



High Grove Solar

Preliminary Environmental Information Report

Appendix 6.5 Non-Breeding Bird Survey Report - Year 1

April 2025

High Grove Solar

on behalf of RWE Renewables UK Solar and Storage Ltd

Non-breeding Bird Survey Report



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V1	28/06/2024	Draft Issue	K Love <i>MSc</i> Ecologist	Dr C Bonnington <i>DPhil MSc</i> <i>BSc MCIEEM</i> Principal Ecologist

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1 INTRODUCTION

1.1 Project Background

- 1.1.1 Avian Ecology Ltd. (AEL) was commissioned by RWE Renewables UK Solar and Storage Ltd to undertake non-breeding (wintering) bird surveys in relation to the development of 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 is located on land situated between the towns of Marham and Dereham in Norfolk (the 'Site').
- 1.1.2 The objectives of this report are to:
- Provide baseline information on the current non-breeding ornithological features within the Site and Wider Survey Area (area defined below in Section 2.1); and,
 - Identify the presence of notable bird species within the Site and Wider Survey Area.
- 1.1.3 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 of 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 On review of the Multi-Agency Geographic Information for the Countryside ('MAGIC')¹ website, the Site is not located within a sensitive location for wintering waterbirds. The nearest internationally designated site within the UK National Site Network (European sites) for wintering water birds is located 19.35km south-west of the Site; Ouse Washes Special Protection Area (SPA) and Ramsar, which is designated for wintering waterfowl species and hen harrier. The Site is located outside the foraging range for those associated SPA species with documented range information (taken from SNH, 2016²).
- 1.2.4 Furthermore, the Site is not located within any sensitive areas for nocturnal species associated with designated sites, such as golden plover³.
- 1.2.5 Additionally, five nationally significant Sites of Special Scientific Interest (SSSI) are present within 10km of the Site with non-breeding ornithological qualifying features listed within the citation:
- Dereham Rush Meadow SSSI;

¹ <https://magic.defra.gov.uk/> (Accessed 14th June 2024)

² www.nature.scot/sites/default/files/2022-12/Assessing%20connectivity%20with%20special%20protection%20areas.pdf (Accessed 14th June 2024)

³ https://www.bto.org/sites/default/files/shared_documents/publications/research-reports/1999/rr224.pdf (Accessed 27th June 2024)

- Stanford Training Area SSSI;
- Potter's Carr, Cranworth SSSI;
- Mattishall Moor SSSI; and,
- Thompson Water, Carr and Common SSSI.

1.2.6 A summary of the above sites' qualifying features is presented in **Table 1.1**, with their locations illustrated on **Figure 2**.

Table 1.1: Designated sites with non-breeding avian qualifying interests (SPA: Special Protection Area; SSSI: Site of Special Scientific Interest)

Designation	Approximate Distance from the Site	Qualifying Features
Dereham Rush Meadow SSSI	2.45km north-east	Non-breeding ornithological interest within the SSSI includes waterfowl using seasonal floods ⁴ .
Stanford Training Area SSSI	2.66km south	Non-breeding ornithological interest within the SSSI includes open water areas 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. Woodcock use the wet woodlands. Kestrels and barn owls hunt all year ⁵ .
Potter's Carr, Cranworth SSSI	4.68km south-east	Non-breeding ornithological interest within the SSSI includes snipe, water rail and green sandpiper ⁶ .
Mattishall Moor SSSI	5.50km north-east	Non-breeding ornithological interest within the SSSI includes snipe ⁷ .
Thompson Water, Carr and Common SSSI	6.74km south-east	Non-breeding ornithological interest within the SSSI includes wintering waterfowl ⁸ .
Ouse Washes SPA	19.35km south-west	The site is designated for the following non-breeding ornithological qualifying features: • Bewick's swan; • Whooper swan; • Eurasian wigeon; • Eurasian teal; • Northern pintail; • Northern shoveler; • Hen harrier; and, • Waterbird assemblage (cormorant, mute swan, wigeon, gadwall, teal, pintail, shoveler, pochard, tufted duck and coot)⁹.
Ouse Washes Ramsar	19.35km south-west	Designated under Ramsar criterion 1, 2, 5 and 6. Qualifying species listed as part of qualification under Ramsar Criterion 5 and 6 include:

⁴ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1002119.pdf> (Accessed 14th June 2024)

⁵ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1000005.pdf> (Accessed 14th June 2024)

⁶ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1003677.pdf> (Accessed 14th June 2024)

⁷ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/2000449.pdf> (Accessed 14th June 2024)

⁸ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1000249.pdf> (Accessed 14th June 2024)

⁹ <https://publications.naturalengland.org.uk/publication/6636062256398336> (Accessed 14th June 2024)

Table 1.1: Designated sites with non-breeding avian qualifying interests (SPA: Special Protection Area; SSSI: Site of Special Scientific Interest)

Designation	Approximate Distance from the Site	Qualifying Features
		<i>Ramsar criterion 5</i> Wintering bird assemblages of international importance (peak counts in winter: 59,133 waterfowl (5 year peak mean 1998/99-2002/2003)). <i>Ramsar criterion 6</i> Wintering species occurring at levels of international importance: • Bewick's swan; • Gadwall; • Pintail; • Shoveler; • Teal; • Whooper swan; and, • Wigeon. Wintering species occurring at levels of international importance (as identified post-designation): • Black-tailed godwit. Wintering species occurring at levels of national importance: • Bean goose; • Coot; • Cormorant; • Hen harrier; • Mute swan; • Pochard; • Ruff; and, • Tufted duck¹⁰.

1.3 Legislation

- 1.3.1 All wild birds, their nests and eggs are, with few exceptions, protected under the Wildlife and Countryside Act 1981 (as amended)¹¹. Over eighty species or groups of species are listed under Schedule 1 of the Act, which confers special protection with increased penalties for offences committed.
- 1.3.2 Additionally, a further forty-nine bird species are listed as Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities ('NERC') Act (2006)¹², and are therefore a material consideration within the planning process.

¹⁰ <https://rsis.ramsar.org/ris/77> (Accessed 14th June 2024)

¹¹ <https://www.legislation.gov.uk/ukpga/1981/69> (Accessed 14th June 2024)

¹² <https://www.legislation.gov.uk/ukpga/2006/16/contents> (Accessed 14th June 2024)

2 METHODOLOGY

2.1 Non-breeding Bird Surveys

Winter Walkover Surveys

- 2.1.1 The Study Area comprised the habitats within the Site and within a 500m 'buffer zone' (Wider Survey Area), defined as the surrounding fields within a 500m radius of the Site boundaries, as shown in **Figure 1**.
- 2.1.2 A total of five surveys were completed between November 2023 and March 2024 (each comprising 11 to 12 days), with 'walk-over' surveys adopting the 'look-see' methodology (Gilbert *et al.*, 1998¹³) whereby surveyors observed each field, walked the boundaries, and stopped at intervals and scanned the fields for Target Species with binoculars and telescope. All Target Species heard or seen were recorded onto base maps. The number of secondary species was recorded during the survey, although these species were not mapped. Following the initial visit that identified suitable habitats¹⁴, habitats identified as unsuitable were not subsequently checked.
- 2.1.3 With the nearest sea and SPA (Ouse Washes SPA) for non-breeding situated approximately 19.35km from the Site, it is considered that the Site is beyond the foraging ranges for qualifying features listed (see **Table 1.1**). Surveys were therefore not timed with any tidal times (such as at the Ouse Washes SPA), but instead were timed to cover various periods during daylight hours (between 07:30hrs and 18:15hrs).
- 2.1.4 Target Species identified consisted of wetland birds such as waders, waterfowl and gulls and Annex 1¹⁵/Schedule 1¹⁶ raptors and owls. Note, non-native species were not considered. Records were also made of Secondary Species, which consisted of non-Annex 1/Schedule 1 raptors, notable flocks of non-wetland species, Birds of Conservation Concern (BoCC Amber and Red List species (Stanbury *et al.*, 2021)¹⁷), Natural Environment and Rural Communities ('NERC') Act (2006) Section 41 species¹⁸, and Norfolk Local Biodiversity Action Plan¹⁹ ('LBAP') species. Target Species therefore included all those which represent non-breeding qualifying features of designated sites listed in **Table 1.1** (but noting that any birds recorded during surveys of qualifying species of the Ouse Washes SPA and Ramsar were not considered part of the SPA/Ramsar population, given the spatial separation between the Site and the SPA and Ramsar, and documented and acknowledged foraging ranges of qualifying species).
- 2.1.5 All Target Species observed in flight only were also recorded and data is presented within this report.
- 2.1.6 Suitable habitats for Target Species surveyed included arable/pasture fields and associated boundary features. Habitats such as woodland and scrubland were considered unsuitable for Target Species and thus were omitted from the survey. Waterbodies were included in the Study Area given their

¹³ Gilbert G, Gibbons D.W. and Evans J. (1998). *Bird Monitoring Methods*. RSPB Sandy.

¹⁴ Open fields, grasslands or waterbodies. Unsuitable land refers to buildings, woodlands, car parks and greenhouses.

¹⁵ <https://lists.nbnatlas.org/speciesListItem/list/dr2401>

¹⁶ <https://www.legislation.gov.uk/ukpga/1981/69/schedule/1>

¹⁷ 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: 723-747

¹⁸ <https://www.legislation.gov.uk/ukpga/2006/16/section/41>

¹⁹ <https://www.norfolkbiodiversity.org/habitats-and-species/birds/>

suitability to support Target Species. Land within the Wider Survey Area was surveyed from public rights of way ('PROWs') and access tracks, where possible.

- 2.1.7 All surveys were undertaken during daylight hours.
- 2.1.8 Due to the extent of the Site, the Study Area was partitioned into ten distinct areas (i.e. Map 1 to Map 10 as shown on **Figures 1**, and **3 to 12**) which were surveyed over a number of consecutive days and analysed independently.
- 2.1.9 Results for all ten areas were then combined to provide a final count of species within the Site (**Table 3.2**) and Wider Survey Area (**Table 3.3**).
- 2.1.10 Field surveys were undertaken by J. Hanlon (JH), P. Whiteman (PW) and C. Sharpe (CS), all of whom are suitably qualified and experienced ornithologists.
- 2.1.11 Survey effort is presented below in **Table 2.1**. Full breakdown of survey conditions is presented in **Annex 2**.

Table 2.1: Non-breeding Bird Survey Effort (Winter 2023-2024)

Survey Visit	Date	Area	Surveyor	Start Time (24hrs)	End Time (24hrs)	Sunrise / Sunset
1	14/11/2023	Map 7	JH	11:35	15:50	07:17 / 16:05
	16/11/2023	Map 6	JH	11:45	16:00	07:20 / 16:02
	17/11/2023	Map 8	PW	09:05	15:30	07:22 / 16:01
	20/11/2023	Maps 6 & 7	JH	11:15	15:30	07:27 / 15:57
	21/11/2023	Map 4	PW	09:45	15:20	07:29 / 15:56
	23/11/2023	Map 2	JH	10:15	14:45	07:32 / 15:53
	26/11/2023	Map 2	JH	10:30	14:15	07:37 / 15:50
	30/11/2023	Maps 1 & 9	JH	14:00	16:15	07:43 / 15:47
	01/12/2023	Map 2	JH	12:25	15:45	07:45 / 15:46
	01/12/2023	Map 3	PW	09:30	13:45	07:45 / 15:46
	02/12/2023	Map 5	JH	11:35	15:45	07:46 / 15:45
	03/12/2023	Map 5 & 7	JH	09:50	12:15	07:48 / 15:45
2	08/12/2023	Map 2	JH	11:05	15:50	07:54 / 15:42
	10/12/2023	Map 2	JH	09:30	13:10	07:57 / 15:42
	11/12/2023	Map 3	JH	10:35	14:15	07:58 / 15:42
	14/12/2023	Map 4	JH	12:00	15:55	08:01 / 15:42
	17/12/2023	Map 5	JH	11:25	14:30	08:03 / 15:42
	18/12/2023	Map 6	JH	12:15	15:55	08:04 / 15:42
	23/12/2023	Map 6	JH	12:05	15:20	08:07 / 15:45
	29/12/2023	Map 8	PW	09:15	14:00	08:08 / 15:49
	31/12/2023	Maps 1 & 9	CS	07:30	11:35	08:08 / 15:51
	12/01/2024	Map 7	JH	12:45	17:00	08:04 / 16:06
	13/01/2024	Map 7	JH	07:30	09:55	08:03 / 16:08
3	02/01/2024	Map 2	JH	09:45	11:45	08:08 / 15:52
	06/01/2024	Map 2	JH	12:10	15:25	08:07 / 15:58

