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The Potential Effects on Birds arising from the Onshore Infrastructure of the Proposed Greater Gabbard Offshore Wind Farm

Authors

N.H.K. Burton, S.J. Holloway, R.M. Thewlis,
N. Carter & M.M. Rehfisch

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British Trust for Ornithology,
The Nunnery, Thetford, IP24 2PU

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British Trust for Ornithology, The Nunnery, Thetford, Norfolk, IP24 2PU
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9.2.1 Introduction

This report presents the baseline description of the avifauna occurring in the area of the onshore infrastructure of the proposed Greater Gabbard Offshore Wind Farm and also an impact assessment of these works. The study reports on onshore surveys covering areas that included the beach at Sizewell where cables would come ashore, fields along the proposed cable route and the proposed sub-station location. Field data used in the assessment were collected over two years, 2005 and 2006. The work has been undertaken by the British Trust for Ornithology (BTO).

2. Methodology

2.1 Definition of the study area

To investigate the potential effects of cable laying and constructing the proposed sub-station to connect to the National Grid system at Sizewell, onshore study areas were surveyed during the 2005 and 2006 breeding seasons. Note, in 2005 a slightly different study area was used in order to investigate other options for the sub-station location.

In 2006, the study area covered the beach from Cliff House in the south to the Sizewell Gap road in the north, and terrestrial habitat up to 1.5 km inland of this and the Sizewell "A" power station complex (Fig. 9.2.2-1). The vegetation within the coastal zone included extensive short grass sward, extensive stands of Sea Kale *Crambe maritima* on the shingle and scattered patches of gorse *Ulex* spp. A relatively narrow strip of mixed, wet woodland with alder *Alnus* spp. borders the western-side of the access road to both the power stations. The proposed site for the sub-station lies to the west of this across two fields in the southern half of a small, mature mixed coniferous / deciduous wood, known as Sizewell Wents, fronted by developing scrubby woodland. To the north, there is an area of grazing marsh with reed and sedge lined ditches that forms the southern part of the Sizewell Marshes Site of Special Scientific Interest (SSSI). To the north-west is a small area of common land (Broom Covert) with gorse and elder and a second small, though more scrubby, mixed wood. The remainder of the 2006 study area to the west, south and east, comprised mixed agriculture crops in both years (including barley, peas and potatoes). Scattered stretches of mature hedgerow are present in the study area. The south-western edge of the 2006 study area (south of the Sizewell Gap road) bordered the Leiston-Aldeburgh Site of Special Scientific Interest, part of the Sandlings Special Protection Area (SPA), a designated area of heathland.

In 2005, the study area included the wood where it is proposed that the sub-station will be built, but excluded most of the fields in the Sizewell Marshes SSSI, Broom Covert and the smaller wood to the north-west (Fig. 9.2.2-1). The south-western edge of the 2005 study area also covered more of the area south of the Sizewell Gap road including part of the Sandlings SPA and horse paddocks adjacent to Halfway Cottages. A larger stretch of coastline was covered, which included the beach and buildings at the southern edge of the power station complex and a larger offshore area.

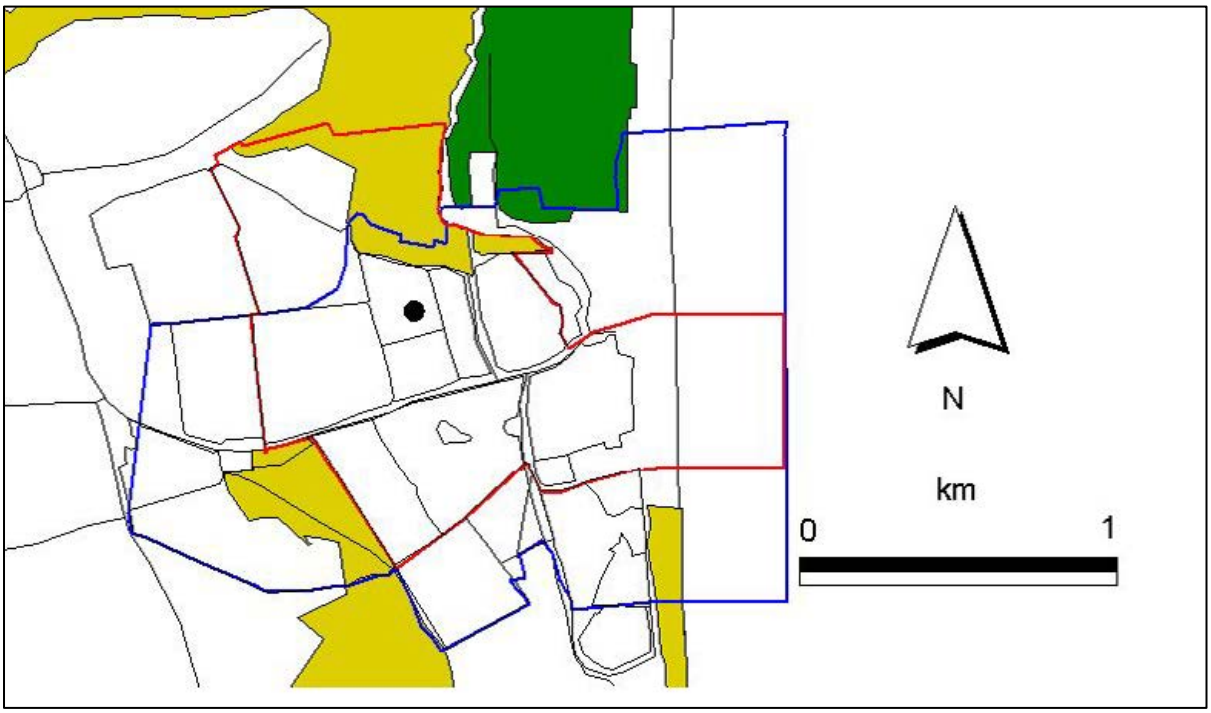

Figure 9.2.2-1 The onshore study areas in 2005 (blue line) and 2006 (red line) at Sizewell showing the approximate location of the proposed sub-station (black dot), Sizewell power station (dark shading) and protected areas (light shading) – Leiston-Aldeburgh SSSI, part of the Sandlings SPA to the south and Sizewell Marshes SSSI to the north.

9.2.2.2 Survey methods

Surveys were carried out during the breeding seasons of 2005 and 2006 to identify all birds occurring in the study area.

The methodology followed that developed by the BTO for its long-running Common Birds Census (Marchant *et al.* 1990). The basis of this approach is the mapping visit, lasting several hours and involving coverage of all areas of proposed development. The location of every bird present on, or flying over, the site was accurately recorded on a large-scale map, using a new map for each visit. Standard two-character codes were used to denote species, and different symbols were used to denote activity such as singing or calling.

