

## **Great North Road Solar and Biodiversity Park**

Environmental Statement

Volume 4 – Technical Appendices

Technical Appendix A8.4 – Breeding Birds Baseline

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## A8.4.1 INTRODUCTION

### A8.4.1.1 INTRODUCTION

- 1 This Technical Appendix (TA) presents the methods and results of baseline studies of breeding birds in relation to the Great North Road Solar and Biodiversity Park (the Development).
- 2 The scope of the studies has been determined through a combination of a Preliminary Ecological Appraisal (PEA), comprising a desk study and site walkover, and professional judgement with reference to prevailing good practice.
- 3 This TA includes no valuation or assessment of potential effects. These aspects are presented in the Chapter 8: Ecology and Biodiversity [EN010162/APP/6.2.8] of the Environmental Statement (ES).
- 4 This TA is supported by the following appendices:
  - Appendix A – Figures; and
  - Appendix B – Conservation and Legal Status of Recorded Bird Species.

### A8.4.1.2 LEGISLATION AND POLICY

#### A8.4.1.2.1 Legislation

- 5 Annex I of the EU Birds Directive<sup>1</sup> is a list of birds that are the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. This Directive is transposed into English law through the Conservation of Habitats and Species Regulations 2017<sup>2</sup> (as amended).
- 6 The Wildlife and Countryside Act 1981<sup>3</sup> (as amended) makes it an offence to intentionally kill, injure or take any wild bird, or take or destroy their eggs or nest, or damage a nest, while that nest is in use or being built. Birds listed in Schedule 1 of the Act are afforded a higher level of protection making it an offence to intentionally or recklessly disturb a bird when it is at, on or near an active nest site.
- 7 The Natural Environment and Rural Communities (NERC) Act 2006<sup>4</sup> includes a list of priority habitats and species in England for public bodies, landowners and funders to use for biodiversity consideration and conservation.

#### A8.4.1.2.2 Conservation Status

- 8 The Birds of Conservation Concern [BoCC] 5<sup>5</sup> assessed 245 species with breeding, passage or wintering populations in the UK and assigned each to

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<sup>1</sup> Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009L0147> [accessed on 22/05/2025]

<sup>2</sup> Available at: <https://www.legislation.gov.uk/ukxi/2017/1012/contents> [accessed on 22/05/2025]

<sup>3</sup> Available at: <https://www.legislation.gov.uk/ukpga/1981/69> [accessed 22/05/2025]

<sup>4</sup> Available at: <https://www.legislation.gov.uk/ukpga/2006/16/section/40> [accessed on 22/05/2025]

<sup>5</sup> Stanbury, A. J., *et al.* (2021). The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds* 114:723–747

the Green, Amber or Red Lists of conservation concern to indicate an increasing level of conservation concern.

- 9 The Nottinghamshire Local Biodiversity Action Plan (LBAP)<sup>6</sup> lists species considered to be of conservation concern in the region and includes Species Action Plans (SAPs) detailing specific requirements for their conservation.
- 10 The Nottinghamshire Birds of Conservation Concern (NBoCC)<sup>7</sup> highlights species that require special monitoring or are priorities for conservation activity. The NBoCC includes 88 species, many of which are national BoCC and all of which are priorities in the LBAP.
- 11 The legal and conservation status of the bird species recorded are summarised in Appendix B.

#### **A8.4.1.2.3 Local Wildlife Site Selection**

- 12 The LWS selection handbook<sup>Error! Bookmark not defined.</sup> states that “*Regular presence in relation to over wintering (during the period November to March inclusive) should again involve species being recorded at least three times in the previous five years for which data is available, or where it can be evidenced that a site is traditionally used in the longer term (for example in periods of extreme weather). Within any winter period, a species must have additionally been recorded in at least two of the five relevant months*”.
- 13 The survey data were collected over a single season for the majority of the Study Area, therefore regular site usage cannot be demonstrated and the LWS selection criteria are not readily applicable.
- 14 Moreover, in relation to what constitutes a potential LWS the guidance states “*Some sites, such as arable farmland where the bird interest changes from field to field over time, are not suitable to be LWSs. Consequently, arable farmland has not been included in the selection criteria for habitat-based LWSs for breeding or wintering birds*”.
- 15 A large proportion of the Order Limits comprise arable land and so the LWS selection criteria are not readily applicable to the survey data.

#### **A8.4.1.3 SPECIES NOMENCLATURE**

- 16 Bird species are typically listed in taxonomic order following the British List<sup>8</sup>. However, for ease of reference and accessibility, species, where listed, are ordered alphabetically by common/vernacular name in this TA. To further aid reference, only the common name is used in the main text of this TA. Full common and scientific names are provided in Appendix B.

#### **A8.4.1.4 AIMS AND OBJECTIVES**

- 17 The aim of the study is to provide a robust baseline against which the effects of the Development will be assessed. A combination of desk study and field

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<sup>6</sup> Nottinghamshire Biodiversity Action Group (2008). *Local Biodiversity Action Plan*. Available at: <https://nottsbg.org.uk/lbap/lbap-introduction-and-sections-1-to-6/> [accessed on 22/05/2025]

<sup>7</sup> Nottinghamshire Birdwatchers (2016). *Nottinghamshire's Birds of Conservation Concern*.

<sup>8</sup> British Ornithologists' Union (2022). *The British List: A Checklist of Birds of Britain* (10<sup>th</sup> edition). Ibis 164: 860–910.

surveys have been undertaken to meet this aim by addressing the following objectives:

- Determine the suitability of habitats to support breeding birds; and
- Confirm the breeding status and territory locations of birds.

#### **A8.4.1.5 STUDY AREA**

- 18 The Study Area for surveys included all land within the Order Limits and, where accessible, adjacent habitats within 100 m (Figure A8.4.1).

### **A8.4.2 METHODS**

#### **A8.4.2.1 DESK STUDY**

- 19 A desk study was undertaken to assess the landscape and habitat characteristics and to obtain pre-existing ecological information relevant to the assessment. The desk study comprised:
- An assessment of aerial imagery and Ordnance Survey mapping;
  - A request to the Local Record Centre (LRC) for records of non-statutory designated sites and protected and priority habitats and species from within 2 km of the Order Limits;
  - British Trust for Ornithology (BTO) Data Report<sup>9</sup>;
  - Local barn owl specialist recorder;
  - The Birds of Nottinghamshire<sup>10</sup>;
  - The Birds of Nottinghamshire Annual Report for 2021<sup>11</sup>; and
  - Barn Owl nest box records<sup>12</sup>.

#### **A8.4.2.2 SURVEY**

- 20 Surveys were undertaken in March–July 2022, March–July 2023 and March–July 2024 (Table A8.4.1), with one nocturnal survey in June 2024. Targeted and species-specific surveys were undertaken based on observations from the general BBS.
- 21 Surveys for raptor species included a series of watching briefs carried out from vantage points overlooking suitable habitat in March 2022 and June 2024 (Table A8.4.1). Surveys of features and habitats with potential to support nesting Barn Owl and Kingfisher have also been incorporated into the surveys.

**Table A8.4.1: Breeding Bird Survey Dates**

Year	Visit	Date
2022	Raptor	10/03/2022 – 11/03/2022
	1	18/03/2022 – 31/03/2022
	2	06/04/2022 – 25/04/2022

<sup>9</sup> BTO (2024). GNRS Data Report.

<sup>10</sup> Reece, J., Crouch, N., Parkin, D., du Feu, C. and Ellis, B. (2019). *The Birds of Nottinghamshire*. Liverpool University Press.

<sup>11</sup> Nottinghamshire Birdwatchers (2025). *The Birds of Nottinghamshire Annual Report for 2021*. Volume 79.

<sup>12</sup> Barn Owl nest box locations (2003–2024) – Barn Owl Specialist Ringer.

Year	Visit	Date
	3	05/05/2022 – 25/05/2022
	4	09/06/2022 – 28/06/2022
2023	1	04/04/2023 – 06/04/2023
	2	02/05/2023 – 04/05/2023
	3	06/06/2023 – 08/06/2023
	4	05/07/2023 – 07/07/2023
2024	Raptor	10/06/2024 – 13/06/2024
	1	08/04/2024 – 12/04/2024
	2	21/05/2024 – 24/05/2024
	3	03/06/2024 – 07/06/2024
	4	02/07/2024 – 04/07/2024

- 22 Surveys were designed and initiated in 2022 and were in line with the prevailing standards of the time. Due to ongoing changes to the Order Limits since the start of surveys, the Study Area has been modified accordingly which has necessitated the exclusion of earlier survey areas (now falling outside the Order Limits) and the inclusion of new survey areas (now included in the Order Limits). The surveys in each season covered different core areas, although their buffers may have overlapped. The survey methods have remained consistent in all areas and time periods.
- 23 Surveys are based on good practice guidelines<sup>13</sup> and have been adapted to the habitats and the large scale of the Development. The Study Area has been divided into sections, each of which could be surveyed by one surveyor per visit. A transect was walked in each section between approximately sunrise and late-morning, in appropriate weather, during which surveyors recorded species, including behavioural observations indicative of breeding. Survey effort focused on the habitats of the field margins, with open habitats searched through binoculars, if necessary. This is considered the most appropriate method for the predominantly lowland farmland habitats and the associated bird community.
- 24 Each transect was surveyed four times between the months of March and July. Four visits are considered sufficient to accurately sample the farmland habitats across such a large Study Area and in which the open nature of the habitats facilitates a high detection of key species. Additionally, this number of visits is equivalent to, or exceeds, the recommendations<sup>14</sup> for species-specific surveys for farmland bird species such as skylark, lapwing and yellow wagtail.

<sup>13</sup> Bird Survey & Assessment Steering Group (2022). *Bird Survey Guidelines for Assessing Ecological Impacts*, v.0.1.6. [May 2022] Available at: <https://birdsurveyguidelines.org> [accessed on 22/05/2025]

<sup>14</sup> Gilbert, G., Gibbons, D. W. and Evans, J. (1998). *Bird Monitoring Methods*.

