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Dear Karen Mitchell (NatureScot) and Karen Cunningham (RSPB Scotland),

Hill of Fare Wind Farm: combined NatureScot and RSPB Scotland EIA Report comment response

Thank you for providing comments (summarised in **Annex A** for ease of reference) on the Hill of Fare Wind Farm EIA Report. This letter addresses the request for a revised red kite cumulative collision risk assessment (**Annex B**).

Yours sincerely,

Sarah Sanders

Principal Ornithologist

MacArthur Green is helping to combat the climate crisis through working within a carbon concious and biodiversity positive business model. Read more at www.macarthurgreen.com.



ANNEX A. NATURESCOT AND RSPB ORNITHOLOGY COMMENTS SUMMARY

NatureScot (letter dated 17th May 2024)

Birds: This proposal could have significant cumulative impacts on the red kite population from predicted collisions. We are unable to carry out a full assessment as the most up to date collision risk figures have not been included. We therefore object to this proposal until the cumulative collision risk figures are revised and an updated assessment of the cumulative collision effects on the red kite population has been provided.

Red kite: We agree with the RSPB Scotland consultation response dated 23 February 2024 and echo the concerns regarding the likely cumulative impacts on the red kite population from operational and proposed wind farms in this area from predicted collisions. The most up to date collision risk figures (1.30 birds per annum) have not been included for the Glendye wind farm in this assessment therefore, the predicted impacts on red kite are likely to be significantly underestimated. We are unable to carry out a full assessment of the impact of the proposal on red kite until the collision risk figures are revised to include this and an updated assessment of the cumulative collision effects on the red kite population is provided.

RSPB Scotland (letter dated 23rd February 2024)

RSPB Scotland has significant concerns regarding the likely cumulative impacts on the Red Kite population from operational and proposed wind farms in this area, particularly from predicted collisions. While we welcome the cumulative assessment that has been carried out, including the deterministic matrix formulation population model, we do not believe that the most up to date collision risk figures have been included for the recently approved Glendye wind farm (DPEA reference WIN-110-3). Without the inclusion of this data in the modelling, the predicted impacts on Red Kite are expected to be significantly underestimated.

Therefore, we strongly advise that to allow an assessment of predicted impacts on the Red Kite population, the cumulative collision risk figures must be revised and an updated assessment of the cumulative collision effects on the red kite population provided.

Red Kite is listed in Annex 1 of the European Birds Directive as threatened species and is protected under Schedules 1A and A1 of The Wildlife and Countryside Act 1981.

Red Kite is a species which has been reintroduced into Scotland over the last 40 years, after it was driven to extinction due to severe persecution. RSPB Scotland led on this re-introduction programme of releases along with partners, including NatureScot (formally known as SNH). The most recent phase of the programme was focused in Aberdeenshire between 2007 and 2009. Numbers of Red Kites are increasing in Aberdeenshire, and elsewhere, following reintroduction. Red Kites have been shown to be at high risk of collision with wind turbines and work has been carried out elsewhere in Scotland to consider this issue. RSPB Scotland is aware of three Red Kite fatalities which are presumed to be as a result of wind turbine collision at nearby windfarms (within 20km) in last 4 years. Windfarm operators are not currently required to report all fatalities and an accurate figure is not currently available, but NatureScot may be aware of others.

Assessment of Cumulative Effects

Paragraph 9.9.8 of the EIAR states there is a predicted collision rate associated with all wind farm projects within Aberdeenshire and Angus of 0.48-0.72. However, additional information was collected for Glendye Wind Farm and presented in an “Glendye Wind Farm EIA Report Additional Information, August 2020”, available on the Energy Consents Unit website. An additional year of survey work was carried out and the resultant collision risk assessment calculated a collision risk of 1.30 birds/annum. The inclusion of this figure in the cumulative loss predictions will increase the annual predicted mortality rate of the Red Kite population.