A six-visit mapping strategy was used to estimate numbers of breeding and migrant birds and locate breeding territories at Sizewell. A mapping approach has advantages for site-specific work over other approaches, such as line transects and point counts. It attempts to locate all breeding birds, and the accurate mapping of territories can be related to habitat, management practices and impact assessments.

Visits were carried out from late March / early April to late June in 2005 and 2006, to coincide with peak breeding activity. The dates and times of the (morning) visits were:

Year 1

- Visit A, 24 March 2005 (06.00-11.40)
- Visit B, 12 April 2005 (06.00-11.30)
- Visit C, 23 May 2005 (06.30-10.45)
- Visit D, 31 May 2005 (06.00-10.45)
- Visit E, 13 June 2005 (06.00-10.30)
- Visit F, 24 June 2005 (06.00-10.00)

Year 2

- Visit A, 4 April 2006 (07.00-11.00)
- Visit B, 12 April 2006 (07.00-11.15)
- Visit C, 10 May 2006 (05.50-11.10)
- Visit D, 23 May 2006 (06.05-11.10)
- Visit E, 8 June 2006 (05.55-11.05)
- Visit F, 16 June 2006 (05.55-11.15)

Three experienced fieldworkers were used for the surveys in 2005, each doing two surveys. One of these fieldworkers was used throughout the surveys in 2006.

Data collected in 2005 included information on the breeding Black-legged Kittiwakes *Rissa tridactyla,* that nest on two nearshore towers off Sizewell "A" Power Station. As only a maximum of three sides of the towers could be observed for nests, results from the Suffolk Bird Reports were used to give a more complete picture.

Suffolk Bird Reports were also used to report on Black Redstarts *Phoenicurus ochruros* known to breed locally, and to highlight further important ornithological features of the area.

Data for European Nightjars *Caprimulgus europaeus* breeding in the area were obtained from the 2004 BTO/Royal Society for the Protection of Birds (RSPB)/English Nature (EN) Nightjar survey. This involved a minimum of two visits to 1 km squares between the last week of May and the middle of July, at dusk or dawn when 'churring' males are most active. Volunteers were asked to walk all rides and paths within their squares, to maximise the likelihood of passing within 200 m of likely European Nightjar areas. The locations of all churring birds and the associated habitat details were recorded on a map.

9.2.2.3 Data analysis

Following completion of breeding bird surveys, the location of bird territories were calculated for species of high conservation importance (*i.e.* EU Annex 1 species, Wildlife & Countryside Act Schedule 1 species, SSSI / SPA designated species, UK Biodiversity Action Plan (UKBAP) species, and red-listed Birds of Conservation Concern). Rules devised for surveys with less than eight visits were used, to ensure consistency of analysis (see Appendix 1). In addition, other species holding breeding territories near to the locations of the proposed cable landfall site, cable route and sub-station, were identified as being potentially at risk from construction work.

9.2.2.4 Consultations

Consultations have been undertaken with a range of statutory and non-statutory environmental bodies, including English Nature (EN), the Royal Society for the Protection of Birds (RSPB), the Department of Trade and Industry (DTI), the Department of the Environment, Food and Rural Affairs (Defra), the Joint Nature Conservation Committee (JNCC) and Centre for the Environment, Fisheries & Aquaculture Science (CEFAS). *Ad hoc* meetings with local representatives of EN, RSPB and Suffolk Wildlife Trust (SWT) have been held to discuss ornithological issues.

9.2.2.5 Impact Assessment Methodology

The determination of the Significance of the effects of the proposed development on the local avifauna described below is based on the Environmental Assessment Regulations 1999 and Institute of Environmental Assessment guidelines and follows the methodology developed by Scottish Natural Heritage (SNH) and the British Wind Energy Association (BWEA).

The effect is firstly dependent upon the sensitivity of each species, as defined below:

Sensitivity	Definition
Very High	• Bird species for which an SPA or Special Area of Conservation (SAC) is designated or a SSSI notified
High	• Other bird species that contribute to the integrity of an SPA or SSSI • Species of international or national importance, i.e. those whose numbers surpass 1% of international or national populations (see baseline methods) • Ecologically sensitive species, e.g. large birds of prey or nationally rare species (< 300 breeding pairs in the UK)
Medium	• Species of regional importance (see baseline methods) • EU Birds Directive Annex 1 species, EU Habitats Directive priority habitat/species and WCA Schedule 1 species (if not covered above) • UK BAP species (if not covered above)
Low	• Any other species of conservation interest, such as those on the Birds of Conservation Concern lists (if not covered above)

Table 9.2.2-1 Definitions of terms relating to the "Sensitivity" of the ornithological features of the site (Percival *et al.* 1999).

The sensitivities of different species are assessed on the basis of existing designations and the results of surveys. For example, the proposed onshore works lie near the Leiston-Aldeburgh SSSI / Sandlings SPA and Sizewell Marshes SSSI.

The magnitudes of effects are assessed as follows:

Magnitude	Definition
Very High	• Total loss or very major alteration of key elements/features of the baseline (pre-development) conditions such that post-development character/composition/attributes of baseline condition will be fundamentally changed and may be lost from the site altogether • Guide: >80% of population/habitat lost
High	• Major alteration of key elements/features of the baseline conditions such that post-development character/composition/attributes of baseline condition will be fundamentally changed • Guide: 20-80% of population/habitat lost
Medium	• Loss or alteration to one or more key elements/features of the baseline conditions such that post-development character/composition/attributes will be partially changed • Guide: 5-20% of population/habitat lost
Low	• Minor shift away from baseline conditions. Change arising from the loss/alteration will be discernable but underlying character/composition/attributes of baseline condition will be similar to pre-development circumstances/patterns • Guide: 1-5% of population/habitat lost
Negligible	• Very slight change from baseline condition. Change barely distinguishable, approximating to the "no change" situation • Guide: <1% of population/habitat lost

Table 9.2.2-2 Definitions of terms relating to the "Magnitude" of ornithological effects (Percival *et al.* 1999).

In this study, magnitudes of effects are gauged by assessing the likely level of impact on the regional population of each species.

The combined assessment of sensitivity and magnitude provides the level of Significance of an Impact and is assessed by the matrix below:

MAGNITUDE	**SENSITIVITY**			
	Very High	**High**	**Medium**	**Low**
Very High	Very High	Very High	High	Medium
High	Very High	Very High	Medium	Low
Medium	Very High	High	Low	Very Low
Low	Medium	Low	Low	Very Low
Negligible	Low	Very Low	Very Low	Very Low

Table 9.2.2-3 Impact matrix of "Significance" (Percival *et al.* 1999).

Effects of 'Very Low' or 'Low Significance' are not normally of concern. In contrast, effects considered Very High or High should be regarded as of importance for the purposes of environmental impact assessment. Effects of Medium Significance may still be of importance, though in comparison to effects of Very High or High Significance may be mitigated against more readily.

