

Moray West Onshore Transmission Infrastructure Environmental Impact Assessment (EIA)

Moray Offshore Windfarm (West) Limited

Technical Appendix 6.2:

Ornithological Technical Report

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Acronyms	
Acronym	Expanded Term
BoCC	Birds of Conservation Concern
вто	British Trust for Ornithology
СВС	Common Bird Census
EIA	Environmental Impact Assessment
GIS	Geographical Information System
JNCC	Joint Nature Conservation Committee
NESBReC	North East Scotland Biological Records Centre
NESLBAP	North East Scotland Local Biodiversity Action Plan
NESRSG	North East Scotland Raptor Study Group
NNR	National Nature Reserve
OnTI	Onshore Transmission Infrastructure
PAB	Planning Application Boundary
RSPB	Royal Society for the Protection of Birds
SBL	Scottish Biodiversity List
SNH	Scottish Natural Heritage
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
WeBS	Wetland Bird Survey

Executive Summary

This Technical Appendix describes terrestrial ornithology baseline conditions derived from desk study and contemporary field surveys (undertaken in 2017) specifically associated with the Moray West Onshore Transmission Infrastructure (OnTI) Environmental Impact Assessment (EIA) Report.

A desk study was carried out searching for international and national designated sites, coastal breeding bird records within 250 m of the Planning Application Boundary (PAB) and breeding bird species using data from the Royal Society for the Protection of Birds, North East Scotland Raptor Study Group and North East Scotland Biological Records Centre. The Moray and Nairn Coast Special Protection Area (SPA) and Ramsar sites and Tips of Corseamul and Tom Mor SPA all fell within a 20 km search area for international designated sites, whilst Tips of Corsemaul and Tom Mor Site of Special Scientific Interest (SSSI) fell within a 10 km search area for nationally designated sites. Data indicated that the coastal breeding bird assemblage did not hold any significant populations of breeding seabirds.

Breeding bird surveys were carried out in 2017 across a number of 1 km² tiles within the Scoping Study Area. Territory mapping analysis was carried out for all 1 km² tiles that fell wholly or partly within a 500 m buffer of the PAB. The breeding bird assemblage recorded as present during surveys was largely typical of farmland in Moray and Aberdeenshire. A total of 42 of the 67 species recorded during breeding bird surveys were considered target species. The majority of these target species are farmland or other passerine species and were therefore widely distributed across the site. In general, none of the target species recorded are particularly sensitive to disturbance or rely on unique or sensitive habitats during the breeding period, characteristics which are reflected by their widespread distribution in the agricultural environment across the site.

Two species considered to hold breeding territories within the 1 km² tiles that fall wholly or partly within 500 m of the PAB are listed on Schedule 1 of the Wildlife and Countryside Act, these being barn owl and quail.

Moray Offshore Windfarm (West) Limited
Technical Appendix 6.2: Ornithological Technical Report

1 Introduction

This Technical Appendix describes terrestrial ornithology baseline conditions derived from desk study and contemporary field surveys (undertaken in 2017) specifically associated with the Moray West Onshore Transmission Infrastructure (OnTI) Environmental Impact Assessment (EIA) Report and includes:

- Baseline desk study results from the following data sources:
 - o Seabird 2000:
 - o British Trust for Ornithology (BTO) Wetland Bird Survey (WeBS);
 - Royal Society for the Protection of Birds (RSPB);
 - o North East Scotland Raptor Study Group (NESRSG); and
 - North East Scotland Biological Records Centre (NESBReC);
- Baseline field survey methodology for breeding birds; and
- Baseline field survey results from breeding bird surveys.

A summarised account of this information is provided in Chapter 6: Ecology and Nature Conservation of the EIA Report.

2 Methodology

2.1 Study Area

At the time surveys were scheduled to start in May 2017, there was no clearly defined grid connection corridor, with surveying focusing on the Scoping Study Area, covering some 135 km² (Figure 2.1).

During a pre-scoping consultation meeting with Scottish Natural Heritage (SNH) on 27 March 2017 it was agreed that, given the nature of the proposed works and the likely zone of influence, the transitory nature of the construction works and the likely breeding bird assemblage typical of mixed farmland in northern Scotland, it would be impractical and unnecessary to survey the entire Scoping Study Area. The following approach was therefore agreed:

- Scope out high priority bird areas (determined through a desk based review of RSPB and NESRSG data, plus
 any additional info from county bird clubs) on the assumption that these will be avoided by the OnTI; and
- Scope out any areas with other existing identified constraints to installation of the OnTI, e.g. built up areas and dense commercial forestry.

