

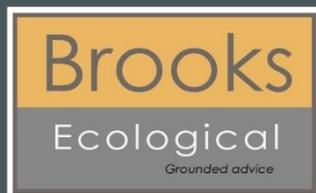
Land off Darton Lane, Mapplewell



Breeding Bird Survey

01/08/2023

Duchy Homes



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Report duration	In accordance with CIEEM (2019), unless otherwise stated the findings of this report remain valid for a period of 18 months. After this period advice should be sought on the scope of any updating work required.

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Introduction

1. Following the recommendations set out in the Preliminary Ecological Appraisal report (ER-6517-01), a Breeding Bird Survey was undertaken at Land off Darton Lane, Mapplewell.
2. The Site (c. 3.5 hectares) is situated on the southern edge of Mapplewell. The area covered by the site red line boundary appears to have been unmanaged for the past few years and comprises a series of fields occupied by grassland, with hedgerows, scattered hawthorn trees, areas of wetter ground and small areas of mixed scrub.
3. The surrounding landscape includes residential to the north with a band of woodland to the south surrounding a dismantled railway line. Arable land is found beyond this to the south, with Mapplewell Tip LWS to the east of this which has a variety of habitats- acid grassland, scrub and woodland.

Figure 1 The Site



Method

4. Four breeding bird survey visits were undertaken to the site between April and June 2023 (Table 1).

Table 1. Breeding Bird Survey, Visit & Weather Data

Visit	Date	Survey Times	Wind Force (Beaufort Scale)	Cloud Cover (Oktas)	Visibility	Temp (°C)	Precipitation
1	25/04/2023	07:45-09:45	1	1	Good	3	Dry
2	10/05/2023	06:14-07:22	2	1	Good	9	Dry
3	25/05/2023	05:48-07:32	0	2	Good	13	Dry
4	06/06/2023	05:39-07:35	1	8	Good	12.5	Dry

5. The four breeding bird survey visits incorporated amended visit Common Birds Census (CBC) territory mapping methodology to record breeding bird activity on site. Registrations of all bird species observed within the site red line boundary, overflying the site, and heard singing and/or calling were entered onto field survey maps using standard British Trust for Ornithology (BTO) species and activity codes. Registrations of birds within 50m of the site red line boundary (where access allowed) were also recorded to ensure that any breeding territories overlapping the site boundary were included. The site was walked extensively and covered to within 50m of every point within the red line site boundary, the survey route reversed on each visit to alleviate recording bias.
6. The recently published Bird Survey Guidelines (www.birdsurveyguidelines.org) suggest that up to six survey visits should be carried out for sites that contain complex habitats such as lowland deciduous woodland. At this site, the majority of the land is open grassland, with a small area of denser scrub. Linear features of hedgerows/tree lines are present within and around the site, as well as individual trees. In assessing the appropriate survey effort at the site, the following were considered:
 - the absence of complex and densely vegetated habitats;
 - the absence of rare habitats;
 - the absence of habitats that are likely to support particularly early or late breeding species; and
 - the whole site could be accessed freely.

7. Four survey visits, spread across the main bird-breeding season, was deemed sufficient to encounter all bird species using the site and to provide robust data for analysis of how these species use the site.
8. Surveys were completed using 10x42 or 8x32 binoculars. The field surveys and data analysis in 2023 were directed and undertaken by Peter Brooks and Olivia Benson. Peter is an experienced ornithologist with over 20 years professional experience undertaking ornithological surveys and monitoring. Olivia has over 5 years' experience assisting in bird surveys in a professional capacity, across a variety of habitats around Yorkshire and the surrounding areas.

Results

9. Analysis of data from the four breeding bird survey visits undertaken at the site from April to June 2023, found that a total of 32 bird species were recorded within the site red line boundary and in adjacent habitats (Table 2.). Of these, 23 species showed evidence of breeding behaviour, such as males displaying or singing within breeding territories, birds giving territorial calls, adults observed with food for young or adults observed with recently fledged young or in family groups.

