



**HELIOS** RENEWABLE  
ENERGY  
PROJECT

**PINS Document Number:**  
EN010140/APP/6.3.8.2

**Pursuant to:**  
APFP Regulation 5(2)(a)

**Environmental Statement  
Appendix 8.2:  
Ornithological Survey Report**

June 2024

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**Helios Renewable Energy Project**  
on behalf of Enso Green Holdings D Limited  
**Technical Appendix 8.2: Ornithological Survey Report**



<b>Document Control</b>				
Project Name:		Helios Renewable Energy Project		
Project Number:		EnsoE-517-1435		
Report Title		Technical Appendix 8.2: Ornithological Survey Report		
<b>Issue</b>	<b>Date</b>	<b>Notes</b>	<b>Prepared</b>	<b>Reviewed</b>
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This report has been prepared in accordance with the terms and conditions of appointment for the Bird Surveys [on request]. Avian Ecology Ltd. (6839201) cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

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# 1 INTRODUCTION

## 1.1 Project Background

1.1.1 Avian Ecology Ltd. was commissioned to undertake ornithological surveys in relation to the proposed development of a renewable energy generating project, consisting of ground-mounted solar photovoltaic ('PV') arrays, together with on-site energy storage, associated infrastructure, and grid connection (the 'Proposed Development'). The Proposed Development is located on land to the south-west of the village of Camblesforth and to the north of the village of Hirst Courtney in North Yorkshire (the 'Site').

1.1.2 The objectives of this report are to:

- Provide baseline information on the current ornithological features within the Site and Wider Survey Area (area defined below in Section 2.1);
- Identify the presence of notable bird species within the Site and Wider Survey Area; and,
- Assess the importance of the non-breeding and breeding bird assemblage which the Site and Wider Survey Area support.

1.1.3 Only common bird species names are referred to within the main text of this Appendix. 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 8.8**, comprises predominantly multiple fields containing agricultural land, located at the approximate central grid reference of SE 6323 2629.

1.2.2 The Site predominantly comprises arable fields marked by a series of wet and dry ditches, species-poor hedgerows, roads, woodlands, and trees. In the wider context, the Site is surrounded by further extensive areas of farmland and areas of woodland. The most north-eastern fields within the Site (Field 374: **Figures 8.8**) are separated from the Drax Power Station by New Road. The south-western field (Field 239: **Figures 8.8**) is approximately 4.2km south-west of the Drax Power Station, at its closest point.

1.2.3 On review of the Multi-Agency Geographic Information for the Countryside ('MAGIC')<sup>1</sup> website the Site is located within 10km of the following international statutory designated sites with ornithological qualifying features:

- Lower Derwent Valley Special Protection Area (SPA);
- Lower Derwent Valley Ramsar site;
- Humber Estuary SPA;
- Humber Estuary Ramsar site; and,
- Thorne & Hatfield Moors SPA.

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<sup>1</sup> available at: <https://magic.defra.gov.uk/> (accessed 14.06.2023)

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

- River Derwent SSSI;
- Eskamhorn Meadows SSSI;
- Thorne, Crowle & Goole Moors SSSI;
- Humber Estuary SSSI; and,
- Brighton Meadows SSSI.

1.2.5 The ornithological features of the SSSIs are consistent with those of the internationally designated sites listed above. A summary of the above sites' qualifying features is presented in **Table 1.1**.

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

Designation	Approximate Distance from the Site	Qualifying Features
Lower Derwent Valley SPA	6.47km north-east	<p>The site is designated for the following ornithological qualifying features:</p> <ul style="list-style-type: none"> <li>• Bewick's swan (non-breeding);</li> <li>• Eurasian wigeon (non-breeding);</li> <li>• Eurasian teal (non-breeding);</li> <li>• Northern shoveler (breeding);</li> <li>• European golden plover (non-breeding);</li> <li>• Ruff (non-breeding); and,</li> <li>• Waterbird assemblage (Pochard, ruff, shoveler, teal, whimbrel, wigeon, gadwall, greylag goose, pintail, whooper swan golden plover and lapwing.) (See <b>Natural England document Annex B1</b> for further details)</li> </ul>
Lower Derwent Valley Ramsar site	6.55km north-east	<p>Designated under Ramsar criterion 1, 2, 4, 5 and 6. Qualifying species listed as part of qualification under Ramsar Criterion 5 and 6 include:</p> <p><i>Ramsar criterion 4</i> A staging post for passage birds in spring. Of particular note are the nationally important numbers of Ruff and Whimbrel.</p> <p><i>Ramsar criterion 5</i> Wintering bird assemblages of international importance (peak counts in winter: 31,942 waterfowl (5 year peak mean 1998/99-2002/2003)).</p> <p><i>Ramsar criterion 6</i> Wintering species occurring at levels of international importance:</p> <ul style="list-style-type: none"> <li>• Eurasian wigeon; and,</li> <li>• Eurasian teal</li> </ul>
Humber Estuary SPA	6.64km east	<p>The site is designated for the following ornithological qualifying features:</p> <ul style="list-style-type: none"> <li>• Great bittern (non-breeding and breeding);</li> <li>• Common shelduck (non-breeding);</li> <li>• Eurasian marsh harrier (breeding);</li> <li>• Hen harrier (non-breeding);</li> <li>• Pied avocet (non-breeding and breeding);</li> </ul>

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

Designation	Approximate Distance from the Site	Qualifying Features
		<ul style="list-style-type: none"> <li>• European golden plover (non-breeding);</li> <li>• Red knot (non-breeding);</li> <li>• Dunlin (non-breeding);</li> <li>• Ruff (non-breeding);</li> <li>• Black-tailed godwit (non-breeding);</li> <li>• Bar-tailed godwit (non-breeding);</li> <li>• Common redshank (non-breeding);</li> <li>• Little tern (breeding); and,</li> <li>• Waterbird assemblage (Avocet, bar-tailed godwit, bittern, black-tailed godwit, brent goose, curlew, dunlin, golden plover, goldeneye, greenshank, grey plover, knot, lapwing, mallard, oystercatcher, pochard, redshank, ringed plover, ruff, sanderling, scaup, shelduck, teal, turnstone, whimbrel and wigeon). (See <b>Natural England Document Annex B</b> for further details)</li> </ul>
Humber Estuary Ramsar Site	6.64km east	<p>Designated under Ramsar criterion 1, 3, 5, 6 and 8. Qualifying species listed as part of qualification under Ramsar Criterion 5 and 6 include:</p> <p>Ramsar criterion 5 Wintering bird assemblages of international importance (peak counts in winter: 153,934 waterfowl (5 year peak mean 1996/97-2000/2001)).</p> <p>Ramsar criterion 6 Species with peak counts in spring/autumn occurring at levels of international importance:</p> <ul style="list-style-type: none"> <li>• European golden plover;</li> <li>• Red knot;</li> <li>• Dunlin;</li> <li>• Black-tailed godwit; and,</li> <li>• Common redshank.</li> </ul> <p>Species with peak counts in winter occurring at levels of international importance:</p> <ul style="list-style-type: none"> <li>• Common shelduck;</li> <li>• European golden plover;</li> <li>• Red knot;</li> <li>• Dunlin;</li> <li>• Black-tailed godwit; and,</li> <li>• Bar-tailed godwit.</li> </ul>
Thorne & Hatfield Moors SPA	9.09km south	European nightjar (Breeding)
River Derwent SSSI	2.1km north east	Ornithological interest within the SSSI includes internationally important numbers of Bewick's swans
Eskamhorn Meadows SSSI	2.1km south	Ornithological interest within the SSSI includes breeding curlew and lapwing within the meadows
Thorne, Crowle & Goole Moors SSSI	9.1km south east	Ornithological interest within the SSSI includes breeding nightjars.
Humber Estuary SSSI	6.7km south	Ornithological interest within the SSSI includes 22 nationally important numbers of wintering waterfowl comprising bittern, dark-



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

Designation	Approximate Distance from the Site	Qualifying Features
		bellied brent goose, shelduck, wigeon, teal, pochard, scaup, goldeneye, oystercatcher, avocet, ringed plover, golden plover, grey plover, lapwing, knot, sanderling, dunlin, black-tailed godwit, bar-tailed godwit, curlew, redshank and turnstone.
Brighton Meadows SSSI	6.4km north east	Ornithological interest within the SSSI includes breeding populations of snipe, lapwing, redshank, curlew, shoveler, mallard and teal.

## 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)<sup>2</sup>. 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)<sup>3</sup>, and are therefore a material consideration within the planning process.

## 2 METHODOLOGY

### 2.1 Desk Study

- 2.1.1 A desk study was undertaken to identify any known existing features or species of ecological importance within the Site and surrounding environment.
- 2.1.2 The desk study has included:
- A review of the MAGIC website to identify the proximity of the Site to any national or internationally designated sites for nature conservation, designated for bird species.
  - A review of existing bird records within 2km of the Site, obtained from the North & East Yorkshire Ecological Data Centre ('NEYEDC')<sup>4</sup>;
- 2.1.3 Only recent records dated from 2005 onwards were used unless historic records (pre-2005) were received from within (or within close proximity to) the Site, and/or historic records were considered otherwise pertinent to the Proposed Development.

<sup>2</sup> Available at: <https://www.legislation.gov.uk/ukpga/1981/69> (accessed 12<sup>th</sup> June 2023)

<sup>3</sup> Available at: <https://www.legislation.gov.uk/ukpga/2006/16/contents> (accessed 12<sup>th</sup> June 2023)

<sup>4</sup>Where listed, descriptions of non-statutory designated sites are all provided by the North & East Yorkshire Ecological Data Centre <https://www.neyedc.org.uk/>

## 2.2 Non-breeding Bird Surveys

### *Winter Walkover Surveys*

- 2.2.1 The Study Area comprised the habitats within the Site and within a 600m ‘buffer zone’, defined as the surrounding fields within a 600m radius of the Site boundaries, as shown in **Figure 8.8**.
- 2.2.2 A total of twelve surveys were completed between October 2021 and March 2022, with ‘walk-over’ surveys adopting the ‘look-see’ methodology (Gilbert *et al.*, 1998<sup>5</sup>) 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 habitats<sup>6</sup>, habitats identified as unsuitable were not subsequently checked.
- 2.2.3 Following Site boundary alterations and grid connection route planning progress, a further twelve surveys were undertaken between October 2022 and March 2023, covering all suitable open land along the corridor route and habitats within 600m of the proposed underground cabling corridor to the grid connection and additional land that was not covered by the previous winter’s survey effort.
- 2.2.4 In addition, four passage bird surveys were undertaken throughout suitable habitat of the entire Site and 600m buffer zone between April and May 2023. Three autumn passage surveys of the Site and 600m buffer zone were undertaken during September and October 2023.
- 2.2.5 Due to redline boundary changes that have occurred since the 2021-2022 surveys, a number of surveyed fields are now located in a ‘wider survey area’ outside of the 600m buffer zone. For clarity, the survey data collected within these wider survey area fields is presented within this report but not discussed further. See **Table 2.3** for field allocations for the Site, 600m buffer zone and wider survey area.
- 2.2.6 Target Species identified consisted of wetland birds such as waders, waterfowl and gulls and Annex 1<sup>7</sup>/Schedule 1<sup>8</sup> raptors and owls. 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))<sup>9</sup>, Natural Environment and Rural Communities (‘NERC’) Act (2006) Section 41 species<sup>10</sup>, and Selby Local Biodiversity Action Plan<sup>11</sup> (‘LBAP’) species. Target Species therefore included all those which represent qualifying features of the Lower Derwent Valley SPA, Lower Derwent Valley Ramsar site, Humber Estuary SPA and Humber Estuary Ramsar site (and corresponding Sites of Special Scientific Interest (SSSI)).
- 2.2.7 All Target Species observed in flight only were also recorded and data is presented within this report.
- 2.2.8 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

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<sup>5</sup> Gilbert G, Gibbons D.W. and Evans J. (1998). *Bird Monitoring Methods*. RSPB Sandy.

<sup>6</sup> Open fields, grasslands or waterbodies. Unsuitable land refers to buildings, woodlands, car parks and greenhouses.

<sup>7</sup> Available at: <https://lists.nbnatlas.org/speciesListitem/list/dr2401> Accessed on: 20<sup>th</sup> February 2023

<sup>8</sup> Available at: <https://www.legislation.gov.uk/ukpga/1981/69/schedule/1> Accessed on: 14<sup>th</sup> February 2024

<sup>9</sup> 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

<sup>10</sup> Available at: <https://www.legislation.gov.uk/ukpga/2006/16/section/41> Accessed on: 20<sup>th</sup> February 2023

<sup>11</sup> Available at: <https://www.selby.gov.uk/sites/default/files/Documents/Biodiversity%20Action%20Plan%20Aug%202004.pdf> Accessed on: 08<sup>th</sup> June 2023

thus were omitted from the survey. Waterbodies were included in the survey area given their suitability to support Target Species. Land within the buffer zone and wider survey area was surveyed from public rights of way ('PRoWs') and access tracks, where possible.

- 2.2.9 All surveys were undertaken during daylight hours and the Site was surveyed over a range of tidal states to account for any potential dispersal of birds associated with the Humber Estuary SPA and Ramsar.
- 2.2.10 Field surveys were undertaken by a suitably qualified (MSc ACIEEM) ornithologist, who has at least 35 years of ornithological experience.
- 2.2.11 Survey effort is presented below in **Table 2.1**. Full breakdown of survey conditions are presented in **Annex 2**.

**Table 2.1: Non-breeding Bird Survey Effort (Winter 2021-2022)**

Survey Visit	Date	Start Time (24hrs)	End Time (24hrs)	High <sup>12</sup> Tide (24hrs)	High Tide (m)	Survey Conditions
1	13/10/2021	10:15	14:00	13:19	4.4	Dry, overcast, light westerly breeze (3 on the Beaufort Scale), good visibility.
	14/10/2021	10:15	15:00	14:58	3.68	
2	27/10/2021	08:00	14:00	11:51	3.92	Dry with occasional light shower on 27 <sup>th</sup> October 2021, overcast, light south westerly breeze (3 on the Beaufort Scale), good visibility.
	28/10/2021	09:00	13:00	13:07	3.47	
3	11/11/2021	09:15	15:00	12:12	4.17	Dry with light shower on 12 <sup>th</sup> November 2021, overcast, light southerly breeze to stiff south westerly breeze (1-4 on the Beaufort Scale), good visibility.
	12/11/2021	10:45	16:40	13:38	3.84	
4	24/11/2021	07:45	13:00	09:46	4.4	Dry, overcast (broken cloud), gentle south westerly breeze (1 on the Beaufort Scale), good visibility.
	25/11/2021	07:30	12:15	10:36	4.06	
5	08/12/2021	08:00	12:50	09:51	5.34	Mostly dry with some heavy showers on 8 <sup>th</sup> December 2021, overcast with broken cloud, stiff south westerly breeze (3-4 on the Beaufort Scale), good visibility.
	09/12/2021	08:00	13:50	10:51	4.88	
6	22/12/2021	08:00	11:50	08:53	4.7	Dry, sunny (22 <sup>nd</sup> December 2021), broken cloud (23 <sup>rd</sup> December 2021), light south easterly breeze (1-2 on the Beaufort Scale), good visibility.
	23/12/2021	08:00	11:30	09:34	4.57	
7	13/01/2022	13:30	16:40	16:17	4.04	Dry, overcast (broken cloud), gentle south westerly breeze (1 on the Beaufort Scale), good visibility.
	14/01/2022	14:10	16:40	17:09	4.24	
8	27/01/2022	11:40	16:40	14:40	4.11	Dry, sunny, and partial cloud, moderate south westerly and north westerly breeze (3 on the Beaufort Scale), good visibility.
	28/01/2022	12:40	17:00	15:41	4.25	

<sup>12</sup> Available at: <https://www.tidetimes.org.uk/goole-tide-times> Accessed on: 31<sup>st</sup> May 2023

Survey Visit	Date	Start Time (24hrs)	End Time (24hrs)	High <sup>12</sup> Tide (24hrs)	High Tide (m)	Survey Conditions
9	07/02/2022	08:40	13:40	11:38	4.46	Dry, overcast (broken cloud), gentle south westerly breeze (3-4 on the Beaufort Scale), good visibility.
	08/02/2022	09:30	13:30	12:26	4.09	
10	23/02/2022	08:30	14:30	11:30	4.52	Dry, overcast (broken cloud), strong south westerly breeze (5-7 on the Beaufort Scale), good visibility.
	24/02/2022	10:00	15:00	12:31	4.11	
11	10/03/2022	09:30	14:00	12:14	3.91	Dry, overcast (and broken cloud), gentle south easterly breeze (3-4 on the Beaufort Scale), good visibility.
	11/03/2022	10:30	15:00	13:18	3.57	
12	23/03/2022	07:16	13:16	10:16	5.11	Dry, clear, and sunny, gentle south and south westerly breeze (1 on the Beaufort Scale), good visibility.
	24/03/2022	09:00	13:30	11:05	4.63	

2.2.12 Due to the changes in the redline boundary and proposed grid connection routes, additional areas were surveyed between October 2022 and March 2023. Survey effort for these surveys is presented below in **Table 2.2**. Additional areas surveyed incorporated fields: 32, 36, 91-99, 218, 251, 255, 330 and 355-377 using identical methodology to that detailed above.

**Table 2.2: Non-breeding Bird Survey Effort (Winter 2022-2023)**

Survey Visit	Date	Start Time (24hrs)	End Time (24hrs)	High <sup>13</sup> Tide (24hrs)	High Tide (m)	Survey Conditions
1	20/10/2022	14:00	17:30	16:59	3.51	Heavy rain, overcast, light south westerly breeze (3 on the Beaufort Scale), good visibility.
2	27/10/2022	08:00	11:30	08:48	5.95	Light showers, overcast, light south easterly breeze (3 on the Beaufort Scale), good visibility.
3	08/11/2022	07:00	10:00	06:44	5.59	Dry, overcast, light southerly breeze (3 on the Beaufort Scale), good visibility.
4	22/11/2022	07:45	10:45	05:29	5.05	Dry, broken cloud, light north westerly breeze (3 on the Beaufort Scale), good visibility.
5	15/12/2022	12:00	16:00	12:00	3.83	Dry and clear, light north westerly breeze (2 on the Beaufort Scale), good visibility. Thick frost.
6	29/12/2022	11:00	15:00	12:04	4.63	Dry and mostly overcast with sunnier spells, light south westerly breeze (3-4 on the Beaufort Scale), good visibility.

<sup>13</sup> Available at: <https://www.tidetimes.org.uk/goole-tide-times> Accessed on: 31<sup>st</sup>May 2023

Survey Visit	Date	Start Time (24hrs)	End Time (24hrs)	High <sup>13</sup> Tide (24hrs)	High Tide (m)	Survey Conditions
7	12/01/2023	10:00	14:00	10:30	4.44	Dry, sunny spells and broken cloud, gentle south westerly breeze (2 on the Beaufort Scale), good visibility.
8	26/01/2023	10:00	13:45	10:38	5.26	Dry, sunny with scattered cloud, light northerly breeze (3 on the Beaufort Scale), good visibility.
9	09/02/2023	09:00	13:30	09:24	4.92	Dry, Scattered cloud, light south westerly breeze (3-4 on the Beaufort Scale), good visibility.
10	28/02/2023	10:30	14:00	13:16	3.70	Light showers, overcast and light north easterly breeze (2 on the Beaufort Scale), good visibility.
11	29/03/2023	11:45	15:30	13:28	3.79	Light shower, but mostly dry, overcast, gentle southerly breeze (2 on the Beaufort Scale), good visibility.
12	31/03/2023	13:00	17:00	15:54	3.35	Dry with light shower, overcast, gentle north easterly breeze (2-3 on the Beaufort Scale), good visibility.

2.2.13 Passage surveys of the entire Site and buffer zone were also undertaken during April and May 2023. Survey effort for these surveys is presented in **Table 2.3**.

**Table 2.3: Non-breeding Bird Survey Effort (Spring Passage 2023)**

Survey Visit	Date	Start Time (24hrs)	End Time (24hrs)	High Tide (24hrs)	High Tide (m)	Survey Conditions
1	20/04/2023	07:20	11:20	08:21	5.52	Dry, sunny with scattered cloud, gentle north easterly breeze (2 on the Beaufort Scale), good visibility.
	21/04/2023	06:50	10:30	08:54	5.53	Dry with light shower, overcast, light north easterly breeze (3 on the Beaufort Scale), good visibility.
2	28/04/2023	12:00	14:00	14:00	3.58	Dry, overcast, gentle northerly air (1 on the Beaufort Scale), good visibility.
	29/04/2023	13:00	17:00	15:12	3.41	Light shower but mostly dry, overcast to scattered cloud, gentle south westerly air (1 on the Beaufort Scale), good visibility.
3	09/05/2023	07:45	12:30	10:07	5.42	Dry, scattered to predominant cloud, gentle south westerly air to gentle north westerly breeze (1 to 2 on the Beaufort Scale), good visibility.
	10/05/2023	08:45	12:30	10:53	5.08	Dry with light shower, clear skies to overcast, light westerly air (1 on the Beaufort Scale), good visibility.
4	24/05/2023	08:45	13:00	10:52	4.84	Dry and sunny with light north easterly air (0-1 on the Beaufort Scale), good visibility.

Survey Visit	Date	Start Time (24hrs)	End Time (24hrs)	High Tide (24hrs)	High Tide (m)	Survey Conditions
	25/05/2023	09:30	13:30	11:38	4.53	Dry and sunny (scattered cloud) with light north easterly air (0-1 on the Beaufort Scale), good visibility.

2.2.14 Autumn passage surveys of the Site and 600m buffer zone were undertaken during September and October 2023. Survey effort for these surveys is presented in **Table 2.4**.

**Table 2.4: Non-breeding Bird Survey Effort (Autumn Passage 2023)**

Survey Visit	Date	Start Time (24hrs)	End Time (24hrs)	High Tide (24hrs)	High Tide (m)	Survey Conditions
1	07/09/2023	11:10	15:10	13:12	4.19	Dry, clear, light north easterly air (1 on the Beaufort Scale), good visibility.
	08/09/2023	12:30	16:30	14:34	3.55	Dry, sunny, light north westerly air (1 on the Beaufort Scale), good visibility.
2	26/09/2023	14:00	19:00	17:58	4.37	Dry, sunny intervals, moderate south westerly breeze (3 on the Beaufort Scale), good visibility.
	27/09/2023	07:00	10:00	06:08	4.61	Dry, broken cloud, light southerly breeze (2 on the Beaufort Scale), good visibility.
3	18/10/2023	08:00	12:00	09:42	5.40	Dry, overcast, moderate south easterly breeze (3 on the Beaufort Scale), good visibility.
	19/10/2023	08:30	12:30	10:19	5.11	Heavy showers, overcast, moderate south easterly breeze (3 on the Beaufort Scale), good visibility.