However, at the time that surveys commenced, data from both the RSPB and NESRSG were not available, and so built up areas and blocks of commercial forestry only were excluded. In addition to the exclusion of certain locations, it was further agreed with SNH that approximately 25 % of the remainder of the Scoping Study Area would be an acceptable limit for survey purposes as this would provide an appropriate overview of the ornithological interest in the area. The selection of areas to be surveyed was based on a random sample approach of 1 km squares. Where there were built up areas, or commercial forestry within selected 1 km squares, these areas were not surveyed. In total, approximately 34 km² was identified for survey, covering 39 separate 1 km² tiles across the Scoping Study Area.

By November 2017, an initial Planning Application Boundary (PAB), comprising a cable corridor and onshore substation site had been identified. A number of the original 1 km² tiles lie some considerable distance from the PAB and following consultation with SNH it was agreed that the Common Bird Census (CBC) survey results from those tiles would not be relevant to the analysis. Therefore, a revised approach to the analysis procedure was agreed with SNH, in which all 1 km² tiles that fell wholly or partly within a 500 m buffer of the PAB were included for analysis in this report. Figure 2.1 shows the original Scoping Study Area, the final PAB plus a 500 m buffer, the 1 km² tiles that were originally surveyed – those included in the final analysis presented within this report are highlighted.

Although some areas of the proposed PAB were not covered by the CBC surveys, the habitats within and alongside it are primarily agricultural (see Technical Appendix 6.1) and the breeding bird assemblage recorded during the CBC surveys is typical of mixed farmland in northern Scotland. Therefore, it is considered that the 2017 breeding bird survey data are sufficiently robust to represent the ornithology interest of the proposed PAB.

2.2 Desk Based Survey

A desk based search was undertaken to identify Ramsar sites, which are wetland sites designated of international importance under The Convention on Wetlands (the Ramsar Convention), and Special Protection Areas (SPAs), which are designated under European legislation, within 20 km of the PAB using the relevant digital datasets available from the Joint Nature Conservancy Council (JNCC) and SNH Sitelink websites.

Furthermore, Special Sites of Scientific Interest (SSSIs) and National Nature Reserves (NNRs), which are designated under national legislation, located within 10 km of the PAB were assessed for bird interest features.

In addition, a search was carried out for non-designated sites within a 2 km buffer of the PAB.

Target bird species were evaluated in terms of conservation status using the following parameters:

- Bird species listed on Annex 1 (Annex 1) of Directive 2009/147/EC of 30 November 2009 on the conservation
 of wild birds (the Birds Directive);
- Bird species protected under Schedule 1, A1 or 1A (S.1.) of the Wildlife and Countryside Act 1981 (as amended in Scotland);

- Bird species with a noteworthy conservation status, specifically those on the UK Red or Amber List of Birds
 of Conservation Concern (BoCC) (Eaton et al. 2015);
- Bird species of national conservation concern listed on the Scottish Biodiversity List (SBL); and
- Bird species of local conservation concern, listed on the North East Scotland Local BAP (NESLBAP);

Data were sought from the following organisations:

- JNCC;
- NESBReC;
- RSPB; and
- NESRSG.

Additionally, a desk study was undertaken to identify any coastal bird assemblages of note which may occur within the PAB at the coast a 250 m buffer. This consisted of a review of the WeBS data for the closest survey sectors to the PAB. Additionally, breeding seabird data was extracted from the JNCC Seabird 2000 database (http://jncc.defra.gov.uk/page-4460 [accessed 23/11/2017]).

2.3 Field Survey Methods

Surveys were carried out across a number of 1 km² tiles within the Scoping Study Area (Figure 2.1), with each tile being visited three times, consisting of one visit in May, June and July respectively. Details of visit dates for those tiles included for analysis in this report (Figure 2.1) are presented in Table 2.1.

