



Little Crow

Solar Park

Little Crow Solar Park, Scunthorpe

ENVIRONMENTAL STATEMENT: TECHNICAL APPENDICES

APPENDIX 7.2

WINTERING BIRDS SURVEY

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APPENDIX 7.2: WINTERING BIRD SURVEY

LITTLE CROW SOLAR PARK, SCUNTHORPE

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1 INTRODUCTION

1.1.1 Clarkson and Woods Ltd. was commissioned by INRG Solar (Little Crow) Ltd to carry out wintering bird surveys of land proposed to accommodate Little Crow Solar Park near Scunthorpe. The surveys were carried out between November 2017 and February 2018 by experienced bird surveyors.

1.1.2 This report aims to inform an application for construction of a solar farm within the Order Limits. It details the methods and results of the surveys.

1.1.3 Unless the client indicates to the contrary, information on the presence of species will be passed to the county biological records centre in order to augment their records for the area.

2 SITE DESCRIPTION

2.1.1 The survey area consisted of seventeen (predominantly arable) agricultural fields; with occasional patches of dense scrub, broadleaved woodland and five ponds. Hedgerows, ditches and woodland made up the site boundaries. The wider landscape is characterised by the industrial steelworkings to the west of the site, and further arable farmland and plantation woodland to the north and east. Beyond the woodland to the south lies a recently constructed solar array.

2.1.2 The Order Limits cover an area of approximately 225 hectares (ha) in size, and the approximate centre of the site is at OS Grid Ref. SE 941099.

2.1.3 Figure 1 shows the present layout of habitats across the site according to the Phase 1 Habitats Survey (Document Ref: 7.22 LC TA7.1).

2.1.4 The proposals for the site are described in Chapter 4 of the Environmental Statement (Document Ref: 6.4 LC ES CH4).

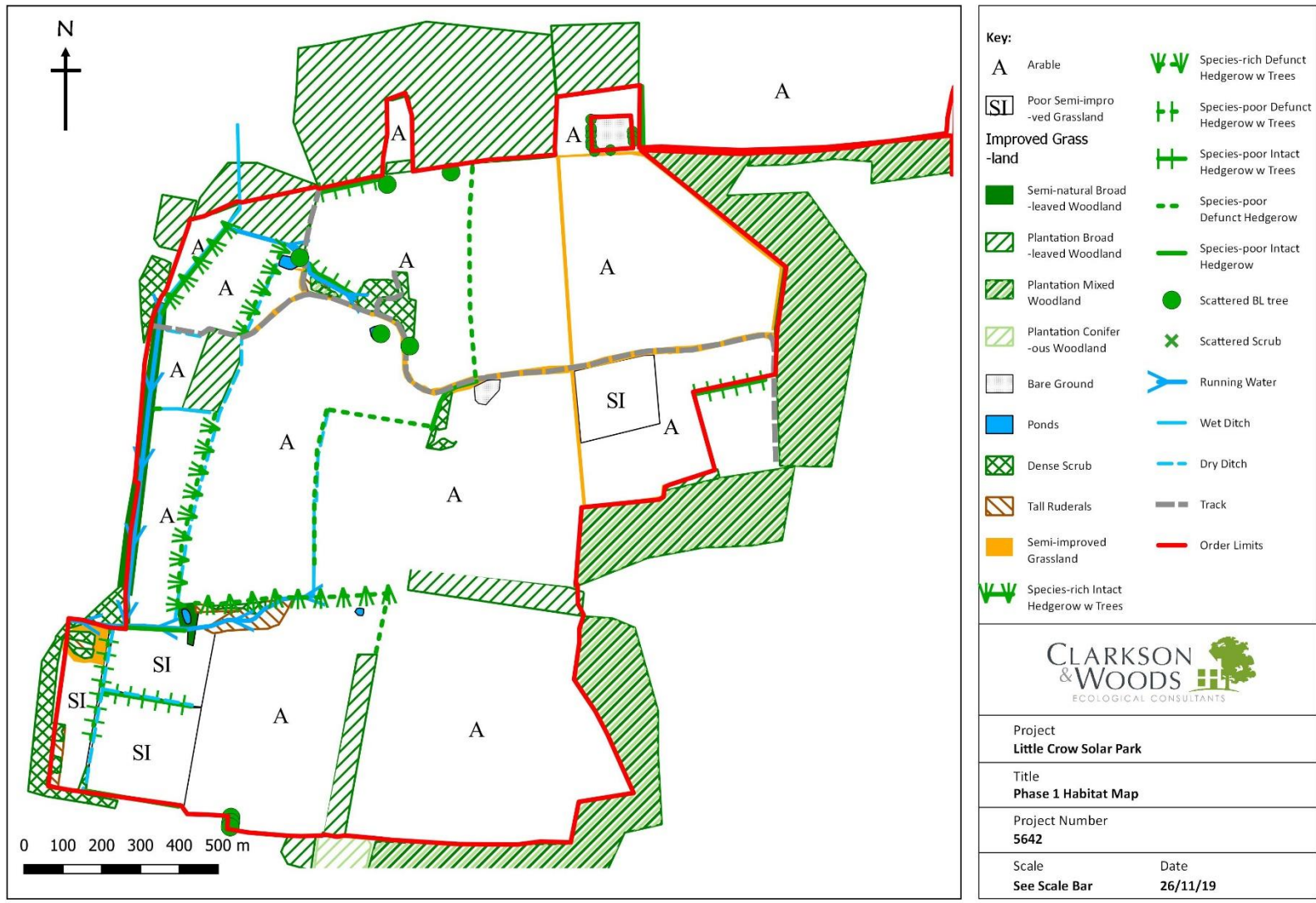


Figure 1: Phase 1 Habitat Map of the Survey Area

3 SURVEY AND ASSESSMENT METHODOLOGY

3.1 Data Search

3.1.1 Statutory designated sites relating to birds within proximity of the site were identified using the Natural England/DEFRA web-based MAGIC database (www.MAGIC.gov.uk).