### A8.4.2.3 ANALYSIS

- 25 Data analysis has focused on identifying the breeding territory locations of bird species of conservation concern which include species included in any of the following:
- Annex I of the EU Birds Directive;
  - Schedule 1 of the Wildlife and Countryside Act 1981;
  - Section 41 of the NERC Act 2006;
  - Red and Amber lists of the Birds of Conservation Concern<sup>515</sup>;
  - Nottinghamshire LBAP; and
  - Nottinghamshire Birds of Conservation Concern.
- 26 The mapped observations from the four surveys in any one season were collated and, from these, the location or central point of breeding territories was identified. For the purpose of this TA, no distinction has been made between 'Probable' and 'Confirmed' breeding, as is typically done for more general breeding bird surveys: all such observations are considered to be breeding. Furthermore, observations of birds holding territory, but without evidence to confirm breeding, have been considered to be breeding. These assumptions provide a precautionary approach and help to simplify interpretation.
- 27 If a species was not recorded as displaying breeding behaviour, the potential for the species to be breeding was determined on the basis of the suitability of habitats and the ecology of the species.
- 28 As a result of the BBS being carried out over three breeding seasons, there is the potential for birds/territories to be double counted in areas where their survey area buffers overlap. To minimise potential over-counting of territories, final territories from each season are overlaid and any territories that overlap considerably between the two seasons are considered to be the same territory.
- 29 The central locations of territories or confirmed nest sites of Schedule-1 species are shown in confidential TA 8.11 Schedule-1 Breeding Birds Baseline [EN010162/APP/6.4.8.11]. Analysis for these species incorporated anecdotal evidence of Schedule-1 species recorded during other ecological surveys. Locations of barn owl records the desk study<sup>12</sup> are shown in TA 8.11 but have not been included within the territory analysis calculation in this TA.

### A8.4.2.4 LIMITATIONS

- 30 It is generally preferable to carry out surveys of populations over a single complete season to reduce the effects of inter-annual changes in environmental conditions and populations. However, the Development design and the ecological surveys have progressed in an iterative manner with each informing the other. This ecologically sensitive design process has been important in helping to avoid and reduce potential adverse ecological effects and this would not have been possible without surveys over multiple seasons.

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<sup>15</sup> Due to their commonality and abundance during the survey period, Amber-listed Wren and Woodpigeon territories have not been included within the SoCC.



- 31 Surveying in a single season is itself not without limitations, such as being heavily influenced by anomalous conditions, particularly extreme weather and land use, which strongly influence results. Surveying over multiple seasons also offers a greater likelihood of observing scarce, secretive and irregularly or infrequently occurring species.
- 32 The surveys and precautionary analysis provide a baseline that is representative of local conditions and suitable to inform an assessment of potential effects.

## A8.4.3 RESULTS

### A8.4.3.1 DESK STUDY

- 33 NBGRC returned 12,341 recent (2015 onwards) records of 229 species within 2 km of the Order Limits, including 2,001 records of 52 Schedule-1 species, alongside a range of other species of conservation concern. Of these, 17 records occurred within the Order Limits comprising 14 species: Buzzard, Chiffchaff, Fieldfare, Great Spotted Woodpecker, Hobby, Jay, Kestrel, Lesser Spotted Woodpecker, Marsh Tit, Oystercatcher, Peregrine Falcon, Tawny Owl, and Willow Warbler.
- 34 The contemporary BTO data (2020–2024) returned records of 149 species within the vicinity of the Order Limits during the breeding period at a range of spatial resolutions. 68 species were recorded within the 1 km squares covered by the Order Limits (Table A8.4.2), including two Schedule-1 species (Barn Owl and Kingfisher), two Annex I species (Common Tern and Kingfisher) and 11 Red-list species (Greenfinch, Grey Partridge, House Martin, House Sparrow, Lapwing, Linnet, Marsh Tit, Mistle Thrush, Skylark, Swift and Yellowhammer).
- 35 The BTO search identified the breeding range of seven species as being notable on a national scale within the three 10 km squares spanned by the Order Limits: Egyptian Goose, Firecrest, Hawfinch, Tree Sparrow, Turtle Dove, Willow Tit, and Woodlark. Furthermore, the breeding abundances of 16 species were identified as notable: Garden Warbler, Goshawk, Hobby, Lesser Spotted Woodpecker, Long-eared Owl, Mandarin Duck, Nightjar, Tawny Owl, Treecreeper, Tree Pipit, Tree Sparrow, Turtle Dove, Willow Tit, Woodcock, Siskin, and Woodlark. The BTO search also identified species as having a notable breeding range and/or abundance at a variety of scales (Table A8.4.2).

**Table A8.4.2: BTO Species of Notable Breeding Range/Abundance**

Scale	Breeding Range/Abundance	Species
Regional	Range	Common Crossbill, Egyptian Goose, Firecrest, Goshawk, Hawfinch, Marsh Tit, Stonechat, Tree Pipit and Woodlark.
	Abundance	Coal Tit, Garden Warbler, Goshawk, Lesser Spotted Woodpecker, Long-eared Owl, Mandarin Duck, Marsh Tit, Nightjar, Nuthatch, Siskin, Stonechat, Tawny Owl, Treecreeper, Tree Pipit, Turtle Dove, Willow Tit, Woodcock and Woodlark.



Scale	Breeding Range/Abundance	Species
County	Breeding Range	Common Crossbill, Firecrest, Hawfinch, Lesser Redpoll, Redstart and Stonechat.
	Abundance	Garden Warbler, Goshawk, Lesser Redpoll, Lesser Spotted Woodpecker, Long-eared Owl, Mandarin Duck, Marsh Tit, Nightjar, Raven, Redstart, Siskin, Spotted Flycatcher, Stonechat, Tawny Owl, Tree Pipit, Woodcock and Woodlark.
Vice-county	Breeding Range	Common Crossbill, Firecrest, Hawfinch, Lesser Redpoll, Redstart and Stonechat.
	Abundance	Garden Warbler, Goshawk, Lesser Redpoll, Lesser Spotted Woodpecker, Long-eared Owl, Mandarin Duck, Marsh Tit, Nightjar, Raven, Redstart, Siskin, Spotted Flycatcher, Stonechat, Tawny Owl, Tree Pipit, Woodcock and Woodlark.

- 36 The BTO data included 37 breeding species identified as rare and scarce by the Rare Breeding Birds Panel within the vicinity of the Order Limits: Avocet, Bittern, Black-necked Grebe Black-tailed Godwit, Black-winged Stilt, Cattle Egret, Common Redpoll, Common Scoter, Crane, Fieldfare, Garganey, Goldeneye, Goshawk, Green Sandpiper, Hawfinch, Hobby, Honey-buzzard, Lesser Spotted Woodpecker, Little Egret, Little Ringed Plover, Long-eared Owl, Marsh Harrier, Merlin, Mute Swan, Peregrine, Pink-footed Goose, Pochard, Quail, Redwing, Spoonbill, Shoveler, Stone-Curlew, Turtle Dove, Wigeon, Willow Tit, and Woodlark.
- 37 The Birds of Nottinghamshire Annual Report for 2021 recorded a total of 117 species as having bred, attempted to breed or been suspected of breeding in Nottinghamshire during 2021. Twelve scarce or rare breeding species were reported: Shoveler, Common Pochard, Avocet, Common Redshank, Eurasian Bittern, Little Egret, Red Kite, Goshawk, Long-eared Owl, Lesser Spotted Woodpecker, Willow Tit, and Stonechat.
- 38 The Barn Owl desk study records<sup>12</sup> identified nine nest boxes within 500 m of the Order Limits, eight of which had confirmed sightings of Barn Owls between 2020 and 2024.
- 39 The desk study data have helped guide the scope of the surveys and provide context for interpreting results.

#### **A8.4.3.2 GENERAL SURVEY RESULTS**

- 40 The central locations of territories or confirmed nest sites of Red-listed species are shown in Figure A8.4.1 and Amber-listed species are shown in Figure A8.4.2. Green-listed species are not shown. Schedule-1 species territories are shown in confidential TA 8.11 Schedule-1 Breeding Birds Baseline [EN010162/APP/6.4.8.11].
- 41 A total of 844 territories of 40 SoCC were identified within the Order Limits and a further 412 territories outside the Order Limits, of which four territories within the Order Limits and eight territories outside the Order Limits were held by Schedule-1 species (Table A8.4.3). A further 17 SoCC were present

within the Order Limits but showed no evidence of breeding or holding territory (Table A8.4.4).

- 42 The species with the highest number of territories within the Order Limits included Skylark ( $n = 233$ ), Yellowhammer ( $n = 161$ ), Dunnock ( $n = 145$ ) and Whitethroat ( $n = 88$ ).
- 43 A total of 31 species not of conservation concern were recorded, many of which were considered likely to be breeding, but not in locally significant numbers (Table A8.4.5).
- 44 The three Schedule-1 species breeding or holding territory within the Order Limits were Hobby ( $n = 1$ ), Kingfisher ( $n = 2$ ), and Peregrine ( $n = 1$ ). Three Schedule-1 species were recorded holding territories within 100 m of the Order Limits: Barn Owl ( $n = 4$ ), Kingfisher ( $n = 2$ ) and Red Kite ( $n = 2$ ).
- 45 A further five Schedule-1 species identified as present but not breeding within the Order Limits: Brambling, Fieldfare, Firecrest, Redwing, and Whooper Swan. These species were considered to be overwintering birds that were recorded early in the breeding season prior to migrating to their breeding grounds outside the UK
- 46 No parts of the Study Area supported particularly notable assemblages, although areas with higher habitat heterogeneity typically supported more species.

### **A8.4.3.3 SPECIES-SPECIFIC RESULTS**

- 47 The territories of breeding species tend to display clear habitat associations which provide a helpful basis of categorisation and help facilitate a more focused assessment of the main effects of the Development.
- 48 From the 40 SoCC identified holding territory within the Study Area, the species can be categorised into four 'species groups' that allows for further assessment of the general importance of the Study Area for each group. The species are categorised on the basis of their behaviours and the habitats with which they are associated during the breeding season.