### **Nocturnal Bird Surveys**

2.2.15 Nocturnal Bird Surveys were carried out monthly between January and March 2024 at all suitable fields within the Site in order to investigate whether there were any notable roosts of birds associated with the SPAs/Ramsars during nocturnal high tides at the Humber Estuary in comparison to those observations during daytime surveys.

2.2.16 Target Species consisted of wetland birds such as waders, waterfowl and gulls and Annex 1<sup>14</sup>/Schedule 1<sup>15</sup> raptors and owls, including all those which represent qualifying features of the Lower Derwent Valley SPA, Lower Derwent Valley Ramsar site, Humber Estuary SPA and Humber Estuary Ramsar site (and corresponding SSSI).

2.2.17 Following a similar methodology to daytime surveys, two pairs of surveyors used 'look-see' methodology (Gilbert *et al.*, 1998<sup>16</sup>) to check each field at as many points as practicable using PRowS, roads and pre-arranged access along farm tracks. In addition to those habitats within the Site, the lake adjacent to Field 339 within the 600m buffer (located approximately 220m east of the Site) was also surveyed due to this showing an increased activity of birds during the daytime compared to other

<sup>14</sup> Available at: <https://lists.nbnatlas.org/speciesListItem/list/dr2401> Accessed on: 20<sup>th</sup> February 2023

<sup>15</sup> Available at: <https://www.legislation.gov.uk/ukpga/1981/69/schedule/1> Accessed on: 14<sup>th</sup> February 2024

<sup>16</sup> Gilbert G, Gibbons D.W. and Evans J. (1998). *Bird Monitoring Methods*. RSPB Sandy.

habitats. The field survey area for Nocturnal Bird Surveys is shown in Figures 8.17-8.19 which shows a reduced survey area compared to the daytime surveys. A standard 600m buffer is included during daytime surveys because this is the considered maximum distance of visual disturbance and is not considered likely to be a relevant for nocturnal surveys.

- 2.2.18 Pulsar Lexion and Zeiss Thermal Monocular thermal imaging cameras were used to aid detection of species and where possible record the birds to species level. Where individual birds were unidentifiable due to distance or small size of the species, surveyors used knowledge of behaviour and suitable habitat for these species to make an informed estimate of a species pair e.g., *Pluvialis/Vanellus* wader (Golden Plover or Lapwing).
- 2.2.19 All surveys were undertaken during a window of approximately three hours before high tide and two hours after high tide to capture the most likely congregations of notable roosting flocks of wetland species.
- 2.2.20 Survey effort is summarised in **Table 2.5**, with detailed survey conditions presented in **Annex 2**.

**Table 2.5: Nocturnal bird survey effort**

Survey Visit	Date	Start Time (24hrs)	End Time (24hrs)	High Tide (24hrs)	High Tide Height	Sunset (24hrs)
1	31/01/2024	19:00	22:00	22:25	4.85m	16:43
2	26/02/2024	19:00	22:00	20:32	5.42m	17:35
3	14/03/2024	18:30	20:30	21:56	6.05m	18:06

### Survey Area

- 2.2.21 For ease of interpreting the survey results, fields within the entire survey area were numbered 1-377, and the fields with the Site, buffer zone and in the wider survey area are shown separately in **Table 2.6** and on **Figure 8.8**.

**Table 2.6: Field Allocations for the Site, Buffer Zone and Wider Survey Area**

Area	Field Number Range
The Site	5-12, 14-25, 27-29, 33, 38, 182-183, 198-199, 201-204, 222-223, 226-229, 232, 234-236, 238-239, 269.
600m Buffer Zone	1-4, 13, 26, 30-32, 34-37, 39-51, 56-57, 59, 62, 65, 69-71, 74-91, 93-119, 121-162, 164, 166-181, 184-197, 200, 205-207, 214, 221, 224-225, 230-231, 233, 237, 240-250, 252-253, 255-261, 267-268, 270-274, 278, 282-283, 296-322, 330-341, 358-365, 367-377
Wider Survey Area	52-54, 58, 60-61, 63-64, 66-68, 72-73, 92, 120, 163, 165, 208-213, 215-220, 251, 254, 262-266, 275-277, 279-281, 284-295, 323-329, 342-357 and 366.

### Survey Effort per Area

- 2.2.22 Due to the changes in redline boundary throughout the survey period, survey areas varied from season to season. **Table 2.7** 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. too small to support wetland birds, areas of gardens, or scattered and dense scrub, are also shown.

**Table 2.7: Survey effort**

Survey period	Field Number Range
October 2021 to March 2022	Fields 1-89 and 100-355
October 2022 to March 2023	Fields 32, 36, 91-99, 218, 251, 255, 330 and 355-377
Spring Passage – April and May 2023	All fields within the Redline and 600m of the Site (Excluding the Wider Survey Area)
Autumn Passage – September and October 2023	All fields within the Redline and 600m of the Site (Excluding the Wider Survey Area)
January 2024 – March 2024 (Nocturnal)	All fields within the Redline, and the lake adjacent to Field 339 (located within 600m of the Site).
<b>Fields not surveyed due to access issues or were considered unsuitable for wetland birds (SPA / Ramsar)</b>	
No access to fields	79, 80, 159, 160, 188, 218, 264, 265, 276, 314 and 315 (All fields within the Site were accessible/visible)
Fields considered unsuitable	296, 297, 299, 300, 301, 302, 303, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314 and 315. Fields considered unsuitable due to being too small to support wetland birds, areas of gardens, or scattered and dense scrub.

### **Categorising Functionally Linked Land**

- 2.2.23 SPAs and Ramsar Sites (European Sites) are classified for rare and vulnerable bird species and assemblages. Many of these statutory sites are designated for mobile species that may also rely on areas outside of the designation boundary. These supporting habitats may be used by SPA bird populations or some individuals of the population for some or all of the time. These supporting habitats can play an essential role in maintaining SPA species populations, and proposals affecting them may therefore have the potential to affect the European site. It is therefore important to determine whether a development proposal can impact on such habitats, which are categorised as functionally linked land (FLL).
- 2.2.24 The aim of the non-breeding bird surveys was to ascertain whether the Site (and adjacent habitats, within 600m) constitute functionally linked land (FLL) to Lower Derwent Valley SPA, Lower Derwent Valley Ramsar site, Humber Estuary SPA and Humber Estuary Ramsar site (**Table 1.1**). This is achieved by determining the use of the Site and adjacent habitats by pertinent species, then further determining whether levels of use are significant in terms of numbers (percentage of population) and frequency of use.
- 2.2.25 Some Target Species are qualifying features of the above named statutory designated sites, alone, under Article 4.1 or 4.2 of the Directive, and others collectively make up a qualifying waterbird assemblage, under Article 4.2 of the SPA citations.
- 2.2.26 For the purposes of determining whether the Site or adjacent land (up to 600m) constitutes FLL to the European Sites listed above, the following criteria have been used:



- 2.2.27 Following a similar selection of criteria of significance as detailed in Natural England (2021<sup>17</sup>), this report determines functional linkage as regular use of significant numbers of species listed as qualifying species of an SPA/Ramsar. These criteria are:
- A species count exceeds 1% of the Humber Estuary/Lower Derwent Valley SPA/Ramsar's known non-breeding population (based on BTO data<sup>18</sup>);
  - A species count exceeds 1,000 individuals; and
  - A species count exceeds the 1% and/or 1000 individuals for 2/3rds of the survey visits (i.e. regular use). This threshold is derived from Natural England report NERC361 (2021<sup>19</sup>).
- 2.2.28 For those species which are only part of a qualifying assemblage (so are not individually a qualifying species), one of three thresholds would need to be reached to appraise the specific study area as being potentially functionally linked to the SPA/Ramsar for that species. These have been defined as:
- 1% of each and every listed species that make up the assemblage;
  - 1%, or more, of the designated species nationally important population<sup>20</sup>; or,
  - Over 2,000 birds of the qualifying species.
- 2.2.29 SPA / Ramsar population data for this report has been derived from BTO Wetland Bird Survey (WeBS) results, which are available online<sup>21</sup>. The WeBS data used in the FLL assessment is based on data from 'Humber Estuary' and 'Lower Derwent Ings'. The most recently available WeBS report covers the winter of 2021/2022 and therefore does not directly correlate with the most recent field survey data available (2022/2023). Whilst this is acknowledged, WeBS population data are based on trends over data and therefore the absence of 2021/2022 data is not considered a significant limitation to analysis.
- 2.2.30 Thorne & Hatfield Moors SPA has been discounted from this analysis of functional linkage due to distance from the SPA and the qualifying species (nightjar) only being designated as a breeding species within specific habitat associated with the designated Site (lowland raised bog) not present within the Site and surrounding land.

## 2.3 Breeding Bird Survey

- 2.3.1 Breeding bird surveys were undertaken between April and June 2021, with one survey undertaken each month (total of three surveys). Following the first survey in April 2021, the Site boundary was extended in two areas. An additional survey on 29<sup>th</sup> May 2021 was therefore undertaken in these two areas of extension to the Site, hereby referred to as the 'Supplementary Survey'. Data from the Supplementary Survey was incorporated into the April 2021 survey results (**Figure 8.18**). May and June 2021 surveys were conducted within the entire updated Site boundary (**Figures 8.19 and 8.20**).
- 2.3.2 Since the completion of the 2021 surveys, the Site boundary has been subject to changes, therefore breeding bird surveys of these additional areas (including the underground cabling corridor to the grid connection) were undertaken between April and June 2023.

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<sup>17</sup> Bowland Ecology (2021). *Identification of Functionally Linked Land supporting SPA waterbirds in the North West of England*. NERC361. Natural England

<sup>18</sup> <https://app.bto.org/websonline/sites/data/sites-data.jsp#lon=-4.5263672&lat=54.8006849&zoom=5>

<sup>19</sup> Bowland Ecology (2021). *Identification of Functionally Linked Land supporting SPA waterbirds in the North West of England*. NERC361. Natural England

<sup>20</sup> Taken from Woodward, I., Aebischer, N., Burnell, D., Eaton, M., Frost, T., Hall, C., Stroud, D.A & Noble, D. (2020). Population estimates of birds in Great Britain and the United Kingdom. *British Birds* 113: 69-104.

<sup>21</sup> Available at: <https://www.bto.org/our-science/projects/wetland-bird-survey/data> (accessed 15.06.2023)

- 2.3.3 Surveys were carried out from early morning and finished by 11:00hrs and undertaken in conditions suitable for breeding bird surveys (avoiding heavy rain and strong winds). Breeding bird surveys were carried out within the Site, including an additional 100m buffer recorded from within the Site; as shown on **Figures 8.18-8.20**.
- 2.3.4 Breeding bird surveys were undertaken by a suitably qualified (MSc ACIEEM) ornithologist, who has over 35 years of ornithological experience.
- 2.3.5 The methodology employed was based upon a scaled-down version of the British Trust for Ornithology ('BTO') Common Bird Census ('CBC') technique, as detailed in Gilbert *et al.* (1998<sup>22</sup>). All bird registrations were recorded on suitably scaled field maps using standard BTO species codes and behaviour notations (such as singing, carrying food, and active nesting). The approximate locations of bird territories within the Site and 100m buffer 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 territory mapping method is based on the observation that many species during the breeding season are territorial. This is most marked in passerines<sup>23</sup>, where territories are often determined by conspicuous song, display and territorial disputes with neighbouring conspecifics<sup>24</sup>. The expected outcome of this technique is that mapped registrations fall into clusters, approximately coinciding with territories. Records of birds only visiting the Site (e.g., gulls feeding in fields) and birds in flight only, were also made and the records of these summarised. However, these have been discounted from further analysis, given they are not breeding within the Site (and 100m buffer) and are therefore not considered relevant to the assessment.
- 2.3.6 For the purposes of informing the assessment process, although the estimated number of breeding territories for all species is provided, only the breeding territories of notable species are mapped, given these are the most relevant species to the assessment. Notable species consist of Birds of Conservation Concern (BoCC Amber and Red List Species (Stanbury *et al.*, 2021), Annex 1 raptors and owls, Schedule 1 species, birds listed on Section 31 of the NERC Act and Selby LBAP species.
- 2.3.7 Details of the surveys are presented in **Table 2.8** and **Table 2.9**.

**Table 2.8: Breeding Bird Survey Effort - 2021**

Survey number	Date	Start time (24hrs)	End time (24hrs)	Sunrise (24hrs)	Survey conditions
1	26/04/2021	07:00	11:00	05:38	Clear to overcast, with a light breeze and no rain. Good visibility. Temperature 4-9°C.
	27/04/2021	07:00	11:00	05:36	
	28/04/2021	07:00	11:00	05:34	
2	19/05/2021	07:00	11:00	04:56	Clear to overcast, with a light breeze. No rain to slight drizzle. Good visibility. Temperature 8-9°C.
	20/05/2021	07:00	11:00	04:54	
	21/05/2021	07:00	11:00	04:53	
	27/05/2021	07:00	11:00	04:45	
3	21/06/2021	07:00	10:00	04:33	Partial cloud to overcast, with a light breeze and no rain. Good visibility. Temperature 12-14°C.
	28/06/2021	07:00	11:00	04:36	
	29/06/2021	07:00	10:30	04:36	
	30/06/2021	07:00	10:30	04:37	

<sup>22</sup> Gilbert, G., Gibbons, D.W & Eans, J. (1998) *Bird monitoring methods*. A manual of techniques for key UK species. RSPB.

<sup>23</sup> A passerine is any bird of the order Passeriformes, which includes more than half of all bird species. Sometimes known as perching birds, passerines are distinguished from other orders of birds by the arrangement of their toes, which facilitates perching.

<sup>24</sup> a member of the same species.

Survey number	Date	Start time (24hrs)	End time (24hrs)	Sunrise (24hrs)	Survey conditions
Supplementary Survey	29/05/2021	07:00	11:00	04:43	Cloudy with a light breeze and no rain. Good visibility. Temperature 11°C.

**Table 2.9: Breeding Bird Survey Effort - 2023**

Survey number	Date	Start time (24hrs)	End time (24hrs)	Sunrise (24hrs)	Survey conditions
1	24/04/2023	06:00	09:00	05:44	Overcast, with a light breeze and no rain. Good visibility. Temperature 5-8°C.
2	11/05/2023	06:00	10:00	05:10	Scattered cloud, with light air. No rain to light showers. Good visibility. Temperature 10-13°C.
3	05/06/2023	05:30	09:00	04:37	Cloudy with light air and no rain. Good visibility. Temperature 7-13°C.

### **Limitations**

#### *Non-breeding Bird Survey*

- 2.3.8 Non-breeding bird surveys were undertaken between October 2021 and March 2022 and October 2022 and May 2023 which is within the period considered suitable to survey wintering and passage bird species. All fields within the Site were accessed and if direct land access was not available within the buffer zone and wider survey area, observations were made via PRoWs and roads. All fields were observed during the survey period.
- 2.3.9 Non-breeding bird surveys are considered to represent a snapshot in time whereby it is accepted that some birds that use the Site, buffer zone or wider survey area may not be present during the duration of the surveys. In addition, it is accepted that cropping regime and human disturbance through agricultural activities may change the species composition using the Site, buffer zone and wider survey area during the non-breeding bird survey period.

#### *Nocturnal Bird Survey*

- 2.3.10 Nocturnal bird surveys were conducted between January and March 2024 with an attempt to record bird on all suitable field habitats within the Site and the lake adjacent to field 339. PRoWs and roads were used to access and view areas of the Site and the use of thermal imaging cameras aided observations. An attempt was made to observe all areas of the Site within 150m. For larger fields, this was not fully possible (See **Figure 8.17** for survey coverage) and an increased presence of brown hare and European rabbits in fields made observation and identification more difficult beyond this distance. No large flocks were observed beyond this distance and therefore this was not considered a significant limiting factor.

#### *Breeding Bird Survey*

- 2.3.11 Breeding bird surveys undertaken in April 2021 did not initially include two areas subject to an increase in the extent of the Site in May 2021. To facilitate three surveys in these two additional areas, a supplementary survey was conducted on 29<sup>th</sup> May 2021, with the data incorporated into the April 2021 survey results. Although these two areas were not surveyed in April 2021, it is considered that this is not a significant limitation to the survey results, as all species would have been captured during the survey period, with the breeding season for species also including May. As these areas are also small in relation to the remainder of the Site, and with such areas still subject to three comprehensive

surveys with the inclusion of a Supplementary Survey, it is considered that no significant limitation is derived from the amended Site boundary following April 2021.

- 2.3.12 The results of the surveys are only a snapshot in time of the habitat use and activity of the bird assemblage within the Site and buffer zone; however, the surveys have provided indicative evidence of the breeding bird assemblages.
- 2.3.13 It is appreciated that factors, including cropping regime/ land use and disturbance will influence habitat use within the Site by birds. It is an assumption that the cropping regime / land use during the survey period is typical. No significant disturbance events were recorded during the surveys. Disturbance such as agricultural activities, traffic and pedestrians along roads/ProWs were recorded. However, such events are not considered significant in terms of having an influence on the target bird species when regarding the survey period in its entirety and as such are not considered further in this assessment.
- 2.3.14 The cable route (and 600m either side) was surveyed during the 2022-23 and subsequent two 2023 passage (Spring/Autumn) survey periods. Several areas of this survey area were considered unsuitable to support Target Species (as shown below as **Plate 1**) comprising the A645 (cable route) and surrounding golf course, woodland, glasshouse and housing estates within Camblesforth (600m buffer). The reduced survey effort for this section was not considered likely to impact the overall survey results.
- 2.3.15 Access was permitted to all parts of the Site during all surveys.

**Plate 1: Cable route and surrounding habitats.**



## 3 RESULTS

### 3.1 Desk Study

- 3.1.1 The NEYEDC data search returned numerous records of notable bird species within 2km of the Site, including a variety of priority species commonly associated with the farmland and woodland habitats surrounding the Site. No records were returned within the Site itself, however records of grey partridge, mallard, moorhen, wren, willow warbler, spotted flycatcher and linnet were returned within the 600m site buffer. A summary of the notable bird species returned from the data search is shown in **Figure 8.21**.
- 3.1.2 Since 2005, the data search returned 149 records for 60 bird species within the search area, including 119 records for a total of forty-four notable bird species within 2km of the Site. This includes seven species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). Schedule 1 species returned during the data search include little ringed plover, marsh harrier, barn owl, kingfisher, peregrine, redwing and fieldfare. Historic Schedule 1 species returned include whooper swan and hobby.
- 3.1.3 The data return also included three species listed on Annex 1 of the Directive 2009/147/EC (Birds Directive). These species include marsh harrier, kingfisher and peregrine. Historical Annex 1 species returned include whooper swan only.
- 3.1.4 Seventeen NERC Act Section 41 Species are included in the NEYEDC data return. Species include lesser redpoll, skylark, cuckoo, corn bunting, yellowhammer, reed bunting, herring gull, linnet, spotted flycatcher, tree sparrow, grey partridge, marsh tit, dunnock, bullfinch, starling, song thrush and lapwing. Historical records include nine priority species. Historical species returned include grey partridge, cuckoo, turtle dove, curlew, skylark, song thrush, spotted flycatcher, yellowhammer and reed bunting.
- 3.1.5 Nine species returned in the data search since 2005 are further listed as priority species under the Selby Biodiversity Action Plan. This includes skylark, corn bunting, yellowhammer, snipe, linnet, tree sparrow, grey partridge, starling and barn owl. Historical local priority species returned in the data search also include whooper swan, lapwing, turtle dove and redshank. A full list of Desk Records are presented in **Annex 4**.
- 3.1.6 Recent records from the data search returned eighteen species listed as Red Listed BoCC and twenty-two species listed as Amber Listed BoCC.
- 3.1.7 A review of MAGIC shows that the Site is not allocated as an Important Bird Area ('IBA'). Two IBAs are situated within 10km of the Site. This includes Lower Derwent Valley IBA and Thorne and Hatfield Moors IBA, which are respectively located c. 6.47km north-east and c. 9.09km south-east from the Site.

### 3.2 Non-breeding Bird Surveys

#### ***2021-2022 Wintering Bird Surveys***

##### The Site

- 3.2.1 Activity within the Site remained low throughout the survey period, with Target Species being limited to sporadic small flocks. Lapwings were recorded in field 25 in eight of the twelve survey visits, with a maximum flock size of 72 birds in February 2022, and in Field 234 during two of the twelve survey visits, with a maximum flock size of 92 birds in October 2021. Additional Target Species recorded

comprised: pink-footed geese (in-flight only), mallard, little egret, grey heron, little grebe, golden plover (maximum of two birds), and common gull.

3.2.2 Secondary species comprised modest numbers of buzzard, kestrel, mistle thrush, starling and corn bunting, all species typical of farmland habitats in the wider landscape. Results are presented below in **Table 3.1**. The indicative locations of Target Species are provided in **Figures 8.9-8.12: Non-breeding Bird Survey Results**.

**Table 3.1: Target and Secondary species recorded within the Site.**

Field N°	Species	Survey Visits											
		1	2	3	4	5	6	7	8	9	10	11	12
<b>Target Species</b>													
7	Little egret	-	-	1	-	-	-	-	-	-	-	-	-
17	Little grebe	-	-	-	-	-	-	1	-	1	-	-	-
	Mallard	-	-	-	-	-	-	-	-	2	-	-	-
18	Grey heron	-	-	-	1	-	-	-	-	-	-	-	-
	Lapwing	-	-	-	-	-	-	2	-	-	-	-	-
25	Lapwing	1	8	-	52	47	53	65	61	72	-	-	-
	Golden plover	-	-	-	-	-	-	-	-	2	-	-	-
	Pink-footed goose	-	-	-	-	-	(250)	-	-	-	-	-	-
	Common gull	-	-	-	-	-	-	-	-	-	-	33	-
29	Lapwing	118	-	-	-	-	-	-	-	-	-	-	-
198	Mallard	-	-	-	-	-	-	-	-	-	-	-	1
199	Pink-footed goose	-	-	(48)	-	-	-	-	-	-	-	-	-
	Little egret	-	-	-	-	-	(2)	-	-	-	-	-	-
201	Lapwing	-	-	-	-	4	-	-	-	-	-	-	-
202	Lapwing	-	-	-	-	-	-	4	-	-	-	-	-
203	Little egret	-	-	-	1	1	-	1	-	-	-	-	-
222	Lapwing	-	8	6	-	-	2	-	-	-	-	-	-
226	Mallard	-	-	-	4	-	3	-	-	-	2	-	-
	Pink-footed goose	-	-	-	-	-	-	(120)	-	-	-	-	-
	Lapwing	-	-	-	-	-	-	-	2	-	2	4	-
228	Mallard	-	-	-	-	-	-	-	-	-	-	-	3
234	Lapwing	92	55	-	-	-	-	-	-	-	-	-	-
	Pink-footed goose	-	-	-	-	(12)	-	-	-	-	-	-	-
235	Pink-footed goose	-	(72)	-	-	-	-	-	-	-	-	-	-
<b>Secondary species</b>													
5	Corn bunting	-	-	-	-	-	-	-	-	8	-	-	-
10	Buzzard	-	-	-	-	-	-	-	-	(4)	-	-	-

Field N°	Species	Survey Visits												
		1	2	3	4	5	6	7	8	9	10	11	12	
23	Mistle thrush	-	-	-	-	-	-	-	-	-	-	1	-	-
25	Starling	-	-	-	-	-	-	-	-	270	450	-	-	-
27	Buzzard	-	-	-	-	-	-	-	-	-	-	-	-	1
198	Corn bunting	-	-	3	1	-	-	4	-	-	-	-	-	-
204	Starling	-	-	-	-	-	-	-	-	-	-	250	-	-
226	Corn bunting	-	-	2	-	-	-	-	-	-	-	-	-	-
228	Buzzard	-	-	-	-	-	-	-	-	-	-	-	(1)	-
234	Corn bunting	-	-	-	-	-	-	-	-	-	-	-	-	1
235	Starling	-	-	-	-	-	-	-	250	-	-	-	300	-
235	Kestrel	-	-	-	-	-	-	-	(1)	-	-	-	-	-

‘-’ refers to no observation in this field during that specific survey.  
Numbers in brackets refers to flocks or individual birds seen in flight only.

