

**EDF Energy**

**Sizewell C New Nuclear Power Station:  
Terrestrial and Freshwater Ecology, and  
Ornithology**

DRAFT Breeding Bird Survey Report 2010

June 2012

AMEC Environment & Infrastructure UK Limited



---

**Report for**

EDF Energy

---

**Main Contributors**

Mike Raven

---

**Issued by**

.....

Lynn Whitfield

---

**Approved by**

.....

Alan Kirby

---

**AMEC Environment & Infrastructure  
UK Limited**

17 Angel Gate, City Road, London EC1V 2SH,  
United Kingdom  
Tel +44 (0) 207 843 1400  
Fax +44 (0) 207 843 1410

Doc Reg No. 28130-CR335

r:\projects\28130 sizewell ecology studies\reports\sizewell main  
site\birds\breeding bird report 2010\breeding bird survey report  
2010 - draft.doc

## EDF Energy

# Sizewell C New Nuclear Power Station: Terrestrial and Freshwater Ecology, and Ornithology

DRAFT Breeding Bird Survey Report 2010

June 2012

AMEC Environment & Infrastructure  
UK Limited



Certificate No. FS 13881



Certificate No. EMS 69090

In accordance with an environmentally responsible approach,  
this document is printed on recycled paper produced from 100%  
post-consumer waste, or on ECF (elemental chlorine free) paper

---

## Disclaimer

This report has been prepared in a working draft form and has not been finalised or formally reviewed. As such it should be taken as an indication only of the material and conclusions that will form the final report. Any calculations or findings presented here may be changed or altered and should not be taken to reflect AMEC's opinions or conclusions.

---

## Copyright and Non-Disclosure Notice

The contents and layout of this report are subject to copyright owned by AMEC (©AMEC Environment & Infrastructure UK Limited 2011) save to the extent that copyright has been legally assigned by us to another party or is used by AMEC under licence. To the extent that we own the copyright in this report, it may not be copied or used without our prior written agreement for any purpose other than the purpose indicated in this report.

The methodology (if any) contained in this report is provided to you in confidence and must not be disclosed or copied to third parties without the prior written agreement of AMEC. Disclosure of that information may constitute an actionable breach of confidence or may otherwise prejudice our commercial interests. Any third party who obtains access to this report by any means will, in any event, be subject to the Third Party Disclaimer set out below.

---

## Third Party Disclaimer

Any disclosure of this report to a third party is subject to this disclaimer. The report was prepared by AMEC at the instruction of, and for use by, our client named on the front of the report. It does not in any way constitute advice to any third party who is able to access it by any means. AMEC excludes to the fullest extent lawfully permitted all liability whatsoever for any loss or damage howsoever arising from reliance on the contents of this report. We do not however exclude our liability (if any) for personal injury or death resulting from our negligence, for fraud or any other matter in relation to which we cannot legally exclude liability.

---

## Document Revisions

No.	Details	Date
1	Draft Report	June 2012

---

# Contents

---

<b>1.</b>	<b>Introduction</b>	<b>1</b>
1.1	Purpose of this Report	1
1.2	Scope	1
1.3	Survey Area Description	2
<b>2.</b>	<b>Methodology</b>	<b>3</b>
2.1	Desk Study	3
2.2	Breeding Bird Surveys	3
<b>3.</b>	<b>Results</b>	<b>5</b>
3.1	Highly protected species	10
<b>4.</b>	<b>Discussion</b>	<b>13</b>
4.1	Highly Protected Breeding Species	13
4.2	UK BAP Priority and Red-Listed Species	17
4.3	Other Notable Species	21
<b>5.</b>	<b>Conclusions</b>	<b>23</b>
<b>6.</b>	<b>References</b>	<b>25</b>
Table 3.1	Numbers of Breeding Bird Territories Recorded in the Amended Survey Area	6
Figure 1.1	Survey Area Location	After Page 2
Figure 1.2	Phase 1 Habitat Map	After Page 2
Figure 2.1	Statutory Designated Sites within 2km of the Survey Area	After Page 4
Figure 3.1	Breeding Bird Survey Maps	After Page 12
Figure 3.1a	Bird Territories	After Page 12
Figure 3.1b	Bird Territories	After Page 12
Figure 3.1c	Bird Territories	After Page 12
Figure 3.1d	Bird Territories	After Page 12



# 1. Introduction

---

## 1.1 Purpose of this Report

An area of land directly north of Sizewell B Nuclear Power Station, which is located near Leiston in Suffolk, has been identified as having the potential to accommodate the proposed development of one or more new nuclear reactors. This proposed development is known as Sizewell C. The site of the proposed development has an approximate central National Grid Reference (NGR) of TM473640.

AMEC Environment & Infrastructure UK Ltd (formerly Entec UK Ltd) was commissioned by EDF Energy in 2010 to undertake a breeding bird survey of the Strategic Site Area (SSA). The purpose of this report, which outlines the findings of survey work undertaken for breeding bird species in 2010, is to inform the design of Sizewell C and the Environmental Statement for the scheme.

It should be noted that this report contains information relating to the nest locations of species listed on schedule 1 of the Wildlife & Countryside Act 1981 (as amended). As such, the report should be treated as **confidential** and should not enter the public domain.

## 1.2 Scope

Breeding bird surveys were undertaken in 2007 within an area of land which could potentially accommodate a new nuclear facility and its associated infrastructure (covering 9km<sup>2</sup>). A desk study was also undertaken to provide contextual information about the bird interest of the area, including details of statutory designated sites of nature conservation interest within 5km of the proposed new build area. Results of the desk study and 2007 breeding bird surveys are provided in the Sizewell First Interim Bird Report (Entec, 2008).

Results from breeding bird surveys are generally considered by consultees (such as Natural England and RSPB) to remain valid for three years. Therefore, in order to provide an update on baseline conditions in the area, the breeding bird surveys were repeated in spring 2010.

The survey area and methodologies used in 2010 have been adopted following consultation with statutory and non-statutory consultees and other stakeholders, taking into account best practice guidelines, and site-specific and project-specific characteristics. The survey area adopted at the start of the surveys in March 2010 was the Strategic Site Area (SSA) and a 250m buffer around it, referred to as the 'initial survey area' in this report. The SSA incorporated the proposed locations of the new build area (directly north of Sizewell B) and the access road corridor as defined at the start of the survey work in March 2010. In addition, if the proposed new nuclear facility is consented, then other areas of land will be temporarily disturbed during the construction process (e.g. laydown areas).

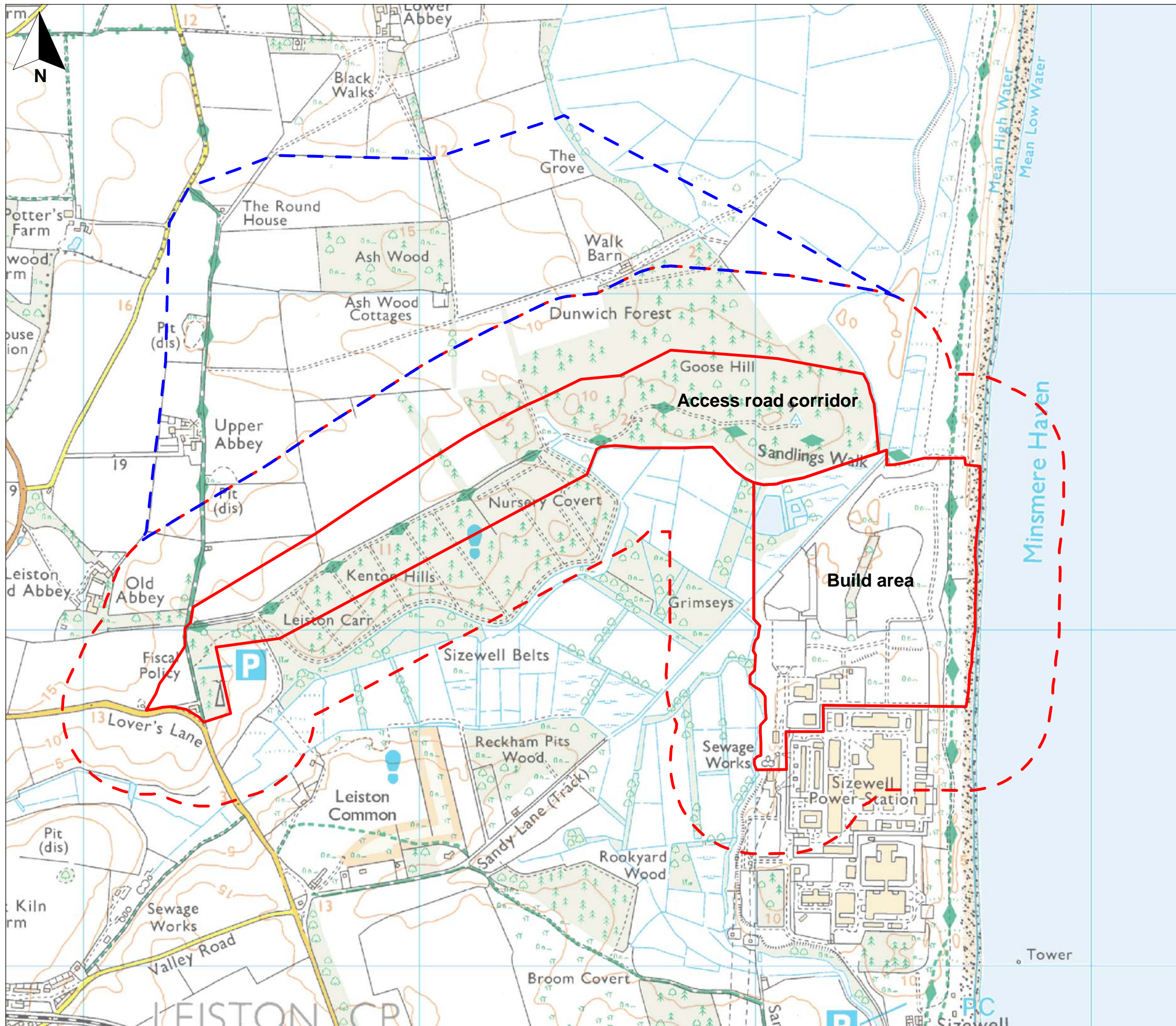
Further information on the potential location of these temporary facilities was made available in the Sizewell Site Plot Plan Review of 4<sup>th</sup> June 2010. In response to this, the survey area was extended northwards, to encompass an area within 250m of the location of these facilities (the initial survey area and extended survey area being referred to in this report as the amended

survey area). The precise location of these temporary facilities however have not been finalised and may be subject to change. At this stage, these temporarily facilities are likely to be located immediately north of the access road corridor. The boundaries of the SSA and survey areas are shown on **Figure 1.1**.

### 1.3 Survey Area Description

The initial survey area comprises a mixture of habitats, including woodland, arable farmland and wet meadows. The area includes a belt of woodland running west to east, from Leiston Carr to Goose Hill, which is primarily comprised of mature conifer plantation with open areas created by tree-felling (clear-fells) and a strip (of varying width) of wet, deciduous woodland and scrub running along the southern fringe of the plantations. The woodland at Old Abbey and east of the Fiscal Policy car park is also mature, but dry deciduous woodland. To the south of the woodland are the wet meadows that form part of the Sizewell Marshes SSSI. The meadows consist of numerous small fields of unimproved, seasonally flooded grassland, intersected by water-filled ditches, but there are also small blocks of reedbed and wet scrub, particularly to the north-east of Grimseys. To the north of the Leiston Carr to the Goose Hill belt of woodland (including much of the land in the extended survey area), the land is primarily given over to arable farmland, with the large fields divided by often intact hedgerows. In this area, there are also sizeable belts of woodland, including at Ash Wood (mature, mixed coniferous-deciduous woodland), and between Ash Wood Cottages and Walkbarn where there is a belt of more recently planted conifers (c.5-10 years old). **Figure 1.2** shows the habitats in the amended survey area (this information was collected during the extended Phase 1 habitat survey undertaken in March 2007).





