifer crop on deep peat and improve carbon sequestration, via restoration of peat forming habitats. <p>The objectives and measures proposed to improve the habitats on the Site for capercaillie will provide a more structurally varied and diverse mix of habitat, relative to the commercial conifer monoculture which is present under baseline conditions. This includes native tree species, diverse understorey habitats and areas of forest bog. This will have wide-ranging benefits for biodiversity, peatlands and carbon sequestration, and for other species in addition to capercaillie which also depend on these habitats to thrive in Scotland, including black grouse, pine marten, red squirrel, goshawk and wildcat.</p> <p>The increased habitat heterogeneity provisioned for in the OHMP, including providing suitable woodland planting to support capercaillie and facilitate movement of this species both within the Site and beyond, will build and support nature networks, and further accords with NPF4 Policy 6's commitment to expansion of forest, woodland and trees.</p> <p>The large (172ha) area of non-productive conifer over deeper peat in the centre of the Site will be not be replanted following harvesting, and bog restoration will be undertaken within this area within which degradation is evident. The restoration of peatland habitat will provide associated benefits including for carbon sequestration and reducing net emissions, and improving water quality, over a large continuous area. Less than 6ha of unforsted blanket bog habitat (including wet and dry modified bog) will be lost to the wind farm footprint, and so the area in which restoration of these habitats will be carried out is significantly larger. In addition, to provide chick feeding habitat for capercaillie, where ground conditions are suitable and commercial considerations allow areas of forest bog will be created within the</p>

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		retained forestry. These measures further accord with NPF4 Policy 5's commitment to restoration of peatlands.
Policy 3 Biodiversity	<p>b) Development proposals for national or major development, or for development that requires an Environmental Impact Assessment will only be supported where it can be demonstrated that the proposal will conserve, restore and enhance biodiversity, including nature networks so they are in a demonstrably better state than without intervention. This will include future management. To inform this, best practice assessment methods should be used. Proposals within these categories will demonstrate how they have met all of the following criteria:</p> <p>i.) the proposal is based on an understanding of the existing characteristics of the site and its local, regional and national ecological context prior to development, including the presence of any irreplaceable habitats;</p> <p>ii.) wherever feasible, nature-based solutions have been integrated and made best use of;</p> <p>iii.) an assessment of potential negative effects which should be fully mitigated in line with the mitigation hierarchy prior to identifying enhancements;</p> <p>iv.) significant biodiversity enhancements are provided, in addition to any proposed mitigation. This should include nature networks, linking to and strengthening habitat connectivity within and beyond the development, secured within a reasonable timescale and with reasonable certainty. Management arrangements for their long-</p>	<p>The development includes for the implementation of habitat management measures within a HMP over its operational lifetime, aimed at extensive habitat creation and enhancement for capercaillie and at conserving, restoring and enhancing peatland habitats. Such measures will also provide enhanced opportunities for associated peatland and woodland biodiversity including black grouse, pine marten, red squirrel, goshawk and wildcat, breeding waders, invertebrates and plant species and to an extent which would not occur without the commitments included for in the development.</p> <p>In view of the baseline habitats present, comprising principally commercial conifer crop planted in places over peatland habitat, the increased habitat heterogeneity to be delivered by the HMP will provide substantial benefits for biodiversity, and clearly leave the habitats at the Site in a demonstrably better state than without intervention.</p> <p>The development also meets the additional sub-principles (i-v):</p> <ol style="list-style-type: none"> i. Detailed baseline studies, literature reviews and consultations were undertaken to inform the development's Environmental Impact Assessment (EIA), Outline HMP Principles, and which establish the presence and distribution of ecological and ornithological interests within the Site and surrounding local area. This includes species and habitats which are protected and/or of conservation concern. Surveys have been undertaken by competent experts in accordance with good practice, statutory, industry and species-specific guidance. Full details were presented in the EIAR and associated appendices, and in subsequent Public Inquiry Core Documents (DPEA Ref: WIN-300-5). The Regional and National context of the Site for capercaillie, and the potential opportunities for the development to contribute to addressing the pressures facing them at a strategic scale, were carefully researched and considered throughout the EIA process and the drafting of the OHMP. ii. The increased heterogeneity of habitats within the Site, including planting with a more diverse mix of species within and between coupes, is expected to increase resilience to, and mitigate impacts of, future pathogen outbreaks within the forestry (e.g. <i>Dothistroma</i>) which may become more common if climate trends continue. The development's OHMP

