



High Grove Solar

Preliminary Environmental Information Report

Appendix 6.4 Breeding Bird Survey Report - Year 1

April 2025

High Grove Solar

on behalf of RWE Renewables UK Solar and Storage Ltd

Breeding Bird Survey 2024 – Summary Report



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1 INTRODUCTION

1.1 Project Background

- 1.1.1 RWE Renewables UK Solar and Storage Ltd (RWE) is investigating developing a renewable energy generating project capable of generating over 50 MW (AC) of electricity, consisting of ground-mounted solar photovoltaic ('PV') arrays, together with co-located Battery Energy Storage Systems (BESS), associated infrastructure, and grid connection (the 'Proposed Development'). The Proposed Development would be located on land situated between the towns of Marham and Dereham in Norfolk (the 'Site') as illustrated on **Figure 1**.
- 1.1.2 To inform the impact assessment for the Proposed Development, Avian Ecology Limited (AEL) was commissioned by RWE in 2024 to undertake a breeding bird survey, nightjar survey and stone-curlew survey.
- 1.1.3 This report subsequently provides detailed survey methodology and results of the breeding bird and nightjar surveys undertaken from March 2024 to July 2024. Details of the stone-curlew survey conducted from April 2024 to August 2024 are provided separately in the *Confidential Stone-curlew Survey Report*.
- 1.1.4 The objectives of this report are to:
- provide a summary of the baseline ornithological studies undertaken during the 2024 breeding season;
 - provide baseline information on breeding ornithological features within the Site and relevant survey buffer; and,
 - identify the presence of any notable breeding bird species within the Site and relevant survey buffer and which may require particular consideration in any subsequent assessment.
- 1.1.5 Only common bird species names are referred to within the main text of this report. A summary of all bird species recorded during the surveys or referenced within the text are presented with their scientific names and conservation status in **Annex 1**.

1.2 Site Overview

- 1.2.1 The Site, as illustrated by the red-line boundary shown on **Figure 1**, comprises multiple spatially separated land parcels, which are predominantly agricultural land.
- 1.2.2 The fields within the Site are marked by a series of wet and dry ditches, hedgerows, roads, woodlands, and trees. In the wider context, the Site is surrounded by further extensive areas of farmland and areas of woodland.
- 1.2.3 A review of the Multi-Agency Geographic Information for the Countryside ('MAGIC')¹ website was undertaken to identify any designated areas with breeding bird interests in the vicinity of the Site (within 10km for nationally designated statutory sites and within 20km for internationally designated statutory sites). The Site does not form part of any designated area with breeding ornithological interests. However, the nearest internationally designated site within the UK National Site Network (European sites) for breeding birds is located directly adjacent to the Site; Breckland Special Protection Area (SPA) (**Figure 2**), which is designated for breeding stone-curlew, nightjar and woodlark. Ouse Washes SPA (approximately 19.35km distant) is the only other European site within 20km of the Site

¹ <https://magic.defra.gov.uk/> (Accessed 28th August 2024)

that is designated for breeding birds, however the Site is located outside the foraging range for those associated SPA species with documented range information (taken from SNH, 2016²).

1.2.4 Additionally, 16 nationally significant Sites of Special Scientific Interest (SSSI) are present within 10km of the Site with breeding ornithological qualifying features listed within the citation:

- Breckland Forest SSSI;
- River Nar SSSI;
- Dereham Rush Meadow SSSI;
- Stanford Training Area SSSI;
- Breckland Farmland SSSI;
- Castle Acre Common SSSI;
- Dillington Carr, Gressenhall SSSI;
- Wayland Wood, Watton SSSI;
- Badley Moor SSSI;
- Mattishall Moor SSSI;
- Thompson Water, Carr and Common SSSI;
- East Walton and Adcock's Common SSSI;
- Boughton Fen SSSI;
- East Winch Common SSSI;
- River Wensum SSSI; and,
- Cranberry Rough Hockham SSSI.

1.2.5 Passerine species situated >2km from the Site in surrounding SSSIs are also considered likely to be spatially separated from the Site.

1.2.6 **Table 1.1** below provides a summary of designated sites with breeding ornithological interests located within 10km of the Site boundary, and sites of the National Site Network (European sites) located within 20km of the Site boundary. Locations of designated sites are illustrated on **Figure 2**.

1.2.7 The Breckland Important Bird Area (IBA) also corresponds with the boundary of Breckland SPA, which is situated directly adjacent to the Site boundary and notable for supporting breeding stone-curlew, nightjar and woodlark. Ouse Washes IBA also corresponds with the Ouse Washes SPA approximately 19.35km south-west of the Site.

Table 1.1: Ornithological designated sites for nature conservation (breeding qualifying interests).
SPA: Special Protection Area; SSSI: Site of Special Scientific Interest.

Designation	Approximate Distance from the Site	Qualifying Features
Breckland SPA	Directly adjacent to the Site (see Figure 2)	The site is designated for the following breeding ornithological qualifying features: • Stone-curlew; • Nightjar; and, • Woodlark³.
Breckland Forest SSSI	Directly adjacent to the Site	The clear fell areas and young plantations within the SSSI support breeding woodlark and nightjar, which occur in internationally important numbers. It also supports less than 1% of the GB population of goshawk ⁴ .

²www.nature.scot/sites/default/files/2022-12/Assessing%20connectivity%20with%20special%20protection%20areas.pdf (Accessed 31st October 2024)

³<https://publications.naturalengland.org.uk/publication/4572292419944448> (Accessed 28th August 2024)

⁴<https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/2000443.pdf> (Accessed 28th August 2024)

Designation	Approximate Distance from the Site	Qualifying Features
River Nar SSSI	2.16km north	Breeding ornithological interest within the SSSI includes snipe, lapwing, redshank, sedge warbler, grasshopper warbler, kingfisher, sand martin, grey wagtail, reed warbler, teal, marsh harrier, willow tit and marsh tit ⁵ .
Dereham Rush Meadow SSSI	2.45km north-east	Breeding ornithological interest within the SSSI includes snipe, lapwing, sedge warbler and reed warbler ⁶ .
Stanford Training Area SSSI	2.66km south	Breeding ornithological interest within the SSSI includes carr woodlands used by wildfowl such as shelduck, gadwall, tufted duck, shoveler and teal. Herons and kingfishers use the river for feeding. Snipe and redshank use tussocky grasslands. Sedge warblers, reed warblers and whitethroat favour the fen areas. Woodcock, willow tit, marsh tit and several species of warbler use the wet woodlands. Kestrel and barn owl hunt all year ⁷ .
Breckland Farmland SSSI	2.70km south	The site is notified for its internationally important population of stone-curlew ⁸ .
Castle Acre Common SSSI	3.35km north	Breeding ornithological interest within the SSSI includes snipe, lapwing, sedge warbler and cuckoo ⁹ .
Dillington Carr, Gressenhall SSSI	3.69km north-east	Breeding ornithological interest within the SSSI includes gadwall, pochard, teal, tufted duck, shoveler, great crested grebe, kingfisher, barn owl, little owl, lesser spotted woodpecker, willow tit, nuthatch, nightingale and garden warbler ¹⁰ .
Wayland Wood, Watton SSSI	3.79km south-east	A wide variety of birds breed in the wood, including woodcock, lesser spotted woodpecker and nuthatch ¹¹ .
Badley Moor SSSI	3.86km east	Breeding ornithological interest within the SSSI includes snipe ¹² .
Mattishall Moor SSSI	5.50km north-east	Breeding ornithological interest within the SSSI includes reed bunting ¹³ .
Thompson Water, Carr and Common SSSI	6.74km south-east	Breeding ornithological interest within the SSSI includes great crested grebe, mallard, teal, gadwall, shoveler, pochard, tufted duck and reed warbler ¹⁴ .
East Walton and Adcock's Common SSSI	6.88km north-west	The wide range of habitats is attractive to many breeding birds which include snipe, woodcock, green woodpecker, nightingale and reed warbler ¹⁵ .
Boughton Fen SSSI	6.99km south-west	Breeding ornithological interest within the SSSI includes sedge warbler, reed warbler and grasshopper warbler ¹⁶ .

⁵ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1006323.pdf> (Accessed 28th August 2024)

⁶ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1002119.pdf> (Accessed 28th August 2024)

⁷ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1000005.pdf> (Accessed 28th August 2024)

⁸ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/2000442.pdf> (Accessed 28th August 2024)

⁹ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1005965.pdf> (Accessed 28th August 2024)

¹⁰ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1001256.pdf> (Accessed 28th August 2024)

¹¹ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1000350.pdf> (Accessed 28th August 2024)

¹² <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1000602.pdf> (Accessed 28th August 2024)

¹³ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/2000449.pdf> (Accessed 28th August 2024)

¹⁴ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1000249.pdf> (Accessed 28th August 2024)

¹⁵ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1001267.pdf> (Accessed 28th August 2024)

¹⁶ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1000663.pdf> (Accessed 28th August 2024)

Designation	Approximate Distance from the Site	Qualifying Features
East Winch Common SSSI	7.89km north-west	Breeding ornithological interest within the SSSI includes nightingale and grasshopper warbler ¹⁷ .
River Wensum SSSI	8.29km north-east	Breeding ornithological interest within the SSSI includes kingfisher, little grebe, reed warbler, sedge warbler and barn owl ¹⁸ .
Cranberry Rough Hockham SSSI	9.38km south-east	Breeding ornithological interest within the SSSI includes little grebe, shoveler, tufted duck, gadwall, sedge warbler and reed warbler ¹⁹ .
Ouse Washes SPA	19.35km south-west	The site is designated for the following breeding ornithological qualifying features: • Gadwall; • Mallard, • Garganey; • Shoveler; • Ruff; • Black-tailed godwit; and, • Breeding bird assemblage (oystercatcher, redshank, snipe, ruff, lapwing, black-tailed godwit, mute swan, shelduck, gadwall, teal, mallard, pintail, garganey, shoveler, pochard, tufted duck, moorhen and coot)²⁰.

2 METHODOLOGY

2.1 Breeding Bird Survey

- 2.1.1 A breeding bird survey was undertaken between March 2024 and July 2024, employing an adapted version of the British Trust for Ornithology (BTO) Common Bird Census (CBC) technique (Gilbert *et al.*, 1998²¹) and being based on guidance from Bird Survey & Assessment Steering Group (2023)²². The survey comprised a series of six staggered survey visits undertaken at least seven days apart for each surveyed area.
- 2.1.2 Five survey visits were carried out from dawn, with the majority finished by 11:00hrs. One of the six visits was conducted in the evening (i.e. during the last few hours of the day) to pick up species not readily recorded by conventional surveys early in the morning. An additional seventh visit was conducted at Map 10 (**Figure 1**; see limitations; paragraph 2.2.10). All surveys were carried out in conditions suitable for survey (avoiding heavy rain and strong winds). A summary of weather conditions during survey is presented in **Annex 2**.
- 2.1.3 The breeding bird survey area (henceforth 'BBS Area') is illustrated in **Figure 1** and comprised the Site, as well as a surrounding 100m Site buffer. Coverage of the 100m buffer was observed from within the Site boundary.

¹⁷ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1001708.pdf> (Accessed 28th August 2024)

¹⁸ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1006328.pdf> (Accessed 28th August 2024)

¹⁹ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1001552.pdf> (Accessed 28th August 2024)

²⁰ <https://publications.naturalengland.org.uk/publication/6636062256398336> (Accessed 28th August 2024)

²¹ Gilbert, G., Gibbons, D.W & Evans, J. (1998) *Bird monitoring methods. A manual of techniques for key UK species*. RSPB, Sandy.

²² Bird Survey & Assessment Steering Group. (2023). Bird Survey Guidelines for assessing ecological impacts, v.1.1.1. <https://birdsuryguidelines.org> (Accessed: 28th August 2024)

- 2.1.4 During the survey, all ‘Notable Species’ (see below) were recorded on suitably scaled field maps using standard BTO species codes²³ and behaviour notations (such as singing, carrying food, active nest). On completion of all visits, the approximate locations of bird territories for Notable Species within the BBS Area were determined using standard territory mapping techniques to identify and isolate areas within which birds consistently displayed breeding behaviours (following Gilbert *et al.*, 1998). The estimated number of breeding territories for Notable Species is provided in **Table 3.1**, with such territories also mapped and presented on **Figures 3 to 14**, given these are the most relevant species to the design and assessment of development proposals.
- 2.1.5 ‘Notable Species’ relevant to the Proposed Development and which were recorded and mapped during the breeding bird surveys, comprised Birds of Conservation Concern (BoCC) Amber and Red List Species (Stanbury *et al.*, 2021²⁴), birds listed under Section 41 (S41) of the 2006 Natural Environment and Rural Communities (NERC)²⁵, Norfolk Local Biodiversity Action Plan²⁶ (‘LBAP’) species and Annex 1²⁷/Schedule 1 species. Notable Species also included all those which represent breeding qualifying features of designated sites within the UK National Site Network (European sites) as listed in **Table 1.1**. Note that within the surrounding 100m Site buffer only species listed under Schedule 1 of the Wildlife & Countryside Act 1981²⁸ (as amended) were recorded.
- 2.1.6 Presence of common species that are not classified as Notable Species (i.e. BoCC Green List Species and non-native species) were recorded for each survey visit, however locations and activities were not mapped during the survey effort due to the spatial scale of the BBS Area and priority being given to identify Notable Species.
- 2.1.7 Observations of non-breeding birds just visiting the Site (e.g., gulls feeding in fields) and birds flying over the Site were also recorded.
- 2.1.8 Due to the extent of the Site, the BBS Area was partitioned into 12 distinct areas (as covered by ‘Maps 1 to 10’, as shown on **Figure 1** and **Figures 3 to 14**) which were surveyed over a number of consecutive days and analysed independently. These ‘Map areas’ relate to five broader ‘Panel Area’ regions as detailed in **Table 2.1**.
- 2.1.9 Results for all 12 areas were then combined to provide a final count of Notable Species breeding within the Site (**Table 3.1**), as well as Schedule 1 species within the 100m Site buffer.

Table 2.1: Map and corresponding Panel Areas that comprise various Site land parcels.

Panel Area	Related Survey Map (see Figure 1)
Southern	Map 1, 2, 3
Eastern	Map 4, 5, 6
Northern	Map 6, 7
Central	Map 8, 9a, 9b, 9c

²³ https://www.bto.org/sites/default/files/u10/downloads/taking-part/species_codes.pdf (Accessed : 29th October 2024)

²⁴ Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 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**, pp. 723-747. Available online at <https://britishbirds.co.uk/content/status-our-bird-populations>.

²⁵ <http://publications.naturalengland.org.uk/publication/4958719460769792> (Accessed: 28th August 2024)

²⁶ <https://www.norfolkbiodiversity.org/habitats-and-species/birds/> (Accessed: 28th August 2024)

²⁷ Annex 1 – species listed on Annex 1 of the EC Directive 2009/147/EC of the European Parliament on the conservation of wild birds. https://ec.europa.eu/environment/nature/conservation/wildbirds/threatened/index_en.htm (Accessed: 28th August 2024)

²⁸ Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). <https://www.legislation.gov.uk/ukpga/1981/69/schedule/1> (Accessed: 28th August 2024)

Panel Area	Related Survey Map (see Figure 1)
Western	Map 10

2.1.10 Survey effort is presented in **Table 2.2**. Field surveys were undertaken by J. Hanlon (JH), J. Lowen (JL), W. Soar (WS), P. Hayman (PH), P. Dolton (PD), M. Baker (MB) and C. Sharpe (CS), all of whom are suitably qualified and experienced ornithologists.

Table 2.2: Breeding bird survey effort.

