

LINDHURST
MANSFIELD

APPENDIX 6.F BREEDING BIRD SURVEY

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F.1 INTRODUCTION

F.1.1 Three breeding bird surveys were undertaken at Lindhurst, Mansfield in April, May and June 2008. The objectives of the survey were to: -

- Identify the presence and distribution of breeding birds on site;
- evaluate the importance of local bird populations and their habitat requirements;
- evaluate the conservation importance of the site.

F.2 LEGISLATION

F.2.1 The Wildlife and Countryside Act 1981 (as amended) (WCA) is the principle legislation affording protection to UK wild birds. Under this legislation all birds, their nests and eggs are protected by law and it is an offence, with certain exceptions to recklessly or intentionally:

- a) Kill, injure or take any wild bird
- b) Take, damage or destroy the nest of any wild bird while it is in use or being built.
- c) Take or destroy the egg of any wild bird

F.2.2 For birds listed on Schedule 1 of the WCA, it is an offence to disturb any bird while it is building a nest, is at or near a nest with young; or disturb the dependant young of such a bird.

F.2.3 In addition to the WCA, birds listed in Annex 1 of the EU Birds Directive are required to have special conservation measures taken to preserve their habitats and site to be classified as Special Protection Areas where appropriate.

F.2.4 In addition to statutory protection, some species have been classified according to their conservation status by inclusion in the Red and Amber lists of Birds of Conservation Concern (BoCC) in the UK (Eaton *et al* 2009). Additional information on status locally and nationally is provided though the UK and Nottinghamshire Biodiversity Action Plans (BAP).

F.3 METHODOLOGY

F.3.1 The survey methodology employed was based on that of territory mapping (Bibby *et al* 1992) as used for the British Trust for Ornithology (BTO) Breeding Bird Survey (BBS). Standard BTO species codes and symbols for bird activities were used to identify birds and denote activity, sex and age where appropriate. The criteria used in the assessment of breeding birds have been adapted from

the standard criteria proposed by the European Ornithological Atlas (EOAC 1979) and are grouped into three categories: possible breeder, probable breeder and confirmed breeder. Birds that were considered not to be using the site for breeding were categorised as 'not breeding', as there was no suitable habitats for these species, passage migrants or they are colonial breeders and any colonies would have been obvious during the survey.

F.3.2 To provide a reasonable level of accuracy for determining the population status of the breeding birds on the site three repeat surveys were carried out, it was considered that three visits were adequate. This determined the breeding bird use of the site and its importance to local bird populations. Bird surveys were not undertaken in unfavourable conditions such as heavy rain or strong wind, which could have negatively affected the results.

F.3.3 Each of the three surveys commenced approximately one hour after dawn and were finished by mid-morning. A route was mapped out prior to the surveys being undertaken, paying particular attention to linear features, such as hedgerows and tree lines, and natural features such as ponds, lakes, areas of scrub and woodland.

F.4 RESULTS (Refer to Appendix 6F.i & Figure F.1)

F.4.1 A total of forty-four bird species were recorded during the breeding bird survey; these are listed in Appendix 1. Of these, ten were possibly breeding; twenty-six were probably breeding and seven confirmed breeding. One species – Cormorant – only flew over the site and so was classed as a non-breeder. Further descriptions of the key species found, relative to habitat type are outlined below. Figure 6.6 shows the notable species around the site.

F.5 INTERPRETATION OF RESULTS

F.5.1 Of the 44 species recorded, none had statutory protection under Annex 1 of the EU Birds Directive or Schedule 1 of the WCA. Eleven of the species are listed as a Priority Species under the UK BAP. No Nottinghamshire BAP species were recorded.

F.5.2 Eight of the species are listed under the Birds of Conservation Concern Red List as birds of High conservation concern (Red List hereafter); whilst ten species are listed on the Amber List of medium conservation concern. The Nottinghamshire

BoCC also lists thirty-four species that it considers to be of conservation concern within Nottinghamshire.

- F.5.3 Three of the seven confirmed breeding bird species (Lapwing, Linnet and Yellowhammer) are on the BoCC Red list and are UK BAP Priority Species. Of the twenty-five that were probably breeding, three feature on the BoCC Red list and are UK BAP Priority Species and seven are on the BoCC Amber list.
- F.5.4 Of the eleven species that were possibly breeding, two feature on the Red list and three species are on the Amber list.
- F.5.5 Other records of species of importance were noted adjacent to site in Harlow Wood where tree pipit *Anthus trivialis* was observed singing and carrying food. This species is a UK BAP Priority Species, is included on the UK BoCC red list and also on the Nottinghamshire BoCC list. Nightjar *Caprimulgus europaeus* was also recorded adjacent to the site but was the subject of a separate suite of surveys, the results of which are included in Appendix 6G.

