

LINDHURST
MANSFIELD

APPENDIX 6.H WINTER BIRD SURVEY

CONTENTS

- H.1 INTRODUCTION
- H.2 LEGISLATION
- H.3 SURVEY METHODOLOGY
- H.4 RESULTS
- H.5 INTERPRETATION OF RESULTS
- H.6 DISCUSSION AND EVALUATION
- H.7 CONCLUSION

FIGURES

- 6H.1 WINTERING BIRD SURVEYS 2008/09 – LOCATIONS OF NOTABLE SPECIES

APPENDIX

- H i WINTERING BIRD SURVEY DATA

H.1 INTRODUCTION

H.1.1 This report provides details of wintering bird surveys undertaken at Lindhurst, Mansfield during the winter period 2008/09, and provides an assessment of the importance of the site for overwintering avifauna. This report is provided as a supplementary report to the main ecology section of the Environmental Statement.

H.1.2 The 169.3ha site comprises two distinct areas of land, bisected into northern and southern compartments by the Mansfield Southern Bypass, known as Sherwood Way (A617).

H.1.3 The site (central grid ref: SK 570580) is bordered by the urban fringe of Mansfield to the north; the A60 Mansfield – Nottingham road to the west and the A6191 to the east. The south-western boundary of the site is bordered by Harlow Wood Site of Interest for Nature Conservation (SINC) and Rainworth Lakes Site of Special Scientific Interest (SSSI) lies approximately 300m south of the site at its eastern extent.

H.1.4 The site comprises field compartments of principally intensively managed arable farmland divided by native hedgerows and post & wire fencing with occasional pockets of plantation woodland, groups of trees and several buildings. Fir's Farm, a pig farm, lies centrally within the northern half of the site. Areas of species poor semi-improved grassland are present in the north-western and southern sections of the site where they are cropped for hay. Immature mixed plantation lines the cutting of Sherwood Way, along which four flood attenuation balancing facilities are also spaced.

H.2 LEGISLATION

H.2.1 The Wildlife and Countryside Act 1981 (*as amended*) is the principle legislation affording protection to all wild birds in the UK. Furthermore, species listed on Schedule 1, Part 1 of the Act are protected by special penalties at all times.

H.2.2 In addition to statutory protection, some bird species are classified according to their conservation status. This includes their position on the Red and Amber lists of Birds of Conservation Concern (BoCC) in the UK (Eaton *et al*, 2009), and whether they have been identified as Priority Species on the UK Biodiversity Action Plan (UKBAP) and/or Nottinghamshire Local Biodiversity Action Plan

(LBAP). The Biodiversity Action Plan is a government initiative, which aims to achieve the recovery of the UK's most threatened species and habitats.

H.2.3 Red list species are those that are Globally Threatened according to IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown a substantial recent recovery.

H.2.4 Amber list species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations (Eaton *et al*, 2009).

H.2.5 Further to the above criteria, 'The Nottinghamshire Birdwatchers' have highlighted birds within the county whose status is a cause for concern to the county's conservationists. These species are listed as 'Nottinghamshire Birds of Conservation Concern' (NBoCC).

H.3 **METHODOLOGY**

H.3.1 The survey methodology employed was broadly based on that as used for the British Trust for Ornithology (BTO) Common Bird Census (CBC). All birds heard and/or seen were noted, using standard BTO species codes and symbols where appropriate. Four winter bird surveys were undertaken between November 2008 and February 2009:

| Survey | Date | Conditions |
|--------|--------------------------------|--|
| 1 | 21 st November 2008 | 4°C, breezy, bright. |
| 2 | 5 th December 2008 | Light breeze, dry, 60% cloud cover |
| 3 | 6 th January 2009 | 0°C, no wind or rain, 5% cloud cover |
| 4 | 13 th February 2009 | Dry, bright. 4 inches of snow on ground. |

H.3.2 The site was walked in a one day period by 2 experienced ecologists. Surveys were carried out between 09.00 and 15.00. 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, areas of scrub and woodland.