### 600m Buffer Zone

- 3.2.3 The 600m Buffer Zone similarly supported generally low numbers of Target Species sporadically spread across fields. Within fields, Target Species consisted of mallard, little grebe, little egret, oystercatcher, lapwing, peregrine and merlin.
- 3.2.4 Additionally, Target Species were recorded with more regularity on the lake adjacent to Field 339, these consisted of mute swan, greylag goose, shoveler, teal, gadwall, mallard, wigeon, tufted duck, pochard, goldeneye, coot, great crested grebe, little grebe and cormorant. Additionally pink-footed goose was recorded in flight only.
- 3.2.5 Secondary species included species typical of farmland habitats and adjacent wetland habitats including buzzard and corn bunting. Results are presented below in **Table 3.2**.

**Table 3.2: Target and Secondary species recorded in the 600m Buffer Zone**

Field N°	Species	Survey Visits												
		1	2	3	4	5	6	7	8	9	10	11	12	
<b>Target Species</b>														
2	Mallard	-	-	-	-	2	-	-	-	-	-	-	-	-
37	Pink-footed goose	-	-	-	(27)	-	-	-	-	-	-	-	-	-
47	Pink-footed goose	-	-	-	-	-	-	-	-	(120)	-	-	-	-
59	Merlin	-	-	-	-	-	-	-	-	-	1	-	-	-
	Oystercatcher	-	-	-	-	-	-	-	-	-	-	-	2	-
169	Lapwing	-	-	-	-	-	-	-	-	-	-	-	-	3
171	Mallard	-	-	-	-	-	4	-	-	-	-	-	-	-
175	Lapwing	-	2	-	-	-	-	-	-	-	-	-	-	-
177	Peregrine	-	-	-	-	-	-	-	-	-	1	-	-	-
190	Lapwing	-	-	-	-	-	-	-	-	-	-	-	-	2
191	Lapwing	-	4	-	-	-	-	-	-	2	-	-	-	-
194	Pink-footed goose	-	(110)	-	-	-	-	-	-	-	-	-	-	-

Field N°	Species	Survey Visits											
		1	2	3	4	5	6	7	8	9	10	11	12
196	Little egret	-	-	-	1	-	-	-	-	-	-	-	-
	Lapwing	-	-	-	-	-	-	-	-	-	-	-	5
200	Little egret	-	-	-	-	-	-	2	-	-	-	1	-
249	Lapwing	-	-	2	-	-	-	-	-	-	-	-	-
252	Pink-footed goose	-	-	-	-	-	(120)	-	-	-	-	-	-
259	Pink-footed goose	-	-	-	-	-	-	-	-	(72)	-	-	-
Pond (100)	Mallard	-	-	-	2	-	-	-	3	-	-	-	-
Pond (103)	Mallard	-	-	2	-	-	-	-	2	-	-	-	-
	Little grebe	-	-	1	-	-	-	-	1	-	-	-	-
Lake (339)	Mute swan	3	2	4	2	3	1	3	2	2	3	3	3
	Greylag goose	-	-	-	-	-	-	-	-	-	-	-	1
	Shoveler	-	4	-	-	-	8	-	-	-	2	5	4
	Teal	-	-	-	-	-	12	-	12	21	3	-	-
	Gadwall	49	58	62	58	52	52	41	58	64	3	2	6
	Mallard	52	37	27	25	41	27	22	17	25	12	2	-
	Wigeon	-	-	-	67	62	73	63	72	63	-	-	-
	Tufted duck	12	17	12	17	27	-	18	11	18	5	18	12
	Pochard	-	-	1	1	6	-	2	-	-	-	-	-
	Goldeneye	-	-	-	1	2	2	2	-	2	-	-	-
	Coot	8	12	-	-	-	-	-	-	-	-	-	-
	Great crested grebe	-	-	-	-	-	-	-	-	-	-	2	2
	Little grebe	-	-	-	-	-	-	1	-	-	-	-	-
Cormorant	-	-	-	-	-	5	-	-	-	1	2	-	
<b>Secondary species</b>													
1	Buzzard	-	-	-	-	-	-	-	-	-	-	1	-
43	Corn bunting	-	-	-	-	-	-	-	-	-	2	-	-
230	Buzzard	-	-	-	-	-	-	-	-	-	-	-	2
Lake (339)	Canada goose	-	-	8	-	6	-	-	-	-	1	4	3
‘-’ refers to no observation in this field during that specific survey. Numbers in brackets refers to flocks or individual birds seen in flight only.													

### Wider Survey Area

3.2.6 The results of surveys within the wider survey area (located outside of the 600m buffer zone) will not be discussed further within this report. However, the observations of target and secondary species recorded during surveys is presented below for clarity.

3.2.7 Target Species consisted of mallard, lapwing, golden plover and hen harrier.



- 3.2.8 Secondary species included species typical of adjacent wetland habitats including corn bunting and kestrel. Results are presented below in **Table 3.3**.

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

Field N°	Species	Survey Visits											
		1	2	3	4	5	6	7	8	9	10	11	12
<b>Target Species</b>													
60	Lapwing	-	-	-	-	8	-	-	-	-	22	-	-
	Golden plover	-	-	-	-	-	-	-	-	-	2	-	-
	Hen harrier	-	-	-	-	-	(1)	(1)	-	-	-	-	-
277	Mallard	-	-	-	-	-	-	-	-	-	2	-	-
293	Lapwing	-	-	-	-	-	-	-	-	-	-	-	13
<b>Secondary species</b>													
68	Corn bunting	-	-	-	-	-	-	-	-	-	-	-	1
165	Kestrel	-	-	-	-	-	-	-	-	-	-	-	1
'-' refers to no observation in this field during that specific survey. Numbers in brackets refers to flocks or individual birds seen in flight only.													

### 2022-23 Wintering Bird Surveys

#### The Site

- 3.2.9 No Target Species or secondary species were recorded within the Site during 2022-2023 Wintering Bird Surveys.
- 3.2.10 The indicative locations of Target Species are provided in **Figures 8.13-8.14: Non-breeding Bird Survey Results 2022-23**.

#### 600m Buffer Zone.

- 3.2.11 Within the 600m Buffer Zone, a total of 15 Target Species were recorded during the 2022-23 survey period. Target Species consisted of greylag goose, pink-footed goose (in flight only), mallard, grey heron, little egret, cattle egret (in flight only), moorhen, coot, oystercatcher, lapwing, snipe, woodcock, common gull, herring gull (in flight only) and merlin.
- 3.2.12 Flock sizes of all grounded birds exceeding 20 birds consisted of one flock of lapwing (28 birds) in Field 255 and one flock of common gull (39 birds) in Field 358.
- 3.2.13 Secondary species included: Canada goose, grey partridge, buzzard, sparrowhawk, kestrel, skylark, rook, meadow pipit, redwing, fieldfare, starling and yellow wagtail.

**Table 3.4: Target and Secondary species recorded in the 600m Buffer Zone**

Field N°	Species	Survey Visits											
		1	2	3	4	5	6	7	8	9	10	11	12
<b>Target Species</b>													
91	Little egret	-	-	-	-	-	-	-	-	-	-	(1)	-
94	Pink-footed goose	-	(64)	-	-	-	-	-	-	-	-	-	-
	Greylag goose	-	-	-	-	-	-	-	-	(6)	-	12	-

Field N°	Species	Survey Visits											
		1	2	3	4	5	6	7	8	9	10	11	12
	Lapwing	-	-	-	-	-	-	-	2	-	-	-	-
95	Grey heron	-	-	-	-	-	(1)	-	-	-	-	-	-
	Oystercatcher	-	-	-	-	-	-	-	-	-	-	-	(1)
	Lapwing	-	-	-	(18)	-	-	-	-	-	-	-	-
97	Pink-footed goose	-	(21)	-	-	-	-	-	-	-	-	-	-
	Mallard	-	-	-	-	-	-	-	-	(2)	-	-	-
98	Pink-footed goose	-	-	(16)	-	-	-	-	-	-	-	-	-
	Lapwing	-	-	-	-	-	-	-	-	-	-	-	(6)
244	Pink-footed goose	-	(163)	-	-	-	-	-	-	-	-	-	-
	Lapwing	-	-	-	2	-	-	-	-	-	-	-	-
255	Lapwing	-	-	-	-	28	-	-	-	-	-	-	1
355	Pink-footed goose	(30)	-	-	-	-	-	-	-	-	-	-	-
	Herring gull	-	-	-	-	-	-	(42)	-	-	-	-	-
358	Pink-footed goose	-	-	-	(121)	-	-	-	-	-	-	-	-
	Cattle egret	-	-	-	-	(1)	-	-	-	-	-	-	-
	Oystercatcher	-	-	-	-	-	-	-	-	-	-	-	(2)
	Common gull	-	-	-	-	-	-	39	18	-	-	-	-
	Merlin	-	-	-	-	-	-	-	-	-	(1)	-	-
359	Mallard	-	-	-	-	-	-	5	-	-	-	-	-
	Snipe	-	-	-	-	-	-	-	-	2	-	-	-
	Woodcock	-	-	-	-	-	-	1	-	-	-	-	-
360	Lapwing	-	-	-	-	-	-	-	-	-	(11)	-	
361	Merlin	-	-	-	-	-	-	-	-	-	(1)	-	-
362	Lapwing	-	-	-	-	-	12	-	-	-	-	-	-
	Merlin	-	-	-	-	-	-	-	-	-	-	-	(1)
364	Mallard	-	-	-	2	-	-	-	-	-	12	3	6
	Coot	-	-	-	-	-	-	-	-	-	-	-	1
	Moorhen	-	-	-	-	2	2	-	-	-	-	2	1
	Grey heron	-	-	-	-	-	-	-	-	-	-	-	1
365	Mallard	-	-	-	-	-	-	-	-	-	2	-	-
	Moorhen	-	-	-	-	-	-	-	(2)	-	-	-	-
	Grey heron	-	-	-	-	-	-	-	-	(1)	-	-	-
	Snipe	-	-	-	-	1	-	-	-	-	-	-	-
<b>Secondary species</b>													
36	Skylark	-	-	-	-	-	-	-	-	-	(1)	-	-
97	Sparrowhawk	-	-	-	-	(1)	-	-	-	-	-	-	-
	Kestrel	-	-	-	-	-	-	-	(1)	-	-	-	-
	Meadow pipit	-	-	-	-	-	(6)	-	-	-	-	-	-

Field N°	Species	Survey Visits											
		1	2	3	4	5	6	7	8	9	10	11	12
149	Buzzard	-	-	-	-	-	-	-	-	1	-	-	-
	Rook	-	-	-	-	-	-	(150)	-	-	-	-	-
244	Buzzard	-	-	-	-	-	-	1	-	1	-	-	(1)
358	Buzzard	-	-	-	-	(1)	-	-	-	-	1	-	-
	Rook	-	-	-	-	34	27	50	10	-	-	-	-
359	Grey partridge	-	-	-	-	-	-	4	-	-	-	-	-
	Buzzard	-	-	-	-	-	-	-	-	-	(1)	-	-
	Kestrel	-	-	-	-	-	-	-	-	-	-	(1)	-
	Redwing	-	-	-	-	-	-	-	-	(1)	-	-	-
360	Grey partridge	-	-	-	-	-	-	-	-	-	-	2	-
	Buzzard	-	-	-	-	-	-	-	-	-	(1)	-	-
	Rook	-	-	-	-	-	-	-	(6)	-	-	-	-
	Redwing	-	-	-	-	-	-	48	-	-	150	-	-
	Fieldfare	-	-	-	-	-	-	5	-	-	52	-	-
361	Sparrowhawk	-	-	-	-	-	-	-	-	(1)	-	-	-
	Rook	52	-	-	61	-	-	-	-	-	-	-	-
	Redwing	-	-	-	-	-	-	-	-	10	-	-	-
	Fieldfare	-	-	-	-	(45)	-	-	-	-	-	-	-
362	Rook	-	42	-	-	-	-	-	22	-	-	7	-
363	Buzzard	-	-	-	-	-	-	1	-	-	-	(1)	-
	Redwing	-	-	-	-	-	-	-	-	6	-	-	-
	Fieldfare	-	-	-	-	-	-	-	18	(8)	-	-	-
364	Rook	-	-	-	-	-	-	-	-	-	30	26	30
	Redwing	-	-	-	-	-	20	-	12	(10)	-	-	-
	Fieldfare	-	-	-	-	-	-	-	-	(2)	-	-	-
365	Buzzard	-	-	-	-	-	-	(1)	(1)	-	-	-	-
	Sparrowhawk	-	-	-	-	-	-	-	(1)	-	-	-	-
369	Buzzard	-	-	-	-	-	1	-	-	-	-	-	-

‘-’ refers to no observation in this field during that specific survey.  
Numbers in brackets refers to flocks or individual birds seen in flight only.

### Wider Survey Area

- 3.2.14 In the Wider Survey Area, mute swan (in flight only), pink-footed goose (suspected injured bird), grey heron, little egret, oystercatcher, lapwing and peregrine were recorded. No flocks exceeded 18 birds.
- 3.2.15 Secondary species comprised buzzard, sparrowhawk, skylark, redwing, fieldfare and starling.
- 3.2.16 Results are shown below in **Table 3.5**.
- 3.2.17 The results of surveys within the Wider Survey Area will not be discussed further.

**Table 3.5: Target and Secondary species recorded in the Wider Survey Area**

Field N°	Species	Survey Visits											
		1	2	3	4	5	6	7	8	9	10	11	12
<b>Target Species</b>													
92	Mute swan	-	-	-	-	-	-	-	-	-	-	-	(2)
	Pink-footed goose	-	1	-	-	-	-	-	-	-	-	-	-
	Grey heron	-	-	-	-	-	-	-	-	1	-	-	-
	Little egret	-	-	-	-	-	-	-	(1)	-	-	-	-
	Lapwing	-	-	-	-	12	12	-	2	2	-	-	-
	Peregrine	-	-	-	-	-	-	-	-	-	(1)	-	-
218	Oystercatcher	-	-	-	-	-	-	-	-	1	-	-	-
	Lapwing	-	-	-	-	9	18	-	-	12	-	6	(3)
<b>Secondary species</b>													
92	Buzzard	-	-	-	-	-	-	2	-	-	-	1	-
	Skylark	-	-	-	-	-	-	-	-	-	(2)	-	-
218	Buzzard	-	-	-	-	-	-	-	1	-	-	-	-
	Fieldfare	-	-	-	-	4	-	-	-	-	-	-	-
	Starling	-	-	-	-	-	62	-	-	-	-	-	-
288	Redwing	-	-	-	-	-	-	-	-	-	-	-	10
	Fieldfare	-	-	-	-	-	-	-	-	-	-	-	1
355	Sparrowhawk	-	-	-	-	-	(1)	-	-	-	-	-	-
‘-’ refers to no observation in this field during that specific survey. Numbers in brackets refers to flocks or individual birds seen in flight only.													

### **April – May 2023 Passage Bird Surveys**

#### Site

- 3.2.18 Passage surveys in Spring 2023 yielded eight Target Species (greylag goose, shelduck, mallard, grey heron, little egret, lapwing, oystercatcher and Mediterranean gull) within the Site, though mallard, grey heron, greylag goose and Mediterranean gull were only recorded in flight). Observations referred to peak counts of no more than three birds within fields. A maximum count of four greylag geese flew over Field 222.
- 3.2.19 Secondary species consisted of buzzard, kestrel and yellow wagtail as observations of single birds or pairs.
- 3.2.20 Results are shown in **Table 3.6**.
- 3.2.21 The indicative locations of Target Species are provided in **Figures 8.13-8.14: Non-breeding Bird Survey Results**.

**Table 3.6: Target and Secondary species recorded within the Site**

Field N°	Species	Survey Visits			
		1	2	3	4
<b>Target Species</b>					
12	Grey heron	-	-	-	(1)
	Little egret	-	-	-	(1)
15	Lapwing	-	-	-	2
18	Oystercatcher	-	(2)	-	
23	Oystercatcher	2	-	-	
	Lapwing	1	-	-	
	Shelduck	-	2	-	
29	Shelduck	(2)	-	-	
191	Shelduck	-	-	-	2
	Oystercatcher	-	-	-	2
	Lapwing	-	-	-	3
199	Little egret	-	-	(1)	
201	Mallard	-	-	(3)	
222	Mediterranean gull	(1)	-	-	
	Greylag goose	-	-	(4)	
223	Little egret	-	1	-	
228	Oystercatcher	-	-	-	1
	Lapwing	-	1	-	
229	Oystercatcher	-	-	2	
<b>Secondary species</b>					
19	Buzzard	-	(1)	-	
23	Buzzard	(1)	-	-	
29	Buzzard	(1)	-	-	
	Yellow wagtail	-	1	-	
183	Buzzard	-	-	1	
191	Yellow wagtail	-	-	-	2
198	Yellow wagtail	-	-	-	2
201	Yellow wagtail	-	-	-	1
203	Buzzard	(1)	-	(1)	
227	Kestrel	-	-	-	(1)
233	Kestrel	-	-	-	(1)
'- refers to no observation in this field during that specific survey. Numbers in brackets refers to flocks or individual birds seen in flight only.					

### 600m Buffer Zone

3.2.22 Passage surveys in Spring 2023 yielded 16 Target Species (mute swan, greylag goose, shelduck, mallard, gadwall, shoveler, wigeon, tufted duck, goosander, great crested grebe, little grebe, grey

heron, coot, moorhen, lapwing and oystercatcher) within the 600m Buffer Zone. Numbers of birds were considered to be low. However, the lake adjacent to Field 339 held higher numbers of Target Species, with flocks of mallard and tufted duck exceeding ten birds with peak counts of 16 and 14 respectively.

3.2.23 Secondary species consisted of buzzard and Canada goose as single observations.

3.2.24 Results are shown below in **Table 3.7**.

3.2.25 The indicative locations of Target Species are provided in **Figures 8.13-8.14: Non-breeding Bird Survey Results**.

**Table 3.7: Target and Secondary species recorded within the 600m Buffer Zone**

Field N°	Species	Survey Visits			
		1	2	3	4
<b>Target Species</b>					
31	Tufted duck	-	-	(2)	-
94	Grey heron	-	(2)	-	-
Pond (100)	Tufted duck	1	1	2	1
	Moorhen	-	1	-	2
	Coot	-	-	5	-
	Little grebe	-	-	1	1
	Mallard	-	-	1	5
115	Shelduck	2	-	-	-
131	Lapwing	-	(2)	-	-
149	Lapwing	-	-	-	(1)
191	Lapwing	-	-	2	-
	Oystercatcher	-	-	2	-
195	Mallard	(3)	-	-	-
207	Shelduck	-	(2)	-	-
	Lapwing	-	-	-	(2)
244	Lapwing	-	-	(2)	-
273	Oystercatcher	-	1	-	-
274	Mallard	-	-	-	(3)
320	Oystercatcher	-	-	1	-
Lake (339)	Greylag goose	-	-	-	1
	Tufted duck	12	14	12	6
	Gadwall	6	-	-	-
	Coot	6	4	7	4
	Mute swan	1	4	2	2
	Moorhen	1	2	-	2
	Mallard	-	16	3	11
	Goosander	-	4	-	-
	Shoveler	-	6	-	-

Field N°	Species	Survey Visits			
		1	2	3	4
<b>Target Species</b>					
	Wigeon	-	1	-	-
	Great crested grebe	2	2	1	2
	Little grebe	-	-	-	1
362	Oystercatcher	-	2	-	-
374	Oystercatcher	-	-	-	(2)
<b>Secondary species</b>					
246	Buzzard	-	-	-	(1)
Lake (339)	Canada goose	-	-	-	4
'- refers to no observation in this field during that specific survey. Numbers in brackets refers to flocks or individual birds seen in flight only.					

### **September – October 2023 Passage Bird Surveys**

#### Site

- 3.2.26 Passage surveys in Autumn 2023 yielded seven Target Species (grey heron, lapwing, oystercatcher, black-headed gull, common gull, herring gull and lesser black-backed gull) within the Site. Observations referred to peak counts of 170 black-headed gull in field 20 and 126 black-headed gull in field 18. No other flocks of Target Species were considered notable.
- 3.2.27 Secondary species consisted of buzzard and kestrel as observations of single birds.
- 3.2.28 Results are shown below in **Table 3.8**.
- 3.2.29 The indicative locations of Target Species are provided in **Figures 8.15-8.16: Non-breeding Bird Survey Results**.

**Table 3.8 Target and Secondary species recorded within the Site**

Field N°	Species	Survey Visits		
		1	2	3
<b>Target Species</b>				
11	Grey heron	-	1	-
14	Lesser black-backed gull	3	-	-
18	Lesser black-backed gull	26	-	-
	Black-headed gull	-	126	-
	Common gull	-	18	-
20	Lapwing	-	12	9
	Black-headed gull	-	170	-
	Common gull	-	6	18
	Lesser black-backed gull	-	-	6
29	Lapwing	-	-	(4)
	Lesser black-backed gull	48	6	6

Field N°	Species	Survey Visits		
		1	2	3
<b>Target Species</b>				
	Herring gull	18	-	4
	Common gull	12	14	27
	Black-headed gull	-	56	41
201	Oystercatcher	1	-	-
	Lapwing	2	-	-
234	Oystercatcher	-	2	-
	Lapwing	-	-	6
	Black-headed gull	-	48	-
	Common gull	-	22	-
	Lesser black-backed gull	-	1	-
235	Oystercatcher	-	2	-
	Lapwing	-	2	-
	Common gull	-	12	-
<b>Secondary species</b>				
19	Buzzard	-	1	-
	Kestrel	-	(1)	-
'- refers to no observation in this field during that specific survey. Numbers in brackets refers to flocks or individual birds seen in flight only.				