Survey Visit	Date	Area	Surveyor	Start Time (24hrs)	End Time (24hrs)	Sunrise / Sunset
	07/01/2024	Map 2	JH	10:15	13:30	08:07 / 15:59
	14/01/2024	Map 3	JH	08:05	12:35	08:02 / 16:10
	15/01/2024	Map 4	JH	08:15	11:20	08:01 / 16:11
	17/01/2024	Maps 4 & 5	JH	11:00	15:50	07:59 / 16:14
	18/01/2024	Map 6	JH	12:15	16:10	07:58 / 16:16
	25/01/2024	Map 7	JH	11:45	16:15	07:50 / 16:28
	26/01/2024	Map 8	JH	13:50	16:35	07:49 / 16:30
	28/01/2024	Map 6	JH	14:35	17:35	07:46 / 16:34
	29/01/2024	Maps 1 & 9	JH	13:30	16:55	07:44 / 16:36
	23/02/2024	Maps 1 & 10	JH	11:20	16:45	06:58 / 17:23
4	03/02/2024	Map 2	JH	15:00	17:15	07:36 / 16:45
	07/02/2024	Map 2	JH	11:30	15:05	07:30 / 16:53
	10/02/2024	Maps 1 & 2	JH	09:50	13:30	07:24 / 16:59
	12/02/2024	Map 3	JH	11:00	14:00	07:20 / 17:02
	16/02/2024	Map 4	JH	15:00	17:20	07:12 / 17:10
	17/02/2024	Map 4	JH	14:45	17:15	07:10 / 17:12
	18/02/2024	Map 5	JH	14:50	17:30	07:08 / 17:14
	19/02/2024	Map 6	JH	11:00	14:15	07:06 / 17:16
	24/02/2024	Map 6	JH	15:00	17:35	06:56 / 17:25
	25/02/2024	Map 7	JH	12:50	15:50	06:54 / 17:27
	28/02/2024	Map 8	JH	11:10	13:45	06:47 / 17:33
	01/03/2024	Maps 9 & 10	JH	14:00	18:00	06:42 / 17:36
5	02/03/2024	Map 2	JH	14:30	17:30	06:40 / 17:38
	05/03/2024	Map 2	JH	11:05	14:00	06:33 / 17:44
	08/03/2024	Maps 1 & 2	JH	14:05	18:00	06:27 / 17:49
	09/03/2024	Map 3	JH	08:40	11:40	06:24 / 17:51
	11/03/2024	Map 4	JH	10:45	14:30	06:20 / 17:55
	16/03/2024	Maps 4 & 6	JH	15:50	18:15	06:08 / 18:04
	17/03/2024	Map 5	JH	15:30	18:10	06:05 / 18:05
	18/03/2024	Map 6	JH	08:10	10:55	06:03 / 18:07
	21/03/2024	Map 6	JH	14:45	17:15	05:56 / 18:13
	23/03/2024	Map 7	JH	14:05	17:40	05:51 / 18:16
	25/03/2024	Map 8	JH	11:00	13:35	05:47 / 18:20
	30/03/2024	Map 9 & 10	JH	11:55	17:30	05:35 / 18:28

Study Area

2.1.12 For ease of interpreting the survey results, fields within the entire Study Area were numbered 1 to 533, and the fields within the Site, and Wider Survey Area are shown separately in **Table 2.2** and in **Figures 3 to 12**.

Table 2.2: Field Allocations for the Site and Wider Survey Area

Area	Field Number Range
The Site	1-77, 80-96, 462-463, 490-494, 525-533.
Wider Survey Area	6*, 78-79, 97-461, 464-489, 495-524.

*Field 6 was partially located within the Site and Wider Survey Area, but treated as within the Site.

Limitations

- 2.1.13 Wintering bird surveys are typically undertaken between late September/October and March, for example at locations where there is a likelihood of high levels of bird use by species associated with a designated site. Wintering bird surveys were undertaken during the optimum survey period, but surveys started in mid-November 2023. The omission of September/October 2023 is not considered a substantive limitation as surveys covered a five month period and captured the early spring passage period. The survey period is therefore considered robust in terms of capturing the Target Species' use of the Study Area.
- 2.1.14 Due to changes in the Site boundary throughout and following the survey period not all fields within the Site included five survey visits, with some areas completely excluded from the survey (**Table 2.3**; **Figure 1**). Several fields within the Site were also initially incorporated into the survey effort as land in the Wider Survey Area and therefore were surveyed from PRoWs (**Table 2.3**). Multiple land parcels initially included in the redline boundary were also removed and subsequently added to fields within the Wider Survey Area (**Table 2.3**).
- 2.1.15 A large section of the Site (470.8 ha) not surveyed is located directly adjacent to the west and south of Map 9 (**Figure 1**). This area of the Site was incorporated into the Site boundary following the survey period. As nearby surveyed areas of the Site and Wider Survey Area comprise similar agricultural habitats, it is considered that the species assemblage likely present is comparable to that recorded in the Study Area.
- 2.1.16 A summary of the Study Area survey coverage is presented in **Table 2.4**. As the majority of the Site and Wider Survey Area were incorporated into the survey effort, it is considered that the results of the survey are likely to be representative of the entire Study Area.
- 2.1.17 **Table 2.3** below presents the survey period and those fields surveyed. Additionally, those fields where access was not possible or 'fields' which were considered unsuitable (e.g. woodland), are also shown. Field numbers between 1 and 533 not allocated to the survey effort are also listed.

Table 2.3: Survey effort

Survey period	Field Number Range
Fields added to the survey effort from February 2024 (i.e. Map 10).	Site: 525-533; Wider Survey Area: 506-524
Fields from the Wider Survey Area added to the Site following the survey period.	69, 70, 462*, 463*, 490, 491*, 492*, 493*, 494.
Fields changed from the Site to the Wider Survey Area following the survey period.	254, 255, 387, 388.
Fields not surveyed due to access issues or were considered unsuitable for wetland birds	

No access to fields	Wider Survey Area: 100, 112-116, 133, 135-136, 138-141, 149, 158, 162, 165, 169, 186-187, 209-210, 212-214, 244, 264, 267, 270, 296, 298, 320, 352, 354-355, 357-359, 362, 381-382, 392, 394-395, 405, 409-412, 421, 442-443, 449, 471-475, 477, 495-498 and 518.
Fields considered unsuitable (i.e. woodland)	171, 399, 495-498.

**Indicates fields with partial field survey coverage due to Site boundary amendments. As such areas were initially treated as the Wider Survey Area, some sections of the fields were situated beyond the Study Area.*

Table 2.4 below presents the survey effort for the Site and Wider Survey Area.

Survey effort	Site (ha)	Site (%)	Wider Survey Area (ha)	Wider Survey Area (%)
Land added after surveys, so not surveyed	470.8	24	1,096.7	17
No access land	41.9	2	279	4
Partially surveyed land (Map 10)	161.1	8	538.8	9
Fully surveyed land	1,309.3	66	4,442.4	70
Total	1,983.1	100	6,356.9	100

2.1.18

2.1.19 A gas gun bird-scarer was identified at the edge of Field 55 between 17th December 2023 and 18th February 2024. A similar device was also recorded in Field 82 on 21st March 2024.

2.1.20 A reservoir located in Field 519 in the Wider Survey Area of Map 10 (directly adjacent to the Site boundary), possessed raised banksides which prevented viewing of the water surface throughout the majority of the survey period. However, the surface was viewable on the final survey visit on 30th March 2024 when an adjacent elevated position was made available.

2.1.21 During the second survey on 31st December 2023, no access was permitted to on-Site Fields 1-5 (shown on Map 1), with no visibility of the fields from the Wider Survey Area. As the Wider Survey Area remained incorporated into the survey visit, with on-Site fields surveyed in their entirety in four survey visits, it is not considered that the species assemblage for this area is robustly assessed and that there are no substantial impacts the assessment.

2.1.22 It is considered that the limitations detailed above do not pose a substantial influence on the results of the survey, with species assemblage and flock sizes considered to be representative for the entire Study Area from the proportionate survey effort and coverage undertaken.

3 RESULTS

3.1 Non-breeding Bird Surveys

Site

- 3.1.1 Surveys identified a range of Target Species comprising barn owl, black-headed gull, common gull, golden plover, grey heron, herring gull, lapwing, lesser black-backed gull, mallard, moorhen, red kite, shelduck, snipe, teal and woodcock (**Table 3.1** and **Table 3.2**) within the Site. In addition, cormorant, common crane, greylag goose, peregrine and pink-footed goose were observed only flying over the Site.
- 3.1.2 Barn owl, grey heron, shelduck, snipe, teal and woodcock were the only species identified within the Site that are listed on the citation for nationally designated sites within 10km, as listed in **Table 1.1** (i.e. Stanford Training Area SSSI, Potter's Carr, Cranworth SSSI and Mattishall Moor SSSI).
- 3.1.3 Target species were typically recorded within the Site in modest numbers. The most abundant species within the Site were black-headed gull (peak: 375; visit occupancy: 100%) and common gull (peak: 128; visit occupancy: 80%) (**Table 3.1**). Both species also included the highest peak flock size, with a mixed species flock comprising 200 black-headed gulls and 100 common gulls identified foraging and loafing in a bare earth field with previously harvest beet (Field 12) (**Table 3.1** and **Table 3.2**).
- 3.1.4 Surveys recorded a single occurrence of individual moorhen and red kite within the Site. Surveys also identified small peak numbers (<13) of barn owl, grey heron, herring gull, lesser black-backed gull, mallard, shelduck, snipe and woodcock within the Site (**Table 3.1** and **Table 3.2**).
- 3.1.5 Golden plover, lapwing and teal were recorded in moderate numbers, with peak on-Site birds ranging between 30 to 52 individuals (**Table 3.1**). Golden plover was identified in tilled (Field 38), winter wheat (Field 41) and rapeseed fields (Field 62), with lapwing observed concentrated in tilled (Field 38) and winter wheat (Field 39) fields (**Table 3.2**). Teal was primarily associated within on-Site standing waterbodies situated within Fields 21, 37, 38, 70 and 82 (**Table 3.2**).
- 3.1.6 Target species recorded flying over the Site only, which were considered not to be associated with on-Site habitats comprised golden plover (peak: 100; flock peak: 100 over Field 37), black-headed gull (peak: 104; flock peak: 70 over Field 24), common gull (peak: 9; flock peak: 4 over Field 30), common crane (peak: 6; flock peak: 6 over Field 31), pink-footed goose (peak: 55; flock peak: 55 over Field 35), lapwing (peak: 48; flock peak: 48 over Field 71), herring gull (peak: 13; flock peak: 6 over Field 532), lesser black-backed gull (peak: 15; flock peak: 6 over Field 70), greylag goose (peak: 3; flock peak: 3 over Field 64), grey heron (peak: 1; flock peak: 1 over Field 80), mallard (peak: 1; flock peak: 1 over Field 81), teal (peak: 3; flock peak: 3 over Field 82), red kite (peak: 2; flock peak: 1 over multiple fields), cormorant (peak: 1; flock peak: 1 over Field 83) and peregrine (peak: 1; flock peak: 1 over Field 90).

Wider Survey Area

- 3.1.7 Grey heron, snipe, teal, tufted duck and woodcock are species identified within the Wider Survey Area that are also listed on the citation for nationally designated sites within 10km, as listed in **Table 1.1** (i.e. Stanford Training Area SSSI, Potter's Carr, Cranworth SSSI and Mattishall Moor SSSI).
- 3.1.8 Habitats in the Wider Survey Area supported a similar assemblage of Target Species, also in relatively low numbers. This included barn owl, black-headed gull, common gull, curlew, golden plover, grey heron, greylag goose, herring gull, lapwing, lesser black-backed gull, mallard, moorhen, oystercatcher, red kite, snipe, teal, tufted duck and woodcock (**Table 3.1** and **Table 3.3**). In addition, cormorant, goshawk, peregrine and pink-footed goose were recorded only flying over the Wider Survey Area (**Table 3.3**).