H.4 RESULTS (refer to Appendix li and Figure 6.I.1)

H.4.1 A total of 36 bird species were recorded during the winter bird surveys; these are listed in Appendix 6I.1, and Fig 6I.1 shows the notable species recorded around the site.

H.5 INTERPRETATION OF RESULTS

H.5.1 Of the 36 species recorded, 18 are either protected under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended); appear on the RSPB BoCC Red or Amber lists; are listed as UK BAP priority species; or are listed on the Nottinghamshire BoCC (NBoCC). No Nottinghamshire Local BAP species were recorded. The notable species are summarised in Table 6I.1, and shown graphically in Figure 6I.1.

Table 6H.1 Summary of Notable Species Recorded during Winter Bird Surveys

| Species | Max No. | No. of Occasions Recorded | Conservation status | | | Notts SINC Criteria | |
|-------------------|------------|---------------------------|---------------------|--------|------------|----------------------|-------------------|
| | | | UK BoCC Status | UK BAP | Notts BoCC | Wintering Bird Score | Habitat(s) |
| Black-headed gull | 10 | 3 | Amber | - | ✓ | - | - |
| Bullfinch | 3 | 4 | Amber | ✓ | ✓ | - | - |
| Dunnock | 8 | 4 | Amber | ✓ | ✓ | - | - |
| Fieldfare* | 25 | 4 | Red | - | - | - | - |
| House sparrow | 4 colonies | 4 | Red | ✓ | ✓ | - | - |
| Kestrel | 4 | 3 | Amber | - | ✓ | 3 | grassland |
| Lapwing | 8 | 1 | Red | ✓ | ✓ | 2 | grassland |
| Meadow pipit | 82 | 4 | Amber | - | ✓ | - | - |
| Mistle thrush | 12 | 3 | Amber | - | ✓ | - | - |
| Redwing* | 11 | 3 | Red | - | - | - | - |
| Reed bunting | 3 | 2 | Amber | ✓ | ✓ | 4 | grassland / scrub |
| Skylark | 12 | 2 | Red | ✓ | ✓ | - | - |
| Song thrush | 3 | 2 | Red | ✓ | ✓ | - | - |
| Starling | 215 | 4 | Red | ✓ | ✓ | 3 | grassland |
| Yellowhammer | 43 | 3 | Red | ✓ | ✓ | 3 | grassland / scrub |

* Schedule 1 species (refer to paragraph H.6.4).

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

Criteria:

| Habitat | On Site Assemblage Score | Threshold Value |
|-----------|--------------------------|-----------------|
| Grassland | 0 | 15 |
| Scrub | 0 | 11 |

H.6 DISCUSSION AND EVALUATION

H.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.

H.6.2 For each species the impact of 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 BoCC Red and Amber lists, UK and Local BAP Priority Species. The level of impact varies between species and location but the following table explains the criteria for descending levels of impact.

Table 6H.3. Sensitivity of species based on current guidance and legislation

| Nature Conservation Criteria | Sensitivity |
|--|---------------|
| Species which form the cited interest of SPAs and SSSIs. Non-cited species which 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. 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. 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 interest not covered above, e.g. species listed on the BoCC Red or Amber lists. | Low |

[†] With the exception of a few species, estimates of regional population size are usually unavailable and thus the likelihood of a species occurring in regionally important numbers is based on each species’ ecological requirements, breeding range, the availability of on site habitat, consultation and extrapolation from national population estimates.