Survey Visit	Date	Area	Surveyor	Start Time (24hrs)	End Time (24hrs)	Survey Type	Sunrise / Sunset
1	18/03/2024	Maps 9b & 10	WS	06:30	12:45	Dawn	06:03 / 18:07
	19/03/2024	Maps 1 & 2	WS	06:35	10:45	Dawn	06:01 / 18:09
	21/03/2024	Map 2	WS	06:30	10:55	Dawn	05:56 / 18:13
	22/03/2024	Map 2	WS	06:25	10:45	Dawn	05:54 / 18:14
	25/03/2024	Map 3	WS	06:15	09:15	Dawn	05:47 / 18:20
	26/03/2024	Map 4	WS	06:10	09:30	Dawn	05:44 / 18:21
	27/03/2024	Map 4	WS	06:05	08:25	Dawn	05:42 / 18:23
	28/03/2024	Map 5	WS	07:00	11:00	Dawn	05:39 / 18:25
	02/04/2024	Map 7	WS	07:00	11:15	Dawn	06:28 / 19:34
	03/04/2024	Map 8	JL	06:45	11:00	Dawn	06:25 / 19:35
	06/04/2024	Map 6	JH	06:50	10:10	Dawn	06:18 / 19:41
	10/04/2024	Map 6	JH	06:30	09:00	Dawn	06:09 / 19:48
2	08/04/2024	Maps 1 & 2	JH	06:20	08:15	Dawn	06:14 / 19:44
	08/04/2024	Map 2	WS	06:45	11:45	Dawn	06:14 / 19:44
	10/04/2024	Map 3	JL	06:05	09:00	Dawn	06:09 / 19:48
	11/04/2024	Map 4	WS	06:30	10:10	Dawn	06:07 / 19:50
	12/04/2024	Map 4	WS	06:30	08:30	Dawn	06:05 / 19:51
	16/04/2024	Map 5	CS	05:42	09:42	Dawn	05:56 / 19:58
	17/04/2024	Map 6	JH	06:30	09:15	Dawn	05:53 / 20:00
	17/04/2024	Map 2	WS	06:15	09:30	Dawn	05:53 / 20:00
	18/04/2024	Map 9b	CS	05:52	08:03	Dawn	05:51 / 20:02
	18/04/2024	Map 6	PH	06:00	09:45	Dawn	05:51 / 20:02
	19/04/2024	Map 9b	CS	05:30	10:00	Dawn	05:49 / 20:04
	20/04/2024	Map 9b	CS	05:37	10:00	Dawn	05:47 / 20:05
	22/04/2024	Map 2	WS	06:15	09:05	Dawn	05:43 / 20:09
	24/04/2024	Map 8	JL	05:20	09:10	Dawn	05:38 / 20:12
	24/04/2024	Map 10	PH	05:45	10:40	Dawn	05:38 / 20:12
	26/04/2024	Map 7	JH	06:20	11:05	Dawn	05:34 / 20:16
3	29/04/2024	Map 3	JL	05:30	08:30	Dawn	05:28 / 20:21

Survey Visit	Date	Area	Surveyor	Start Time (24hrs)	End Time (24hrs)	Survey Type	Sunrise / Sunset
	01/05/2024	Map 4	JH	06:25	10:00	Dawn	05:24 / 20:25
	01/05/2024	Map 2	CS	05:50	08:45	Dawn	05:24 / 20:25
	02/05/2024	Maps 1 & 2	JH	05:50	08:45	Dawn	05:22 / 20:26
	02/05/2024	Map 2	WS	05:50	08:45	Dawn	05:22 / 20:26
	03/05/2024	Maps 2 & 9b	CS	05:17	09:19	Dawn	05:20 / 20:28
	06/05/2024	Map 2	JH	05:45	09:30	Dawn	05:15 / 20:33
	07/05/2024	Map 4	WS	05:40	08:00	Dawn	05:13 / 20:35
	09/05/2024	Map 6	WS	05:35	08:15	Dawn	05:09 / 20:38
	09/05/2024	Map 9b	PH	05:00	10:15	Dawn	05:09 / 20:38
	10/05/2024	Map 6	WS	05:30	08:50	Dawn	05:08 / 20:40
	13/05/2024	Map 10	JH	05:35	09:30	Dawn	05:03 / 20:45
	24/05/2024	Map 7	PD	05:05	09:15	Dawn	04:47 / 21:01
	17/05/2024	Map 9b	PD	06:00	11:30	Dawn	04:56 / 20:51
	17/05/2024	Map 5	PH	04:55	10:15	Dawn	04:56 / 20:51
	17/05/2024	Map 8	JL	05:00	08:35	Dawn	04:56 / 20:51
4	17/05/2024	Map 9a	MB	05:00	10:30	Dawn	04:56 / 20:51
	18/05/2024	Map 9c	MB	05:15	10:00	Dawn	04:55 / 20:52
	19/05/2024	Map 9c	MB	05:15	08:15	Dawn	04:54 / 20:54
	23/05/2024	Map 5	PD	05:05	09:10	Dawn	04:48 / 21:00
	23/05/2024	Map 2	WS	05:00	08:20	Dawn	04:48 / 21:00
	24/05/2024	Maps 2 & 4	WS	05:00	08:35	Dawn	04:47 / 21:01
	28/05/2024	Map 2	WS	05:00	08:20	Dawn	04:43 / 21:06
	30/05/2024	Map 6	WS	04:55	09:00	Dawn	04:41 / 21:09
	30/05/2024	Map 8	JL	05:10	08:55	Dawn	04:41 / 21:09
	01/06/2024	Map 6	WS	04:45	06:00	Dawn	04:39 / 21:11
	02/06/2024	Map 7	JH	05:10	09:10	Dawn	04:38 / 21:12
	02/06/2024	Map 4	PH	04:50	09:15	Dawn	04:38 / 21:12
	03/06/2024	Map 2	WS	05:00	11:00	Dawn	04:37 / 21:13
	04/06/2024	Map 9b	PD	04:45	09:45	Dawn	04:37 / 21:14
	05/06/2024	Map 9b	PD	04:30	08:35	Dawn	04:56 / 21:15
	06/06/2024	Map 3	WS	04:50	07:50	Dawn	04:35 / 21:16
	07/06/2024	Maps 2 & 9b	JH	05:00	08:35	Dawn	04:35 / 21:17
	09/06/2024	Map 1	JH	05:05	07:05	Dawn	04:34 / 21:19
	08/07/2024	Map 10	WS	04:55	10:45	Dawn	04:44 / 21:19
5	04/06/2024	Map 9c	MB	04:30	10:00	Dawn	04:37 / 21:14
	05/06/2024	Map 9a	MB	04:30	09:30	Dawn	04:36 / 21:15
	06/06/2024	Map 9c	MB	04:30	07:15	Dawn	04:35 / 21:16

Survey Visit	Date	Area	Surveyor	Start Time (24hrs)	End Time (24hrs)	Survey Type	Sunrise / Sunset
	08/06/2024	Map 7	JL	16:40	20:40	Dusk	04:34 / 21:18
	11/06/2024	Map 5	JH	05:00	09:10	Dawn	04:33 / 21:20
	11/06/2024	Map 2	WS	18:00	21:15	Dusk	04:33 / 21:20
	15/06/2024	Map 2	WS	18:00	21:20	Dusk	04:32 / 21:23
	16/06/2024	Map 2	WS	17:55	21:15	Dusk	04:32 / 21:23
	13/06/2024	Map 3	JL	17:00	19:55	Dusk	04:33 / 21:21
	17/06/2024	Map 4	JL	16:45	20:15	Dusk	04:32 / 21:23
	18/06/2024	Map 6	PD	18:25	21:20	Dusk	04:32 / 21:24
	19/06/2024	Map 4	JL	17:15	20:25	Dusk	04:33 / 21:24
	19/06/2024	Map 2	WS	17:55	21:25	Dusk	04:33 / 21:24
	20/06/2024	Map 6	WS	17:30	21:55	Dusk	04:33 / 21:24
	21/06/2024	Map 8	JL	17:30	21:30	Dusk	04:33 / 21:24
	21/06/2024	Map 9b	WS	17:50	21:40	Dusk	04:33 / 21:24
	24/06/2024	Map 9b	WS	17:45	21:05	Dusk	04:34 / 21:25
	27/06/2024	Map 1	JH	19:35	21:30	Dusk	04:35 / 21:24
	29/06/2024	Map 9b	JH	19:10	21:30	Dusk	04:36 / 21:24
	20/06/2024	Map 6	PD	20:40	21:35	Dusk	04:33 / 21:24
	11/07/2024	Map 10	WS	04:55	10:15	Dawn	04:47 / 21:17
6	28/06/2024	Map 9a	MB	04:40	09:15	Dawn	04:36 / 21:24
	29/06/2024	Map 9c	MB	04:40	09:30	Dawn	04:36 / 21:24
	30/06/2024	Map 9c	MB	04:15	08:15	Dawn	04:37 / 21:24
	05/07/2024	Map 2	WS	05:00	09:05	Dawn	04:41 / 21:21
	05/07/2024	Map 5	PD	19:00	19:50	Dawn	04:41 / 21:21
	06/07/2024	Map 5	PD	18:40	21:40	Dusk	04:42 / 21:21
	07/07/2024	Map 2	WS	04:45	08:20	Dawn	04:43 / 21:20
	08/07/2024	Map 4	PD	05:10	09:55	Dawn	04:44 / 21:19
	09/07/2024	Map 4	PD	06:15	09:30	Dawn	04:45 / 21:19
	10/07/2024	Map 6	WS	04:50	08:45	Dawn	04:46 / 21:18
	12/07/2024	Map 3	JH	05:25	08:10	Dawn	04:48 / 21:16
	12/07/2024	Map 6	WS	04:50	08:00	Dawn	04:48 / 21:16
	14/07/2024	Map 8	JH	05:25	09:05	Dawn	04:51 / 21:14
	15/07/2024	Map 10	WS	05:10	10:45	Dawn	04:52 / 21:13
	21/07/2024	Map 2	WS	05:25	10:05	Dawn	05:00 / 21:06
	18/07/2024	Maps 1 & 2	JH	05:30	08:10	Dawn	04:56 / 21:09
	19/07/2024	Map 9b	PD	05:05	09:45	Dawn	04:57 / 21:08
	20/07/2024	Map 9b	PD	04:50	09:00	Dawn	04:59 / 21:07
	21/07/2024	Maps 2 & 9b	JH	05:25	08:20	Dawn	05:00 / 21:06

Survey Visit	Date	Area	Surveyor	Start Time (24hrs)	End Time (24hrs)	Survey Type	Sunrise / Sunset
	23/07/2024	Map 7	WS	05:30	10:40	Dawn	05:01 / 21:04
7	27/07/2024	Map 10	PD	05:05	09:10	Dawn	05:03 / 21:03

2.2 Nightjar Survey

- 2.2.1 Nightjar is listed as a qualifying feature of Breckland SPA, which is spatially situated directly adjacent to Map 10 (**Figure 2**) of the Site. All other areas of the Site are considered spatially separated from the potential breeding nightjar SPA population. A Breeding Nightjar Survey to record the presence and distribution of breeding nightjar, via churring (singing) males, was therefore undertaken in Map 10. The survey was based on species-specific guidance defined in Gilbert *et al.* (1998), employing a dusk survey and a dawn survey.
- 2.2.2 The survey area (henceforth 'Nightjar Survey Area') was all suitable habitat (open clear-fell areas of commercial forestry, forest edge and any areas of heath, identified from aerial imagery and ground-truthed during previous breeding bird survey visits) within the Site of Map 10, out to 500m, as access permissions allowed and as shown in **Figure 15**. No such suitable breeding habitat was identified within the Site of Map 10, however suitable habitats were identified in the 500m Nightjar Survey Area buffer within the adjacent SPA. As access was not permitted within the SPA itself, surveys instead included a series of walked transects along the Site boundary bordering the SPA. Transects incorporated stopping (listening) points, with each stop lasting approximately 5 minutes. Any nightjars within the 500m buffer would be expected to be readily detectable from within the Site.
- 2.2.3 Survey visits were undertaken in fine weather conditions conducive to survey (with weather conditions recorded). Due to health and safety considerations of working at night, surveys were undertaken by multiple surveyors. A summary of survey effort is presented in **Table 2.3** and detailed survey conditions are presented in **Annex 3**.

Table 2.3: Nightjar survey effort summary.

Date	Surveyors	Start time (24hrs)	Finish time (24hrs)	Survey Type	Sunrise/ sunset
08/07/2024	PD and PH	03:15	04:20	Dawn	04:44 / 21:19
23/07/2024	PD and JH	21:15	22:20	Dusk	05:03 / 21:03

Limitations

Breeding Bird Survey

- 2.2.4 Guidance from the Bird Survey & Assessment Steering Group (2023) suggests that dawn breeding bird surveys should typically commence within 30 minutes of sunrise and end by 11:00. The majority of visits commenced within or close to the recommended start time, with five outlier visits during the survey starting between 15 minutes to 1 hour after the optimal start time. Of the 87 dawn visits, five were also concluded between 11:00 and 12:45. Delayed and prolonged surveys were primarily due to the avoidance of sub-optimal weather conditions in combination with the large survey area coverage required per visit. With approximately 91% of dawn surveys conducted during optimal survey times, it is not considered that the timing of dawn visits will impact the assessment.
- 2.2.5 Bird Survey & Assessment Steering Group (2023) guidance also suggests that evening surveys conclude following one hour after sunset. Due to lone working health and safety purposes, all evening surveys were concluded prior to dark conditions with only seven of the 18 evening visits running past sunset

(range: 1 to 31 minutes). As passerine breeding activity is strictly reduced in nocturnal conditions, it is deemed that an accurate assessment of the breeding species assemblage was conducted during the survey timings of evening visits.

- 2.2.6 Site boundary amendments resulted in the incorporation of Map 9a and 9c (see **Figures 1, 11 and 12**) during the survey period. As a result, only three survey visits were conducted within these areas; all of which comprised dawn visits.
- 2.2.7 No access was permitted to a single 16.6ha field in Map 9c for two of the three visits. As this field only comprised 0.9% of the Site, and still included the majority of field boundaries on all three surveys, with open habitats also surveyed on a single visit, the partial lack of access is not considered to impact the assessment.
- 2.2.8 Map 6 included two fields (approximately 43ha representing 2.3% of the Site) that were not included in the survey (**Figures 9 & 10**). As nearby surveyed areas of the Site comprised similar agricultural habitats, it is considered that the species assemblage likely present is comparable to that recorded in the BBS Area. Due to the excluded fields representing a small area of the overall Site, with the likely breeding species expected to represent the same species assemblage recorded within the Site, it is not considered that this is a substantial limitation to the assessment.
- 2.2.9 Due to temporary access restrictions, the Site west of Palgrave Road on Map 9b were not surveyed on the first visit in March 2024. As this area was fully incorporated into the survey effort for the subsequent five visits between April and July, it is considered that this does not limit the assessment of the breeding species assemblage present.
- 2.2.10 Access to Map 10 was refused during the survey period from the 1st to 28th June 2024. As such, no evening visit was conducted at Map 10. Due to the proximity to Breckland SPA and in order to offset any limitation to the assessment, an additional visit was conducted at Map 10. Therefore, a total of seven dawn visits was conducted at Map 10, with four visits conducted between the 8th and 27th July 2024. Although some of the four visits in July occurred within the recommended survey interval of seven days, it is considered that this is a less substantial limitation to the assessment than a reduction in visit frequency. The species assemblage breeding at Map 10 is therefore deemed to be an accurate assessment.
- 2.2.11 Surveys recorded Notable Species in line with current guidance at the time including BoCC Amber and Red List Species (Stanbury *et al.*, 2021²⁴). Following the majority of surveys, updated status assessments for 28 species have been made for breeding seabirds in the UK (Stanbury *et al.* 2024²⁹). Relevant to this assessment, common gull has since been added to the Red List. As the species was initially treated as a Notable Species during the survey, this change is not considered to be a constraint to the assessment.
- 2.2.12 In summary, no limitations to the survey dataset in informing a robust assessment of potential impacts upon breeding bird species are considered.

Nightjar Survey

- 2.2.13 Due to temporary access restrictions to Map 10, a nightjar survey could not be completed in June 2024. Instead, two survey visits were completed in July 2024 only. As July is within the optimal survey period for the species, it is not considered that the lack of visits in June will impact the breeding assessment.

²⁹ Stanbury, A.J., Burns, F., Aebischer, N.J., Baker, H., Balmer, D.E., Brown, A., Dunn, T., Lindley, P., Murphy, M., Noble, D.G. and Owens, R. (2024). The status of the UK's breeding seabirds: an addendum to 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*, 117:471-487.

- 2.2.14 No access was permitted within Breckland SPA, which comprised the only suitable breeding habitat (open clear-fell areas of commercial forestry and forest edge) in the Nightjar Survey Area for the species. However, as the perimeter of the SPA (within the Nightjar Survey Area) could be surveyed within the Site of Map 10, it is considered that an assessment of breeding territories could be determined without the need to access to the SPA itself.