**Key**

- SSA boundary
- Initial survey area
- Extended survey area

0 m  500 m  
Scale 1:11,000 @ A3



Sizewell Breeding Bird Survey Report 2010

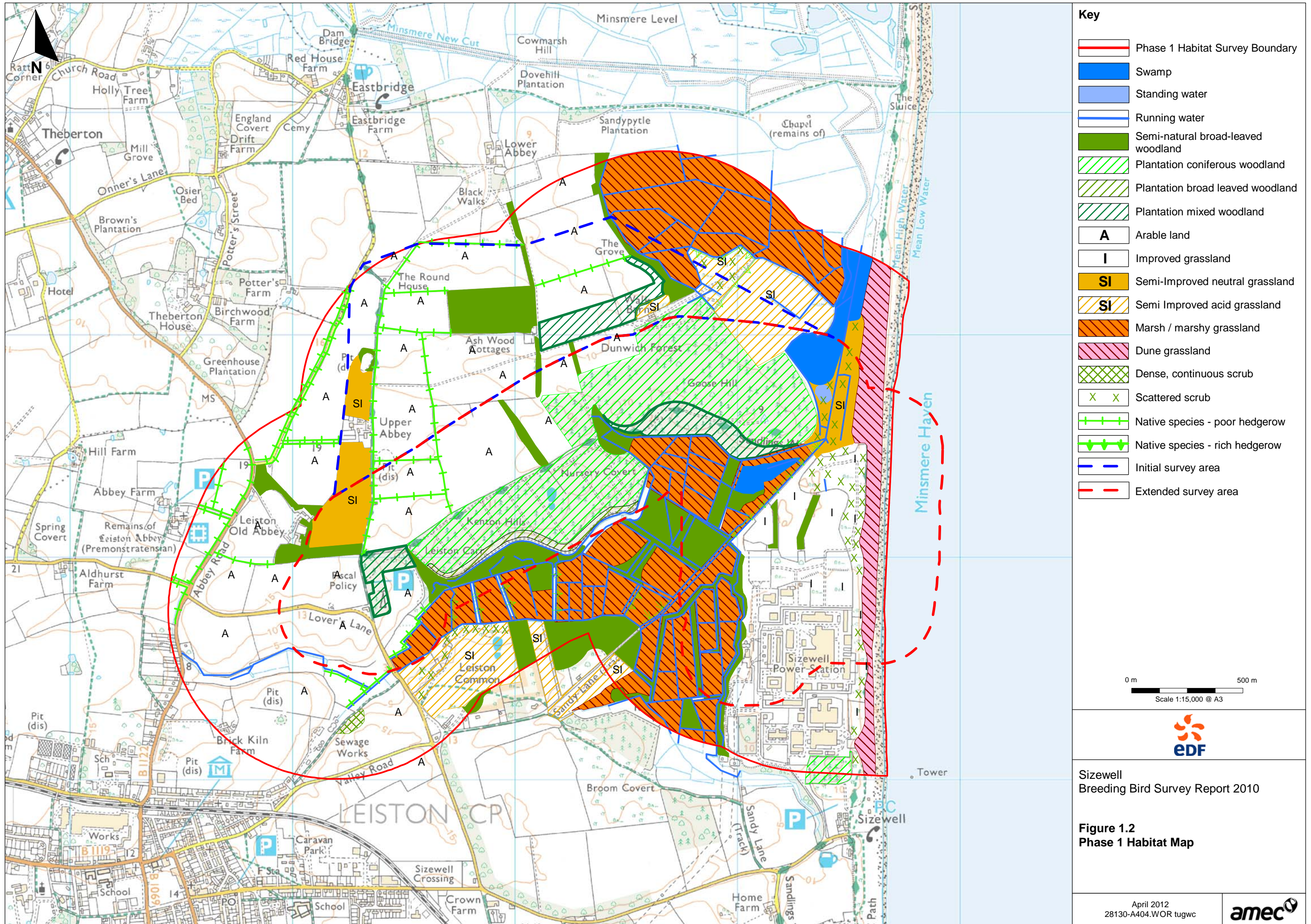
**Figure 1.1**  
Survey Area

April 2012  
28130-A05.wor tugwc



Reproduced from Ordnance Survey map with the permission of Ordnance Survey on behalf of the controller of her Majesty's Stationery Office © Crown copyright (2011). All Rights reserved. NNB Genco 0100050480







## 2. Methodology

---

### 2.1 Desk Study

A number of primary sources of data were identified and used to inform the work. These include:

- The results of annual breeding and wintering bird surveys conducted by the Suffolk Wildlife Trust on parts of the British Energy (BE) Estate (summarised in the annual land management review);
- Minsmere RSPB breeding bird survey reports for 2008 and 2009;
- Birds of Suffolk (Piotrowski, 2003);
- Suffolk Birds 2000-2008 inclusive (the county bird reports, published by the Suffolk Naturalists' Trust in collaboration with the Suffolk Ornithological Group), and
- The location and reasons for designation of statutory designated sites within 2km of the amended survey area was obtained in 2010 from the websites: [www.magic.gov.uk](http://www.magic.gov.uk) and the [www.jncc.gov.uk](http://www.jncc.gov.uk). The location of these statutory designated sites is shown in **Figure 2.1**.

### 2.2 Breeding Bird Surveys

The key objective of the bird surveys undertaken at Sizewell during the 2010 breeding season was to provide a suitable baseline for the evaluation of the potential effects of the construction and operation of a new nuclear power station and associated infrastructure on the breeding bird community present.

Territory mapping surveys based on the BTO's Common Bird Census (CBC) methodology were carried out in all areas within the amended survey area. All of this land is located within the Sizewell Estate, under EDF ownership<sup>1</sup>, or within approximately 50m of it, and therefore unrestricted access was therefore possible. Within the Sizewell Estate, transects no further than 50m apart were walked across all open habitats, while all field boundaries, and the edges of the small reedbeds and belts of semi-natural woodland were also walked. In the coniferous plantation, all rides / firebreaks and tracks were walked, and all birds visible / audible from them were recorded.

While eight to ten visits are the norm for CBC sites being monitored over the long-term, where territory mapping is being used for the purpose of assessing potential environmental impacts it is generally accepted that three to four visits are sufficient to determine the numbers and densities of breeding birds with reasonable accuracy.

---

<sup>1</sup> EDF is responsible for the management of the Estate, which is undertaken in partnership with SWT.

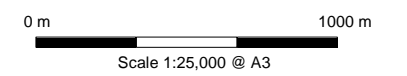
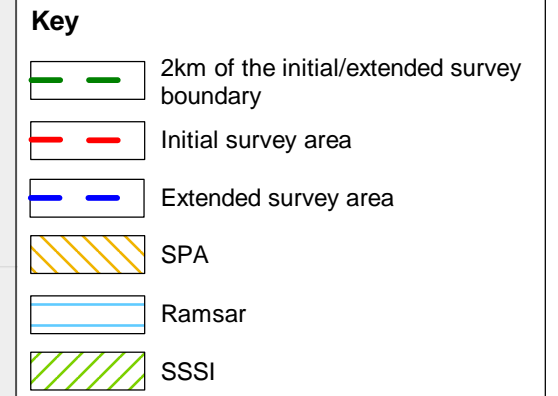
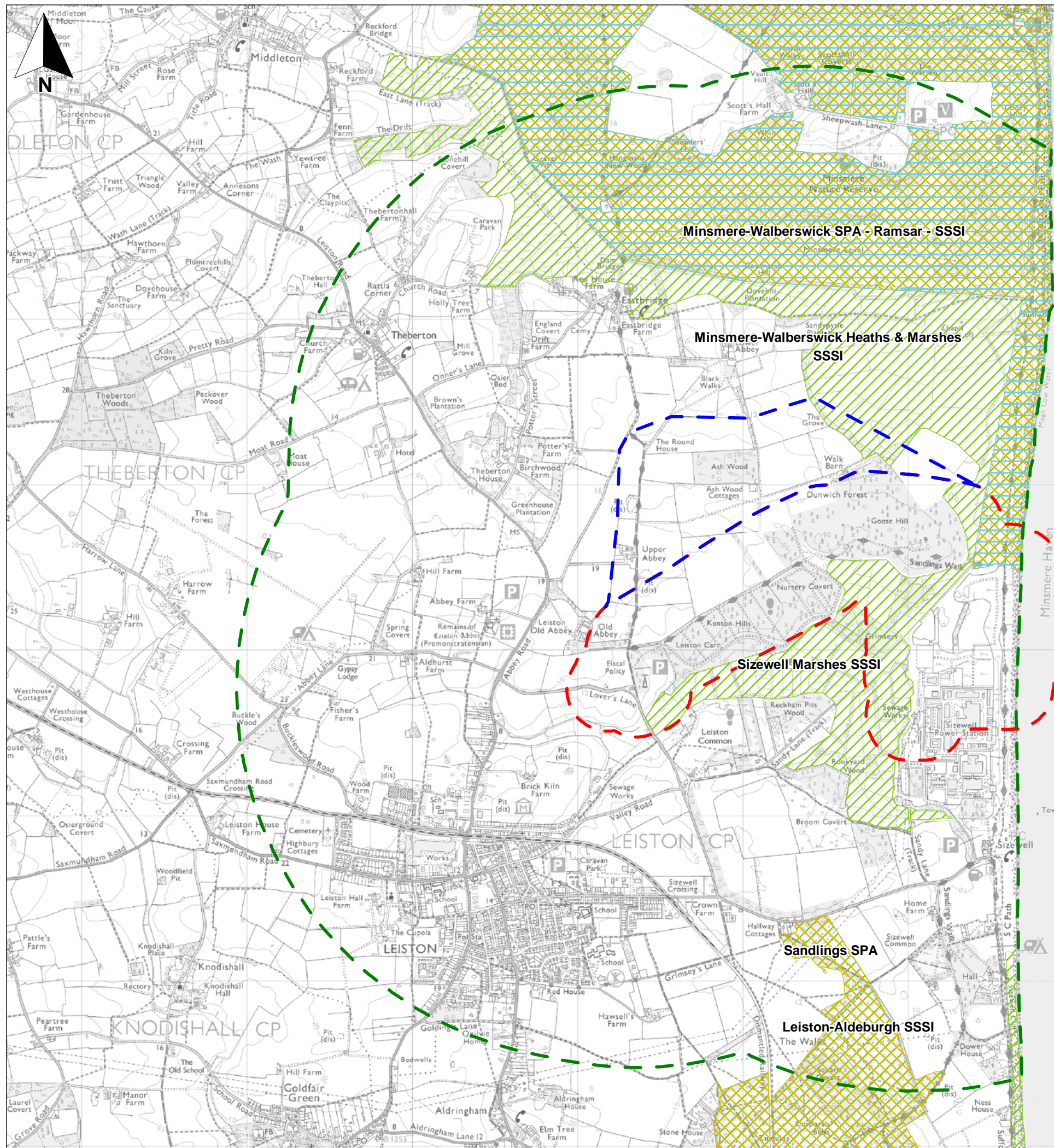
Four survey visits were therefore undertaken within the initial survey area from late March to June 2010 (one visit each month, with each visit taking 2-3 days to complete). The dates on which surveys were undertaken in this area were as follows:

- March (19, 23 and 25);
- April (23 and 28);
- May (19 and 20);
- June (15 and 16).

More precise information on the potential location of the temporary facilities was provided on 4<sup>th</sup> June 2010. In response to this, the survey area was extended north of the access road corridor to include all areas within 250m of the indicative location of these facilities (see **Figure 1.1** for the location of the initial and extended survey areas). Three visits were undertaken in the extended part of the survey area in June, each visit taking one day to complete and undertaken one week apart, on the following dates:

- June (2, 10 and 22).

Supplementary records of birds recorded outside timed surveys and during species-specific survey work (nightjar surveys were undertaken in the initial survey area in May-June 2010, and little tern surveys from the adjacent dunes in May-July 2010) were also used when compiling the final territory maps. Additional records were obtained from surveyors undertaking bat surveys in the Sizewell Belts area in spring 2010, and from the Suffolk Wildlife Trust warden for the Sizewell Estate, Carl Powell.