- H.6.3 Using the criteria above in Table 6I.3, none of the species recorded on site during the winter would qualify as those which may have a high sensitivity to the impacts of the proposed development.
- H.6.4 Two species recorded on site, fieldfare and redwing are Schedule 1 species. However, the designation relates to their status as rare breeding birds and not for their wintering numbers in this country. Fieldfares breed in single numbers in the UK and those that do tend to choose mature birch woods, moorland valleys and established plantation edges as suitable breeding grounds. Redwings also breed in low numbers in the UK, exclusively in Scotland. Neither species were recorded on site outside of the winter surveys, so there is no constraint to development from their presence as a winter visitor.
- H.6.5 None of the winter bird assemblages on the relevant site habitats - grassland and scrub - meet the minimum threshold requirements for SINC selection in Nottinghamshire. In both cases the assemblage score for the site is zero, as none of the species identified as SINC selection qualifiers (kestrel, lapwing, reed bunting, starling and yellowhammer for grassland and reed bunting and yellowhammer for scrub) were found within the small amounts of grassland or scrub habitats available on site.
- H.6.6 A total of nine UK BAP Priority Species were recorded (bullfinch, dunnock, house sparrow, lapwing, reed bunting, skylark, song thrush, starling and yellowhammer) and, in accordance with table 6I.2 above, it is these which are arguably most susceptible to the impacts of development. The habitat requirements, status, site suitability and considered level of impact on these species are summarised in Table 6I.4.

Table 6H.4: Impact of Development on UK BAP Species Recorded on Site in Winter

| Species | Habitat requirements | Suitability of Site | County Status [†] | Predicted Habitat Loss | Impact [‡] |
|---------------|---|---|--|--|---------------------|
| Bullfinch | Thick woodland undergrowth, shrubby areas, thick hedges, scrub. Adults are vegetarian but feed young on plant material and invertebrates. | Associated with hedgerows and trees on site. Also adjacent SSSI and woodland edges. | Relatively common resident. | Majority of trees and hedgerows to be retained. Minor loss of scrub. | Low |
| Dunnock | Wide variety habitats including gardens, low thick scrub, bramble, farmland hedges, conifer and deciduous woodland. Ground feeders of invertebrates, berries, seeds and grain. | Mainly associated with the hedgerows and with dense scrub vegetation. Widespread across site. | Very common. | Majority of trees and hedgerows to be retained. Minor loss of scrub. | Low |
| House sparrow | Cultivated land near houses and other buildings including parks, gardens and farms. Feeds mainly on seeds, young are fed on invertebrates. | Most suitable areas are where site borders residential areas, gardens and farms on and adjacent to site. Up to 4 colonies recorded along northern site boundary and Fir's Farm. | 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 | Large open, arable fields on site are suitable lapwing winter foraging and loafing grounds. 8 birds were recorded on southwest-most arable field on a single occasion. | Common resident, passage migrant and winter visitor. Winter flocks of 100+ are frequent in Notts. | Total loss of arable compartments within site. | Low |
| Reed bunting | Farmland especially oil-seed rape, ditches, forestry plantations, reedbeds and riparian habitats. Eats mainly seeds and invertebrates in summer, young are also fed on invertebrates. | Arable fields, particularly weedy and stubble fields are potential winter foraging grounds. 3 birds recorded in arable fields at south of site. | Fairly 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 plants and invertebrates. | Arable fields, particularly weedy and stubble fields are potential winter foraging grounds. Max of 12 birds recorded scattered throughout site. | Common and widespread resident. Several winter | Total loss of arable and grassland compartments | Low |

| Species | Habitat requirements | Suitability of Site | County Status [†] | Predicted Habitat Loss | Impact [‡] |
|--------------|---|---|--|---|---------------------|
| | | | flocks of 40+ recorded in Notts in 2007. | | |
| 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 | Trees and hedgerows across site are suitable foraging and roosting areas. Surrounding off site habitat would also provide a suitable resource. Maximum of 3 birds recorded in January along hedgerows. | 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 | Arable fields, particularly weedy and stubble fields are potential winter foraging grounds. Trees and buildings across site offer suitable roosting areas. Up to 215 birds recorded foraging near Lindhurst Farm along southern boundary. | Common resident Winter flocks in low thousands are not uncommon in Notts. | 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. | Arable fields, particularly weedy and stubble fields are potential winter foraging grounds. Trees and hedgerows across site are suitable foraging and roosting areas. Up to 30 birds recorded in a flock on arable field north of A617. | Common resident Six flocks of 40+ recorded in 2007. | Majority of hedgerows to be retained. Loss of arable compartments | Medium |

[‡] 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.*

Predicted Effects and their Significance

H.6.7 Works within the site area is 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.
- 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 (GI) proposals with increased habitat opportunities for some species.