#### **A8.4.3.3.1 Waterbirds**

- 49 Nine breeding SoCC are categorised as waterbirds; Coot, Greylag Goose, Grey Wagtail, Kingfisher, Lapwing, Mallard, Moorhen, Oystercatcher and Snipe.
- 50 These species are generally associated with watercourses, waterbodies or wetlands but can also utilise open fields, such as those occurring within the Study Area, as nesting habitat.
- 51 Territories were largely concentrated along the eastern sections of the Study Area likely due to the proximity to the River Trent and the adjacent flooded gravel pits and lagoons.
- 52 Two Kingfisher territories were identified within the Order Limits with a further two outside. They were identified within waterbodies, becks and rivers with two in close proximity to the River Trent. Kingfishers suffered national population crashes in the 1970s but the breeding distribution of the species has increased over the last few decades within the county, with particular increases noted in the Trent Valley<sup>10</sup>. With the eastern area of the

Order Limits falling adjacent to the River Trent the number of Kingfisher territories identified is similar to what would be expected of the area.

- 53 Three Lapwing territories were identified within the Order Limits, all of which were identified to the east within 500 m of the River Trent within arable fields. Lapwings are the most common breeding wader in the county that has seen national declines in the 80's – 90's. Summer distribution of the species is widespread throughout the county<sup>10</sup> with peak counts of up to 26 breeding pairs across some Sites in 2020/21<sup>11</sup>. It is therefore considered that the number of species identified breeding across the survey period is similar to what would be expected.
- 54 A single Common Snipe probable breeding territory was identified within an agricultural field outside of the Order Limits. Snipe is now a rare breeding bird within the county due to increasingly intensive agriculture with peak June counts of between 4-8 birds across the county per year over the last decade<sup>10</sup>. The Snipe identified during the survey effort is therefore considered to be a rare occurrence.

#### **A8.4.3.3.2 Raptors and Owls**

- 55 Seven breeding SoCC are categorised as Raptors and Owls; Barn Owl, Hobby, Kestrel, Peregrine, Red Kite, Sparrowhawk, and Tawny Owl. See also TA 8.11 Schedule-1 Breeding Birds Baseline [EN010162/APP/6.4.8.11].
- 56 The majority of these species are associated with agricultural landscapes, typical of the Study Area, and nesting on or within taller features such as trees and man-made structures.
- 57 Four Barn Owl breeding territories were identified outside of the Order Limits, three of which were identified within active or disused barns and one in a nest boxes installed on a tree. The desk study returned records of an additional eight Barn Owl nest boxes that have been occupied in 2020–2024. Barn Owl is a fairly uncommon resident that has recently seen increasing success across the county<sup>10</sup>. There were 345 reports of Barn Owls across the county in 2021<sup>11</sup> and therefore the number of territories identified during the survey effort is similar to what would be expected of the area.
- 58 A single probable Hobby territory was identified in woodland in the north of the Order Limits. Hobby is an uncommon summer visitor that was predicted to have 78 breeding pairs spread throughout the county in 2007–11<sup>10</sup>. The number of territories identified within the survey effort is therefore consistent with what would be expected from the area.
- 59 A single confirmed Peregrine territory was identified on an electrical pylon in the north of the Order Limits. The species is an uncommon resident that has seen slight increases in breeding pairs across the county over the last two decades with an assumed 15 pairs in 203. The number of breeding territories within the Order Limits is similar to what would be expected for the region.

#### **A8.4.3.3.3 Open Farmland Birds**

- 60 Seven breeding SoCC are categorised as Open Farmland Birds; Corn Bunting, Grey Partridge, Meadow Pipit, Skylark, Starling, Swift and Yellow Wagtail.

- 61 During the breeding period, these species generally nest in open farmland habitats, while Swift often nest in buildings and cliffs but commonly forage over field habitats. The majority of the Study Area offers suitable habitat for these species in the form of open arable and pasture fields.
- 62 Three Corn Bunting territories were identified within the Order Limits, all located in arable fields in the north-west of the Study Area. Corn Bunting is a scarce resident in Nottinghamshire that saw huge national declines between 1970–2010. In 2013, there were only 10 singing males identified across the county<sup>10</sup>. The number of territories identified within the Order Limits is therefore considered to be important in the context of the population of Nottinghamshire.
- 63 11 Grey Partridge territories were identified in agricultural fields widely spread across the Order Limits. Grey Partridge is a fairly common resident in the Nottinghamshire area that has seen large national and local declines in recent decades as a result of changes in agricultural land use. For this reason, the species is listed as a local conservation concern. The species breeding distribution is fairly widespread across agricultural areas of the county, however it has been decreasing particularly in central and southern regions<sup>10</sup>. The number of territories identified within the Study Area is not uncharacteristic of the area but may be important in maintaining a stable distribution.
- 64 A total of 233 Skylark territories were identified within the Order Limits, spread fairly evenly across open field habitats at an estimated density of 0.13/ha. Skylark is a common resident in Nottinghamshire but, similarly to Grey Partridge, has undergone large national and local declines due to changes in agricultural practices over the last few decades. Breeding numbers in Nottinghamshire have shown a slight increase over the last decade with the summer distribution of the species covering 87% of the county<sup>10</sup>. The numbers of Skylark identified within the Order Limits is similar to what would be expected of the region.
- 65 A total of 13 Yellow Wagtail territories were identified within the Order Limits within an additional 11 in the wider Study Area. The territories were generally widespread; however, a particular hotspot was noted to the south-west of the Order Limits where six territories were identified within four fields in close proximity. Yellow Wagtail is a fairly common summer visitor in which populations have similarly nationally declined over the last few decades due to change in agricultural practices. The distribution of the species in Nottinghamshire has seen comparable decreases. The number of territories identified on Site is not uncharacteristic of the area but may be important in ensuring breeding distribution doesn't continue to decrease in Nottinghamshire.

#### **A8.4.3.3.4 Hedgerow and Tree Birds**

- 66 Seventeen breeding SoCC were categorised as Hedgerow and Tree Birds; Bullfinch, Dunnock, Greenfinch, House Sparrow, Linnet, Marsh Tit, Mistle Thrush, Raven, Reed Bunting, Rook, Sedge Warbler, Song Thrush, Stock Dove, Tree Sparrow, Whitethroat, and Yellowhammer.

- 67 During the breeding period, these species are generally associated with hedgerows, trees and woodland, habitats that are widespread but localised in the Study Area.
- 68 62 Linnet territories were identified within the Order Limits, with a further 22 in the wider Study Area. The territories were evenly distributed across hedgerows and treelines in the Order Limits with no notable hotpots. Linnets are a common resident in Nottinghamshire and widespread throughout the agricultural regions of the county<sup>10</sup>. The number of territories within the Order Limits is similar as to what would be expected of the area.
- 69 Two Tree Sparrow territories were identified within the Order Limits, both within trees in boundary hedgerows in the very western reaches of the Order Limits. Tree Sparrow are an uncommon and declining resident across the county but still have a fairly widespread distribution around the agricultural areas of Nottinghamshire<sup>10</sup>. The number of territories within the Order Limits is similar as to what would be expected of the area.
- 70 A total of 161 Yellowhammer territories were recorded across the Order Limits, fairly distributed across the agricultural areas. Yellowhammer is a fairly common resident and passage migrant to Nottinghamshire that has seen continued declines across the last two decades<sup>10</sup>. The number of territories identified on Site is not uncharacteristic of the area but may be important in maintaining a stable breeding distribution do.

**Table A8.4.3: SoCC Breeding Territories**

Common name	Scientific name	BTO Code	Legal & Conservation Status <sup>16</sup>	No. of territories	
				Within OL	Outside OL
Barn Owl	<i>Tyto alba</i>	BO	Sch1, LBAP	0	4
Bullfinch	<i>Pyrrhula pyrrhula</i>	BF	NERC, Amber, LBAP	3	7
Coot	<i>Fulica atra</i>	CO	LBAP	0	1
Corn Bunting	<i>Emberiza calandra</i>	CB	NERC, Red, LBAP	3	0
Dunnock	<i>Prunella modularis</i>	D.	NERC, Amber, LBAP	145	57
Greenfinch	<i>Carduelis chloris</i>	GR	Red	4	15
Grey Partridge	<i>Perdix perdix</i>	P.	NERC, Red, LBAP	11	3
Grey Wagtail	<i>Motacilla cinerea</i>	GL	Amber, LBAP	1	0
Greylag Goose	<i>Anser anser</i>	GJ	Amber	0	5
Hobby	<i>Falco subbuteo</i>	HY	Sch1, LBAP	1	0
House Sparrow	<i>Passer domesticus</i>	HS	NERC, Red, LBAP	3	22
Kestrel	<i>Falco tinnunculus</i>	K.	Amber, LBAP	7	4
Kingfisher	<i>Alcedo atthis</i>	KF	Annex I, Sch1, LBAP	2	2
Lapwing	<i>Vanellus vanellus</i>	L.	NERC, Red, LBAP	3	2
Linnet	<i>Carduelis cannabina</i>	LI	NERC, Red, LBAP	62	22
Mallard	<i>Anas platyrhynchos</i>	MA	Amber, LBAP	7	4
Marsh Tit	<i>Poecile palustris</i>	MT	NERC, Red, LBAP	0	3
Meadow Pipit	<i>Anthus pratensis</i>	MP	Amber, LBAP	2	1