Sizewell  
Breeding Bird Survey Report 2010

**Figure 2.1**  
Statutory Sites within 2km of the  
Amended Survey Area

May 2012  
28130-A403.wor tugwc







### 3. Results

---

A total of 58 species were recording breeding or holding territory within the amended survey area in 2010, including: five species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), 13 UK Biodiversity Action Plan (BAP) Priority Species (of which eight also feature on the Suffolk BAP), nine species that appear on the Birds of Conservation Concern red list<sup>2</sup> and a further 16 species that are on the amber list<sup>3</sup>.

The location of breeding territories is shown on **Figure 3.1** (separated into four more detailed maps shown on **Figures 3.1a-d**). Results from the breeding bird surveys are provided in **Table 3.1**, including estimates of the number of breeding pairs/territories in the amended survey area.

It should be remembered when considering the figures that the two letter registrations refer to the apparent centre of territorial activity rather than nest sites. It should also be noted that the aim of this survey was to characterise the bird community rather than derive exact densities, something which would require a considerably more involved survey programme. It is inevitable that the densities of some mobile, vocal species have therefore been overestimated due to the precautionary approach that has been taken in interpreting the data. Where potential overestimation is considered likely, this is acknowledged in the text.

---

<sup>2</sup> The criteria for assigning species to the red list include: if they are globally threatened; if they have declined by 50% or more over the past 25 years; if they have experienced severe declines historically or if their range in the UK has contracted by over 50% in the past 25 years. Both wintering and breeding species are considered. All red-listed species recorded in the survey area at Sizewell appear on the list due to considerable range contractions or rapid declines in their breeding populations.

<sup>3</sup> Amber-listed species are those which have experienced moderate recent declines or range reductions (between 25 and 49%) over the past 25 years, that are rare breeders (with a population of 1-300 pairs in the UK), that have 50% or more of the breeding population occurring at 10 or fewer sites, or for which 20% or more of the European population breed (or winter in the case of wildfowl) within the UK.

**Table 3.1 Numbers of Breeding Bird Territories Recorded in the Amended Survey Area**

BTO Code	Species	Scientific name	Number of Territories in Amended Survey Area	Annex I <sup>4</sup>	WCA (Sch1) <sup>5</sup>	UK BAP <sup>6</sup>	Suffolk BAP	NERC S(41) <sup>7</sup>	BoCC <sup>8</sup>
MS	Mute Swan	<i>Cygnus olor</i>	1						
MA	Mallard	<i>Anas platyrhynchos</i>	8						Amber
RL	Red-legged Partridge	<i>Alectoris rufa</i>	8						
PH	Pheasant	<i>Phasianus colchicus</i>	37						
K.	Kestrel	<i>Falco tinnunculus</i>	1						Amber
HY	Hobby	<i>Falco subbuteo</i>	1		Yes				
WA	Water Rail	<i>Rallus aquaticus</i>	1						
MH	Moorhen	<i>Gallinula chloropus</i>	14						
CO	Coot	<i>Fulica atra</i>	1						

<sup>4</sup> Certain endangered, rare, or vulnerable bird species, which warrant special protection, are included on Annex 1 of the European Communities Council Directive on the Conservation of Wild Birds (79/409/EEC)

<sup>5</sup> It is an offence to disturb any wild bird listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) Act while it is nest building, or is at a nest containing eggs or young, or to disturb the dependent young of any such bird

<sup>6</sup> UK BAP list published 2007 (Biodiversity Reporting and Information Group, 2007)

<sup>7</sup> In May 2008, Natural England and Defra published the Section 41 list of habitats and species of principal importance for the conservation of biodiversity in England. The list contains all UK Biodiversity Action Plan (BAP) priority habitats and species known to occur in England in addition to species of particular conservation significance in England. The production of the list is a requirement of the Natural Environment & Rural Communities (NERC) Act 2006 and it will be used to guide and prioritise future conservation action in England.

<sup>8</sup> Red and Amber List birds: those listed as being of high or medium conservation concern in Eaton et al., (2008)

BTO Code	Species	Scientific name	Number of Territories in Amended Survey Area	Annex I <sup>4</sup>	WCA (Sch1) <sup>5</sup>	UK BAP <sup>6</sup>	Suffolk BAP	NERC S(41) <sup>7</sup>	BoCC <sup>8</sup>
L.	Lapwing	<i>Vanellus vanellus</i>	3			Yes		Yes	Red
SD	Stock Dove	<i>Columba oenas</i>	9						Amber
WP	Woodpigeon	<i>Columba palumbus</i>	83						
CD	Collared Dove	<i>Streptopelia decaocto</i>	4						
TD	Turtle Dove	<i>Streptopelia turtur</i>	1			Yes	Yes	Yes	Red
CK	Cuckoo	<i>Cuculus canorus</i>	1			Yes		Yes	Red
TO	Tawny Owl	<i>Strix aluco</i>	1						
G.	Green Woodpecker	<i>Picus viridis</i>	10						Amber
GS	Great Spotted Woodpecker	<i>Dendrocopos major</i>	11						
WL	Woodlark	<i>Lullula arborea</i>	1	Yes	Yes	Yes	Yes	Yes	Amber
S.	Skylark	<i>Alauda arvensis</i>	19			Yes	Yes	Yes	Red
SL	Swallow	<i>Hirundo rustica</i>	1						Amber
PW	Pied Wagtail	<i>Motacilla alba</i>	2						
WR	Wren	<i>Troglodytes troglodytes</i>	87						
D.	Dunnock	<i>Prunella modularis</i>	39			Yes		Yes	Amber
R.	Robin	<i>Erithacus rubecula</i>	73						
BX	Black Redstart	<i>Phoenicurus ochruros</i>	2		Yes				Amber
B.	Blackbird	<i>Turdus merula</i>	31						
ST	Song Thrush	<i>Turdus philomelos</i>	9			Yes	Yes	Yes	Red
M.	Mistle Thrush	<i>Turdus viscivorus</i>	3						Amber
CW	Cetti's Warbler	<i>Cettia cetti</i>	5		Yes				

BTO Code	Species	Scientific name	Number of Territories in Amended Survey Area	Annex I <sup>4</sup>	WCA (Sch1) <sup>5</sup>	UK BAP <sup>6</sup>	Suffolk BAP	NERC S(41) <sup>7</sup>	BoCC <sup>8</sup>
SW	Sedge Warbler	<i>Acrocephalus schoenobaenus</i>	1						
RW	Reed Warbler	<i>Acrocephalus scirpaceus</i>	11						
BC	Blackcap	<i>Sylvia atricapilla</i>	37						
GW	Garden Warbler	<i>Sylvia borin</i>	15						
LW	Lesser Whitethroat	<i>Sylvia curruca</i>	1						
WH	Whitethroat	<i>Sylvia communis</i>	14						Amber
CC	Chiffchaff	<i>Phylloscopus collybita</i>	28						
WW	Willow Warbler	<i>Phylloscopus trochilus</i>	1						Amber
GC	Goldcrest	<i>Regulus regulus</i>	37						
FC	Firecrest	<i>Regulus ignicapilla</i>	2		Yes				Amber
SF	Spotted Flycatcher	<i>Muscicapa striata</i>	1			Yes	Yes	Yes	Red
LT	Long-tailed Tit	<i>Aegithalos caudatus</i>	26						
BT	Blue Tit	<i>Cyanistes caeruleus</i>	53						
GT	Great Tit	<i>Parus major</i>	34						
CT	Coal Tit	<i>Pariparus ater</i>	55						
MT	Marsh Tit	<i>Poecile palustris</i>	5			Yes		Yes	Red
TC	Treecreeper	<i>Certhia familiaris</i>	25						
J.	Jay	<i>Garrulus glandarius</i>	5						
MG	Magpie	<i>Pica pica</i>	21						
JD	Jackdaw	<i>Corvus monedula</i>	10						
C.	Carrion Crow	<i>Corvus corone</i>	22						

BTO Code	Species	Scientific name	Number of Territories in Amended Survey Area	Annex I <sup>4</sup>	WCA (Sch1) <sup>5</sup>	UK BAP <sup>6</sup>	Suffolk BAP	NERC S(41) <sup>7</sup>	BoCC <sup>8</sup>
CH	Chaffinch	<i>Fringilla coelebs</i>	148						
GR	Greenfinch	<i>Carduelis chloris</i>	10						
GO	Goldfinch	<i>Carduelis carduelis</i>	13						
LI	Linnet	<i>Carduelis cannabina</i>	8			Yes	Yes	Yes	Red
BF	Bullfinch	<i>Pyrrhula pyrrhula</i>	3			Yes	Yes	Yes	Amber
Y.	Yellowhammer	<i>Emberiza citrinella</i>	6			Yes		Yes	Red
RB	Reed Bunting	<i>Emberiza schoeniclus</i>	1			Yes	Yes	Yes	Amber

Results from the territory mapping survey showed that the commonest species in the amended survey area were those with wide ranging habitat preferences. Of these, chaffinch was by far the most numerous, with 148 territories, while wren (with 87 territories), wood pigeon (83) and robin (73) were also well represented. Other common generalist species were dunnoek, blackbird, great tit, blue tit and carrion crow, while the amount of deciduous woodland and woodland edge, hedgerow and scrub habitats within the survey area resulted in relatively high numbers of green woodpecker, great spotted woodpecker, blackcap, garden warbler, chiffchaff and long-tailed tit. Areas of coniferous plantation held considerable numbers of goldcrest, coal tit and treecreeper.

The highest densities of breeding birds were generally recorded in areas of deciduous scrub and wet woodland, including red-listed species such as song thrush, bullfinch and marsh tit. High densities were noted in the mosaic of wet scrub, semi-natural woodland and reedbed located within the north-east corner of the SSSI, to the north of Sizewell B. Species that were particularly associated with the reedbed and wet scrub habitat here included: reed warbler, water rail and Cetti's warbler. Elsewhere in this area, north of Sizewell B, a pair of lapwings attempted to breed in the open meadowland and there was a concentration of chaffinch territories in the planted conifers adjacent to the Power Station. Also in this area, the scrub held linnet, whitethroat and long-tailed tit and the open areas supported the occasional pair of skylark. A pair of stonechats was also present, south of the amended survey area in the coastal scrub adjacent to the built power stations.

The scrub and wet deciduous woodland that fringed much of the southern edge of the Leiston Carr to Goose Hill plantations held high densities of typical woodland species including: wood pigeon, wren, dunnoek, robin, blackbird, song thrush, garden warbler, blackcap, chiffchaff, blue tit, great tit, marsh tit, long-tailed tit, chaffinch and goldfinch. Much of the Leiston Carr to Goose Hill woodlands are comprised of mature pine plantation which held high densities of woodpigeon, goldcrest, coal tit and chaffinch, and smaller numbers of green woodpecker, great spotted woodpecker, mistle thrush and treecreeper.

Relatively low numbers of birds were found in open arable farmland (including red listed lapwing, skylark and yellowhammer) and the wet meadows that form part of the Sizewell Marshes SSSI. The arable farmland to the north of the Leiston Carr to Goose Hill woodland held low densities of birds, and included species typical of open habitats, such as red-legged partridge, skylark, whitethroat and yellowhammer, and a single singing male woodlark. A turtle dove was also seen at Upper Abbey Farm in June, although was not heard singing.

The ditches that traverse the wet meadows to the south of the woodland (part of the Sizewell Marshes SSSI) supported mallard and moorhen, and single pairs of coot and mute swan. Two gadwall were seen in the Sizewell Marshes SSSI on 23 April, but were not recorded subsequently. Gadwall were also seen in the SSSI by SWT wardens but they could not confirm any breeding in 2010. Other species that probably bred in the survey area included: little owl (the SWT warden reported a pair at Ash Wood Cottages and another in Kenton Hills).