### 600m Buffer Zone

- 3.2.30 Passage surveys in Autumn 2023 yielded 17 Target Species (mute swan, mallard, garganey, gadwall, shoveler, wigeon, tufted duck, great crested grebe, little grebe, cormorant, grey heron, coot, moorhen, lapwing, black-headed gull, common gull and lesser black-backed gull) within the 600m Buffer Zone. Numbers of birds were generally recorded in low numbers (<10) except for numbers of gull species. Additionally, the lake adjacent to Field 339 held higher numbers of Target Species, with flocks of gadwall showing peak counts of 52.
- 3.2.31 Secondary species consisted of buzzard and Canada goose as single observations.
- 3.2.32 Results are shown below in **Table 3.9**.
- 3.2.33 The indicative locations of Target Species are provided in **Figures 8.15-8.16: Non-breeding Bird Survey Results**.

**Table 3.9: Target and Secondary species recorded within the 600m Buffer Zone**

Field N°	Species	Survey Visits		
		1	2	3
<b>Target Species</b>				
31	Black-headed gull	-	68	-
138	Lapwing	2	-	(2)
255	Lapwing	12	-	-



Field N°	Species	Survey Visits		
		1	2	3
<b>Target Species</b>				
258	Common gull	19	-	-
358	Mallard	-	-	1
	Lesser black-backed gull	-	-	2
	Common gull	-	-	12
364	Mallard	2	2	-
	Moorhen	-	1	-
	Grey heron	1	-	-
Lake (339)	Garganey	2	-	-
	Cormorant	1	-	-
	Gadwall	22	48	52
	Mallard	13	12	8
	Shoveler	1	16	6
	Mute swan	-	2	2
	Little grebe	-	1	-
	Wigeon	-	-	2
	Grey heron	-	-	1
	Great crested grebe	-	-	2
	Coot	20	8	6
Moorhen	-	2	-	
Pond (100)	Tufted duck	-	-	2
<b>Secondary species</b>				
175	Buzzard	1	-	-
185	Buzzard	-	-	(1)
191	Buzzard	-	-	(2)
246	Buzzard	-	-	(1)
Lake (339)	Canada goose	-	-	2
358	Buzzard	-	(1)	-
'- refers to no observation in this field during that specific survey. Numbers in brackets refers to flocks or individual birds seen in flight only.				

### **Nocturnal Bird Surveys**

3.2.34 A total of nine Target Species (mallard, teal, moorhen, grey heron, lapwing, woodcock, snipe, barn owl and tawny owl) were recorded within the Site during Nocturnal Bird Survey, with an additional two (mute swan and coot) recorded on the lake adjacent to Field 339 in the 600m buffer zone. Results are shown below in **Table 3.10**.

3.2.35 Other species recorded during nocturnal bird surveys comprised low numbers of skylark, red-legged partridge and grey partridge.

**Table 3.10: Target Species recorded within the Site and adjacent Lake**

Field N <sup>o</sup>	Species	Survey Visits		
		1	2	3
<b>Target Species</b>				
<i>The Site</i>				
6	Woodcock	2	-	-
25	Lapwing	1	-	-
182	Mallard	-	2	-
198	Lapwing	-	1	-
199	Woodcock	2	-	-
202	Woodcock	1	-	-
	Snipe	1	-	-
204	Tawny owl	-	1	-
226	Woodcock	5	-	-
227	Woodcock	1	-	-
235	Barn owl	1	-	-
236	Grey heron	-	2	-
	Woodcock	-	1	-
	Snipe	3	-	-
237	Barn owl	-	1	-
238	Mallard	3	-	-
239	Mallard	-	2	-
269	Mallard	-	2	2
<i>600m buffer</i>				
Lake	Mute swan	-	2	-
	Mallard	-	5	-
	Coot	-	3	-
'-' refers to no observation in this field during that specific survey.				

#### Assessment of Significance

3.2.36 Two of the Target Species recorded (shelduck and golden plover) are alone qualifying features of the Humber Estuary SPA under article 4.1 and 4.2 of the Directive (79/409/EEC). Additionally, five further Target Species (wigeon, teal, mallard, oystercatcher and lapwing) are listed on the waterbird assemblage of the Humber Estuary SPA.

3.2.37 Three of the Target Species recorded (wigeon, teal and golden plover) are alone qualifying features of the Lower Derwent Valley SPA under article 4.1 and 4.2 of the Directive (79/409/EEC). Additionally, two further Target Species recorded (lapwing and gadwall) are listed on the waterbird assemblage of the Lower Derwent SPA.

3.2.38 Two of the Target Species recorded (golden plover and shelduck) are qualifying features of the Humber Estuary Ramsar and two Target Species recorded (wigeon and teal) are qualifying features of the Lower Derwent Valley Ramsar under criterion 6.

3.2.39 Note, diving ducks (pochard and goldeneye) were recorded in modest numbers within a waterbody within 600m of the Site. These species are part of the waterbird assemblage for the Humber Estuary SPA. Given the Site comprises terrestrial habitat (not suitable for diving ducks) these are not considered further in relation to assessing whether the Site is FLL to the Humber Estuary SPA.

3.2.40 **Tables 3.11** below provides information regarding the potential functional linkage for designated species for the surrounding designated sites. Note, % of the relevant SPAs is only provided for alone qualifying species given the % of the SPA population is only relevant for these qualifying species and not those that are only part of a waterbird assemblage. 'N/A' is included for those species which are not alone a qualifying species of the relevant SPA/Ramsar.

**Table 3.11: Qualifying Species recorded within the Site and 600m buffer between October 2021 and March 2022, October 2022 and March 2023**

Species	Month recorded (If month not stated then species not present)	Peak count	% of Humber Estuary SPA population	Significant numbers criteria met? (Y = Yes, N = No)	% of Lower Derwent Valley SPA population	Significant numbers criteria met? (Y = Yes, N = No) <sup>25</sup>
Golden plover	February*	2	<0.01	N	0.06	N
Shelduck	April	8	0.12	N	N/A	N/A
	May	2	0.03	N	N/A	N/A
Wigeon	October	2	N/A	N/A	0.02	N
	November*	67	N/A	N/A	0.58	N
	December*	73	N/A	N/A	0.63	N
	January*	72	N/A	N/A	0.63	N
	February*	63	N/A	N/A	0.55	N
Teal	December*	12	N/A	N/A	0.16	N
	January*	12	N/A	N/A	0.16	N
	February*	21	N/A	N/A	0.29	N
<b>Waterbird assemblage only species</b>						
Mallard	October*	52	N/A	N/A	N/A	N/A
	November*	29	N/A	N/A	N/A	N/A
	December*	41	N/A	N/A	N/A	N/A
	January*	27	N/A	N/A	N/A	N/A
	February*	37	N/A	N/A	N/A	N/A
	March*	9	N/A	N/A	N/A	N/A

<sup>25</sup> For assemblage only species this is whether any of the thresholds in section 2.2.22 are met, 1% of national population, 1% of all SPA assemblage species and/or >2,000 birds.

Species	Month recorded (If month not stated then species not present)	Peak count	% of Humber Estuary SPA population	Significant numbers criteria met? (Y = Yes, N = No)	% of Lower Derwent Valley SPA population	Significant numbers criteria met? (Y = Yes, N = No) <sup>25</sup>
Gadwall	October	52	N/A	N/A	N/A	N/A
	November	62	N/A	N/A	N/A	N/A
	December	52	N/A	N/A	N/A	N/A
	January	58	N/A	N/A	N/A	N/A
	February	64	N/A	N/A	N/A	N/A
	March	6	N/A	N/A	N/A	N/A
Oystercatcher	February*	1	N/A	N/A	N/A	N/A
	March*	2	N/A	N/A	N/A	N/A
Lapwing	October*	211	N/A	N/A	N/A	N/A
	November*	54	N/A	N/A	N/A	N/A
	December*	81	N/A	N/A	N/A	N/A
	January*	67	N/A	N/A	N/A	N/A
	February*	72	N/A	N/A	N/A	N/A
	March*	13	N/A	N/A	N/A	N/A

‘\*’ Refers to both 2021-2022 and 2022-2023 survey combined totals which is considered appropriate given the survey areas typically differed between survey years and is precautionary as it may include duplicated bird counts, given the close proximity of the survey areas.

3.2.41 A total of eight species listed as qualifying species (or waterbird assemblage species) of the nearby Lower Derwent Valley SPA/Ramsar and Humber Estuary SPA/Ramsar have been recorded within the Site and/or 600m buffer zone. Whilst several species have been recorded regularly throughout the survey period in low numbers, no qualifying species were recorded exceeding the 1% threshold.

3.2.42 **Table 3.12** below shows the peak counts of Target Species during surveys and the regularity of occurrence. Additionally, the number of occurrences whereby the FLL threshold was exceeded. As stated above, a site should be considered to be functionally linked if the 1% threshold is exceeded for two thirds of the survey visits. Note, the 1% of the SPA threshold is only applicable for alone qualifying species, and for species only part of the waterbird assemblage (shaded in **Table 3.11**) the criteria in section 2.2.22 are considered<sup>25</sup>.

**Table 3.12: Target Species peak counts and regularity during the survey period.**

Species	Peak counts	Regularity of use in percentage (number of surveys when species recorded in brackets)	Number of surveys where FLL threshold was exceeded.
<b>The Site (Winter 2021/22 &amp; 2022/23)</b>			
Golden plover	2	4.8% (1/12 (2021/22)) & 0% (0/12 (2022/23))	0% (0/12 (2021/22)) & 0% (0/12 (2022/23))
Lapwing	211	92% (11/12 (2021/22)) & 0% (0/12 (2022/23))	0% (0/12 (2021/22)) & 0% (0/12 (2022/23))
Mallard	4	41.7% (5/12 (2021/22)) & 0% (0/12 (2022/23))	0% (0/12 (2021/22)) & 0% (0/12 (2022/23))

Species	Peak counts	Regularity of use in percentage (number of surveys when species recorded in brackets)	Number of surveys where FLL threshold was exceeded.
<b>600m buffer (Winter 2021/22 &amp; 2022/23)</b>			
Gadwall	64	100% (12/12 (2021/22)) & 0% (0/12 (2022/23))	0% (0/12 (2021/22)) & 0% (0/12 (2022/23))
Mallard	52	92% (11/12 (2021/22)) & 41.7% (5/12 (2022/23))	0% (0/12 (2021/22)) & 0% (0/12 (2022/23))
Teal	21	33% (4/12 (2021/22)) & 0% (0/12 (2022/23))	0% (0/12 (2021/22)) & 0% (0/12 (2022/23))
Wigeon	73	50% (6/12 (2021/22)) & 0% (0/12 (2022/23))	0% (0/12 (2021/22)) & 0% (0/12 (2022/23))
Oystercatcher	2	8% (1/12 (2021/22)) & 0% (0/12 (2022/23))	0% (0/12 (2021/22)) & 0% (0/12 (2022/23))
Lapwing	28	33% (4/12 (2021/22)) & 42% (5/12 (2022/23))	0% (0/12 (2021/22)) & 0% (0/12 (2022/23))
<b>The Site (Passage Spring 2023)</b>			
Shelduck	2	50% (2/4)	0% (0/4)
Oystercatcher	3	75% (3/4)	0% (0/4)
Lapwing	5	75% (3/4)	0% (0/4)
<b>600m buffer (Passage Spring 2023)</b>			
Shelduck	2	25% (1/4)	0% (0/4)
Gadwall	6	25% (1/4)	0% (0/4)
Mallard	16	75% (3/4)	0% (0/4)
Wigeon	1	25% (1/4)	0% (0/4)
Oystercatcher	3	50% (2/4)	0% (0/4)
Lapwing	2	25% (1/4)	0% (0/4)
<b>The Site (Passage Autumn 2023)</b>			
Oystercatcher	4	66% (2/3)	0% (0/3)
Lapwing	14	100% (3/3)	0% (0/3)
<b>600m buffer (Passage Autumn 2023)</b>			
Gadwall	52	100% (3/3)	0% (0/3)
Mallard	15	100% (3/3)	0% (0/3)
Wigeon	2	33% (1/3)	0% (0/3)
Lapwing	14	33% (1/3)	0% (0/3)
<b>The Site (Nocturnal Bird Surveys 2024)</b>			
Mallard	6	100% (3/3)	0% (0/3)
Lapwing	1	100% (3/3)	0% (0/3)
<b>600m buffer (Nocturnal Bird Surveys 2024)</b>			
Mallard	5	33% (1/3)	0% (0/3)

3.2.43 **Table 3.13** presents the maximum wetland bird assemblages recorded during each month within the Site and surrounding 600m buffer zone, wetland bird assemblages are a qualifying feature of Humber Estuary SPA<sup>26</sup> and Lower Derwent Valley SPA<sup>27</sup> under article 4.2 of the Directive (79/409/EEC).

**Table 3.13: Total Wetland Bird Assemblages Recorded.**

Month recorded	Wetland Species Assemblage Count – Site	Wetland Species Assemblage Count – 600m Buffer	Total Wetland Species Assemblage Count	Significant numbers criteria met <sup>28</sup> ?
October*	211	124	335	No
November*	58	178	236	No
December*	58	228	286	No
January*	73	199	272	No
February*	77	199	276	No
March*	37	52	89	No
April	4	59	63	No
May	10	38	48	No

‘\*\*’ Refers to both 2021-2022 and 2022-2023 survey combined totals

3.2.44 Whilst the threshold for functional linked land was either not met, or at least two thirds of the survey visits did not record qualifying species over the threshold limit, Several Target/Qualifying Species were recorded regularly within the Site or within the 600m buffer. A summary is present in **Table 3.14** of the Target Species spread across the survey period and the habitat types where these species occurred.

<sup>26</sup> According to the most recent available data, available at <https://app.bto.org/webs-reporting/principal.jsp> (accessed 19.06.2023) the five-year average wetland bird assemblage between 2017/2018 and 2021/2022 for the Humber Estuary SPA is 141,614.

<sup>27</sup> According to the most recent available data, available at <https://app.bto.org/webs-reporting/principal.jsp> (accessed 19.06.2023) the five-year average wetland bird assemblage between 2017/2018 and 2021/2022 for the Lower Derwent Valley SPA is 33,468.

<sup>28</sup> Methodology for assessing significance is provided within paragraph 2.2.19.

**Table 3.14: Qualifying species coverage and preferred crop type/land use.**

Qualifying Species	Field	Field Type	Survey period
Golden Plover	25	Winter wheat	Year 1 – 2021-2022
Shelduck	23	Tilled	Spring Passage (2023)
	29	Tilled	
	115	Root	
	191	Tilled	
	207	Arable stubble	
Wigeon	339 (Lake)	Adjacent lake	Year 1 – 2021-2022
	339 (Lake)	Adjacent lake	Spring Passage (2023)
	339 (Lake)	Adjacent lake	Autumn Passage (2023)
Teal	339 (Lake)	Adjacent lake	Year 1 – 2021-2022
Gadwall	339 (Lake)	Adjacent lake	Year 1 – 2021-2022
Mallard	2	Winter wheat	Year 1 – 2021-2022
	17	Arable stubble (on flood)	Year 1 – 2021-2022
	97	Arable stubble (on flood)	Year 2 – 2022-2023
	100 (Pond)	Pond within field	Spring Passage (2023)
	100 (Pond)	Pond within field	Year 1 – 2021-2022
	103	Unstocked pasture	Year 1 – 2021-2022
	171	Arable stubble (on flood)	Year 1 – 2021-2022
	195	Tilled	Spring Passage (2023)
	198	Winter wheat	Year 1 – 2021-2022
	201	Tilled	Spring Passage (2023)
	226	Arable stubble (on flood)	Year 1 – 2021-2022
	228	Winter wheat	Year 1 – 2021-2022
	274	Unstocked pasture (on flood)	Spring Passage (2023)
	339 (Lake)	Adjacent lake	Year 1 – 2021-2022
	339 (Lake)	Adjacent lake	Autumn Passage (2023)
	339 (Lake)	Adjacent lake	Spring Passage (2023)
358	Winter wheat	Autumn Passage (2023)	

	359	Tilled (on flood)	Year 2 – 2022-2023
	364	Golf course pond	Autumn Passage (2023)
	364	Golf course pond	Year 2 – 2022-2023
	365	Golf course	Year 2 – 2022-2023
Shoveler <sup>29</sup>	339 (Lake)	Adjacent lake	Year 1 – 2021-2022
	339 (Lake)	Adjacent lake	Spring Passage (2023)
	339 (Lake)	Adjacent lake	Autumn Passage (2023)
Oystercatcher	18	Arable stubble	Spring Passage (2023)
	23	Winter wheat	Spring Passage (2023)
	59	Arable stubble	Year 1 - 2021-2022
	95	Unstocked pasture	Year 2 - 2022-2023
	191	Tilled	Spring Passage (2023)
	228	Winter wheat	Spring Passage (2023)
	229	Tilled	Spring Passage (2023)
	235	Arable stubble	Autumn Passage (2023)
	273	Unstocked pasture	Spring Passage (2023)
	320	Unstocked pasture	Spring Passage (2023)
	358	Winter wheat	Year 2- 2022-2023
	362	Unstocked pasture	Spring Passage (2023)
	374	Unstocked pasture	Spring Passage (2023)
Lapwing	15	Winter wheat	Spring Passage (2023)
	18	Arable stubble	Year 1 – 2021-2022
	20	Arable stubble	Autumn Passage (2023)
	23	Winter wheat	Spring Passage (2023)
	25	Winter wheat	Year 1 – 2021-2022
	29	Tilled	Autumn Passage (2023)
	29	Tilled	Year 1 – 2021-2022
	94	Unstocked pasture	Year 2 - 2022-2023

<sup>29</sup> Note, qualifying species through its breeding population, not non-breeding population.



95	Unstocked pasture	Year 2 - 2022-2023
98	Unstocked pasture	Year 2 - 2022-2023
131	Arable stubble	Spring Passage (2023)
138	Arable stubble	Autumn Passage (2023)
149	Tilled	Spring Passage (2023)
169	Arable stubble	Year 1 – 2021-2022
175	Arable stubble	Year 1 – 2021-2022
190	Arable stubble	Year 1 – 2021-2022
191	Tilled	Spring Passage (2023)
191	Winter wheat	Year 1 – 2021-2022
196	Winter wheat	Year 1 – 2021-2022
201	Arable stubble	Autumn Passage (2023)
201	Tilled	Year 1 – 2021-2022
202	Arable stubble	Year 1 – 2021-2022
207	Arable stubble	Spring Passage (2023)
222	Oil seed rape	Year 1 – 2021-2022
226	Arable stubble	Year 1 – 2021-2022
228	Winter wheat	Spring Passage (2023)
234	Arable stubble	Autumn Passage (2023)
234	Tilled	Year 1 – 2021-2022
235	Winter wheat	Autumn Passage (2023)
244	Tilled	Spring Passage (2023)
244	Winter wheat	Year 2 - 2022-2023
249	Tilled	Year 1 – 2021-2022
255	Unstocked pasture	Autumn Passage (2023)
255	Unstocked pasture	Year 2 - 2022-2023
360	Tilled	Year 2 - 2022-2023
362	Unstocked pasture	Year 2 - 2022-2023

3.2.45 Overall, the more favoured field types were winter wheat, arable stubble and tilled. Taller crops were generally avoided once crops were grown (Target Species were only observed once in oil seed rape when the crop was <15cm in height). Additionally, duck Target Species (Teal, Mallard, Shoveler and

Wigeon) were associated with waterbodies within fields, adjacent to fields or associated with patches of flood water within fields.

### 3.3 Breeding Bird Surveys

#### 2021

- 3.3.1 The breeding bird assemblage recorded within the Site is representative of farmland and woodland habitats. A total of 46 species were recorded breeding within the Site boundary (and within the 100m buffer). Of these, 25 breeding notable species were recorded on-Site, consisting of 12 Red List species (corn bunting, greenfinch, house martin, house sparrow, lapwing, linnet, mistle thrush, skylark, starling, tree sparrow, yellowhammer and yellow wagtail) and 13 Amber List species (mallard, sparrowhawk, stock dove, woodpigeon, kestrel, rook, wren, dunnock, song thrush, willow warbler, whitethroat, bullfinch and reed bunting). Of the 25 notable species recorded on-Site, 13 are also species listed as Species of Principal Importance under Section 41 of the NERC Act (2006) (lapwing, skylark, dunnock, song thrush, starling, house sparrow, tree sparrow, yellow wagtail, bullfinch, linnet, corn bunting, yellowhammer and reed bunting) with eight listed under the Selby LBAP (lapwing, skylark, starling, house sparrow, tree sparrow, linnet, corn bunting and yellow wagtail). No Schedule 1 species were recorded during breeding bird surveys.
- 3.3.2 The maximum number of breeding territories for nine of these species were  $\leq 4$  territories, although higher numbers for sixteen notable species were recorded. Notable species with higher than 4 territories, included corn bunting (10 territories), dunnock (10 territories), greenfinch (6 territories), house sparrow (18 territories), linnet (8 territories), reed bunting (5 territories), rook (14 territories), skylark (27 territories), song thrush (7 territories), starling (7 territories), whitethroat (11 territories), woodpigeon (14 territories), wren (22 territories), yellowhammer (20 territories) and yellow wagtail (6 territories).
- 3.3.3 The notable species breeding assemblage was typically associated with vegetation along field margins, principally hedgerows, scrub, watercourses, treelines, and woodland habitats. House martin was associated with urban structures bordering the Site.
- 3.3.4 Ground-nesting notable species which use open agricultural fields on-Site consisted of corn bunting, lapwing, skylark, and yellow wagtail. A maximum of 10 corn bunting territories and 27 skylark territories were located throughout and immediately adjacent to the Site. Yellow wagtail were recorded within the Site, with six estimated maximum territories, and a maximum of four lapwing territories recorded.
- 3.3.5 All breeding species (or potential breeding species) recorded along with an estimated number of the breeding pairs for each monthly survey are detailed within **Table 3.15** below. Those species in **bold** are considered notable species. The indicative locations of the maximum number of breeding territories of notable species are provided in **Figures 8.18-8.20**.

**Table 3.15: Breeding Bird Survey Results – 2021.**

Common Name	Estimated Number of Territories (per visit)			Maximum Territories (total)	Comments
	April	May	June		
<b>Mallard</b>	0	1	0	1	Recorded in the eastern section of the Site.
<b>Stock Dove</b>	1	4	2	4	Recorded within field boundary habitats.
<b>Woodpigeon</b>	4	14	8	14	Recorded throughout field boundary habitats.