3.1.2 Lincolnshire Environmental Records Centre (LERC) was consulted for records of wintering birds within 2km of the Order Limits. The records centre was also asked to provide details of locally designated sites within 1km of the site.

3.1.3 Ordnance Survey maps (1:25,000) and aerial images of the survey area were examined online (bing.com/maps and maps.google.co.uk).

3.2 Field Methodology

3.2.1 The Order Limits were surveyed for wintering birds on four occasions between 23rd October 2017 and 11th February 2018 to identify species, numbers and locations of wintering birds on site (see **Table 1** for dates and weather conditions). Due to the large size of the site, each survey visit was split over two days.

Table 1: Dates and weather conditions of the wintering bird surveys

Survey Number	Date	Description of weather: Precipitation; Cloud (Oktas); Wind (Beaufort Scale)	Temperature (°C)	Timings
1	23/11/2017	Dry, Cloud 2, Wind 6	4	08:30 – 14:30
	24/11/2017	Dry, Cloud 2, Wind 2	6	08:30 – 10:00
2	09/12/2017	Dry, Cloud 0, Wind 3	1	08:30 – 15:00
	10/12/2017	Light snow, Cloud 5, Wind 2	0	08:30 – 11:00
3	26/01/2018	Dry, Cloud 6, Wind 2	5	08:00 – 15:30
	27/01/2018	Mostly dry, Cloud 7, Wind 4	5	08:00 – 10:30

Survey Number	Date	Description of weather: Precipitation; Cloud (Oktas); Wind (Beaufort Scale)	Temperature (°C)	Timings
4	11/02/2018	Dry, Cloud 5, Wind 3	5	08:00 – 15:00
	12/02/2018	Light rain, Cloud 8, Wind 1	3	08:00 – 11:00

3.2.2 The surveys followed British Trust for Ornithology (BTO) guidelines, where the observer systematically walked through the site, ensuring that all points on site were visited to within 50m. The location and behaviour of all birds and flocks of birds seen was noted on large-scale survey maps which were later collated for interpretation. Standard BTO Common Birds Census symbology and species codes were used to create a survey map for each individual visit.

3.2.3 Peak counts for all wintering species for the site and across the various survey zones and boundaries were calculated.

Personnel

3.2.4 Surveys were undertaken by Harry Fox BSc MCIEEM and Steve Miller affiliate member of CIEEM. Harry and Steve are highly experienced bird surveyors able to identify all British species by sight and sound.

Mapping

3.2.5 The site was divided up into eight survey “zones” (comprising fields) and twelve “boundaries” (comprising hedgerows, scrub and ditches) according to similar habitat characteristics to assist in the interpretation of data (see **Table 2** & **Figure 2**). This separation of the site’s features allowed the relative usage of the site’s habitats by notable species or numbers of species to be assessed. It should be noted that these zones and boundaries combine multiple fields and hedgerows and therefore the numbering differs from that used in the Phase 1 survey map.

Table 2: Zones and Boundaries numbering scheme

Zone No.	Description
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1	Arable fields to the north-east of the site, sown with winter barley
2	Primarily arable fields sown with a block of improved grassland present
3	Arable field to the south-east of the site sown with early wheat
4	Arable field to the south of the site sown with early wheat
5	Primarily semi-improved grassland fields to the south-west of the site
6	Primarily arable fields to the west of the site sown with harvested oil seed rape
7	Arable field towards the centre of the site with harvested oil seed rape
8	Arable fields towards the north of the site with beet
Boundary No.	Description
B1	Mixed plantation woodland to the east of the site and poultry farm
B2	Mixed plantation woodland to the south-east of the site
B3	Broad-leaved plantation woodland towards the centre of the site
B4	Broad-leaved plantation woodland to the south of the site dividing zones 3 and 4
B5	Hedgerow, scrub and woodland habitat to the south of the site
B6	Riparian woodland, hedgerows and scrub to the west of the site
B7	Broad-leaved plantation woodland, as well as an arable field containing a portion of bare ground surrounded by trees, situated to the north of the site
B8	Broad-leaved plantation woodland and hedgerows dividing zones 6 and 7
B9	Dense scrub and hedgerow between zones 7 and 8
B10	Hedgerows and ditch in the centre of the site
B11	Hedgerow with ditch to the north of zone 4
B12	Hedgerows and ditches to the south-west of the site