### **3.1 Highly protected species**

Highly protected species that bred or held territory within the amended survey area were hobby, woodlark, Cetti's warbler, black redstart and firecrest. A hobby was seen carrying food into Ash Wood on 2 June, indicating that a pair was probably present. Birds were also seen by SWT wardens in the vicinity of another regular breeding site in Goose Hill, although nesting was not

confirmed (pers. Comm. Carl Powell, SWT warden). A single woodlark was seen flying northwest over the area immediately to the north of Sizewell B on 19 March, and a male was heard singing on 23 April in fields south of Ash Wood Cottages, but was not heard subsequently. Two black redstarts were heard singing on the northern boundary of Sizewell B in 2010. A further two singing males were heard (out with the amended survey area) along the eastern boundary of Sizewell B and Sizewell A Power Stations respectively. Four Cetti's warblers were heard singing in the reedbeds and wet scrub in the north-east corner of the Sizewell Marshes SSSI and a further singing male was present near Walk Barn. Two singing male firecrests were heard: one by the 'Fiscal Policy' car park at the western end of the amended survey area, and another on the southern fringes of Goose Hill plantation. Neither bird was heard on subsequent visits, indicating that these records may have related to individuals on migration rather than attempting to breed.

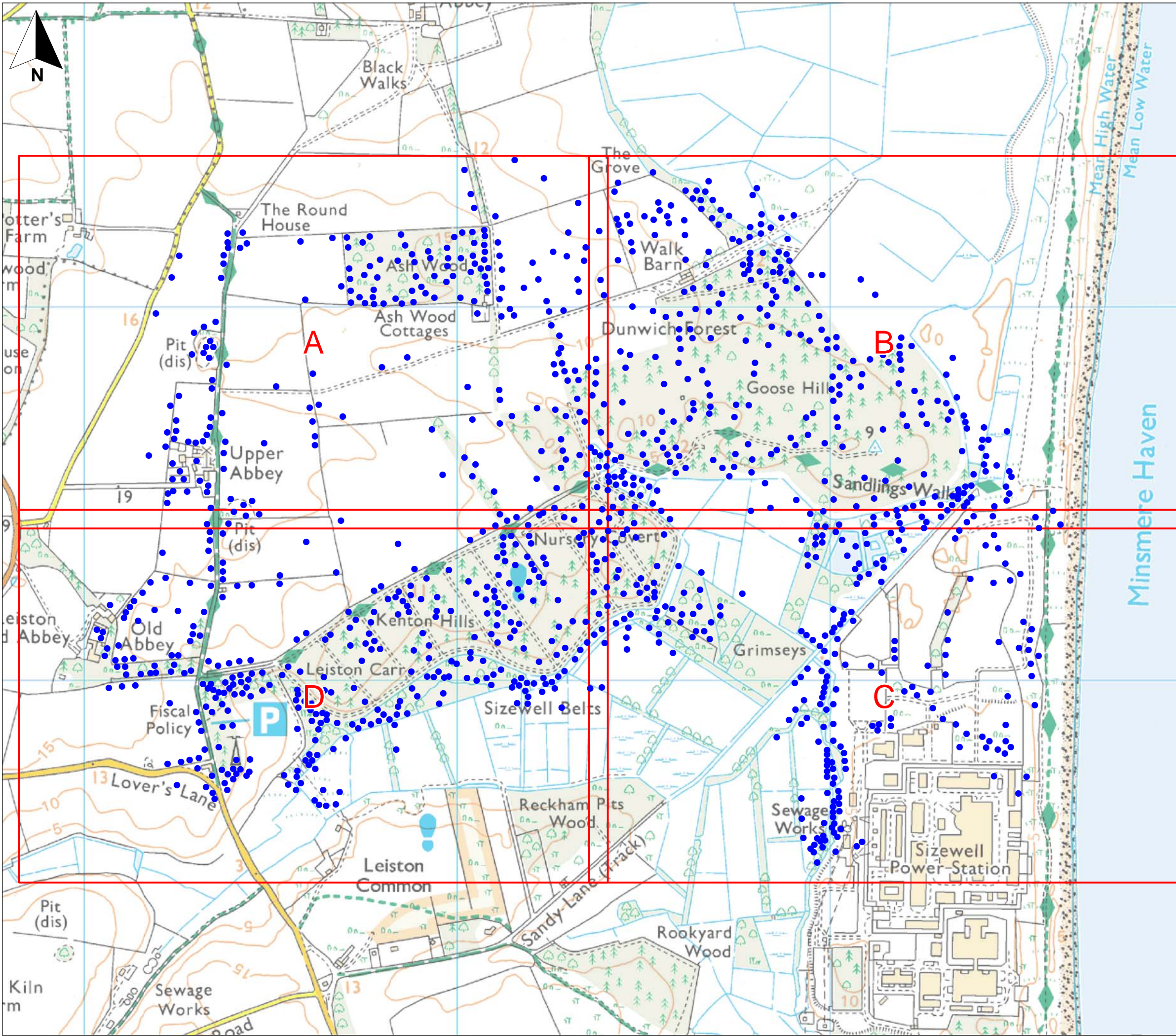
A further three Schedule 1 species that could potentially breed in the amended survey area were recorded but not thought to have bred. Barn owls were seen hunting over open ground in the survey area by surveyors undertaking bat surveys in the Sizewell Belts area during April-June 2010. A barn owl box is present on the southern edge of Goose Hill plantation, but there was no sign of recent or previous occupancy during the survey period. Barn owls were not thought to have bred in the amended survey area in 2010 but were known to be roosting in Upper Abbey Farm (pers. Comm. Carl Powell, SWT warden).

A female marsh harrier was seen flying low over reedbeds in the northeast corner of Sizewell Marshes SSSI on 22 June, and a male bird was seen hunting over the same area on 16 June. Other birds were seen hunting over the Sizewell Marshes area by bat surveyors in 2010. Breeding was not thought to have occurred on the Sizewell Marshes in 2010 (pers. Comm. Carl Powell, SWT warden). A flock of six crossbills was seen flying low over Goose Hill plantation on 23 March. Crossbills breed very early in the year and there is potentially suitable nesting habitat present in the conifer plantations. This species was considered by the SWT warden to have possibly bred on the Sizewell Estate in early 2010.

A more detailed discussion of the importance of the amended survey area at Sizewell to breeding birds is presented in **Section 4**.







Key  
 Bird territory locations

0 m  500 m  
 Scale 1:10,000 @ A3



Sizewell  
 Breeding Bird Survey Report 2010

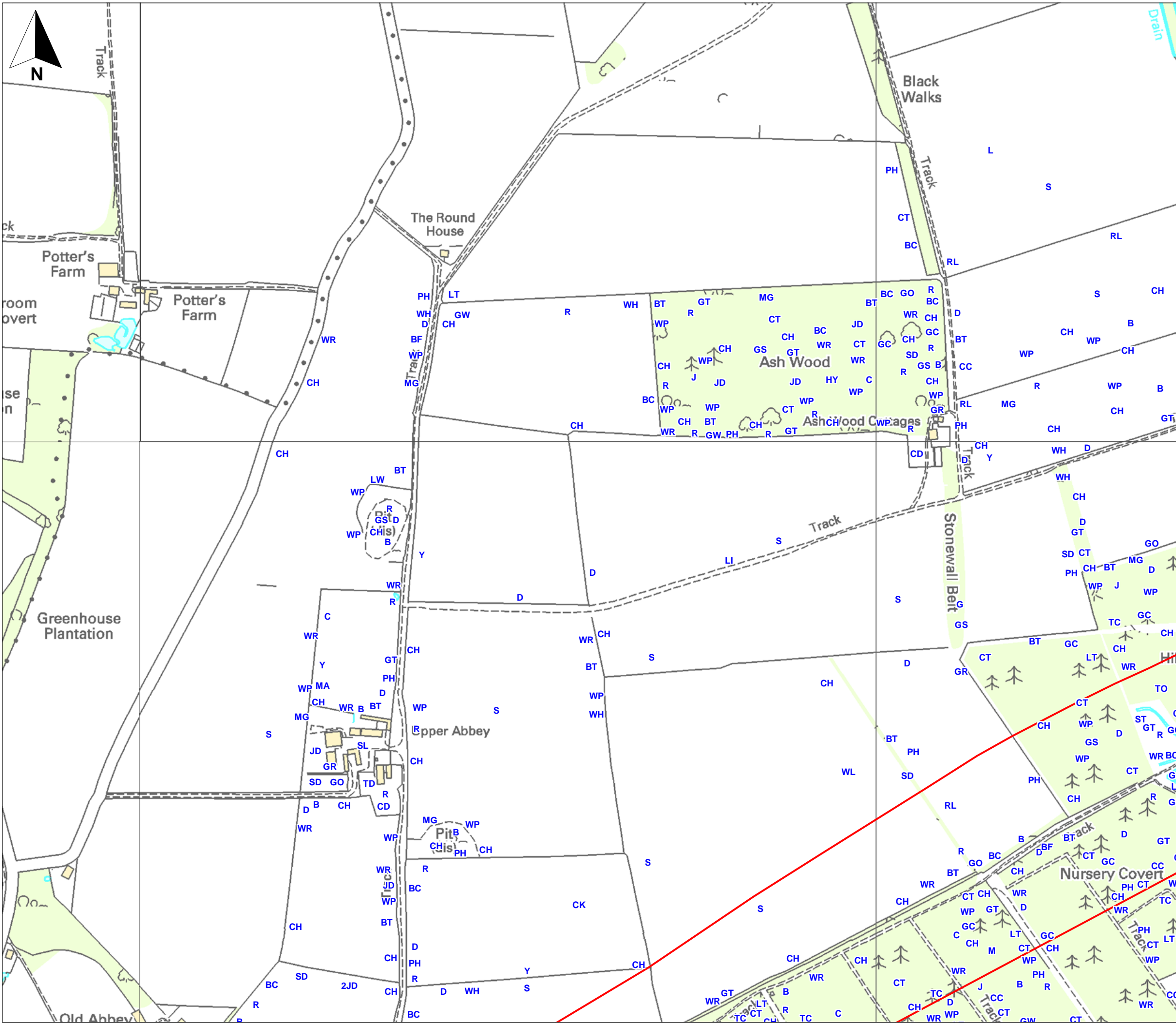
**Figure 3.1**  
 Breeding bird territory key map

April 2012  
 28130-A06.wor.tugwc



Reproduced from Ordnance Survey map with the permission of Ordnance Survey on behalf of the controller of her Majesty's Stationery Office © Crown copyright (2011). All Rights reserved. NNB Genco 0100050480





**Key**

- SSA boundary
- Bird species codes
- B - Blackbird
- BC - Blackcap
- BF - Bullfinch
- BT - Blue Tit
- C - Carrion Crow
- CC - Chiffchaff
- CD - Collared Dove
- CH - Chaffinch
- CT - Coal Tit
- D - Dunnock
- G - Green Woodpecker
- GC - Goldcrest
- GO - Goldfinch
- GR - Greenfinch
- GS - Great Spotted Woodpecker
- GT - Great Tit
- GW - Garden Warbler
- HY - Hobby
- J - Jay
- JD - Jackdaw
- L - Lapwing
- LI - Linnet
- LT - Long-tailed Tit
- LW - Lesser Whitethroat
- M - Mistle Thrush
- MA - Mallard
- MG - Magpie
- PH - Pheasant
- R - Robin
- RL - Red-legged Partridge
- S - Skylark
- SD - Stock Dove
- SL - Swallow
- ST - Song Thrush
- TC - Treecreeper
- TD - Turtle Dove
- WH - Whitethroat
- WL - Woodlark
- WP - Wood Pigeon
- WR - Wren
- Y - Yellowhammer