Table 2.1: Details of Visits per Tile							
1km² Tile	Visit 1	Visit 2	Visit 3				
9	03/05/2017	06/06/2017	05/07/2017				
16	03/05/2017	06/06/2017	05/07/2017				
17	03/05/2017	06/06/2017	05/07/2017				
25	05/05/2017	06/06/2017	05/07/2017				
37	05/05/2017	06/06/2017	04/07/2017				
46	05/05/2017	06/06/2017	04/07/2017				
55	04/05/2017	06/06/2017	06/07/2017				
64	04/05/2017	07/06/2017	06/07/2017				
71	04/05/2017	07/06/2017	06/07/2017				
79	05/05/2017	07/06/2017	06/07/2017				
85	04/05/2017	07/06/2017	06/07/2017				
96	05/05/2017	08/08/2017	06/07/2017				
113	05/05/2017	07/06/2017	06/07/2017				
126	05/05/2017	07/06/2017	05/07/2017				
141	04/05/2017	07/06/2017	05/07/2017				
167	03/05/2017	08/06/2017	05/07/2017				
169	04/05/2017	07/06/2017	05/07/2017				
185	04/05/2017	07/06/2017	05/07/2017				

The survey followed CBC methodology (Gilbert et al., 1998; Marchant, 1983). Surveys were undertaken in good visibility, avoiding persistent rain or fog, excessive cold or heat, and wind exceeding Beaufort force 4. The location and behaviour of all birds seen or heard were recorded directly onto 1:10,000 Ordnance Survey maps using standard BTO species and activity codes.

2.3.1 Analysis

Territory mapping analysis was carried out for all 1 km² tiles that fell wholly or partly within a 500 m buffer of the PAB. Birds were assumed to be holding territory if one or more of the following behaviours were observed:

- A bird displaying or singing;
- Presence of a nest, eggs or young (including newly-fledged);
- A bird exhibiting agitated behaviour, specifically, alarm calls or distraction display; and/or
- A territorial dispute between two birds.

In the absence of any of these behaviours, a pair observed together in suitable habitat was considered to be holding a territory. Other records were considered to be non-breeding birds.

Within each visit, multiple records of the same species were considered to be either the same or different bird(s) using professional judgement. This was done by examining the information recorded by surveyors, as well as known variations in territory size of species in different habitats.

Where surveyors had not recorded whether multiple records of the same species were the same or different bird(s), a separation distance appropriate to the species was applied. Multiple records within this distance were considered to be the same bird(s), while multiple records beyond this distance were considered to be different bird(s).

Overall estimation of the number of territories was undertaken by examining records from the three survey visits and employing professional judgement. For skylark, the visit with the highest number of singing males was used. For meadow pipit, visit 1 was used (during this visit fledged juveniles would not yet be visible) to calculate density of pairs per km².

Approximate territory centres for each breeding territory were then digitised using Geographical Information System (GIS) software.

3 Baseline Desk Study Results

3.1 Designated sites

There are no international or European designated conservation sites of ornithological interest located within the PAB. However, three sites are located within 20 km of the Scoping Study Area. These are summarised in Table 3.1 below and shown on Figure 3.1.