3. Baseline Environment

9.2.3.1 Introduction

This section provides a baseline description of the avifauna of the onshore areas where development is proposed, based on field studies in 2005 and 2006. Background information on species' conservation status is also provided.

The proposed location of the sub-station connecting to the National Grid overhead line is in a small wood lying just south of part of the Sizewell Marshes SSSI and south-west of the power station. This SSSI is designated for its large area of lowland, unimproved wet meadows, which support nationally important assemblages of invertebrates and breeding birds, including Shoveler *Anas clypeata*, Gadwall *Anas strepera*, Teal *Anas crecca*, Snipe *Gallinago gallinago* and Lapwing *Vanellus vanellus*.

To the south and outside the study area, the Sandlings SPA is designated for its national importance for breeding European Nightjars and Wood Larks *Lullula arborea*.

A list of all species found during surveys of the onshore study areas in 2005 and 2006 (including some seabirds seen from shore) is given below together with information on the species' conservation status (EC Annex 1, Wildlife & Countryside Act (WCA) Schedule 1 and UK Biodiversity Action Plan (UK BAP) species, status under the Birds of Conservation Concern (BCC) list: Gregory *et al.* 2002).

A single Wood Lark – a designated feature of the Sandlings SPA – was seen over the south western part of the study area in 2005, adjacent to the SPA, but as it was only seen once was not considered to be breeding. No other designated feature species of the Sizewell Marshes SSSI and Sandlings SPA were recorded in the study areas in either year.

Species	Scientific name	Recorded In 2005	Recorded in 2006	Annex 1	WCA	UKBAP	BCC
Northern Gannet	*Morus bassanus*	YES					AMBER
Great Cormorant	*Phalacrocorax carbo*	YES	YES				AMBER
Grey Heron	*Ardea cinerea*		YES				
Mute Swan	*Cygnus olor*		YES				AMBER
Common Shelduck	*Tadorna tadorna*	YES					AMBER
Mallard	*Anas platyrhynchos*		YES				
Eurasian Marsh Harrier	*Circus aeruginosus*		YES	YES	YES		AMBER
Eurasian Sparrowhawk	*Accipiter nisus*	YES	YES				
Red-legged Partridge	*Alectoris rufa*	YES	YES				
Grey Partridge	*Perdix perdix*		YES			YES	RED
Common Pheasant	*Phasianus colchicus*	YES	YES				
Common Moorhen	*Gallinula chloropus*		YES				
Eurasian Oystercatcher	*Haematopus ostralegus*		YES				AMBER
Lapwing	*Vanellus vanellus*	YES					AMBER
Mediterranean Gull	*Larus melanocephalus*	YES	YES	YES	YES		AMBER
Black-headed Gull	*Larus ridibundus*	YES	YES				AMBER
Mew (Common) Gull	*Larus canus*	YES	YES				AMBER
Lesser Black-backed Gull	*Larus fuscus*	YES	YES				AMBER
Herring Gull	*Larus argentatus*	YES	YES				AMBER
Black-legged Kittiwake	*Rissa tridactyla*	YES	YES				AMBER
Sandwich Tern	*Sterna sandvicensis*	YES	YES	YES			AMBER
Common Tern	*Sterna hirundo*	YES	YES	YES			
Little Tern	*Sterna albifrons*	YES		YES	YES		AMBER
Feral Pigeon	*Columba livia*	YES					
Stock Dove	*Columba oenas*	YES	YES				AMBER
Common Wood Pigeon	*Columba palumbus*	YES	YES				
Eurasian Collared Dove	*Streptopelia decaocto*	YES	YES				
European Turtle Dove	*Streptopelia turtur*	YES	YES			YES	RED
Common Cuckoo	*Cuculus canorus*	YES	YES				AMBER
Barn Owl	*Tyto alba*	YES			YES		AMBER
Common Swift	*Apus apus*	YES	YES				
Green Woodpecker	*Picus viridis*	YES	YES				AMBER
Great Spotted Woodpecker	*Dendrocopos major*	YES	YES				
Wood Lark *	*Lullula arborea*	YES		YES	YES	YES	RED
Sky Lark	*Alauda arvensis*	YES	YES			YES	RED
Barn Swallow	*Hirundo rustica*	YES	YES				AMBER
House Martin	*Delichon urbicum*	YES	YES				AMBER
Meadow Pipit	*Anthus pratensis*	YES					AMBER
Pied Wagtail	*Motacilla alba*	YES	YES				
Winter Wren	*Troglodytes troglodytes*	YES	YES				
Hedge Accentor (Dunnock)	*Prunella modularis*	YES	YES				AMBER
European Robin	*Erithacus rubecula*	YES	YES				
Common Nightingale	*Luscinia megarhynchos*		YES				AMBER
Stonechat	*Saxicola torquatus*	YES	YES				AMBER
Common Blackbird	*Turdus merula*	YES	YES				
Song Thrush	*Turdus philomelos*	YES	YES			YES	RED
Mistle Thrush	*Turdus viscivorus*	YES	YES				AMBER

Cetti's Warbler	*Cettia cettia*	YES	YES		YES		
Eurasian Reed Warbler	*Acrocephalus scirpaceus*		YES				
Lesser Whitethroat	*Sylvia curruca*	YES	YES				
Whitethroat	*Sylvia communis*	YES	YES				
Garden Warbler	*Sylvia borin*	YES	YES				
Blackcap	*Sylvia atricapilla*	YES	YES				
Common Chiffchaff	*Phylloscopus collybita*	YES	YES				
Willow Warbler	*Phylloscopus trochilus*	YES	YES				AMBER
Goldcrest	*Regulus regulus*	YES	YES				AMBER
Long-tailed Tit	*Aegithalos caudatus*	YES	YES				
Blue Tit	*Cyanistes caeruleus*	YES	YES				
Great Tit	*Parus major*	YES	YES				
Coal Tit	*Periparus ater*	YES	YES				
Marsh Tit	*Poecile palustris*		YES				RED
Eurasian Treecreeper	*Certhia familiaris*	YES	YES				
Eurasian Jay	*Garrulus glandarius*		YES				
Black-billed Magpie	*Pica pica*	YES	YES				
Eurasian Jackdaw	*Corvus monedula*	YES	YES				
Rook	*Corvus frugilegus*	YES	YES				
Carrion Crow	*Corvus corone*	YES	YES				
Common Starling	*Sturnus vulgaris*	YES	YES				RED
House Sparrow	*Passer domesticus*	YES	YES				RED
Chaffinch	*Fringilla coelebs*	YES	YES				
Brambling	*Fringilla montifringilla*		YES		YES		
European Greenfinch	*Carduelis chloris*	YES	YES				
European Goldfinch	*Carduelis carduelis*	YES	YES				
Eurasian Siskin	*Carduelis spinus*		YES				
Common Linnet	*Carduelis cannabina*	YES	YES			YES	RED
Common Crossbill	*Loxia curvirostra*		YES				
Common Bullfinch	*Pyrrhula pyrrhula*	YES	YES			YES	RED
Yellowhammer	*Emberiza citrinella*	YES	YES				RED
Reed Bunting	*Emberiza schoeniclus*		YES			YES	RED

Table 9.2.3-1 Species recorded within the onshore study areas in 2005 and 2006 and designations regarding their conservation status. * Wood Lark is also a designated species of the Sandlings SPA.