- 3.1.9 Golden plover was recorded in high numbers in the Wider Survey Area with an average 201 birds across all five survey visits (peak: 438) (**Table 3.3**). This includes a peak flock of 250 birds and 183 birds recorded loafing in a winter wheat field (Field 184) on two separate dates in the first visit (23rd and 26th November 2023). Lesser black-backed gulls, black-headed gulls, herring gulls, lapwing, greylag goose and common gulls were also identified in moderate numbers, with respectively 90, 75, 43, 34, 25 and 20 peak bird counts recorded throughout fields in the surrounding Wider Survey Area (**Table 3.3**).
- 3.1.10 The distribution of Target Species recorded within the Site and Wider Survey Area during each survey visit is illustrated in **Figures 3 to 12**.
- 3.1.11 Target species recorded flying only, which were considered not to be associated with habitats within the Wider Survey Area comprised golden plover (peak: 70; flock peak: 70 over Field 253), lapwing (peak: 30; flock peak 30 over Field 155), black-headed gull (peak: 21; flock peak: 19 over Field 460), common gull (peak: 17; flock peak: 10 over Field 423), pink-footed goose (peak: 200; flock peak: 200 over Field 223), herring gull (peak: 23; flock peak: 15 over Field 507), lesser black-backed gull (peak: 5; flock peak: 4 over Field 508), grey heron (peak: 1; flock peak: 1 over Field 248), mallard (peak: 2; flock peak: 2 over Field 203), red kite (peak: 2; flock peak: 1 over Field 426 and 460), cormorant (peak: 3; flock peak: 3 over Field 241), goshawk (peak: 1; flock peak: 1 over Field 341 and 506), snipe (peak: 1; flock peak: 1 over Field 79) and peregrine (peak: 1; flock peak: 1 over Field 326).
- 3.1.12 Secondary Species recorded in the Study Area included a range of passerines (including three schedule 1 species) and non- schedule 1 raptors; typical of the locale and habitats present. Observations included grey partridge, stock dove, woodpigeon, sparrowhawk, buzzard, little owl, kestrel, rook, raven, woodlark, skylark, starling, song thrush, redwing, fieldfare, meadow pipit, linnet, lesser redpoll and yellowhammer. Full results of the secondary species recorded in the Site and Wider Survey Area are respectively presented in **Table 3.2** and **Table 3.3**.

Table 3.1: Wintering bird survey Target Species summary results 2023-2024 – the Study Area. *

Target Species	Site number of birds			Wider Survey Area number of birds		
	Peak	Mean per visit	Occupancy over survey visits (%)	Peak	Mean per visit	Occupancy over survey visits (%)
Barn owl	1	0.4	40	1	0.2	20
Black-headed gull	375	86.2	100	75	18.2	60
Common gull	128	32.8	80	20	12.2	100
Curlew	0	0	0	1	0.2	20
Golden plover	45	9.6	40	438	201	100
Grey heron	2	0.6	40	1	0.2	20
Greylag goose	0	0	0	25	5.4	40
Herring gull	2	0.8	60	43	10.6	60
Lapwing	52	16.4	40	34	6.8	20
Lesser black-backed gull	1	0.4	40	90	18.4	60
Mallard	9	4.4	80	4	2	60
Moorhen	1	0.2	20	2	1	80
Oystercatcher	0	0	0	2	0.4	20
Red kite	1	0.2	20	1	0.2	20
Shelduck	13	2.6	20	0	0	0
Snipe	6	1.8	40	2	0.6	40
Teal	30	17	80	2	0.4	20
Tufted duck	0	0	0	1	0.2	20
Woodcock	4	1.8	80	6	1.4	40

*Birds recorded only in flight are excluded from the summary results.

Table 3.2: Target and Secondary species recorded within the Site.

Field N°	Species	Survey Visits				
		1	2	3	4	5
Target Species						
1	Grey heron	1	-	-	-	-
2	Barn owl	-	1	-	-	-
12	Black-headed gull	-	-	-	200	2
	Common gull	-	-	-	100	4

Field N°	Species	Survey Visits				
		1	2	3	4	5
	Lesser black-backed gull	-	-	-	1	-
14	Woodcock	-	-	-	1	-
18	Woodcock	-	1	-	-	-
	Common gull	-	-	-	-	2
19	Black-headed gull	-	-	-	-	1
20	Woodcock	-	-	-	1	-
21	Teal	-	28	-	-	-
22	Herring gull	-	-	-	-	2
24	Black-headed gull	-	-	-	35	-
	Common gull	-	-	-	15	-
	Herring gull	-	-	-	1	-
25	Black-headed gull	-	-	-	140	-
	Common gull	-	-	-	10	-
26	Woodcock	-	-	1	-	-
30	Black-headed gull	-	-	50	-	-
	Common gull	-	-	15	-	-
	Herring gull	-	-	1	-	-
	Lesser black-backed gull	-	-	1	-	-
32	Grey heron	-	1	-	-	-
37	Mallard	-	7	-	2	-
	Golden plover	-	2	-	-	-
	Teal	-	-	-	2	-
38	Golden plover	35	-	-	-	-
	Lapwing	52	-	-	-	-
	Woodcock	1	-	-	-	-
	Mallard	-	2	3	1	-
	Teal	-	1	23	7	17
39	Lapwing	-	-	30	-	-
	Red kite	-	-	1	-	-
	Common gull	-	-	-	3	-
41	Golden plover	10	-	-	-	-
54	Common gull	-	15	-	-	-
	Black-headed gull	-	1	-	-	-
57	Woodcock	-	1	2	-	-
58	Snipe	-	-	4	-	-
60	Snipe	-	-	1	-	-
61	Snipe	3	-	-	-	-
62	Golden plover	-	1	-	-	-

Field N°	Species	Survey Visits				
		1	2	3	4	5
63	Woodcock	-	-	1	-	-
65	Grey heron	1	-	-	-	-
	Moorhen	-	-	-	-	1
70	Teal	-	-	5	-	-
	Snipe	-	-	1	-	-
82	Teal	-	-	2	-	-
83	Mallard	-	-	-	5	-
85	Barn owl	-	-	-	-	1
86	Mallard	-	-	-	-	2
463	Black-headed gull	2	-	-	-	-
528	Shelduck	NA	NA	-	-	13
Secondary species						
2	Buzzard	1	-	-	-	-
	Starling	-	-	-	-	10
3	Kestrel	-	-	1	-	1
4	Grey partridge	16	-	-	-	-
	Woodpigeon	-	-	19	-	-
	Fieldfare	-	-	19	-	-
	Stock dove	-	-	-	-	25
5	Skylark	75	-	-	-	-
6	Woodpigeon	50	-	-	-	-
7	Starling	-	-	-	40	-
8	Fieldfare	-	-	-	-	200
9	Kestrel	-	1	1	1	-
	Yellowhammer	-	25	-	-	-
	Linnet	-	-	30	-	-
10	Buzzard	-	-	1	-	-
	Woodpigeon	-	-	-	-	150
11	Rook	10	-	-	50	-
	Woodpigeon	-	-	-	50	-
12	Starling	-	-	-	-	300
	Fieldfare	-	-	-	-	50
13	Rook	-	36	-	150	225
14	Linnet	50	-	-	-	-
	Rook	-	-	-	-	50
15	Linnet	-	200	-	-	-
17	Woodpigeon	23	-	-	-	-
	Rook	-	-	-	-	21

Field N°	Species	Survey Visits				
		1	2	3	4	5
18	Skylark	-	-	-	-	30
20	Fieldfare	60	-	-	-	-
	Redwing	20	-	-	-	-
	Woodpigeon	15	-	-	-	-
	Buzzard	-	1	-	1	-
23	Buzzard	-	1	-	-	-
	Woodpigeon	-	-	-	-	40
24	Buzzard	-	2	1	-	-
	Kestrel	-	1	-	-	-
	Fieldfare	-	50	-	-	-
	Linnet	-	14	-	-	-
25	Meadow pipit	-	32	-	-	-
	Yellowhammer	-	-	-	20	-
	Fieldfare	-	-	-	25	-
31	Buzzard	1	-	-	-	-
	Kestrel	-	1	-	-	-
	Starling	-	-	20	-	-
	Fieldfare	-	-	25	-	-
	Redwing	-	-	15	-	-
	Skylark	-	-	10	-	-
32	Yellowhammer	-	50	-	-	-
33	Song thrush	60	-	-	-	-
	Fieldfare	20	-	-	-	-
	Starling	-	18	-	-	-
34	Redwing	-	-	35	86	-
	Sparrowhawk	-	-	-	1	-
	Woodpigeon	-	-	-	-	13
36	Buzzard	4	-	-	-	-
37	Buzzard	-	1	-	1	-
38	Yellowhammer	14	-	-	-	-
	Buzzard	-	-	2	-	-
	Rook	-	-	150	-	-
	Woodpigeon	-	-	-	12	-
39	Skylark	-	100	50	-	-
	Linnet	-	200	300	-	-
	Fieldfare	-	100	250	-	-
	Starling	-	-	100	-	-
	Meadow pipit	-	-	13	-	-

Field N°	Species	Survey Visits				
		1	2	3	4	5
	Sparrowhawk	-	-	-	1	-
	Rook	-	-	-	-	200
40	Sparrowhawk	-	-	1	-	-
	Buzzard	-	-	1	-	-
	Woodpigeon	-	-	-	40	-
41	Woodpigeon	-	-	-	-	26
42	Woodpigeon	-	40	-	-	-
43	Woodpigeon	-	40	-	-	-
44	Buzzard	-	-	-	-	1
	Fieldfare	-	-	-	25	-
	Woodpigeon	-	-	-	15	-
47	Buzzard	-	-	-	-	1
48	Rook	-	30	-	-	-
	Sparrowhawk	-	1	1	-	-
	Skylark	-	50	-	-	-
	Buzzard	-	-	1	-	-
49	Fieldfare	1	-	-	-	-
	Buzzard	-	-	-	1	-
	Woodpigeon	-	-	-	-	15
50	Fieldfare	40	15	-	-	-
	Redwing	-	15	-	-	-
	Linnet	-	-	-	-	25
51	Buzzard	-	1	-	-	-
	Song thrush	-	-	16	-	-
	Fieldfare	-	-	-	25	-
52	Fieldfare	-	-	-	40	-
	Woodpigeon	-	-	17	30	-
55	Meadow pipit	-	10	-	-	-
	Skylark	-	10	-	-	-
56	Buzzard	-	1	-	-	-
	Woodpigeon	-	-	-	-	50
57	Linnet	12	-	-	-	-
	Sparrowhawk	1	-	-	-	-
	Kestrel	1	-	-	-	-
	Yellowhammer	-	-	-	10	-
	Buzzard	-	-	-	-	2
58	Fieldfare	-	20	-	-	-
60	Woodpigeon	-	60	-	-	60

Field N°	Species	Survey Visits				
		1	2	3	4	5
62	Woodpigeon	-	50	-	-	-
	Kestrel	-	1	-	-	-
63	Starling	22	-	-	-	-
	Rook	125	-	-	-	-
	Buzzard	-	-	1	-	-
64	Woodpigeon	-	-	50	-	60
	Rook	-	-	-	-	10
65	Woodpigeon	-	-	80	-	25
	Buzzard	-	-	1	-	-
	Linnet	-	-	-	100	-
67	Grey partridge	-	20	-	-	-
	Linnet	-	-	-	22	-
68	Fieldfare	-	75	-	-	-
	Redwing	-	10	-	-	-
	Starling	-	8	-	-	-
	Skylark	-	8	-	-	-
	Woodpigeon	-	150	-	-	-
70	Rook	-	-	10	12	-
	Buzzard	-	1	-	-	-
	Fieldfare	-	-	13	-	-
	Linnet	-	-	19	-	-
73	Kestrel	-	-	1	-	-
	Woodpigeon	-	-	-	-	15
	Buzzard	-	2	1	-	-
74	Sparrowhawk	-	-	-	-	1
75	Woodpigeon	-	-	-	20	-
	Buzzard	-	-	-	-	2
76	Linnet	50	-	-	-	-
	Woodpigeon	-	-	-	-	70
	Song thrush	9	-	-	-	-
	Meadow pipit	35	-	-	-	-
	Kestrel	-	-	-	-	1
77	Buzzard	-	-	2	-	-
80	Starling	-	-	-	120	-
81	Rook	50	-	-	-	-
	Woodpigeon	-	-	-	-	40
	Buzzard	-	3	-	-	-
	Linnet	-	-	-	-	90

Field N°	Species	Survey Visits				
		1	2	3	4	5
82	Woodpigeon	-	-	250	100	-
	Fieldfare	-	50	-	20	-
	Redwing	-	10	-	-	-
	Starling	-	-	-	30	-
	Linnet	-	-	-	-	18
83	Buzzard	-	-	-	-	2
85	Fieldfare	3	-	-	-	-
	Redwing	1	-	-	-	-
	Woodpigeon	9	-	-	50	-
	Buzzard	-	1	-	2	1
86	Woodpigeon	-	10	-	-	-
87	Woodpigeon	16	290	10	-	-
	Redwing	-	20	-	-	-
	Kestrel	-	-	1	-	-
	Stock dove	-	-	20	-	-
	Fieldfare	-	-	20	-	-
88	Rook	-	-	-	100	-
	Yellowhammer	-	-	-	200	-
	Linnet	-	-	-	50	-
89	Woodpigeon	70	130	-	-	23
	Rook	100	-	-	-	-
	Redwing	-	140	-	-	-
90	Buzzard	-	-	-	-	1
	Starling	-	30	-	-	-
	Rook	-	-	-	150	-
	Fieldfare	-	-	-	120	-
91	Sparrowhawk	-	-	-	1	-
92	Woodpigeon	6	-	-	-	-
93	Woodpigeon	-	-	-	120	-
94	Buzzard	-	-	-	-	1
95	Starling	-	-	-	40	-
	Fieldfare	-	-	-	30	-
	Redwing	-	-	-	20	-
	Woodpigeon	-	-	-	-	10
96	Buzzard	-	1	-	-	-
493	Rook	50	-	-	-	-
494	Rook	40	-	-	-	-
	Starling	-	-	100	-	-