Common Name	Estimated Number of Territories (per visit)			Maximum Territories (total)	Comments
	April	May	June		
Collared Dove	0	0	3	3	Recorded within hedgerows.
<b>Lapwing*</b>	4	1	1	4	Recorded in open ground in the northern section of the Site.
<b>Sparrowhawk</b>	0	1	0	1	Potentially nesting in trees within the northern section of the Site.
Buzzard	3	5	3	5	Widespread tree nesting pairs.
Great Spotted Woodpecker	0	1	0	1	Recorded within neighbouring woodland south-east of the Site.
<b>Kestrel</b>	0	0	2	2	Recorded within the northern section of the Site.
Magpie	1	1	1	1	Observed in field boundary vegetation.
<b>Rook</b>	14	14	10	14	Observed in woodland bordering the northern Site boundary.
Carrion Crow	1	7	6	7	Located in trees throughout the Site.
Coal Tit	2	0	0	2	Located in woodland to the south-east of the Site.
Blue Tit	19	13	13	19	Recorded throughout field boundary habitats.
Great Tit	5	5	4	5	Recorded throughout field boundary habitats.
<b>Skylark*</b>	27	27	16	27	Observed singing throughout the Site in open habitat.
Swallow	0	2	0	2	Recorded in the southern Site section of the Site.
<b>House Martin</b>	0	2	0	2	Recorded nesting on farm buildings adjacent to the northern Site boundary.
Long-tailed Tit	11	3	7	11	Recorded throughout field boundary habitats.
<b>Willow Warbler</b>	1	0	0	1	Observed singing in vegetation in the north of the Site.
Chiffchaff	10	8	4	10	Recorded throughout field boundary habitats.
Reed Warbler	0	1	1	1	Recorded in field boundary vegetation.
Blackcap	10	13	10	13	Recorded throughout field boundary habitats.
Garden Warbler	0	2	0	2	Recorded in field boundary vegetation.
Lesser Whitethroat	0	2	0	2	Recorded in field boundary vegetation.
<b>Whitethroat</b>	7	8	11	11	Recorded throughout field boundary habitats.
Goldcrest	0	2	0	2	Recorded in field boundary vegetation.
<b>Wren</b>	22	18	12	22	Recorded throughout field boundary habitats.

Common Name	Estimated Number of Territories (per visit)			Maximum Territories (total)	Comments
	April	May	June		
<b>Starling*</b>	0	7	5	7	Recorded mostly along the south-western Site boundary.
<b><i>Song Thrush*</i></b>	5	5	7	7	Recorded throughout field boundary habitats.
<b>Mistle Thrush</b>	0	1	0	2	Recorded in Site boundary vegetation.
Blackbird	29	20	26	29	Recorded throughout field boundary habitats.
Robin	32	35	21	35	Recorded throughout field boundary habitats.
<b>Tree Sparrow*</b>	0	0	1	1	Recorded in field boundary vegetation in the north western part of the Site.
<b>House Sparrow*</b>	0	5	18	18	Mostly recorded in field boundary vegetation within the northern section of the Site.
<b><i>Dunnock*</i></b>	10	8	2	10	Recorded throughout field boundary habitats.
<b>Yellow Wagtail*</b>	5	6	4	6	Recorded in open field habitats.
Pied Wagtail	0	2	0	2	Recorded in Site boundary vegetation.
Chaffinch	16	22	9	22	Recorded throughout field boundary habitats.
<b><i>Bullfinch*</i></b>	1	0	0	1	Recorded in Site boundary vegetation.
<b>Greenfinch</b>	4	4	5	6	Recorded throughout field boundary habitats.
<b>Linnet*</b>	4	8	4	8	Recorded throughout field boundary habitats.
Goldfinch	11	6	5	11	Recorded throughout in Site boundary vegetation.
<b>Corn Bunting*</b>	5	10	4	10	Recorded throughout in open fields.
<b>Yellowhammer*</b>	17	20	19	20	Recorded throughout field boundary habitats
<b><i>Reed Bunting*</i></b>	1	4	5	5	Recorded throughout field boundary habitats.
<p><b>Bold</b> refers to Red listed on Bird of Conservation Concern (Stanbury <i>et al</i> (2021))</p> <p><b>Bold</b> and <i>italics</i> refers to Amber listed on Birds of Conservation Concern (Stanbury <i>et al.</i> (2021))</p> <p>*- Refers to species of Principal Importance listed under Section 41 of the NERC Act (2006)</p>					

3.3.6 During the surveys, several birds were recorded within the Site which were not considered as breeding, as these consisted of individuals flying over the Site only, or those considered only visiting the Site to feed<sup>30</sup>. The majority of species recorded breeding with the Site (as listed in Table 3.6)

<sup>30</sup> This was based on a number of factors including the number and gender of birds recorded (e.g., only one record of one female during the survey period), unsuitability of habitats within and immediately surrounding the Site to accommodate

included some individuals of these species considered to not be breeding during the surveys. However, nine species recorded were considered to only be non-breeding species. These non-breeding species include grey heron, jackdaw, pheasant, pied wagtail, red-legged partridge, mute swan, tufted duck, greylag goose and little egret. Non-breeding cuckoo and sand martin were recorded in the Wider Survey Area.

## 2023

- 3.3.7 The breeding bird assemblage recorded within the additional surveyed land is representative of farmland and woodland habitats. A total of 29 species were recorded breeding within the Site or within 100m of the Site boundary. Of these, 14 breeding notable species were recorded on-Site (including within 100m), consisting of 6 Red List species (greenfinch, house sparrow, linnet, skylark, yellowhammer, and yellow wagtail) and 8 Amber List species (mallard, woodpigeon, rook, wren, dunnock, song thrush, willow warbler and whitethroat).
- 3.3.8 Of the 14 notable species recorded on-Site, 7 are also species listed as Species of Principal Importance under Section 41 of the NERC Act (2006) (skylark, dunnock, song thrush, house sparrow, yellow wagtail, linnet and yellowhammer) with 4 listed under the Selby LBAP (skylark, house sparrow, linnet and yellow wagtail). No Schedule 1 species were recorded during breeding bird surveys.
- 3.3.9 The maximum number of breeding territories for most notable species were under 4 territories, although higher numbers of 5 species were recorded, these being, rook (25 territories), song thrush (6 territories), woodpigeon (7 territories) and wren (22 territories).
- 3.3.10 The notable species breeding assemblage was typically associated with vegetation along field boundaries on-Site, principally woodland, hedgerows, scrub and open farmland habitats. House sparrow and pied wagtail was associated with urban structures bordering the Site.
- 3.3.11 Ground-nesting notable species which use open agricultural fields on-Site consisted of skylark (3 breeding territories) and yellow wagtail (1 breeding territory).
- 3.3.12 All breeding species (or potential breeding species) recorded along with an estimated number of the breeding pairs for each monthly survey are detailed within **Table 3.16** below. Those species in **bold** are considered notable species. The indicative locations of the maximum number of breeding territories of notable species are provided in **Figures 8.18-8.20**.

**Table 3.16: Breeding Bird Survey Results – 2023.**

Common Name	Estimated Number of Territories (per visit)			Maximum Territories (total)	Comments
	April	May	June		
<b>Mallard</b>	1	1	0	1	Recorded close to pond on golf course.
<b>Woodpigeon</b>	2	7	6	7	Recorded within woodland within Site and Buffer.
Coot	1	1	0	1	Recorded on pond on golf course.
Great spotted woodpecker	1	0	1	1	Recorded in woodland within golf course.

the nesting requirements of some species, and movement of birds from the Site and the wider landscape to a suspected nest site outside of the Site and the immediately surrounding 100m survey buffer.

Common Name	Estimated Number of Territories (per visit)			Maximum Territories (total)	Comments
	April	May	June		
<b>Rook</b>	25	20	25	25	Recorded in rookery located in woodland within golf course.
Jackdaw	1	0	1	1	Recorded within woodland within Site and Buffer.
Coal tit	1	0	0	1	Recorded in woodland within golf course.
Blue tit	5	3	1	5	Recorded within woodland within Site and Buffer.
Great tit	2	2	0	2	Recorded within woodland within Site and Buffer.
<b>Skylark*</b>	3	3	0	3	Recorded in arable fields within Site and Buffer.
Long-tailed tit	1	1	1	1	Recorded within woodland within Site and Buffer.
<b>Willow warbler</b>	1	2	0	2	Recorded within woodland within Site and Buffer.
Chiffchaff	6	7	3	7	Recorded within woodland within Site and Buffer.
Blackcap	5	11	3	11	Recorded within woodland within Site and Buffer.
<b>Whitethroat</b>	1	4	2	4	Recorded within hedgerows and scrub within Site and Buffer.
Goldcrest	1	1	0	1	Recorded in woodland north of golf course.
<b>Wren</b>	22	14	4	22	Recorded within woodland and scrub within Site and Buffer.
<b>Song thrush*</b>	3	6	2	6	Recorded within woodland within Site and Buffer.
Blackbird	5	10	5	10	Recorded within woodland within Site and Buffer.
Robin	8	13	4	13	Recorded within woodland within Site and Buffer.
<b>House sparrow*</b>	2	3	2	3	Recorded near housing and in trees within Site and Buffer.
<b>Dunnock*</b>	2	2	0	2	Recorded within woodland and scrub within Site and Buffer.
Pied wagtail	1	0	0	1	Recorded in car park of club house.
<b>Yellow wagtail*</b>	0	1	1	1	Recorded in arable field within Site.
Chaffinch	6	8	2	8	Recorded within woodland within Site and Buffer.
<b>Greenfinch</b>	0	1	1	1	Recorded in woodland within golf course.

Common Name	Estimated Number of Territories (per visit)			Maximum Territories (total)	Comments
	April	May	June		
Linnet*	1	1	0	1	Recorded within hedgerow within Site.
Goldfinch	3	2	0	3	Recorded within woodland within Site and Buffer.
Yellowhammer*	1	2	0	2	Recorded within hedgerows and arable fields within Site.

3.3.13 During the surveys, several birds were recorded within the Site which were not considered as breeding, as these consisted of individuals flying over the Site only, or those considered only visiting the Site to feed<sup>31</sup>. The majority of species recorded breeding with the Site (as listed in Table 3.7) included some individuals of these species considered to not be breeding during the surveys. However, nine species recorded were considered to only be non-breeding species. These non-breeding species include grey heron, jackdaw, pheasant, red-legged partridge, greylag goose, starling, carrion crow, magpie, buzzard, swallow, kestrel and reed bunting.

#### ***Additional Breeding Bird Records***

##### Schedule 1 Species

3.3.14 Further confidential information is provided within **Annex 3**.

## **4 SUMMARY**

#### ***Non-breeding Bird Survey Results***

- 4.1.1 A total of 12 visits were carried out between October 2021 and March 2022. Within the survey period, a total of seven Target Species were recorded within the Site and an additional 14 Target Species within the 600m Buffer Zone.
- 4.1.2 An additional 12 visits were carried out on additional land between October 2022 and March 2023. Within this survey period, no Target Species were recorded within the Site and 12 Target Species within the 600m Buffer Zone.
- 4.1.3 Four passage surveys between April and May 2023 were also carried out over the entire Site and 600m Buffer Zone. A total of four Target Species within the Site and 16 Target Species were recorded within the 600m Buffer Zone.
- 4.1.4 Three passage surveys between September and October 2023 were carried out over the entire Site and 600m Buffer Zone. A total of seven Target Species within the Site and 17 Target Species were recorded within the 600m Buffer Zone.

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<sup>31</sup> This was based on a number of factors including the number and gender of birds recorded (e.g., only one record of one female during the survey period), unsuitability of habitats within and immediately surrounding the Site to accommodate the nesting requirements of some species, and movement of birds from the Site and the Wider Survey Area to a suspected nest site outside of the Site and the immediately surrounding 100m survey buffer.

- 4.1.5 The survey results indicate that fields within the Site and wider 600m buffer zone are utilised on an occasional basis by modest numbers of waterbird species and waterbird assemblages.
- 4.1.6 No Target Species associated as qualifying features of the Humber Estuary SPA, Humber Estuary Ramsar, Lower Derwent Valley SPA or Lower Derwent Valley Ramsar were recorded within the Site or 600m in numbers and/or regularity which would indicate FLL.
- 4.1.7 Further details into effects on the qualifying features and thus integrity of the Humber Estuary and Lower Derwent Valley SPA and Ramsars are presented in Appendix 8.9 Information to Inform Habitats Regulations Assessment.

#### ***Nocturnal Bird Survey Results***

- 4.1.8 Three nocturnal bird surveys were conducted within the Site. Within the survey period, mallard and lapwing were the only Target Species recorded to be associated with nearby SPA/Ramsars, plus grey heron, snipe, woodcock, moorhen, coot, barn owl and tawny owl.
- 4.1.9 Numbers of birds remained low with no increase in flock size from those observed during daytime surveys and were in fact considerably lower. No flocks exceeded the 1% threshold to suggest a functional link.
- 4.1.10 Additionally, the lake adjacent to field 339 was observed to have a much-reduced number of birds with single figures of birds recorded during surveys. A low number of Target Species comprising a peak of three mallard showed no evidence of functional link to either of the SPAs or Ramsars.

#### ***Breeding Bird Survey Results***

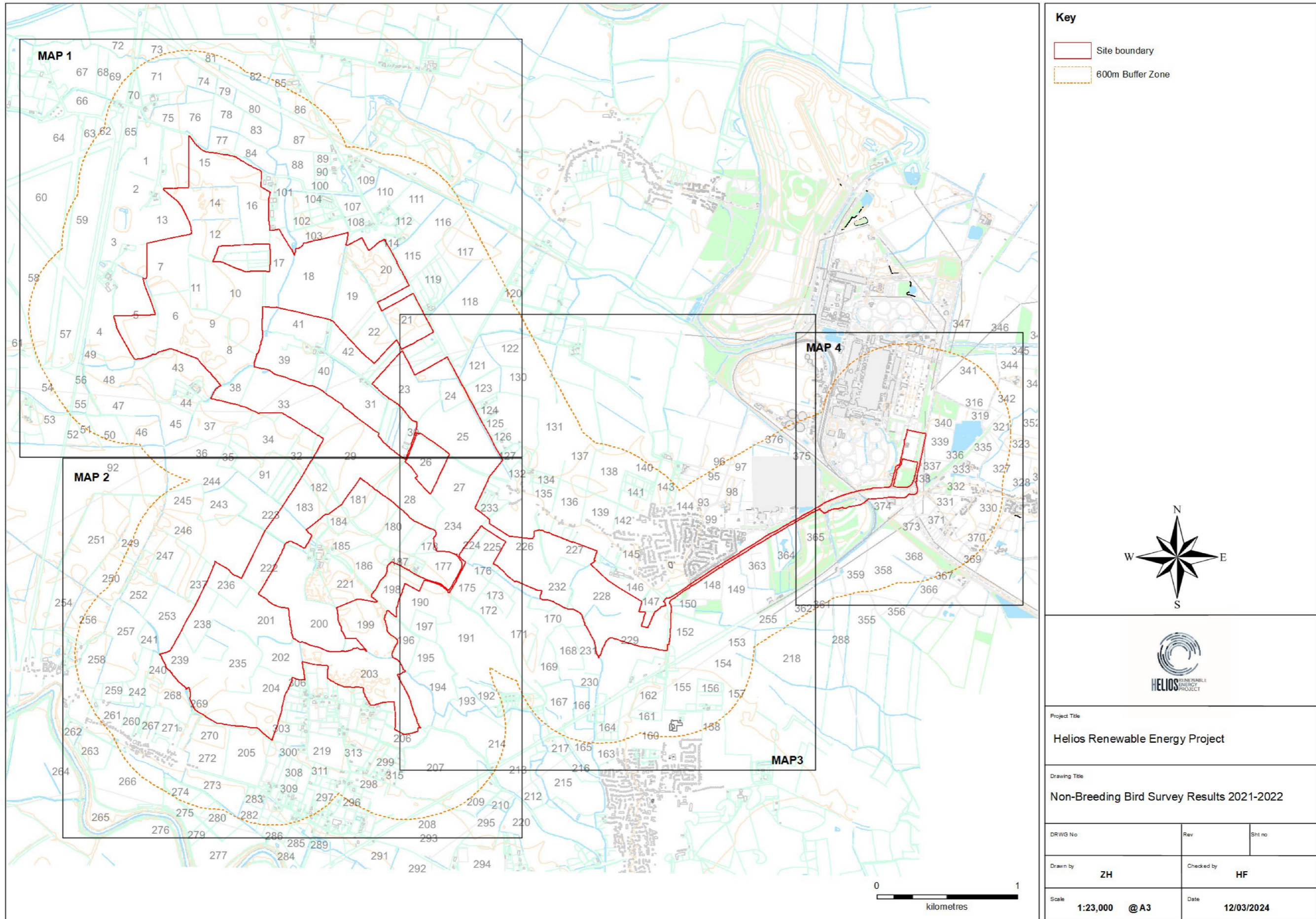
- 4.1.11 The results presented in **Table 3.15** and **Table 3.16** detail the estimated number of territories recorded during each monthly survey, as well as an interpretation of the quantity of territories within the Site and immediately surrounding land (within 100m). The number of estimated territories for notable species recorded within the current redline boundary and within the 100m buffer during the 2021 and 2023 surveys are as follows: mallard (2), stock dove (4), woodpigeon (21), lapwing (4), sparrowhawk (1), kestrel (2), rook (39 (two rookeries)), skylark (30), house martin (2), willow warbler (3), whitethroat (15), wren (44), starling (7), song thrush (13), mistle thrush (2), tree sparrow (1), house sparrow (21), dunnock (12), yellow wagtail (7), bullfinch (1), greenfinch (7), linnet (9), corn bunting (10), yellowhammer (22) and reed bunting (5).
- 4.1.12 The Site and immediately surrounding land (within 100m) supports a breeding bird assemblage indicative of farmland and woodland habitats and is considered to be of only local value. Most breeding species were associated with the field boundary vegetation (such as hedgerows and trees), with some species recorded along ditches and urban structures. These habitats are unlikely to be directly impacted by the Proposed Development.
- 4.1.13 **Table 4.1** details ground-nesting notable species recorded during breeding bird surveys, and separates those which were recorded within the Proposed Development Area and those outside. Lapwing were considered to have been failed breeding attempts as no chicks were recorded and the four pairs identified in early spring (April) had reduced to a single pair in May and June. Poor breeding productivity is typical for this species in modern farmed landscapes where unfavourable (winter sown) crops are planted, as these grow quickly in spring and largely preclude successful breeding attempts. Winter sown crops are also established to preclude skylarks from breeding multiple times in a single breeding season for the same reason; in more naturalistic (grassland type) habitats, skylarks will breed up to four times per season and therefore produce higher numbers of young.

#### ***Table 4.1: Ground-nesting Breeding Bird Summary.***



Species	Maximum no. pairs	Pairs within Development area	Pairs outside Development area
Lapwing	4	4	0
Skylark	30	25	5
Yellow wagtail	7	6	1
Corn bunting	10	7	3

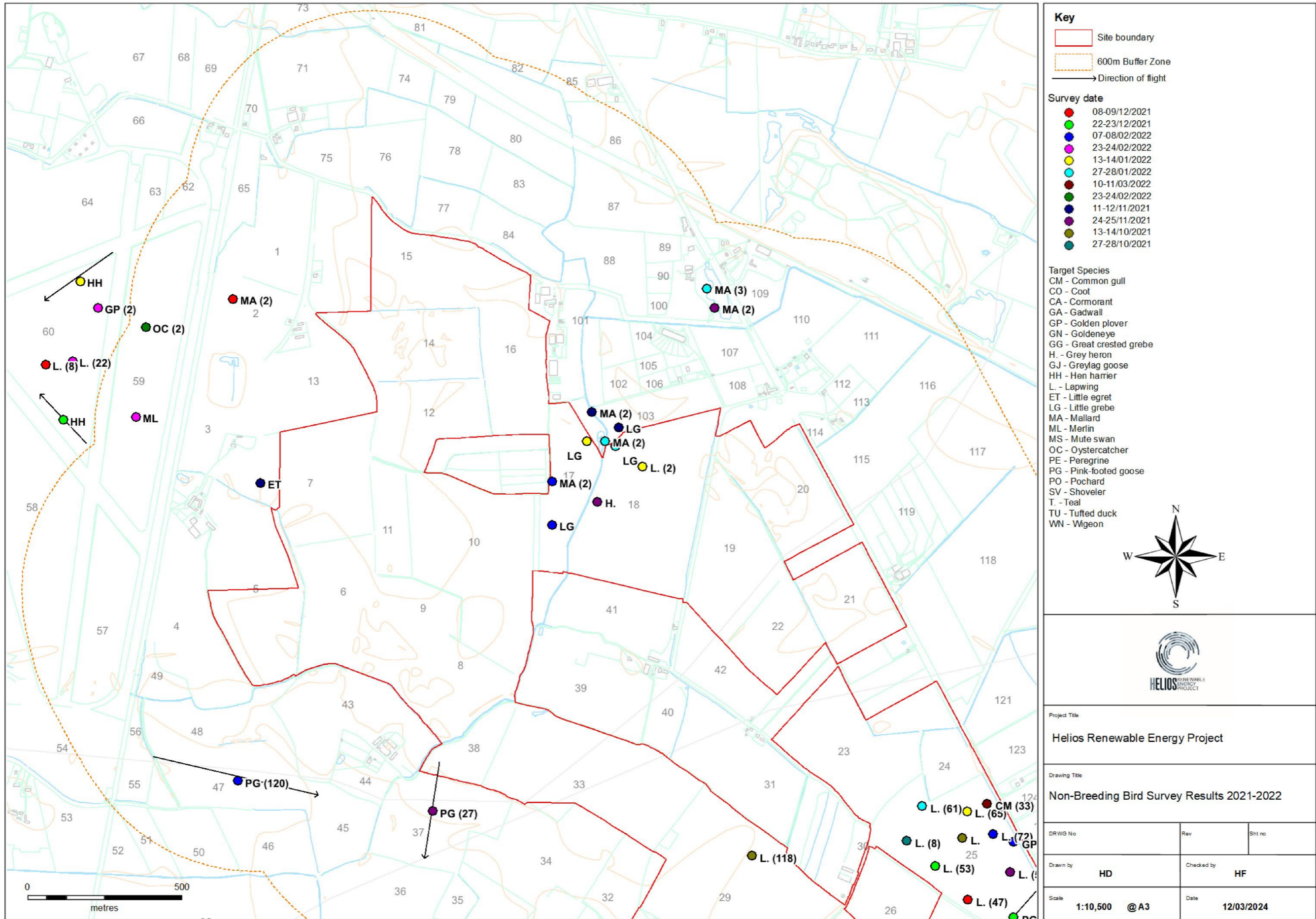
**FIGURE 8.8 – NON-BREEDING BIRD SURVEY AREA - OVERVIEW**