9.2.3.2 Species accounts

In total, 64 species were recorded in the 2005 study area and 71 species in the study area covered in spring 2006.

Individual species accounts and impact assessments are provided for all EC Annex 1, WCA Schedule 1, UK BAP and BCC red list species for which breeding evidence was found during surveys (see the procedure outlined in Appendix 1. Where species were seen but not considered to be breeding, no species account is presented. The species of particular relevance to this assessment are as follows:

European Turtle Dove

In 2005, a single territory was found to the south of Halfway Cottages on the Sandlings SPA. A 'singing' male and another bird were also observed on the fifth visit on 13 June along the eastern side of Sandy Lane to the east of the proposed sub-station site.

Two European Turtle Dove territories were found in the study area in 2006. One was centred around the hedgerows along Sandy Lane where the 'singing' male had been observed in 2005. A second territory was found in the mixed scrubby woodland in the north-west corner of the study area (which was not covered in 2005).

Sky Lark

Sky Larks were found throughout the southern, predominantly arable half of the study area. In 2005, the study area held an estimated 15 Sky Lark territories. One was above the beach at the proposed landfall for the cables, two along the route of the cables by Sizewell Gap road and one in the field immediately to the south of the wood and proposed sub-station site.

In 2006, 13 territories were mapped wholly or in part in the study area. Two of these territories were above the beach at the proposed landfall for the cables, four along the route of the cables by Sizewell Gap road and one again in the field immediately to the south of the wood and proposed sub-station site.

Song Thrush

In the 2005 survey, Song Thrushes were considered to be holding three territories, all along the wet carr woodland adjacent to the access road to the power station and thus away from the site proposed for the sub-station.

Three Song Thrush territories were also mapped in the study area in 2006. One was again centred along the access road to the power station and adjacent wet woodland. Two further territories were found in the mixed scrubby woodland in the north-west corner of the study area (which was not covered in 2005).

Cetti's Warbler

During the 2005 survey there were three registrations in the study area. Two (on the fourth and sixth visits on 31 May and 24 June respectively) were from the wet carr woodland adjacent to Sandy Lane and near the nuclear power station complex, and were thought to constitute one territory. The local Suffolk Wildlife Trust warden verified previous records of singing birds in this locality (Alan Miller *pers. comm.*). The third registration (third visit, 23 May) came from near Home Farm, along the minor road that runs south from the Sizewell Beach access road. This would seem to be unsuitable habitat, being a dry location, and may relate to a wandering bird, perhaps even the same territorial bird as found on earlier visits.

A Cetti's Warbler was also recorded singing along the same wet carr woodland in 2006 on a single visit on 16 June.

Common Starling

Small flocks, perhaps family parties, were encountered regularly on the beach and car park area on onshore surveys in both years. In 2005, breeding was concentrated on the houses near to the beach (*i.e.* Sizewell village itself) and the nuclear power station complex. Approximately seven pairs were associated with the village and four with the power station complex. In addition, a further pair was found by Halfway Cottages and two in the Sandlings SPA.

Two Common Starling territories were found in the 2006 study area (which excluded the power station complex), both associated with buildings. One was centred around Coastguard Cottages and a second by the houses and public house on the Sizewell Gap road opposite the power station access road.

House Sparrow

As with Common Starling, House Sparrow territories were associated with human habitation with colonies centred on Sizewell village and Halfway Cottages. In 2005, approximately 12 pairs were centred on the village, with a further two pairs to the south. There were a further five pairs or so at the cottages. The birds were also frequently encountered on the beach in small flocks.

A total of 12 territories was found in 2006, including six around Coastguard Cottages and the houses on the Sizewell Gap road opposite the power station access road. Further territories were found at Halfway Cottages and Cliff House.

Common Linnet

In the 2005 study area, Common Linnet were concentrated along the beach and hinterland – with an estimated seven territories near Sizewell village and six by the power station – although one bird was singing on the area of the SPA (and a few other birds were also seen in that area). Common Linnets range widely during the breeding season and it is difficult to estimate breeding densities accurately. There could be up to 20 pairs along the coastal fringe from the nuclear power station to the caravan park to the south.

Four Common Linnet territories were found in the 2006 study area. One was found on the common land (Broom Covert) in the north-west corner of the study area (which was not covered in 2005). Two further territories were mapped above the beach around the proposed landfall for the cables and one at the edge of Sizewell Common near Cliff House. In addition, there was a single sighting of a bird in the field immediately south-west of the wood where it is proposed that the sub-station will be built.

Common Bullfinch

During the 2005 surveys, a pair of Common Bullfinches was located on one visit only, on 31 May, just south of Home Farm. With the rules for a reduced visit survey this would constitute a territory.

A Common Bullfinch territory was mapped in 2006 on the northern edge of the small wood in the north-west corner of the study area (which was not covered in 2005). A male and female were also recorded close together on the sixth visit on 16 June 2006 by Rosery Cottages on Sandy Lane just to the east of the proposed sub-station site.

Yellowhammer

Yellowhammers were deemed to be holding eight territories in the 2005 study area. Two were along the Sizewell Gap road along the proposed route of cabling and one further west along the road. A fourth was found along Sandy Lane and the track along the northern edge of the wood where it is proposed that the sub-station will be built. The other four territories were located on the SPA land in the south-west of the study area.

Five Yellowhammer territories were found during the surveys in 2006. Two were on the common land (Broom Covert) in the north-west of the study area (which was not covered in 2005), one along the Sizewell Gap road by Halfway Cottages, one in the field east of Sandy Lane and one south of Home Farm. In addition there was a single registration of a separate male at the junction of Sandy Lane and the Sizewell Gap road.

Reed Bunting

No Reed Bunting territories were found in the 2005 study area.

In 2006, two territories were found, both centred on the ditches and fields at the southern edge of the Sizewell Marshes SSSI (an area not covered in 2005).

Other species breeding in the vicinity of operations

A number of other species use the land that may be affected by the cable route and sub-station, including for nesting.

Further species breeding in the study area, though of lesser conservation importance, included:

- A pair of Grey Herons that in 2006 nested in a Scots pine in the wood where it is proposed that the sub-station will be built; 2 young were observed on the third visit on 10 May 2006;
- A pair of Eurasian Sparrowhawks that also had a territory in this area in 2006 and likely nested in the wood.