0 m 250 m  
 Scale 1:5,000 @ A3



Sizewell  
 Breeding Bird Survey Report 2010

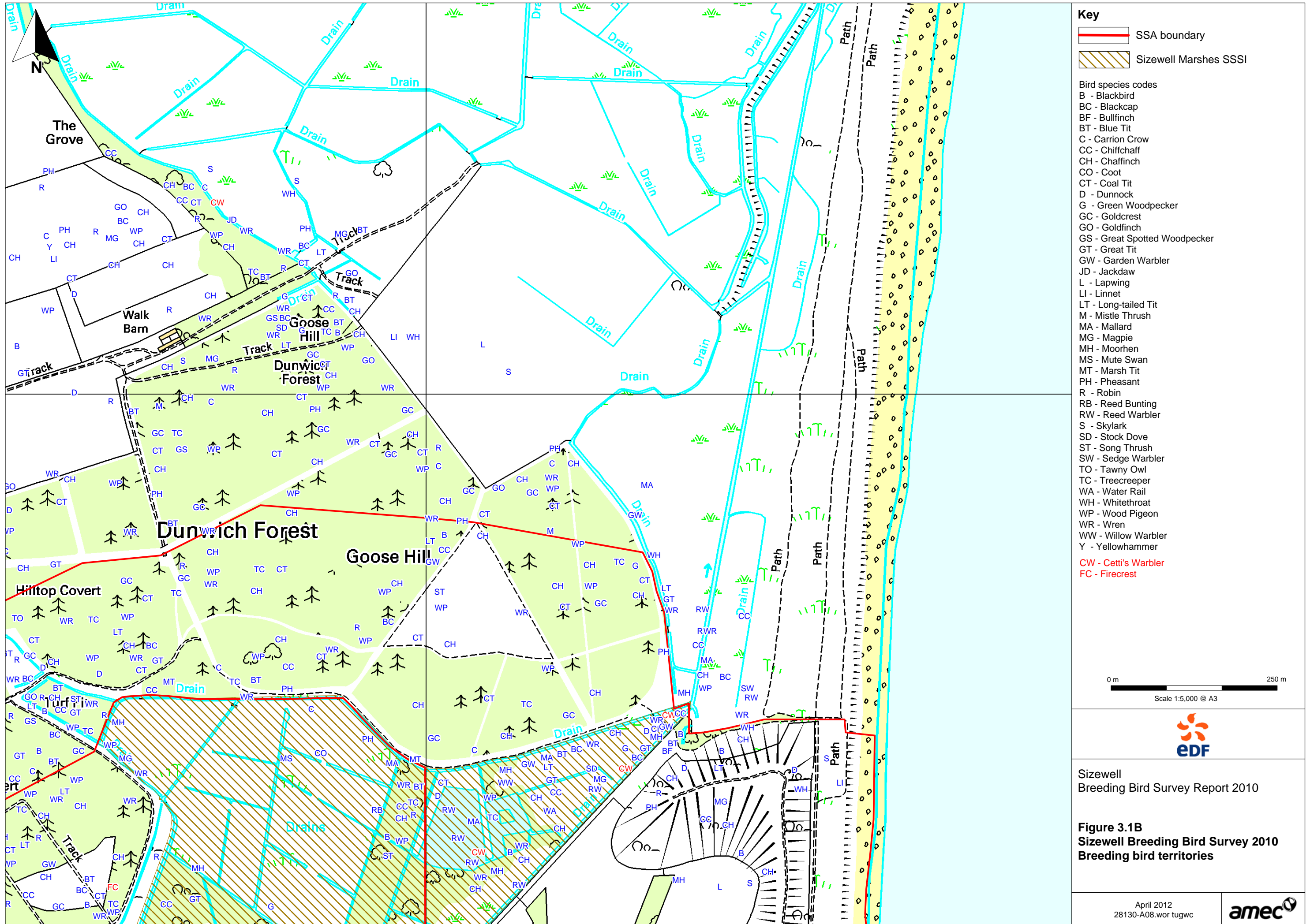
**Figure 3.1A**  
 Sizewell Breeding Bird Survey 2010  
 Breeding bird territories

April 2012  
 28130-A07.wor.tugwc

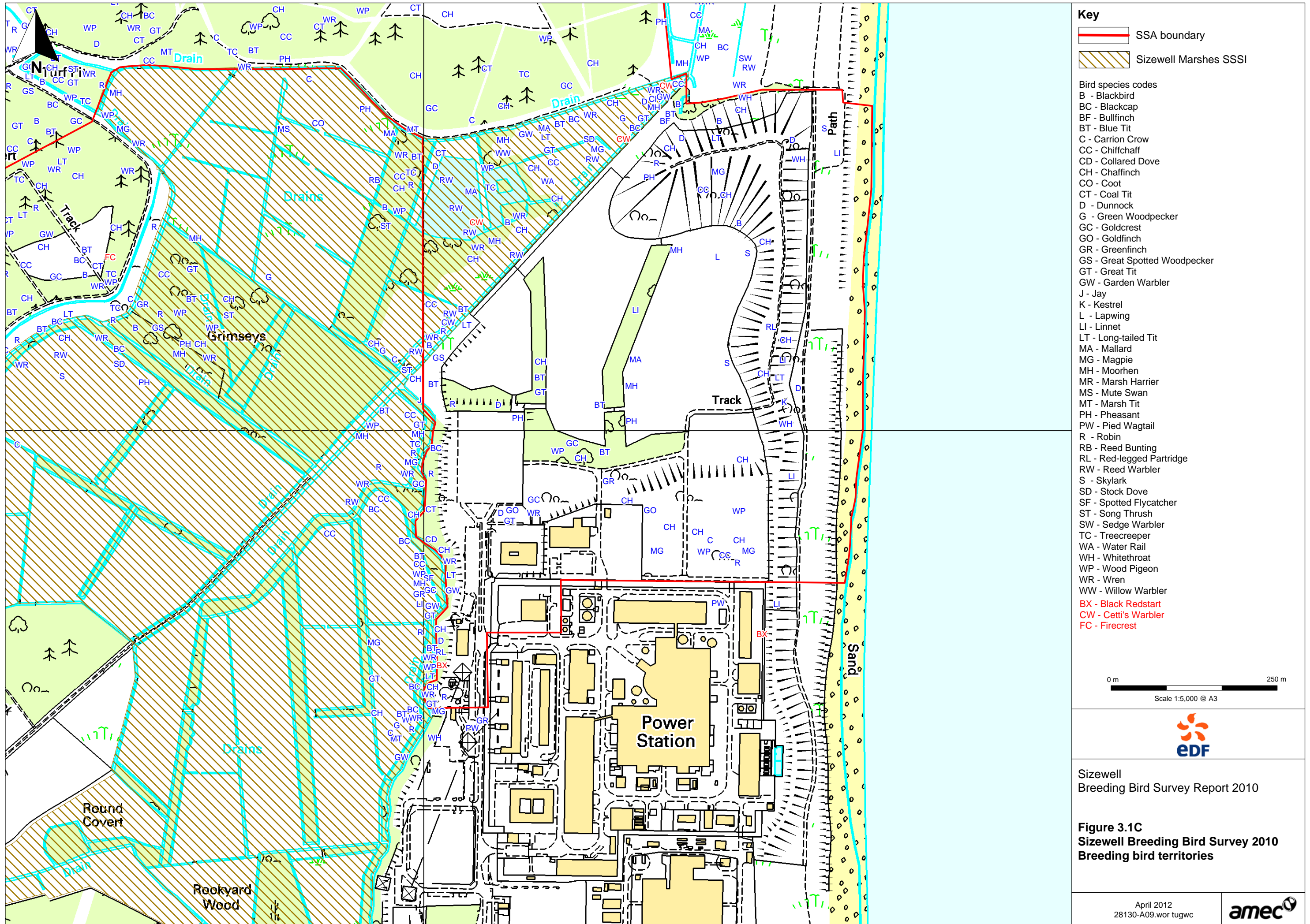


Reproduced from Ordnance Survey map with the permission of Ordnance Survey on behalf of the controller of her Majesty's Stationery Office © Crown copyright (2011). All Rights reserved. NNB Genco 0100050480









**Key**

- SSA boundary
- Sizewell Marshes SSSI

- Bird species codes
- B - Blackbird
  - BC - Blackcap
  - BF - Bullfinch
  - BT - Blue Tit
  - C - Carrion Crow
  - CC - Chiffchaff
  - CD - Collared Dove
  - CH - Chaffinch
  - CO - Coot
  - CT - Coal Tit
  - D - Dunnock
  - G - Green Woodpecker
  - GC - Goldcrest
  - GO - Goldfinch
  - GR - Greenfinch
  - GS - Great Spotted Woodpecker
  - GT - Great Tit
  - GW - Garden Warbler
  - J - Jay
  - K - Kestrel
  - L - Lapwing
  - LI - Linnet
  - LT - Long-tailed Tit
  - MA - Mallard
  - MG - Magpie
  - MH - Moorhen
  - MR - Marsh Harrier
  - MS - Mute Swan
  - MT - Marsh Tit
  - PH - Pheasant
  - PW - Pied Wagtail
  - R - Robin
  - RB - Reed Bunting
  - RL - Red-legged Partridge
  - RW - Reed Warbler
  - S - Skylark
  - SD - Stock Dove
  - SF - Spotted Flycatcher
  - ST - Song Thrush
  - SW - Sedge Warbler
  - TC - Treecreeper
  - WA - Water Rail
  - WH - Whitethroat
  - WP - Wood Pigeon
  - WR - Wren
  - WW - Willow Warbler
  - BX - Black Redstart
  - CW - Cetti's Warbler
  - FC - Firecrest

0 m 250 m  
 Scale 1:5,000 @ A3



Sizewell  
Breeding Bird Survey Report 2010

**Figure 3.1C**  
**Sizewell Breeding Bird Survey 2010**  
**Breeding bird territories**

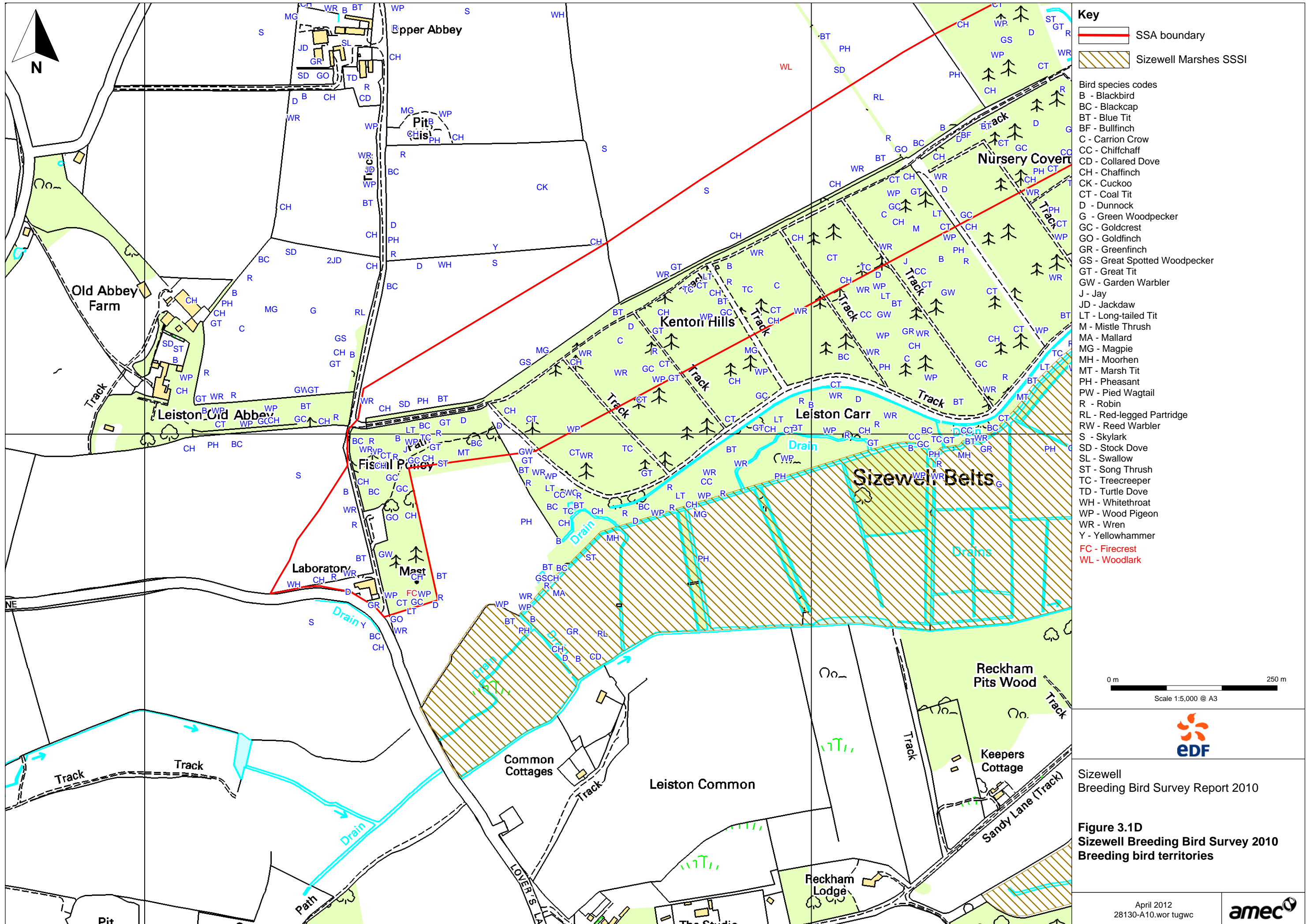
April 2012  
 28130-A09.wor.tugwc



Reproduced from Ordnance Survey map with the permission of Ordnance Survey on behalf of the controller of her Majesty's Stationery Office © Crown copyright (2011). All Rights reserved. NNB Genco 0100050480









## 4. Discussion

---

Results from the breeding bird surveys undertaken in 2010 indicate that the amended survey area supports a varied community of breeding bird species, typical of the mosaic of different habitats present, including coniferous and deciduous woodland, reedbed, scrub and arable farmland. The greatest densities of territories were found in the areas of scrub and wet, semi-natural woodland. Relatively low densities of breeding birds were located in open arable farmland and in the open areas of wet meadows in the Sizewell Marshes SSSI. The diversity of breeding bird species within the area immediately to the north of Sizewell B was low in comparison to that along much of the woodland belt between Leiston Carr and Goose Hill, with the most productive area being the wet scrub and woodland in the northeast corner of the Sizewell Marshes SSSI.