3 RESULTS

3.1 Breeding Bird Survey

- 3.1.1 The breeding bird assemblage recorded within the BBS Area was considered representative of the locale and the agricultural, woodland and field boundary habitats present. A total of 58 species were recorded breeding within the BBS Area, which included 32 Notable Species within the Site as summarised in **Table 3.1**.
- 3.1.2 Breeding evidence for the 32 Notable Species recorded within the Site included:
- 12 Red List species (grey partridge, cuckoo, lapwing, marsh tit, skylark, mistle thrush, house sparrow, yellow wagtail, greenfinch, linnet, corn bunting and yellowhammer);
 - 16 Amber List species (mallard, stock dove, woodpigeon, moorhen, stone-curlew, oystercatcher, kestrel, rook, willow warbler, whitethroat, wren, song thrush, dunnoek, meadow pipit, bullfinch and reed bunting);
 - 16 listed as rare and most threatened species under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act (2006) (grey partridge, cuckoo, stone-curlew, lapwing, marsh tit, woodlark, skylark, song thrush, house sparrow, dunnoek, yellow wagtail, bullfinch, linnet, corn bunting, yellowhammer and reed bunting); and,
 - Eight species listed under the Norfolk LBAP (barn owl, corn bunting, grey partridge, reed bunting, skylark, stone-curlew, song thrush and woodlark).
- 3.1.3 Five species recorded were listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). This comprised stone-curlew, red kite, barn owl, woodlark and firecrest. Stone-curlew, red kite and woodlark are further listed on Annex 1 of the Directive 2009/147/EC (Birds Directive).
- 3.1.4 A stone-curlew pair was identified within the Site in July, with further stone-curlew territories identified outside the Site during separate targeted stone-curlew surveys (see separate *Confidential Stone-curlew Survey Report*³⁰ for full details).
- 3.1.5 A red kite territory was identified breeding within an on-Site woodland with a minimum of two fledged juveniles observed. Four woodlark territories were identified within the BBS Area, with three situated within the Site itself. Woodlark was recorded along grassland field margins and along woodland edges. Four firecrest territories were also identified within the BBS Area, with three situated within the Site itself. All firecrest territories were recorded in either tree line or woodland habitats.
- 3.1.6 Two conclusive barn owl territories were identified within the BBS Area during the breeding bird surveys, with only one situated within the Site itself. A further potential barn owl territory was identified within a 500m buffer of the Site (i.e. 'Wider Survey Area') during separate ornithology surveys in the winter (see *Non-breeding Bird Survey Report*³¹). This barn owl was recorded in a suitable breeding tree hole in January, with hunting behaviour also recorded in the vicinity. As this tree roost

³⁰ Avian Ecology Ltd. (2024). Confidential Stone-curlew Survey Report. Pp. 1-6.

³¹ Avian Ecology Ltd. (2024). Non-breeding Bird Survey Report. Pp. 1-42.

was located within the Wider Survey Area and not within the Site itself, it was not accessible for close examination during the breeding bird surveys. Although no conclusive breeding activity was identified at this winter roost site during the survey effort, it has been treated as a potential breeding territory on a precautionary basis due to its breeding habitat suitability. This additional barn owl territory should be treated as a supplementary record, as the breeding bird survey methods do not allow for the number of Schedule 1 species breeding within 500m, but more than 100m, from the Site to be fully determined.

- 3.1.7 The location of breeding Schedule 1 species territories are considered sensitive and have been excluded from **Figures 3 to 14**. Confidential breeding locations of Schedule 1 species are presented separately on **Figures 16a and 16b**; the *Confidential Schedule 1 Species Survey Results* plan.
- 3.1.8 Six species comprised qualifying breeding species of Nature Network Sites (European sites) within 20km of the Site (see **Table 1.1**). These included stone-curlew, woodlark, mallard, oystercatcher, lapwing and moorhen. Other species recording breeding in the Site which are identified to be present in neighbouring national designated sites included cuckoo, barn owl, little owl, kestrel, marsh tit, garden warbler, whitethroat, nuthatch and reed bunting.
- 3.1.9 Within the Site, the number of Notable Species breeding territories was typically below 0.02 territories per ha (total Site surveyed: 1,805.7 ha), with higher numbers of territories recorded for eight species. These included wren (391 territories; 0.22 territories per ha), skylark (253 territories; 0.14 territories per ha), yellowhammer (227 territories; 0.13 territories per ha), rook (200 territories; 0.11 territories per ha), whitethroat (141 territories; 0.08 territories per ha), dunnoek (120 territories; 0.07 territories per ha), linnet (95 territories; 0.05 territories per ha) and woodpigeon (62 territories; 0.03 territories per ha).
- 3.1.10 The number of skylark territories was calculated on the basis of singing males recorded during survey. Here a territory was considered to be 'confirmed' if a singing male was recorded on three visits in the same approximate location over the survey period following BTO CBC techniques, in accordance with Gilbert *et al.* (1998). The size of the surveyed Site is 1,805.7 ha, which with 253 estimated skylark territories, results on average to be 0.14 on-Site skylark territories per ha. Based on this calculated average territory density, it is considered that approximately six additional skylark territories are likely to be present in the 43ha of land excluded from Map 6 (see limitations; paragraph 2.2.8).
- 3.1.11 With the respective twelve areas combined, skylark densities within the Site were found to range between 0.08 territories per ha (Map 9b) and 0.33 territories per ha (Map 1). Maps 1, 3, 4, 9a and 9c were the only areas to have densities higher than the overall Site average of 0.14 territories per ha. These densities were respectively 0.33 territories per ha (Map 1), 0.22 territories per ha (Map 3), 0.15 territories per ha (Map 4), 0.20 territories per ha (Map 9a) and 0.30 territories per ha (Map 9c).
- 3.1.12 Breeding territories of Notable Species were typically associated with vegetation along field boundaries, which principally comprises of field-margins, hedgerows, scrub, tree-lines, ditches, watercourses, ponds and woodland habitats within or adjacent to the Site.
- 3.1.13 Ground-nesting Notable Species that breed in open habitats within the Site comprised of grey partridge (14 territories), stone-curlew (1 territory), oystercatcher (1 territory), lapwing (1 territory), woodlark (3 territories), skylark (253 territories), yellow wagtail (2 territories), meadow pipit (2 territories) and corn bunting (1 territory).
- 3.1.14 Grey partridge, woodlark and corn bunting were identified breeding principally along grassland field margins, rather than within open agricultural fields themselves. Grey partridge was recorded throughout the Site (Maps 1-4, 6, 8 and 10), whilst corn bunting was recorded on-Site in Map 9a. Stone-curlew, oystercatcher, lapwing, skylark, yellow wagtail and meadow pipit were primarily recorded on-Site in open agricultural fields. Skylark was identified throughout all 12 areas, with oystercatcher and yellow wagtail recorded in Map 10, lapwing recorded in Map 2 and meadow pipit

record in Maps 4 and 9a. Locations for woodlark and stone-curlew are presented separately on **Figures 16a** and **16b**; the *Confidential Schedule 1 Species Survey Results* plan.

- 3.1.15 All breeding Notable Species (or potential breeding Notable Species) recorded along with an estimated number of the breeding territories within the Site are detailed within **Table 3.1**. With the exclusion of Schedule 1 species, the indicative locations of the territories of Notable Species are provided in **Figures 3 to 14**.

Table 3.1: Breeding bird territories for Notable Species recorded within the Site.

Species	Total Site Estimated Territories	Estimated Site Territory Density per ha	Comments
Mallard	1	<0.01	Pair breeding on an on-Site pond in Map 9c.
Grey partridge	14	0.01	Breeding throughout on-Site grassland field margins (Maps 1-4, 6, 8 and 10).
Cuckoo	3	<0.01	Recorded along field boundaries of Map 2, 9a and 9c.
Stock dove	10	0.01	Identified throughout on-Site field boundary habitats and woodland.
Woodpigeon	62	0.03	Recorded throughout on-Site field boundary habitats and woodland.
Moorhen	3	<0.01	Breeding pairs identified on ponds in Map 2 and Map 6.
Stone-curlew	1	<0.01	See Figure 16a: Confidential Schedule 1 Species Survey Results (provided separately) .
Oystercatcher	1	<0.01	Identified territory recorded within an open on-Site field of Map 10.
Lapwing	1	<0.01	Territories recorded in open fields on-Site in Map 2 and off-Site in Map 10.
Red kite	1	<0.01	See Figure 16a: Confidential Schedule 1 Species Survey Results (provided separately) .
Barn owl	1	<0.01	See Figure 16a: Confidential Schedule 1 Species Survey Results (provided separately) .
Kestrel	1	<0.01	Territory recorded in an on-Site tree line.
Rook	200	0.11	Rookeries recorded in woodland of Map 9b.
Marsh tit	2	<0.01	Singing males identified in woodland and fields boundaries of Map 2 and 10.
Woodlark	3	<0.01	See Figure 16b: Confidential Schedule 1 Species Survey Results (provided separately) .
Skylark	253	0.14	Recorded singing throughout on-Site open field habitats.
Willow warbler	2	<0.01	Recorded signing in trees of Map 4 and 9a.

Species	Total Site Estimated Territories	Estimated Site Territory Density per ha	Comments
Whitethroat	141	0.08	Recorded singing and calling throughout on-Site field boundaries and woodland.
Firecrest	3	<0.01	See Figure 16a: Confidential Schedule 1 Species Survey Results (provided separately) .
Wren	391	0.22	Recorded singing and calling throughout on-Site field boundary habitats and woodland.
Song thrush	45	0.02	Recorded singing and calling throughout on-Site field boundary habitats and woodland.
Mistle thrush	3	<0.01	Recorded singing and calling in tree habitats of Maps 6, 7, and 10.
House sparrow	1	<0.01	Recorded breeding in scrub and urban areas.
Dunnock	120	0.07	Recorded singing and calling throughout on-Site field boundary habitats and woodland
Yellow wagtail	2	<0.01	Recorded calling in on-Site open fields of Map 10,
Meadow pipit	2	<0.01	Observed singing in on-Site open fields of Maps 4 and 9a.
Bullfinch	7	<0.01	Recorded calling along Site field boundary habitats.
Greenfinch	25	0.01	Recorded singing and calling throughout on-Site field boundary habitats and woodland.
Linnet	95	0.05	Recorded singing and calling throughout on-Site field boundary habitats and woodland.
Corn bunting	1	<0.01	Singing behaviour recorded along a grassland field margin in Map 9a.
Yellowhammer	227	0.13	Recorded singing and calling throughout on-Site field boundary habitats.
Reed bunting	21	0.01	Identified singing and calling along on-Site field boundaries.

3.1.16 In addition to those Notable Species recorded within the Site, a total of three Schedule 1 species were recorded within the 100m Site buffer. These consisted of two barn owl, one woodlark and one firecrest. The locations of these are provided separately on **Figures 16a** and **16b**.

3.1.17 Common and/or non-native species recorded breeding within the Site included the following:

- Pheasant;
- Collared dove;

- Grey heron;
- Buzzard;
- Little owl;
- Great spotted woodpecker;
- Green woodpecker;
- Jay;
- Magpie;
- Jackdaw;
- Carrion crow;
- Coal tit;
- Great tit;
- Long-tailed tit;
- Chiffchaff;
- Blackcap;
- Garden warbler;
- Lesser whitethroat;
- Goldcrest;
- Nuthatch;
- Treecreeper;
- Blackbird;
- Robin;
- Stonechat;
- Pied wagtail;
- Chaffinch; and,
- Goldfinch.

3.1.18 During survey visits, observations of 41 other species were also made, but for which established breeding evidence was not recorded within the Site. This included:

- Greylag goose;
- Egyptian goose;
- Shelduck;
- Gadwall;
- Swift;
- Turtle dove;
- Little ringed plover;
- Whimbrel;
- Curlew;
- Woodcock;
- Snipe;
- Green sandpiper;
- Black-headed gull;
- Common gull;
- Herring gull;
- Lesser black-backed gull;
- Common tern;
- Cormorant;
- Grey heron;
- Little egret;
- Sparrowhawk;
- Marsh harrier;
- Tawny owl;
- Hobby;
- Golden oriole;
- Raven;

- Swallow;
- House martin;
- Sedge warbler;
- Starling;
- Fieldfare;
- Redwing;
- Ring ouzel;
- Spotted flycatcher;
- Redstart;
- Wheatear;
- Tree sparrow;
- Grey wagtail;
- Tree pipit;
- Brambling; and,
- Lesser redpoll.

3.1.19 Of these non-breeding Site species, shelduck, gadwall and snipe are the only species listed as a qualifying species for a European designated site (Ouse Washes SPA; see **Table 1.1**). Eight of these non-breeding species are also listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). These eight species comprise: little ringed plover, whimbrel, green sandpiper, marsh harrier, hobby, golden oriole, fieldfare and brambling. A further three species are listed on Annex 1 of the Directive 2009/147/EC (Birds Directive), including common tern, little egret and marsh harrier.

3.2 Nightjar Survey

- 3.2.1 Suitable breeding habitat was identified only in the neighbouring Breckland SPA. This included open clear-fell areas of commercial forestry and forest edge. No suitable breeding nightjar habitat was identified within the Site of Map 10.
- 3.2.2 Two nightjar territories were recorded within the Breckland SPA Nightjar Survey Area, with none recorded within the Site itself (**Figure 15**).
- 3.2.3 During the first survey (dawn survey), two churring males and a single female were identified within the adjacent SPA. Activity of nightjar was recorded over forestry plantation and gorse scrub, located south of the A1122 road and approximately 50-200m from the Site boundary.
- 3.2.4 During the second survey (dusk survey), three to four individual nightjar (considered to be two breeding pairs) were recorded within the SPA in a similar location to the first survey. This included nightjar activity recorded approximately 50m south and 200m east from the Site boundary.
- 3.2.5 Both surveys identified nightjar presence and breeding behaviour within the adjacent SPA. Activity mostly occurred over conifer plantation comprising young trees and was considered not to occur within the Site itself where on-Site habitats (arable) were unsuitable. The SPA boundary also included a linear boundary of mature deciduous woodland, estimated to be approximately 50m wide. No activity was observed over the mature deciduous woodland within the SPA, and therefore it was considered that as well as the Site itself, nightjar did not breed within 50m of the Site. Instead, breeding territories were likely to occur within more suitable habitats of the SPA where activity was concentrated. Such SPA habitats comprised immature conifer plantation and previously clear-fell areas with scrub.

4 SUMMARY

- 4.1.1 Breckland SPA is situated directly adjacent to the Site and is designated for supporting breeding stone-curlew, nightjar and woodlark. Such species are therefore a material consideration within the planning process.
- 4.1.2 The breeding bird survey identified five species breeding (or potentially breeding) on-Site that are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). This comprised stone-curlew (potentially one territory), red kite (1 territory), barn owl (1 territory), woodlark (3 territories) and firecrest (3 territories). A total of three Schedule 1 species were also recorded within the 100m Site buffer, including barn owl (2 territories), woodlark (1 territory) and firecrest (1 territory).
- 4.1.3 The nightjar survey identified two potential territories within the Breckland SPA, and none within the Site itself.
- 4.1.4 Ground-nesting Notable Species that breed in open habitats within the Site comprised of grey partridge (14 territories), stone-curlew (1 territory), oystercatcher (1 territory), lapwing (1 territory), woodlark (3 territories), skylark (253 territories), yellow wagtail (2 territories), meadow pipit (2 territories) and corn bunting (1 territory).