Although not a species of conservation importance (i.e. not a EC Annex 1, WCA Schedule 1, UK BAP, Birds of Conservation Concern or local SPA species) the presence of the Grey Heron nest is of local interest as few other heronries are present in the immediate area of the Suffolk coast (J. Marchant *pers. comm.*). (The nearest alternate current heronries are at Black Heath Wood, Snape (TM424579), Henham Park, Wangford (TM465770), Lodge Farm, Sudbourne (TM429513) and Church Covert, Benacre (TM520844), though herons have also nested at Minsmere RSPB reserve in the past). Note, the nest-site at Sizewell Wents was south of the east-west ride through the wood, though to the west of the north-south ride and thus outwith the area of woodland that would be lost to the development.

Other species of conservation importance recorded during the surveys, but for which breeding evidence was lacking, were:

- A Eurasian Marsh Harrier, which was observed crossing the study area on the first visit in 2006, on 4 April;
- A pair of Grey Partridges, which was observed in the field immediately south of the wood and proposed sub-station site on the fourth visit in 2006, on 23 May;
- Mediterranean Gulls, which were recorded flying over the study area in both 2005 (one individual) and 2006 (two adults and two immatures);
- Sandwich and Common Terns, which were recorded fishing offshore in both 2005 and 2006, and also Little Terns in 2005;
- A Barn Owl, which was observed on the fifth visit in 2005, on 13 June, in the fields along the southern edge of the Sizewell Marshes SSSI;
- A Wood Lark, which was observed on the third survey visit in 2005, on 23 May, circling over a field adjacent to the Sandlings SPA south of the Sizewell Gap road.

No European Nightjars – the other species for which the Sandlings SPA is designated – were recorded in the study area in 2005 or 2006 (though it should be noted that European Nightjars are a crepuscular species, best surveyed in the evening). According to the 2004 Breeding Nightjar Survey none of the 1 km squares (including the sub-station site) directly affected by the onshore developments have habitat deemed to be suitable for breeding European Nightjars. Likewise none of the avian features of the Sizewell Marshes SSSI – Shoveler, Gadwall, Teal, Snipe or Lapwing – were recorded in the study area.

Black-legged Kittiwake nest on man-made structures on the Suffolk coast, due to a lack of coastal cliff

habitat, including two inshore towers on the coast off Sizewell "A" Power Station. Counts from the shore during the 2005 surveys indicated approximately 100 nests on the three landward sides of the more southerly tower and about 50 nests on the more northerly. However, it was not possible to view the seaward side of these towers from the land. Wright (2005) reported approximately 200 nests in 2004.

At the beach and hinterland, to the south of the Sizewell Gap Road, Meadow Pipit, Pied Wagtail, Winter Wren, Hedge Accentor (Dunnock), European Robin, Stonechat, Common Blackbird, Whitethroat, Chaffinch and European Goldfinch were all encountered at least once during the six visits in 2005 and / or 2006, and could all be nesting on the beach or vegetated bank behind the beach. In particular, Meadow Pipit, Winter Wren, Stonechat and Whitethroat (as well as Sky Lark and Common Linnet) all nest at or near ground level. The effects of construction for this part of the cabling operation are likely to be limited for these species as the beach and vegetated bank will be traversed using directional drilling techniques.

One or more pairs of Black Redstart are thought to nest in the power station complex (Wright 2003, 2004, 2005) although it is difficult to confirm successful breeding. No birds were seen during the six visits in either 2005 or 2006, despite searching from outside the power stations' boundaries.

Fewer birds were associated with the fields where the cables would be installed. Aside from Sky Lark, Common Linnet and Yellowhammer, Common Wood Pigeon, Pied Wagtail, Hedge Accentor (Dunnock), Common Blackbird, Whitethroat, Blue Tit, Black-billed Magpie and Chaffinch were observed in this area in 2005 and / or 2006 and some of these could be breeding in or at the base of hedgerows. Only Sky Lark would be breeding in the fields themselves.

Species with territories wholly or in part in the wood where the sub-station would be built were

- For 2005: Common Wood Pigeon (3), Great Spotted Woodpecker (1), Winter Wren (1), Hedge Accentor (Dunnock) (1), European Robin (1), Common Blackbird (1), Blue Tit (1), Great Tit (1), Whitethroat (2), Black-billed Magpie (1), Carrion Crow (1) and Chaffinch (4).

- For 2006: Grey Heron (1 territory), Eurasian Sparrowhawk (1), Common Wood Pigeon, Green Woodpecker (1), Great Spotted Woodpecker (1), Winter Wren (3), Hedge Accentor (Dunnock) (1), European Robin (3), Common Blackbird (2), Blackcap (3), Goldcrest (1), Blue Tit (3), Great Tit (4), Coal Tit (2), Eurasian Treecreeper (1), Eurasian Jay (1), Black-billed Magpie (1), Carrion Crow (1) and Chaffinch (7).

9.2.3.3 Baseline summary

Table 9.2.3-2 shows the number of territories recorded in the onshore study areas in 2005 and 2006 for species of conservation importance. It is suggested that two bird registrations are necessary to reveal a territory, and figures are based on this rule (see Appendix 1).

It should be noted that for species such as Common Starling, House Sparrow and Common Linnet, allocation of territories to pairs is difficult, as these species are frequently seen in flocking parties. See Appendix 1 for explanation of territory enumeration for these species.

Species	**Number of territories**	
	2005 study area	**2006 study area**
European Turtle Dove	1	2
Sky Lark	15	13
Song Thrush	3	3
Cetti's Warbler	1	0
Common Starling	14	2

House Sparrow	19	12
Common Linnet	14	4
Common Bullfinch	1	2
Yellowhammer	8	5
Reed Bunting	0	2

Table 9.2.3-2 Number of territories found within the study areas in 2005 and 2006 for species of conservation importance. (Note that study areas differed in extent between years.)

A number of breeding birds of conservation importance were thus found during the onshore surveys in 2005 and 2006 in study areas that included the beach at Sizewell and fields close to the proposed cable route and sub-station location.

Sky Lark, Common Linnet and Yellowhammer territories were found in fields and by the beach along the line of the cables. Although no species of conservation concern were recorded in the wood where the sub-station would be built, a single pair of Grey Herons nested there and probably a pair of Eurasian Sparrowhawks too.

4 Impact Assessment

The area of the proposed works lies to the south of the Sizewell Marshes SSSI and north of the Sandlings SPA. A single Wood Lark – a designated feature of the Sandlings SPA – was seen over the south western part of the study area in 2005, adjacent to the SPA. However, no other designated feature species of the Sizewell Marshes SSSI (Shoveler, Gadwall, Teal, Snipe or Lapwing) or Sandlings SPA (European Nightjar) were recorded in the study areas in either year. The impact assessment thus focuses on the other species of conservation importance (*i.e.* EU Annex 1 species, Wildlife & Countryside Act Schedule 1 species, UK Biodiversity Action Plan (UKBAP) species, and red-listed Birds of Conservation Concern) for which breeding evidence was found in the study area.