<sup>16</sup> See Appendix B for definitions



Common name	Scientific name	BTO Code	Legal & Conservation Status <sup>16</sup>	No. of territories	
				Within OL	Outside OL
Mistle Thrush	<i>Turdus viscivorus</i>	M.	Red, LBAP	4	1
Moorhen	<i>Gallinula chloropus</i>	MH	Amber	0	5
Oystercatcher	<i>Haematopus ostralegus</i>	OC	Amber, LBAP	0	1
Peregrine	<i>Falco peregrinus</i>	PE	Annex I, Sch1, LBAP	1	0
Raven	<i>Corvus corax</i>	RN	LBAP	1	0
Red Kite	<i>Milvus milvus</i>	KT	Annex I, Sch1, LBAP	0	2
Reed Bunting	<i>Emberiza schoeniclus</i>	RB	NERC, Amber, LBAP	48	9
Rook	<i>Corvus frugilegus</i>	RO	Amber	2	1
Sedge Warbler	<i>Acrocephalus schoenobaenus</i>	SW	Amber	2	1
Skylark	<i>Alauda arvensis</i>	S.	NERC, Red, LBAP	233	91
Snipe	<i>Gallinago gallinago</i>	SN	Amber, LBAP	0	1
Song Thrush	<i>Turdus philomelos</i>	ST	NERC, Amber, LBAP	20	55
Sparrowhawk	<i>Accipiter nisus</i>	SH	Amber, LBAP	3	2
Starling	<i>Sturnus vulgaris</i>	SG	NERC, Red, LBAP	2	0
Stock Dove	<i>Columba oenas</i>	SD	Amber, LBAP	5	9
Swift	<i>Apus apus</i>	SI	Red, LBAP	0	1
Tawny Owl	<i>Strix aluco</i>	TO	Amber, LBAP	1	2
Tree Sparrow	<i>Passer montanus</i>	TS	NERC, Red, LBAP	2	0
Whitethroat	<i>Sylvia communis</i>	WH	Amber	88	30
Willow Warbler	<i>Phylloscopus trochilus</i>	WW	Amber, LBAP	4	2



Common name	Scientific name	BTO Code	Legal & Conservation Status <sup>16</sup>	No. of territories	
				Within OL	Outside OL
Yellow Wagtail	<i>Motacilla flava</i>	YW	NERC, Red, LBAP	13	11
Yellowhammer	<i>Emberiza citrinella</i>	Y.	NERC, Red, LBAP	161	36
<b>TOTAL</b>				<b>844</b>	<b>412</b>

**Table A8.4.4: Non-breeding SoCC**

Species	Scientific Name	BTO Code	Legal & Conservation Status <sup>16</sup>
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	BH	Amber, LBAP
Brambling	<i>Fringilla montifringilla</i>	BL	Sch1
Common Gull	<i>Larus canus</i>	CM	Red
Curlew	<i>Numenius arquata</i>	CU	NERC, Red, LBAP
Fieldfare	<i>Turdus pilaris</i>	FF	Sch1, Red
Firecrest	<i>Regulus ignicapilla</i>	FC	Sch1
Great Black-backed Gull	<i>Larus marinus</i>	GB	Amber
Grey Heron	<i>Ardea cinerea</i>	H.	LBAP
Herring Gull	<i>Larus argentatus</i>	HG	NERC, Red
Lesser Black-backed Gull	<i>Larus fuscus</i>	LB	Amber, LBAP
Little Egret	<i>Egretta garzetta</i>	ET	Annex I, LBAP
Mute Swan	<i>Cygnus olor</i>	MS	LBAP
Redwing	<i>Turdus iliacus</i>	RE	Sch1, Red
Spotted Flycatcher	<i>Muscicapa striata</i>	SF	NERC, Red, LBAP
Wheatear	<i>Oenanthe oenanthe</i>	W.	Amber
Whooper Swan	<i>Cygnus cygnus</i>	WS	Annex I, Sch1, Amber, LBAP
Woodcock	<i>Scolopax rusticola</i>	WK	Red, LBAP

**Table A8.4.5: Species Not of Conservation Concern**

Common name	Scientific Name
Blackbird	<i>Turdus merula</i>
Blackcap	<i>Sylvia atricapilla</i>
Blue Tit	<i>Cyanistes caeruleus</i>
Buzzard	<i>Buteo buteo</i>
Carrion Crow	<i>Corvus corone</i>
Chaffinch	<i>Fringilla coelebs</i>
Chiffchaff	<i>Phylloscopus collybita</i>
Coal Tit	<i>Parus ater</i>
Collared Dove	<i>Streptopelia decaocto</i>
Cormorant	<i>Phalacrocorax carbo</i>
Garden Warbler	<i>Sylvia borin</i>
Goldcrest	<i>Regulus regulus</i>
Goldfinch	<i>Carduelis carduelis</i>
Great Spotted Woodpecker	<i>Dendrocopos major</i>
Great Tit	<i>Parus major</i>
Green Woodpecker	<i>Picus viridis</i>
Jackdaw	<i>Corvus monedula</i>
Jay	<i>Garrulus glandarius</i>
Lesser Whitethroat	<i>Curruca curruca</i>
Long-tailed Tit	<i>Aegithalos caudatus</i>
Magpie	<i>Pica pica</i>
Nuthatch	<i>Sitta europaea</i>
Pheasant	<i>Phasianus colchicus</i>
Pied Wagtail	<i>Motacilla alba</i>
Red-legged Partridge	<i>Alectoris rufa</i>
Robin	<i>Erithacus rubecula</i>
Swallow	<i>Hirundo rustica</i>
Treecreeper	<i>Certhia familiaris</i>
Tufted Duck	<i>Aythya fuligula</i>
Woodpigeon	<i>Columba palumbus</i>
Wren	<i>Troglodytes troglodytes</i>

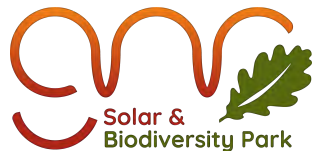
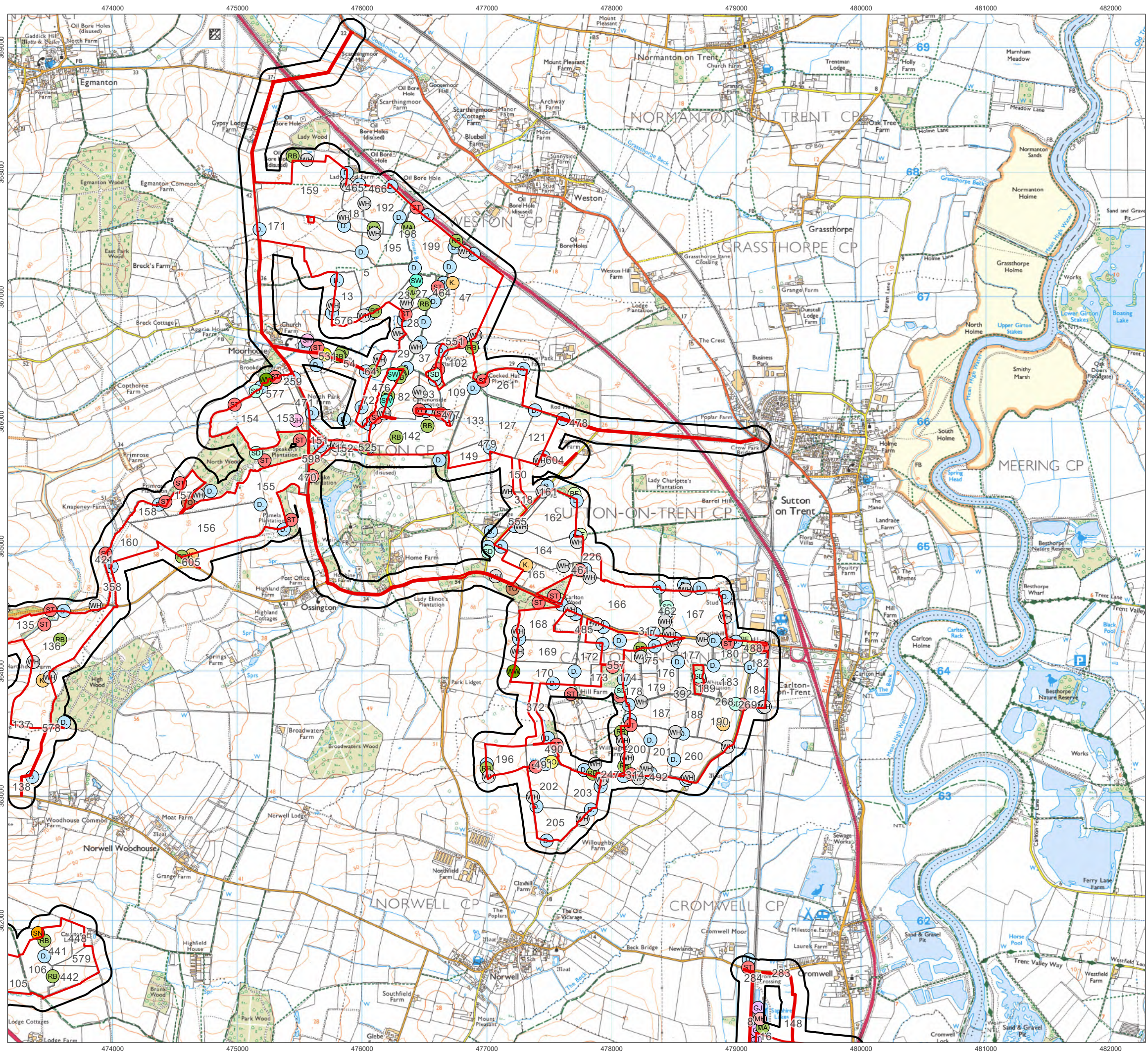
**Table A8.4.6: BTO Current Breeding SoCC within 1 km Tetrads**