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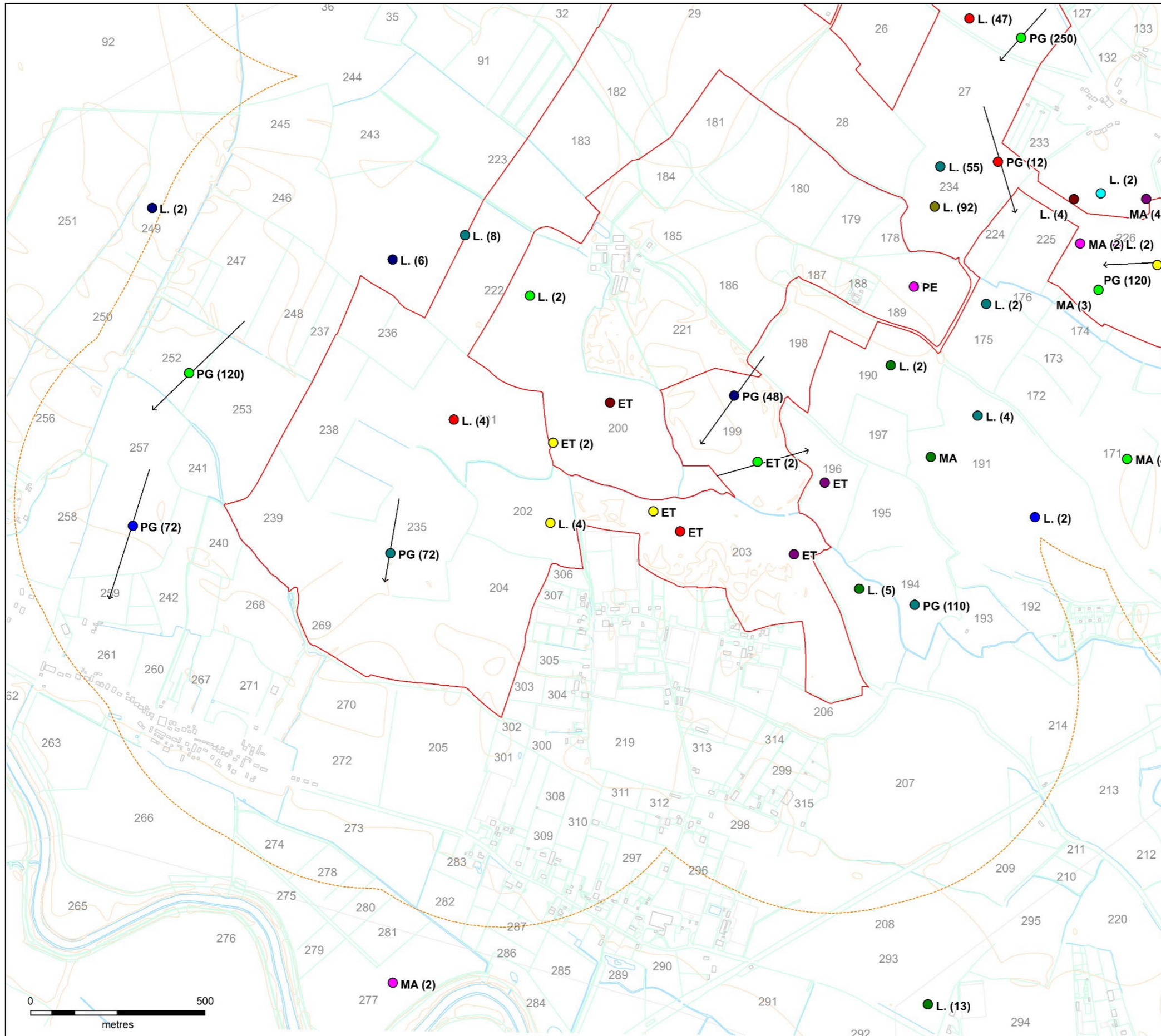
Project Title		
Helios Renewable Energy Project		
Drawing Title		
Non-Breeding Bird Survey Results 2021-2022		
DRWG No	Rev	Sheet no
Drawn by	Checked by	
ZH	HF	
Scale	Date	
1:23,000 @ A3	12/03/2024	

FIGURE 8.9 – NON-BREEDING BIRD SURVEY RESULTS 2021-22 – MAP 1



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FIGURE 8.10 – NON-BREEDING BIRD SURVEY RESULTS 2021-22 – MAP 2



**Key**

- Site boundary
- 600m Buffer Zone
- Direction of flight

**Survey date**

- 08-09/12/2021
- 22-23/12/2021
- 07-08/02/2022
- 23-24/02/2022
- 13-14/01/2022
- 27-28/01/2022
- 10-11/03/2022
- 23-24/02/2022
- 11-12/11/2021
- 24-25/11/2021
- 13-14/10/2021
- 27-28/10/2021

**Target Species**

- CM - Common gull
- CO - Coot
- CA - Cormorant
- GA - Gadwall
- GP - Golden plover
- GN - Goldeneye
- GG - Great crested grebe
- H - Grey heron
- GJ - Greylag goose
- HH - Hen harrier
- L - Lapwing
- ET - Little egret
- LG - Little grebe
- MA - Mallard
- ML - Merlin
- MS - Mute swan
- OC - Oystercatcher
- PE - Peregrine
- PG - Pink-footed goose
- PO - Pochard
- SV - Shoveler
- T - Teal
- TU - Tufted duck
- WN - Wigeon

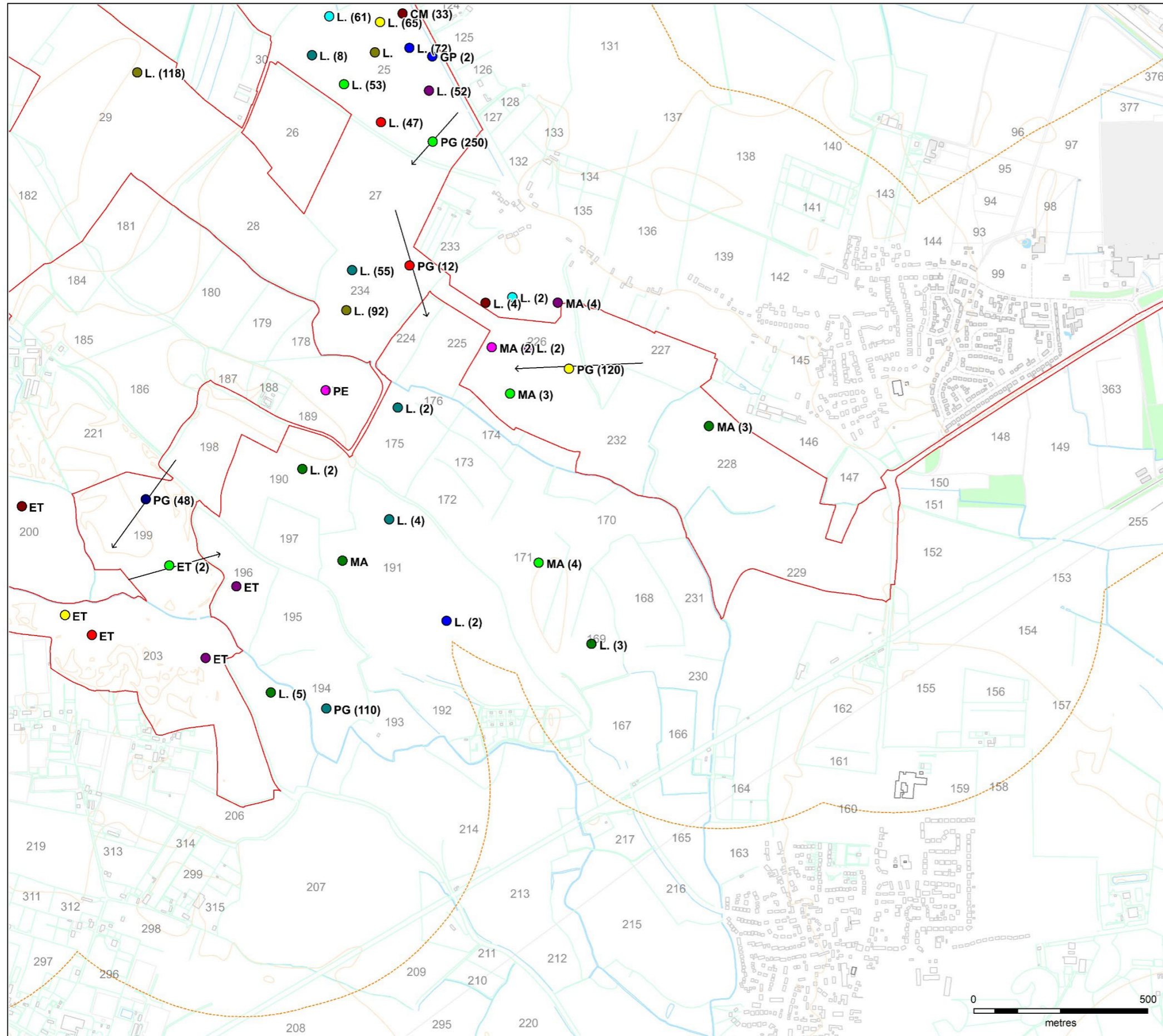
Project Title  
Helios Renewable Energy Project

Drawing Title  
Non-Breeding Bird Survey Results 2021-2022

DRWG No	Rev	Sheet no
Drawn by <b>HD</b>	Checked by <b>HF</b>	
Scale <b>1:10,500 @ A3</b>	Date <b>06/09/2023</b>	

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FIGURE 8.11 – NON-BREEDING BIRD SURVEY RESULTS 2021-22 – MAP 3



**Key**

- Site boundary
- 600m Buffer Zone
- Direction of flight

**Survey date**

- 08-09/12/2021
- 22-23/12/2021
- 07-08/02/2022
- 23-24/02/2022
- 13-14/01/2022
- 27-28/01/2022
- 10-11/03/2022
- 23-24/02/2022
- 11-12/11/2021
- 24-25/11/2021
- 13-14/10/2021
- 27-28/10/2021

- Target Species**
- CM - Common gull
  - CO - Coot
  - CA - Cormorant
  - GA - Gadwall
  - GP - Golden plover
  - GN - Goldeneye
  - GG - Great crested grebe
  - H - Grey heron
  - GJ - Greylag goose
  - HH - Hen harrier
  - L - Lapwing
  - ET - Little egret
  - LG - Little grebe
  - MA - Mallard
  - ML - Merlin
  - MS - Mute swan
  - OC - Oystercatcher
  - PE - Peregrine
  - PG - Pink-footed goose
  - PO - Pochard
  - SV - Shoveler
  - T - Teal
  - TU - Tufted duck
  - WN - Wigeon



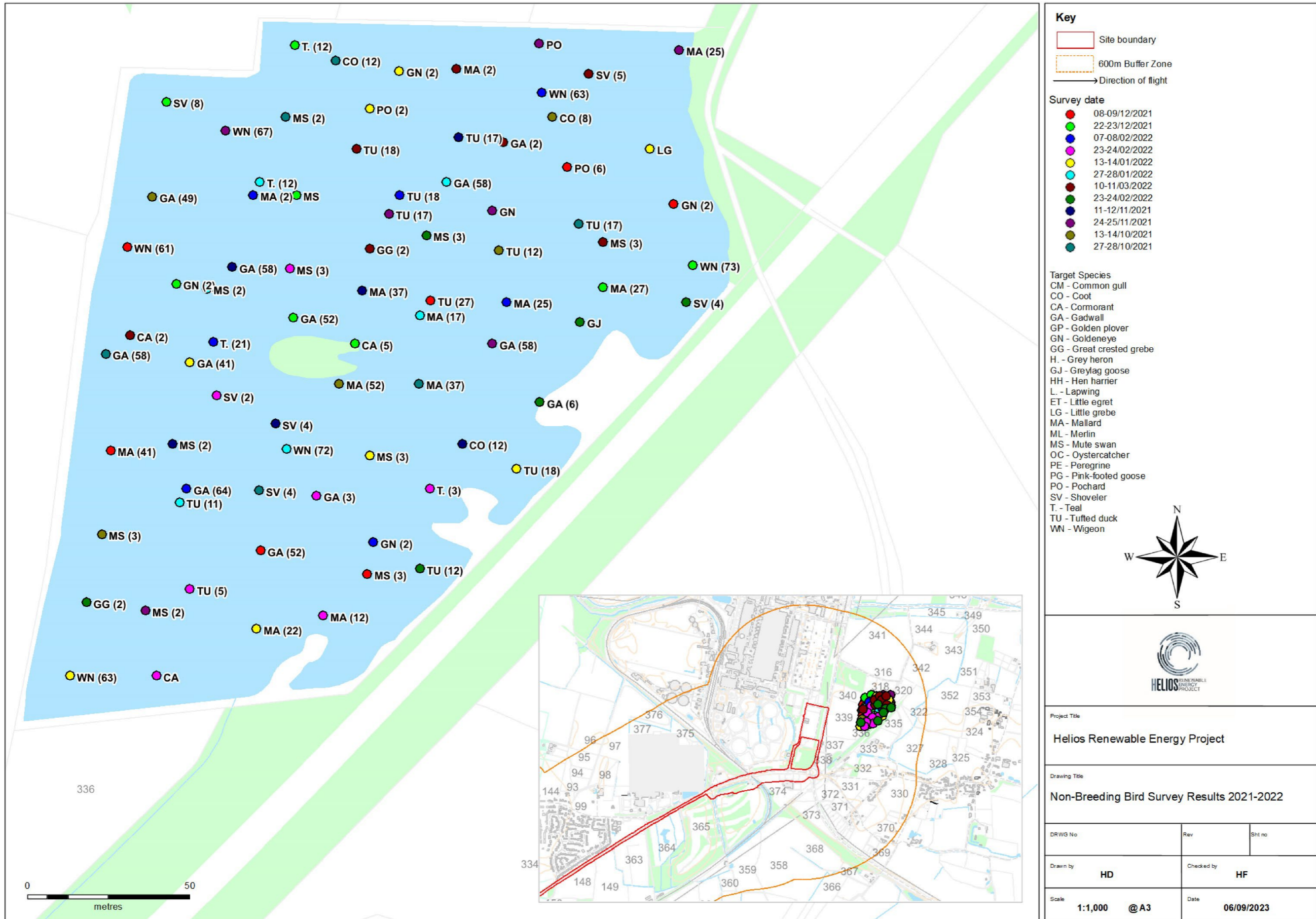
Project Title  
**Helios Renewable Energy Project**

Drawing Title  
**Non-Breeding Bird Survey Results 2021-2022**

DRWG No	Rev	Shr no
Drawn by <b>HD</b>	Checked by <b>HF</b>	
Scale <b>1:10,500 @ A3</b>	Date <b>06/09/2023</b>	

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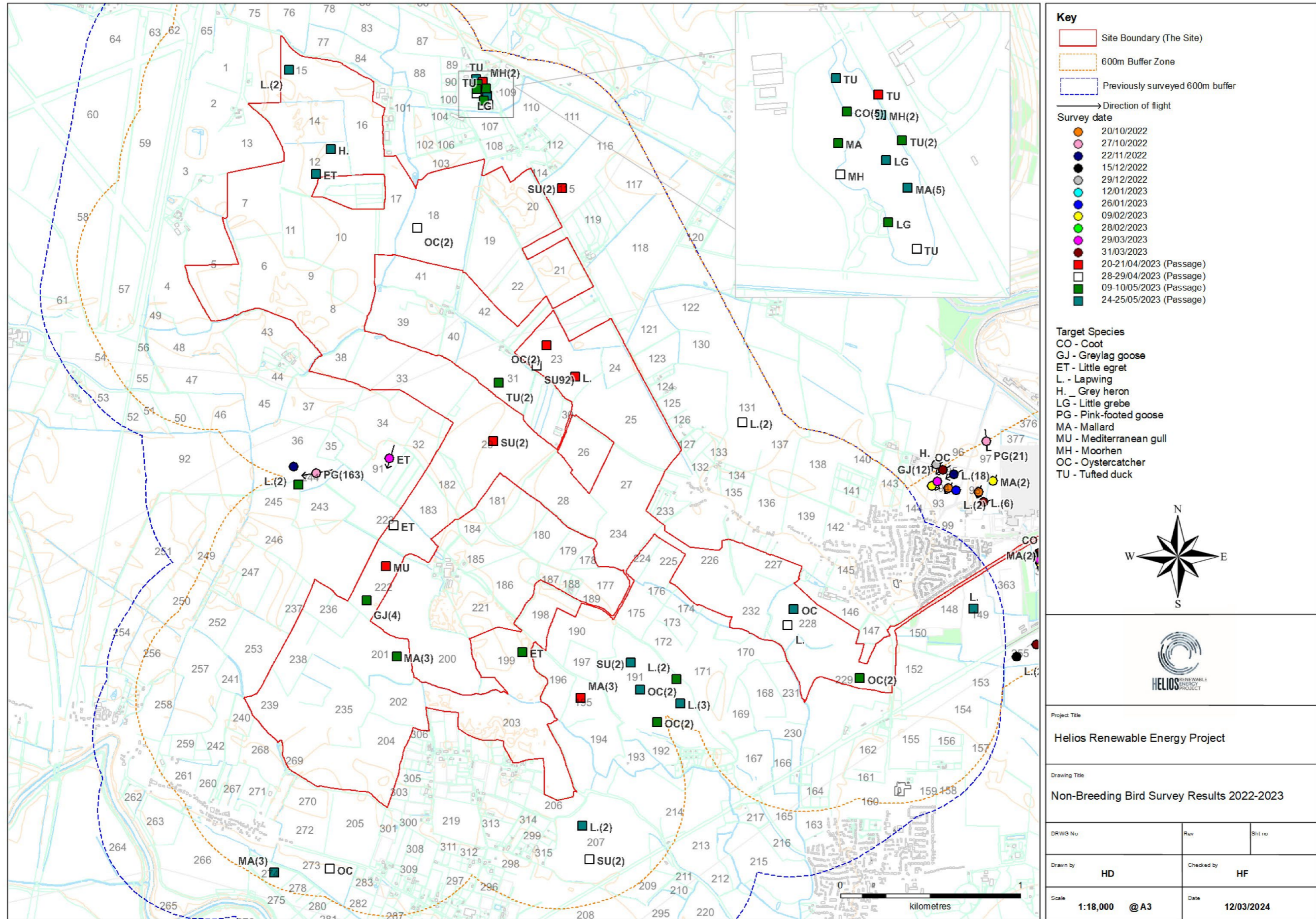
FIGURE 8.12 – NON-BREEDING BIRD SURVEY RESULTS 2021-22 – MAP 4



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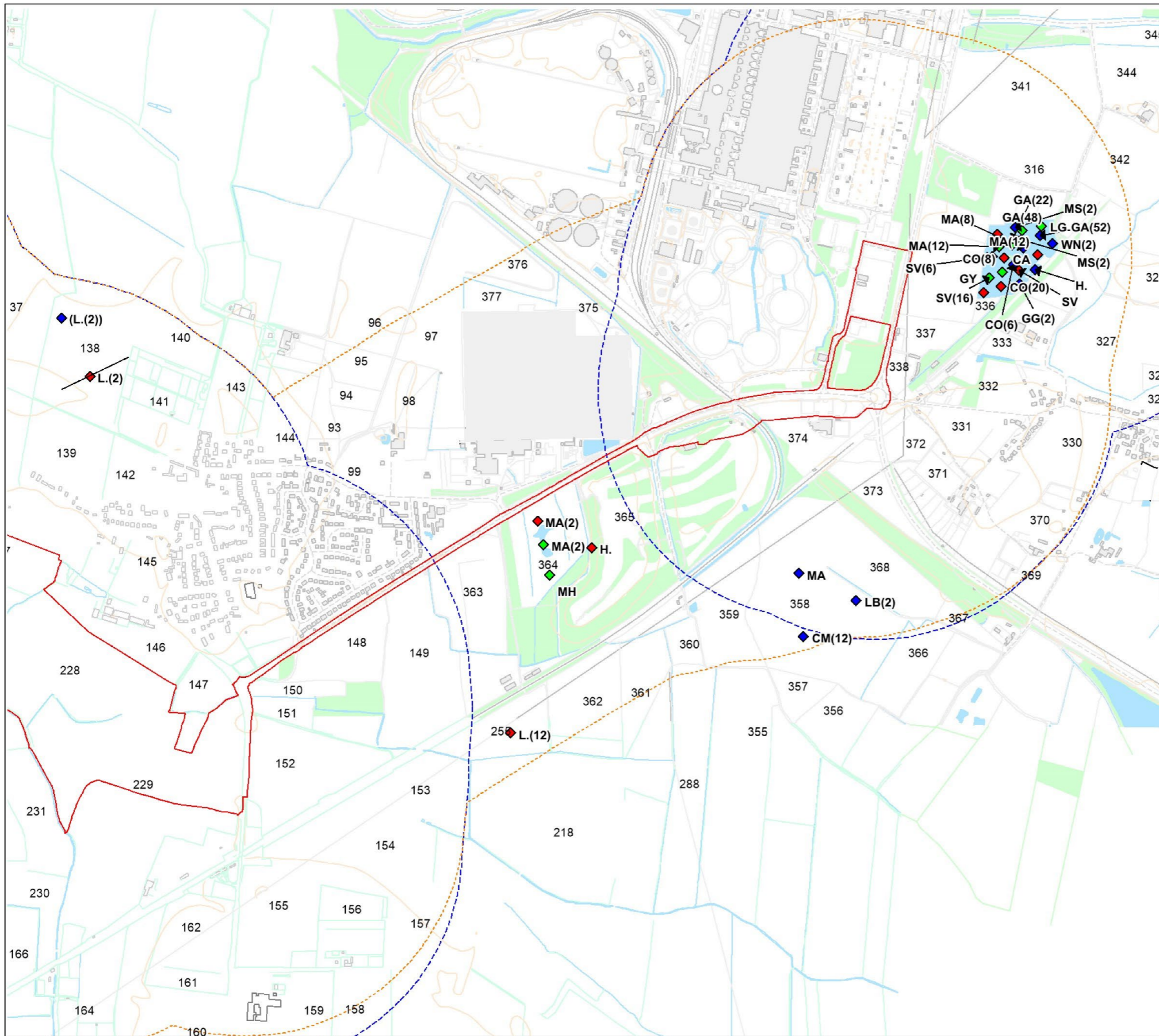
FIGURE 8.14 – NON-BREEDING BIRD SURVEY RESULTS 2022-23 – MAP 2



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FIGURE 8.15 – NON-BREEDING BIRD SURVEY RESULTS AUTUMN 2023 – MAP 1



**Key**

- Site Boundary (The Site)
- 600m Buffer Zone
- Previously surveyed 600m buffer
- Direction of flight

**Survey date**

- ◆ 07-08/09/2023 (Passage)
- ◆ 26-27/09/2023 (Passage)
- ◆ 18-19/10/2023 (Passage)