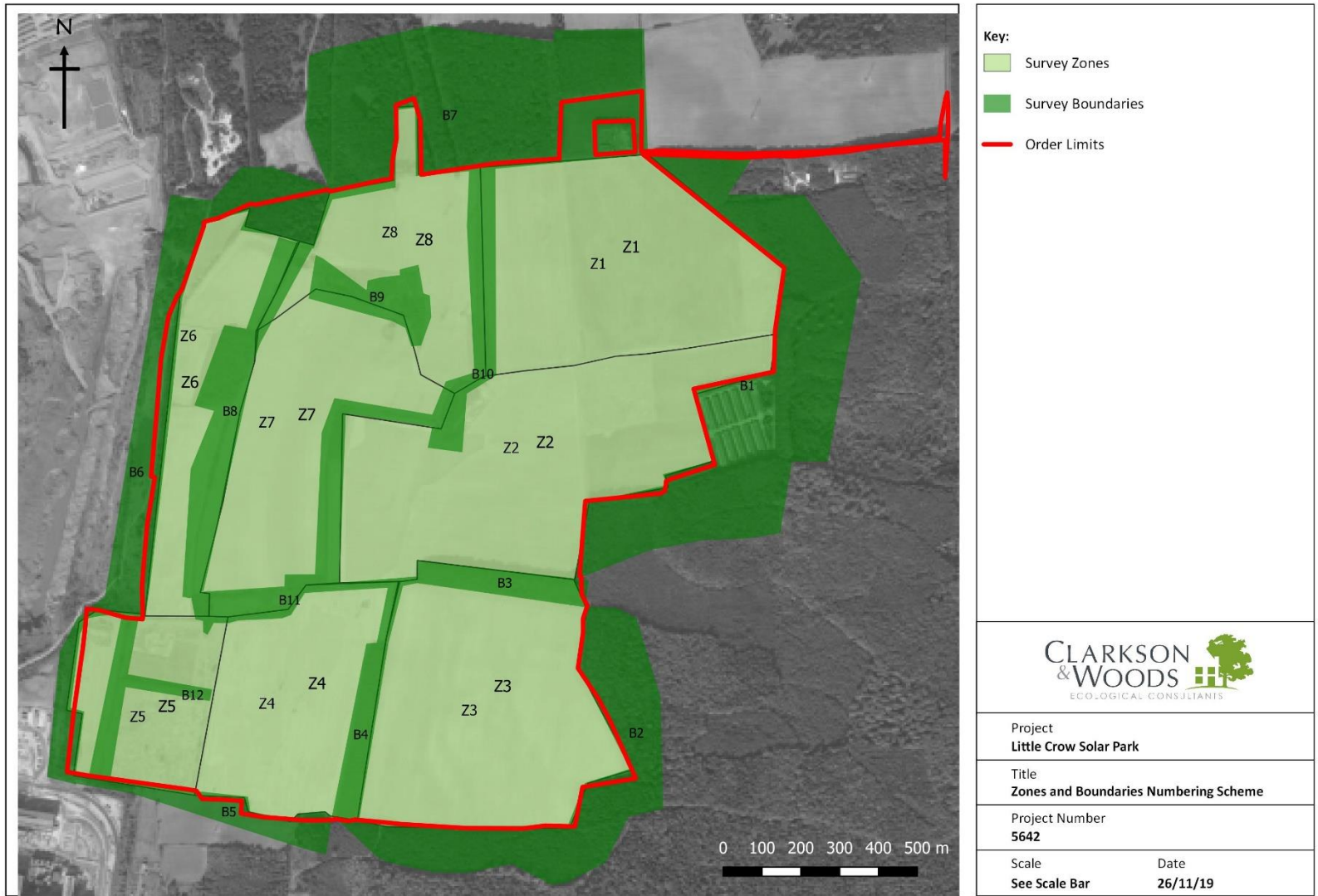


Figure 2: Map showing Habitat/Boundary Zones

4 SURVEY LIMITATIONS

- 4.1.1 This survey involved four survey events and thus provided a series of 'snapshots' of bird activity recorded on the site. It takes no account of any species which might occur at other times of the day and on other days. At the same time a lack of signs of any particular species does not confirm its absence, merely that there was no indication of its presence during this survey.
- 4.1.2 Nocturnal bird surveys were not undertaken and as such the activity on site of birds such as owls cannot be determined. In lieu of survey data, a judgement has been made based on the results of the data search and the presumed value of the habitats on site to such species.
- 4.1.3 If no action or development of this land takes place within twelve months of the date of this report, then the findings of this survey should be reviewed and may need to be updated. After three years the findings will be out of date and the full survey should be repeated.

Site Compound Area

- 4.1.4 The survey area did not encompass the entire field surrounding the former oil well in the north east of the site, which is expected to be used to house the temporary site compound during construction of the array. This field was added to the Order Limits subsequent to the completion of the breeding bird surveys. The Order Limits were amended to include this area after the surveys had been completed. The use of this area by wintering birds was not fully investigated and it is possible that bird species (including those of conservation concern) using this area were not recorded. However the survey route did follow the southern boundary of this field and this area was included within survey boundary zone B7 (figure 2 refers). As such any moderate or larger flocks of wintering birds present would likely have been conspicuous and recorded, and the surveyors also noted

any movement of birds within, into and out of this area. The findings of the survey (particularly the results recorded within B7) are therefore considered to depict a reasonably accurate reflection of the bird use of this area during the survey period.

5 RESULTS

5.1 Data Search – Designated Sites of Relevance to Birds

International Designations within 10km of the Order Limits

Humber Estuary Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar Site

5.1.1 The Humber Estuary is designated a Special Protection Area (SPA) and Ramsar site. The area encompassing the SPA is situated approximately 11km north of the Order Limits at the closest point, whilst the SAC and Ramsar site is located 9km west at the closest point. It primarily receives its designation for its estuarine habitats, which support a range of associated species including internationally important assemblages of wintering and migratory birds.

5.1.2 The Order Limits are situated a considerable distance from the Humber Estuary, and contains markedly different habitats to the estuarine habitats cited within the relevant designations. In addition, the Order Limits are highly unlikely to represent functionally linked habitat for the wildlife supported by the designated sites.

National Designations within 5km of the Order Limits

5.1.3 No nationally designated sites pertaining to birds are located within 5km of the Order Limits.

Local Designations within 1km of the Order Limits

5.1.4 No locally designated sites pertaining to birds are located within 1km of the Order Limits.

5.2 Data Search – Protected and Notable Species

Data obtained from Lincolnshire Environmental Records Centre (LERC)

5.2.1 The data search identified 65 notable bird species within 2km of the Order Limits since 2000 which winter in the UK (or are vagrants) and are considered relevant to this report. These species and their conservation designations are detailed in Section 8 at the end of this report. Additional records beyond the most recent record for each species have been excluded.

5.2.2 A number of birds within Appendix B were recorded within the Order Limits. This includes Lapland bunting *Calcarius lapponicus*, merlin *Falco columbarius*, peregrine *Falco peregrinus*, brambling *Fringilla montifringilla*, tree sparrow *Passer montanus*, fieldfare *Turdus pilaris* and hobby *Falco subbuteo*.

Data Search – Local Conservation Priorities

5.2.3 Farmland birds as a group are identified as targets for conservation within the Lincolnshire Biodiversity Action Plan (BAP) 2011-2020 (3rd Edition). The species of bird listed within this group are:

- *Grey partridge Perdix perdix*
- *Lapwing Vanellus vanellus*
- *Yellow wagtail Motacilla flava*
- *Skylark Alauda arvensis*
- *Corn bunting Miliaria calandra*
- *Linnet Carduelis cannabina*
- *Yellowhammer Emberiza citronella*
- *Reed bunting Emeriza scheoniclus*
- *Turtle dove Streptopelia turtur*
- *Bullfinch Pyrrhula pyrrhula*
- *Starling Sturnus vulgaris*

- *Tree sparrow Passer montanus*
- *Snipe Gallinago gallinago*
- *Curlew Numenius arquata*
- *Redshank Tringa totanus*
- *Barn owl Tyto alba*

5.2.4 These species have been identified as local conservation priorities and therefore will be given appropriate additional weight within the ES Chapter.