Field N°	Species	Survey Visits				
		1	2	3	4	5
525	Woodlark	NA	NA	1	-	-
527	Lesser redpoll	NA	NA	10	-	-
	Woodpigeon	NA	NA	12	-	-
533	Starling	NA	NA	-	75	-
	Fieldfare	NA	NA	-	25	-
'- refers to no observation in this field during that specific survey. N/A refers to no survey visit (see limitations)						

Table 3.3: Target and Secondary species recorded in the Wider Survey Area

Field N°	Species	Survey Visits				
		1	2	3	4	5
Target Species						
62	Barn owl	-	-	1	-	-
78	Woodcock	-	-	2	-	-
79	Black-headed gull	4	-	-	-	-
	Common gull	8	-	3	-	-
	Woodcock	-	-	1	-	-
	Snipe	-	-	1	-	-
	Golden plover	-	-	27	-	-
145	Golden plover	1	-	-	-	-
147	Snipe	1	-	-	-	-
	Mallard	-	-	2	-	-
150	Black-headed gull	26	-	-	-	-
	Common gull	2	-	-	-	-
163	Teal	-	-	2	-	-
167	Moorhen	-	-	-	-	1
173	Moorhen	-	-	1	-	-
184	Golden plover	250 +183	-	-	-	-
198	Moorhen	-	-	-	1	-
	Woodcock	-	-	-	-	1
219	Golden plover	-	-	-	-	90
234	Common gull	-	-	-	15	-
	Black-headed gull	-	-	-	5	-
237	Grey heron	-	-	1	-	-
	Golden plover	-	-	200	120	70
	Common gull	-	-	-	5	-
	Black-headed gull	-	-	-	1	-

Field N°	Species	Survey Visits				
		1	2	3	4	5
243	Common gull	-	-	4	-	-
246	Snipe	1	-	-	-	-
248	Golden plover	-	1	-	-	-
249	Black-headed gull	15	-	-	-	-
	Common gull	3	-	-	-	-
	Lesser black-backed gull	1	-	-	-	-
259	Golden plover	2	-	-	-	-
260	Red kite	-	1	-	-	-
303	Golden plover	1	-	-	-	-
313	Black-headed gull	30	-	-	-	-
	Common gull	3	-	-	-	-
314	Common gull	-	14	-	-	-
326	Woodcock	-	-	1	-	-
331	Lapwing	-	-	34	-	-
	Golden plover	-	-	59	-	-
344	Woodcock	-	-	2	-	-
347	Mallard	-	-	-	-	3
368	Moorhen	1	-	-	-	-
370	Common gull	-	-	1	-	-
	Moorhen	-	-	-	1	-
376	Greylag goose	-	-	25	-	-
383	Herring gull	-	-	-	9	-
484	Golden plover	1	-	-	-	-
497	Mallard	2	-	2	-	-
519 (reservoir)	Greylag goose	NA	NA	-	-	2
	Lesser black-backed gull	NA	NA	-	-	60
	Herring gull	NA	NA	-	-	30
	Common gull	NA	NA	-	-	3
	Black-headed gull	NA	NA	-	-	4
	Curlew	NA	NA	-	-	1
	Oystercatcher	NA	NA	-	-	2
	Tufted duck	NA	NA	-	-	1
519	Mallard	NA	NA	-	-	1
	Black-headed gull	NA	NA	-	-	6
	Herring gull	NA	NA	-	-	13
	Lesser black-backed gull	NA	NA	-	-	30
520	Lesser black-backed gull	NA	NA	1	-	-

Field N°	Species	Survey Visits				
		1	2	3	4	5
Secondary species						
78	Kestrel	-	1	-	-	-
79	Buzzard	2	1	-	-	-
	Kestrel	1	1	-	-	-
	Fieldfare	-	-	10	-	-
100	Rook	-	-	-	100	-
111	Starling	-	-	15	-	-
132	Buzzard	1	-	-	-	-
146	Rook	-	-	-	150	-
148	Kestrel	-	-	-	1	-
154	Buzzard	1	-	-	-	-
	Rook	-	-	-	-	20
	Woodpigeon	-	-	-	-	30
158	Rook	-	50	-	-	200
159	Rook	-	-	-	-	15
160	Kestrel	1	-	-	-	-
	Woodpigeon	-	-	-	-	15
163	Kestrel	-	1	-	-	1
	Sparrowhawk	-	1	-	-	-
	Woodpigeon	-	-	30	-	20
167	Redwing	30	-	-	-	-
	Fieldfare	30	-	-	-	-
	Woodpigeon	20	-	-	-	-
	Fieldfare	10	-	-	-	-
171	Fieldfare	-	30	-	-	-
173	Buzzard	-	-	-	1	-
179	Starling	-	20	-	-	-
	Fieldfare	-	50	-	-	-
182	Linnet	40	-	-	350	-
	Woodpigeon	-	-	60	-	-
183	Kestrel	-	-	1	-	-
	Buzzard	-	1	-	-	-
	Linnet	-	-	280	-	-
185	Linnet	-	-	-	-	200
	Woodpigeon	-	-	-	-	30
191	Kestrel	-	-	-	1	-
199	Buzzard	-	1	-	-	-
	Redwing	-	-	20	-	-

Field N°	Species	Survey Visits				
		1	2	3	4	5
202	Woodpigeon	-	-	-	-	50
204	Grey partridge	5	-	-	-	-
206	Fieldfare	-	-	-	-	20
	Starling	-	-	-	-	80
207	Yellowhammer	-	-	-	13	-
216	Buzzard	-	-	1	-	-
218	Woodpigeon	-	-	10	-	-
219	Woodpigeon	-	10	-	-	-
220	Little owl	1	-	-	-	-
	Woodpigeon	-	25	-	-	-
227	Kestrel	-	-	-	1	-
	Woodpigeon	-	-	-	1	25
237	Skylark	-	50	25	-	-
	Kestrel	-	1	-	-	-
	Rook	-	-	-	150	-
238	Buzzard	2	-	-	-	-
	Fieldfare	-	-	-	-	10
246	Woodpigeon	14	1000	150	100	-
	Fieldfare	36	-	-	-	-
	Rook	-	-	150	-	-
248	Buzzard	-	-	1	-	-
	Kestrel	-	-	-	1	-
249	Linnet	160	-	-	-	-
	Woodpigeon	44	-	-	-	-
	Fieldfare	10	-	-	-	-
	Rook	177	-	-	-	-
250	Woodpigeon	12	-	-	-	-
	Rook	-	40	-	-	-
253	Woodpigeon	-	-	-	10	-
254	Woodpigeon	-	200	25	-	-
	Buzzard	-	-	-	1	-
256	Kestrel	-	-	1	-	-
257	Grey partridge	-	25	-	-	-
	Kestrel	-	-	1	1	-
	Buzzard	-	-	-	1	-
	Yellowhammer	-	-	-	10	-
	Linnet	-	-	-	-	20
259	Woodpigeon	-	-	-	12	-

Field N°	Species	Survey Visits				
		1	2	3	4	5
260	Buzzard	-	-	-	1	-
276	Fieldfare	-	-	70	-	-
	Buzzard	-	-	1	-	-
	Starling	-	-	10	-	-
291	Woodpigeon	-	-	400	-	-
304	Buzzard	1	-	-	-	-
305	Buzzard	-	-	1	-	-
321	Buzzard	-	-	1	-	-
325	Yellowhammer	-	22	-	-	-
	Woodpigeon	-	70	-	-	-
330	Buzzard	1	-	-	-	-
	Kestrel	1	-	-	-	-
	Linnet	10	-	-	-	-
331	Kestrel	-	1	-	-	-
332	Woodpigeon	12	-	-	-	-
	Buzzard	1	-	-	-	-
335	Fieldfare	-	-	-	100	-
	Starling	-	-	-	100	-
336	Buzzard	1	-	-	-	-
341	Buzzard	-	1	-	-	-
	Fieldfare	-	-	70	-	-
	Redwing	-	-	30	-	-
342	Buzzard	-	-	1	-	-
	Fieldfare	-	-	20	-	-
343	Buzzard	1	-	-	-	-
344	Woodpigeon	5	-	-	-	-
	Fieldfare	-	200	-	-	-
	Buzzard	-	-	-	4	-
346	Fieldfare	-	-	140	18	-
	Starling	-	-	60	11	-
	Skylark	-	-	10	-	-
	Redwing	-	-	15	-	-
351	Starling	-	-	-	50	-
	Linnet	-	-	-	40	-
360	Buzzard	-	-	1	-	-
370	Buzzard	1	-	-	-	1
	Fieldfare	-	-	-	16	-
	Kestrel	-	-	-	-	1

Field N°	Species	Survey Visits				
		1	2	3	4	5
374	Kestrel	-	-	-	-	1
384	Rook	-	-	40	-	-
388	Grey partridge	9	-	-	-	-
	Rook	10	-	-	-	-
398	Kestrel	-	-	-	-	1
403	Buzzard	-	-	1	-	-
405	Rook	-	-	40	-	-
415	Fieldfare	-	-	60	-	-
417	Rook	-	-	-	200	-
421	Rook	-	90	-	-	-
426	Woodpigeon	15	-	-	-	-
427	Rook	-	-	60	-	-
	Fieldfare	-	-	120	120	-
	Woodpigeon	-	-	130	-	-
	Starling	-	-	-	120	-
430	Fieldfare	-	-	30	-	-
437	Buzzard	-	1	-	-	-
447	Sparrowhawk	1	-	-	-	-
450	Kestrel	1	-	-	-	-
	Rook	-	-	-	50	-
451	Fieldfare	-	10	-	-	-
453	Fieldfare	-	250	-	-	-
	Redwing	-	150	-	-	-
	Starling	-	50	-	-	-
	Buzzard	-	2	-	-	1
459	Buzzard	1	-	-	-	-
	Rook	12	-	-	-	-
460	Kestrel	1	-	-	-	-
	Rook	-	-	-	-	25
461	Raven	1	-	-	-	-
	Rook	100	-	-	-	-
	Woodpigeon	-	180	-	-	-
	Buzzard	-	1	-	-	-
470	Woodpigeon	10	-	-	-	-
476	Rook	-	-	-	-	100
477	Rook	-	-	-	-	200
495	Buzzard	1	-	-	-	-
506	Woodpigeon	NA	NA	-	200	-

Field N°	Species	Survey Visits				
		1	2	3	4	5
509	Skylark	NA	NA	-	40	-
520	Woodpigeon	NA	NA	400	-	-
	Fieldfare	NA	NA	-	16	-
'- refers to no observation in this field during that specific survey. N/A refers to no survey visit (see limitations)						

4 SUMMARY

- 4.1.1 A total of five visits were carried out between November 2023 and March 2024. Within the survey period, a total of 15 Target Species were recorded within the Site and 18 Target Species within the Wider Survey Area. In addition, five and four further Target Species were respectively identified only flying over the Site and Wider Survey Area.
- 4.1.2 The survey results indicate that fields within the Study Area are utilised on an occasional basis by modest numbers of waterbird species and waterbird assemblages. The most regularly occurring species were black-headed gull and common gull, which respectively averaged 86.2 (peak: 375) and 32.8 (peak 128) birds per visit within the Site. Lapwing, golden plover and teal were recorded in moderate numbers, with respective peak counts of 52, 45 and 30 birds within the Site. Other Target Species (such as barn owl, grey heron, herring gull, lesser black-backed gull, mallard, red kite, shelduck, snipe and woodcock) were recorded within the Site in peak numbers of less than 13 birds.
- 4.1.3 Golden plover was the most frequently recorded species in the Wider Survey Area, with an average 201 birds across all five survey visits (peak: 438; peak flock: 250). Lesser black-backed gulls, black-headed gulls, herring gulls, lapwing, greylag goose and common gulls were also identified in moderate numbers, with respectively 90, 75, 43, 34, 25 and 20 peak birds recorded in the Wider Survey Area. Other Target Species (such as barn owl, grey heron, curlew, mallard, moorhen, oystercatcher, red kite, teal, snipe, tufted duck and woodcock) were recorded within the Wider Survey Area in peak numbers of less than 6 birds.