Table 2. Number and Conservation Status of Bird Species Recorded April-June 2023

TOTAL NUMBER of BIRDS SPECIES RECORDED	32
BoCC4 Red Listed Species of Conservation Concern	6
BoCC4 Amber Listed Species of Conservation Concern	10
BoCC4 Green Listed Species (not currently considered of conservation concern)	16
Species Not Assessed by BoCC4	0
Protected Species Listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended)	0
Species considered by the Rare Breeding Birds Panel (RBBP) (UK) - R = Regular Breeding Birds, O = Occasional Breeding Birds, C = Colonising Species, P = Potential Breeding Birds	0
UK Biodiversity Action Plan (UKBAP) Priority Species in England	5
International Union for Conservation of Nature (IUCN) European Red List (2015) VU = Vulnerable (Globally Threatened), NT = Near Threatened, (all other species = Least Concern)	0
IUCN Global Red List VU = Vulnerable (Globally Threatened), NT = Near Threatened, (all other species = Least Concern)	0
Species Listed in Annex 1 of the European Union (EU) Wild Birds Directive 2009 (A1)	0

10. Important breeding bird species recorded on site are those included as red listed (severe population decline (> 50%) over 25 years/longer term) and amber listed species of conservation concern (moderate population decline (> 25% but < 50%) over 25 years/longer term), in Birds of Conservation Concern 5 (BoCC5) (Stanbury *et al.* 2021). Further information on bird conservation status and bird legislation relative to the species recorded is given in Appendix One.

Table 3. Red Listed Bird Species of Conservation Concern Recorded April-June 2023

Darton Lane BBS April - June 2023	BTO Species Code	Schedule 1 Species	Rare Breeding Birds	UK BAP Species	European Red List	Global Red List	Annex 1 Species	Scientific Name	Estimate of Breeding Pairs or Territories
Bird Species (systematic order follows British Ornithologists Union (BOU) August 2019)									
Swift	SI							<i>Apus apus</i>	0
Skylark	S.			UK				<i>Alauda arvensis</i>	1
Starling	SG			UK				<i>Sturnus vulgaris</i>	0
Mistle thrush	M.							<i>Turdus viscivorus</i>	1
House sparrow	HS			UK				<i>Passer domesticus</i>	3
Greenfinch	GR							<i>Chloris chloris</i>	2

- Key red listed breeding bird species recorded at the site during surveys in spring and early summer 2023 (Table 3.) included populations of house sparrow (minimum 3 pairs) recorded around the edge of the site, in association with existing gardens and residential buildings to the north.
- Greenfinch (2 territories) were seen and heard singing and calling from tall trees to the western boundary, and the northern boundary associated with residential gardens.
- Mistle thrush (1 territory) were heard singing from vegetation association with the gardens to the northern boundary.
- Skylark (1 territory) were recorded singing above areas of arable land offsite, beyond the woodland to the south on the first and fourth survey visits.
- Two further non-breeding red-listed species were recorded at the site, with starling seen flying over the Site, presumably to forage within the arable land beyond before returning to nests within the housing to the northern boundary. Up to 5 swifts were seen on one occasion, foraging high above the Site. Starling were encountered during both the first, third and fourth survey visits. No behaviour suggesting breeding was seen in either of these species.

Table 4. Amber Listed Bird Species of Conservation Concern Recorded April-June 2023

Darton Lane BBS April - June 2023	BTO Species Code	Schedule 1 Species	Rare Breeding Birds	UK BAP Species	European Red List	Global Red List	Annex 1 Species	Scientific Name	Estimate of Breeding Pairs or Territories
Bird Species (systematic order follows British Ornithologists Union (BOU) August 2019)									
Mallard	MA							<i>Anas platyrhynchos</i>	0
Sparrowhawk	SH							<i>Accipiter nisus</i>	0
Black-headed gull	BH							<i>Chroicocephalus ridibundus</i>	0
Woodpigeon	WP							<i>Columba palumbus</i>	7
Willow warbler	WW							<i>Phylloscopus trochilus</i>	2
Whitethroat	WH							<i>Sylvia communis</i>	2
Wren	WR							<i>Troglodytes troglodytes</i>	11
Song thrush	ST							<i>Turdus philomelos</i>	1
Dunnock	D.			UK				<i>Prunella modularis</i>	8
Bullfinch	BF			UK				<i>Pyrrhula pyrrhula</i>	1

- Key amber listed breeding bird species recorded during surveys in 2023 (Table 4.) included wren (11 territories) and dunnock (8 territories) both of which were recorded in association with scrub and boundary features around the site. Woodpigeon (7 territories), bullfinch (1 territory) and the migrants willow warbler (2 territories) and whitethroat (2 territories) were also recorded amongst the boundary features with woodpigeon also using trees bordering the road or residential gardens to sing from, and likely nest in.
- Song thrush (1 territory) were recorded calling from high up within the central hedgerow on site, with a nest likely to be present in denser, low-lying vegetation within the hedgerow.
- Mallard, sparrowhawk and black-headed gull (not breeding on-site) were all recorded flying over the Site, with no breeding behaviour recorded.