5.1 Field Survey Results

5.1.1 The main habitats within the Order Limits that were utilised by the birds recorded are listed below (in order of importance to key species and the overall assemblage of birds):

- Arable fields;
- Hedgerows and woodand;
- Semi-improved grassland; and
- Ditches

5.1.2 In total, 51 bird species were recorded within the site during the survey visits. 24 of the 51 were species of conservation concern, comprising 12 'red listed' birds and 12 'amber listed' birds according to the British Trust for Ornithology's studies into population declines among British birds within the last 30 years¹. Twelve of these were also Species of Principal Importance (SPI) under Section 41 of the NERC Act 2006 or Schedule 1 species of the Wildlife and Countryside Act 1981 and as such are capable of being material considerations within the planning process. The species recorded are shown in

¹ Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. Mark Eaton, Nicholas Aebischer, Andy Brown, Richard Hearn, Leigh Lock, Andy Musgrove, David Noble, David Stroud and Richard Gregory

Tables 3 and 4 overleaf. The level of protection each species receives is denoted by styling which is explained in the Key below.

*Key to Colours and symbols used in **Tables 3 and 4** below*

Style	Denotation
	BTO Amber List – Bird Population Status Amber
	BTO Red List – Bird Population Status Red
Bold text	Listed under Section 41 of the NERC Act 2006 (Species of Principal Importance - SPIs) or UK Biodiversity Action Plan species
<u>Underlined text</u>	Listed on the Wildlife and Countryside Act 1981 Schedule 1 (receives protection from disturbance while nesting)
	Peak Count of survey for each species

5.1.3 The patterns of abundance and distribution of birds are discussed later in this section, with greatest detail given to Birds of Conservation Concern and SPIs.

5.1.4 **Table 3** shows the numbers of each species encountered across all the survey visits with the peak count(s) of sightings highlighted. This enables patterns in changing abundance of each species to be observed over the course of the wintering period.

5.1.5 **Table 4** shows the peak counts of each species recorded in each survey zone/ boundary. This allows the relative usage of each survey zone and habitat type to be inferred. The information in this table will be discussed in the next section for each notable species in turn.

Table 3: Results of the Wintering Bird Survey – Total Individuals of Each Species by Survey Visit

Common name	Species name	Visit			
		1	2	3	4
Pink-footed goose	<i>Anser brachyrhynchus</i>		35		
Mallard	<i>Anas platyrhynchos</i>			1	1
Red legged partridge	<i>Alectoris rufa</i>		15	17	7
Grey heron	<i>Ardea cinerea</i>		2	1	1
Buzzard	<i>Buteo buteo</i>	3	2	5	3
Kestrel	<i>Falco tinnunculus</i>	2	2	1	1
Sparrowhawk	<i>Accipiter nisus</i>	1	1	1	1
Moorhen	<i>Gallinula chloropus</i>				1
Lapwing	<i>Vanellus vanellus</i>	77	109		
Snipe	<i>Gallinago gallinago</i>	1	1		
Woodcock	<i>Scolopax rusticola</i>	1	1	2	
Herring gull	<i>Larus argentatus</i>		4	7	3
Common gull	<i>Larus canus</i>	6	2		
Great black-backed gull	<i>Larus marinus</i>		2		
Black headed gull	<i>Chroicocephalus ridibundus</i>			10	4
Woodpigeon	<i>Columba palumbus</i>		250		
Stock dove	<i>Columba oenas</i>	52			
Great spotted woodpecker	<i>Dendrocopos major</i>				1
Skylark	<i>Alauda arvensis</i>	69	159	77	158
Meadow pipit	<i>Anthus pratensis</i>	18	1	6	21
Pied wagtail	<i>Motacilla alba</i>	80	84		7
Dunnock	<i>Prunella modularis</i>	1	9	9	6
Robin	<i>Erithacus rubecula</i>	7	20	23	15
Blackbird	<i>Turdus merula</i>	13	34	44	33
Song thrush	<i>Turdus philomelos</i>	2	4		
Mistle thrush	<i>Turdus viscivorus</i>		3		1
Redwing	<i>Turdus iliacus</i>		17	6	13
Fieldfare	<i>Turdus pilaris</i>	2			
Whitethroat	<i>Sylvia communis</i>			1	
Goldcrest	<i>Regulus regulus</i>			2	
Wren	<i>Troglodytes troglodytes</i>	5	14	22	11
Great tit	<i>Parus major</i>	5	6	14	9
Blue tit	<i>Cyanistes caeruleus</i>	7	32	49	24
Long-tailed tit	<i>Aegithalos caudatus</i>			7	4
Coal tit	<i>Periparus ater</i>	1	1	2	
Carrion crow	<i>Corvus corone</i>	126	43		
Rook	<i>Corvus frugilgues</i>	8			
Jackdaw	<i>Corvus monedula</i>	1	7		
Jay	<i>Garrulus glandarius</i>	1	10	8	5
Magpie	<i>Pica pica</i>	2	2	4	6

Common name	Species name	Visit			
		1	2	3	4
Raven	<i>Corvus corax</i>				2
Starling	<i>Sturnus vulgaris</i>	77	60		
House sparrow	<i>Passer domesticus</i>			5	
<u>Brambling</u>	<u><i>Fringilla montifringilla</i></u>			2	
Goldfinch	<i>Carduelis carduelis</i>	21	46	16	21
Chaffinch	<i>Fringilla coelebs</i>	21	48	60	84
Greenfinch	<i>Carduelis chloris</i>	7	12	5	8
Bullfinch	<i>Pyrrhula pyrrhula</i>	2	4	7	1
Linnet	<i>Linaria cannabina</i>	16	21	22	2
Reed bunting	<i>Emberiza schoeniclus</i>	1	1	9	5
Yellowhammer	<i>Emberiza citrinella</i>	15	5	8	8
Sum of Individuals		651	1071	454	467
Count of Species		32	38	32	32