Species	Scientific Name	Legal & Conservation Status
Barn Owl	<i>Tyto alba</i>	Sch1, LBAP
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	Amber, LBAP
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber, LBAP
Common Tern	<i>Sterna hirundo</i>	Annex I, Amber, LBAP
Coot	<i>Fulica atra</i>	LBAP
Dunnock	<i>Prunella modularis</i>	NERC, Amber, LBAP
Gadwall	<i>Mareca strepera</i>	Amber, LBAP
Greenfinch	<i>Chloris chloris</i>	Red
Grey Heron	<i>Ardea cinerea</i>	LBAP
Grey Partridge	<i>Perdix perdix</i>	NERC, Red, LBAP
Greylag Goose	<i>Anser anser</i>	Amber
House Martin	<i>Delichon urbicum</i>	Red, LBAP
House Sparrow	<i>Passer domesticus</i>	NERC, Red, LBAP
Kestrel	<i>Falco tinnunculus</i>	Amber, LBAP
Kingfisher	<i>Alcedo atthis</i>	Sch1, Annex I, LBAP
Lapwing	<i>Vanellus vanellus</i>	NERC, Red, LBAP
Linnet	<i>Linaria cannabina</i>	NERC, Red, LBAP
Mallard	<i>Anas platyrhynchos</i>	Amber, LBAP
Marsh Tit	<i>Poecile palustris</i>	NERC, Red, LBAP
Mistle Thrush	<i>Turdus viscivorus</i>	Red, LBAP
Moorhen	<i>Gallinula chloropus</i>	Amber
Mute Swan	<i>Cygnus olor</i>	LBAP
Oystercatcher	<i>Haematopus ostralegus</i>	Amber, LBAP
Reed Bunting	<i>Emberiza schoeniclus</i>	NERC, Amber, LBAP
Rook	<i>Corvus frugilegus</i>	Amber
Sedge Warbler	<i>Acrocephalus schoenobaenus</i>	Amber
Skylark	<i>Alauda arvensis</i>	NERC, Red, LBAP
Song Thrush	<i>Turdus philomelos</i>	NERC, Amber, LBAP
Sparrowhawk	<i>Accipiter nisus</i>	Amber
Stock Dove	<i>Columba oenas</i>	Amber, LBAP
Swift	<i>Apus apus</i>	Red, LBAP
Tawny Owl	<i>Strix aluco</i>	Amber
Wheatear	<i>Oenanthe oenanthe</i>	Amber
Whitethroat	<i>Curruca communis</i>	Amber

Species	Scientific Name	Legal & Conservation Status
Willow Warbler	<i>Phylloscopus trochilus</i>	Amber, LBAP
Woodpigeon	<i>Columba palumbus</i>	Amber
Wren	<i>Troglodytes troglodytes</i>	Amber
Yellowhammer	<i>Emberiza citrinella</i>	NERC, Red, LBAP

## **APPENDIX A – FIGURES**

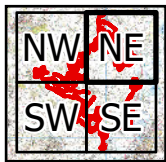




- Order Limits
- Field Boundaries
- 100 m Buffer of Order Limits

Species

- Bullfinch
- Dunnock
- Grey Wagtail
- Greylag Goose
- Kestrel
- Mallard
- Meadow Pipit
- Moorhen
- Oystercatcher
- Reed Bunting
- Rook
- Snipe
- Song Thrush
- Sparrowhawk
- Stock Dove
- Tawny Owl
- Whitethroat
- Willow Warbler
- Wren



1:30,000 Scale @ A3

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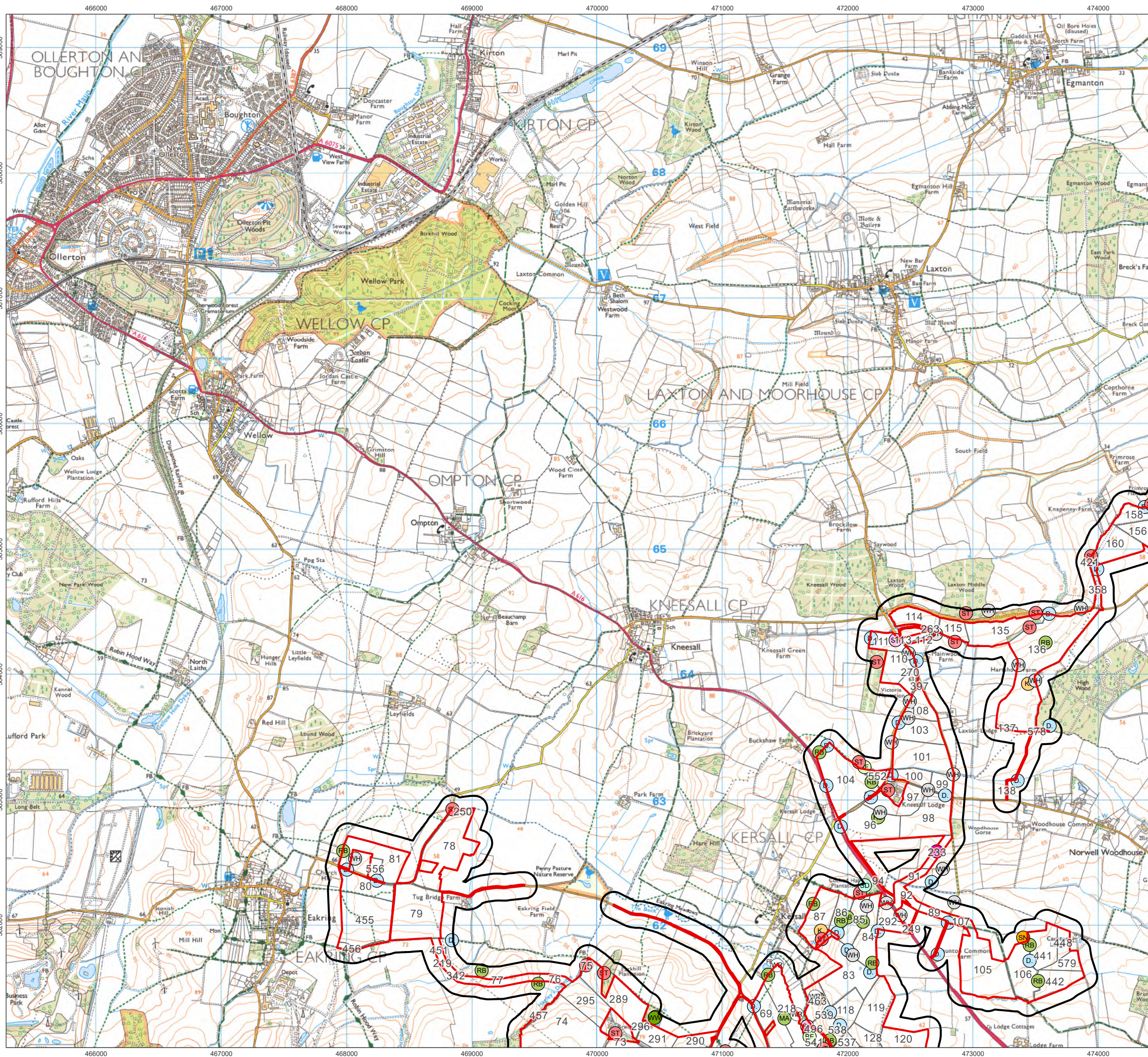
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Date: 20/06/2025

**Breeding Bird Survey Results  
Amber-Listed Species  
Figure A8.4.1 NE**

**Great North Road Solar and  
Biodiversity Park  
Environmental Statement**





- Order Limits
- Field Boundaries
- 100 m Buffer of Order Limits

#### Species

- Bullfinch
- Dunnock
- Grey Wagtail
- Greylag Goose
- Kestrel
- Mallard
- Meadow Pipit
- Moorhen
- Oystercatcher
- Reed Bunting
- Rook
- Sedge Warbler
- Snipe
- Song Thrush
- Sparrowhawk
- Stock Dove
- Tawny Owl
- Whitethroat
- Willow Warbler
- Wren



1:30,000 Scale @ A3

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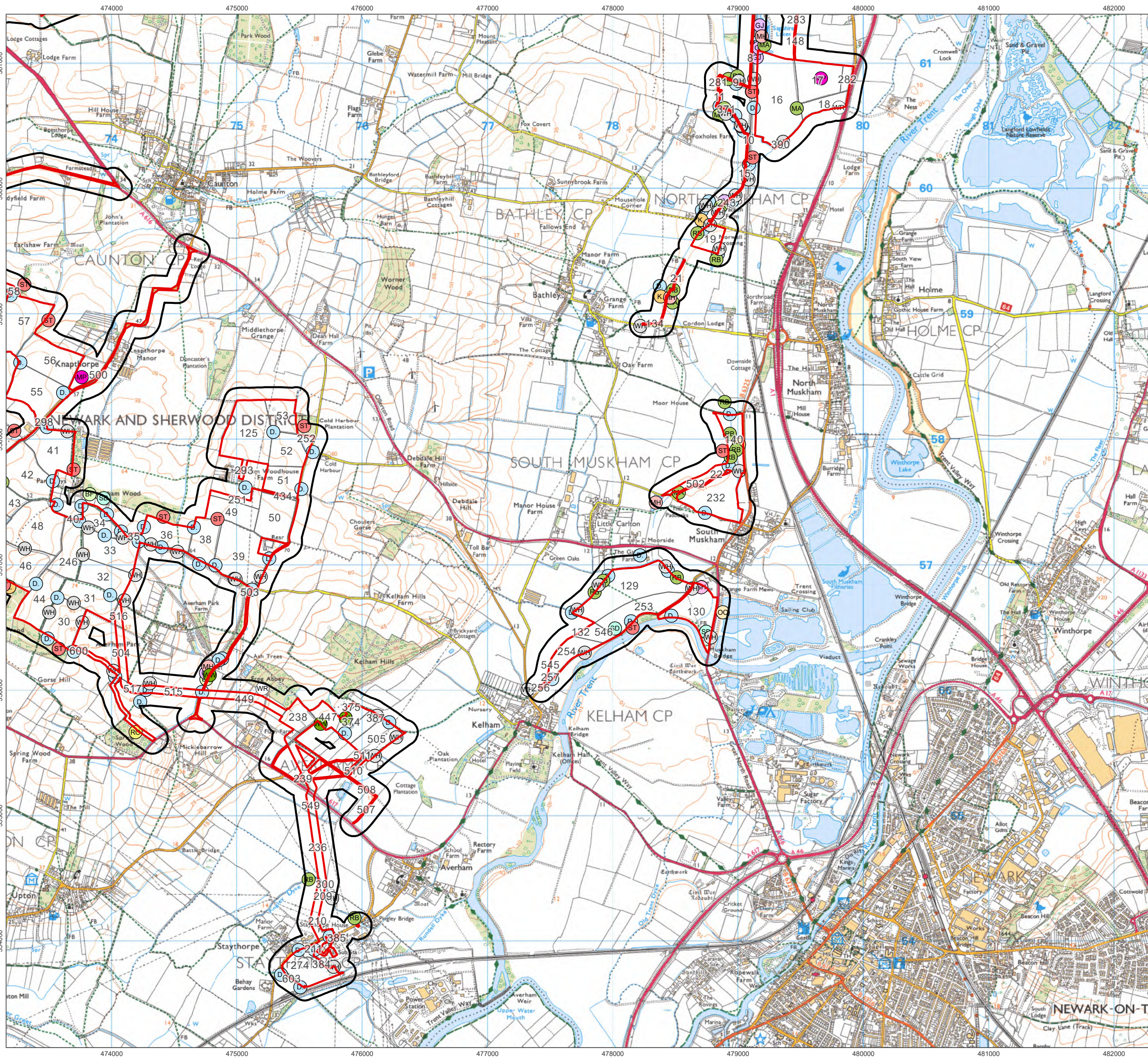
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Date: 20/06/2025

