Scottish Power Energy Network

Kennoxhead to Dalquhandy Overhead Line

Black Grouse Report

2480371

AUGUST 2021

RSK biocensus
EXPERTS IN ECOLOGY

RSK GENERAL NOTES

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EXECUTIVE SUMMARY

1. This report presents the results of black grouse surveys undertaken along the route of a proposed 132kV overhead line grid connection between Kennoxhead Wind Farm and Coalburn Substation in South Lanarkshire, over a distance of 14 km.
2. Cold searches of suitable black grouse habitat were undertaken prior to dedicated lek surveys. Surveys were undertaken between March and May 2021.
3. No black grouse leks were found within the survey corridor.
4. Pre-construction surveys for black grouse will be required prior to works commencing on the site.

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1.0 INTRODUCTION

1.1 Purpose of this report

1.1.1 This report presents the results of black grouse surveys (***Tetrao tetrix***), comprising a cold search and four lek surveys, along the route of a proposed 132kV overhead line grid connection Kennoxhead Wind Farm and Coalburn Substation in South Lanarkshire. The overhead line (OHL) will be constructed using wooden poles and lines ***c.***13 m in height.

1.1.2 The report identifies areas where black grouse may have used for lekking and the peak numbers of male black grouse at each lek (if present). Surveys are required to determine areas where sensitive bird species could be disturbed during the construction phase of the Kennoxhead to Dalquandy OHL.

1.2 Landscape context

1.2.1 The proposed overhead lines run through open countryside which consists of areas of commercial forestry plantation, un-enclosed semi-improved pasture and open-cast/reinstated mine workings. The potential route will traverse over or close to multiple water bodies, including Kennox Water, Douglas Water, Shiel Burn, Longhill Burn, Alder Burn and minor burn crossings, including standing water bodies such as ponds.

1.2.2 The site includes national designations specifically on the west of the site (Muirkirk and North Lowther Uplands), which is a special protection area (SPA). The qualifying feature for Muirkirk and North Lowther Uplands as an SPA is its breeding bird assemblage including golden plover (***Pluvialis apricaria***), hen harrier (***Circus cyaneus***), merlin (***Falco columbarius***), peregrine falcon (***Falco peregrinus***) and short-eared owl (***Asio flammeus***). Muirkirk Uplands is also a site of special scientific interest (SSSI) and a further SSSI (North Lowther Uplands) also lies close to the site. The latter is also an important bird area (IBA). In addition, Airds Moss and Muirkirk Uplands IBA also lies within 2 km of the site.

1.2.3 Two other designated sites relevant to birds close to the site are Miller's Wood site of special scientific interest (SSSI) designated for its upland Birch woodland and Red Moss SSSI designated for its raised bog.

2.0 METHODS

2.1 General

2.1.1 Surveys were undertaken by Ross Preston of Rowan Ecology and Education Support, on behalf of RSK Biocensus between March and May 2021.

2.2 Background Data Search

2.2.1 A search was made of the BTO Bird Track online dataset for records of black grouse.

2.2.2 Records of previous leks surveyed during the pre-construction phases of the surrounding wind farms held by RSK Biocensus were taken into consideration. This involved reviewing data from the following existing projects: Dalquhandy to Coalburn OHL project (2017), Kennoxhead Wind Farm (2012), Douglas West Wind Farm (2015), Poniel Wind Farm (2012), Glentaggart Wind Farm (2010) and Kennoxhead Wind Farm Extension (2020).

2.3 Black Grouse Surveys

2.3.1 Visits to locate leks and count males were carried out in good visibility, in dry and calm conditions (wind not exceeding Beaufort force 3).

2.3.2 The preferred habitats for black grouse include mosaics of moorland or heathland, woodland, plantations, rough grazing, in-bye land and meadows. They are transitional or marginal habitats between the enclosed fields on valley slopes and the lower edges of heather moorland. These habitats correspond to a distinct altitudinal range of 200-550 m.