FIGURE 1 – NON-BREEDING BIRD STUDY AREA – OVERVIEW



FIGURE 2 – STATUTORY DESIGNATED SITES WITH NON-BREEDING ORNITHOLOGICAL INTEREST

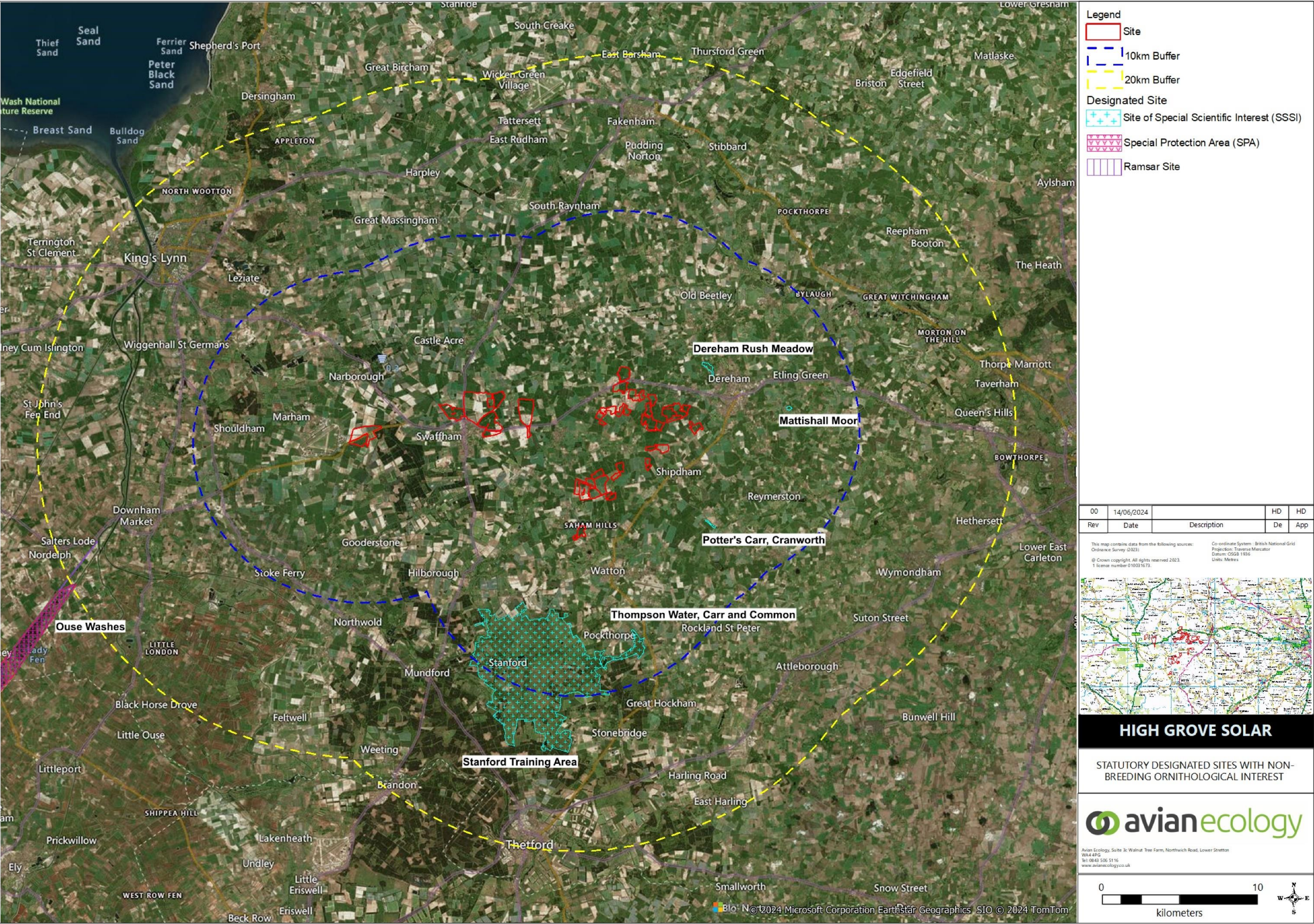


FIGURE 3 – NON-BREEDING BIRD SURVEY RESULTS – MAP 1

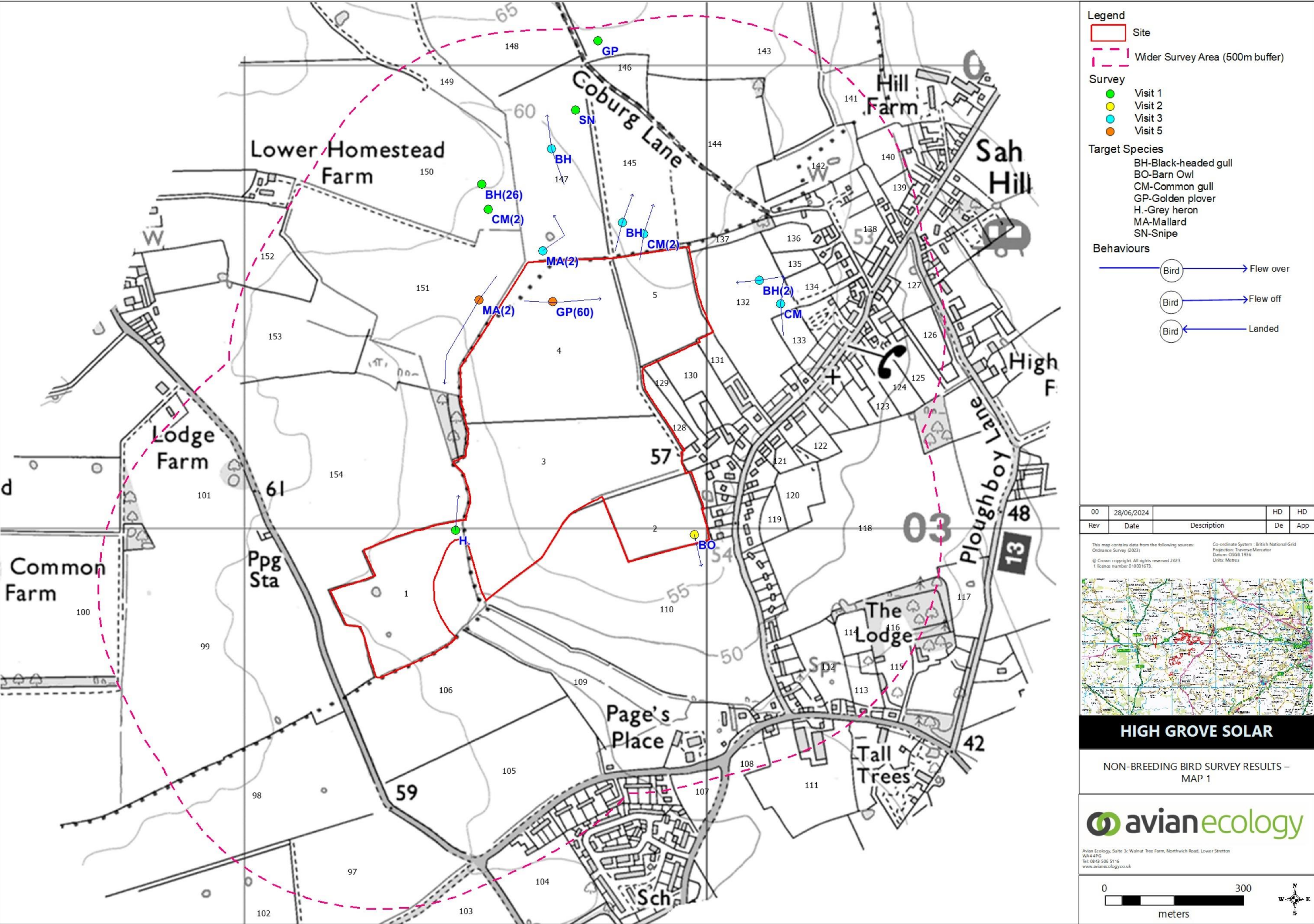


FIGURE 4 – NON-BREEDING BIRD SURVEY RESULTS – MAP 2

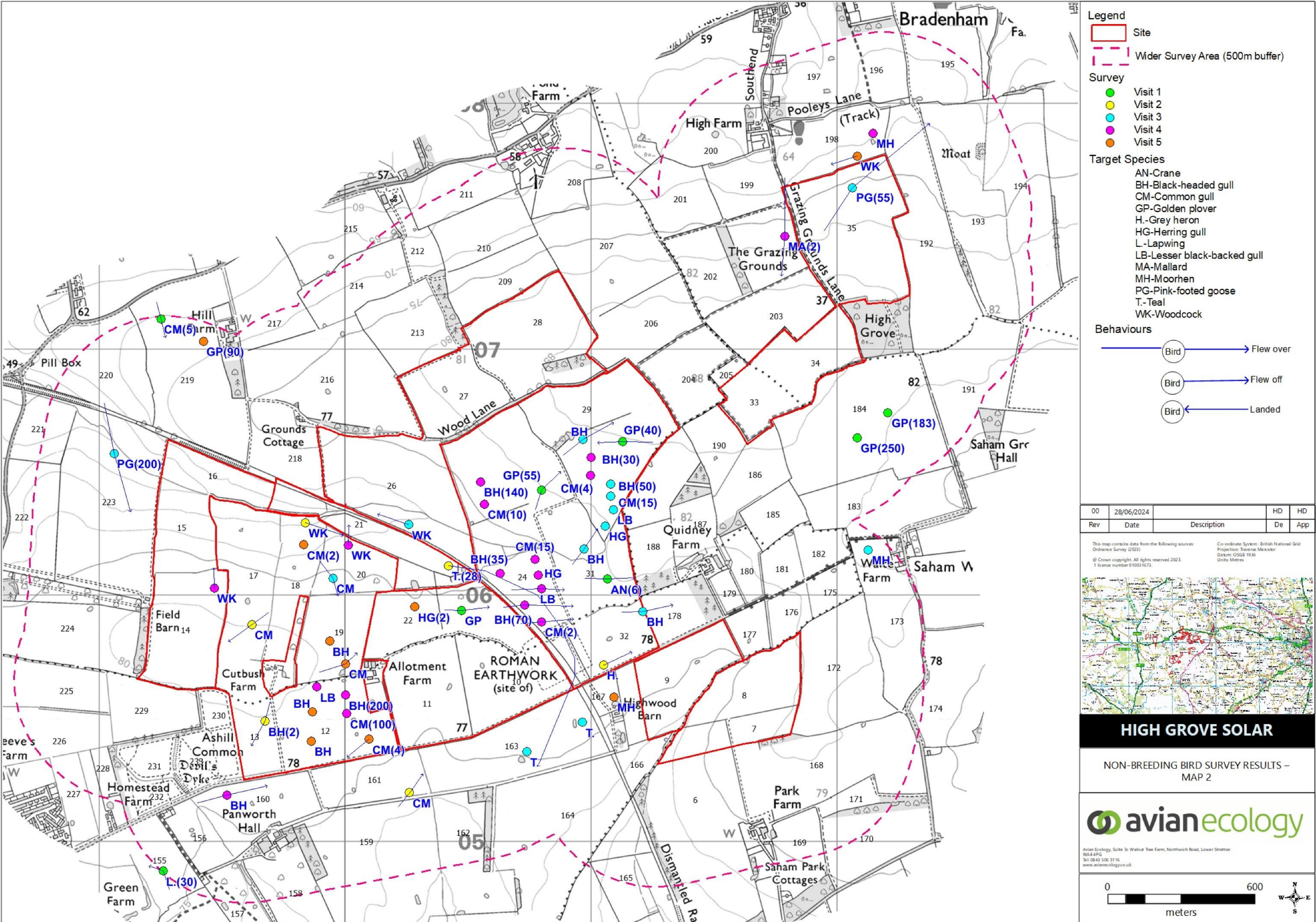


FIGURE 5 – NON-BREEDING BIRD SURVEY RESULTS – MAP 3

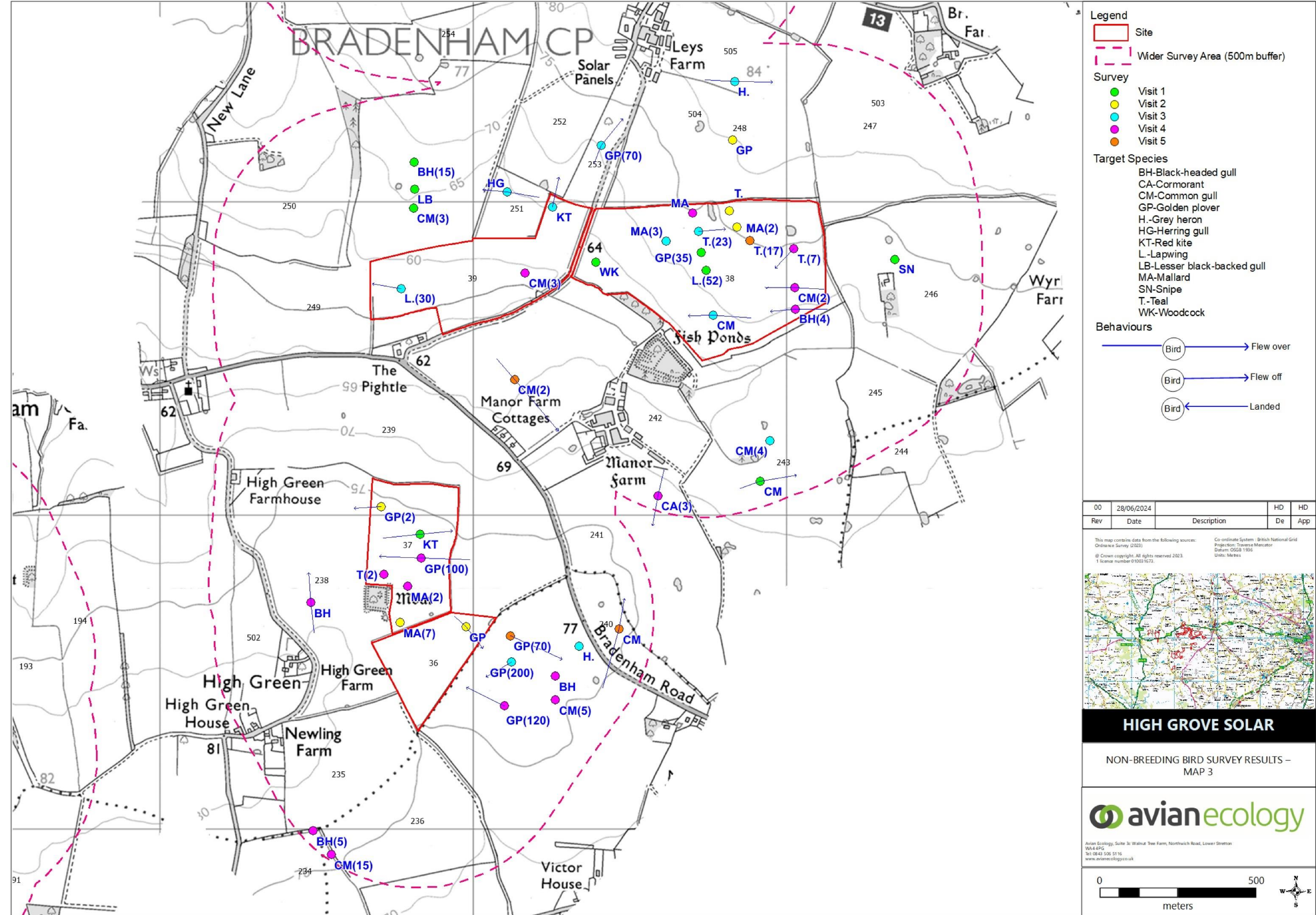


FIGURE 6 – NON-BREEDING BIRD SURVEY RESULTS – MAP 4