Table 4: Results of the Wintering Bird Survey by Survey Zone (See Figure 3 for Map of Zones)

Common name	Peak counts for each species per zone								Peak counts for each species per boundary											
	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Pink-footed goose		35																		
Mallard														1		1				
Red legged partridge		2		2	1	5		6			2		7	2	2		1	8	1	
Grey heron	1							2						1						
Buzzard	1	1		3	2	2	1	2						1						
Kestrel		1			1			2			1				1					
Sparrowhawk					1					1									1	1
Moorhen																1				
Lapwing		71		9				69												
Snipe	1				1															
Woodcock					1	1			2											
Herring gull			6					8												
Common gull			4	1	3															
Great black-backed gull		2																		
Black headed gull	3		8				1	3												
Woodpigeon											25	0								
Stock dove	50				1					1										
Great spotted woodpecker															1					
Skylark	121	51	3	3	10	1	12													
Meadow pipit	28	2	5	1	1	3	3	3												
Pied wagtail		8			1	76											4			
Dunnock			1	1	1	2		1	1			1	1	2		1	2	5	3	3
Robin	3		1		2	4		9	6	2	3	1	4	7	8	6		4	2	3

Common name	Peak counts for each species per zone								Peak counts for each species per boundary											
	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Blackbird	3			3	10	6		13	9	5	6	9	10	8	9	9	2	9	5	8
Song thrush				1				1		1								1	1	1
Mistle thrush												1	1			1			1	
Redwing			6	4			3		3	3	1						1	6	9	
Fieldfare								2												
Whitethroat											1									
Goldcrest	1																		1	
Wren	1			1	4	1		3	5	4	4	3	3	5	2	5		5	5	1
Great tit	1			1				3	4	1	3	1	2	3	4	3	2	1	4	1
Blue tit	3				7	5		9	14	5	4	6	4	11	16	5	4	1	10	8
Long-tailed tit									4						3	4				
Coal tit									1	3										
Carrion crow	33	1	10	10	1		100	3		1				6		4				
Jackdaw	7						1													
Rook	8																			
Jay	1		3			1		1		6	3	1	5		1				2	
Magpie		3	1		2	1			1	1		1		3					1	
Raven	2																			
Starling	110	3					24													
House sparrow																		5		
Brambling																		2		
Goldfinch	6	21		2		13		5						26	5			21		5
Chaffinch		8		3	11	24	1	46	4		2		2	23	6	8	3	46	12	14
Greenfinch	9	6			2	1		7	1								1	2	3	
Bullfinch				1				2								1			7	3

Common name	Peak counts for each species per zone								Peak counts for each species per boundary											
	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Linnet	20				5		8	12									1	13	1	1
Reed bunting					4	1		1			2			2		2		2		2
Yellowhammer	1			9				6									3	11	3	3
Count of Species	24	15	11	17	22	17	12	23	13	13	13	9	10	15	12	14	11	17	19	14

5.2 Red-listed species

Lapwing

5.2.1 A typical bird of farmland and upland grassland during the winter, but now in severe decline due to habitat loss. These birds were observed twice in fairly large numbers during (peak count during a single visit of 109) within the open habitats of Zone 2 and Zone 7, during the first two visits in November and December. This species was however absent during the latter two visits in January and February. This species is probably present all year round in the surrounding landscape and the site is likely a regular component of the winter foraging habitat for the local population.

Skylark

5.2.2 Skylark are a ground nesting bird, requiring open habitats to maintain long sightlines for predator surveillance. Skylark have suffered dramatic declines in their breeding population in Britain in recent decades: with a halving of numbers in the 1990s, predominantly due to changes in farming practices governing the timing of sowing and harvesting. The arable fields on site provided optimal habitat for these birds. Skylarks were not particularly associated with any of the boundaries.

5.2.3 Skylark numbers site peaked at 159 during the 2nd visit in December, although moderate to large numbers were encountered on each visit. These birds were mainly found foraging in Zone 1 - an arable field on the north-eastern side of the site which is also part of the highest-lying land on site with the widest sightlines and visibility. This field would appear to constitute a valuable foraging resource for this species.

5.2.4 In summary, the site comprised optimal habitat for foraging and sheltering skylark, especially that of Zone 1, which is likely to form

an important winter foraging resource for this species. There was an abundance of other, similar habitat in the form of open arable land within the local area.

Redwing and Fieldfare

5.2.5 Redwing and fieldfare are both winter visitors to the UK which have suffered from a decline in abundance of species-rich, and structurally diverse hedgerows and woodland for both shelter and foraging. As a result both species are a red listed.

5.2.6 Flocks of these species were observed in low numbers foraging on the ground and within the adjacent woodland areas. Peak numbers for redwing were 17, and these were associated with both open areas and boundary habitats. Sightings of fieldfare was limited to two individuals recorded during the first visit in November only, foraging within Zone 8.

5.2.7 Given the low numbers of both species on site, the site is unlikely to represent important winter foraging ground for redwing and fieldfare.

Starling

5.2.8 The starling is a familiar species often found in towns, gardens, farmland and woodland. This species is red listed as a Species of Conservation Concern due to recent breeding and wintering population decline (1981-2010) and reduction in breeding and wintering range (1981-2010)⁶. It is also a Species of Principal Importance under section 41 of the NERC Act (2006).

5.2.9 Starling were observed in moderately-sized flocks predominantly in Zone 1 and 7. Several flocks were observed on multiple occasions flying overhead. The site offers suitable habitat for foraging starling and appears to support modest numbers.