It should be noted, that the extended survey area was surveyed very late in the breeding season, in June 2010, and not during April and May when the peak of territory holding activity (singing) is recorded. Results from the surveys carried out between April and July 2007, indicate that the 2010 survey results are likely to under-estimate of the bird populations in this area. The population estimates for the initial survey area for which breeding bird surveys were undertaken between March and June 2010 broadly reflect those obtained during the 2007 surveys.

### 4.1 Highly Protected Breeding Species

Five species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) were recorded as breeding/holding territory within the survey area in 2010: hobby, woodlark, black redstart, Cetti's warbler and firecrest. The results for these species are discussed further below.

#### **Hobby**

A hobby was seen carrying food into Ash Wood in June 2010 indicating that breeding was likely to have been taking place. Hobby does not require extensive areas of mature woodland for nesting (Hardey *et al.*, 2006) and they tend to appropriate the nests of corvids (in particular, carrion crow in England) rather than building their own. Habitat within the survey area provides suitable nest sites for hobby, and the adjoining extensive areas of wetlands to the north and south, excellent opportunities for hunting. Two pairs of hobby were recorded breeding in the survey area in 2007, in Ash Wood and Goose Hill plantation (Entec, 2008). Hobbies are very secretive at the nest site and breeding is difficult to prove, and therefore, a second pair could have been present within the survey area (at Goose Hill) in 2010. Goose Hill plantation is a regular breeding site although nesting was not confirmed by SWT wardens in 2010 (pers. Comm. Carl Powell). An estimated 15-25 pairs of hobby were thought to be breeding in Suffolk between 1995 and 1998 (Wright, 2001). However, the present population is likely to be larger, as indicated by the 50 pairs recorded in 2006 (Holling, 2009) and 56 pairs in 2005 (Holling, 2008), and even these totals are considered to underestimate the likely true population. Locally, three pairs of hobby were recorded breeding at RSPB Minsmere (covering approx. 1000 hectares) in 2009. Allowing for a county population of 50-100 pairs, 2 pairs in the survey area would represent between 2-4% of the county population. The population in the amended survey area represents a very small proportion of the national total, however, as Brown & Grice

(2005) estimated that between 1,000 and 2,000 pairs of hobby now breed in England, and the range of the species is continuing to expand.

### **Woodlark**

A singing male woodlark was heard on one date in April 2010, in broadly the same area, as a territory was recorded in 2007; 100-200m south of Ash Wood Cottages. A second woodlark territory was recorded in 2007, in arable fields adjacent to the northern edge of Leiston Carr. Surveys for woodlark are best carried out between February and June, with a three visit strategy adopted for the national survey in 1997 (Wotton, 1997). During the Entec surveys, four visits were carried out between mid-March and June within the initial survey area. In the extended part of the survey area, three visits were undertaken in June, towards the end of the recommended period for surveying woodlarks. It is therefore feasible that some territories were not detected in this area in 2010 (the males may have already stopped singing). In addition, song perches and foraging areas are often 200-400m from nesting locations (Gilbert *et al.*, 1998); therefore there is a greater potential margin for error in the plotting of registrations for this species than for many others. However, no birds were known to have bred on the Sizewell Estate in 2010 and numbers there have declined in recent years (pers. Comm. Carl Powell). Between 2005 and 2007, the number of woodlark territories in monitored areas on the Sizewell Estate has varied between two and five, with the most consistently occupied areas being Leiston Common and Black Walks, both of which lie outside the 2010 amended survey area, although a number of other locations have been used. The territories recorded during the 2007 and 2010 Entec surveys were located in open arable farmland.

The UK woodlark population was estimated at being 1,633 occupied territories in 1997 (Conway *et al.*, 2009). At that time, it was estimated that almost 30% of woodlark territories (403-457) were in Suffolk, with 209-245 territories being located in the Suffolk Sandlings. A repeat of the national survey in 2006 produced a much increased total of 3,064 territories (Conway *et al.*, 2009).

The woodlark population in Suffolk is located in two broad areas: on the Suffolk coast (Sandlings) and in the Breckland (North-west Suffolk, extending into Norfolk). Despite a substantial increase in numbers recorded nationally between the two national surveys, numbers in Suffolk have declined (Conway *et al.*, 2009) and a total 370 territories were located in the county during the 2006 survey (Holling, 2009). The one and two territories recorded in the amended survey area in 2010 and 2007 respectively, represent 0.27-0.54% of the county population (on the basis of the 2006 figure).

In coastal Suffolk, results from the two national surveys in 1997 and 2006 indicate that there has been a substantial decline in numbers and shift in habitat use by breeding woodlarks. This decline has been linked to the maturation of existing plantations combined with unsuitable forest management practices and a lack of new planting. In 2006, a total of 163 woodlark territories were located on the Suffolk coast, of which only 16 were in conifer plantations (113 in 1997). In contrast, there was an increase of woodlarks on heathland (70 territories in 1996, and 111 in 2006) and on set-aside and arable farmland (17 territories in 1997 and 41 in 2006), Conway *et al.*, 2009. The increased use of arable farmland is likely to be due to the less suitable age structure of conifer plantations in the area, which were an important habitat for the species in the late 1990s (supporting 46% of the coastal population in 1997, compared to only 11% in 2006). The total population on the Suffolk coast was estimated to be 209 territories in 2006 (Conway *et al.*, 2009). The survey area population of 1-2 pairs represents 0.48-0.96% of the Suffolk Coastal population (predominantly found within the Sandlings SPA).

To conclude, the open farmland within the amended survey area provides some (albeit suboptimal) breeding opportunities for woodlark.

### **Black Redstart**

Two singing male black redstarts were recorded holding territory on the northern boundary of Sizewell B in 2010. A further two birds were heard singing along the seaward frontage of Sizewell A and B Power Stations respectively. The Sizewell Power Stations provide one of the most important and regular breeding sites for black redstart in Suffolk, and the East of England Region. Numbers vary greatly between years, with none recorded during the breeding bird surveys undertaken in 2007 but potentially four pairs in 2010. In 2008, the only breeding record in the county was of a pair at Sizewell (Mason [ed] 2009), and in 2007, two pairs bred in Lowestoft and another at Felixstowe (Mason [ed] 2008). However, in recent years, the recording of black redstart at Sizewell has been done by Tony Howe, an employee of Magnox at Sizewell A. Recording at Sizewell B has been more sporadic, and therefore there is the possibility that pairs of breeding black redstart have gone undetected there (pers. comm. Tony Howe).

The black redstart is unusual in its breeding habits in that it is predominantly associated with urban or industrial sites in the UK, and therefore is often under-recorded due to the unattractive nature of these areas to visiting birdwatchers (Holling, 2008). However, Holling (2008) also suggests that numbers have declined from at least 100 pairs in the UK during the late 1980s to 60 pairs in 2005. In view of this, the two pairs recorded in the amended survey area in 2010 represent 3.3% of the UK population and a substantial proportion of the Suffolk total in most years. It is likely that areas of short grassland within the amended survey area, and adjacent to the power stations provide foraging habitat for black redstarts that are nesting in the nearby built area.

### **Cetti's warbler**

Results from the breeding bird surveys undertaken in 2010 indicate that there was four Cetti's warbler territories located in the north-east corner of the Sizewell Marshes SSSI: five territories were recorded in this area in 2007 (Entec, 2008). Another territory was located 200m northeast of Walk barn in 2010 (one territory here in 2007). The most extensive area of suitable breeding habitat for Cetti's warbler within the amended survey area is located in the area of wet scrub and reedbed to the north of Sizewell B, in the north-east corner of the SSSI. Other suitable areas are found in the wetlands adjoining and to the east of Goose Hill plantation.

Results from the Entec surveys indicate that the Cetti's warbler population within the amended survey area declined from seven territories in 2007 to five in 2010, possibly as a result of two relatively cold winters in 2008/09 and 2009/10. However, in contrast, numbers at Minsmere increased from 83 to 95 pairs between 2008 and 2009 (RSPB, 2009). The numbers of Cetti's warblers in Suffolk have increased substantially since the late 1990s, when only two singing males were recorded at Minsmere in 1999 (RSPB, 2009). At least 150 singing males were reported in the county in 2008 (Mason [ed] 2009), with the population most concentrated along the coast between North Warren and Lowestoft. The species has become so numerous in north-east Suffolk that it is being under-recorded (Mason [ed] 2009). In 2006, a total of 141 singing males were reported in Suffolk, 397 in the East of England Region and 1,422 in the UK (Holling, 2009). The amended survey area population of five pairs in 2010 represents 3.3% of the current Suffolk population (as of 2008), and 1.3% of the East of England population (as of 2006). Results from the 2007 and 2010 Entec surveys indicate that a population of 4-5 pairs

breeds in the wet scrub and reeds that are located within the north-east corner of the Sizewell Marshes SSSI, immediately to the north of Sizewell B.

### **Firecrest**

Two male firecrests were heard singing in the amended survey area on 23 April 2010, but were not heard on subsequent visits in May and June. The firecrest is described in Piotrowski (2003) as an uncommon passage migrant and rare resident. Most migrating firecrests are recorded between late March and early April (Mason [ed] 2009) and therefore the late April records from the amended survey area occurred after this main migratory period. Firecrests are extremely vocal where they occur at higher densities, but less so at low densities, and therefore some birds are likely to be overlooked (Holling, 2009). In view of this, it is possible that the firecrests recorded in the amended survey area in April 2010 (and not subsequently in May and June) did attempt to breed. Firecrests were not recorded during the breeding bird surveys undertaken in 2007 (Entec, 2008).

A total of 341 pairs of firecrest were recorded in the UK in 2006, including nine in Suffolk (Holling, 2009). In 2008, eight pairs held territory on the Suffolk coast (all but one at Minsmere), with a further pair or two in the Suffolk Breckland. This species is likely to be under-recorded (particularly in the Breckland) where the population is thought to exceed 50 pairs in some years (pers. Comm. Neil Calbrade, British Trust for Ornithology). However, the amended survey area population of two pairs is still likely to represent more than 1%<sup>9</sup> of the county (Suffolk) and East of England populations.

A further three Schedule 1 species were recorded in the survey area in 2010, for which there was no evidence of breeding: marsh harrier, barn owl and crossbill.