Table 3.1: Internati	onal or European Sites Designated for Ornithology within	n 20 km	
Site	Description	Distance to PAB	Relevant Qualifying Feature
Tips of Corsemaul and Tom Mor SPA	Covers the summits of two adjacent hills at the county boundary between Moray and Aberdeenshire and the Huntly-Dufftown road. The site is marked by areas of grassland within an extensive area of grouse moor and heather moorland. The boundary of the SPA is coincident with that of the Tips of Corsemaul and Tom Mor SSSI.	6.8 km south west	Common gull (breeding): 15, 870 pairs (1998)
Moray and Nairn Coast SPA	The Moray and Nairn Coast SPA is located on the south coast of the Moray Firth in north-east Scotland. The site comprises the intertidal flats, saltmarsh and sand dunes of Findhorn Bay and Culbin Bar, and the alluvial deposits and associated woodland of the Lower River Spey and Spey Bay. It is of outstanding nature conservation and scientific importance for coastal and riverine habitats and supports a range of wetland birds throughout the year. In summer it supports nesting Osprey Pandion haliaetus, whilst in winter it supports large numbers of Iceland/Greenland Pink-footed Goose Anser brachyrhynchus, Icelandic Greylag Goose Anser and other waterbirds, especially ducks, sea-ducks and waders. The geese feed away from the SPA on surrounding agricultural land during the day. The sea-ducks feed, loaf and roost over inundated intertidal areas within the site, but also away from the SPA in the open waters of the Moray Firth.	14.2 km west	Osprey (breeding): 7 pairs (early 1990's) Iceland/Greenland Pink footed goose (Non-breeding): 139 inds (1991/92-1995/96) Icelandic greylag goose (Non-breeding): 2,679 inds (1991/92-1995/96) Redshank (Non-breeding): 862 inds (1991/92-1995/96) Waterfowl assemblage (Non-breeding): 17,473 inds (1991/92-1995/96)
Moray and Nairn Coast Ramsar	The Moray and Nairn Coast site is comprised of two areas: the intertidal flats, saltmarsh and sand dunes of Findhorn Bay and Culbin Bar, and the alluvial deposits and associated woodland of the lower River Spey and Spey Bay. It is of outstanding nature conservation and scientific importance for coastal and riverine habitats, and for migrating geese and over-wintering waders.	14.2 km west	Waterfowl assemblage (Non-breeding): 22,609 inds (1998/99-2002/2003) Iceland. Pink footed goose (Non-breeding): 1,855 inds (1996-2000) Icelandic greylag goose (Non-breeding): 3,203 inds (period not defined) Redshank (Non-breeding): 757 inds (1998/99-2002/2003)

There was one nationally designated conservation sites of ornithological interest within 10 km of the PAB. This site is summarised in Table 3.2 and shown on Figure 3.1.

Table 3.2: National Sites Designated for Ornithology within 10 km									
Site	Description	Distance to PAB	Relevant Qualifying Feature						
Tips of Corsemaul and Tom Mor SSSI	The Tips of Corsemaul and Tom Mor are located between Huntly and Dufftown, near the boundary of Moray and Aberdeenshire Councils.	6.8 km south west	They consist of two areas of moorland supporting internationally important breeding colonies of common gull <i>Larus canus</i> , representing about 23% of the British population, 13% of the European Union population, 3% of the Western and Central European population, and 1-2 % of the world population.						

3.2 Non-Designated Sites

A single site was found within the 2 km search area, Cullen to Whitehills Local Nature Conservation Site (Figure 3.1). This is a varied stretch of coastline with steep cliffs and rocky intertidal shores in the more exposed areas and low lying beaches and dunes in the sheltered bays. Geological interest is present in the form of Old Red Sandstone cliffs and glacially transported Jurassic clay. Boyne Quarry has exposures of glacial and interglacial features. Habitats include maritime grassland together with small areas of sand dune and shingle. It is one of the richer areas of the coastline botanically due to the presence of calcareous soils with oysterplant, sea spleenwort and shrubby sea blight. Sheltered grasslands are important for invertebrates such as small blue butterfly, and the cliffs for nesting coastal sea birds.

3.3 Coastal Bird Data Search

3.3.1 Seabird 2000

The PAB falls within the Portsoy – Cullen Seabird 2000 census site, and one section of that site falls within a 250m buffer of the PAB (see Table 3.3 and Figure 3.2).

Table 3.3: Seabird 2000: Seabird Breeding Colony Records within 250 m of PAB									
Site	Distance to PAB	Species	Year	Colony Count					
Redhythe Point	Onsite	Fulmar	2002	13 AOS*					
		Shag	2002	13 AON*					
		Kittiwake	2002	198 AON					
		Herring gull	2002	137 AON					
		Greater black-backed gull							
		Razorbill	2002	4 AON					
			2001	2 inds					

^{*}AOS = Apparently Occupied Sites; AON = Apparently Occupied Nest; inds = individuals WeBS

The two closest WeBS survey sectors to the PAB are the Findlater – Logie Head to Garron Point section to the west, and the Strathmarchin Bay site to the east (Figure 3.2). No data have been collected for either site in the most recent five year period (2011/12-2015/16) (Frost *et al*, 2017).

3.4 Terrestrial Bird Data Search Results

Relevant bird records were sought from the RSPB, NESRSG and NESBReC. The NESRSG stated that there were no known goshawk or osprey territories within a 750 m buffer of the PAB, although it does go close to some known sites. Overall NESRSG stated that it is an area with a good goshawk population and it is likely that most large blocks of woodland would hold pairs. Data from the RSPB and NESBReC for 10 km BNG squares that the PAB falls within indicated that 79 bird species (green-listed BoCCs without conservation designations were not included) were present; these are presented alongside conservation designations in Table 3.4.