Table 6F.1: Summary of the Breeding Bird Assemblage for UK BoCC Red, Amber; UK BAP Priority Listed Species and BoCC in Nottinghamshire.

Species	Max No.	No. of Occasions Recorded	Conservation status			Site Breeding Status	Notts SINC Criteria	
			UK BoCC Status	UK BAP	Notts BoCC		Breeding Bird Score	Habitat
Bullfinch	4	1	Amber	✓	✓	Probable	4	scrub
Dunnock	25	3	Amber	✓	✓	Probable	2	scrub
Grey partridge	1	1	Red	✓	✓	Possible	4	grassland
House martin	14	2	Amber	-	✓	Possible	3	-
House sparrow	14	2	Red	✓	✓	Possible	3	-
Kestrel	4	3	Amber	-	✓	Possible	4	grassland
Lapwing	15	3	Red	✓	✓	Confirmed	3	grassland
Linnet	22	3	Red	✓	✓	Confirmed	4	scrub
Meadow pipit	5	2	Amber	-	✓	Probable	2	grassland
Mistle thrush	6	2	Amber	-	✓	Probable	-	-
Reed bunting	4	3	Amber	✓	✓	Probable	4	water & margins
Skylark	61	3	Red	✓	✓	Probable	3	grassland
Song thrush	11	3	Red	✓	✓	Probable	3	woodland
Starling	52	2	Red	✓	✓	Probable	3	grassland
Swallow	9	3	Amber	-	✓	Probable	3	-

Species	Max No.	No. of Occasions Recorded	Conservation status			Site Breeding Status	Notts SINC Criteria	
			UK BoCC Status	UK BAP	Notts BoCC		Breeding Bird Score	Habitat
Swift	1	1	Amber	-	✓	Possible	3	-
Whitethroat	14	2	Amber	-	-	Probable	3	-
Yellowhammer	44	3	Red	✓	✓	Confirmed	3	grassland
Nottinghamshire SINC Selection Criteria Assemblage Score: 54								

Table 6F.2: Score per habitat according to Nottinghamshire SINC Selection Criteria:

Habitat	On Site Assemblage Score	Threshold Value
Grassland	22	25
Woodland	3	25
Scrub	10	20
Water & Margins	4	39

F.6 EVALUATION

F.6.1 The magnitude of change for any bird species is based on certain criteria, known habitat preferences, amount and quality of habitat either permanently or temporarily affected by development.

F.6.2 For each bird species, their sensitivity to development is based on the bird’s ecological requirements and their distribution, rarity and vulnerability as indicated by the current guidance and legislation, for example, the RSPB/BTO Red and Amber list Birds of Conservation Concern, UK and Local BAP species. The level of impact varies between species and location; the following table explains the criteria for ascending levels of impact.

Table 6F.3: Criteria for ascending levels of Sensitivity

Nature Conservation Criteria	Sensitivity
Species that form the cited interest of SPAs and SSSIs.	High
Non-cited species that contribute to the integrity of an SPA or SSSI. Ecologically sensitive species such as rare birds (<300 breeding pairs in the UK) and the less common birds of prey (e.g. golden eagle, honey buzzard, osprey, marsh harrier and hen harrier). Species present in nationally important numbers (>1% English population).	High
Species listed on Annex 1 of the EU Birds Directive and/or Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). Species present in regionally important numbers (>1% of regional population). Species listed as priority species in UK Biodiversity Action Plan subject to special conservation measures.	Medium
Species covered above which are present very infrequently or in very low numbers. Any other species of conservation concern not covered above, e.g. species listed on the Red or Amber list of Birds of Conservation Concern.	Low

F.6.3 A total of forty-four bird species were recorded in association with the site. The value of the site to birds was variable. Typically the more valuable habitats in terms of species diversity and presence of more local species included the woodland edges, hedgerows and arable margins.

F.6.4 No species recorded on site are afforded species protection under the Schedule 1 of the WCA or Annex 1 of the EU Birds Directive, therefore there is no constraint to development from the presence of these species. The site does

contain a number of UK BAP species (see Table 6F.1) which are considered to be priority species at risk of extinction in Europe or have declined by 25% or more in the UK over the last 25 years. Also covered under UK BAP are species showing a lack of recovery in population from previous years. None of the confirmed or probable breeding birds on site were present on site in nationally important numbers.