Paragraph 9.9.16 of the EIAR cites the model used in Sansom et al. (2016ⁱ) for the “North East Scotland” population. However, the model used in the Sansom paper was the North Scotland Red Kite population, which we assume the author is referring to, and this is a typographical error^[1]. The EIAR states that “Considering that the Aberdeenshire population is around half that of the North East Scotland population (31 pairs as opposed to 64 pairs), it could be considered that under two fatalities a year in the Aberdeenshire population would be similarly considered to have a small effect on population growth and the worst-case cumulative collision rate is 1.3618.”

A review of the collision risk figures is expected to increase the worst-case predicted cumulative collision rate to over two per annum, and therefore the level of effect on population growth should also be reconsidered.

In addition, and as noted in Paragraph 9.9.17 of the EIAR, there are several existing wind farms in the area which commenced operation prior to the reintroduction of the Red Kites to the area, therefore, no collision risk assessments were carried out for the species and no collision risk data is available for these windfarms. The significant change in the population of this species over recent years is not therefore reflected in the available collision risk figures and the cumulative effect is likely to be conservative.

¹ It is acknowledged that the reference to the North East Scotland population in Sansom et al. (2016) is a typographical error and where that population is referenced it should have been stated as the North Scotland population.

ANNEX B. REVISED RED KITE CUMULATIVE COLLISION RISK ASSESSMENT

As noted by NatureScot and RSPB Scotland (Annex A), collision rate estimates for Glendye Wind Farm were updated after additional survey work, and so a revised cumulative collision risk assessment is provided below. **Table 1** provides a list of the projects within the area of search (Aberdeenshire and Angus) for the cumulative assessment. It should be noted that Glendye Wind Farm and Craigneil Wind Farm are both now consented (Chapter 9 of the EIA Report noted these to be at application stage).

Table 1 Aberdeenshire and Angus council wind farm projects

| Council Area | Wind Farm | Status | No. Turbines | EIA Information Available | Annual collision rate |
|---------------|-------------------------|-------------|--------------|--|--------------------------|
| Aberdeenshire | Boyndie + Ext. | Operational | 8 | None | No information available |
| Aberdeenshire | Clochnahill | Operational | 4 | None | No information available |
| Aberdeenshire | Dummuie | Operational | 7 | None | No information available |
| Aberdeenshire | Glens of Foundland | Operational | 21 | None | No information available |
| Aberdeenshire | Gordonstown Hill | Operational | 5 | None | No information available |
| Aberdeenshire | Kildrummy (revised) | Operational | 8 | None | No information available |
| Aberdeenshire | Meikle Carewe (revised) | Operational | 12 | None | No information available |
| Aberdeenshire | Mid Hill (I+II) | Operational | 33 | None | No information available |
| Aberdeenshire | Skelmonae | Operational | 4 | None | No information available |
| Aberdeenshire | St John's Hill | Operational | 9 | None | No information available |
| Aberdeenshire | Tullo | Operational | 7 | None | No information available |
| Aberdeenshire | Tullo II / Twinshiels | Operational | 10 | None | No information available |
| Aberdeenshire | Clashindarroch | Consented | 22 | EIA | Red kite not recorded |
| Aberdeenshire | Craigneil | Consented | 11 | EIA | 0.36 – 0.42 |
| Aberdeenshire | Fetteresso Forest | Consented | 10 | Additional Information Chapter | Red kite not recorded |
| Aberdeenshire | Glendye (and Fasque) | Consented | 26 | EIA and 2021 Additional Information Report | 0.34 – 1.3 |

| Council Area | Wind Farm | Status | No. Turbines | EIA Information Available | Annual collision rate |
|---------------|----------------|-------------|--------------|---------------------------|--------------------------|
| Aberdeenshire | Craig Watch | Application | 11 | EIA | Red kite not recorded |
| Angus | Ark Hill | Operational | 8 | None | No information available |
| Angus | Govals | Consented | 6 | EIA | Red kite not recorded |
| Angus | Frawney (2014) | Appeal | 4 | EIA | Red kite not recorded |
| Angus | Ark Hill Ext | Application | 4 | EIA | 0.11 |

The total predicted annual collision rate associated with all wind farm projects within Aberdeenshire and Angus councils (where information is available) is 0.81 – 1.83 (**Table 1**), which rises to 1.4518 – 2.4718 collisions per year when including the annual collision rate of 0.6418 associated with Hill of Fare.