Species	Conservation Designation								
Species	Conservation								
	Annex I	S.1	BoCC	SBL	NESLBAP				
Barn owl	-	✓	Amber	✓	✓				
Black guillemot	-	-	Amber	-	-				
Black-headed gull	-	-	Amber	-	-				
Brambling	-	✓	-	✓	-				
Bullfinch	-	-	Amber	✓	Priority				
Capercaillie	✓	✓	Red	✓	Priority				
Common crossbill	-	✓	-	-	✓				
Common gull	-	-	Amber	-	-				
Common sandpiper	-	-	Amber	-	-				
Corn bunting	-	-	Red	✓	Priority				
Crane	✓	-	Amber	-	-				
Cuckoo	-	-	Red	✓	-				
Curlew	-	-	Red	✓	✓				
Dunnock	-	-	Amber	✓	-				
Eider	-	-	Amber	-	Priority				
Fulmar	-	-	Amber	-	-				
Gannet	-	-	Amber	-	-				
Golden plover	✓	-	Amber	✓	✓				
Goldeneye	-	-	Amber	-	✓				
Goshawk	✓	✓	-	-	-				
Grasshopper warbler	-	-	Red	✓	✓				
Great black-backed gull	-	-	Amber	-	-				
Green woodpecker	-	-	Amber	-	-				
Grey partridge	-	-	Red	✓	Priority				
Grey wagtail	-	-	Amber	-	-				
Guillemot	-	-	Amber	-	-				
Hawfinch	-	-	Red	✓	-				
Herring gull	-	-	Red	√	-				

Species	Conservation Designation							
	Annex I	S.1	ВоСС	SBL	NESLBAP			
Hooded crow	-	-	-	✓	-			
House martin	-	-	Amber	-	-			
House sparrow	-	-	Red	✓	-			
Kestrel	-	-	Amber	✓	✓			
Kittiwake	-	-	Red	✓				
Lapwing	-	-	Red	✓	✓			
Lesser black-backed gull	-	-	Amber	-	-			
Lesser redpoll	-	-	Red	✓	✓			
Linnet	-	-	Red	✓	Priority			
Mallard	-	-	Amber	-	-			
Manx shearwater	√	-	Amber	-	-			
Meadow pipit	-	-	Amber	-	-			
Merlin	✓	✓	Red	✓				
Mistle thrush	-	-	Red	-	-			
Oystercatcher	-	-	Amber	-	-			
Peregrine	✓	✓	-	✓	-			
Razorbill	-	-	Amber	-	-			
Red grouse	-	-	Amber	✓	-			
Red kite	✓	✓	Amber	✓	-			
Redshank	-	-	Amber	-	✓			
Redwing	-	✓	Red	✓	-			
Reed bunting	-	-	Amber	✓	Priority			
Ringed plover	-	-	Red	-	-			
Sand martin	-	-	Amber	-	-			
Sandwich tern	✓	-	Amber	✓	✓			
Scottish crossbill	✓	✓	Amber	✓	Priority			
Shag	-	-	Red	-	-			
Shelduck	-	-	Amber	-	-			
Short-eared owl	✓	-	Amber	✓	-			
Siskin	-	-	Green	✓	-			
Skylark	-	-	Red	✓	Priority			
Snipe	-	-	Amber	-	✓			
Song thrush	-	-	Red	✓	Priority			
Spotted flycatcher	-	-	Red	✓	Priority			

Table 3.4: RSPB and NESBREC Bird Records (in BNG 10KM squares: NJ44, NJ45, NJ55 and NJ56)								
Species	Conservation Designation							
	Annex I	S.1	ВоСС	SBL	NESLBAP			
Starling	-	-	Red	✓	-			
Stock dove	-	-	Amber	-	-			
Swallow	-	-	Amber	-	-			
Swift	-	-	Amber	✓	-			
Teal	-	-	Amber	-	-			
Tree pipit	-	-	Red	✓	✓			
Tree sparrow	-	-	Red	✓	Priority			
Twite	-	-	Red	✓	✓			
Wheatear	-	-	Amber	-	-			
Whinchat	-	-	Red	-	-			
White-tailed eagle	✓	✓	Red	✓	-			
Whitethroat	-	-	Amber	-	-			
Wigeon	-	-	Amber	-	-			
Willow warbler	-	-	Amber	-	-			
Wood sandpiper	✓	✓	Amber	✓	-			
Woodcock	-	-	Red	✓	-			
Yellowhammer	-	-	Red	✓	✓			

4 Breeding Bird Survey Results

Baseline field survey results show that the habitats within the survey area supports a typical assemblage of farmland birds. A total of 67 species was recorded within the 16.75 km² of the survey area.