Woodcock

5.2.10 Woodcock are wading birds commonly associated with woodland which is used for cover. Most woodcock are winter visitors from eastern and northern Europe and rely on woodland, scrub and rough grassland for shelter during the day and pasture and arable fields for foraging at night. Woodcock are in decline, possibly due to the reduction in available breeding areas, such as open areas within woodlands. Small numbers (maximum 2 individuals) were encountered on three of the four survey visits. These were observed on site within the more sheltered fields of Zones 5 and 6, and within Boundary 1.

5.2.11 A small population of this species are probably present all year round in the woodland habitats surrounding the site, and the site is likely a component of the winter foraging habitat for low numbers of this species.

Linnet

5.2.12 The linnet is a species mainly associated with farmland and open country. This species is red listed as a Species of Conservation Concern due to recent breeding and wintering population decline (1981-2010) and reduction in breeding and wintering range (1981-2010)⁶. It is also a Species of Principal Importance under section 41 of the NERC Act (2006).

5.2.13 Linnets were present on site during all four survey visits, with a maximum of 21 individuals recorded on site. This species will utilise open fields and hedgerows. The site offers suitable habitat for foraging linnet and appears to support a moderate population.

Yellowhammer

5.2.14 Yellowhammers are mainly associated with open countryside and hedgerows. This species is red listed as a Species of Conservation

Concern due to recent population declines. This is likely due to changes in agricultural practices, such as the removal of hedgerows and increased use of pesticides. Yellowhammers were mainly observed within the Boundary habitats around the site, although small numbers were seen in more open areas, such as Zone 4 and Zone 8. The site offers suitable habitat for foraging yellowhammers and appears to support moderate numbers, with a peak count of 15 recorded during Visit 1.

Pink-footed goose

5.2.15 Pink-footed geese are found on coasts, wetlands, grassland and arable habitats over winter in the UK. They are amber listed as a Species of Conservation Concern due to recent breeding and wintering population decline (1981-2007), reduction in breeding and wintering range (1981-2010)⁶ and for having an important non-breeding population. A moderate-sized flock of 35 was observed on Visit 2 only in Zone 2. This species is likely to use the open fields for foraging but it appears that the site forms only a component of the foraging area for a local wintering population.

Stock dove

5.2.16 Stock dove are most characteristic of arable farmland. They are an amber-listed species of conservation concern due to recent breeding and wintering population decline and reduction in both breeding and wintering range. A moderate flock of 50 stock doves were recorded in Zone 1 during Visit 1 only. The site offers suitable habitat but appears not to be a critical wintering area for stock dove given their absence in December, January and February.

Meadow pipit

5.2.17 Like skylarks, meadow pipits are associated with open arable, grassland and heathland habitats and are ground dwelling birds and have undergone declines in recent years, hence their amber status.

5.2.18 Meadow pipit were observed during all survey visits although only as individuals or small loose flocks. These were present across the open habitats at the site. The site offers suitable habitat for foraging meadow pipit and appears to support a modest population.

Dunnock

5.2.19 Dunnock inhabit any well vegetated areas with scrub, brambles and hedges, including field edges, earning their moniker "hedge sparrow". They spend large amounts of time on the ground in amongst grassland but also remain close to shrubby vegetation cover. Dunnock abundance fell substantially between the mid-1970s and mid-1980s, after a period of population stability. Some recovery has occurred throughout the UK since the late 1990s. Dunnock is an amber listed Species of Conservation Concern and a Species of Principal Importance. Dunnock were observed widely across the site on all visits in low to modest numbers, with a peak count of 9 recorded on both the 2nd and 3rd visits. This species is unlikely to utilise the open fields for foraging but will use the field margins.

Reed bunting

5.2.20 The reed bunting is a species mainly associated with reedbeds, riverine scrub and marsh. This species is amber listed as a Species of Conservation Concern due to recent breeding and wintering population decline (1981-2007) and reduction in breeding and wintering range (1981-2010)⁶. It is also a Species of Principal Importance under section 41 of the NERC Act (2006). Reed bunting were observed during all visits with a peak of 9 individuals recorded

on visit 3. They were observed in both open fields and boundaries and were mostly associated with the ditches to the west of the site. This species will utilise open fields but is more likely to use the hedgerow and ditch system. The site does offer suitable habitat for foraging reed bunting, however appears to support modest numbers only.

Other Birds of Conservation Concern

5.2.21 Small numbers of bullfinch (peak count of 7), an amber listed species, were consistently recorded throughout the survey visits, and were most strongly associated with the field boundary habitats in the south west of the site.

5.2.22 Individuals or small numbers (maximum 10) of each of mistle thrush, song thrush, herring gull, house sparrow (red-listed species) and kestrel, mallard, common gull, greater blacked gull and snipe (amber-listed species), were recorded on one or two occasions and did not show a persistent association with the site. It is therefore likely that they are not present within the site throughout the winter but may use the site opportunistically.

Other Birds

5.2.23 Other birds recorded were primarily generalist species encountered within a range of habitats including hedgerow and woodland. These included tits, finches, wren, blackbird and various corvids such as jackdaw, carrion crow and magpie. There were also several other species which are more selective of riparian habitat such as moorhen and grey heron; and farmland species such as red legged partridge.

6 SUMMARY

6.1.1 A total of 55 species were identified; of which 12 were red listed birds and 12 were amber listed birds. Of these 24 bird species, 10 are also Species of Principal Importance under the NERC Act (2006) and so are a material consideration for planning.

6.1.2 The notable birds utilising the site can be split into two distinct categories; those which were recorded predominantly within open habitats and those recorded foraging predominantly in boundary habitats such as woodland and hedgerows.

6.1.3 The birds utilising the open field habitats are more likely to be directly impacted installation of a solar park. The peak count of numbers recorded at the site for each of these species is summarised in Table 5 below.