Table 5. Green Listed Bird Species Recorded April-June 2023

Darton Lane BBS April - June 2023	BTO Species Code	Schedule 1 Species	Rare Breeding Birds	UK BAP Species	European Red List	Global Red List	Annex 1 Species	Scientific Name	Estimate of Breeding Pairs or Territories
Bird Species (systematic order follows British Ornithologists Union (BOU) August 2019)									
Grey heron	H.							<i>Ardea cinerea</i>	0
Buzzard	BZ							<i>Buteo buteo</i>	0
Collared dove	CD							<i>Streptopelia decaocto</i>	4
Jay	J.							<i>Garrulus glandarius</i>	0
Maggie	MG							<i>Pica pica</i>	4
Carrion crow	C.							<i>Corvus corone</i>	2
Blue tit	BT							<i>Cyanistes caeruleus</i>	7
Great tit	GT							<i>Parus major</i>	3
Long-tailed tit	LT							<i>Aegithalos caudatus</i>	2
Chiffchaff	CC							<i>Phylloscopus collybita</i>	6
Blackcap	BC							<i>Sylvia atricapilla</i>	3
Goldcrest	GC							<i>Regulus regulus</i>	1
Blackbird	B.							<i>Turdus merula</i>	7
Robin	R.							<i>Erithacus rubecula</i>	11
Chaffinch	CH							<i>Fringilla coelebs</i>	4
Goldfinch	GO							<i>Carduelis carduelis</i>	4

- Green listed bird species, not currently considered of conservation concern (Table 5.), were found to be well distributed throughout the site boundaries, with all breeding species found in association with trees and scrub species within the centre of the Site and forming boundary features including the woodland to the south.
- The most abundant breeding bird species within these habitats on site were robin (11 territories), followed by blue tit and blackbird (7 territories) and then chiffchaff (6 territories). These species were spread across the Site.
- A pair of blue tits carrying nesting material or food were seen during visits one and three, entering a nest site within a house to the western boundary, confirming nesting here.
- On the third visit, adult blackbirds were seen carrying food, confirming that these species either nested on the site or in the immediate area surrounding it.
- The majority of the green-listed species encountered during the survey visits exhibited some breeding behaviour. Only buzzard, grey heron and jay were not confirmed breeding. Both buzzard and jay were recorded flying over the Site on one occasion, with jay calling off-site somewhere to the southwest.