F.6.5 None of the breeding bird assemblages on the relevant site habitats meet the minimum threshold requirements for SINC selection in Nottinghamshire.

F.6.6 Those species that occur on the UK BAP are potentially most susceptible to the impacts of the development (bullfinch, grey partridge, dunnock, house sparrow, lapwing, linnet, reed bunting, skylark, song thrush, starling and yellowhammer). A summary of potential impacts to these species is provided in Table 6F.4 below:

Potential Impacts & Proposed Mitigation Measures

F.6.7 Works within the site area are likely to have both adverse and beneficial effects on bird species using the site through:

- Temporary and permanent loss of some habitats used for foraging and breeding.
- Disturbance of species utilising the site or its immediate surroundings during the construction phase.
- Increased disturbance associated with post-restoration recreational usage of the site.
- Habitat creation through implementation of green infrastructure proposals with increased habitat opportunities for some species.
- Impacts will include disturbance to birds and loss of habitat for breeding/foraging during site clearance and preparation.

F.6.8 To minimise the effects of disturbance to all bird species during the construction phase mitigation in the form of appropriate scheduling of vegetation removal and ground works will allow some form of habituation for those species using adjacent margins and on-site habitats. This staged site clearance would significantly reduce impacts on the bird species present.

Table 6F.4: Impact of Development on UK BAP Species Recorded on Site

Species	Habitat requirements	Suitability of Site	County Status [†]	Predicted Habitat Loss	Impact [‡]
Dunnock	Wide variety habitats including gardens, low thick scrub, bramble, farmland hedges, conifer and deciduous woodland. Ground feeders of invertebrates, berries, seeds and grain.	Widespread across site, but mainly associated with the hedgerows and with dense scrub vegetation	Very common	Minor loss of hedgerow and scrub	Low
Grey partridge	Open grassland, pasture and cereal with thick hedgerows and field margins. Eats mainly leaves and seeds also invertebrates. Young predominantly eat invertebrates.	1 individual recorded on grassland although hedgerows are relatively poor for foraging and cover, some areas of arable but very intensive with narrow field margins.	Fairly common	Negligible	Low
House sparrow	Cultivated land near houses and other buildings including parks, gardens and farms. Feeds mainly on seeds, young are fed on invertebrates.	Flocks seen on 2 occasions both associated with the same spot on the edge of residential areas with gardens on northern site boundary.	Common and widespread	Negligible	Low
Lapwing	Farmland, especially spring crops where there is bare soil and short grass. Feeds in invertebrates on the ground and some plant material	Associated with the same ploughed arable fields on 3 different occasions. Confirmed breeder.	Common resident	Total loss of arable compartments within site	Medium
Linnet	Farmland, hedges and rural gardens. Rough ground with low bushes and scrub. Prefers nesting on gorse-covered commons. Eats seeds and increasingly oil-seed rape, some invertebrates eaten in summer.	Associated with the same area on 3 occasions, with suitable habitats just off site providing a suitable resource. Confirmed breeder.	Common resident	Total loss of arable compartments within site	Low
Skylark	Ground-nesting birds preferring open farmland often without hedges, short grassy or sparse vegetation especially set-a-side. Eats both plant and invertebrates.	Seen across the site in good numbers, many observed singing and holding territories on all 3 occasions. Mainly concentrated over the grassland areas.	Common and widespread resident	Total loss of arable and grassland compartments	Low
Song thrush	Found in habitats where there are trees and bushes; gardens, parks, coniferous and deciduous woodland and hedgerows. Feeds on insects, earthworms, beetles, fruit and berries in autumn. Specialising in snails during dry weather	Singing individuals associated with trees and hedgerows across site. Surrounding off site habitat would also provide a suitable resource.	Common resident	Majority of trees and hedgerows to be retained	Low
Starling	An adaptable species that can be found in open grassland, gardens, lawns, farmland, playing fields and parks, rubbish tips, town centres. Nests in suburban estates, towns and farms. Feeds on invertebrates, fruits & berries in autumn and winter	Small flock seen feeding in grassland fields. The surrounding habitats off site would also provide a significant resource.	Common resident	Total loss of grassland compartments.	Low
Yellowhammer	Found on farmland, especially pasture surrounded by hedgerows. In winter moves to arable fields. Feeds on seeds and invertebrates.	Seen all across site mainly associated with hedgerows and farmland.	Common resident	Majority of hedgerows to be retained. Loss of arable compartments	Low

[‡] Based as assessment of habitat suitability and nature conservation criteria (see table 2). [†] Status of the species within Nottinghamshire from *The Birds of Nottinghamshire. Annual Report for 2006*.