Table 5: Summary of Wintering Birds of Open Farmland

Birds Recorded within Open Habitats	Peak Count
Pink-footed goose	35
Lapwing	109
Herring Gull	7
Common gull	6
Great black-backed gull	2
Black-headed gull	10
Skylark	159
Meadow pipit	21

6.1.4 Table 6 summaries the notable bird species that predominantly use the boundary habitats for sheltering and foraging:

Table 6: Summary of Wintering Birds of Field Boundary Habitats

Birds Associated with Boundary Habitats	Peak Count
Mallard	1
Kestrel	2
Snipe	1
Woodcock	2
Stock dove	52
Dunnock	9
Song thrush	4

Mistle thrush	3
Redwing	17
Fieldfare	2
Starling	77
House sparrow	5
Bullfinch	7
Linnet	22
Reed bunting	9
Yellowhammer	15

7 LERC RECORDS OF BIRDS FROM SURROUNDING 2KM

Species Name	Common Name	Date	Abundance	Designations
<i>Acanthis cabaret</i>	Lesser Redpoll	04/03/2015	3 Present (Count: Exact)	BoCC4-Red, Sect.41, Sect.42,
<i>Accipiter gentilis</i>	Goshawk	06/12/2003	1 Present (Count: Exact)	WCA1i,
<i>Alauda arvensis</i>	Skylark	27/06/2015	4 Total (Count: Exact)	BoCC4-Red, LBAP:3, Sect.41
<i>Alcedo atthis</i>	Kingfisher	01/11/2015		BoCC4-Amber, WCA1i,
<i>Anas acuta</i>	Pintail	23/11/2011	3 Present (Count: Exact)	BoCC4-Amber, WCA1ii,
<i>Anas penelope</i>	Wigeon	08/03/2015	1 Total (Count: Exact)	BoCC4-Amber,
<i>Anas strepera</i>	Gadwall	01/01/2013		BoCC4-Amber,
<i>Anser anser</i>	Greylag Goose	23/05/2015	2 Total (Count: Exact)	BoCC4-Amber, WCA1ii
<i>Anser brachyrhynchus</i>	Pink-footed Goose	01/11/2015		BoCC4-Amber,
<i>Anser fabalis subsp. fabalis</i>	Taiga Bean Goose	16/03/2011	8 Present (Count: Exact)	BoCC4-Amber,
<i>Anser fabalis subsp. rossicus</i>	Tundra Bean Goose	23/11/2011-07/12/2011	2 Juvenile (Count: Exact)	BoCC4-Amber,
<i>Aythya ferina</i>	Pochard	13/12/2015	2 Total (Count: Exact)	BoCC4-Red,
<i>Aythya marila</i>	Scaup	23/11/2011	1 1st calendar year male(s) (Count: Exact)	BoCC4-Red, Sect.41, , WCA1i,
<i>Bucephala clangula</i>	Goldeneye	20/12/2000	2 Present (Count: Exact)	BD2.2, BoCC4-Amber, WCA1ii,
<i>Calcarius lapponicus</i>	Lapland Bunting	27/10/2001	1 Present (Count: Exact)	BoCC4-Amber, WCA1i
<i>Charadrius morinellus</i>	Dotterel	25/04/2011	1 Present (Count: Exact)	BoCC4-Red, WCA1i,
<i>Circus aeruginosus</i>	Marsh Harrier	11/01/2012-22/02/2012	4 Present (Count: Exact)	BoCC4-Amber, WCA1i,
<i>Clangula hyemalis</i>	Long-tailed Duck	06/12/2004	1 Present (Count: Exact)	BoCC4-Red, WCA1i
<i>Coccothraustes coccothraustes</i>	Hawfinch	February 2009	11 Present (Count: Exact)	BoCC4-Red, Sect.41, Sect.42,
<i>Cygnus columbianus subsp. bewickii</i>	Bewick's Swan	15/02/2002	2 Present (Count: Exact)	BoCC4-Amber, Sect.41, Sect.42, WCA1i,
<i>Cygnus cygnus</i>	Whooper Swan	19/03/2013	26 Present (Count: Exact)	BoCC4-Amber, WCA1i,
<i>Cygnus olor</i>	Mute Swan	01/04/2014		BoCC4-Amber,
<i>Emberiza calandra</i>	Corn Bunting	2005 - 2010		BoCC4-Red, LBAP:3,

Species Name	Common Name	Date	Abundance	Designations
<i>Emberiza citrinella</i>	Yellowhammer	25/11/2015	9 Total (Count: Exact)	BoCC4-Red, LBAP:3, Sect.41, Sect.42,
<i>Emberiza schoeniclus</i>	Reed Bunting	25/11/2015	2 Total (Count: Exact)	BoCC4-Amber, LBAP:3, Sect.41, Sect.42,
<i>Falco columbarius</i>	Merlin	28/03/2012	1 Female (Count: Exact)	BD1, Bern2, BoCC4-Red, , WCA1i,i
<i>Falco peregrinus</i>	Peregrine	03/11/2015	1 Present (Count: Exact)	BD1, Bern2, CITESA, CMS_A2, LBASchedule1, ScotBL, WCA1i,
<i>Falco subbuteo</i>	Hobby	02/08/2015	1 Total (Count: Exact)	WCA1i
<i>Fringilla montifringilla</i>	Brambling	25/01/2015	23 Present (Count: Exact)	WCA1i
<i>Gallinago gallinago</i>	Snipe	06/12/2014	1 Present (Count: Exact)	BoCC4-Amber, LBAP:3
<i>Gavia immer</i>	Great Northern Diver	12/01/2013	1 Present (Count: Exact)	BoCC4-Amber, WCA1i
<i>Gavia stellata</i>	Red-throated Diver	14/11/2011	1 Juvenile (Count: Exact)	WCA1i,
<i>Haliaeetus albicilla</i>	White-tailed Eagle	19/05/2011	1 Present (Count: Exact)	BoCC4-Red, WCA1i,
<i>Linaria cannabina</i>	Linnet	02/08/2015		BoCC4-Red, LBAP:3,
<i>Loxia curvirostra</i>	Common Crossbill	19/03/2014	22 Present (Count: Exact)	WCA1i,
<i>Loxia leucoptera</i>	Two-barred Crossbill	23/03/2014	1 Male (Count: Exact)	WCA1i
<i>Lullula arborea</i>	Woodlark	28/02/2014	1 Present (Count: Exact)	Sect.41, Sect.42, WCA1i
<i>Melanitta nigra</i>	Common Scoter	31/03/2005	1 Male (Count: Exact)	BoCC4-Red, Sect.41, Sect.42, , WCA1i,
<i>Milvus milvus</i>	Red Kite	19/10/2014	1 Present (Count: Exact)	WCA1i,
<i>Numenius arquata</i>	Curlew	2005 - 2010		BoCC4-Red, LBAP:3, , Sect.41, Sect.42,
<i>Numenius phaeopus</i>	Whimbrel	08/08/2011	1 Present (Count: Exact)	BoCC4-Red, WCA1i, WO1i
<i>Passer domesticus</i>	House Sparrow	25/11/2015		BoCC4-Red, LBAP:3, , Sect.41, Sect.42,
<i>Passer montanus</i>	Tree Sparrow	02/08/2015		BoCC4-Red, LBAP:3, Sect.41, Sect.42,
<i>Perdix perdix</i>	Grey Partridge	03/10/2015	5 Total (Count: Exact)	BoCC4-Red, LBAP:3, Sect.41, Sect.42,
<i>Pernis apivorus</i>	Honey-buzzard	02/10/2015	1 Present (Count: Exact)	BoCC4-Amber, WCA1i
<i>Pyrhula pyrrhula</i>	Bullfinch	25/11/2015	1 Total (Count: Exact)	BoCC4-Amber, , LBAP:3,
<i>Serinus serinus</i>	Serin	17/11/2007	1 Present (Count: Exact)	WCA1i