Conclusion

24. The four breeding bird survey visits undertaken at the Site off Darton Lane between April and June 2023, provided robust data for breeding birds, with 24 species (75%) showing evidence of breeding on site from a total of 32 species recorded within the site red line boundary.
25. The breeding bird assemblage recorded on site included four red listed species of conservation concern and seven amber listed species of conservation concern, with thirteen more common green listed bird species recorded breeding on site on surveys in 2023.
26. Analysis of breeding bird distribution on site found that red and amber listed bird species of conservation concern were well distributed across the Site along boundary features of woodland to the south, hedgerow, tree lines and scrub. Areas of scrub within the site interior also supported breeding species to the east, whereby to the west, field margins/boundaries where tree lines and woodland were found provided habitat for the majority of species.
27. Breeding species were also encountered in association with residential housing to the north and west, providing nesting opportunities for the red-listed house sparrow. To the south beyond housing, arable land provides habitat for skylark.
28. Green listed species, not currently of conservation concern, were widespread, with highest densities recorded associated with field boundary features throughout the site.
29. The most important breeding bird species recorded on site from surveys in spring and early summer 2023 are red-listed species of conservation concern. A breeding population of house sparrow (3 territories) was recorded in association with residential housing off-site to the north. Skylark (1 territory) were recorded in association with arable land beyond woodland bordering the Site to the south. The Site itself does not provide breeding habitat for either of these species. Mistle thrush (1 territory) was also recorded in association with habitats off-Site to the north although the Site does provide habitat for this species.
30. Greenfinch (2 territories) were recorded on Site, with individuals singing from trees forming part of field boundaries to the west, and trees in residential housing to the north. This species nests in hedgerows and scrub and with this habitat present, is likely to currently breed on site.
31. Breeding amber listed species were found across the Site. Wren, song thrush and dunnock were recorded in close association with dense vegetation, either forming field boundaries or within the denser scrub to the middle of the Site. Woodpigeons, preferring to nest more in the canopy layer, were more restricted to taller field boundaries, but were still present throughout the site and off-site to the north.
32. Long term declines of key red listed breeding bird species recorded from the Darton site have been recorded in the U.K. during 1970-2018, with a decline of 65% seen for house sparrow, 57% for mistle thrush, 63% for skylark and 64% for greenfinch.
33. Declines of amber listed species are also seen, including 33% for dunnock, 13% for whitethroat, 43% for willow warbler, 38% for bullfinch and 49% for song thrush. Whilst the UK wren and woodpigeon population long-term trend was still noted as increasing over the period of 1970-2018 (+65% and +121% respectively), the significance of the UK populations in a European context has seen both these species moved to the amber list.
34. Declines have been attributed to loss of breeding and foraging habitat, which has driven reduced breeding success and increased mortality, mainly through major changes in farming practices and agricultural intensification.
35. Overall, the ornithological value of the Darton site for breeding birds should be considered at a local level within the context of the surrounding habitat, which includes other areas of urban greenspace providing grassland and scrub, farmland and woodland.
36. Development proposals for the site include construction of new residential housing. With regard to the breeding bird assemblage recorded on site from surveys undertaken in spring and early summer 2023, development of the Site would result in the loss of breeding and foraging habitat for key red and amber listed bird species of conservation concern. Most of these species, which require larger areas of scrub and woody vegetation, would be displaced into neighbouring habitat present locally to the east or west of the site.
37. Given these factors, mitigation measures should be implemented to offset direct effects of the loss of breeding and foraging habitat for birds through development of the site. These measures are important to ensure that suitable habitat remains available for red and amber listed breeding bird species and also other breeding bird species recorded on site, and that local bird biodiversity is enhanced and improved.

Mitigation & Recommendations

38. Retain, where possible, all existing semi-mature trees and enhance existing hedgerows, areas of scrub and tree-lines within the site red line boundary, to improve and increase nesting and foraging opportunities for birds. This could be achieved through new planting of a range of native species such as oak, alder, hawthorn, blackthorn, hazel, rowan, dog-rose, crab apple and guelder rose.
39. A large portion of the Site in the west will not be built on and proposals include a community orchard, areas of open grassland, trees, scrub and woodland, as well as an attenuation basin. This area offers opportunities to provide habitat that can be used by birds, post-development.
40. Create wide buffer zones around the edges of Public Open Space through new planting of scrub species. This will increase potential nesting and foraging habitat for birds and also improve connectivity through the site.
41. New "street trees" planted as part of the landscaping of the site should be native fruiting tree species such as rowan and wild cherry to provide increased foraging opportunities for birds.
42. Plant up the new drainage ditch a mix of native, semi-aquatic species that could provide nesting habitat for species such as mallard and foraging habitat for grey heron. Incorporating reed species could provide new habitat for migrant warbler species.
43. Incorporate 'wilder areas' of vegetation, including mixed scrub, as well as areas with a high diversity of wildflowers, wild seed-bearing plants and seed-rich grassland throughout the site to provide enhanced foraging habitat for breeding and also wintering birds, including starling, greenfinch and song thrush. These areas could be incorporated within the retained western grassland and alongside wide buffer zones of trees and scrub along the site boundaries.
44. Swift nest-boxes should be installed externally at high level under eaves of new buildings on site to encourage this declining summer migrant species to nest. As well as swifts, these boxes are known to also be used by other cavity nesting species, such as starling and house sparrow.
45. Any site clearance works, including unavoidable removal of trees, scrub and vegetation, earth-moving and groundworks should be completed between September and February, to avoid disturbance to birds during the breeding bird season from 1st March to 31st August inclusive. Should any of these works be undertaken after February, a site breeding bird check should be made by a qualified ornithologist to ensure that no active nests of breeding birds are present before works commence.

Appendix 1 Policy & legislation

United Kingdom Conservation Status of Birds

The fifth major review of the status of birds occurring in the United Kingdom, Channel Islands and the Isle of Man – Birds of Conservation Concern 5 (BoCC4) (Stanbury et al. 2021), presents lists of conservation concern based on assessments using objective listing criteria and most recent data. The listing criteria assess global conservation status, historical population decline, recent population decline (numbers and geographical range), European conservation status, rarity, localised distribution, and international importance of populations.