**Breeding Bird Survey Results  
Amber-Listed Species  
Figure A8.4.1 NW**

**Great North Road Solar and  
Biodiversity Park  
Environmental Statement**





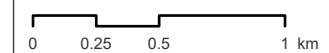
- Order Limits
- Field Boundaries
- 100 m Buffer of Order Limits

Species

- Bullfinch
- Dunnock
- Grey Wagtail
- Greylag Goose
- Kestrel
- Mallard
- Meadow Pipit
- Moorhen
- Oystercatcher
- Reed Bunting
- Rook
- Snipe
- Song Thrush
- Sparrowhawk
- Stock Dove
- Tawny Owl
- Whitethroat
- Willow Warbler
- Wren



1:30,000 Scale @ A3



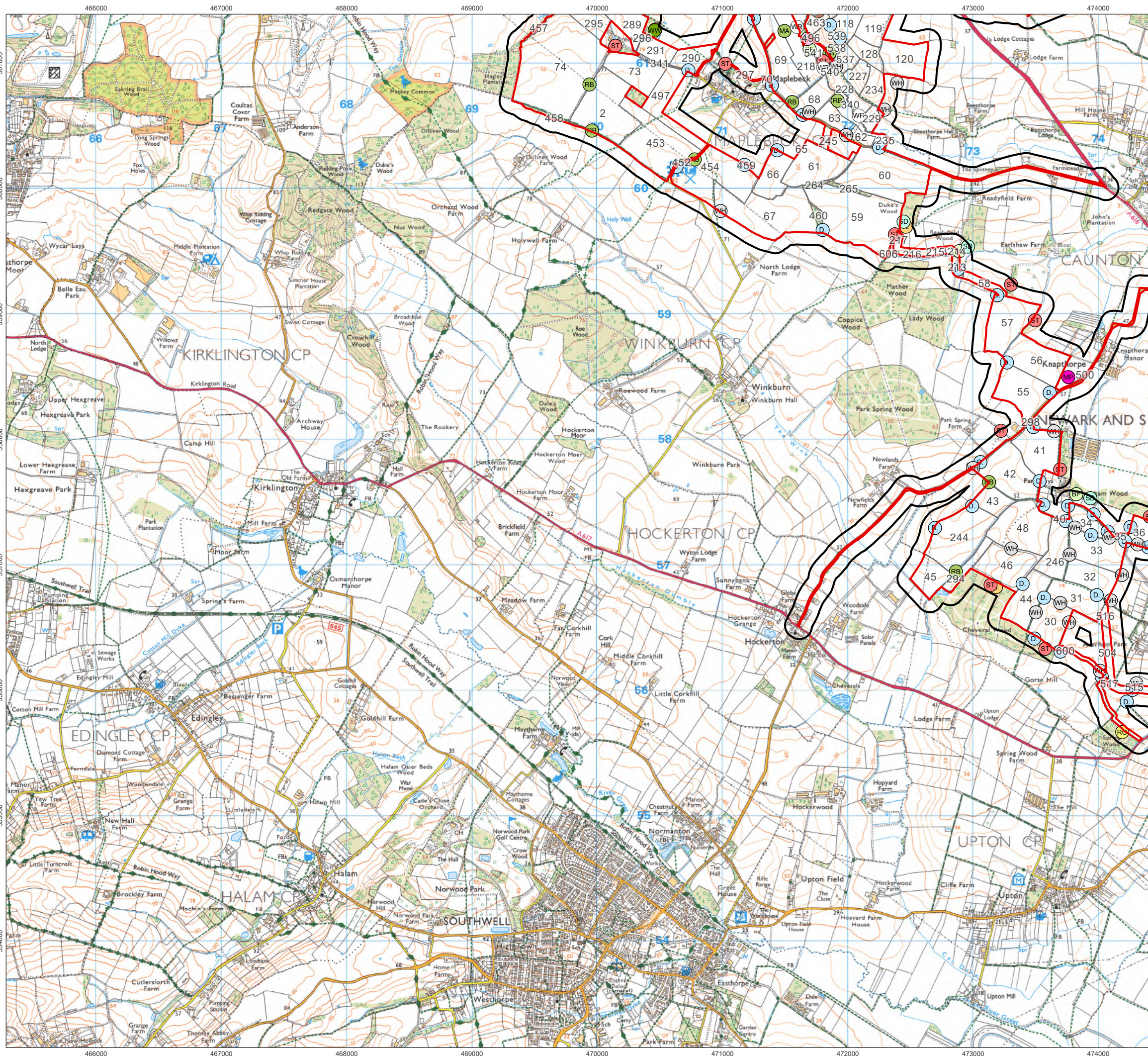
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Date: 20/06/2025

**Breeding Bird Survey Results  
Amber-Listed Species  
Figure A8.4.1 SE**

**Great North Road Solar and  
Biodiversity Park  
Environmental Statement**





- Order Limits
- Field Boundaries
- 100 m Buffer of Order Limits

#### Species

- Bullfinch
- Dunnock
- Grey Wagtail
- Greylag Goose
- Kestrel
- Mallard
- Meadow Pipit
- Moorhen
- Oystercatcher
- Reed Bunting
- Rook
- Sedge Warbler
- Snipe
- Song Thrush
- Sparrowhawk
- Stock Dove
- Tawny Owl
- Whitethroat
- Willow Warbler
- Wren



1:30,000 Scale @ A3

0 0.25 0.5 1 km

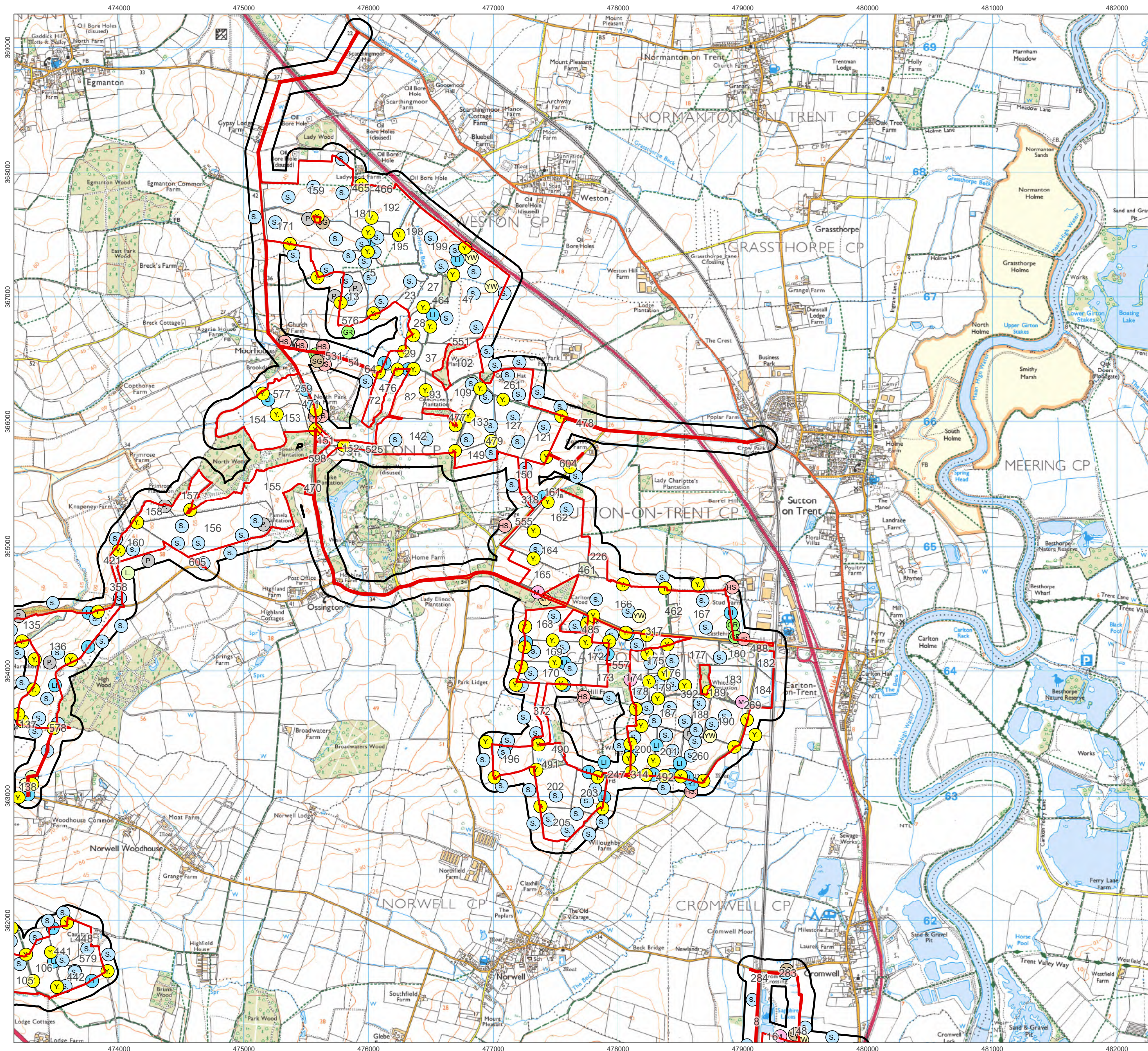
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Date: 20/06/2025