Policy	Principle(s)	How Development Complies/Contributes
	<p>term retention and monitoring should be included, wherever appropriate; and v.) local community benefits of the biodiversity and/or nature networks have been considered.</p>	<p>includes for peatland restoration measures, which will contribute to reducing net emissions, expand carbon sinks, enhance upland biodiversity and improve water quality.</p> <p>iii. Chapter 6 and 7 of the development's EIA Report provide an assessment of effects upon ecological and ornithological interests in accordance the EIA Regulations and with good practice industry guidance. The development also underwent several design iterations in response to the findings of baseline studies. Specifically scheme design sought to: avoid habitat losses; minimise watercourse crossings, design those watercourse crossings required sensitively for wildlife and buffer infrastructure from areas identified as being important for sensitive species. Embedded scheme design measures therefore recognised the potential for impacts upon biodiversity at an early stage, complying with the first step of the mitigation hierarchy, i.e. avoidance, whilst balancing the need for the development to contribute a meaningful contribution to Scotland's net zero target. The development also includes for a Construction Environmental Management Plan (CEMP) to be agreed in consultation with Moray Council, NatureScot, SEPA and other relevant consultees and based upon best practice guidance applicable at the time of development commencement. The CEMP will include for all good practice construction measures, pollution prevention controls and monitoring to be implemented over the course of the construction, post construction restoration/reinstatement of the development in line with industry and mandatory statutory guidance applicable at the time and as detailed in the EIA Report. The CEMP will also include additional measures outlined within Chapter 6 and 7 of the EIA Report to further minimise the magnitude of loss and disturbance effects upon baseline habitats and species, restore temporary losses and reduce in so far as is possible, any residual impacts. On this basis, the assessments presented within the EIA Report confidently conclude the absence of potentially significant adverse residual effects upon ecological and ornithological features in EIA terms, and this position was supported by the Reporter's in their Public Inquiry Report to the Scottish Ministers.</p> <p>iv. The development demonstrates that potentially adverse impacts upon ecological and ornithological interests are offset and significant biodiversity enhancements secured as defined in NPF4 (pg153). The greatest benefits for biodiversity delivered by the OHMP overall are achieved through habitat heterogeneity and connectedness within and beyond the development, with specific provision in the objectives and associated</p>

Policy	Principle(s)	How Development Complies/Contributes
		<p>proposed measures for partnership working, to allow for more widespread benefits for capercaillie in the locality of the wind farm and the wider Moray region. This includes a strategic approach to linking habitat creation within the wind farm site to other initiatives on adjacent and nearby landholdings, to provide linked up 'corridors' for movement of capercaillie through the landscape, and working with stakeholders to explore opportunities to develop a Moray-wide capercaillie conservation plan. The Reporters stated in their Public Inquiry Report, that <i>"absent the proposed development, investment in capercaillie conservation is likely to be focused on the Strathspey stronghold of the species rather than a site at the edge of their range in Moray, such as the application site. If the proposed development proceeds, the mitigation measures proposed would improve the quality of habitat available for capercaillie within the application site, would coordinate with measures carried out in accordance with the forest plan in the wider Elchies Forest area and with habitat-management measures at the Rothes I and Rothes II windfarms, and could improve connectivity of habitat in the wider area."</i>(paragraphs 4.39 to 4.41) The Scottish Ministers in reaching their decision accepted the findings of the Reporters (pg 17 of the Decision Letter) (As such, the role of the development in enhancing nature networks and strengthening habitat connectivity within and beyond the wind farm site is recognised. The OHMP includes for a monitoring and review framework to track and report on the efficacy of habitat management measures implement and allow management prescriptions to adapt to emerging evidence and specialist advice and ensure net biodiversity gains are realised over the lifetime of the development. This will be overseen by a steering group of relevant stakeholders and consultees, including NatureScot and the Local Planning Authority as competent authority.</p> <p>v. Habitat management measures proposed and committed to as part of the development will enhance and strengthen local forestry and peatland habitats, restore their functioning and importance for carbon capture. Together with habitat creation and management of opportunities for associated species, such measures will improve connectivity for wildlife over an extensive area beyond the footprint of the development. The OHMP includes for providing educational opportunities for the local community, for example via open days at the wind farm to present information about habitat management and biodiversity at the site.</p>

Policy	Principle(s)	How Development Complies/Contributes
Policy 3 Biodiversity	d) Any potential adverse impacts, including cumulative impacts, of development proposals on biodiversity, nature networks and the natural environment will be minimised through careful planning and design. This will take into account the need to reverse biodiversity loss, safeguard the ecosystem services that the natural environment provides, and build resilience by enhancing nature networks and maximising the potential for restoration.	The development has undergone several design iterations to avoid and minimise the potential for adverse effects upon ornithological and ecological interests in line with the mitigation hierarchy, including two alternative designs that were considered by the Reporters at the Public Inquiry in 2020. The consented development, including the associated biodiversity benefits offered by the OHMP, was considered by Scottish Ministers to achieve an appropriate balance between the potential for adverse impacts, including cumulative impacts, and the need to meet Scotland's renewable energy and climate change targets. The development has recognised the need to support the Scottish Government's ambitions to halt and reverse biodiversity loss, and has identified the potential for intervention measures to be implemented in restoring important habitats and preserving populations of associated species of conservation priority. Such measures will be contained within a HMP, implemented over the lifetime of the development, agreed with statutory and other relevant consultees and informed through best practice guidance.

5 Conclusion

The information in this Appendix addresses the ornithological and ecological impacts of the Proposed Development and demonstrates how the OHMP for the consented Rothes III Wind Farm accords with NPF4 in terms of Policy 3 and focuses on the commitments to positive biodiversity management measures included as part of the development, including creation of habitat and wildlife corridors for key species, strategic initiatives to strengthen nature networks, and enhancement and restoration of local peatland habitats, prioritising the use of nature-based solutions and adopting best practice guidance.

The Proposed Variation will not lead to an increase in environmental impact either alone or as part of the development as a whole., such to increase significance of effects from not significant to significant. There are no significant effects found in respect of the Consented Development and it is found that there will be no intensification of effects to a level that is material or such that they become significant. Tables 1 and 4 assess the difference between the effects of the Consented Development and the Proposed Variation. The findings of the EIAR have been reviewed in the context of current knowledge and methods of assessment (Sections 2.3.1, 2.3.2, 3.2.4 and 3.2.5).



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