Lists are denoted Red, Amber and Green in a simple ‘traffic light’ system to provide a single, easily understood measure for each species to convey concern and hence to help set priorities for conservation action. Species are assigned to each list depending upon the scale of population decline and concern which includes breeding and non-breeding populations.

- Red list criteria – Severe population decline (> 50%) over 25 years or longer term.
- Amber list criteria – Moderate population decline (> 25% but < 50%) over 25 years or longer term.
- Green list criteria – Species not currently considered of conservation concern.

The review concerns native bird species only and not those introduced to the United Kingdom by humans, whether intentionally or accidentally. Populations of non-native bird species are not considered of conservation value, indeed introduced species can be harmful to the natural environment (Stanbury et al. 2021). These species are therefore not assessed for conservation attention and termed ‘not assessed’.

Summary of Relevant Legislation with Regard to Birds

The primary legislation affecting wild birds in England and Wales is the Wildlife & Countryside Act (1981) as amended. The basic principle of this act is that all wild birds, their nests, and eggs are protected by law and some rare species are afforded additional protection from disturbance during the breeding season (Schedule 1.). The term wild bird is defined as any bird of a species which is resident in, or a visitor to, the European territory of any Member State, in a wild state. Game birds are not included in this definition (except in certain sections of

the Act) but are covered by the Game Acts which give protection in the close season.

The Wildlife & Countryside Act (1981) states that ‘it is an offence, with certain exceptions, to:

- intentionally kill, injure or take any wild bird.
- intentionally take, damage or destroy the nest of any wild bird while it is in use or being built.
- intentionally take or destroy the egg of any wild bird.
- have in one’s possession or control any wild bird (dead or alive), part of a wild bird or egg of a wild bird which has been taken in contravention of the Act, the Protection of Birds Act 1958 or the law of any EU Member State (which implements the EU Birds Directive 1979).
- intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building or is in, on or near a nest with eggs or young; or disturb the dependant young of such a bird.
- have in one’s possession or control any birds of a species listed on Schedule 4 of the Act, unless registered and ringed in accordance with the Secretary of State’s regulations.

Rare Breeding Birds in the United Kingdom

The U.K. Rare Breeding Bird Panel (RBBP) (www.rbbp.org.uk) collates data on over 160 species of rare breeding birds and scarcer non-native breeding species, and ensures data are archived properly and are used for conservation. This informs understanding of the status, distribution and population trends of the rarest breeding birds, too rare to monitor in any other way, and also species introduced to the U.K. Archived records form the definitive historical record of rare breeding birds in the U.K. Breeding species are categorised as – regular breeder, occasional breeder, colonising and potential breeder.

United Kingdom Biodiversity Action Plan Bird (UK BAP) Species

United Kingdom Biodiversity Action Plan (U.K. BAP) Bird Species (jncc.defra.gov.uk/uk_bap_priority_bird_species) are those identified by the Joint Nature Conservation Committee (JNCC) as being the most threatened and requiring conservation action under the U.K. Biodiversity Action Plan and included on a list of priority bird species, initially created between 1995 and 1999, and subsequently updated in response to the Species and Habitats Review Report published in 2007. Original species on the U.K. BAP list (1995-1999) have

a Species Action Plan (SAP) which provides details of relevant conservation information and action. Following devolution, the U.K. BAP has recently (July 2012) been succeeded by the U.K. Post-2010 Biodiversity Framework which is focused at a country-level (England, Wales, Scotland & Northern Ireland) rather than at a U.K. level, with the list of priority bird species remaining an important reference source for conservation of individual bird species and also for conservation of bird biodiversity within a specified area or site. U.K. BAP species are identified in order to guide decision-makers, such as local planning authorities and regional authorities, in their duty to have regard to the conservation of bird biodiversity.

IUCN Red List Status (European Red List & Global Red List)

Birdlife International (the official International Union for Conservation of Nature (IUCN) Red List authority for birds) determines the global conservation status of birds (www.iucn.org/theme/species/birds). The IUCN red list is used by government agencies, wildlife departments, conservation-related non-governmental organisations (NGOs), natural resource planners, educational organisations, students, and the business community. It is crucial to identify bird species requiring targeted recovery efforts, but also for focusing on conservation to identify key sites and habitats that need conserving.