FIGURE 1. BREEDING BIRD SURVEY PLAN (OVERVIEW)

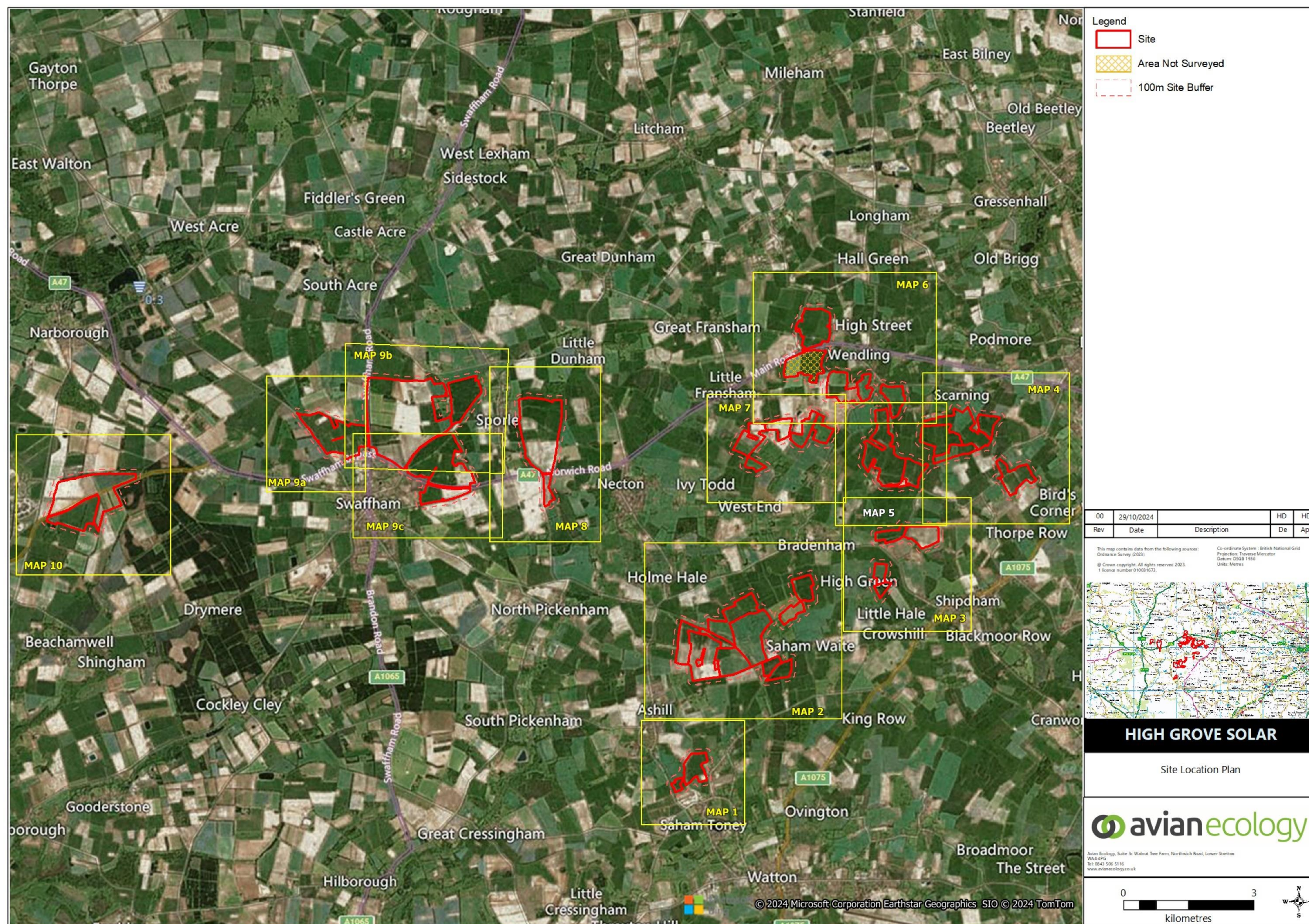


FIGURE 2. STATUTORY DESIGNATED SITES WITH BREEDING ORNITHOLOGICAL INTEREST

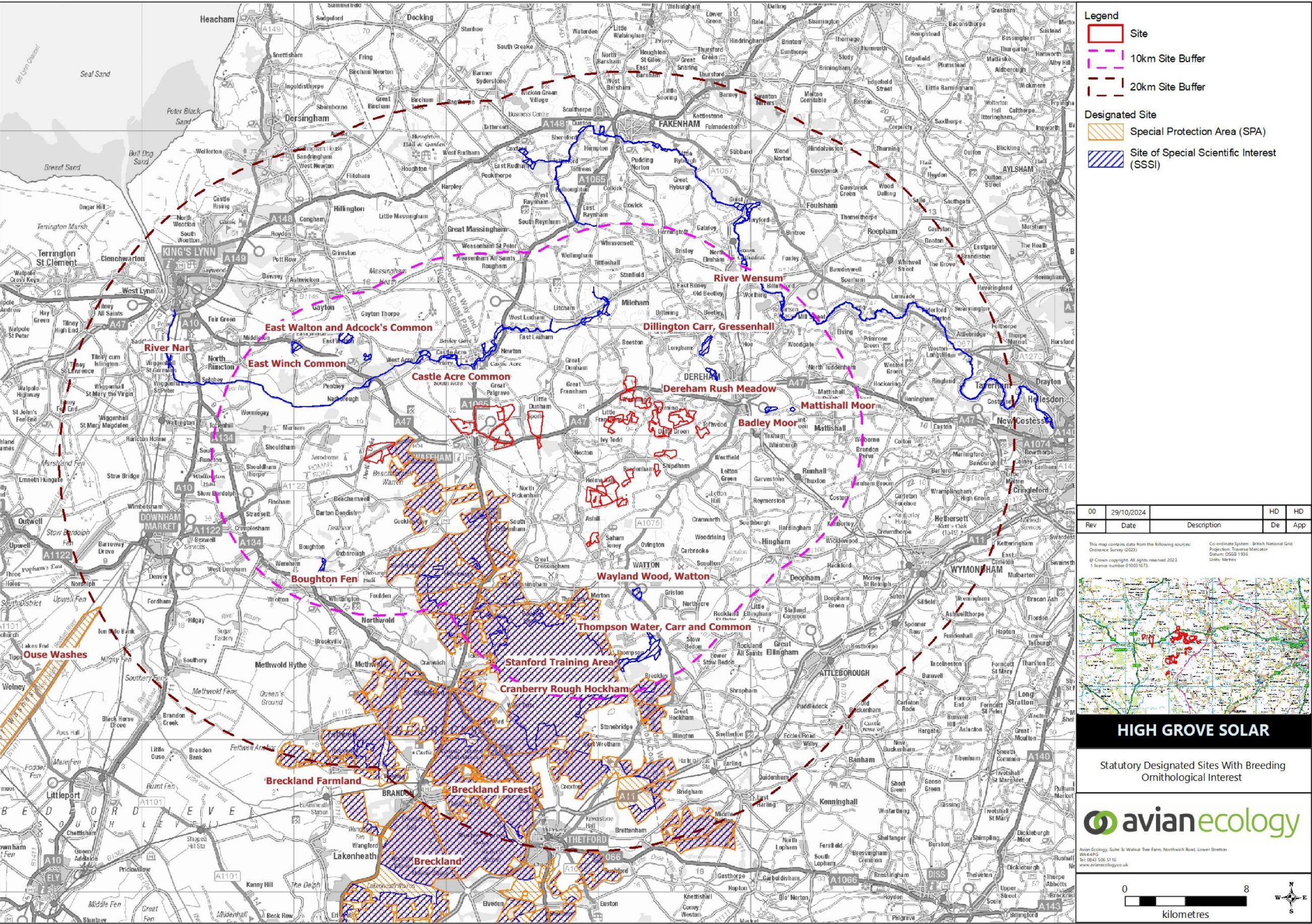


FIGURE 3: BREEDING BIRD SURVEY RESULTS – MAP 1 (AMBER LISTED BOCC)

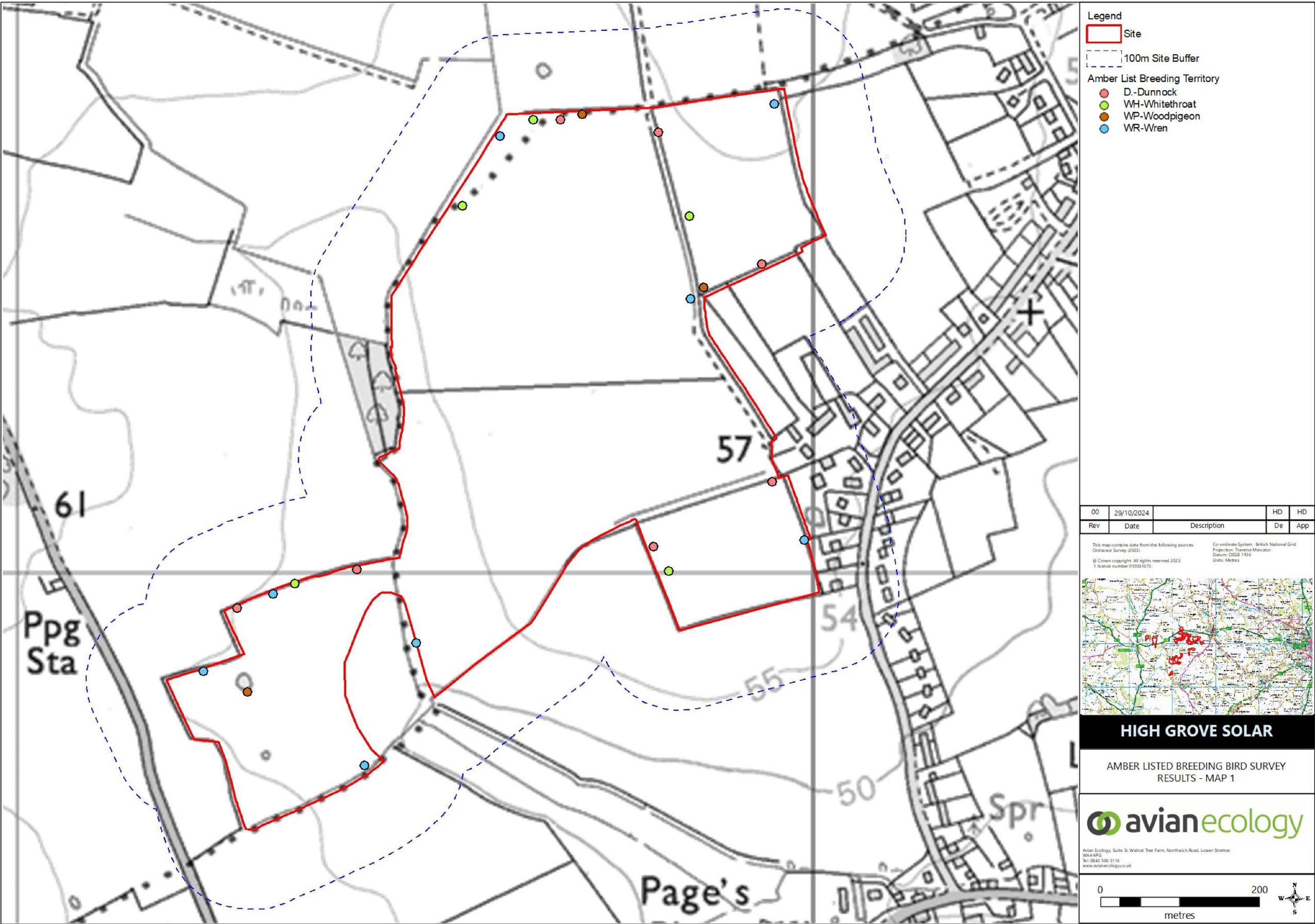


FIGURE 4: BREEDING BIRD SURVEY RESULTS – MAP 1 (RED LISTED BOCC)

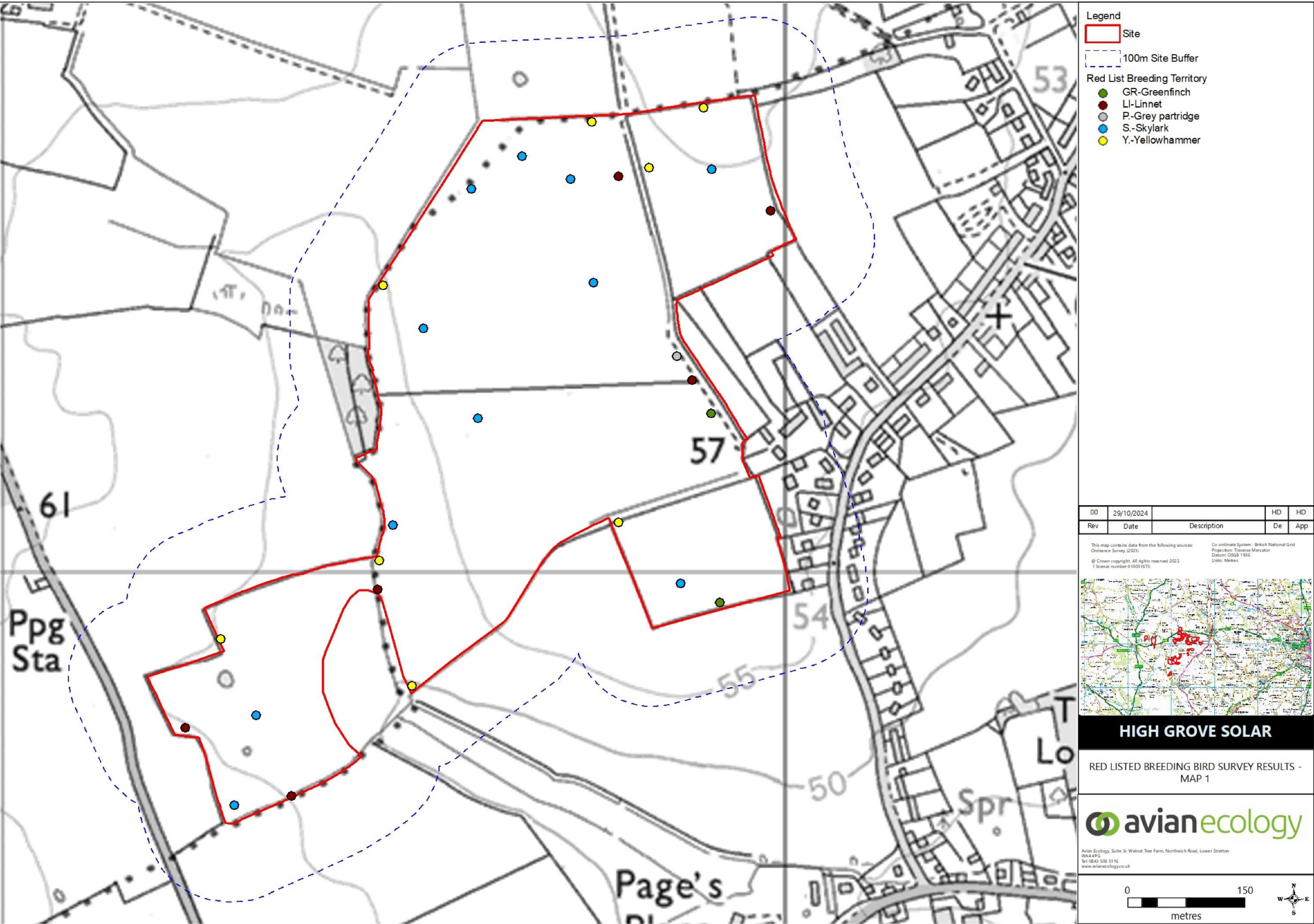


FIGURE 5: BREEDING BIRD SURVEY RESULTS – MAP 2 (AMBER LISTED BOCC)

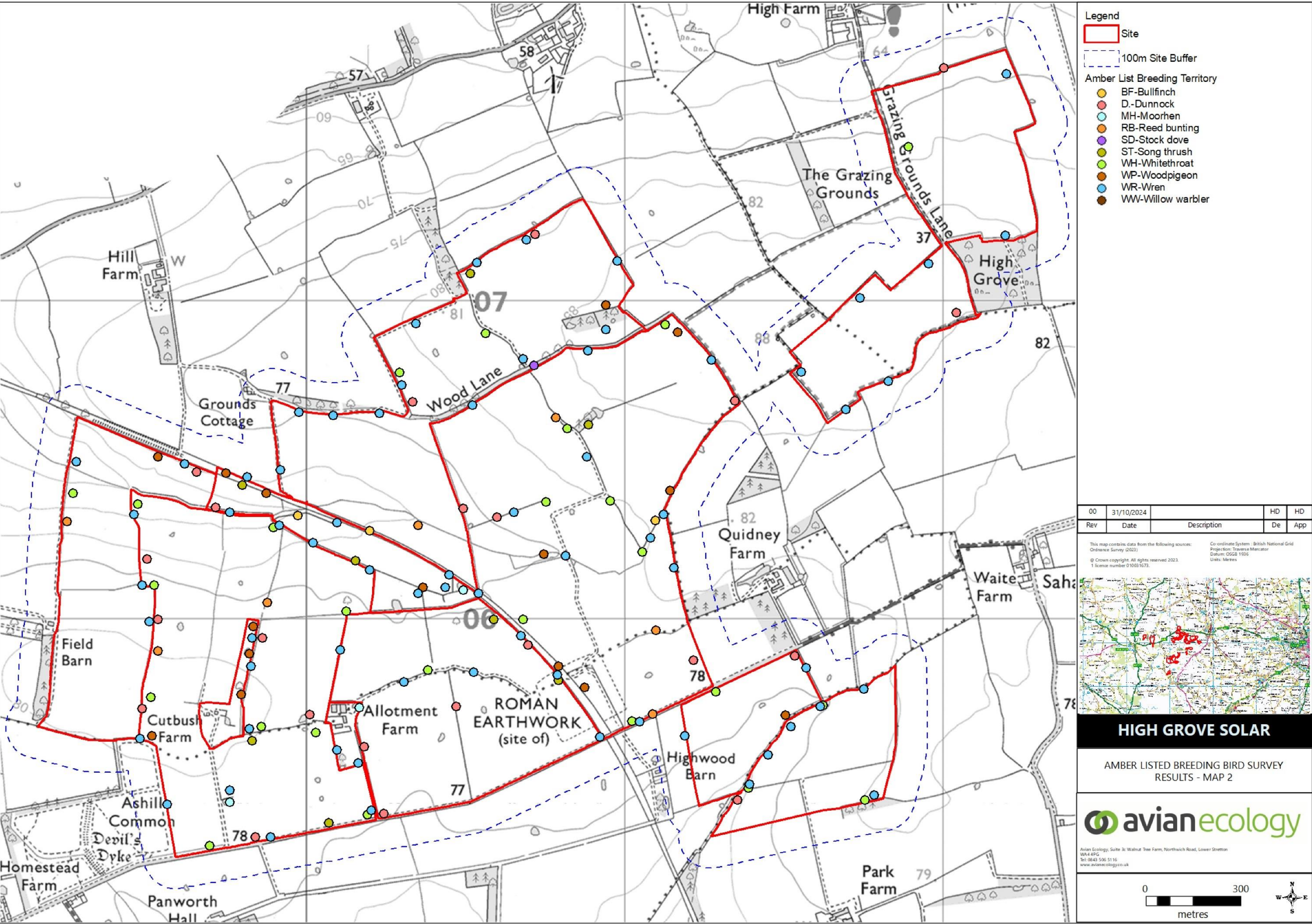


FIGURE 6: BREEDING BIRD SURVEY RESULTS – MAP 2 (RED LISTED BOCC)