As part of the Glendye Wind Farm EIA Report – Additional Information 2021, a red kite population model was provided in AI Appendix 4.3. This model was created by Dr A. H. Fielding in response to a request from NatureScot to model the potential impact of the predicted annual collision rate of 1.3 red kite per year on the Aberdeen and Angus population.

The Glendye model assumed that mortality from collisions would not have a fixed magnitude as determined at the date of the assessment, but instead is estimated as a proportion of the current population size (i.e., as the population increases so do the number of collisions). Scottish Raptor Monitoring Scheme data from 2017² were used to gain an estimate of the 2019 red kite breeding population, estimated as 43 pairs, or ~170 individuals. The predicted Glendye annual collisions (1.3 individuals) would therefore represent <1% of the red kite population at that time.

Various levels of collision mortality were modelled (up to 10% of the total population) with mortality split three ways: no adult mortality, 50% of the mortality is adults and 100% of the mortality as adults. Results showed that even in the worst case of 10% mortality applied solely to adults, none of the simulations resulted in a decline below the starting population, and that the mean population size after 25 years was 86 pairs. It was noted that a 10% population mortality rate, restricted to adults only, is equivalent to killing 12 or 13 of the 64 adult birds present in 2016.

Using the Glendye red kite population model as a basis for this cumulative assessment, the revised predicted annual cumulative collisions of red kite associated with wind farms in Aberdeenshire and Angus of c.2.5 individuals (**Table 1**) is approximately 1.5% of the 2019 red kite population. Based on the model outputs shown on **Figure 1** below, even if it is assumed that all deaths are attributable to adults, the additional mortality would only result in a small delay to the population reaching carrying capacity. This correlates with Fielding’s conclusions in the model’s report that “Even

² The Scottish Raptor Monitoring Scheme (SMRS) report stated there were 32 pairs in 2017.

assuming a worst case scenario that all collision victims are adults there is very little chance that these additional deaths would have a significant impact on the Aberdeen/Angus red kite population. Indeed a collision mortality five times larger would only have a relatively minor delaying effect on the date that the Aberdeen/Angus red kite population reaches its carrying capacity.”

Although it is acknowledged that there may be additional mortality attributable to operational wind farms in the area where collision risk predictions were not available (Table 1), it is unlikely that the cumulative impact from these sites would result in a considerably larger percentage of the population than already predicted (e.g., unlikely to reach 5% of population), so as to alter the trajectory of the population growth predictions as shown on Figure 1.