9.2.4.1 Description of Effects

The principle impacts associated with the onshore works are as follows:

- The effects of intertidal works on waterbirds – disturbance
- The effects of the construction of the onshore electrical infrastructure – disturbance and habitat loss

The effects of intertidal works on waterbirds

The transmission of power generated by the proposed Greater Gabbard Offshore Wind Farm will require four cables to be laid within the seabed. These cables are planned to come ashore immediately south of Sizewell village.

The intertidal area here is narrow and composed of shingle providing few food resources for wintering waders or other waterbird species (the majority of which prefer the muddy sediments of estuaries). The shingle beaches along the Suffolk coast provide breeding habitat for Ringed Plovers (*Charadrius hiaticula*) and terns, though present disturbance levels close to Sizewell (general beach activity, dog walking etc) preclude this, indeed, though three species of terns were recorded during onshore surveys none was found to be nesting in the study area.

A temporary working area of approximately 30m x 30m will need to be established for the duration of the cable landfall / intertidal works. However, the nature of the horizontal directional drilling itself means that no physical disturbance of the inter-tidal region and beaches is likely to occur and thus disturbance to birds will be kept to a minimum.

Due to the lack of disturbance from drilling and the limited size of the temporary works, the effects of intertidal works are thus considered to be of **Negligible Magnitude** and thus of **Very Low Significance** for all species of conservation importance in the area.

The effects of the construction of the onshore electrical infrastructure – disturbance and habitat loss

From the land fall, the four cables will follow a route along the Sizewell Gap Road inside the hedgerow of the adjacent fields as far west as Sandy Lane. At a point west of this, the cables would cross northwards beneath the Sizewell Gap Road and then follow the line of an existing field boundary to the sub-station site in the Sizewell Wents wood. Initial access construction and civil works, including topsoil strip and earthmoving activities would likely take place during summer (March to September) to avoid unnecessary mud on roads, soil washout from prolonged rain, slumping of banks, bunds and stockpiles and the increased potential for pollution incidents. Work on connection to the overhead lines and building of the sub-station itself would then follow, probably in autumn and early winter, with cable installation and commissioning of the sub-station provisionally taking place in the following spring / summer. Overhead lines running from the sub-station to towers to the north (across the edge of the Sizewell Marshes SSSI) and southwest will need to be realigned, though this will not affect habitat beneath.

The effects on birds of the construction of the onshore electrical infrastructure and of the resultant habitat loss are considered separately in the individual species accounts.

Construction work disturbance

The laying of cables from the cable jointing pit area to the sub-station and the construction of the sub-station itself are likely to have some disturbance effect on the birds in the area and this is likely to be greatest during the breeding season.

The potential effects of the construction work are twofold. Firstly, there will be direct disturbance due to the noise, vibration, lighting and visual intrusion of the work (Hockin *et al.* 1992 and Hill *et al.* 1997). Secondly, there will be a temporary loss of habitat, both along the route of the cable laying due to excavation work and also around the sub-station itself. In addition to those by the beach, there will be temporary works for cable jointing pits, the road crossings, for the connection to the overhead line and for the construction of the substation itself – the last will be the largest area and is likely to be in the field to the east of the Sizewell Wents wood.

In general, birds are less disturbed by vehicles than people and by continual noise than sudden / intermittent noise. Given the relatively short (one-year) timescale of the works, though, it is unlikely that birds will habituate to the disturbance and in this assessment, it is assumed that disturbance from the construction work will lead to complete avoidance and thus an effective loss of habitat for its duration.

The effects of both disturbance and the loss of habitat during construction work are short-term and considered to be of **Negligible Magnitude** and thus of **Very Low Significance** for all species of conservation importance in the area. However, as it is likely that some ground works may take place during the summer (March to September), mitigation options for the potential disturbance to breeding birds are considered later.

Habitat loss

The construction of the sub-station will lead to the loss of between 1.6 and 1.7 hectares of the Sizewell Wents wood. Along the route, the cables are proposed to be laid underneath the existing road to Sizewell Hall and the Sizewell Gap Road. No hedgerow will be removed on either side of the road

during this operation, as a trenchless cable installation technique will be used and reception and launch pits will be positioned behind the hedgerows. However, approximately 120 m of hedgerow will need to be removed to facilitate the slip-road to the sub-station access road.

Landscaping and site restoration works will aim to mitigate for the loss of hedgerow at the access to the Sizewell Gap road and loss of woodland at Sizewell Wents.

Hedgerow lost along the Sizewell Gap road will be replanted (with species such as hawthorn and blackthorn) several metres to the north of its existing alignment and following the completion of construction, the area of the temporary slip-road will also be reverted to hedgerow, thereby creating a wider hedgerow than presently exists.

The material excavated during the initial works will be used to provide raise ground levels near the Sandy Lane junction and this area then planted with native trees to screen views of the sub-station from the south. Some areas of woodland felled under the overhead connections from the substation and main overhead lines will also be replanted. However, the extent of this planting is limited by National Grid Company (NGC) guidelines – no tree or coppice wood may be planted under or within 110 feet of electric lines. Height limits imposed by NGC guidelines and conservation interests mean that planting is likely to be of short native species such as hawthorn and blackthorn.

9.2.4.2 Significance of Impacts

The Significance of the impacts of construction work disturbance and habitat loss associated with the development of the sub-station and cabling is considered for all species of conservation importance for which breeding evidence was found during surveys. Residual impacts following mitigation are considered in Section 9.2.6.

Species of Medium / Low Sensitivity

European Turtle Dove (UK BAP, BCC Red)

One territory was recorded in the 2005 study area and two in the 2006 study area. The species is considered to be of Medium Sensitivity, as it is a UK BAP species.

Construction work disturbance and habitat loss

European Turtle Doves are summer migrants, normally arriving in late April and May and departing from early September onwards.

The species is widely distributed throughout Suffolk with concentrations on the coast and in Breckland on the Norfolk / Suffolk border, although numbers are declining (Piotrowski 2003). None of the territories recorded in 2005 and 2006 were in the area where construction of the sub-station is proposed or along the route of the cables and thus the effects of construction and habitat loss are considered to be of **Negligible Magnitude** and of **Very Low Significance** for this species.

It should also be noted that any loss of hedgerow habitat (for the construction of the site access road) that potentially could be used for nesting by European Turtle Doves is likely to be compensated for by replacement screening vegetation and mitigation planting.

Sky Lark (UK BAP, BCC Red)

Sky Lark is a common resident, winter visitor and passage migrant, favouring open arable fields and coastal areas (Piotrowski 2003). A total of 15 territories was found in the 2005 study area and 13 territories in the 2006 study area, and as the species is a UK BAP species, it is considered to be of Medium Sensitivity.