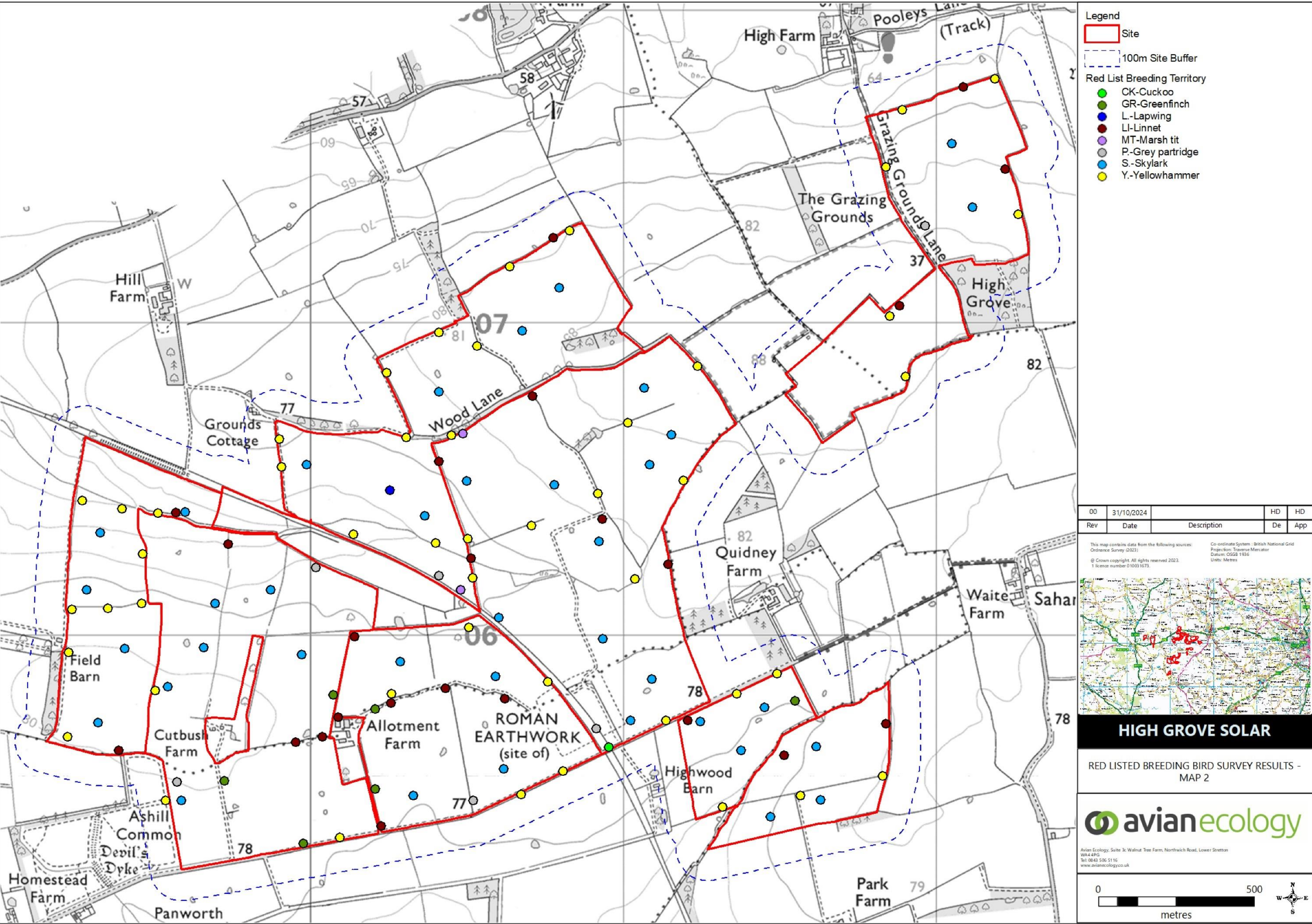


FIGURE 7: BREEDING BIRD SURVEY RESULTS – MAP 3 (AMBER LISTED BOCC)

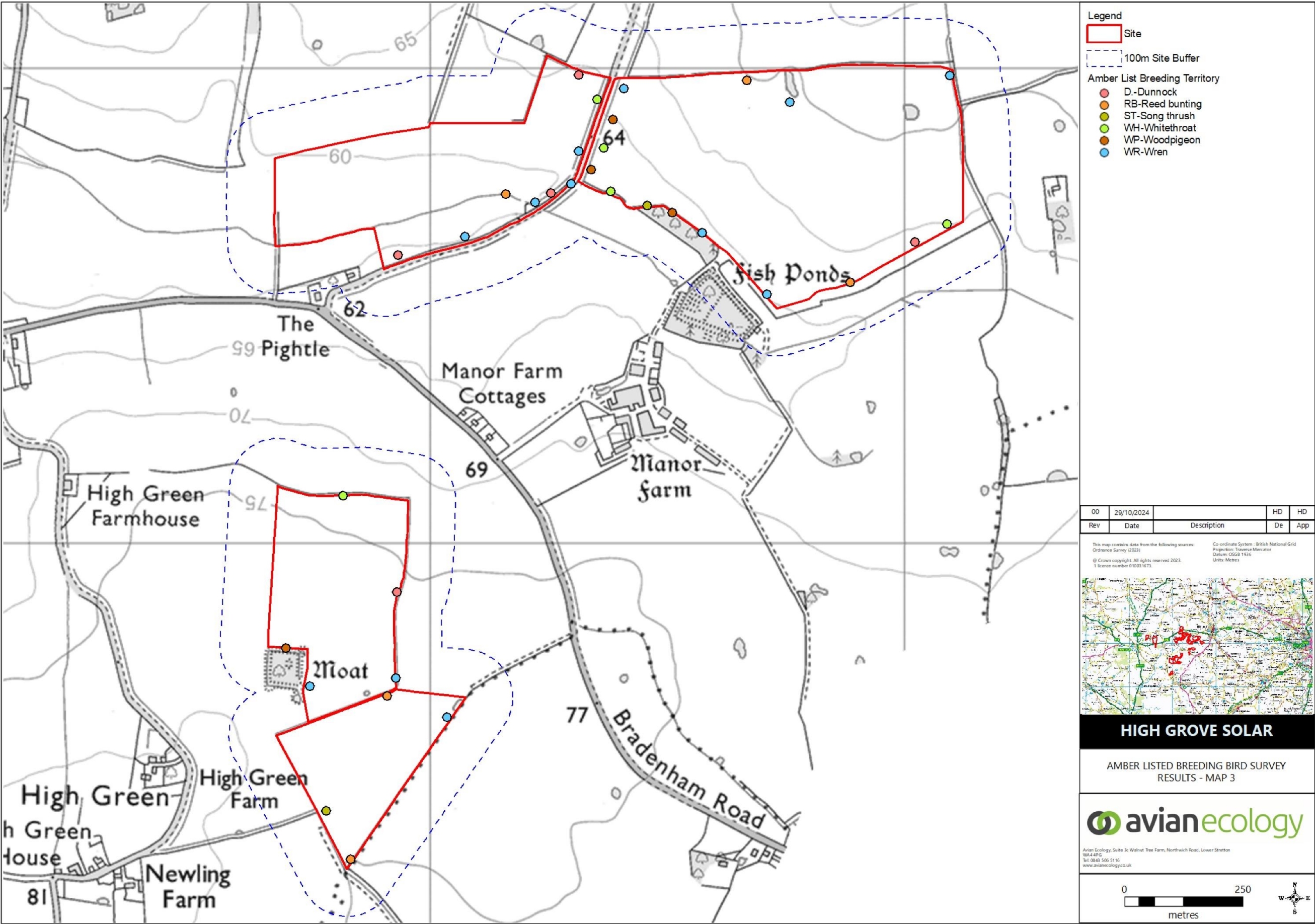


FIGURE 8: BREEDING BIRD SURVEY RESULTS – MAP 3 (RED LISTED BOCC)

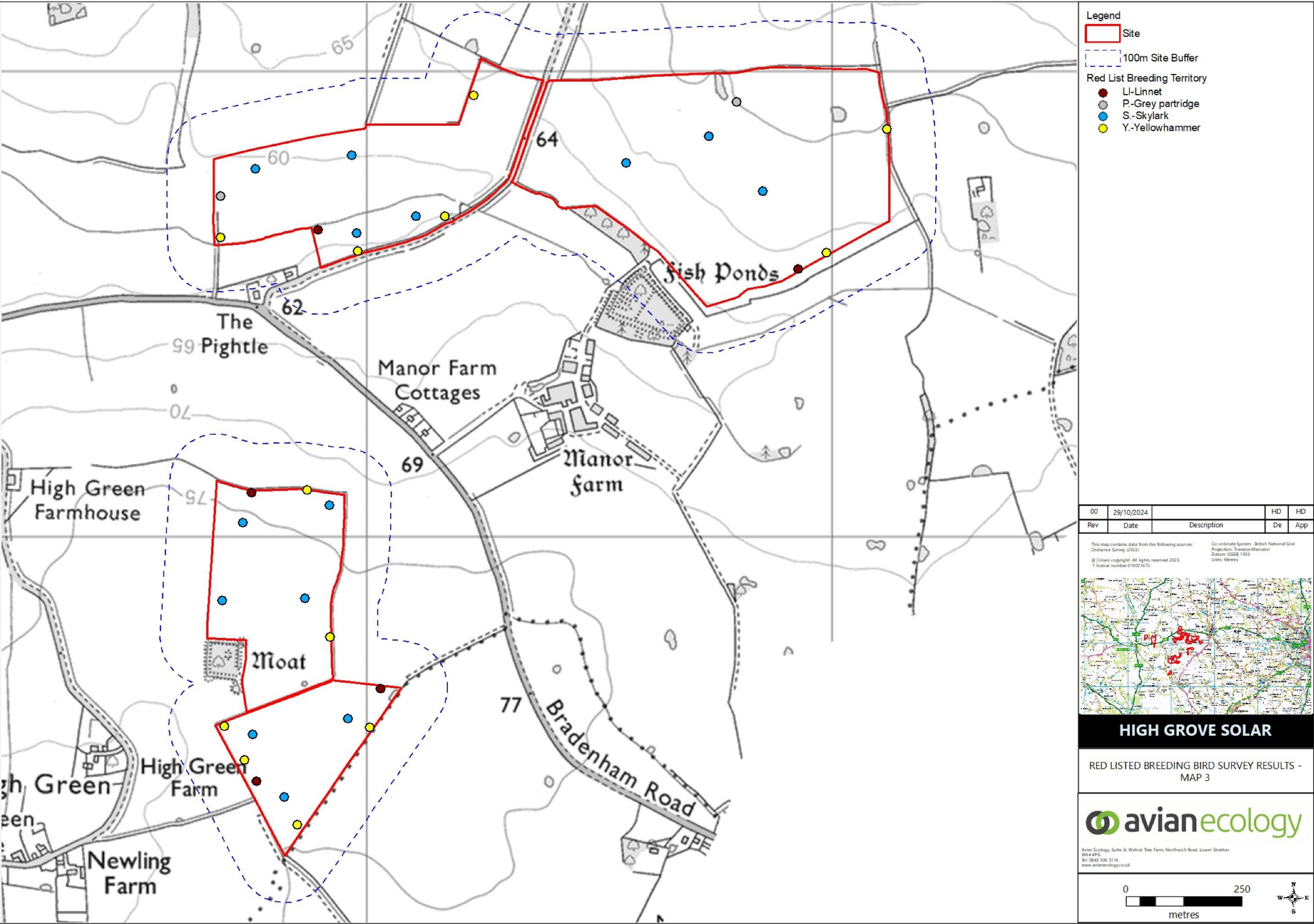


FIGURE 9: BREEDING BIRD SURVEY RESULTS – MAP 4, 5, 6 & 7 (AMBER LISTED BOCC)

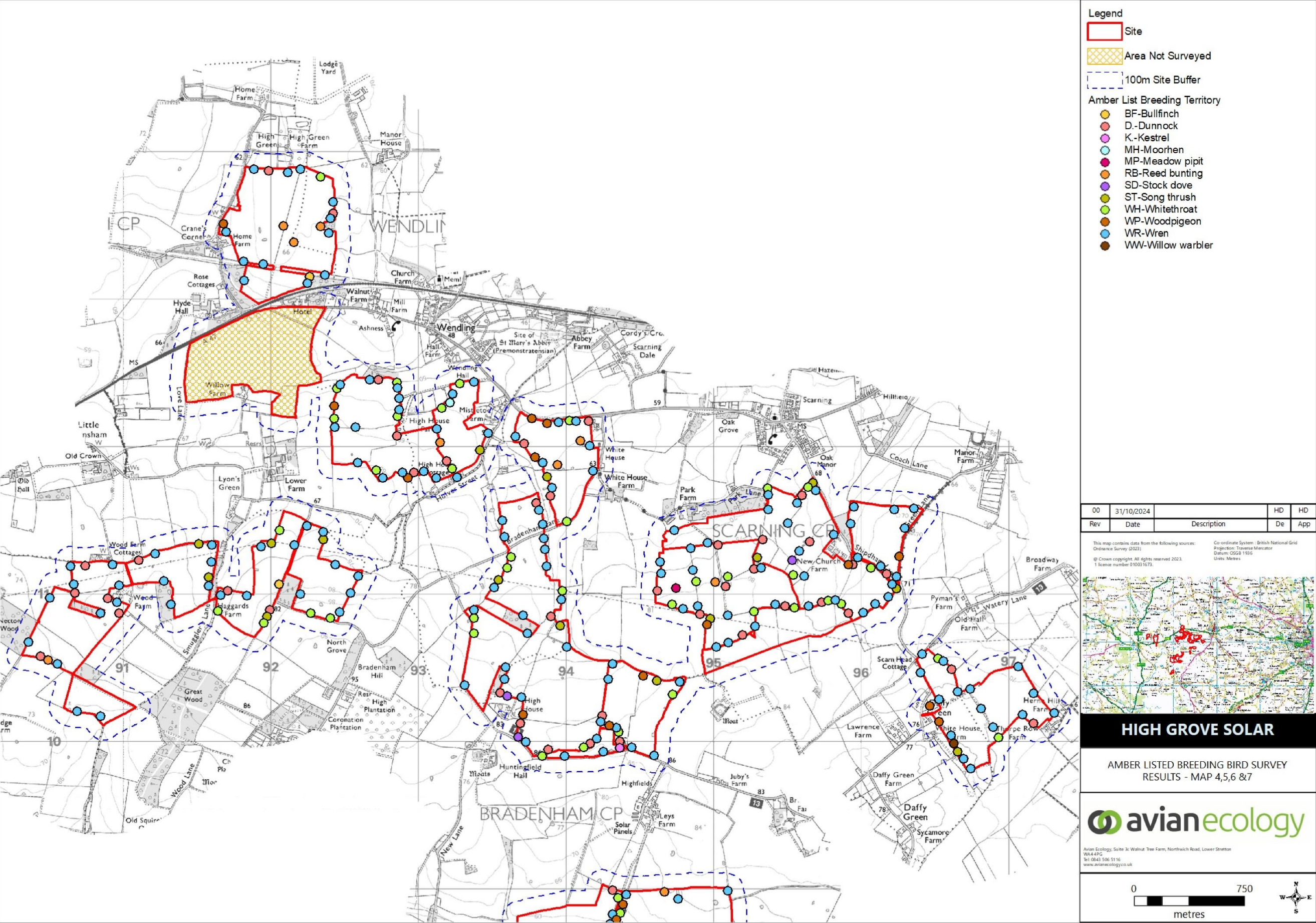


FIGURE 10: BREEDING BIRD SURVEY RESULTS – MAP 4, 5, 6 & 7 (RED LISTED BOCC)