**Target Species**

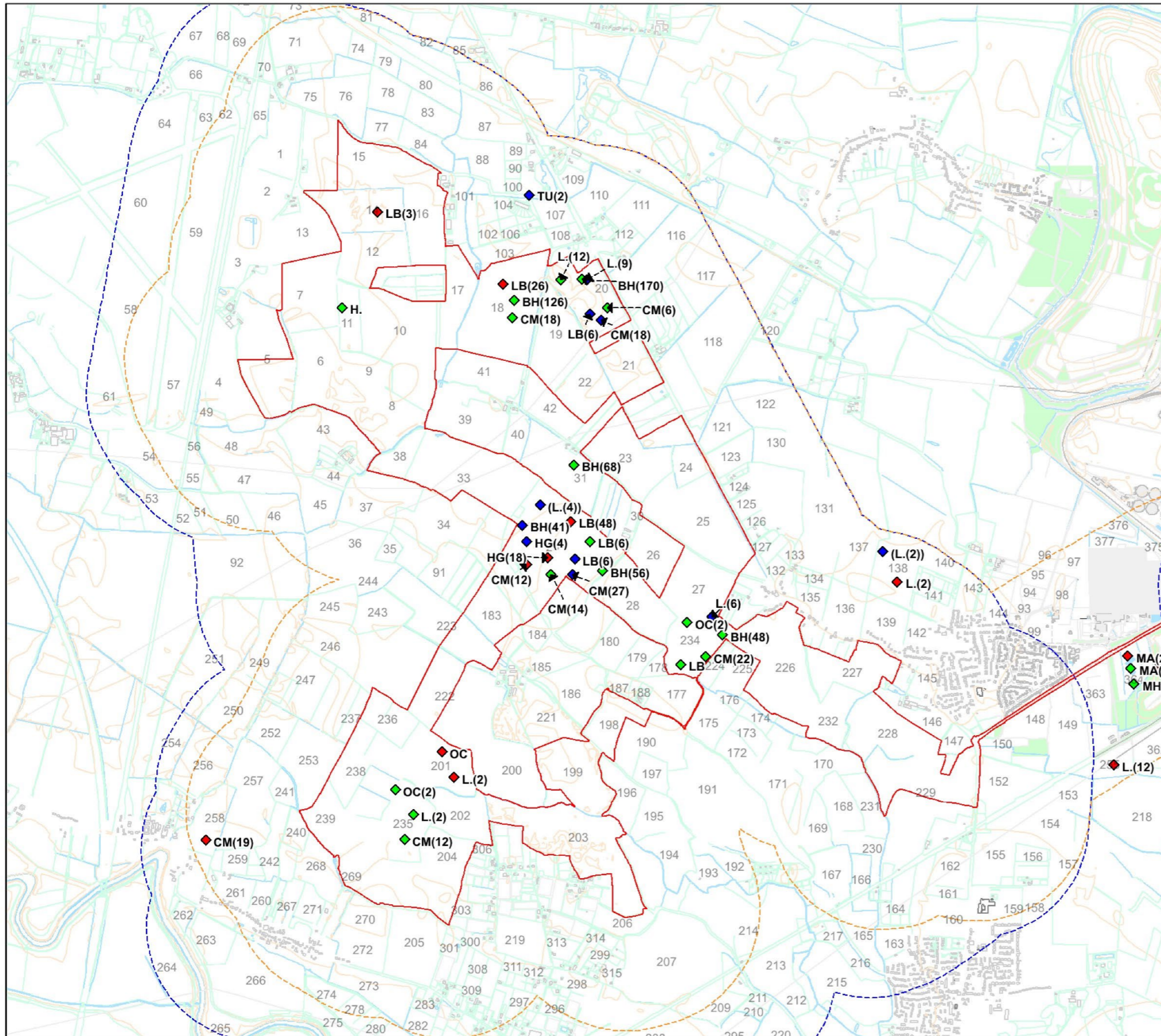
- MS - Mute swan
- MA - Mallard
- GA - Gadwall
- GY - Garganey
- SV - Shoveler
- CA - Cormorant
- CO - Coot
- MH - Moorhen
- GG - Great crested grebe
- LG - Little grebe
- H. - Grey heron
- OC - Oystercatcher
- L - Lapwing
- BH - Black-headed gull
- CM - Common gull
- LB - Lesser black-backed gull
- HG - Herring gull

Project Title  
Helios Renewable Energy Project

Drawing Title  
Non-Breeding Bird Survey Results 2023

DRWG No	Rev	Sht no
Drawn by <b>HD</b>	Checked by <b>HF</b>	
Scale <b>1:10,000 @ A3</b>	Date <b>14/11/2023</b>	

FIGURE 8.16 – NON-BREEDING BIRD SURVEY RESULTS AUTUMN 2023 – MAP 2



**Key**

- Site Boundary (The Site)
- 600m Buffer Zone
- Previously surveyed 600m buffer

**Survey date**

- ◆ 07-08/09/2023 (Passage)
- ◆ 26-27/09/2023 (Passage)
- ◆ 18-19/10/2023 (Passage)

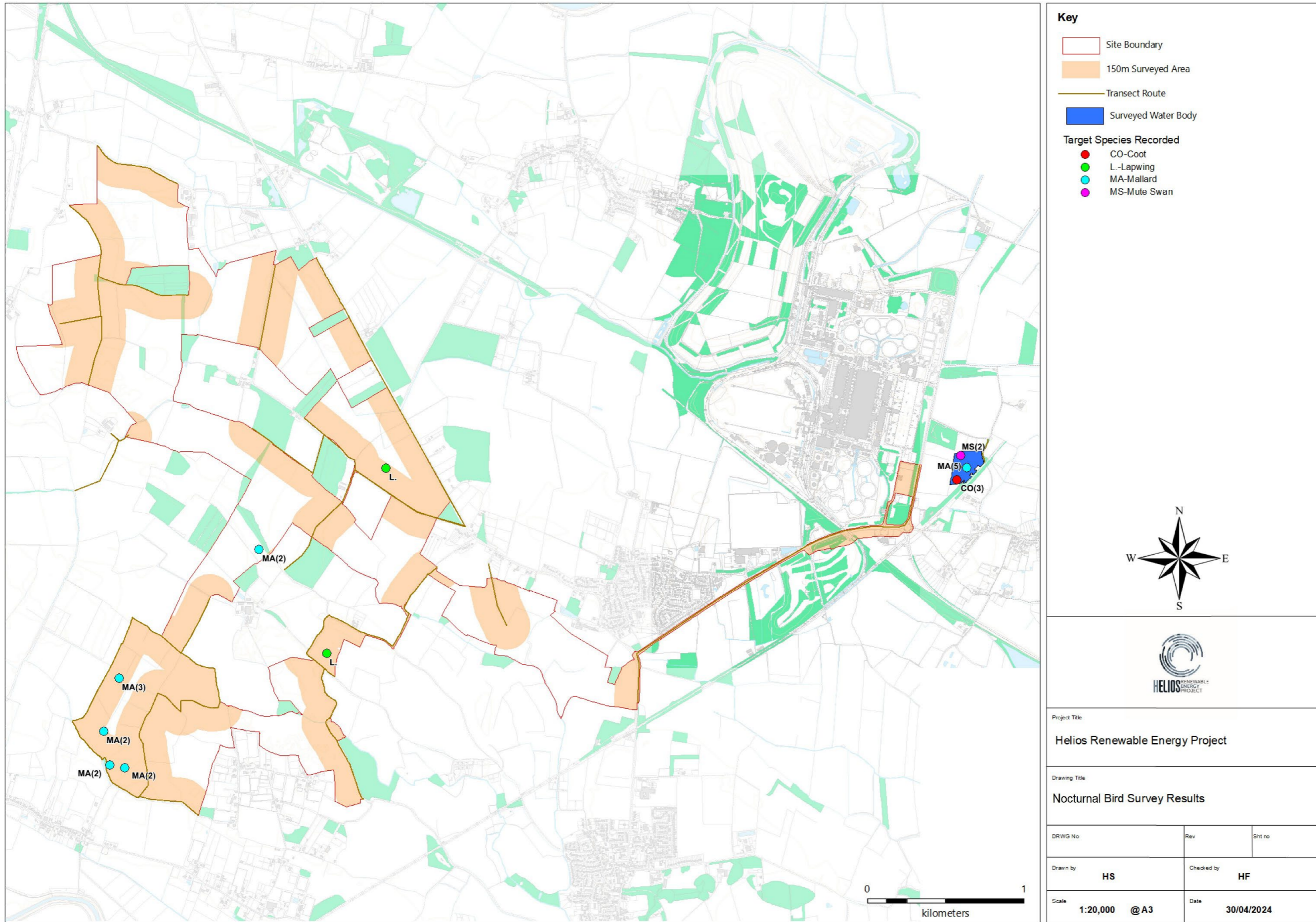
**Target Species**

- BH - Black-headed gull
- CM - Common gull
- H. - Grey heron
- HG - Herring gull
- L. - Lapwing
- LB - Lesser black-backed gull
- H. - Grey heron
- MA - Mallard
- OC - Oystercatcher
- TU - Tufted duck

Project Title		
Helios Renewable Energy Project		
Drawing Title		
Non-Breeding Bird Survey Results 2023		
DRWG No	Rev	Sht no
Drawn by	Checked by	
HD	HF	
Scale	Date	
1:18,000 @ A3	15/11/2023	

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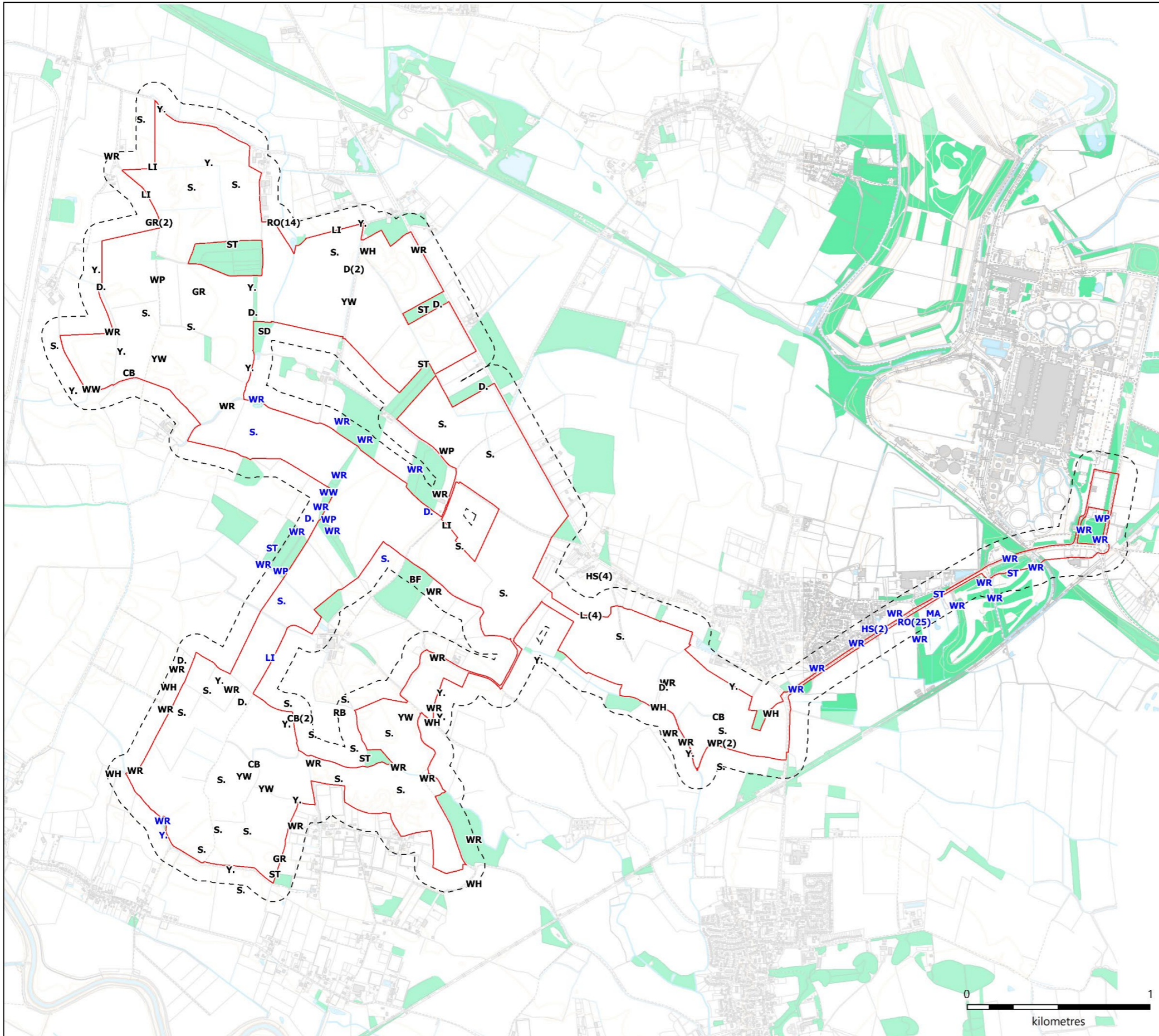
**FIGURE 8.17 – NOCTURNAL BIRD SURVEY RESULTS**



Project Title		
Helios Renewable Energy Project		
Drawing Title		
Nocturnal Bird Survey Results		
DRWG No	Rev	Sht no
Drawn by	Checked by	
HS	HF	
Scale	Date	
1:20,000 @ A3	30/04/2024	

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**FIGURE 8.18 – BREEDING BIRD SURVEY RESULTS – APRIL**



**Key**

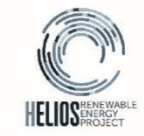
[Red outline] Site Boundary

[Dashed outline] 100m Buffer

**2021 Target Species**  
**2023 Target Species**

**Target Species Recorded**

- Red List**
- CB-Corn bunting
  - GR-Greenfinch
  - HS-House sparrow
  - L-Lapwing
  - LI-Linnet
  - S-Skylark
  - Y.-Yellowhammer
  - YW-Yellow wagtail
- Amber List**
- BF-Bullfinch
  - D.-Dunnock
  - MA-Mallard
  - RB-Reed bunting
  - RO-Rook
  - SD-Stock dove
  - ST-Song thrush
  - TS-Tree sparrow
  - WH-Whitethroat
  - WP-Woodpigeon
  - WR-Wren
  - WW-Willow warbler



Project Title

Helios Renewable Energy Project

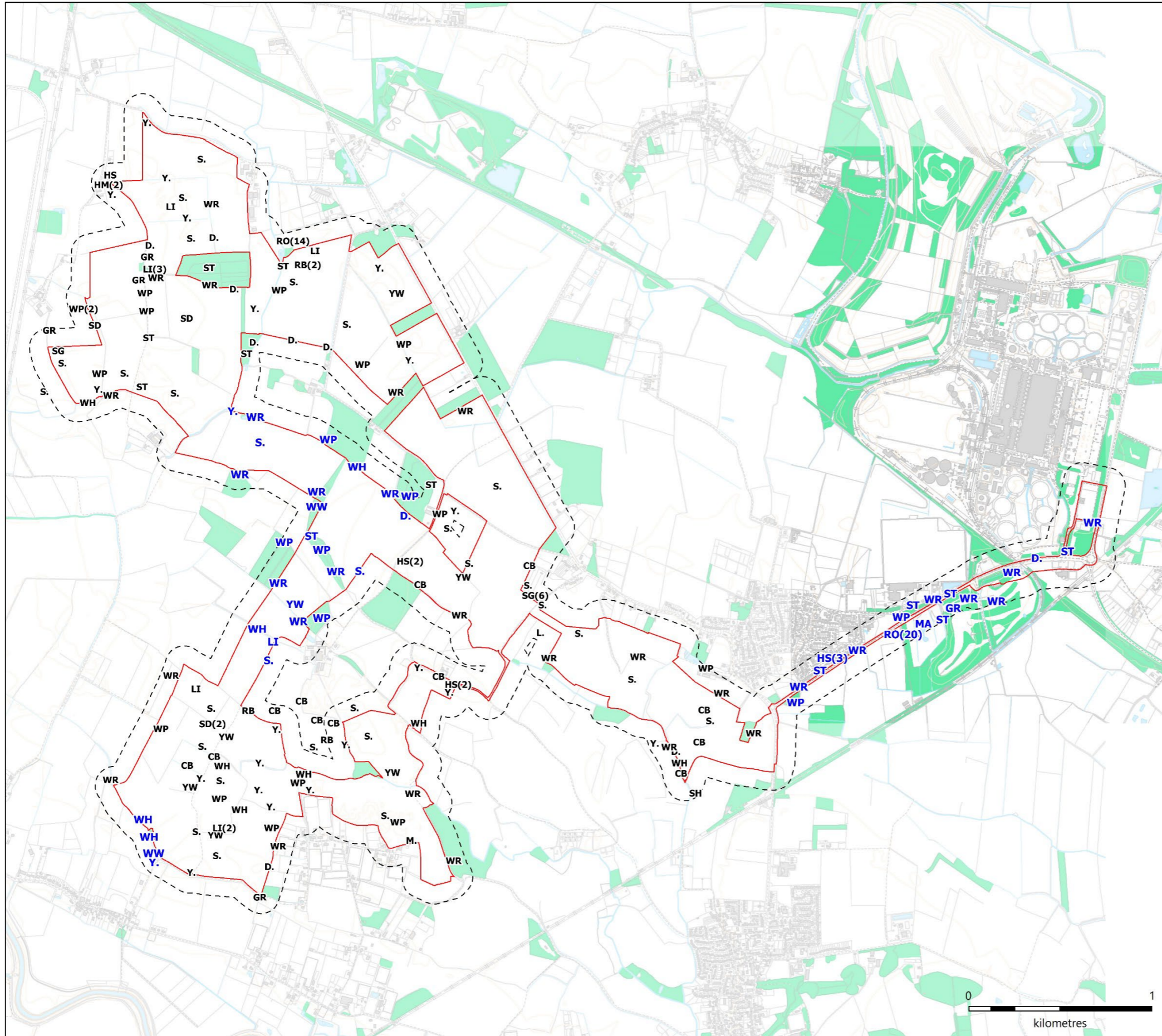
Drawing Title

Breeding Bird Survey Results - April

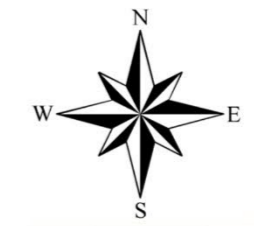
DRWG No	Rev	Sht no
Drawn by <b>HD</b>	Checked by <b>HF</b>	
Scale <b>1:20,000 @ A3</b>	Date <b>12/03/2024</b>	

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FIGURE 8.19 – BREEDING BIRD SURVEY RESULTS – MAY



- Key**
- Site Boundary
  - 100m Buffer
  - 2021 Target Species**
  - 2023 Target Species**
- Target Species Recorded**
- Red List**
    - CB-Corn bunting
    - GR-Greenfinch
    - HM-House martin
    - HS-House sparrow
    - L-Lapwing
    - LI-Linnet
    - M-Mistle thrush
    - S-Skylark
    - SG-Starling
    - Y-Yellowhammer
    - YW-Yellow wagtail
  - Amber List**
    - BF-Bullfinch
    - D-Dunnock
    - MA-Mallard
    - RB-Reed bunting
    - RO-Rook
    - SD-Stock dove
    - SH-Sparrowhawk
    - ST-Song thrush
    - TS-Tree sparrow
    - WH-Whitethroat
    - WP-Woodpigeon
    - WR-Wren



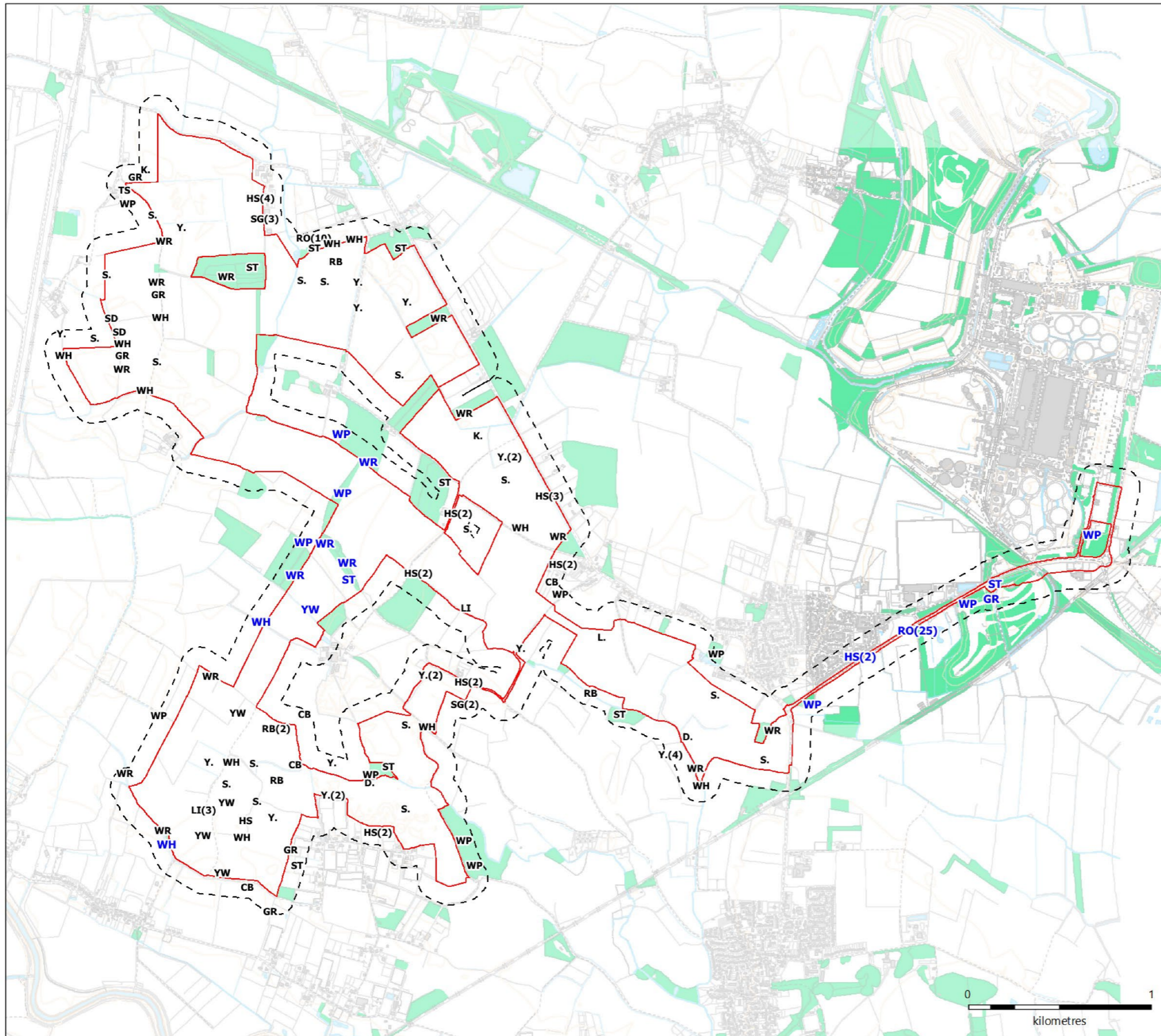
Project Title  
Helios Renewable Energy Project

Drawing Title  
Breeding Bird Survey Results - May

DRWG No	Rev	Sht no
Drawn by <b>HD</b>	Checked by <b>HF</b>	
Scale <b>1:20,000 @ A3</b>	Date <b>12/03/2024</b>	

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FIGURE 8.20 – BREEDING BIRD SURVEY RESULTS – JUNE