**Breeding Bird Survey Results  
Amber-Listed Species  
Figure A8.4.1 SW**

**Great North Road Solar and  
Biodiversity Park  
Environmental Statement**





- Order Limits
- Field Boundaries
- 100 m Buffer of Order Limits

- Species
- Corn Bunting
  - Greenfinch
  - Grey Partridge
  - House Sparrow
  - Lapwing
  - Linnet
  - Marsh Tit
  - Mistle Thrush
  - Skylark
  - Starling
  - Swift
  - Tree Sparrow
  - Yellow Wagtail
  - Yellowhammer



1:30,000 Scale @ A3

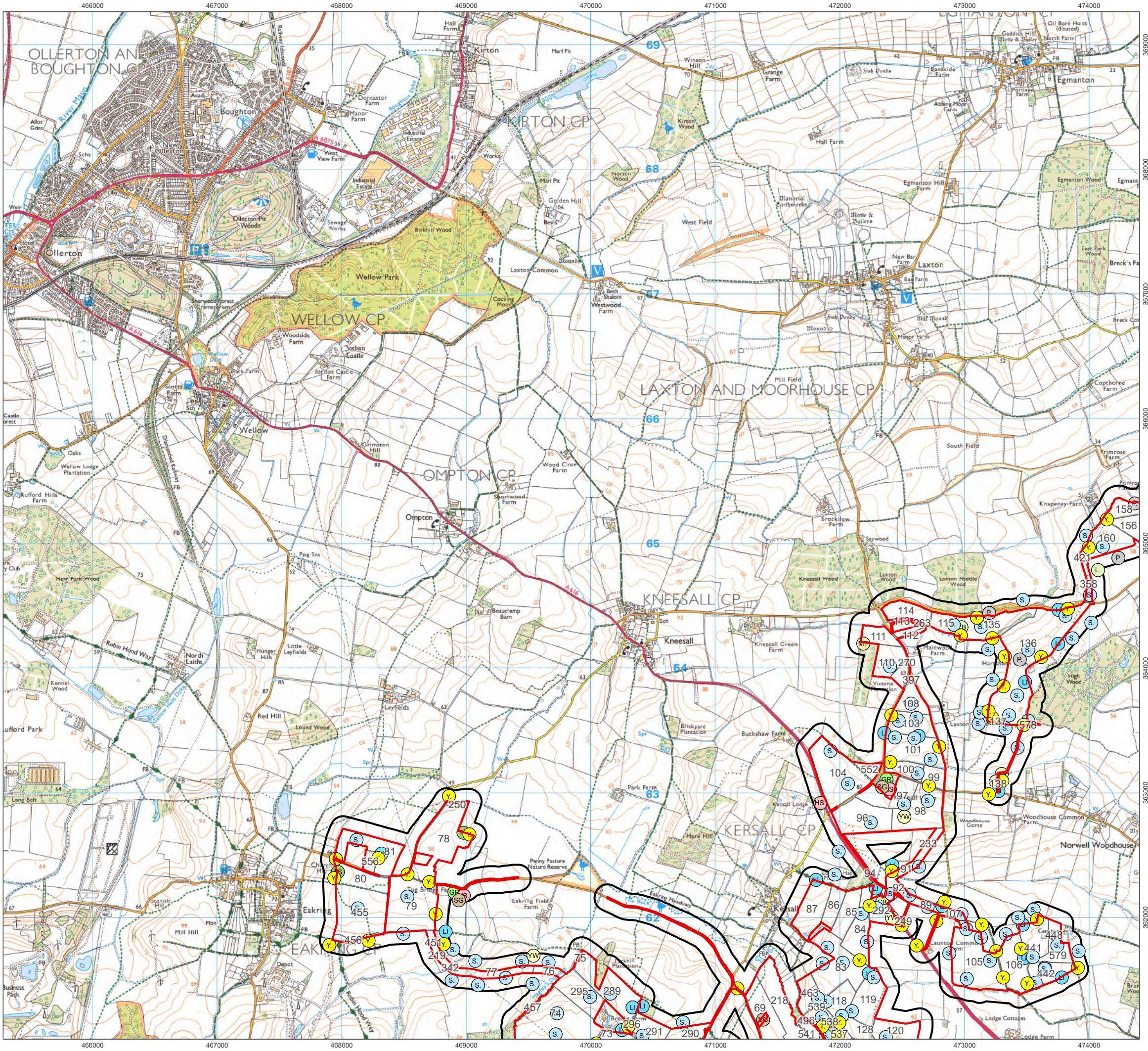
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Ref: 026-ES-A8.4.2 Date: 20/06/2025

**Breeding Bird Survey Results  
Red-Listed Species  
Figure A8.4.2 NE**

**Great North Road Solar and  
Biodiversity Park  
Environmental Statement**

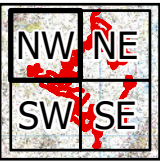




- Order Limits
- Field Boundaries
- 100 m Buffer of Order Limits

Species

- Corn Bunting
- Greenfinch
- Grey Partridge
- House Sparrow
- Lapwing
- Linnet
- Marsh Tit
- Mistle Thrush
- Skylark
- Starling
- Swift
- Tree Sparrow
- Yellow Wagtail
- Yellowhammer



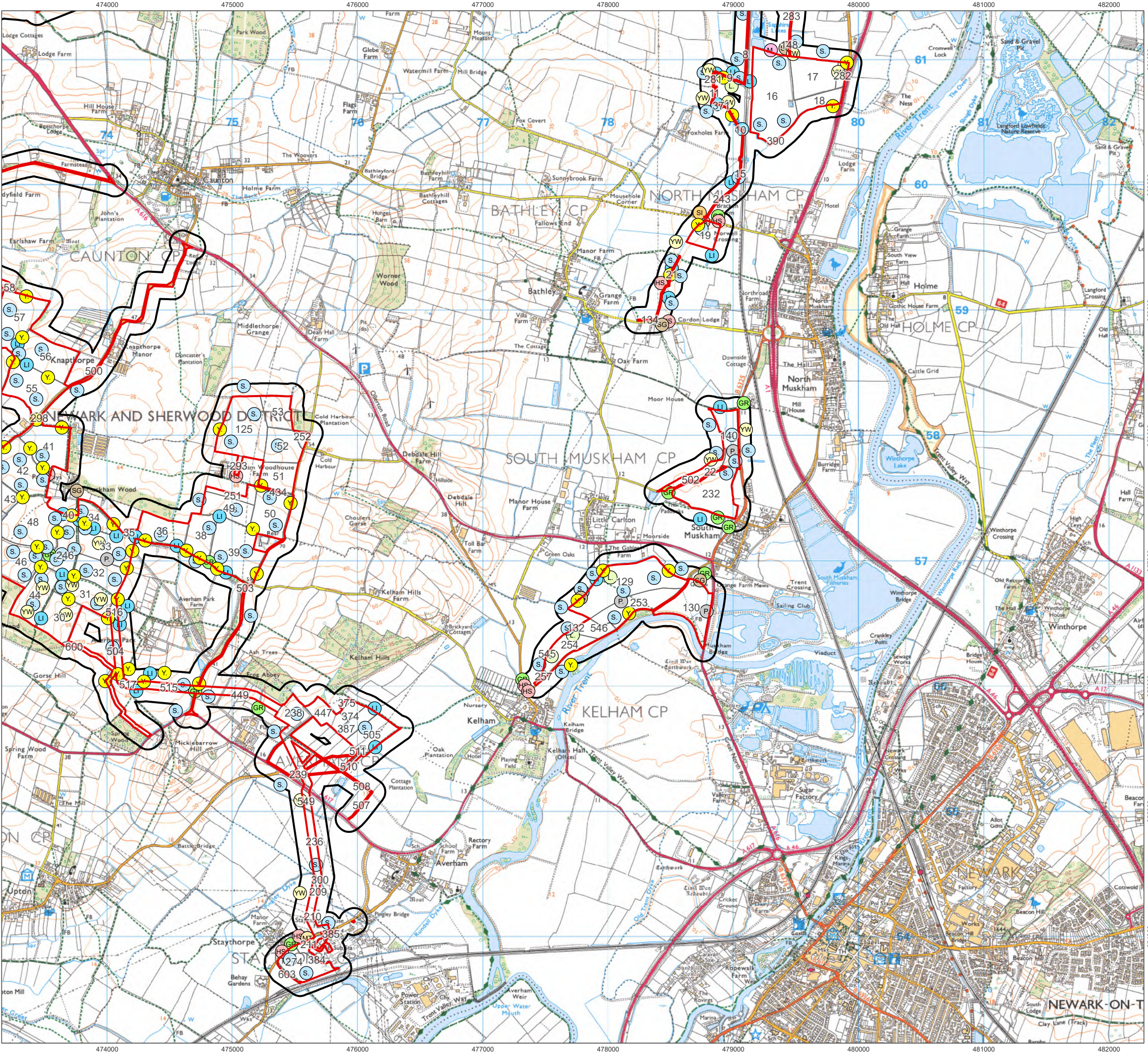
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Ref: 026-ES-A8.4.2 Date: 20/06/2025