### **Marsh harrier**

Marsh harriers were seen hunting over the Sizewell Marshes SSSI during the Entec breeding bird surveys in 2010, and recorded by bat survey workers and SWT wardens in 2010. Marsh harriers have not been recorded breeding on the Sizewell Estate in the past and were not thought to have bred there in 2010 (pers comm. Carl Powell, SWT warden). There are a number of relatively small blocks of reedbed (none, more than 10 hectares in extent) located in the northeast corner of the Sizewell Marshes SSSI and just south of Grimseys, much of which is either quite dry, and/or overgrown with encroaching scrub. These reedbeds are however very secluded from human presence and partly enclosed by belts of wet semi-natural woodland, and provide potentially suitable habitat for nesting marsh harrier. The adjoining wet meadows and water-filled ditches to the south and west, and the extensive areas of marsh and reedbed to the north (within Minsmere RSPB) provide excellent habitat for hunting marsh harriers. To conclude, the habitat present within the amended survey area provides some (albeit rather limited) nesting and foraging opportunities for marsh harrier.

---

<sup>9</sup> There is no fundamental biological reason to take 1% of a population as the threshold level for establishing the level of importance of a site. Nevertheless, this percentage is widely considered to be of value in developing measures that give an appropriate level of protection to populations, and has gained acceptance on this basis throughout the world. The criterion was, for example, adopted by parties involved in the Ramsar Convention 1971. Thereafter, the 1% level of national species totals has been taken as the basis of assessment in various countries, including Britain (Stroud, Mudge & Pienkowski, 1990).

### **Barn owl**

Barn owl was not recorded during the breeding bird survey or nightjar survey carried out in 2010, and there was no evidence of recent or past occupancy in a pole-mounted nest box located on the southern edge of Goose Hill plantation. However, barn owls were reported by survey workers undertaking bat surveys in the Sizewell area on a number of occasions, hunting in open habitat within the amended survey area in spring and summer 2010. Barn owls are a primarily nocturnal or crepuscular species that is not readily detected during the morning visits undertaken for the breeding bird surveys. Barn owls are known to breed on the Sizewell Estate from information provided by SWT wardens, and there is likely to be suitable nest sites for this species within or close to the amended survey area. Barn owls were roosting in barns in Upper Abbey Farm in 2010 (pers. Comm. Carl Powell, SWT warden).

The Suffolk barn owl population is concentrated in the eastern half of the county. Evidence suggests that densities in east Suffolk are relatively high, at approximately five breeding pairs per 10km square, indicating a county population of 100-125 pairs (Piotrowski, 2003). Barn owls appear to be benefiting from the provision of nest boxes in many areas (Mason [ed] 2009) and therefore the population may now be above the 2003 estimate. To summarise, the wet meadows and ditches within the survey area are likely to be used for hunting by the local barn owl breeding population, and there is potential habitat within the amended survey area for nesting (such as the nest box at Goose Hill, and farm buildings and old trees).

### **Crossbill**

Crossbill, which has been recorded breeding on the Sizewell Estate, was seen in Goose Hill plantation in April 2010, when a small party of birds was recorded. As crossbills are likely to have completed breeding by this time, it was not possible to conclude whether the species was likely to have bred within the amended survey area in 2010. However, crossbills have bred sporadically along the Suffolk coast in the past, and there is plenty of suitable breeding habitat for this species within the amended survey area, such as that in the Leiston Carr to Goose Hill conifer plantations.

## **4.2 UK BAP Priority and Red-Listed Species**

A total of 13 UK BAP Priority species were recorded holding territory within the amended survey area during the breeding bird surveys carried out in 2010: lapwing, turtle dove, cuckoo, woodlark, skylark, dunnock, song thrush, spotted flycatcher, marsh tit, linnet, bullfinch, yellowhammer and reed bunting. Of these, woodlark, dunnock, bullfinch and reed bunting are Amber Listed and the remaining species Red Listed in BoCC (Eaton *et al.*, 2009) the latter due to declines in UK breeding populations of at least 50% over the past 25 years. Use of the amended survey area to these species (excluding woodlark, which has been discussed previously) is examined further below.

### **Lapwing**

Three pairs of lapwing were recorded in the amended survey area in 2010, including a pair on damp grassland immediately to the north of Sizewell B. Pairs were also seen in arable fields north of Ash Wood Cottage and in dry grassland adjacent to the northeast of Goose Hill plantation. Lapwings were not recorded breeding in the amended survey area in 2007.

The population of breeding lapwing in Suffolk was estimated to be 1,840 pairs in 1987 and 860 pairs in 1998 (Piotrowski, 2003). Results from the Breeding Bird Survey (Risley *et al.*, 2010),

indicate that there was no statistically significant change in numbers of breeding lapwing between 1995 and 2008. Numbers on the neighbouring RSPB reserve of Minsmere have also remained relatively stable since 2005 at 32-38 pairs (RSPB, 2009). This suggests that the Suffolk population is likely to be at a similar level to that of 1998 and the three pairs of lapwing recorded in the amended survey area are therefore likely to represent a very small proportion of the county total.

### **Turtle dove**

A single turtle dove was seen on buildings at Upper Abbey Farm on 2 June 2010 (400m northwest of the access road corridor), but was not heard singing on that, or subsequent visits to the area in June. One turtle dove territory was recorded in the amended survey area in 2007, again near Upper Abbey Farm. The turtle dove, is described as a declining summer visitor in Mason [ed] 2009 and was recorded in 816 tetrads [2km by 2km squares] during the Suffolk breeding bird survey of 1987-1992 (Piotrowski, 2003). The population on RSPB Minsmere has declined from 18 pairs in 2005 to only eight pairs in 2009 (RSPB, 2009). Results from the breeding bird survey indicate that nationally, numbers declined by 70% between 1995 and 2008, and by 73% in the East of England Region (Risely *et al.*, 2010). Even allowing for such a decline, the single territory recorded in the amended survey area in 2007 and 2010, is unlikely to represent more than 1% of county population.

### **Cuckoo**

A male cuckoo was heard singing immediately north of the Leiston Carr to Goose Hill belt of woodland on one survey date in June 2010. Two cuckoos were holding territory within the amended survey area in 2007, one near Walk Barn and the other to the north of Sizewell B. The cuckoo is described as a declining summer visitor in Mason [ed] 2009 and was recorded in 633 tetrads during the Suffolk breeding bird survey of 1987-1992 (Piotrowski, 2009). Results from the breeding bird survey indicate that nationally, numbers declined by 44% between 1995 and 2008, and by 64% in the East of England Region (Risely *et al.*, 2010). Even if the national and regional declines have been mirrored in Suffolk, the single territory recorded in the survey area in 2010, is unlikely to represent more than 1% of the county population.

### **Skylark**

A total of 18 skylark territories were recorded in the amended survey area during the breeding bird surveys undertaken in 2010, of which two were immediately to the north of Sizewell B with another in the adjacent dunes. A total of 24 skylark territories were recorded within the amended survey area in 2007, including two to the north of Sizewell B and 18 in the arable fields in the extended part of the survey area. In the wider local area, this compares to 48 pairs on heathland and arable land within Minsmere RSPB in 2008 and 195 pairs on the North Warren RSPB reserve (comprising approximately 440 hectares) in 2008 (Mason [ed] 2009). The skylark is described as a common resident in Mason [ed] 2009 and was recorded in 937 tetrads during the Suffolk breeding bird survey of 1987-1992 (Piotrowski, 2003). Results from the breeding bird survey indicate that nationally, numbers declined by 11% between 1995 and 2008, and by 27% in the East of England Region (Risely *et al.*, 2010). Even if the national and regional declines have been mirrored in Suffolk, the county population is likely to be in excess of 2,000 pairs and therefore the 18 territories recorded in the amended survey area in 2010, are unlikely to represent more than 1% of the county population.



### **Dunnock**

A total of 39 territories of dunnock were recorded in the amended survey area in 2010, including eight immediately to the north of Sizewell B. These birds were primarily found in areas of scrub bordering the Goose Hill and Kenton Hills plantations, but also in hedgerows within the extended part of the survey area and scrub to the north of Sizewell B. In 2007, 48 territories were recorded in the amended survey area, including six to the north of Sizewell B and 21 in the extended part of the survey area (compared to nine territories in this area in 2010). The dunnock is described as a very common resident in Mason [ed] 2009 and was recorded in most of the 1,000 or so tetrads during the Suffolk breeding bird survey of 1987-1992 (Piotrowski, 2003). Results from the breeding bird survey indicate that nationally, numbers have increased by 21% between 1995 and 2008, and were up by 17% in the East of England Region (Risely *et al.*, 2010). Locally, a total of 278 pairs were recorded at North Warren RSPB (in approx. 400 hectares), and 43 pairs on the Sizewell Estate in 2007 (Mason [ed] 2008). The Suffolk population of this common and widespread species is likely to be well in excess of 5,000 pairs and therefore the amended survey area population will represent a very small proportion of the county total.

### **Song thrush**

A total of nine song thrush territories were recorded in the amended survey area in 2010, of which two were immediately to the north of Sizewell B. In 2007, 12 territories were recorded in the amended survey area, including three to the north of Sizewell B and three in the extended part of the survey area (none here in 2010). The song thrush is described as a fairly common resident in Mason [ed] 2009 and was recorded in 940 tetrads during the Suffolk breeding bird survey of 1987-1992 (Piotrowski, 2003). Results from the breeding bird survey indicate that nationally, numbers have increased by 27% between 1995 and 2008, although there was little change in numbers in the East of England Region during this period (Risely *et al.*, 2009). In view of this, and the number of tetrads this species was recorded, the county population is likely to be well in excess of 2,000 pairs (a total of 40 pairs were recorded on the RSPB's North Warren reserve in 2008, Mason [ed] 2009). The nine territories recorded in the amended survey area in 2010 are therefore likely to represent less than 1% of the county population.

### **Spotted flycatcher**

A single male spotted flycatcher was heard singing in wet woodland on the eastern boundary of the amended survey area, adjacent to the Sizewell Power Stations in 2010. In 2007, two territories were located in the amended survey area, both at the western end of the area (none were recorded in this area in 2010). The spotted flycatcher is described as a declining summer visitor in Suffolk (Mason [ed] 2009) and was recorded in 566 tetrads during the Suffolk breeding bird survey of 1987-1992 (Piotrowski, 2003). Results from the breeding bird survey indicate that nationally, numbers declined by 39% between 1995 and 2008 (Risley *et al.*, 2010). Even if the national decline has been mirrored in Suffolk, the one territory recorded in the amended survey area in 2010, is unlikely to represent more than 1% of the county population.

### **Marsh tit**

A total of five pairs of marsh tit were recorded in the amended survey area in 2010, of which, two pairs were in the wet woodland along the western boundary of the built area of power stations, two pairs on the southern fringes of Kenton Hills and another pair near the Fiscal Policy car park. In 2007, five pairs were also recorded in the amended survey area. All of the pairs seen in 2010 were associated with the wet woodland areas. The marsh tit is described as a

fairly common resident in Suffolk (Mason [ed] 2009) and was recorded in 256 tetrads during the Suffolk breeding bird survey of 1987-1992 (Piotrowski, 2003). Results from the breeding bird survey indicate that nationally, numbers declined by 18% between 1995 and 2008 (Risley *et al.*, 2010). Even if the national decline has been mirrored in Suffolk, the county population is likely to be well in excess of 500 pairs (there are extensive areas of suitable woodland habitat along the Suffolk coast and in the Brecklands). Therefore, the five pairs recorded in the amended survey area in 2010 are unlikely to represent more than 1% of the county population.

### **Linnet**

A total of eight pairs of linnet were recorded in the amended survey area in 2010, including five pairs in coastal scrub in the north-east corner of the area, to the north of Sizewell B. The other three pairs were located in open farmland between Ash Wood and Goose Hill. In 2007, ten pairs were recorded in the amended survey area, including three to the north of Sizewell B and four in the extended part of the survey area. The linnet is described as a common summer visitor in Suffolk (Mason [ed] 2009) and was recorded in 738 tetrads during the Suffolk breeding bird survey of 1987-1992 (Piotrowski, 2003). A total of 63 pairs were recorded on North Warren RSPB (including Aldringham Walks) in 2008 (Mason [ed] 2009). Results from the breeding bird survey indicate that nationally, numbers declined by 23% between 1995 and 2008, and by 35% in the East of England Region (Risely *et al.*, 2010). However, even allowing for a decline in Suffolk, the county population is likely to be well in excess of 1,000 pairs, and therefore the population in the amended survey area is likely to represent a small (less than 1%) proportion of this.