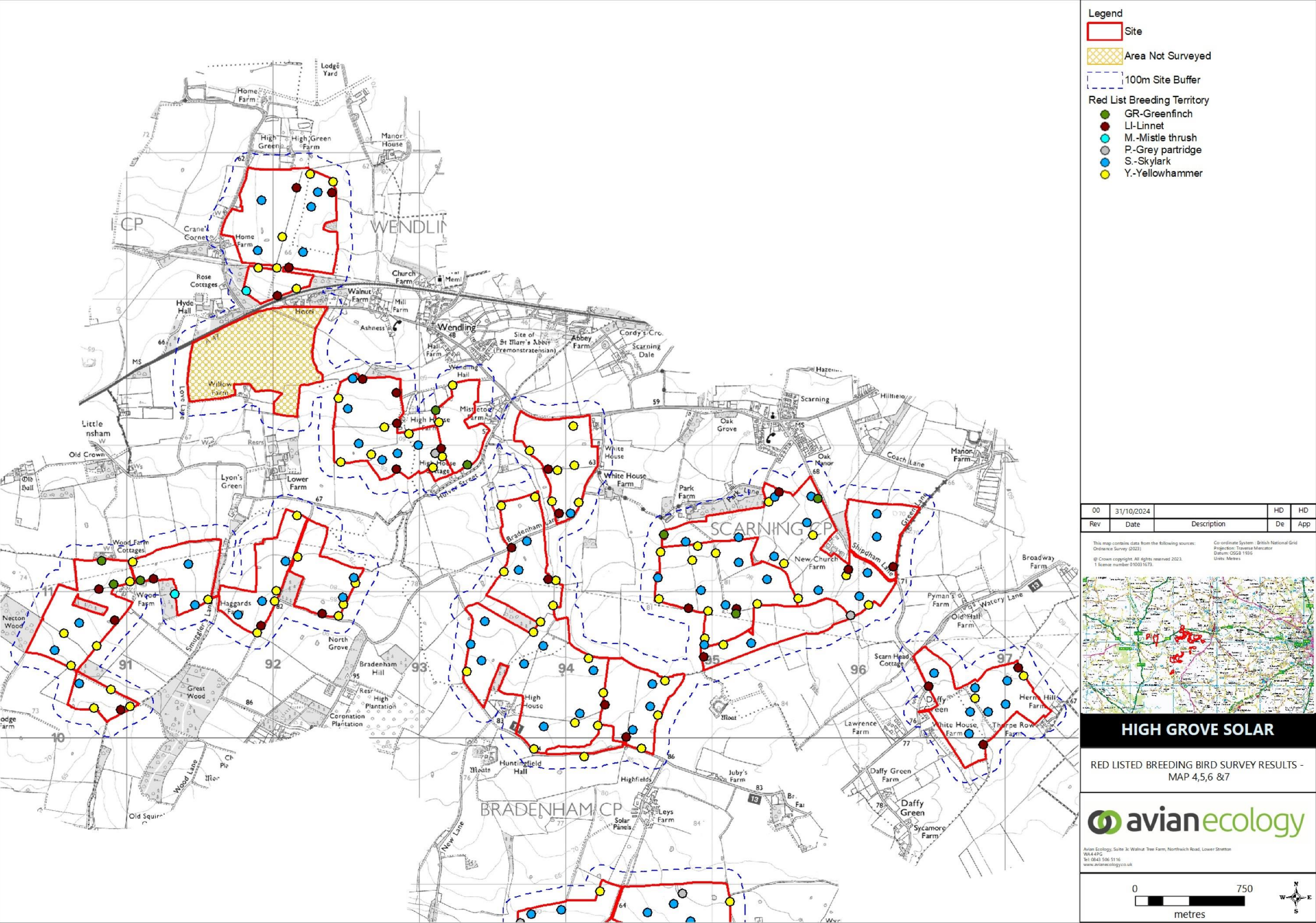


FIGURE 11: BREEDING BIRD SURVEY RESULTS – MAP 8, 9A, 9B & 9C (AMBER LISTED BOCC)

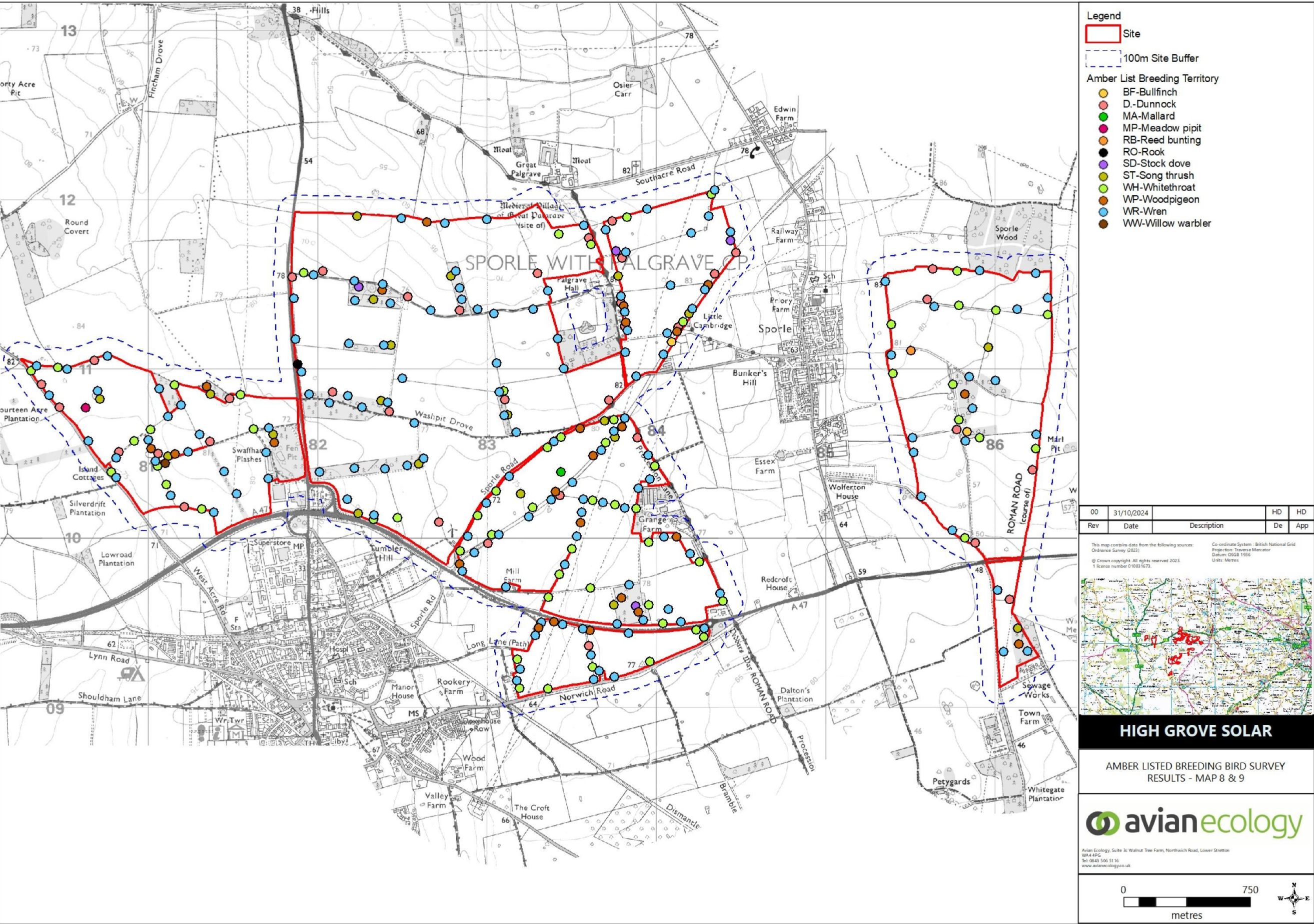


FIGURE 12: BREEDING BIRD SURVEY RESULTS – MAP 8, 9A, 9B & 9C (RED LISTED BOCC)

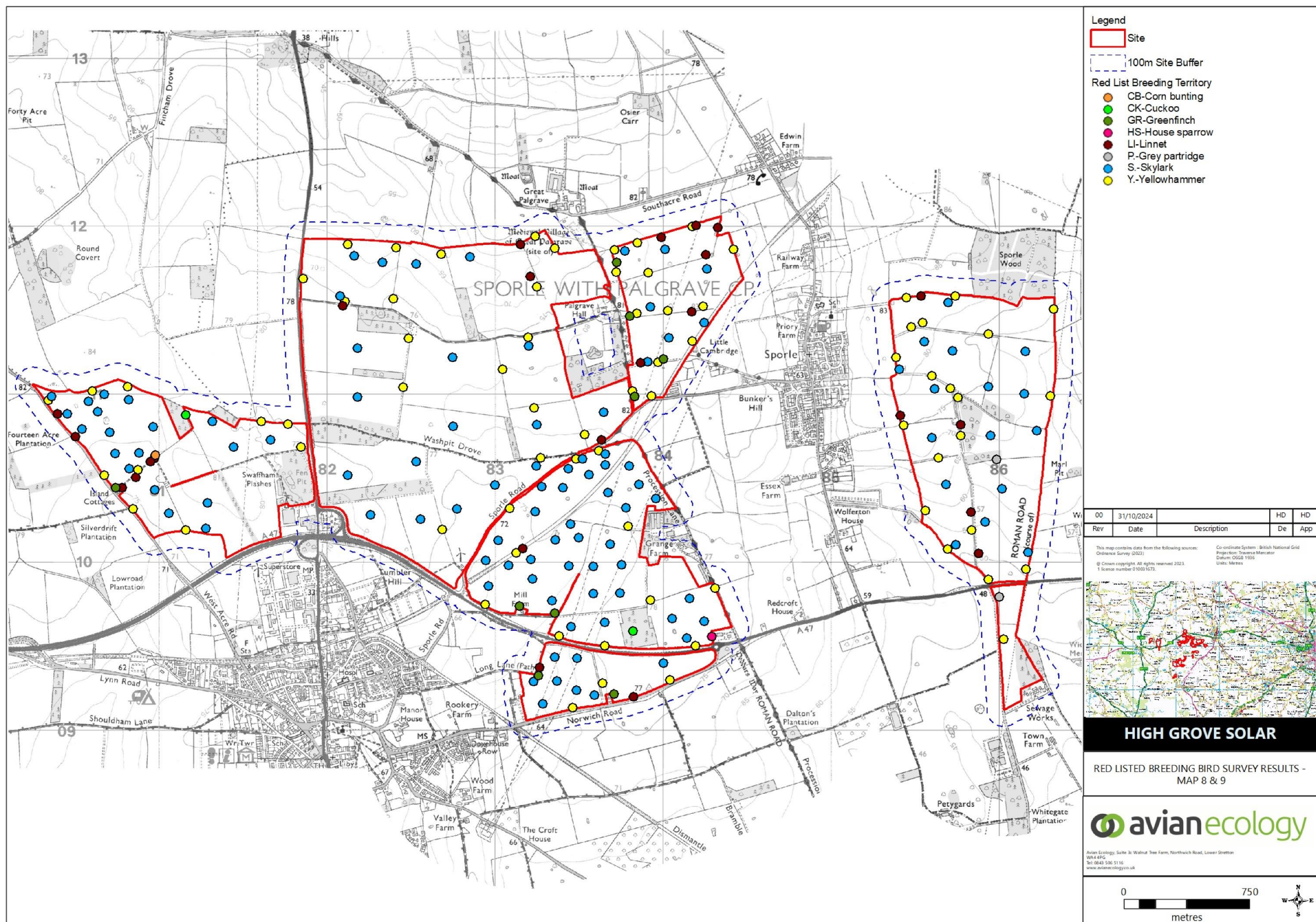


FIGURE 13: BREEDING BIRD SURVEY RESULTS – MAP 10 (AMBER LISTED BOCC)

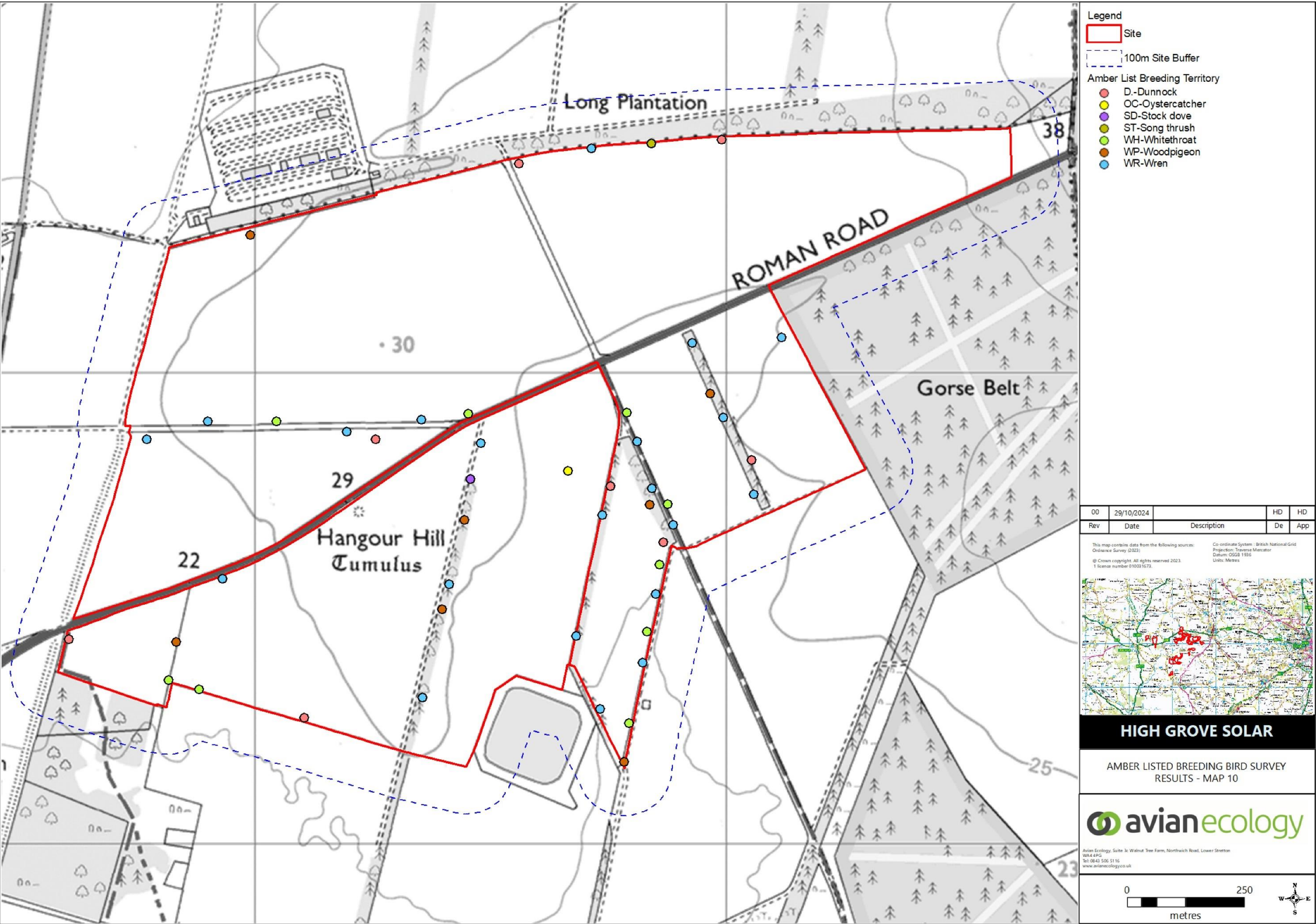


FIGURE 14: BREEDING BIRD SURVEY RESULTS – MAP 10 (RED LISTED BOCC)