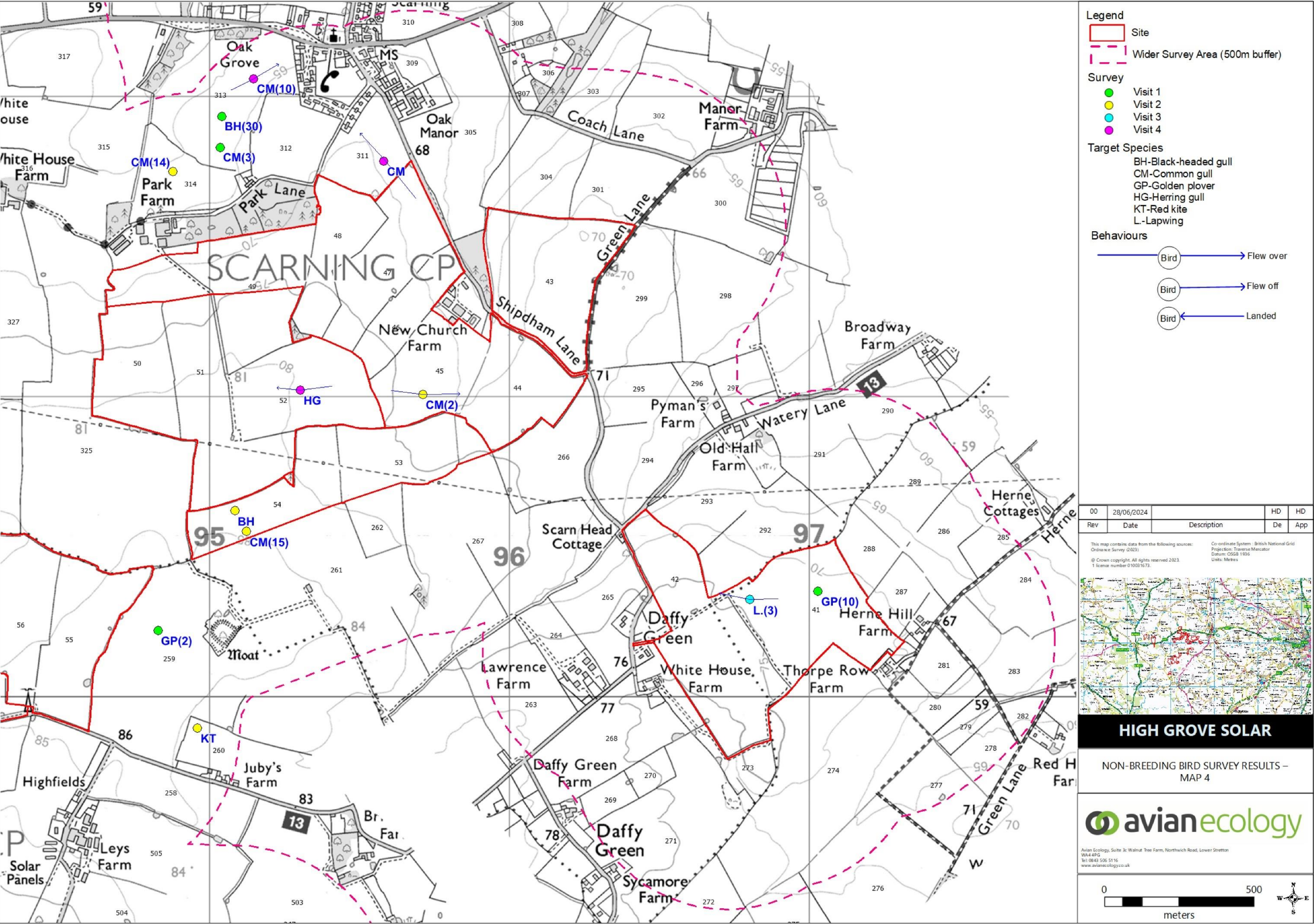


FIGURE 7 – NON-BREEDING BIRD SURVEY RESULTS – MAP 5

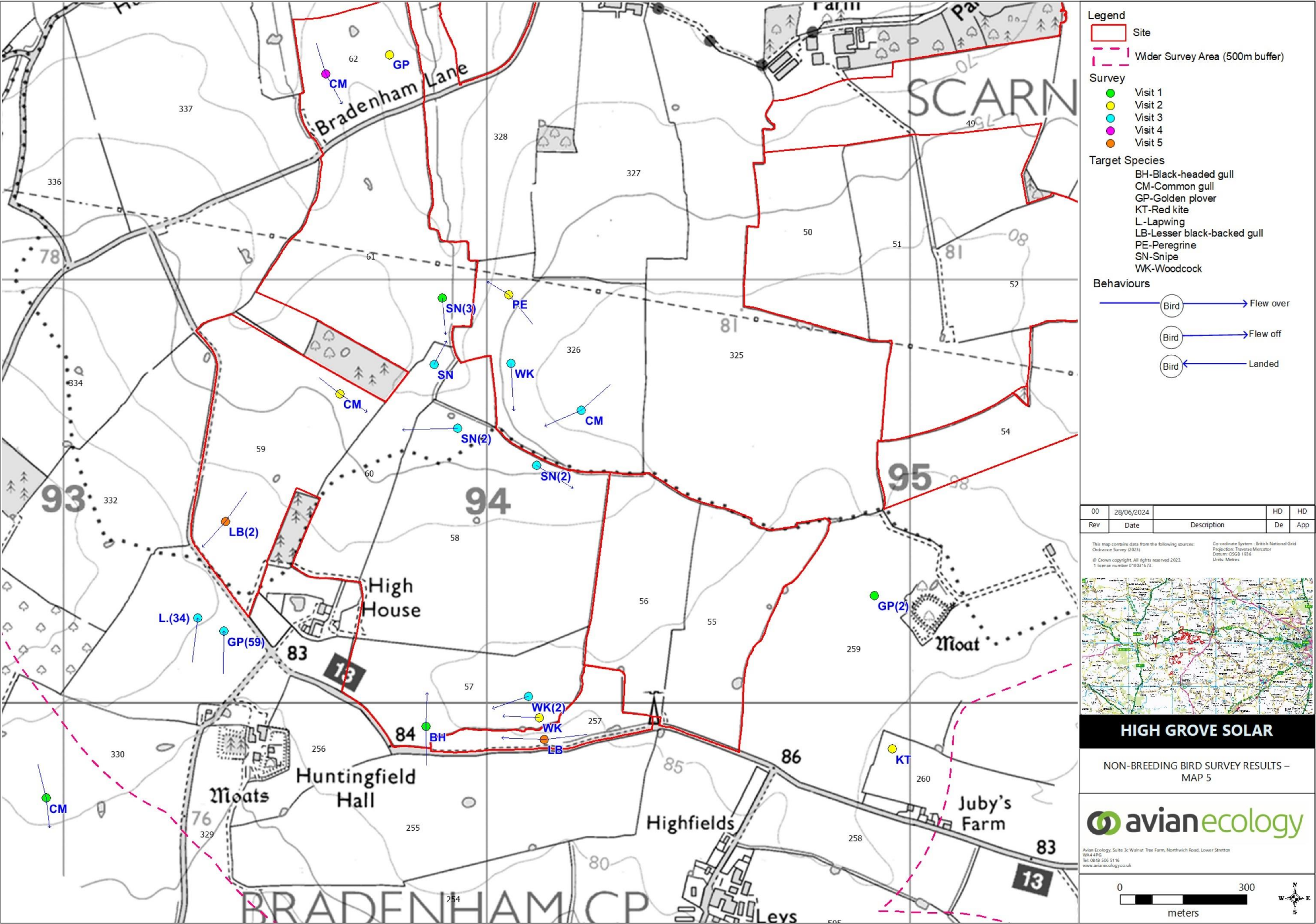


FIGURE 8 – NON-BREEDING BIRD SURVEY RESULTS – MAP 6

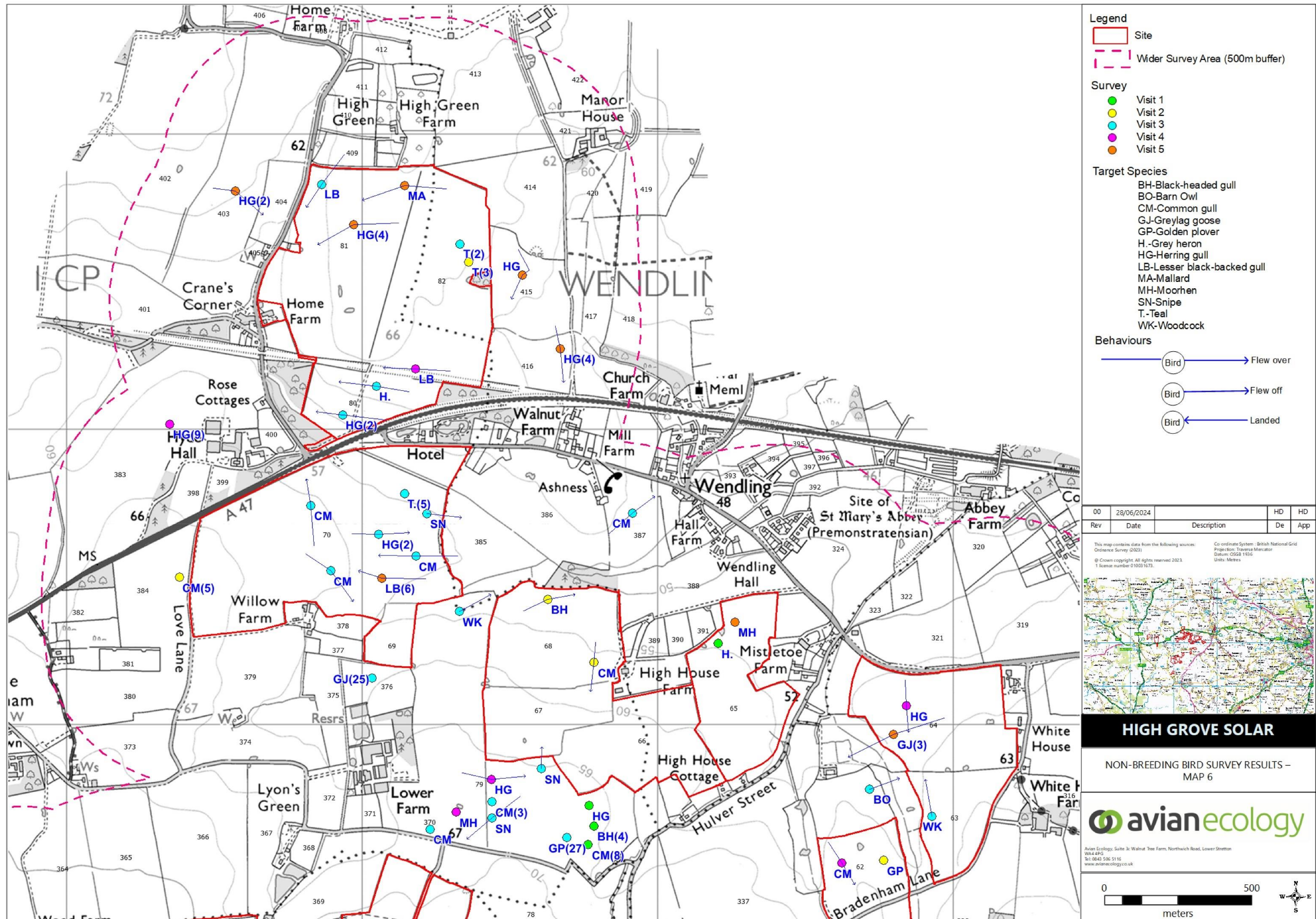


FIGURE 9 – NON-BREEDING BIRD SURVEY RESULTS – MAP 7

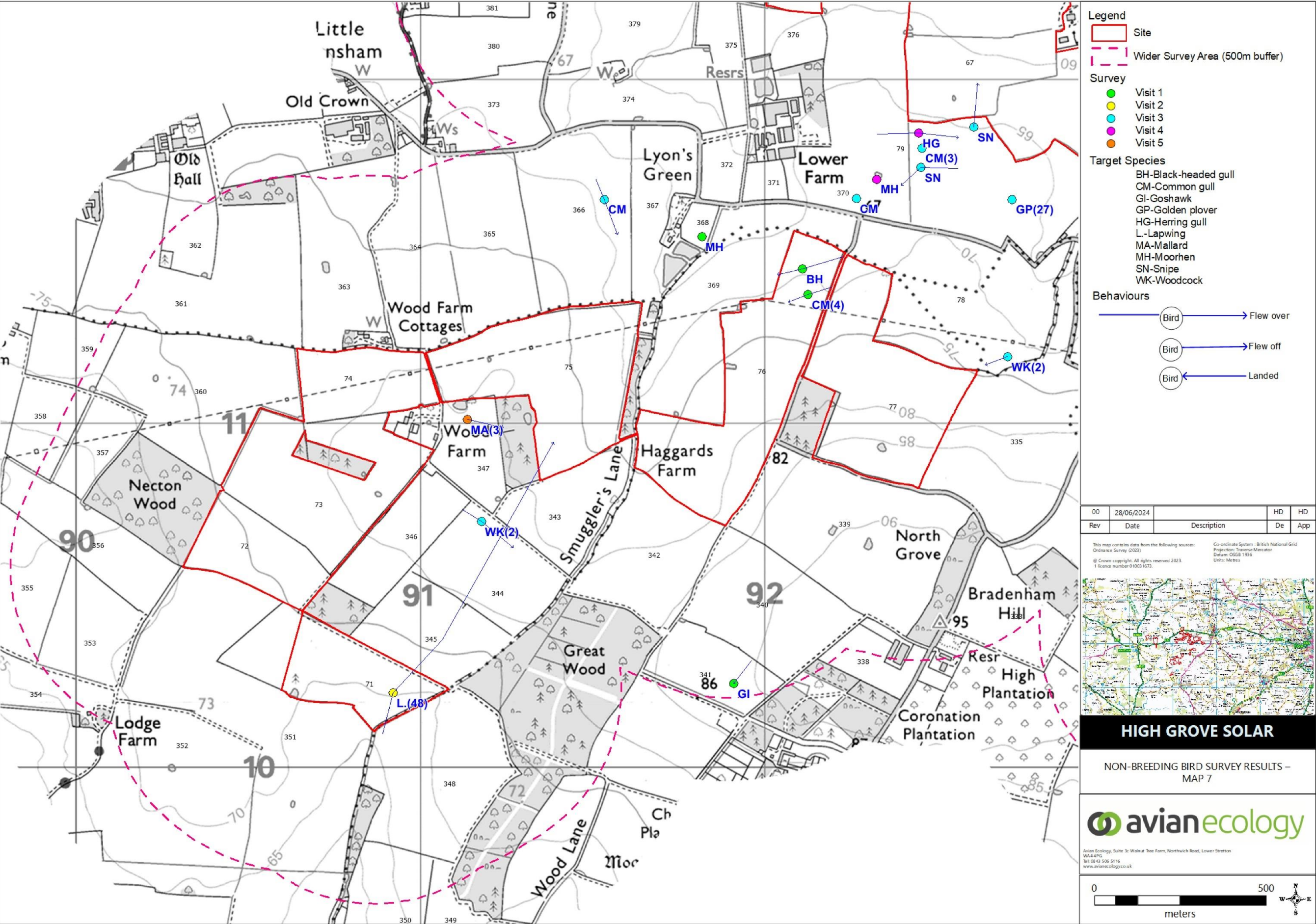
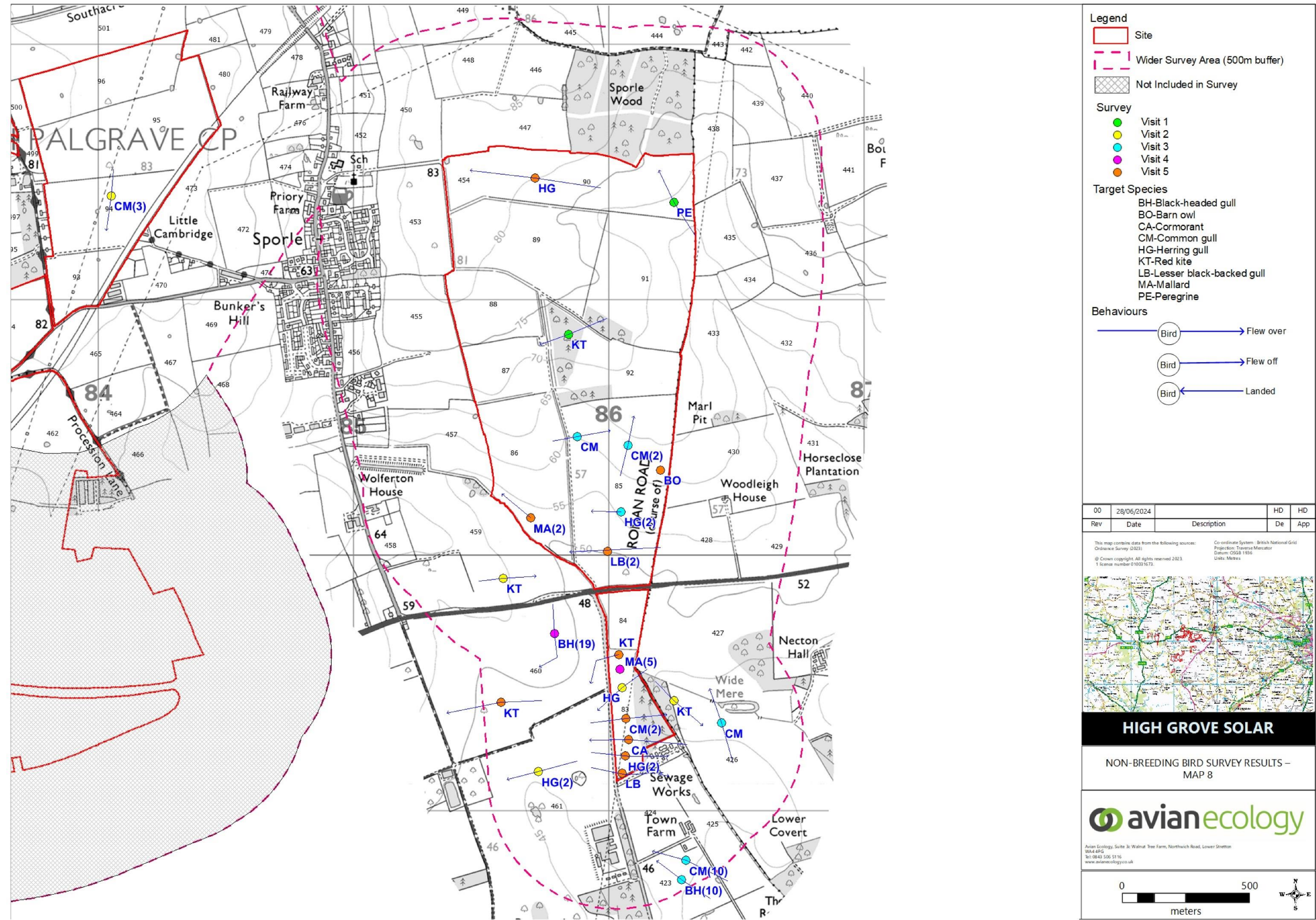
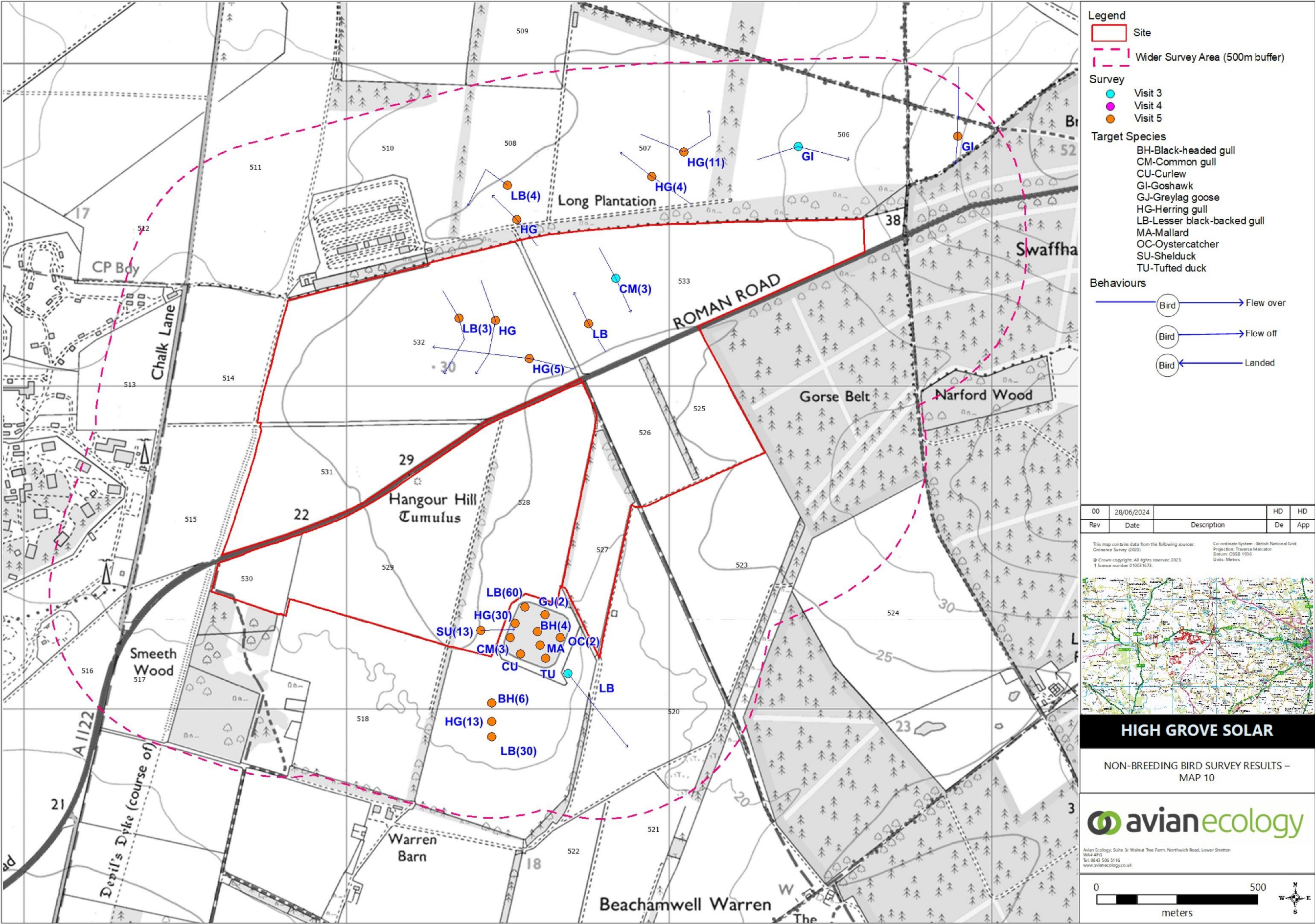


FIGURE 10 - NON-BREEDING BIRD SURVEY RESULTS – MAP 8



High Grove Solar
Non-breeding Bird Survey Report

FIGURE 12 – NON-BREEDING BIRD SURVEY RESULTS – MAP 10



ANNEX 1

ANNEX 1. BIRD SPECIES SUMMARY

Table A1.1 provides a list of bird species recorded during the breeding bird surveys. 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 1 species;
- Sch1.1, Sch1.2 & 1A– Schedule 1 of the Wildlife & 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, Amber and Green categories are given (Stanbury *et al.*, 2021);
- Sec41 - species listed as rare and most threatened on the NERC Act (2006); and,
- LBAP – Norfolk Local Biodiversity Action Plan Species.