2.3.3 Within northern Britain, heather moorland, often managed for red grouse (***Lagopus lagopus***), is the main habitat for black grouse. They tend to be found on the edges of moorland from which they have access to other habitats such as scrub or woods, rough grazing and herb-rich pastures.

2.3.4 Black grouse favour two types of native woodland in the uplands: Birch and Birch/Scots Pine mixes. They prefer either small woods, woodland edges or even rows of shelterbelt trees. Open canopied woods are preferred as these allow sufficient light to reach the forest floor and create a field rich in herbs and dwarf scrubs. They avoid closed-canopy woods.

2.3.5 The recent spread of afforestation in the uplands has resulted in short-term benefits for black grouse. Under relaxation from grazing and heather burning in the early stages of afforestation, Heather, Bilberry and scrub will form a layer that can provide increased food and nesting cover. Black grouse numbers can thus be high in young forestry. However, the benefits are short-lived, and conditions rapidly deteriorate on canopy closure 10-15 years after planting.

Unsuitable areas

2.3.6 The following areas are generally unsuitable for black grouse leks and may not be occupied: ground above 550 m, ground below 200 m in southern Scotland (however, ground below 200 m can be occupied regularly if near to the coast, particularly in western and north-west Scotland, and higher altitudes may be used if tree lines are higher); built-up areas; enclosed arable farmland; the interiors of unbroken post-thicket stage forest blocks and dense native woodland.

Cold Search

2.3.7 Areas of unsuitable habitat were ruled out using aerial photographs. An initial visit was made on 23 March 2021 to locate areas of suitable habitat and potential lek areas. A route was walked to within at least 500 m of each suitable area (Figure 1).

Lek Surveys

2.3.8 Four lek surveys were undertaken between the 24 March and 16 May 2021. Lek vantage point locations are shown in

2.3.9 To avoid disturbing birds as they arrive, the surveyor was in position on a suitable vantage point at least an hour before sunrise..

2.3.10 Black grouse arrive at the lek at dawn. The maximum number of males and females present at the lek in the period between one hour before and one hour after dawn would have been counted if present. A note of any behaviour e.g. loafing, displaying would also be recorded.

2.3.11 Leks that are 200 m or more apart are treated as separate leks. If a displaying male is separated from any other leks by 200 m or more, it would have been recorded as a lek of one male.

2.4 Constraints and limitations

Weather

2.4.1 The weather on each visit was ideal for carrying out lek surveys i.e. no wind and good visibility.

Wind farms under construction

2.4.2 Three wind farms are currently under construction on the proposed route including Kennoxhead, Douglas West and Dalquandy. Each site not only creates disturbance to birds through noise and traffic but also through site security lighting. Each of those sites may have displaced birds from their traditional lekking areas, but these birds may return to their historical lek sites once works have been completed.

3.0 RESULTS

3.1 Background Data Search

3.1.1 No records of black grouse leks were found within 5 km of the route using the BTO bird tracker.

3.1.2 Black grouse have been recorded in the study area, based on a review of information from existing projects. Most recently, field surveys undertaken by MacArthur Green between September 2016 and August 2019 in relation to the Kennoxhead Wind Farm Extension site identified black grouse. This site is also very close to Muirkirk and North Lowther Uplands SPA, and is within the south section of the proposed OHL study area. Nine black grouse leks were recorded during surveys, with most activity concentrated in two locations – an area of open ground between Auchendaff Hill and Kennox Hill and the area around Flow Moss (LUC, 2020).

3.2 Black Grouse Surveys

Cold search

3.2.1 Areas of suitable habitat for black grouse found during the cold search include the open acid grassland meadows running north east from Kennoxhead, areas of young forests to the east and west of Kennoxhead and areas of mosaic habitat to the north with open areas and young trees. Photos of the habitat present along the route are provided in Section 7.

3.2.2 No signs of black grouse were found during the cold search. Such evidence would include droppings, hollows or feathers.

Lek vantage points

3.2.3 Four lek vantage points were identified on the route and are listed in Table 1. The weather on each visit is detailed in Table 2 below and the results of the survey are detailed in Table 3. Lek vantage point locations are shown in Figure 2.