Construction work disturbance and habitat loss

In 2005, one Sky Lark territory was found above the beach at the proposed landfall for the cables, two along the route of the cables by Sizewell Gap road and one in the field immediately to the south of the wood and proposed sub-station site. In 2006, seven Sky Lark territories were found along the proposed route for the cables: two above the beach at the proposed landfall for the cables, four along Sizewell Gap road and one again in the field immediately to the south of the wood and proposed sub-station site.

It is possible that construction work associated with cable-laying would temporarily displace these birds from their nesting sites, but as little habitat is likely to be permanently lost, and as much less than 1% of the regional population will be lost, the effects of this are considered to be of **Negligible Magnitude** and thus **Very Low Significance**.

Song Thrush (UK BAP, BCC Red)

The Song Thrush is a common resident, passage migrant and winter visitor, widespread across Suffolk in parks, gardens, heathland, woodland, farms and hedgerows (Piotrowski 2003). However, as a UK BAP species it is considered to be of Medium Sensitivity. Three territories were found during both the surveys in 2005 and 2006, though these did not overlap with the site of proposed sub-station construction or the route of the cables.

Construction work disturbance and habitat loss

Song Thrush is probably declining in Suffolk in line with the regional trend for eastern England (Raven & Noble 2006). As no territories were found in the area of the proposed sub-station and cable route, the effects of the sub-station's construction and subsequent loss of habitat are considered to be of **Negligible Magnitude** and thus of **Very Low Significance**.

It should also be noted that any loss of hedgerow habitat (for the construction of the site access road) that potentially could be used for nesting by Song Thrushes is likely to be compensated for by mitigation planting (though it will take time before new hedgerows provide suitable nesting habitat for the species).

Cetti's Warbler (WCA)

A single Cetti's Warbler territory was found in the 2005 study area and there was a single record of a singing bird from the same area in 2006. All observations were away from the proposed route of the cables and sub-station area. This species is considered to be of Medium Sensitivity due to its listing as a WCA Schedule 1 species.

Construction work disturbance and habitat loss

This species is a scarce resident in Suffolk with the first county record in 1971, at nearby Minsmere (Piotrowski 2003). In 2004, singing birds were found in the breeding season at 18 sites (Wright 2005). As no Cetti's Warblers were found in the area of the proposed sub-station or cabling, the effects of the construction work and resultant loss of habitat are considered to be of **Negligible Magnitude** for this species and thus of **Very Low Significance**.

Common Starling (BCC Red)

The Common Starling is an abundant resident, winter visitor and passage migrant in Suffolk, although numbers are probably declining. The species is encountered in a variety of habitats, including urban and rural dwellings and woodland. However, it is difficult to census breeding populations accurately

as they nest semi-colonially. Recorded territories in 2005 and 2006 were near buildings, and as the species is not designated apart from being red-listed as a Bird of Conservation Concern, it is rated as being of Low Sensitivity.

Construction work disturbance and habitat loss

The effects of construction work and the loss of habitat resulting from the building of the sub-station and cable route are assessed to be of **Negligible Magnitude**, and the effects of construction are thus of **Very Low Significance**.

House Sparrow (BCC Red)

This abundant, but declining, resident is typically concentrated around buildings and other artificial features, and this was the case at Sizewell, with 19 territories estimated in the 2005 study area and 12 in the 2006 study area. The species is not designated apart from being red-listed as a Bird of Conservation Concern, and is rated as being of Low Sensitivity.

Construction work disturbance and habitat loss

The effects of construction work and the loss of habitat resulting from the building of the sub-station and cable route are assessed to be of **Negligible Magnitude**, and the effects of construction are thus of **Very Low Significance**.

Common Linnet, (UK BAP, BCC Red)

This common resident was estimated to be holding four territories from onshore surveys. It is a UK BAP species and thus is rated as being of Medium Sensitivity.

Construction work disturbance and habitat loss

This is a common resident, although it is thought fewer birds overwinter. It breeds widely throughout the county where it favours open farmland, young plantations, heathland and other scrub areas, such as found in the coastal fringe. On farmland it particularly favours oilseed rape.

In 2005, seven territories were mapped above the beach near Sizewell village around the proposed landfall for the cables; two territories were mapped in the same area in 2006. However, as considerably less than 1% of the regional population will be affected by the construction work and the loss of habitat resulting from the building of the sub-station and cable route, the effects of construction are assessed to be of **Negligible Magnitude** and thus of **Very Low Significance** for this species.

It should also be noted that any loss of hedgerow habitat (for the construction of the site access road) that potentially could be used for nesting by Linnets is likely to be compensated for by mitigation planting (though it will take time before new hedgerows provide suitable nesting habitat for the species).

Common Bullfinch (UK BAP, BCC Red)

This is a common, widespread, but shy and declining bird in Suffolk. It is absent from tetrad TM4662 although it is recorded as breeding in TM4660 (Sanford 1993, Piotrowski 2003). The species held one territory in the 2005 study area and two in the 2006 study area, and is of Medium Sensitivity owing to its UK BAP status.

Construction work disturbance and habitat loss

As only a maximum of two territories were found during the surveys, away from the proposed

development, it is extremely unlikely that the construction work and the loss of habitat resulting from the construction of the sub-station and cable route will affect this species' regional population. The effects are thus assessed to be of **Negligible Magnitude** and of **Very Low Significance**.

It should also be noted that any loss of hedgerow habitat (for the construction of the site access road) that potentially could be used for nesting by Bullfinches is likely to be compensated for by mitigation planting (though it will take time before new hedgerows provide suitable nesting habitat for the species).

Yellowhammer (BCC Red)

Yellowhammer is a common, but declining, resident and passage migrant, breeding in most coastal tetrads in Suffolk. The species is not designated apart from being red-listed as a Bird of Conservation Concern, and is rated as being of Low Sensitivity.

Construction work disturbance and habitat loss

Three Yellowhammer territories in the 2005 study area potentially overlapped with the proposed works – two along the route of cabling by the Sizewell Gap road and one by the track along the northern edge of the wood where it is proposed that the sub-station will be built.

Five Yellowhammer territories were found in the study area in 2006. However, none were in the area where construction of the sub-station is proposed or along the route of the cables.

The effects of the construction work and the loss of habitat resulting from the building of the sub-station are assessed to be of **Negligible Magnitude** and thus of **Very Low Significance**.

It should also be noted that any loss of hedgerow habitat (for the construction of the site access road) that potentially could be used for nesting by Yellowhammers is likely to be compensated for by mitigation planting.

Reed Bunting (UK BAP, BCC Red)

Two territories were recorded in the onshore study area in 2006, but none in 2005. The species is considered to be of Medium Sensitivity, as it is a UK BAP species.