Table A1.1: Summary of bird species.

Common name	Species name	Conservation status
Greylag Goose	<i>Anser anser</i>	Amber
Taiga Bean Goose	<i>Anser fabalis</i>	Red
Pink-footed Goose	<i>Anser brachyrhynchus</i>	Amber
Tundra Bean Goose	<i>Anser serrirostris</i>	Amber
Mute Swan	<i>Cygnus olor</i>	Green
Bewick's Swan	<i>Cygnus columbianus bewicki</i>	Red; Sch1.1; Sec41; Ann1
Whooper Swan	<i>Cygnus cygnus</i>	Amber; Sch1.1; Ann1
Egyptian Goose	<i>Alopochen aegyptiaca</i>	
Shelduck	<i>Tadorna tadorna</i>	Amber
Shoveler	<i>Spatula clypeata</i>	Amber
Gadwall	<i>Mareca strepera</i>	Amber
Wigeon	<i>Mareca penelope</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
Stock Dove	<i>Columba oenas</i>	Amber
Woodpigeon	<i>Columba palumbus</i>	Amber
Water Rail	<i>Rallus aquaticus</i>	Green
Moorhen	<i>Gallinula chloropus</i>	Amber
Coot	<i>Fulica atra</i>	Green
Crane	<i>Grus grus</i>	Amber; Ann1
Oystercatcher	<i>Haematopus ostralegus</i>	Amber
Lapwing	<i>Vanellus vanellus</i>	Red; Sec41
Golden Plover	<i>Pluvialis apricaria</i>	Green; Ann1

Common name	Species name	Conservation status
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>	Amber
Herring Gull	<i>Larus argentatus</i>	Red; Sec41
Lesser Black-backed Gull	<i>Larus fuscus</i>	Amber
Cormorant	<i>Phalacrocorax carbo</i>	Green
Grey Heron	<i>Ardea cinerea</i>	Green
Sparrowhawk	<i>Accipiter nisus</i>	Amber
Goshawk	<i>Accipiter gentilis</i>	Green; Sch1.1
Hen Harrier	<i>Circus cyaneus</i>	Red; Sch1.1 & 1A; Sec41; 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>	
Kingfisher	<i>Alcedo atthis</i>	Green; Sch1.1; Ann1
Kestrel	<i>Falco tinnunculus</i>	Amber
Peregrine	<i>Falco peregrinus</i>	Green; Sch1.1; Ann1
Rook	<i>Corvus frugilegus</i>	Amber
Raven	<i>Corvus corax</i>	Green
Woodlark	<i>Lullula arborea</i>	Green; Sch1.1; Sec41; Ann1
Skylark	<i>Alauda arvensis</i>	Red; Sec41; LBAP
Starling	<i>Sturnus vulgaris</i>	Red; Sec41
Song Thrush	<i>Turdus philomelos</i>	Amber; Sec41; LBAP
Redwing	<i>Turdus iliacus</i>	Amber; Sch1.1
Fieldfare	<i>Turdus pilaris</i>	Red; Sch1.1
Meadow Pipit	<i>Anthus pratensis</i>	Amber
Linnet	<i>Linaria cannabina</i>	Red; Sec41
Lesser Redpoll	<i>Acanthis cabaret</i>	Red; Sec41
Yellowhammer	<i>Emberiza citrinella</i>	Red; Sec41

Annex 2

ANNEX 2. BIRD SURVEY EFFORT

Table A2.1: Survey Condition Categorisation for Non-breeding Bird 2023-24 (Table A2.2).

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							

Table A2.2: Non-breeding Bird Survey Effort 2023-24.

Survey Visit	Date	Area	Surveyor	Start Time (24 hrs)	End time (24 hrs)	Wind Speed	Wind Direction	Rain	Visibility	Cloud Cover	Cloud Height	Frost	Snow	Temperature (°C)
1	14/11/2023	Map 7	JH	11:35	15:50	2-3	W	1	2	8/8	1	0	0	10
1	16/11/2023	Map 6	JH	11:45	16:00	2	N/NE	3	2	8/8	1	0	0	10
1	17/11/2023	Map 8	PW	09:05	15:30	2	W	0	2	0/8	0	0	0	10
1	20/11/2023	Maps 6 & 7	JH	11:15	15:30	2	W	0	2	4/8-8/8	1	0	0	11

Survey Visit	Date	Area	Surveyor	Start Time (24 hrs)	End time (24 hrs)	Wind Speed	Wind Direction	Rain	Visibility	Cloud Cover	Cloud Height	Frost	Snow	Temperature (°C)
1	21/11/2023	Map 4	PW	09:45	15:20	4	NW	1	1	8/8	0	0	0	10
1	23/11/2023	Map 2	JH	10:15	14:45	4- 5	W	0	2	0/8	1	0	0	14
1	26/11/2023	Map 2	JH	10:30	14:15	1-2	SW	0	2	8/8	2	1	0	10
1	30/11/2023	Maps 1 & 9	JH	14:00	16:15	2	NE	0	2	3/8-4/8	1	1	0	3
1	01/12/2023	Map 2	JH	12:25	15:45	1-2	N	0	2	1/8-7/8	2	1	1	2-3
1	01/12/2023	Map 3	PW	09:30	13:45	2	NE	1	2	4/8	2	1	1	3
1	02/12/2023	Map 5	JH	11:35	15:45	1	W	0	0	8/8	0	1	1	0-1
1	03/12/2023	Map 5 & 7	JH	09:50	12:15	3	SSE	2-3	2	8/8	1	1	0	2-3
2	08/12/2023	Map 2	JH	11:05	15:50	2-3	SSW	0	2	1/8-7/8	1	0	0	6-7
2	10/12/2023	Map 2	JH	09:30	13:10	2-3	S/SW	1	2	7/8-8/8	1	0	0	6-7
2	11/12/2023	Map 3	JH	10:35	14:15	2-3	W	1	2	8/8	0	0	0	9
2	14/12/2023	Map 4	JH	12:00	15:55	2	SW	1	2	8/8	0	0	0	6
2	17/12/2023	Map 5	JH	11:25	14:30	5	SW	0	2	2/8-5/8	0	0	0	9
2	18/12/2023	Map 6	JH	12:15	15:55	3	SW	2	2	2/8-4/8	0	0	0	10
2	23/12/2023	Map 6	JH	12:05	15:20	5	W	0	2	4/8-6/8	1	0	0	10
2	29/12/2023	Map 8	PW	09:15	14:00	4-5	SW	0	2	0/8-8/8	2	0	0	10
2	31/12/2023	Maps 1 & 9	CS	07:30	11:35	1	SW	2	2	0/8-8/8	1	0	0	8-10
2	12/01/2024	Map 7	JH	12:45	17:00	2	N	1	2	8/8	0	0	0	5
2	13/01/2024	Map 7	JH	07:30	09:55	2	W	0	2	1/8	2	0	0	5
3	02/01/2024	Map 2	JH	09:45	11:45	2	SE	3-4	2	8/8	0	0	0	8
3	06/01/2024	Map 2	JH	12:10	15:25	2	N	1	2	6/8-8/8	1	0	0	6
3	07/01/2024	Map 2	JH	10:15	13:30	3	NNE	0	2	8/8	1	0	0	3
3	14/01/2024	Map 3	JH	08:05	12:35	2-3	WNW	1	2	6/8-8/8	1	0	0	3-4
3	15/01/2024	Map 4	JH	08:15	11:20	4-5	WNW/NW	0	2	0/8	1	1	0	0-3
3	17/01/2024	Maps 4 & 5	JH	11:00	15:50	2-3	N	0	2	4/8-8/8	1	0	0	1-2
3	18/01/2024	Map 6	JH	12:15	16:10	2	N	0	2	0/8-6/8	1-2	1	0	1-2
3	25/01/2024	Map 7	JH	11:45	16:15	2-3	SW	1	2	3/8-8/8	1	0	0	10

Survey Visit	Date	Area	Surveyor	Start Time (24 hrs)	End time (24 hrs)	Wind Speed	Wind Direction	Rain	Visibility	Cloud Cover	Cloud Height	Frost	Snow	Temperature (°C)
3	26/01/2024	Map 8	JH	13:50	16:35	2-4	W	0	2	0/8	NA	0	0	7-8
3	28/01/2024	Map 6	JH	14:35	17:35	2-3	S	0	2	1/8-2/8	2	0	0	8-9
3	29/01/2024	Maps 1 & 9	JH	13:30	16:55	2-3	S/SE	0	2	5/8-8/8	1	0	0	10-13
3	23/02/2024	Maps 1 & 10	JH	11:20	16:45	3	SW	0	2	2/8-8/8	1	0	0	8
4	03/02/2024	Map 2	JH	15:00	17:15	2	W	1	2	7/8-8/8	1	0	0	11-13
4	07/02/2024	Map 2	JH	11:30	15:05	1	E	0	2	7/8-8/8	½	0	0	5-7
4	10/02/2024	Maps 1 & 2	JH	09:50	13:30	0-1	SW/SE	0	2	5/8-8/8	1	0	0	9-11
4	12/02/2024	Map 3	JH	11:00	14:00	3	W	0	2	1/8-3/8	1	0	0	6-7
4	16/02/2024	Map 4	JH	15:00	17:20	2	W	0	2	8/8	1	0	0	12
4	17/02/2024	Map 4	JH	14:45	17:15	2	W	0	2	8/8	1	0	0	11
4	18/02/2024	Map 5	JH	14:50	17:30	3	NW	0	2	7/8	1	0	0	12
4	19/02/2024	Map 6	JH	11:00	14:15	4-5	WNW	0	2	3/8-7/8	1	0	0	11-12
4	24/02/2024	Map 6	JH	15:00	17:35	1	S	0	2	1/8	1-2	0	0	5-8
4	25/02/2024	Map 7	JH	12:50	15:50	2-3	E	0	2	6/8-8/8	1	0	0	9
4	28/02/2024	Map 8	JH	11:10	13:45	2-3	S	0	2	3/8-8/8	1	0	0	8-9
4	01/03/2024	Maps 9 & 10	JH	14:00	18:00	5-2	SSW/SSE	0	2	1/8-4/8	0-1	0	0	6-7
5	02/03/2024	Map 2	JH	14:30	17:30	3-4	SSE	2-3	2	4/8-8/8	1	0	0	6-8
5	05/03/2024	Map 2	JH	11:05	14:00	1	SW	0-1	2	8/8	0-1	0	0	7
5	08/03/2024	Maps 1 & 2	JH	14:05	18:00	4	E	0	2	3/8-8/8	1	0	0	5-9
5	09/03/2024	Map 3	JH	08:40	11:40	4	E	0	2	0/8	1	0	0	11-14
5	11/03/2024	Map 4	JH	10:45	14:30	2-3	N	0	2	8/8	0	0	0	7-8
5	16/03/2024	Maps 4 & 6	JH	15:50	18:15	2-3	S	1	2	8/8	1	0	0	11
5	17/03/2024	Map 5	JH	15:30	18:10	3	SW	0	2	4/8-6/8	1	0	0	11-12
5	18/03/2024	Map 6	JH	08:10	10:55	2	SW	0	2	0/8	1-2	0	0	9
5	21/03/2024	Map 6	JH	14:45	17:15	2-3	SW	0-1	2	8/8	1	0	0	13

Survey Visit	Date	Area	Surveyor	Start Time (24 hrs)	End time (24 hrs)	Wind Speed	Wind Direction	Rain	Visibility	Cloud Cover	Cloud Height	Frost	Snow	Temperature (°C)
5	23/03/2024	Map 7	JH	14:05	17:40	4	W	0	2	3/8-7/8	1-2	0	0	8-10
5	25/03/2024	Map 8	JH	11:00	13:35	3	S	0	2	7/8	1	0	0	12
5	30/03/2024	Map 9 & 10	JH	11:55	17:30	1-2	S/SW	0	2	1/8-5/8	1-2	0	0	14-16