Table 1: Lek Locations

Lek vantage point name	Ordnance Survey Grid Reference	Habitat type	Date
Kennoxhead	NS 77876 24227	Open acid grassland	24.03.2021
Alder Burn, Douglas West	NS 82277 31725	Open acid grassland	25.03.2021
Muirburn	NS 80498 35607	Mosaic with open heath/grassland and plantation forestry	15.05.2021

Lek vantage point name	Ordnance Survey Grid Reference	Habitat type	Date
Opencast mines	NS 79998 34203	Mosaic with open heath/grassland, ponds and plantation forestry	16.05.2021

Table 2: Weather Data

Lek vantage point name	Date	Wind speed Beaufort scale	Precipitation	Temperature	Visibility 1 = < 500m 2 = <2km 3 = > 2km
Kennoxhead	24.03.2021	0	Dry	1^0C	3
Alder Burn, Douglas West	25.03.2021	1	Dry	0^0C	3
Muirburn	15.05.2021	1	Dry	9^0C	3
Opencast mines	16.05.2021	1	Dry	10^0C	3

Table 3: Results of Lek Watches

Lek vantage point name	Ordnance Survey Grid Reference	Number of males	Number of grey hens	Notes
Kennoxhead	NS 77876 24227	0	0	Significant noise and lighting from wind farm works and forest harvesting works
Alder Burn, Douglas West	NS 82277 31725	0	0	Early morning recreational walkers using the area
Muirburn	NS 80498 35607	0	0	Early morning recreational walkers using the area
Opencast mines	NS 79998 34203	0	0	Significant noise from wind farm construction works

4.0 EVALUATION

4.1 Black Grouse

4.1.1 No black grouse leks were recorded during the current surveys. It is expected that disturbance from wind farm construction has displaced the birds from the previously known leks in the area.

4.1.2 It is possible that once nearby wind farms have been completed that black grouse leks could re-establish near to the proposed route.

4.1.3 Black grouse lek activity is unlikely to be disturbed by the proposed route of the OHL if completed by mid-March 2022. However, as the works are likely to be undertaken after this date and leks could be re-established, pre-construction surveys must be undertaken during the lekking period (March to May) prior to the construction of the overhead line and associated works commencing.

4.1.4 As a precaution, any works during the peak lek period i.e. mid-March through to mid-May should avoid the sensitive hours where birds may display by starting at least one hour after sunrise.

5.0 REFERENCES

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6.0 FIGURES

Figure 1: Cold Search Routes

Figure 2: Lek Vantage Point Locations

275000

280000

285000

635000

630000

625000

Legend:

Route Alignment

Cold Search Route

Rev	Date	Description	Dm	Chk	App
00	25/08/2021	2480371	RG	SP	RM

Kennoxhead OHL

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Figure 1
Black Grouse Cold Search Routes

0 1,000 2,000
Metres
SCALE: 1:55,000 @ A3

N W E S

REV 00

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275000

280000

285000

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630000

625000

Muirburn

Opencast mines

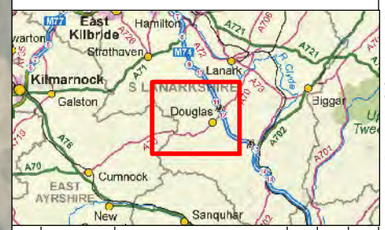
Alder Burn, Douglas West

Kennoxhead

Legend:

Route Alignment

Lek Vantage Point Locations



Rev	Date	Description	Dm	Chk	App
00	25/08/2021	2480371	RG	SP	RM

Kennoxhead OHL

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Figure 2
Black Grouse Lek Vantage Point Locations

0 1,000 2,000
Metres
SCALE: 1:55,000 @ A3

N W E S

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7.0 PHOTOS

Photo 1: Area to north of Muirburn

Photo 2: Looking towards Johnshill

Photo 3: Looking north east towards from near Rob's Hill

Photo 4: Looking towards Alder Burn

Photo 5: Kennoxhead area at dawn

Photo 6: Opencast mine area