Species Name	Common Name	Date	Abundance	Designations
<i>Stercorarius parasiticus</i>	Arctic Skua	07/05/2002	1 Present (Count: Exact)	BoCC4-Red, , UKBAP
<i>Sturnus vulgaris</i>	Starling	25/11/2015	100 Total (Count: Estimate)	BoCC4-Red, LBAP:3
<i>Tringa glareola</i>	Wood Sandpiper	28/08/2002	1 Present (Count: Exact)	BoCC4-Amber, WCA1i
<i>Tringa ochropus</i>	Green Sandpiper	20/06/2014	1 Present (Count: Exact)	BoCC4-Amber, WCA1i
<i>Tringa totanus</i>	Redshank	19/04/2011	4 Present (Count: Exact)	BoCC4-Amber, LBAP:3
<i>Turdus iliacus</i>	Redwing	06/12/2015	6 Present (Count: Exact)	BoCC4-Red, , WCA1i
<i>Turdus philomelos</i>	Song Thrush	15/06/2015	1 Total (Count: Exact)	BoCC4-Red, LBAP:3,
<i>Turdus pilaris</i>	Fieldfare	26/03/2014	400 Present (Count: Exact)	BoCC4-Red, WCA1i,
<i>Tyto alba</i>	Barn Owl	24/12/2015	1 Present (Count: Exact)	LBAP:3, WCA1i,
<i>Vanellus vanellus</i>	Lapwing	04/10/2015	8 Total (Count: Exact)	BoCC4-Red, LBAP:3, Sect.41, Sect.42,

Meaning of designations listed above

Designation	Meaning
BoCC4-Amber	BTO Amber List – Bird Population Status Amber
BoCC4-Red	BTO Red List – Bird Population Status Red
Sect.41/42	Section 41/42 of the NERC Act 2006/ UK Biodiversity Action Plan Species
WCA1i	Wildlife and Countryside Act 1981 Schedule 1
LBAP:3	Lincolnshire Biodiversity Action Plan (3 rd Edition)

• **Glossary and Acronyms**

Term / Acronym	Description
Amber Listed (Birds)	Bird species whose population or range has declined moderately in recent years (>25% but <50% in 25 years) declined historically but recovered recently, rare breeders (fewer than 300 pairs), internationally important populations in the UK, localised populations and those with an unfavourable conservation status in Europe.
Assemblage	A group of species found in the same location
BTO	British Trust for Ornithology – an organisation for the study of birds in the British Isles.
CEMP	Construction Environmental Management Plan
CIEEM	Chartered Institute of Ecology and Environmental Management – professional body for ecology and environmental practitioners
Conservation Status	The state of a species or habitat including for example, extent, abundance, distribution and their trends.
Greater Lincolnshire Nature Partnership	Government accredited Local Nature Partnership, comprising a broad range of local organisations who aim to bring about improvements in the natural environment in the Greater Lincolnshire Area.
JNCC	Joint Nature Conservation Committee - public body that advises the UK Government and devolved administrations on UK-wide and international nature conservation
LBAP	Local Biodiversity Action Plan - a plan aimed at conserving the fauna, flora and habitats of a defined area, usually along local authority boundary lines
LERC	Lincolnshire Environmental Records Centre – Where wildlife and geological information and documents are kept pertaining to the Greater Lincolnshire area.
National Planning Policy Framework	Document setting out the Government’s planning policies for England and instruction on how they are expected to be applied
NERC Act 2006	Natural Environment and Rural Communities Act 2006 - Act of Parliament to make provision concerned with the natural environment and rural communities (e.g. Natural England)

Term / Acronym	Description
Priority Species	Species that are of principal importance for conservation in the UK (arising from the Section 42 list of the Natural Environment and Rural Communities Act 2006)
Red Listed (Birds)	Bird species that are globally threatened, whose population or range has declined rapidly in recent years (i.e. >50% in 25 years), or which have declined historically and not recovered.
RSPB	Royal Society for the Protection of Birds - mote conservation and protection of birds and the wider environment
SPI	Species of Principal Importance – see 'Priority Species'
UK BAP	United Kingdom Biodiversity Action Plan –the UK government's response to the Convention on Biological diversity. It brought about a series of created action plans for species and habitats in the UK that were most under threat so as to support their recovery. Succeeded by the 'UK Post-2010 Biodiversity Framework' in 2012
UK Post 2010 Biodiversity Framework	A framework of priorities for UK-level work for the Convention on Biological Diversity