Of the 42 target species considered for territory analysis, 34 were taken forward for analysis resulting in 636 territories within the 1 km² tiles that fell wholly or partly within a 500 m buffer of the PAB (Table 4.1). Figure 4.1 shows the approximate territory centres for all target species (split between red, amber or green BoCC) except barn owl, which due to its sensitive nature is provided within Confidential Technical Appendix 6.1a of the EIA Report (as Figure 3.2).

Eight target species were not taken forward for territory analysis because either too few records were made, observations were in unsuitable habitat and / or breeding behaviour was not observed (Table 4.2).

None of the 25 non-target species were considered for territory analysis (Table 4.3).

Table 4.1: Breedin	ng Bird Sur	vey Resu	lts: Target	Species				
Species	Conserv	ation Des	signation			Number of	Number of	Number of
	Annex I	S. 1	BoCC	SBL	NESLBAP	Territories within 1 km ² Tiles	Territories within 500 m Buffer of PAB that fall within 1 km ² Tiles	Territories within PAB that Fall within 1 km² Tiles
Barn owl	-	✓	Green	✓	✓	1	1	1
Bulfinch	-	-	Amber	-	-	5	4	3
Common sandpiper	-	-	Amber	-	-	1	0	0
Corn bunting	-	-	Red	✓	Priority	12	12	8
Cuckoo	-	-	Red	✓	-	2	2	1
Curlew	-	-	Red	✓	✓	4	2	2
Dunnock	-	-	Amber	✓	-	38	32	18
Grasshopper warbler	-	-	Red	√	√	3	2	2
Grey wagtail	-	-	Amber	-	-	2	0	0
House martin (colonies)	-	-	Amber	-	-	3	2	1
House sparrow (colonies)	-	-	Red	✓	-	28	22	10
Lapwing	-	-	Red	✓	✓	2	1	0
Lesser redpoll	-	-	Red	✓	✓	5	5	3
Linnet	-	-	Red	✓	Priority	56	52	35
Little grebe	-	-	Amber	-	-	1	0	0
Mallard	-	-	Amber	-	-	3	2	2
Meadow pipit	-	-	Amber	-	-	2.5 pairs / km ²		
Mistle thrush	-	-	Red	-	-	5	5	1
Oystercatcher	-	-	Amber	-	-	6	3	1
Quail	-	✓	Amber	-	-	4	4	2

Species	Conserv	ation De	signation			Number of	Number of	Number of
	Annex I	S. 1	ВоСС	SBL	NESLBAP	Territories within 1 km ² Tiles	Territories within 500 m Buffer of PAB that fall within 1 km ² Tiles	Territories within PAB that Fall within 1 km² Tiles
Reed bunting	-	-	Amber	✓	Priority	15	11	9
Siskin	-	-	Green	√	-	8	6	3
Skylark	-	-	Red	√	Priority	97	71	44
Snipe	-	-	Amber	-	✓	1	1	0
Song thrush	-	-	Red	✓	Priority	19	15	10
Spotted flycatcher	-	-	Red	√	Priority	3	2	2
Starling (colonies)	-	-	Red	✓	-	29	21	15
Swallow (colonies)	-	-	Amber	-	-	19	13	10
Tree pipit	-	-	Red	✓	✓	2	1	0
Tree sparrow (colonies)	-	-	Red	√	Priority	19	11	6
Whinchat	-	-	Red	-	-	1	1	0
Whitethroat	-	-	Amber	-	-	24	17	10
Willow warbler	-	-	Amber	-	-	83	66	37
Yellowhammer	-	-	Red	✓	✓	136	105	67

Target species considered to be holding breeding territories consisted of:

- Two Schedule 1 species (barn owl and quail);
- Six farmland passerine species (corn bunting, linnet, reed bunting, skylark, tree sparrow and vellowhammer);
- Sixteen other passerine species (bulfinch, dunnock, grasshopper warbler, grey wagtail, house martin, house sparrow, lesser redpoll, meadow pipit, siskin, spotted flycatcher, starling, swallow, tree pipit, whinchat, whitethroat and willow warbler);
- Five non-passerine species (barn owl, cuckoo, mistle thrush, quail and song thrush);
- Five wader species (common sandpiper, curlew, lapwing, oystercatcher and snipe); and
- Two waterfowl species (little grebe and mallard).