H.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.

H.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 to 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.

H.6.10 Other possible effects to the most sensitive species that were wintering within the site boundary are considered in more detail in the following sub-section.

Species Specific Effects

Yellowhammer (Red-listed, UK BAP & Notts BoCC).

H.6.11 Up to 43 yellowhammers were recorded across the site, associated with arable fields and their margins. During winter yellowhammers use stubble fields, fields with winter fodder crops and other places where spilt grain is left. The recent decline of this species mirrors that of other farmland birds, and declines can be attributed to loss of winter stubble fields, use of herbicides and insecticides, loss of hedgerows and severe hedgerow management depriving them of safe nest sites.

H.6.12 All the suitable farmland for this species will be lost during the site operations and therefore the magnitude of change for this species can be considered to be high. However, the impact of this change on the yellowhammer is considered to be medium as this species was observed mostly in small flocks around the site (the exception being one recording of 30 birds north of the A617 in January). The proposals contained within the masterplan include areas of GI which will incorporate tree/shrub, hedgerow and grassland planting areas and appropriate habitat management.

Meadow pipit (Amber-listed, Notts BoCC).

H.6.13 Meadow pipits are largely insectivorous, though in the winter will take seeds. As with yellowhammers, meadow pipits exploit stubble fields, fields with fodder crops and other places where spilt grain occurs during the winter.

H.6.14 A large flock of up to 80 meadow pipits was recorded on a stubble field just north of Harlow Wood in December. This is notable within Nottinghamshire, where only one larger flock of 90 birds was recorded in the far north of the county during the winter of 2007 and two large winter flocks of 140 and 80 birds (at Gringley Carr and Clifton respectively) were recorded in 2006 (Notts Bird Reports, 2006 & 2007).

H.6.15 The flock recorded in December appeared to have moved on to an alternative foraging site by January, when only 5 birds were recorded across the whole site, followed by 20 individuals recorded in February. The magnitude of change for this wintering species can be considered to be high due to the total loss of wintering foraging farmland, though this will be mitigated for somewhat by the incorporation of grassland into the GI. Meadow pipits breed in a wide variety of open habitats including moorland, meadows and forest clearings, and so the site is likely to currently be more significant for this species as a winter food resource than a breeding ground. The impact of change to wintering meadow pipits is considered to be medium due to their variable abundance on site, with a high count only recorded during one of the four survey months.

Other Species

H.6.16 Many of the other species recorded would use areas of the site for winter foraging and roosting, particularly areas of scrub, rank grassland, ruderal vegetation, reedbed and woodland edge. However, a majority of the site is intensive farmland which provides fewer opportunities, except for the specialist

farmland species (as discussed previously); there are also areas of suitable roosting and foraging habitats adjacent to or along the site boundary.

H.6.17 Although part of the site is to be allocated to GI, creating potential wintering habitat and enhancing existing areas, some areas would be of limited value for some bird species (e.g. amenity grassland) although these can benefit other more urban species. Furthermore, disturbance is likely to increase as a result of increased recreational usage from residential development.

H.7 CONCLUSION

H.7.1 In general, the majority of the birds recorded, including the Red list and UK BAP species, are common and widespread in the UK and Nottinghamshire, and the assemblage is largely typical of mixed arable and grassland habitats. Areas of the site (e.g. woodland edge, reedbed, scrub and grassland) do all provide nesting and foraging opportunities for many of the species recorded. However, much of the site is intensive arable which is of limited value to all but specialist farmland species.

H.7.2 It is concluded that the proposed development would potentially adversely affect bird species through temporary and permanent loss of habitat, disturbance during the construction phase, and increased post-construction disturbance relative to the present situation. However, such affects would be marginally offset by the implementation of a Green Infrastructure strategy and the sympathetic management of existing and newly created habitats, which would increase habitat opportunities for some species.