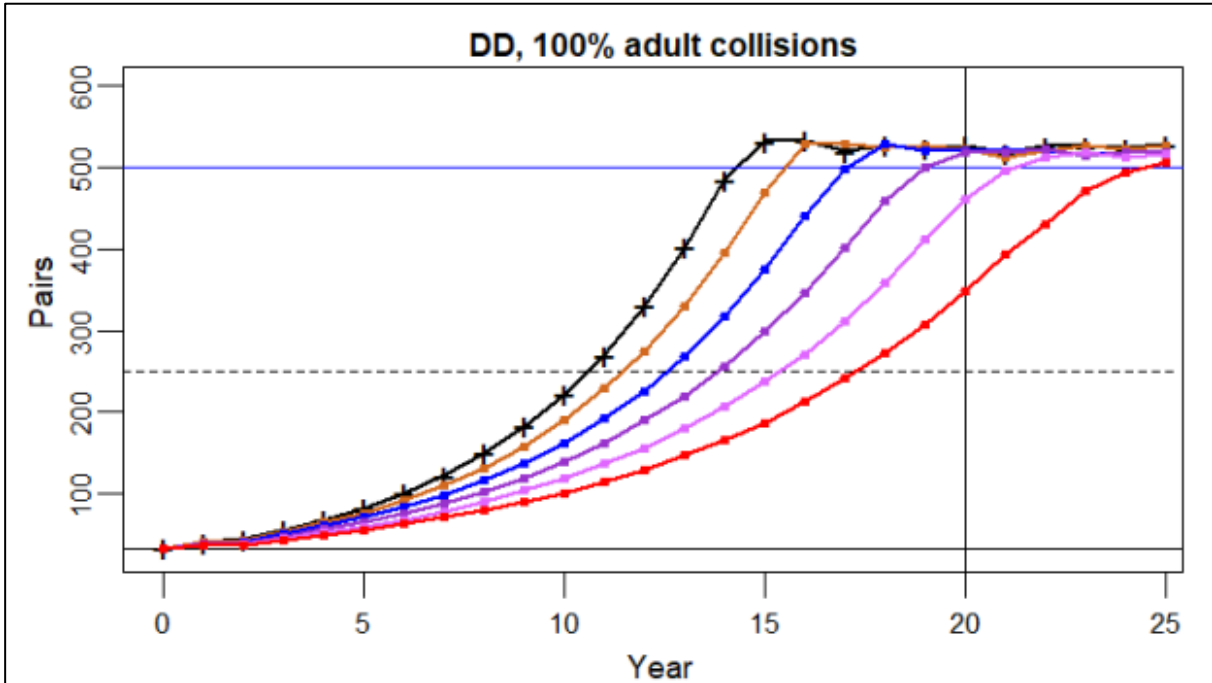


Figure 1: Mean populations sizes (number of pairs) from 500 simulations with density dependence operating at an assumed carrying capacity of 500 pairs. Collision mortality scenario assumes all collision deaths were adults. Six levels of collision mortality were modelled (from left to right): no collisions, 1%, 2%, 3%, 4% and 5% of the total population (all ages). The dotted horizontal line is a reference line at 250 pairs and there is vertical reference line at 20 years. Taken from Glendye Wind Farm AI Appendix 4.3: Red Kite Population Model.

Therefore, despite the level of additional mortality on the Aberdeenshire and Angus red kite population, it is considered that favourable conservation status can still be attained/maintained over the long-term. The unmitigated impact of cumulative collisions on the Aberdeenshire and Angus population is therefore continued to be considered of low magnitude, and thus minor adverse and not significant in the context of the EIA regulations.

Paragraph 9.7.3 of Chapter 9 of the EIA Report for the Proposed Development included operational mitigation around the removal of deer carrion/gralloch from within 200m of the Proposed Development turbines throughout the operational period to help reduce the attractiveness of areas near turbines for red kite, and therefore reducing collision risk for red kite. This is continued

to be proposed (and indeed, the Glendye 2021 AI included similar provisions to minimise the risk of collisions by scavenging species via an Operational Carcass Recovery Scheme), however as an additional measure and in recognition of RSPB Scotland's comment regarding bird collision reporting, it is proposed that as part of the operational protocol for the Proposed Development all operational staff will be instructed to maintain a watch for bird carcasses when working on the wind farm. Should any bird carcasses be located, wind farm staff will report these to the client who will in turn report the collision to NatureScot via their online form³.

ⁱ Sansom, A., Etheridge, B., Smart, J. & Roos, S. (2016). Population modelling of North Scotland red kites in relation to the cumulative impacts of wildlife crime and wind farm mortality. Scottish Natural Heritage Commissioned Report No. 904.

³ <https://www.nature.scot/report-bird-collision>