Territory analysis methods for two species require further explanation. For skylark, the round with the highest number of singing males was used to define the number of territories; thus, round 1 was used. For meadow pipit, round 1 was used to calculate density of pairs per km², avoiding issues of counting juvenile birds in subsequent survey visits.

Table 4.2: Breeding Bird Survey Results: Target Species not taken Forward for Territory Analysis								
Species	Conservation Designation					Total Number	Total Number of	
	Annex I	S. 1	ВоСС	SBL	NESLBAP	of Records	Individuals Recorded	
Common crossbill	-	-	Amber	-	-	1	1	
Dipper	-	-	Amber	-	-	3	3	
Merlin	✓	✓	Red	✓		1	1	
Pink-footed goose	-	-	Amber	-	-	4	407 (all observed in flight)	
Ringed plover	-	-	Red	-	-	1	1	
Sand martin	-	-	Amber	-	-	5	19	
Teal	-	-	Amber	-	-	2	6	
Wheatear	-	-	Amber	-	-	4	4	

Table 4.3: Breeding Bird Survey Results: Non-target Species not taken Forward for Territory Analysis								
Species								
Blackbird	Chiffchaff	Goldfinch	Long tailed tit	Robin				
Blackcap	Coal tit	Great tit	Moorhen	Sedge warbler				
Blue tit	Collared dove	Great spotted woodpecker	Pied wagtail	Stonechat				
Buzzard	Garden warbler	Greenfinch	Raven	Treecreeper				
Chaffinch	Goldcrest	Heron	Red legged partridge	Wren				

5 Conclusion

5.1 Current Baseline

The breeding bird assemblage recorded as present during surveys was largely typical of farmland in Moray and Aberdeenshire. A total of 42 of the 67 species recorded during breeding bird surveys were considered target species. The majority of these target species are farmland or other passerine species and were therefore widely distributed across the site. In general, none of the target species recorded are particularly sensitive to disturbance or rely on unique or sensitive habitats during the breeding period, characteristics which are reflected by their widespread distribution in the agricultural environment distributed across the PAB.

Two species considered to hold breeding territories within the 1 km² tiles that fall wholly or partly within 500 m of the PAB are listed on Schedule 1 of the Wildlife and Countryside Act – barn owl and quail.

5.2 Future Baseline

On the basis that the OnTI does not take place, it is unlikely that the future baseline would change dramatically as the overall land use (agricultural) would more than likely remain the same.

6 References

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Figures

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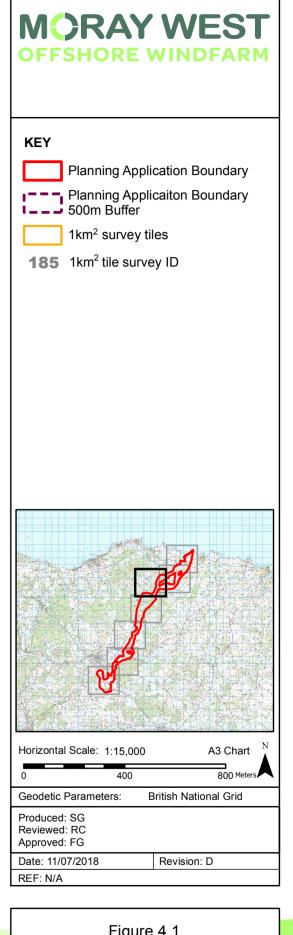
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Figure 4.1 Breeding Bird Survey Results
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MCRAY WEST OFFSHORE WINDFARM

Contact

Moray Offshore Windfarm (West) Limited

4th Floor, 40 Princes Street

Edinburgh EH2 2BY

Tel: +44 (0)131 556 7602