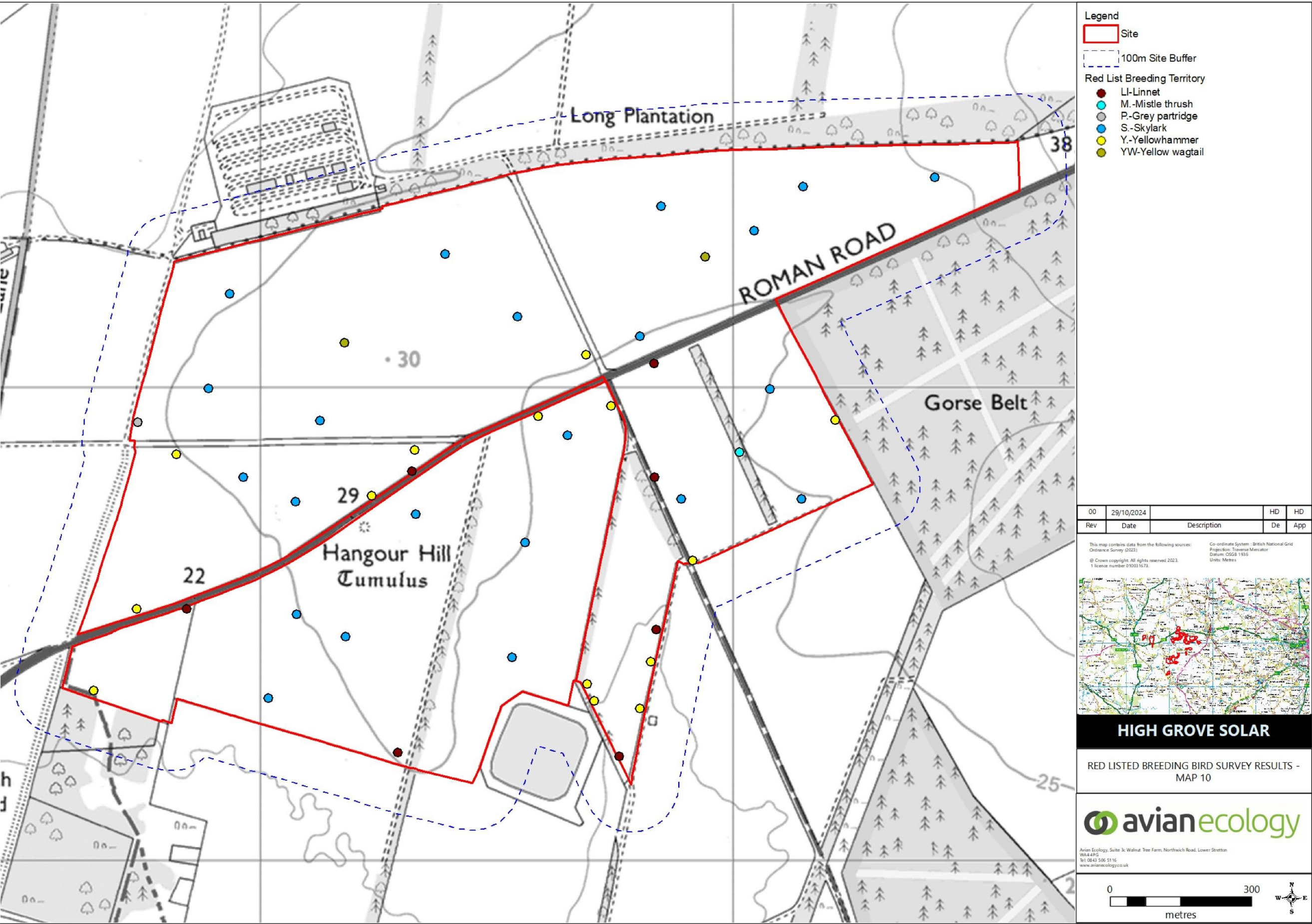


FIGURE 15: NIGHTJAR SURVEY RESULTS

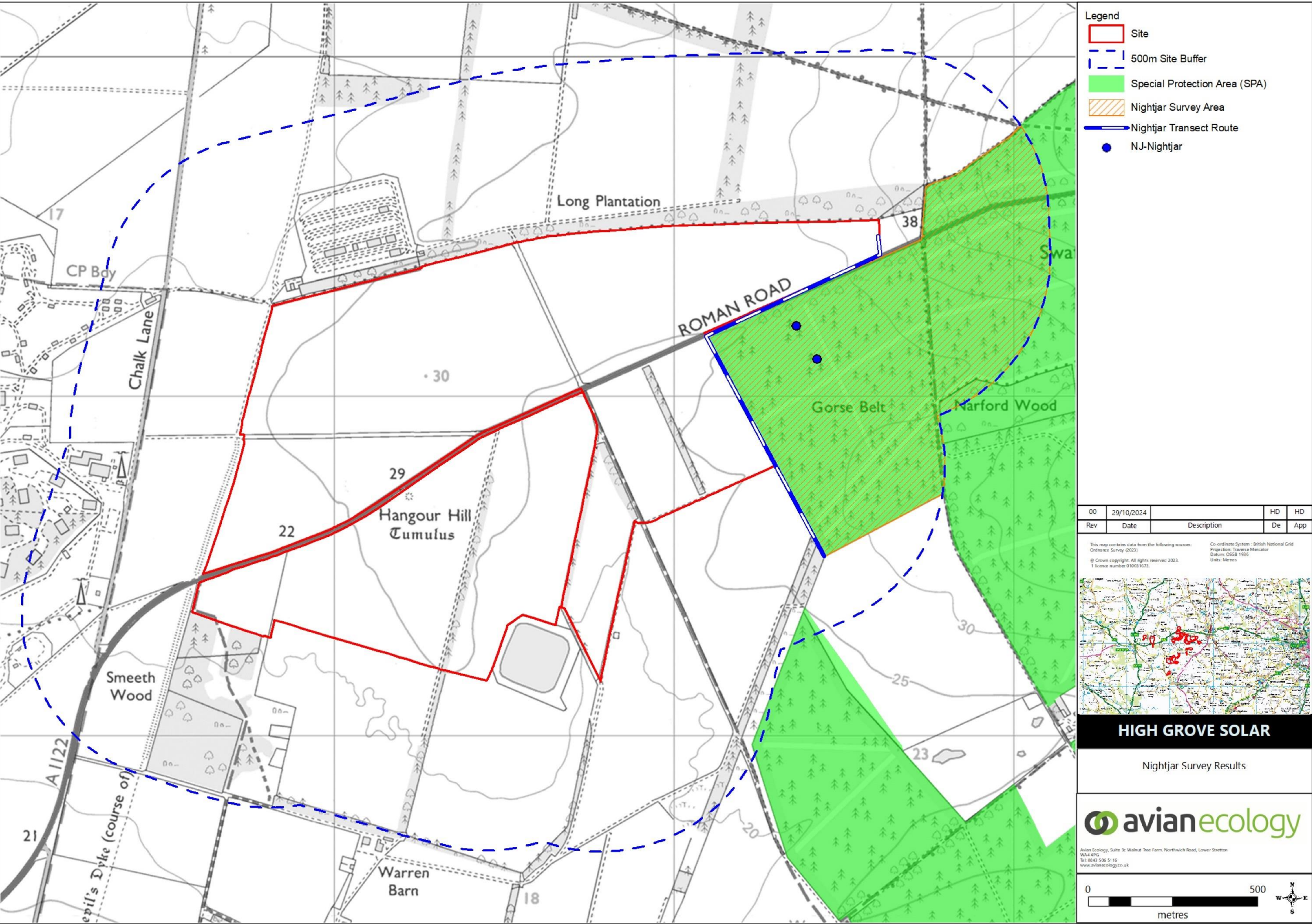


FIGURE 16A: CONFIDENTIAL SCHEDULE 1 SPECIES SURVEY RESULTS (PROVIDED SEPERATELY)

FIGURE 16B: CONFIDENTIAL SCHEDULE 1 SPECIES SURVEY RESULTS (PROVIDED SEPERATELY)

ANNEX 1 BIRD SPECIES SUMMARY

Table A1 provides a list of bird species included in the breeding bird survey report. Both common and species names are presented along with a summary of each species conservation status using the following abbreviations:

- Ann1 – European Birds Directive Annex I species;
- Sch1.1/1.1A/A1/1.2 – Schedule 1 part 1, 1 part 1A, A1 or 1 part 2 of the Wildlife and Countryside Act 1981 (as amended);
- BoCC – Birds of Conservation Concern as listed by leading bird conservation organisations in the UK, including the RSPB and BTO. Red and Amber categories are given (Stanbury *et al.*, 2021; Stanbury *et al.* 2024);
- Sec41 – species listed on Section 41 of the Natural Environment and Rural Communities Act 2006 (Species of principle importance for conserving biodiversity in England); and,
- LBAP – species listed under the Norfolk Local Biodiversity Action.

Table A1: Summary of bird species.

Common name	Species name	Conservation status
Greylag goose	<i>Anser anser</i>	Amber
Mute swan	<i>Cygnus olor</i>	Green
Egyptian goose	<i>Alopochen aegyptiaca</i>	-
Shelduck	<i>Tadorna tadorna</i>	Amber
Garganey	<i>Spatula querquedula</i>	Amber; Sch1.1
Shoveler	<i>Spatula clypeata</i>	Amber
Gadwall	<i>Mareca strepera</i>	Amber
Mallard	<i>Anas platyrhynchos</i>	Amber
Pintail	<i>Anas acuta</i>	Amber; Sch1.2
Teal	<i>Anas crecca</i>	Amber
Pochard	<i>Aythya ferina</i>	Red
Tufted duck	<i>Aythya fuligula</i>	Green
Grey partridge	<i>Perdix perdix</i>	Red; Sec41; LBAP
Pheasant	<i>Phasianus colchicus</i>	-
Nightjar	<i>Caprimulgus europaeus</i>	Amber; Sec41; Ann1; LBAP
Swift	<i>Apus apus</i>	Red; LBAP
Cuckoo	<i>Cuculus canorus</i>	Red; Sec41
Stock dove	<i>Columba oenas</i>	Amber
Woodpigeon	<i>Columba palumbus</i>	Amber
Turtle dove	<i>Streptopelia turtur</i>	Red; Sec41; LBAP
Collared dove	<i>Streptopelia decaocto</i>	Green
Moorhen	<i>Gallinula chloropus</i>	Amber
Coot	<i>Fulica atra</i>	Green
Little grebe	<i>Tachybaptus ruficollis</i>	Green
Great crested grebe	<i>Podiceps cristatus</i>	Green
Stone-curlew	<i>Burhinus oedicephalus</i>	Amber; Sch1.1; Sec41; Ann1; LBAP
Oystercatcher	<i>Haematopus ostralegus</i>	Amber
Lapwing	<i>Vanellus vanellus</i>	Red; Sec41

Common name	Species name	Conservation status
Little ringed plover	<i>Charadrius dubius</i>	Green; Sch1.1
Whimbrel	<i>Numenius phaeopus</i>	Red; Sch1.1
Curlew	<i>Numenius arquata</i>	Red; Sec41
Black-tailed godwit	<i>Limosa limosa</i>	Red; Sch1.1; Sec41
Ruff	<i>Calidris pugnax</i>	Red; Sch1.1; Ann1
Woodcock	<i>Scolopax rusticola</i>	Red
Snipe	<i>Gallinago gallinago</i>	Amber
Green sandpiper	<i>Tringa ochropus</i>	Amber; Sch1.1
Redshank	<i>Tringa totanus</i>	Amber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber
Common gull	<i>Larus canus</i>	Red
Herring gull	<i>Larus argentatus</i>	Red; Sec41
Lesser black-backed gull	<i>Larus fuscus</i>	Amber
Common tern	<i>Sterna hirundo</i>	Amber; Ann1
Cormorant	<i>Phalacrocorax carbo</i>	Green
Grey heron	<i>Ardea cinerea</i>	Green
Little egret	<i>Egretta garzetta</i>	Green; Ann1
Sparrowhawk	<i>Accipiter nisus</i>	Amber
Goshawk	<i>Accipiter gentilis</i>	Green; Sch1.1
Marsh harrier	<i>Circus aeruginosus</i>	Amber; Sch1.1; Ann1
Red kite	<i>Milvus milvus</i>	Green; Sch1.1 & 1A; Ann1
Buzzard	<i>Buteo buteo</i>	Green
Barn owl	<i>Tyto alba</i>	Green; Sch1.1; LBAP
Little owl	<i>Athene noctua</i>	-
Tawny owl	<i>Strix aluco</i>	Amber
Kingfisher	<i>Alcedo atthis</i>	Green; Sch1.1; Ann1
Lesser spotted woodpecker	<i>Dryobates minor</i>	Red; Sec41
Great spotted woodpecker	<i>Dendrocopos major</i>	Green
Green woodpecker	<i>Picus viridis</i>	Green
Kestrel	<i>Falco tinnunculus</i>	Amber
Hobby	<i>Falco subbuteo</i>	Green; Sch1.1
Golden oriole	<i>Oriolus oriolus</i>	Sch1.1
Jay	<i>Garrulus glandarius</i>	Green
Magpie	<i>Pica pica</i>	Green
Jackdaw	<i>Coloeus monedula</i>	Green
Rook	<i>Corvus frugilegus</i>	Amber
Carrion crow	<i>Corvus corone</i>	Green
Raven	<i>Corvus corax</i>	Green
Coal tit	<i>Parus ater</i>	Green
Marsh tit	<i>Poecile palustris</i>	Red; Sec41
Willow tit	<i>Poecile montanus</i>	Red; Sec41
Great tit	<i>Parus major</i>	Green
Skylark	<i>Alauda arvensis</i>	Red; Sec41; LBAP

Common name	Species name	Conservation status
Woodlark	<i>Lullula arborea</i>	Green; Sch1.1; Sec41; Ann1; LBAP
Sand martin	<i>Riparia riparia</i>	Green
Swallow	<i>Hirundo rustica</i>	Green
House martin	<i>Delichon urbicum</i>	Red
Long-tailed tit	<i>Aegithalos caudatus</i>	Green
Willow warbler	<i>Phylloscopus trochilus</i>	Amber
Chiffchaff	<i>Phylloscopus collybita</i>	Green
Sedge warbler	<i>Acrocephalus schoenobaenus</i>	Amber
Reed warbler	<i>Acrocephalus scirpaceus</i>	Green
Grasshopper warbler	<i>Locustella naevia</i>	Red; Sec41
Blackcap	<i>Sylvia atricapilla</i>	Green
Garden warbler	<i>Sylvia borin</i>	Green
Lesser whitethroat	<i>Curruca curruca</i>	Green
Whitethroat	<i>Curruca communis</i>	Amber
Firecrest	<i>Regulus ignicapilla</i>	Green; Sch1.1
Goldcrest	<i>Regulus regulus</i>	Green
Wren	<i>Troglodytes troglodytes</i>	Amber
Nuthatch	<i>Sitta europaea</i>	Green
Treecreeper	<i>Certhia familiaris</i>	Green
Starling	<i>Sturnus vulgaris</i>	Red; Sec41
Song thrush	<i>Turdus philomelos</i>	Amber; Sec41; LBAP
Mistle thrush	<i>Turdus viscivorus</i>	Red
Redwing	<i>Turdus iliacus</i>	Amber; Sch1.1
Blackbird	<i>Turdus merula</i>	Green
Fieldfare	<i>Turdus pilaris</i>	Red; Sch1.1
Ring ouzel	<i>Turdus torquatus</i>	Red; Sec41
Spotted flycatcher	<i>Muscicapa striata</i>	Red; Sec41; LBAP
Robin	<i>Erithacus rubecula</i>	Green
Nightingale	<i>Luscinia megarhynchos</i>	Red
Redstart	<i>Phoenicurus phoenicurus</i>	Amber
Stonechat	<i>Saxicola rubicola</i>	Green
Wheatear	<i>Oenanthe oenanthe</i>	Amber
Tree sparrow	<i>Passer montanus</i>	Red; Sec41; LBAP
House sparrow	<i>Passer domesticus</i>	Red; Sec41
Dunnock	<i>Prunella modularis</i>	Amber; Sec41
Yellow wagtail	<i>Motacilla flava</i>	Red; Sec41
Grey wagtail	<i>Motacilla cinerea</i>	Amber
Pied wagtail	<i>Motacilla alba yarellii</i>	Amber
Meadow pipit	<i>Anthus pratensis</i>	Amber
Tree pipit	<i>Anthus trivialis</i>	Red; Sec41
Chaffinch	<i>Fringilla coelebs</i>	Green
Brambling	<i>Fringilla montifringilla</i>	Green; Sch1.1
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber; Sec41

Common name	Species name	Conservation status
Greenfinch	<i>Chloris chloris</i>	Red
Linnet	<i>Linaria cannabina</i>	Red; Sec41
Lesser redpoll	<i>Acanthis cabaret</i>	Red; Sec41
Goldfinch	<i>Carduelis carduelis</i>	Green
Corn bunting	<i>Emberiza calandra</i>	Red; Sec41; LBAP
Yellowhammer	<i>Emberiza citrinella</i>	Red; Sec41
Reed bunting	<i>Emberiza schoeniclus</i>	Amber; Sec41; LBAP