### **Bullfinch**

A total of three pairs of bullfinch were located in the amended survey area in 2010, with single pairs recorded in scrub immediately to the north of Sizewell B; in Kenton Hills plantation, and near Upper Abbey Farm. In 2007, four pairs were recorded in the amended survey area, including three in the Leiston Carr to Goose Hill belt of woodland, but none to the north of Sizewell B. The bullfinch is described as a common but declining resident in Suffolk (Mason [ed] 2009) and was recorded in 557 tetrads during the Suffolk breeding bird survey of 1987-1992 (Piotrowski, 2003). Locally, 32 pairs were recorded at North Warren RSPB, mostly in tall, thick scrub along woodland edges (Mason [ed] 2009). Results from the breeding bird survey indicate that nationally, there has been no statistically significant change in numbers since 1995 (Risely *et al.*, 2010). The Suffolk population is therefore likely to be well in excess of 300 pairs and the population within the amended survey area is likely to represent less than 1% of the county total.

### **Yellowhammer**

A total of six pairs of yellowhammer were located in the amended survey area in 2010, all of which were located in open farmland to the north of the Leiston Carr to Goose Hill belt of woodland. In 2007, 14 pairs were recorded in the amended survey area, including nine in the extended part of the survey area, but as in 2010, none immediately to the north of Sizewell B. The yellowhammer is described as a common resident in Suffolk (Mason [ed] 2009) and was recorded in 942 tetrads during the Suffolk breeding bird survey of 1987-1992 (Piotrowski, 2003). Locally, 52 pairs were recorded at North Warren RSPB in 2008 (Mason [ed] 2009), and 18 pairs at Minsmere RSPB in 2009. Both of these populations have undergone decline, with 72 pairs at North Warren in 2007, and 38 pairs at Minsmere in 2006.

Results from the breeding bird survey indicate that nationally, numbers declined by 16% between 1995 and 2008, and by 22% in the East of England Region (Risely *et al.*, 2010). Even if the national and regional declines have been mirrored in Suffolk, the county population is still likely to be well in excess of 600 pairs. Therefore, the six territories recorded in the amended survey area in 2010 are likely to represent less than 1% of the county population.

### **Reed Bunting**

A single territory-holding male reed bunting was located in a ditch south of Goose Hill plantation in 2010. In 2007, four pairs were located in the amended survey area, including one in the extended part of the survey area and three in the wet meadows within Sizewell Marshes SSSI. The reed bunting is described as a common resident in Suffolk (Mason [ed] 2009) and was recorded in 292 tetrads during the Suffolk breeding bird survey of 1987-1992 (Piotrowski, 2003). Locally, 41 pairs were recorded at North Warren RSPB and 73 pairs at Minsmere RSPB in 2008 (Mason [ed] 2009). In view of this, a single pair is likely to represent a very small proportion of the county population.

In addition, starling and house sparrow were recorded in the amended survey area in 2007 (a colony of 16 pairs at Upper Abbey Farm) and starling (one pair in the woodland near Old Abbey Farm). Neither species was recorded in 2010, although surveys were undertaken only in June in the Old and Upper Abbey Farm areas and therefore both species could have been present but not detected.

## **4.3 Other Notable Species**

A diverse range of common and widespread breeding bird species were recorded in the amended survey area in 2010. Of these, the mature conifer plantations of Kenton Hills and Goose Hill and the adjacent wet deciduous woodland held high densities of the following species: (the number of territories in the amended survey area is shown in parenthesis): green woodpecker (10), great spotted woodpecker (11), goldcrest (37), treecreeper (25), coal tit (55) and chaffinch (138). All of these species are described as being common or very common in Suffolk by Mason [ed] 2009. Population estimates do not exist for Suffolk for most common and widespread breeding bird species. However, Suffolk is a well-wooded county, particularly along the coast and in the Breckland, and these areas are likely to support large populations of woodland species, including all those mentioned above in this paragraph.

A single nightingale territory was recorded in the survey area in 2007 (near Upper Abbey farm) but was not heard during the 2010 surveys, although this area was visited only in June, outside the main period when this species sings. Two nightingale territories were recorded by SWT wardens in the Sizewell Estate in 2010, both outside the amended survey area.

The wetland habitats within the amended survey area are primarily located within the Sizewell Marshes SSSI, and include areas of reedbed and wet scrub (particularly in the northeast corner of the SSSI) and larger areas of open wet grassland to the south and west. The surveys undertaken in 2010 indicate that these areas held relatively low numbers of wetland species, including: eight pairs of mallard, 14 pairs of moorhen and a pair of mute swan. Gadwall was not recorded breeding in the amended survey area, and breeding was not confirmed by SWT wardens in 2010 (pers comm. Carl Powell). This compares to four pairs of gadwall recorded in the amended survey area in 2007, all of which were in the Sizewell Marshes SSSI.



Four pairs of gadwall represent 4.8% of the 145 pairs recorded in Suffolk in 2007 (Mason [ed] 2008). The mallard population was estimated to be in the region of 1,000 pairs in Suffolk (Piotrowski, 2003) and therefore the eight pairs recorded in the amended survey area in 2010 would represent less than 0.8% of this. Moorhen is described as an abundant resident, recorded in 799 tetrads during the 1987-1992 Suffolk breeding bird survey (Piotrowski, 2003). The 14 pairs recorded in the amended survey area in 2010 are therefore likely to represent a small proportion of the county total. A single pair of mute swan represents less than 1% of the estimated 131 pairs recorded during the 1990 Census undertaken by the Suffolk Ornithologists' Group (Wright, 1991).

Water rail, whose breeding distribution is much more restricted in Suffolk than the other wetland species recorded, was heard calling from reedbeds located in the northeast corner of the Sizewell Marshes SSSI in April 2010, indicating that a bird was holding territory in the area (two territories were recorded in this area in 2007). In Suffolk, water rails primarily breed in extensive areas of reedbed and recent data from Suffolk Birds indicates that the county population is concentrated at a small number of sites where suitable habitat exists, including: Westwood Marshes (100 pairs), Benacre (75 pairs), North Warren (40-60 pairs), Minsmere (40-80 pairs), Hen Reedbeds (16) and Lakenheath Fen RSPB (32). However, this secretive species is best detected by undertaking evening surveys with the use of recordings of calling water rail, from which the male birds respond. It is likely that the single pair recorded during the 2010 surveys is an underestimate of the true population in the amended survey area.

## 5. Conclusions

---

Results from the breeding bird surveys, and additional records obtained from Carl Powell (SWT warden) and bat surveyors, indicate that the amended survey area supports a diverse range of birds species associated with the habitats present, including deciduous and coniferous woodland, scrub, wetlands and arable farmland. Five species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) were recorded breeding or holding territory in the amended survey area in 2010: hobby, woodlark, black redstart, Cetti's warbler and firecrest. In addition, barn owl, crossbill and marsh harrier were recorded within the amended survey area, although there was no evidence of breeding in 2010.

The diversity of breeding birds found in the area immediately to the north of Sizewell B was low compared to that elsewhere within much of the amended survey area. However, the area of wet scrub, woodland and reeds in the north-east corner of the Sizewell Marshes SSSI held Cetti's warbler as well as relatively high densities of other notable species, including marsh tit, bullfinch and reed warbler. Two territories of black redstart were located on the northern boundary of Sizewell B, and it is likely that adjacent short grassland (within the amended survey area) is used for foraging. This area also held nine UK BAP Priority species: lapwing, skylark, dunnock, song thrush, spotted flycatcher, marsh tit, linnet, bullfinch and reed bunting.

The habitat within the remainder of the amended survey area supported high densities of species associated with deciduous and coniferous woodland and scrub, including hobby and firecrest (2 territories). The wet meadows and ditches that form part of the Sizewell Marshes SSSI to the south of the Leiston Carr to Goose Hill belt of woodland held relatively low numbers of wetland bird species but were used by hunting barn owl and marsh harrier. The open arable farmland to the north of the woodland belt (much of which is in the extended survey area) held relatively low densities of species associated with this habitat, such as skylark and yellowhammer. The mature hedgerows and scrub along the track north to Upper Abbey Farm and pockets of recently planted conifer woodland (at Great Mount Wood, between Ash Wood and Walkbarn) and more mature mixed woodland at Ash Wood and Walk Barn held higher densities of typical woodland and scrub species, including turtle dove, bullfinch and linnet. It is likely that some of these species were under-represented in this area due to the late start of the 2010 surveys. Of the highly protected species, single pairs of Cetti's warbler were located at Walk Barn and woodlark and hobby were in or near Ash Wood.

Qualifying species of the Minsmere-Walberswick SPA that are known to occur within the Sizewell Estate are bittern and marsh harrier. None of these species as well as avocet, little tern and nightjar (which are also qualifying species) were recorded breeding in the amended survey area in 2010. Historical evidence from SWT and other sources suggests that breeding has not occurred for any of these species in the recent past. However, suitable nesting habitat exists for marsh harrier within the amended survey area, and birds were seen hunting over the Sizewell Marshes during the 2010 breeding season.



## 6. References

---

- Brown, A. & Grice, P. (2005). *Birds in England*. T & A.D. Poyser, London.
- Conway, G., Wotton, S., Henderson, I., Eaton, M., Drewitt, A. & Spencer, J. (2009). The Status of Breeding Woodlarks *Lullula arborea* in Britain in 2006. *Bird Study* 2009: 310-325.
- Eaton, M.A., Brown, A.F., Noble, D.G., Musgrove, A.J., Hearn, R., Aebischer, N.J., Gibbons, D.W., Evans, A. & Gregory, R.D. (2009). Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. *British Birds* 102: 296-341.
- Entec (2008). Entec doc. ref. 19801cr080. *Sizewell First Interim Bird Report*. Report produced by Entec UK Ltd for British Energy Group PLC.
- Gilbert, G., Gibbons, D.W & Evans, J. (1998). Bird monitoring methods. RSPB, Sandy, Beds.
- Gregory, R.D., Wilkinson, N. I., Noble, D. G., Robinson, J. A., Brown, A. F., Hughes, J., Procter, D., Gibbons, D. W. & Galbraith, C. A. (2002). The population status of birds in the United Kingdom, Channel Islands and Isle of Man: an analysis of conservation concern 2002-2007. *British Birds* 95: 410-448
- Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. & Thompson, D. (2006). *Raptors, a field guide to survey and monitoring*. The Stationery Office, Edinburgh.
- Holling, M. (2009). *Rare Breeding Birds in the United Kingdom in 2006*. Rare Breeding Birds Panel.
- Holling, M. (2008). *Rare Breeding Birds in the United Kingdom in 2005*. Rare Breeding Birds Panel.
- Mason, N. [ed] (2009). *Suffolk Birds 2008*. Suffolk Naturalists' Society.
- Mason, N. [ed] (2008). *Suffolk Birds 2007*. Suffolk Naturalists' Society.
- Piotrowski, S. (2003). *The Birds of Suffolk*. A & C Black Publishers Ltd, London.
- Risely, K., Baillie, S.R., Eaton, M.A., Joys, A.C., Musgrove, A.J., Noble, D.G., Renwick, A.R. and Wright, L.J. (2010). *The Breeding Bird Survey 2009*. BTO Research Report 559. British Trust for Ornithology, Thetford.
- RSPB (2009). Minsmere RSPB breeding bird survey reports for 2008 and 2009. Unpublished reports produced by staff from RSPB Minsmere.
- Stroud, D.A., Mudge, G., & Pienkowski, M.W. (1990). *Protecting internationally important bird sites*. Nature Conservancy Council, Peterborough.
- Suffolk Birds (2000-2006 inclusive). Published by the Suffolk Naturalists' Society in collaboration with the Suffolk Ornithological Group.
- Wootton, S. (1997). National woodlark survey: survey instructions. RSPB / BTO / EN / JNCC.



Wright, M. (2001). Survey of Breeding Raptors and Owls in Suffolk, 1995-1998. Suffolk Ornithologists' Group, Ipswich.

Wright, M.T. (1991). Mute swans in Suffolk 1990. *Suffolk Birds*, 40: 14-18.