F.6.9 Increased disturbance associated with increased recreational usage of the area will be localised within the site, with the creation of areas of green open spaces. However, there maybe a significant impact of disturbance to Harlow Wood as this area is directly adjacent with the proposed residential areas. This woodland is already open access to the public and impacts will be minimised through the provision of ample green infrastructure and habitat creation across the site, plus the provision of a buffer of wet woodland along the edge of Harlow Wood.

F.6.10 Other possible effects to the most sensitive species that were confirmed to be breeding within the site boundary are considered in more detail in the following paragraphs.

Species Specific Effects

Lapwing

F.6.11 Evidence of breeding lapwing was recorded on site in the form of the presence of young on a ploughed arable field on the eastern side of the site. Lapwing were recorded within this area on all 3 survey occasions. This species utilises farmland, especially amongst crops grown for the spring where there is bare soil. Lapwing also use pastures, wet grassland, fens, bogs, marshes and industrial sites where there is bare ground and damp areas for chicks to feed. This species has the capacity to recover from loss of habitat and colonise new areas but its recent decline has been linked to changing agricultural practices, especially the move from spring to autumn grown cereals, which results in the crop becoming too tall for breeding habitat.

F.6.12 All the suitable farmland for this species will be lost during the site operations and therefore the magnitude of habitat loss for this species can be considered as total. However, the impact of this change on the local lapwing population is considered to be medium as this species was only recorded in low numbers. It is considered that the arable habitats in the wider surrounding countryside will likely be able to absorb the small breeding population recorded on site into the existing wider breeding population.

Linnet

F.6.13 Evidence of breeding linnet was seen with adults seen carrying food for young on the 3rd survey occasion, linnet had also been seen on site on the previous 2 surveys. The food carrying adult and young were observed on the north eastern half along the site boundary, utilising the hedgerow that defines the site

boundary. This species nests mainly on gorse-covered commons, rough ground where there are low bushes and scrub, bushy places on farmland, hedgerows, young plantations and rural gardens. The decline in this species has been attributed to the use of herbicides, smaller field margins and loss of weedy stubbles during the winter.

- F.6.14 Habitats on site are sub-optimal for linnet and the birds recorded were on the periphery of site, utilising the boundary hedgerow and adjacent areas of scrub and rough grassland and therefore the magnitude of change could be considered as low. With respect to foraging, most of the tall ruderal and farmland margins will be removed during operations. The proposals include the creation of green infrastructure which will incorporate areas of rough grassland, scrub and tall ruderal suitable for breeding linnet.

Yellowhammer

- F.6.15 Evidence of breeding yellowhammer was noted on site with a pair seen carrying food on the western side of the site. Yellowhammer breeds in areas of grassland and arable fields with hedgerows and banks, commons and heaths. During winter uses stubble fields, fields with winter fodder crops and other places where spilt grain is left. Reasons for the recent decline of this species mirror that of other farmland birds; including loss of winter stubble fields, use of herbicides and insecticides, loss of hedgerows and severe hedgerow management depriving them of safe nest sites.

- F.6.16 The majority of hedgerows on site are to be retained, however the arable compartments will be lost during the site operations and therefore the magnitude of habitat loss for this species can be considered as partial. The impact of this change on the yellowhammer is considered to be low as this species was seen in good numbers but there had only been one breeding pair seen at the site. The proposed green infrastructure will retain the majority of existing hedgerows and incorporate generous native tree/shrub, hedgerow and grassland planting areas; also, ample suitable arable foraging grounds exist outside the site boundaries, which yellowhammers should continue to utilise.

Other Species

- F.6.17 Many of the other species recorded would use areas of the site for breeding and foraging, particularly areas of scrub, unmanaged grassland, ruderal vegetation and woodland edge. However, the majority of the site is intensively managed

farmland which provides fewer opportunities for breeding and foraging, except for the specialist farmland species (as discussed previously); there are also areas of suitable nesting and foraging habitats adjacent to and along the site boundaries.

F.6.18 Although part of the site is to be allocated to green infrastructure creating potential breeding habitat and enhancing existing areas, some areas would be of limited value for some bird species (e.g. amenity grassland and residential areas) although these will benefit other more urban UK BAP species such as house sparrow and starling. Furthermore, disturbance is likely to increase as a result of increased recreational use from residential development.