Construction work disturbance and habitat loss

This species is widely distributed in Suffolk with concentrations in areas of grazing marsh near the coast, though the species may also nest in fields of oilseed rape (Piotrowski 2003). Both territories found in 2006 were on the grazing marsh of the Sizewell Marshes SSSI and away from the area where construction of the sub-station and cable route is proposed. Thus the effects of construction and habitat loss are considered to be of **Negligible Magnitude** and of **Very Low Significance** for this species.

5 Mitigation

The area affected by the sub-station lies outside the Sizewell Marshes SSSI and Sandlings SPA and the Significance of the effects of this construction were considered to be Very Low for all species even prior to mitigation.

Despite the likely low effects of the onshore works, some recommendations for mitigation can be made:

- **Onshore construction.** Initial access construction and civil works, including topsoil strip and earthmoving activities are likely to take place during the summer (March to September) to

avoid unnecessary mud on roads, soil washout from prolonged rain, slumping of banks, bunds and stockpiles and the increased potential for pollution incidents. For any works that coincide with the breeding season for birds, surveys will be needed to locate nests and ensure that there is no disturbance to nesting birds.

- To further mitigate the potential disturbance to breeding birds, overhead line connection and sub-station construction are provisionally planned to occur outside the bird breeding season (i.e. March to September).

- **Site restoration and landscaping.** Hedgerow lost along the Sizewell Gap road will be replanted (with species such as hawthorn and blackthorn) several metres to the north of its existing alignment and following the completion of construction, the area of the temporary slip-road will also be reverted to hedgerow, thereby creating a wider hedgerow than presently exists.

- Material excavated during the initial works will be used to provide raise ground levels near the Sandy Lane junction and this area then planted with native trees to screen views of the sub-station from the south. Some areas of woodland felled under the overhead connections from the substation and main overhead lines will also be replanted with short native species such as hawthorn and blackthorn. This will help to reduce disturbance to birds breeding in the area immediately surrounding the site and create compensatory habitat for loss of trees.

6. Assessment of Residual Impacts

Table 9.2.6-1 summarises the predicted Significance of the effects of construction work disturbance and habitat loss from the development of the sub-station and cabling on bird species of conservation importance, having taken into account mitigation.

	Significance
Species of Medium / Low Sensitivity	
European Turtle Dove	Very Low
Sky Lark	Very Low
Song Thrush	Very Low
Cetti's Warbler	Very Low
Common Starling	Very Low
House Sparrow	Very Low
Common Linnet	Very Low
Common Bullfinch	Very Low
Yellowhammer	Very Low
Reed Bunting	Very Low

Table 9.2.6-1 Significance of the effects of the major impacts of the wind farm for bird species of conservation importance recorded in the onshore study areas in 2005 and 2006.

The assessment has shown that the main effects of the proposed sub-station and cabling works will only be of Very Low Significance to the bird species of conservation importance presently found onshore at Sizewell. Given present knowledge, none of the effects appear significant in terms of EIA Regulations or the criteria set out in Section 9.2.2.5.

7 Monitoring

The following monitoring of impacts is proposed :

- Monitoring will be required to help minimise the disturbance of construction work to birds nesting in the study area and would require territory mapping and nest-finding. It is proposed to agree the monitoring protocols with Suffolk Coastal District Council and relevant stakeholders prior to construction, should the project gain consent.

8 Conclusions

Ten species of conservation importance held territories in the study areas surveyed in 2005 and 2006. None of these had established territories in the Sizewell Wents wood where construction of the sub-station is proposed, though a pair of Grey Herons did nest here and probably also one pair of Eurasian Sparrowhawks. Of the species of conservation concern, only Sky Lark, Common Linnet and Yellowhammer were found to have territories along the likely cabling route, area of the overhead line works or temporary works areas.

A single Wood Lark – a designated feature of the Sandlings SPA – was seen over the south western part of the study area in 2005, adjacent to the SPA, but, as it was only seen once, it was not considered to be breeding. No other designated feature species of the Sizewell Marshes SSSI and Sandlings SPA were recorded in the study areas in either year.

The assessment has shown that the main effects of the onshore sub-station and ancillary works will only be of Very Low Significance to the bird species of conservation importance presently found onshore at Sizewell. Given present knowledge, none of the effects appear significant in terms of EIA Regulations or against significance criteria guidance as set out in Section 9.2.2.5.

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Appendix 1 Methodology for analysis of 6-visit Territory Mapping census of onshore site

The survey method used for the project is a modified version of the Common Birds Census (Marchant *et al.* 1990), and used the following principles to define territory circles on the species maps:

1. Broadly, the minimum number of visit registrations (from different visits) used to form a territory was TWO, although as many registrations as possible were placed into a single territory.
2. Where the species is a songbird, that is alone and in song, in correct habitat, such a registration can stand alone as a territory.
3. A lone bird alarm calling or giving other vocalisations thought to have strong territorial significance is acceptable as a territory.
4. The presence of an occupied nest on just one visit, with no other registrations is acceptable as a territory.
5. A lone songbird not in song CANNOT count as a territory, regardless of whether it is located toward the middle of the plot or near the edges.
6. A territory was not counted where there was just a single registration of a bird in mid-flight.
7. The presence of a family on a single visit (juvenile birds with attendant parents) was not permitted as a territory, since they may have moved into the area from outside the CBC plot.
8. A lone pair of the same registration, e.g. 2A or Bx2, was permitted as a territory, provided that the birds were not in mid-flight. In instances involving pairs of birds in flight, territories were only permitted when the pair was recorded taking off from a fixed point, e.g. a tree or the ground (but excluded when they have been seen in mid-flight) – Wood Pigeon. Such registrations are acceptable even if the sex of the individuals is not known, because this will follow the rationale already widely used and accepted in CBC territory analysis (it can be assumed that they might be a pair; this is regularly assumed when placing surplus registrations into an established territory cluster).
9. For species that are semi-colonial, or occur in large groups where it may be hard to define separate individual territories (referred to as "group count" species, e.g. Wood Pigeon, Feral Pigeon, Linnet), the numbers of birds per visit were counted up. Then the maximum count of the visits was divided by 2 to give the number of territories. Note that the second highest count was not used, as this is only appropriate for a census involving 8-10 visits, not four visits, such as this. Additionally, for "group count" species, birds only seen flying over the plot, and large groups were excluded from potential territory circles. Wood Pigeons – Leave out large groups from the analysis as they are unlikely to be nesting in a large groups (they may just be resting).
10. Rook, a colonial nesting species: impossible to draw territories for, so recorded as "present" or "not recorded". Counting nests in rookery trees is the only acceptable method for recording territories for this species.

Low density species seen just once, and not in song are NOT permitted as a territory, regardless of whether the bird is in flight or perched. There needs to be a minimum of two visit registrations for these species to count.