ANNEX 2: BREEDING BIRD SURVEY EFFORT-2024

Visit	Date	Area	Start Time (24 hrs)	End time (24 hrs)	Sunrise / Sunset (24 hrs)	Wind Speed	Wind Direction	Rain	Cloud Height	Cloud Cover	Visibility	Frost	Snow	Temperature (°C)
1	18/03/2024	Maps 9b & 10	06:30	12:45	06:03 / 18:07	1-2	SW	0	2	0/8-8/8	2	0	0	6-12
	19/03/2024	Maps 1 & 2	06:35	10:45	06:01 / 18:09	2-4	SSW	0	2	8/8	2	0	0	8-13
	21/03/2024	Map 2	06:30	10:55	05:56 / 18:13	1-2	SW	0	2	7/8-8/8	2	0	0	8-10
	22/03/2024	Map 2	06:25	10:45	05:54 / 18:14	1-3	W	0-1	1	7/8-8/8	2	0	0	8-10
	25/03/2024	Map 3	06:15	09:15	05:47 / 18:20	1	SE	0	1	3/8-4/8	2	0	0	5-7
	26/03/2024	Map 4	06:10	09:30	05:44 / 18:21	1-2	ESE	0	1	4/8-6/8	2	0	0	7-10
	27/03/2024	Map 4	06:05	08:25	05:42 / 18:23	1-2	S	0	1	3/8-5/8	2	0	0	6-8
	28/03/2024	Map 5	07:00	11:00	05:39 / 18:25	3-5	S	0	1	3/8-8/8	2	0	0	6-10
	02/04/2024	Map 7	07:00	11:15	06:28 / 19:34	1-2	W	0-1	0-1	3/8-8/8	2	0	0	9-12
	03/04/2024	Map 8	06:45	11:00	06:25 / 19:35	2-3	SSW	0-1	1	6/8-8/8	2	0	0	10
	06/04/2024	Map 6	06:50	10:10	06:18 / 19:41	4-5	SSW	0	1-2	3/8-7/8	2	0	0	13-16
	10/04/2024	Map 6	06:30	09:00	06:09 / 19:48	1-2	SSE	0	2	0/8-6/8	2	0	0	4-6
2	08/04/2024	Maps 1 & 2	06:20	08:15	06:14 / 19:44	2	S	0	1	4/8-8/8	2	0	0	8-11
	08/04/2024	Map 2	06:45	11:45*	06:14 / 19:44	2	S	0	1	4/8-8/8	2	0	0	8-11
	10/04/2024	Map 3	06:05	09:00	06:09 / 19:48	1-2	SSE	0	2	0/8-6/8	2	0	0	4-9
	11/04/2024	Map 4	06:30	10:10	06:07 / 19:50	2-4	W	0	1	3/8-8/8	2	0	0	13-17
	12/04/2024	Map 4	06:30	08:30	06:05 / 19:51	4-5	SW	0	1	5/8-7/8	2	0	0	12-14
	16/04/2024	Map 5	05:42	09:42	05:56 / 19:58	1-2	NW	0-1	1	8/8	2	0	0	6-8
	17/04/2024	Map 6	06:30	09:15	05:53 / 20:00	3	NW	0	1	0/8-2/8	2	0	0	4-7
	17/04/2024	Map 2	06:15	09:30	05:53 / 20:00	3	NW	0	1	0/8-2/8	2	0	0	4-7
	18/04/2024	Map 9b	05:52	08:03	05:51 / 20:02	0-1	NW	0	1	0/8-6/8	2	0	0	1-4
	18/04/2024	Map 6	06:00	09:45	05:51 / 20:02	2-3	NW	0	1-2	3/8	2	0	0	5-7
	19/04/2024	Map 9b	05:30	10:00	05:49 / 20:04	5	WNW/NNW	0-1	1-2	7/8-8/8	2	0	0	8-9
	20/04/2024	Map 9b	05:37	10:00	05:47 / 20:05	3-4	NNW	0-3	1	7/8-8/8	2	0	0	4-5
	22/04/2024	Map 2	06:15	09:05	05:43 / 20:09	1-2	N	0	1-2	6/8-8/8	2	0	0	5-7

	24/04/2024	Map 8	05:20	09:10	05:38 / 20:12	3-4	NNW	0-1	1	7/8	2	0	0	4
	24/04/2024	Map 10	05:45	10:40	05:38 / 20:12	4-6	N/NW	0-1	2	6/8	2	0	0	4-8
	26/04/2024	Map 7	06:20	11:05	05:34 / 20:16	1-2	NW	0-1	1	0/8-6/8	2	0	0	2-7
3	29/04/2024	Map 3	05:30	08:30	05:28 / 20:21	3-4	SSW	0	1-2	1/8	2	0	0	4-8
	01/05/2024	Map 4	06:25	10:00	05:24 / 20:25	1-2	ESE	0	1-2	3/8-8/8	2	0	0	11-15
	01/05/2024	Map 2	05:50	08:45	05:24 / 20:25	1-2	NE	0	1-2	3/8-8/8	2	0	0	11-15
	02/05/2024	Maps 1 & 2	05:50	08:45	05:22 / 20:26	1-2	NE	0	1	2/8-4/8	2	0	0	10-12
	02/05/2024	Map 2	05:50	08:45	05:22 / 20:26	1-2	NE	0	1	2/8-4/8	2	0	0	10-12
	03/05/2024	Maps 2 & 9b	05:17	09:19	05:20 / 20:28	3	NW	1-2	0-1	8/8	2	0	0	9
	06/05/2024	Map 2	05:45	09:30	05:15 / 20:33	1-2	ENE	0	1-2	3/8-8/8	2	0	0	9-12
	07/05/2024	Map 4	05:40	08:00	05:13 / 20:35	1-3	N	0	1-2	7/8-8/8	2	0	0	8-11
	09/05/2024	Map 6	05:35	08:15	05:09 / 20:38	1	SSW	0	1	7/8	2	0	0	7
	09/05/2024	Map 9b	05:00	10:15	05:09 / 20:38	0-1	Various	0	2	2/8-7/8	2	0	0	8-16
	10/05/2024	Map 6	05:30	08:50	05:08 / 20:40	1-2	ESE	0	1	3/8	2	0	0	11-16
	13/05/2024	Map 10	05:35	09:30	05:03 / 20:45	2	SSW	0	0-2	0/8-8/8	1-2	0	0	12-16
	24/05/2024	Map 7	05:05	09:15	04:47 / 21:01	0-1	SW	0	2	4/8-6/8	2	0	0	9-15
	17/05/2024	Map 9b	06:00	11:30	04:56 / 20:51	0-1	N/A	0	0-1	1/8-8/8	0-2	0	0	10-16
	17/05/2024	Map 5	04:55	10:15	04:56 / 20:51	0-1	N	0	0-2	2/8-8/8	0-2	0	0	9-15
	17/05/2024	Map 8	05:00	08:35	04:56 / 20:51	0-1	N	0	0-2	7/8-8/8	0-2	0	0	10-15
4	17/05/2024	Map 9a	05:00	10:30	04:56 / 20:51	0	N	0	2	2/8	2	0	0	16
	18/05/2024	Map 9c	05:15	10:00	04:55 / 20:52	3	N	0	1	8/8	2	0	0	11
	19/05/2024	Map 9c	05:15	08:15	04:54 / 20:54	1	NW	0	2	8/8	2	0	0	11
	23/05/2024	Map 5	05:05	09:10	04:48 / 21:00	4-5	SW	0	0-1	4/8-8/8	2	0	0	12.5-13.5
	23/05/2024	Map 2	05:00	08:20	04:48 / 21:00	2-4	WSW	0	1	7/8-8/8	2	0	0	12-13
	24/05/2024	Maps 2 & 4	05:00	08:35	04:47 / 21:01	1-2	SSW	0	1	7/8-8/8	2	0	0	8-13
	28/05/2024	Map 2	05:00	08:20	04:43 / 21:06	1-2	S	0	1	2/8-5/8	2	0	0	9-13
	30/05/2024	Map 6	04:55	09:00	04:41 / 21:09	1-3	W	0	0-1	8/8	2	0	0	11-13
	30/05/2024	Map 8	05:10	08:55	04:41 / 21:09	4	WSW	0	1-2	8/8	2	0	0	11-13
	01/06/2024	Map 6	04:45	06:00	04:39 / 21:11	3-5	N	0	1	7/8-8/8	2	0	0	11-12

	02/06/2024	Map 7	05:10	09:10	04:38 / 21:12	2-3	N	0	0-1	2/8-7/8	2	0	0	10-12
	02/06/2024	Map 4	04:50	09:15	04:38 / 21:12	1-2	NNW/NNE	0	2	3/8	2	0	0	10-15
	03/06/2024	Map 2	05:00	11:00	04:37 / 21:13	1	WNW	0	1	5/8-8/8	2	0	0	13-17
	04/06/2024	Map 9b	04:45	09:45	04:37 / 21:14	0-3	SW	0	2	8/8	2	0	0	13-16
	05/06/2024	Map 9b	04:30	08:35	04:56 / 21:15	0-2	SW	0	1-2	0/8-2/8	2	0	0	5-7
	06/06/2024	Map 3	04:50	07:50	04:35 / 21:16	1-2	W	0	1	7/8-8/8	2	0	0	7-8
	07/06/2024	Maps 2 & 9b	05:00	08:35	04:35 / 21:17	2	W	0	N/A	0/8	2	0	0	6-11
	09/06/2024	Map 1	05:05	07:05	04:34 / 21:19	2	W	0	0-1	0/8-2/8	2	0	0	7-8
	08/07/2024	Map 10	04:55	10:45	04:44 / 21:19	1	SW	0	1-2	1/8-3/8	2	0	0	12-17
5	04/06/2024	Map 9c	04:30	10:00	04:37 / 21:14	2	SSE	0	2	4/8	2	0	0	13
	05/06/2024	Map 9a	04:30	09:30	04:36 / 21:15	0	WSW	0	2	0/8	2	0	0	6
	06/06/2024	Map 9c	04:30	07:15	04:35 / 21:16	1	WSW	0	2	8/8	2	0	0	9
	08/06/2024	Map 7	16:40	20:40	04:34 / 21:18	4	WSW	0	1	5/8-8/8	2	0	0	14-18
	11/06/2024	Map 5	05:00	09:10	04:33 / 21:20	2	NW/WNW	0	1	4/8-8/8	2	0	0	7-8
	11/06/2024	Map 2	18:00	21:15	04:33 / 21:20	2	NNW	0	1	5/8	2	0	0	10-12
	15/06/2024	Map 2	18:00	21:20	04:32 / 21:23	2-4	E	0	1	3/8-6/8	2	0	0	13-15
	16/06/2024	Map 2	17:55	21:15	04:32 / 21:23	1	W	0	0-1	2/8-5/8	2	0	0	16-18
	13/06/2024	Map 3	17:00	19:55	04:33 / 21:21	3-4	SSW	0	0	8/8	2	0	0	11-15
	17/06/2024	Map 4	16:45	20:15	04:32 / 21:23	2	NW	0-1	0	7/8-8/8	2	0	0	15-17
	18/06/2024	Map 6	18:25	21:20	04:32 / 21:24	1-2	SW	0	2	3/8-5/8	2	0	0	17
	19/06/2024	Map 4	17:15	20:25	04:33 / 21:24	1-2	E	0	2	3/8	2	0	0	15-16
	19/06/2024	Map 2	17:55	21:25	04:33 / 21:24	1-2	NE	0	1	1/8-2/8	2	0	0	13-15
	20/06/2024	Map 6	17:30	21:55	04:33 / 21:24	1-2	E	0	1	1/8-2/8	2	0	0	12-18
	21/06/2024	Map 8	17:30	21:30	04:33 / 21:24	2	SW	0	1	5/8	2	0	0	19-21
	21/06/2024	Map 9b	17:50	21:40	04:33 / 21:24	1-2	SW	0	0-1	5/8-8/8	2	0	0	17-24
	24/06/2024	Map 9b	17:45	21:05	04:34 / 21:25	1-2	SSE	0	2	0/8-8/8	2	0	0	18-25
	27/06/2024	Map 1	19:35	21:30	04:35 / 21:24	2	WSW	0	2	0/8	2	0	0	19-20
	29/06/2024	Map 9b	19:10	21:30	04:36 / 21:24	1-3	NE	0	1-2	7/8-8/8	2	0	0	20
	20/06/2024	Map 6	20:40	21:35	04:33 / 21:24	1	SW	0	1	1/8	2	0	0	16
	11/07/2024	Map 10	04:55	10:15	04:47 / 21:17	1-3	W	0/1	0-1	8/8	2	0	0	13-15

6	28/06/2024	Map 9a	04:40	09:15	04:36 / 21:24	4	SW	0	2	1/8	2	0	0	12
	29/06/2024	Map 9c	04:40	09:30	04:36 / 21:24	2	SW	0	2	0/8	2	0	0	15
	30/06/2024	Map 9c	04:15	08:15	04:37 / 21:24	0	SW	1	1	8/8	2	0	0	15
	05/07/2024	Map 2	05:00	09:05	04:41 / 21:21	1-2	SW	0	1-2	7/8-8/8	2	0	0	11-13
	05/07/2024	Map 5	19:00	19:50	04:41 / 21:21	1-2	SW	0-2	2	2/8-8/8	2	0	0	16-18
	06/07/2024	Map 5	18:40	21:40	04:42 / 21:21	1-2	SW	0	2	2/8-3/8	2	0	0	16-18
	07/07/2024	Map 2	04:45	08:20	04:43 / 21:20	1	SW	0	1	1/8-6/8	2	0	0	9-12
	08/07/2024	Map 4	05:10	09:55	04:44 / 21:19	1-2	SW	0	1	2/8-4/8	2	0	0	14-17
	09/07/2024	Map 4	06:15	09:30	04:45 / 21:19	1-4	SE	0/1	1	8/8	2	0	0	14-17
	10/07/2024	Map 6	04:50	08:45	04:46 / 21:18	1-4	SSW	0	0-1	4/8-8/8	2	0	0	15-17
	12/07/2024	Map 3	05:25	08:10	04:48 / 21:16	2	N	0	1	7/8-8/8	2	0	0	11-12
	12/07/2024	Map 6	04:50	08:00	04:48 / 21:16	1-2	N	0	1	4/8-8/8	2	0	0	12-13
	14/07/2024	Map 8	05:25	09:05	04:51 / 21:14	2	W	0	1	3/8-7/8	2	0	0	11-13
	15/07/2024	Map 10	05:10	10:45	04:52 / 21:13	1-2	SE	0	1-2	2/8-5/8	2	0	0	11-22
	21/07/2024	Map 2	05:25	10:05	05:00 / 21:06	1-3	W	0	1	7/8-8/8	2	0	0	16-20
	18/07/2024	Maps 1 & 2	05:30	08:10	04:56 / 21:09	2	S	0	2	1/8	2	0	0	14-16
	19/07/2024	Map 9b	05:05	09:45	04:57 / 21:08	0	N/A	0	N/A	0/8	2	0	0	14-17
	20/07/2024	Map 9b	04:50	09:00	04:59 / 21:07	0	N/A	0	1	0/8-2/8	2	0	0	16-18
	21/07/2024	Maps 2 & 9b	05:25	08:20	05:00 / 21:06	2-3	WNW	0	1	6/8-8/8	2	0	0	17-18
	23/07/2024	Map 7	05:30	10:40	05:01 / 21:04	1-2	W	0	2	5/8-7/8	2	0	0	14-19
7	27/07/2024	Map 10	05:05	09:10	05:03 / 21:03	0-2	SW	0	1	6/8	2	0	0	11-18

ANNEX 3: NIGHTJAR SURVEY EFFORT-2024

Visit	Area	Date	Start Time (24 hrs)	End time (24 hrs)	Sunrise / Sunset (24 hrs)	Wind Speed	Wind Direction	Rain	Cloud Height	Cloud Cover	Visibility	Frost	Snow	Temperature (°C)
1	Map 10	08/07/2024	03:15	04:20	04:44 / 21:19	0	N/A	0	N/A	0/8	1-2	0	0	9
2	Map 10	23/07/2024	21:15	22:20	05:03 / 21:03	1-2	N/NE	0	1-2	8/8	1-2	0	0	14-15

Wind Speed		W-Direction	Rain		Cloud Cover		Cloud Height	
Calm	0	Use 16 point Compass	None	0	In eighths e.g.	3/8	<150m	0
Light air	1		Light Showers	1			150-500m	1
Light breeze	2	N	Heavy Showers	2			>500m	2
Mod. breeze	4	NE	Light rain	3				
Fresh breeze	5	ENE	Heavy rain	4				
Strong breeze	6	E						
Mod. gale	7	Etc	Visibility		Snow		Frost	
Fresh gale	8		Poor	0	None	0	None	0
Strong gale	9		< 1km	1	On site	1	Ground	1
Whole gale	10		>1km	2	High ground	2	All day	2
Storm	11							