Breeding Bird Survey Results  
Red-Listed Species  
Figure A8.4.2 NW

Great North Road Solar and  
Biodiversity Park  
Environmental Statement







Solar & Biodiversity Park

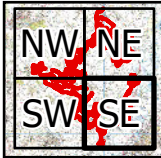
**Order Limits**

**Field Boundaries**

**100 m Buffer of Order Limits**

**Species**

- CB Corn Bunting
- GR Greenfinch
- P Grey Partridge
- HS House Sparrow
- L Lapwing
- U Linnet
- MT Marsh Tit
- M Mistle Thrush
- S Skylark
- SG Starling
- SI Swift
- TS Tree Sparrow
- YW Yellow Wagtail
- Y Yellowhammer



1:30,000 Scale @ A3

0 0.25 0.5 1 km

Ref: 026-ES-A8.4.2 Date: 20/06/2025

**Breeding Bird Survey Results**

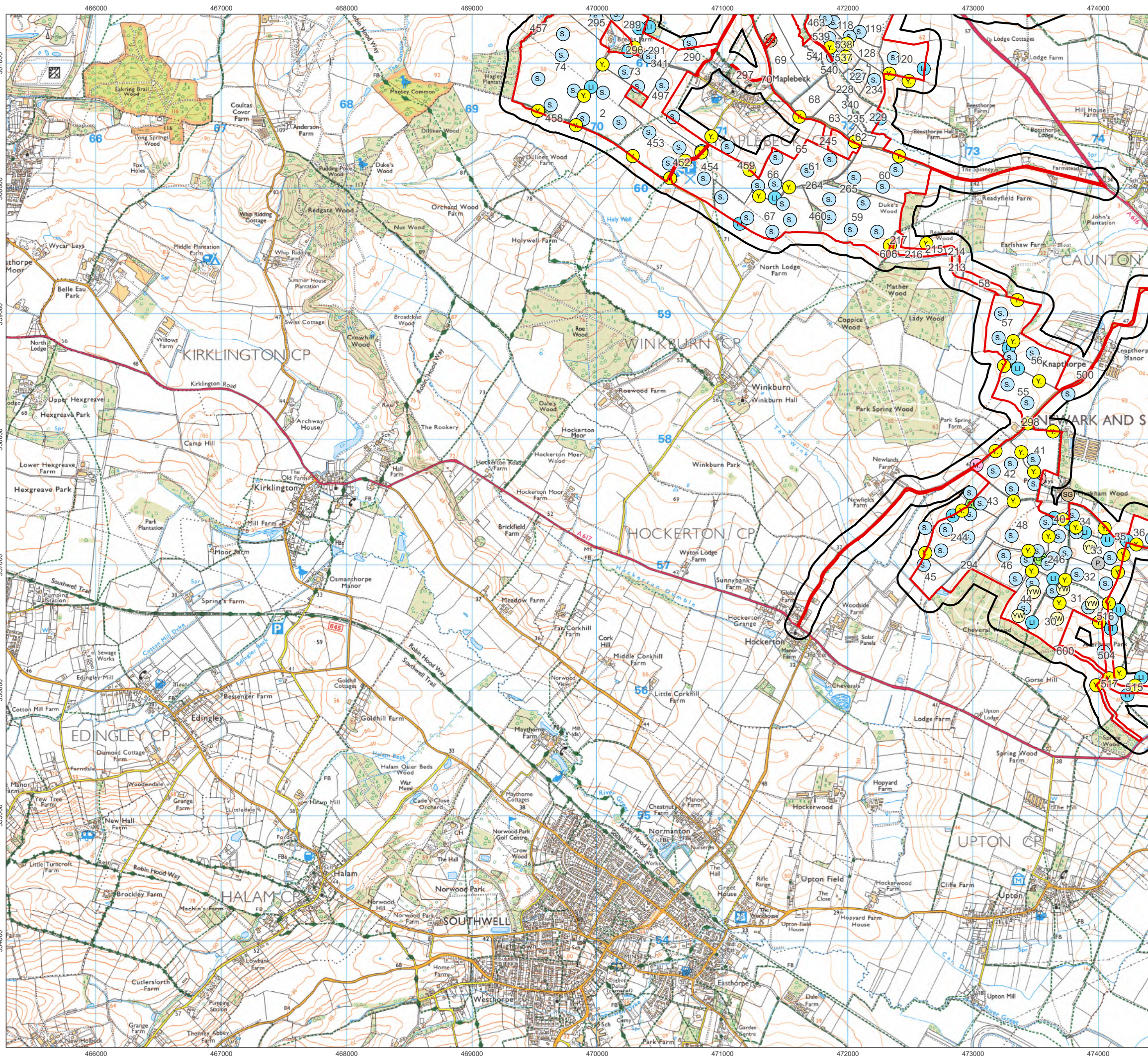
**Red-Listed Species**

**Figure A8.4.2 SE**

**Great North Road Solar and Biodiversity Park**

**Environmental Statement**

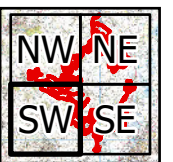




- Order Limits
- Field Boundaries
- 100 m Buffer of Order Limits

#### Species

- Corn Bunting
- Greenfinch
- Grey Partridge
- House Sparrow
- Lapwing
- Linnet
- Marsh Tit
- Mistle Thrush
- Skylark
- Starling
- Swift
- Tree Sparrow
- Yellow Wagtail
- Yellowhammer



1:30,000 Scale @ A3

0 0.25 0.5 1 km

Ref: 026-ES-A8.4.2

Date: 20/06/2025

**Breeding Bird Survey Results  
Red-Listed Species  
Figure A8.4.2 SW**

**Great North Road Solar and  
Biodiversity Park  
Environmental Statement**



## APPENDIX B – CONSERVATION AND LEGAL STATUS OF RECORDED BIRD SPECIES

Species	EU Birds Directive Annex I [Annex I] <sup>17</sup>	WCA (1981) Schedule 1 [Sch1]	NERC Sect. 41 [SPI]	Red List [Red]	Amber List [Amber]	Nottinghamshire LBAP [LBAP]	Nottinghamshire Birds of Conservation Concern [NBoCC]
Barn Owl		✓				✓	✓
Blackbird							
Black-headed Gull					✓	✓	
Blue Tit							
Brambling		✓					
Bullfinch			✓		✓	✓	✓
Buzzard							
Canada Goose							
Carrion Crow							
Chaffinch							
Chiffchaff							
Coal Tit							
Collared Dove							
Common Gull					✓		
Coot						✓	✓
Cormorant						✓	✓

<sup>17</sup> The abbreviated terms in square brackets are used elsewhere in this report.

Species	EU Birds Directive Annex I [Annex I] <sup>17</sup>	WCA (1981) Schedule 1 [Sch1]	NERC Sect. 41 [SPI]	Red List [Red]	Amber List [Amber]	Nottinghamshire LBAP [LBAP]	Nottinghamshire Birds of Conservation Concern [NBoCC]
Curlew			✓	✓		✓	✓
Dunnoch			✓		✓	✓	✓
Feral Pigeon							
Fieldfare		✓		✓			
Goldcrest							
Golden Plover	✓						✓
Goldfinch							
Goshawk		✓				✓	✓
Great Black-backed Gull					✓		
Great Spotted Woodpecker							
Great Tit							
Green Woodpecker							
Greenfinch				✓			
Grey Heron						✓	✓
Grey Partridge			✓	✓		✓	✓
Grey Wagtail					✓	✓	✓
Greylag Goose					✓		
Herring Gull			✓	✓			
House Sparrow			✓	✓		✓	✓

Species	EU Birds Directive Annex I [Annex I] <sup>17</sup>	WCA (1981) Schedule 1 [Sch1]	NERC Sect. 41 [SPI]	Red List [Red]	Amber List [Amber]	Nottinghamshire LBAP [LBAP]	Nottinghamshire Birds of Conservation Concern [NBoCC]
Jackdaw							
Jay							
Kestrel					✓	✓	✓
Kingfisher	✓	✓				✓	✓
Lapwing			✓	✓		✓	✓
Lesser Black-backed Gull					✓	✓	✓
Linnet			✓	✓		✓	✓
Little Egret	✓					✓	✓
Long-tailed Tit							
Magpie							
Mallard					✓	✓	✓
Marsh Tit			✓	✓		✓	✓
Meadow Pipit					✓	✓	✓
Merlin	✓	✓		✓			
Mistle Thrush				✓		✓	✓
Moorhen					✓		
Mute Swan						✓	✓
Nuthatch							
Peregrine	✓	✓				✓	✓

Species	EU Birds Directive Annex I [Annex I] <sup>17</sup>	WCA (1981) Schedule 1 [Sch1]	NERC Sect. 41 [SPI]	Red List [Red]	Amber List [Amber]	Nottinghamshire LBAP [LBAP]	Nottinghamshire Birds of Conservation Concern [NBoCC]
Pheasant							
Pied Wagtail							
Pink-footed Goose					✓		
Raven						✓	✓
Red Kite	✓	✓				✓	✓
Red-legged Partridge							
Redpoll (Lesser)			✓	✓			
Redwing		✓		✓			
Reed Bunting			✓		✓	✓	✓
Robin							
Rook					✓		
Siskin							
Skylark			✓	✓		✓	✓
Snipe					✓	✓	✓
Song Thrush			✓		✓	✓	✓
Sparrowhawk					✓		
Starling			✓	✓		✓	✓
Stonechat						✓	✓
Teal					✓	✓	✓

Species	EU Birds Directive Annex I [Annex I] <sup>17</sup>	WCA (1981) Schedule 1 [Sch1]	NERC Sect. 41 [SPI]	Red List [Red]	Amber List [Amber]	Nottinghamshire LBAP [LBAP]	Nottinghamshire Birds of Conservation Concern [NBoCC]
Tree Sparrow			✓	✓		✓	✓
Treecreeper							
Woodpigeon					✓		
Woodcock				✓		✓	✓
Wren					✓		
Yellowhammer			✓	✓		✓	✓