EU Biodiversity Legislation

Additional protection for birds is also provided to species listed within the European Union (EU) Wild Birds Directive 2009/147/EC. Further information may be found at;

ec.europa.eu/environment/nature/legislation/birdsdirective_jncc.defra.gov.uk

This imposes strict legal obligations on EU member states to maintain populations of naturally occurring wild birds at levels corresponding to ecological requirements and to preserve a sufficient diversity and areas of habitats for their conservation. Bird species mentioned in Annex I (194 species and sub-species (races)) are particularly threatened and form the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution.

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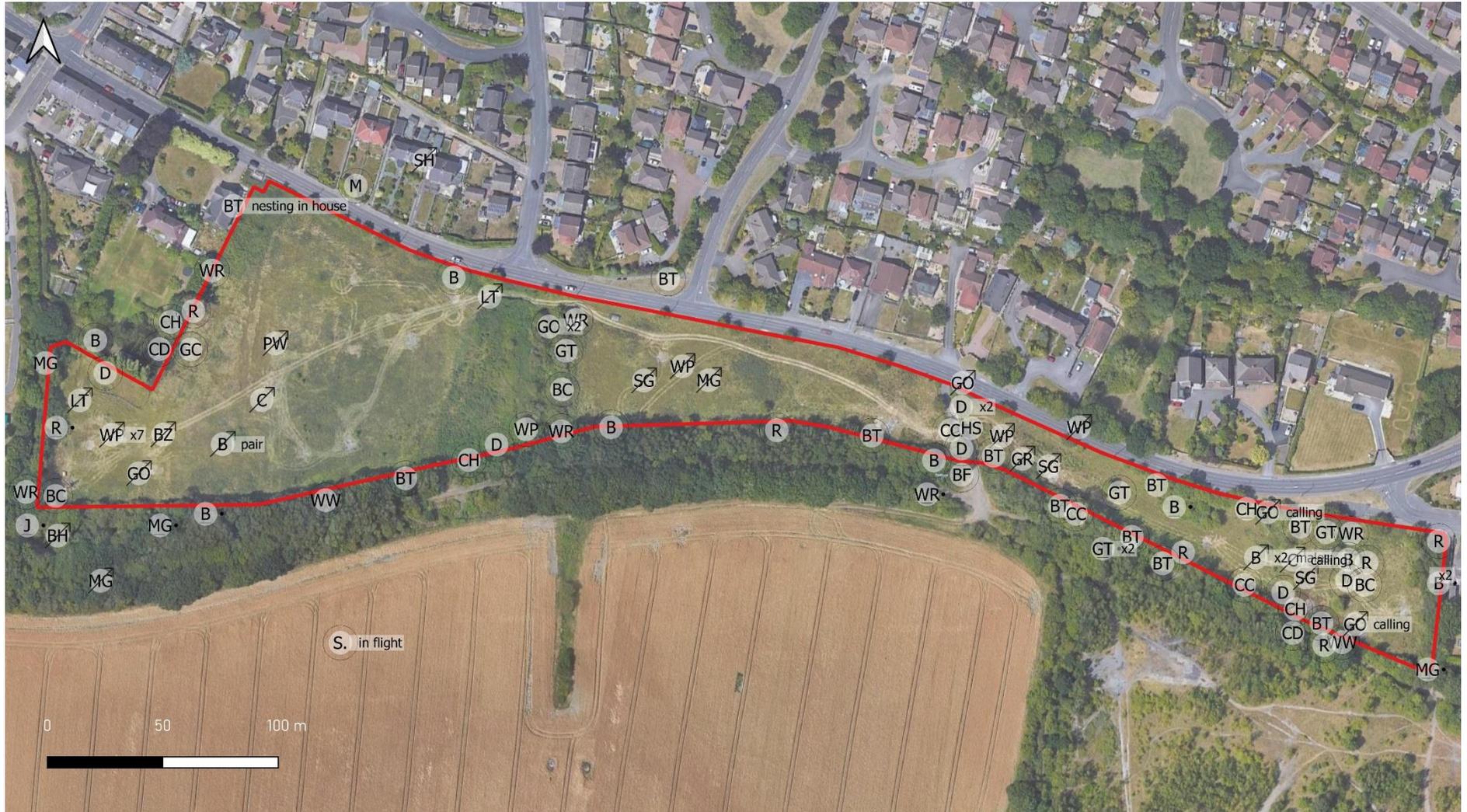
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Appendix 2 Breeding Bird Survey Maps

Visit 1



Visit 2



Visit 3