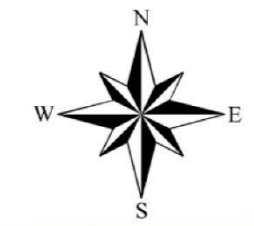
**Key**

- Site Boundary
- 100m Buffer

**2021 Target Species**  
**2023 Target Species**

**Target Species Recorded**

- Red List**
  - CB-Corn bunting
  - GR-Greenfinch
  - HS-House sparrow
  - L-Lapwing
  - LI-Linnet
  - S-Skylark
  - SG-Starling
  - Y-Yellowhammer
  - YW-Yellow wagtail
- Amber List**
  - BF-Bullfinch
  - D-Dunnock
  - K-Kestrel
  - RB-Reed bunting
  - RO-Rook
  - SD-Stock dove
  - ST-Song thrush
  - TS-Tree sparrow
  - WH-Whitethroat
  - WP-Woodpigeon
  - WR-Wren
  - WW-Willow warbler



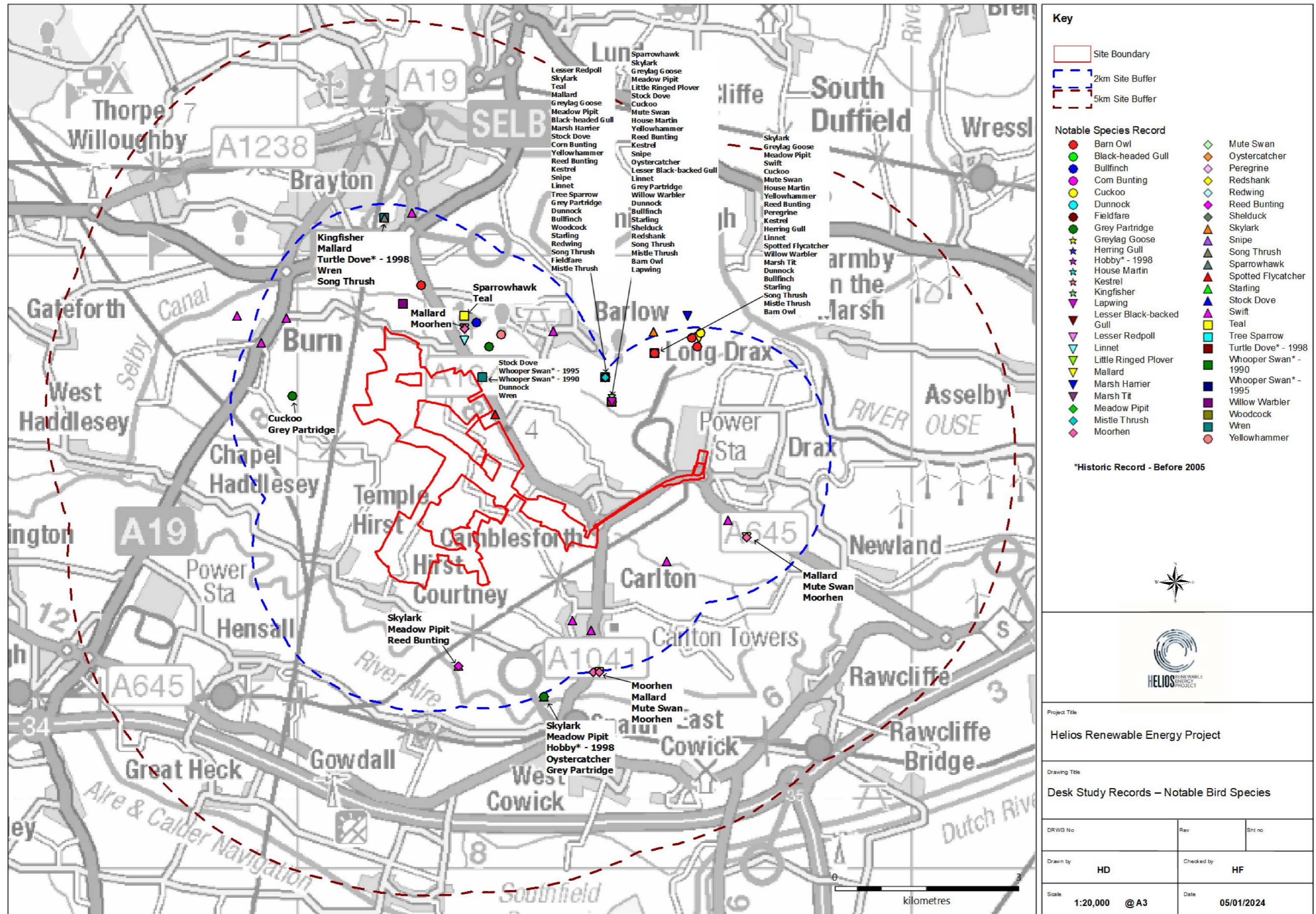
Project Title  
**Helios Renewable Energy Project**

Drawing Title  
**Breeding Bird Survey Results - June**

DRWG No	Rev	Sht no
Drawn by <b>HD</b>	Checked by <b>HF</b>	
Scale <b>1:20,000 @ A3</b>	Date <b>12/03/2024</b>	

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FIGURE 8.21 – DESK STUDY RECORDS - NOTABLE BIRD SPECIES



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# 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:

- Annex 1 – European Birds Directive Annex I species.
- S1 – Schedule 1 of the Wildlife & Countryside Act 1981 (as amended)
- S9 – Schedule 9 invasive non-native species listed on 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 and Amber categories are given (Stanbury *et al.*, 2021);
- NERC S41 - species listed as rare and most threatened on the NERC Act (2006); and,
- LBAP – Selby Local Biodiversity Action Plan Species.

**Table A1.1: Summary of bird species.**

Common name	Species name	Conservation status
Red-legged partridge	<i>Alectoris rufa</i>	-
Pheasant	<i>Phasianus colchicus</i>	-
Brent goose	<i>Branta bernicla</i>	BoCC – Amber, LBAP.
Mute swan	<i>Cygnus olor</i>	BoCC – Amber.
Bewick's swan	<i>Cygnus columbianus bewicki</i>	S1, Annex 1, NERC S41, BoCC – Red.
Pink-footed goose	<i>Anser brachyrhynchos</i>	BoCC – Amber.
Greylag goose	<i>Anser anser</i>	BoCC – Amber.
Canada goose	<i>Branta canadensis</i>	-
Shelduck	<i>Tadorna tadorna</i>	BoCC – Amber.
Shoveler	<i>Spatula clypeata</i>	BoCC – Amber, LBAP.
Wigeon	<i>Mareca penelope</i>	BoCC – Amber, LBAP.
Gadwall	<i>Mareca strepera</i>	BoCC – Amber, LBAP.
Teal	<i>Anas crecca</i>	BoCC – Amber, LBAP.
Mallard	<i>Anas platyrhynchos</i>	BoCC – Amber.
Tufted duck	<i>Aythya fuligula</i>	-
Pochard	<i>Aythya ferina</i>	BoCC – Red, LBAP.
Scaup	<i>Aythya marila</i>	S1, NERC S41, BoCC - Red
Goldeneye	<i>Bucephala clangula</i>	BoCC – Red.
Goosander	<i>Mergus merganser</i>	LBAP
Little egret	<i>Egretta garzetta</i>	Annex 1.
Cattle egret	<i>Bubulcus ibis</i>	BoCC - Amber
Grey heron	<i>Ardea cinerea</i>	-
Little grebe	<i>Tachybaptus ruficollis</i>	-
Great crested grebe	<i>Podiceps cristatus</i>	-
Hen harrier	<i>Circus cyaneus</i>	Annex 1, S1, BoCC – Amber.



Common name	Species name	Conservation status
Sparrowhawk	<i>Accipiter nisus</i>	BoCC – Amber.
Buzzard	<i>Buteo buteo</i>	-
Coot	<i>Fulica atra</i>	-
Moorhen	<i>Gallinula chloropus</i>	-
Bittern	<i>Botaurus stellaris</i>	Annex 1, S1, NERC S41, BoCC – Amber.
Avocet	<i>Recurvirostra avosetta</i>	Annex 1, S1, BoCC – Amber, LBAP.
Golden plover	<i>Pluvialis apricaria</i>	Annex 1, LBAP.
Grey plover	<i>Pluvialis squatarola</i>	BoCC – Amber, LBAP.
Ringed plover	<i>Charadrius hiaticula</i>	BoCC – Red.
Oystercatcher	<i>Haematopus ostralegus</i>	BoCC – Amber.
Lapwing	<i>Vanellus vanellus</i>	BoCC – Red, NERC S41, LBAP.
Whimbrel	<i>Numenius phaeopus</i>	S1, BoCC – Red.
Curlew	<i>Numenius arquata</i>	NERC S41, BoCC – Red, LBAP.
Bar-tailed Godwit	<i>Limosa lapponica</i>	Annex 1, BoCC – Amber, LBAP.
Black-tailed Godwit	<i>Limosa limosa</i>	S1, NERC S41, BoCC – Red.
Snipe	<i>Gallinago gallinago</i>	BoCC – Amber.
Turnstone	<i>Arenaria interpres</i>	BoCC - Amber.
Knot	<i>Calidris canutus</i>	BoCC – Amber, LBAP.
Ruff	<i>Calidris pugnax</i>	S1, Annex 1, BoCC – Red, LBAP.
Sanderling	<i>Calidris alba</i>	BoCC – Amber, LBAP.
Dunlin	<i>Calidris alpina</i>	BoCC – Red, LBAP.
Redshank	<i>Tringa totanus</i>	BoCC – Amber, LBAP.
Common gull	<i>Larus canus</i>	BoCC – Amber.
Mediterranean gull	<i>Ichthyaetus melanocephalus</i>	S1, Annex 1, BoCC – Amber
Little tern	<i>Sternula albifrons</i>	S1, Annex 1, BoCC – Amber.
Bittern	<i>Botaurus stellaris</i>	S1, Annex 1, NERC S41, BoCC – Amber, LBAP.
Woodpigeon	<i>Columba palumbus</i>	BoCC – Amber.
Stock dove	<i>Columba oenas</i>	BoCC – Amber.
Collared dove	<i>Streptopelia decaoto</i>	-
Cuckoo	<i>Cuculus canorus</i>	BoCC – Red.
Marsh harrier	<i>Circus aeruginosus</i>	S1, Annex 1, BoCC – Amber.
Kestrel	<i>Falco tinnunculus</i>	BoCC – Amber.
Peregrine	<i>Falco peregrinus</i>	S1, LBAP.
Merlin	<i>Falco columbarius</i>	Annex 1, S1, BoCC – Red, LBAP.
Hobby	<i>Falco subbuteo</i>	S1.
Barn owl	<i>Tyto alba</i>	S1.
Great spotted woodpecker	<i>Dendrocopus major</i>	-
Magpie	<i>Pica pica</i>	-
Rook	<i>Corvus frugilegus</i>	BoCC – Amber.

Common name	Species name	Conservation status
Jackdaw	<i>Coloeus monedula</i>	-
Carrion crow	<i>Corvus corone</i>	-
Coal tit	<i>Periparus ater</i>	-
Blue tit	<i>Cyanistes caeruleus</i>	-
Great tit	<i>Parus major</i>	-
Skylark	<i>Alauda arvensis</i>	NERC S41, BoCC – Red, LBAP.
Sand martin	<i>Riparia riparia</i>	LBAP.
House martin	<i>Delichon urbicum</i>	BoCC – Amber.
Swallow	<i>Hirundo rustica</i>	BoCC – Amber, LBAP.
Long-tailed tit	<i>Aegithalos caudatus</i>	-
Willow warbler	<i>Phylloscopus trochilis</i>	BoCC – Amber
Chiffchaff	<i>Phylloscopus collybita</i>	-
Reed warbler	<i>Acrocephalus scirpaceus</i>	-
Blackcap	<i>Sylvia atricapilla</i>	-
Garden warbler	<i>Sylvia borin</i>	-
Lesser whitethroat	<i>Curcuca curucca</i>	-
Whitethroat	<i>Curucca communis</i>	BoCC – Amber.
Goldcrest	<i>Regulus regulus</i>	-
Wren	<i>Troglodytes troglodytes</i>	BoCC – Amber.
Starling	<i>Sturnus vulgaris</i>	BoCC – Red, NERC S41, LBAP.
Song thrush	<i>Turdus philomelos</i>	NERC S41, BoCC – Amber, LBAP.
Mistle thrush	<i>Turdus viscivorus</i>	NERC S41, BoCC – Red.
Blackbird	<i>Turdus merula</i>	-
Robin	<i>Erithacus rubecula</i>	-
Tree sparrow	<i>Passer montanus</i>	NERC S41, BoCC – Red, LBAP.
House sparrow	<i>Passer domesticus</i>	NERC S41, BoCC – Red
Pied wagtail	<i>Motacilla alba yarelli</i>	-
Yellow wagtail	<i>Motacilla flava flavissima</i>	NERC S41, BoCC – Red, LBAP.
Chaffinch	<i>Fringella coelebs</i>	-
Bullfinch	<i>Pyrrhula pyrrhula</i>	NERC S41, BoCC – Amber.
Linnet	<i>Linnaria connabina</i>	NERC S41, BoCC – Red, LBAP
Greenfinch	<i>Chloris chloris</i>	BoCC – Red.
Goldfinch	<i>Carduelis carduelis</i>	-
Corn bunting	<i>Emberiza calandra</i>	NERC S41, BoCC – Red, LBAP.
Yellowhammer	<i>Emberiaa citronella</i>	NERC S41, BoCC – Red.
Reed bunting	<i>Emberiza schoeniclus</i>	NERC S41, BoCC – Amber.

## Annex 2

### ANNEX 2. BIRD SURVEY EFFORT

**Table A2.1: Survey Condition Categorisation for Non-breeding Bird 2021-22 (Table A2.2), Non-breeding Bird 2022-23 (Table A2.3) and Breeding Bird (Table A2.4) Survey Efforts.**

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 2021-22.**

Date	Surveyor	Start Time (24 hrs)	End time (24 hrs)	Wind Speed	Wind Direction	Rain	Cloud Height	Cloud Cover	Visibility	Frost	Snow
13/10/2021	CD	10:15	14:00	3	W	0	2	8/8	2	0	0
14/10/2021	CD	10:15	15:00	3	W	0	2	8/8	2	0	0
27/10/2021	CD	08:00	14:00	3	W	1	2	8/8	2	0	0
28/10/2021	CD	09:00	13:00	3	W	0	2	8/8	2	0	0

Date	Surveyor	Start Time (24 hrs)	End time (24 hrs)	Wind Speed	Wind Direction	Rain	Cloud Height	Cloud Cover	Visibility	Frost	Snow
11/11/2021	CD	09:15	15:00	1	W	0	2	8/8	2	0	0
12/11/2021	CD	10:45	16:40	4	W	1	2	8/8	2	0	0
24/11/2021	CD	07:45	13:00	1	W	0	2	6/8	2	0	0
25/11/2021	CD	07:30	12:15	1	W	0	2	6/8	2	0	0
08/12/2021	CD	08:00	12:50	3	SW	2	2	8/8	2	0	0
09/12/2021	CD	08:00	13:50	4	SW	0	2	6/8	2	0	0
22/12/2021	CD	08:00	11:50	1	SE	0	2	2/8	2	0	0
23/12/2021	CD	08:00	11:30	2	SE	0	2	5/8	2	0	0
13/01/2022	CD	13:30	16:40	1	W	0	2	6/8	2	0	0
14/01/2022	CD	14:10	16:40	1	W	0	2	6/8	2	0	0
27/01/2022	CD	11:40	16:40	3	NW	0	2	4/8	2	0	0
28/01/2022	CD	12:40	17:00	3	NW	0	2	4/8	2	0	0
07/02/2022	CD	08:40	13:40	3	SW	0	2	6/8	2	0	0
08/02/2022	CD	09:30	13:30	4	SW	0	2	6/8	2	0	0
23/02/2022	CD	08:30	14:30	5	SW	0	2	6/8	2	0	0
24/02/2022	CD	10:00	15:00	7	SW	0	2	6/8	2	0	0
10/03/2022	CD	09:30	14:00	3	SE	0	2	8/8	2	0	0
11/03/2022	CD	10:30	15:00	4	SE	0	2	6/8	2	0	0
23/03/2022	CD	07:16	13:16	1	W	0	2	1/8	2	0	0
24/03/2022	CD	09:00	13:30	1	W	0	2	2/8	2	0	0

**Table A2.3: Non-breeding Bird Survey Effort 2022-23.**

Date	Surveyor	Start Time (24 hrs)	End time (24 hrs)	Wind Speed	Wind Direction	Rain	Cloud Height	Cloud Cover	Visibility	Frost	Snow
20/10/2022	CD	14:00	17:30	3	SW	4	2	8/8	2	0	0
27/10/2022	CD	08:00	11:30	3	SE	1	2	8/8	4	0	0
08/11/2023	CD	07:00	10:00	3	S	0	2	6-8/8	2	0	0

Date	Surveyor	Start Time (24 hrs)	End time (24 hrs)	Wind Speed	Wind Direction	Rain	Cloud Height	Cloud Cover	Visibility	Frost	Snow
22/11/2022	CD	07:45	10:45	3	NW	0	2	4/8	2	0	0
15/12/2022	CD	12:00	16:00	2	NW	0	-	0/8	2	2	0
29/12/2022	CD	11:00	15:00	3-4	SW	0	2	6-8/8	2	0	0
12/01/2023	CD	10:00	14:00	2	SW	0	2	3-5/8	2	0	0
26/01/2023	CD	10:00	13:45	3	N	0	2	2-4/8	2	0	0
09/02/2023	CD	09:00	13:30	2-3	SW-W	0	2	4/8	2	0	0
28/02/2023	CD	10:30	14:00	2	NE	1	2	8/8	2	0	0
29/03/2023	CD	11:45	15:30	2	S	0-1	2	8/8	2	0	0
31/03/2023	CD	13:00	17:00	2-3	NE	0-1	2	8/8	2	0	0
20/04/2023	CD	07:20	11:20	2	NE	0	2	0/8	2	0	0
21/04/2023	CD	06:50	10:30	3	NE	0-1	2	8/8	2	0	0
28/04/2023	CD	12:00	14:00	1	N	0	2	8/8	2	0	0
29/04/2023	CD	13:00	17:00	1	SW	1-0	2	8/4	2	0	0
09/05/2023	CD	07:45	12:30	1-2	SW-NW	0	2	4-6/8	2	0	0
10/05/2023	CD	08:45	12:30	1	W	0-1	2	0-8/8	2	0	0

**Table A2.4: Non-breeding Bird Survey Effort Autumn 2023.**

Date	Surveyor	Start Time (24 hrs)	End time (24 hrs)	Wind Speed	Wind Direction	Rain	Cloud Height	Cloud Cover	Visibility	Frost	Snow
07/09/2023	CD	11:10	15:10	1	NE	0	2	0	2	0	0
08/09/2023	CD	12:30	16:30	1	NW	0	2	2	2	0	0
26/09/2023	CD	14:00	19:00	3	SW	0	2	4	2	0	0
27/09/2023	CD	07:00	10:00	2	S	0	2	6	2	0	0
18/10/2023	CD	08:00	12:00	3	SE	0	2	8	2	2	0
19/10/2023	CD	08:30	12:30	3	SSE	3	2	8	2	0	0

**Table A2.5: Breeding Bird Survey Effort 2021.**

Date	Surveyor	Start Time (24 hrs)	End time (24 hrs)	Wind Speed	Wind Direction	Rain	Cloud Height	Cloud Cover	Visibility	Frost	Snow	Temperature (°C)
26/04/2021	CD	07:00	11:00	2	E	0	2	2/8	2	0	0	5
27/04/2021	CD	07:00	11:00	2	SE	0	2	6/8	2	0	0	6
28/04/2021	CD	07:00	11:00	4	E	0	2	5/8	2	0	0	8
19/05/2021	CD	07:00	11:00	3	NW	0	2	1/8	2	0	0	15
20/05/2021	CD	07:00	11:00	2	SE	0	2	3/8	2	0	0	10
21/05/2021	CD	07:00	11:00	5	SW	0	2	7/8	2	0	0	10
27/05/2021	CD	07:00	11:00	2	W	0	2	5/8	2	0	0	9
21/06/2021	CD	07:00	10:00	4	NE	0	2	6/8	2	0	0	15
28/06/2021	CD	07:00	11:00	4	NE	0	2	5/8	2	0	0	15
29/06/2021	CD	07:00	10:30	2	N	0	2	7/8	2	0	0	12
30/06/2021	CD	07:00	10:30	3	NW	0	2	6/8	2	0	0	14
29/05/2021	CD	07:00	11:00	2	W	0	2	3/8	2	0	0	19

**Table A2.6: Breeding Bird Survey Effort 2023.**

Date	Surveyor	Start Time (24 hrs)	End time (24 hrs)	Wind Speed	Wind Direction	Rain	Cloud Height	Cloud Cover	Visibility	Frost	Snow	Temperature (°C)
24/04/2023	CD	06:00	09:00	2-3	NW	0	2	7-8/8	2	0	0	5-8
11/05/2023	CD	06:00	10:00	1	W-NW	0-1	2	6	2	0	0	10-13
05/06/2023	CD	05:30	09:00	1	NE	0	2	6	2	0	0	7-13

**Table A2.7: Nocturnal Bird Survey Effort 2024**

Date	Surveyor	Start Time (24 hrs)	End time (24 hrs)	Wind Speed	Wind Direction	Rain	Cloud Height	Cloud Cover	Visibility	Frost	Snow	Temperature (°C)
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31/01/2024	AH/KL & CG/TJ	19:00	22:00	4	SW	0-1	2	6	2	0	0	6
26/02/2024	ZH/AT & KL/FW	19:00	22:00	1	N	0	2	1	2	0	0	4
14/03/2024	KL/AT & AH/FW	18:30	20:30	3	S	0	2	5	2	0	0	11

## Annex 4

### ANNEX 4. DESK STUDY (ORNITHOLOGICAL) RESULTS

**Table A4.1** provides a list of the species returned since 2004 (20 years) from the desk study from NEYEDC.

Common name	No. of records	Date range of records
Mute swan	5	2005-2020
Greylag goose	3	2008-2017
Canada goose	2	2012 and 2018
Teal	2	2013 and 2014
Mallard	5	2005-2020
Tufted duck	1	2013
Grey partridge	3	2008-2014
Coot	2	2005 and 2020
Moorhen	3	2005-2020
Cormorant	1	2008
Grey heron	1	2007
Swift	11	2007-2017
Marsh harrier	2	2011 and 2013
Buzzard	1	2020
Sparrowhawk	2	2008 and 2014
Oystercatcher	1	2008
Lapwing	2	2008
Little ringed plover	2	2008
Redshank	2	2008
Snipe	2	2008 and 2013
Woodcock	1	2013
Black-headed gull	11	2013
Herring gull	1	2017
Lesser black-backed gull	1	2008
Collared dove	1	2020
Stock dove	3	2008-2014



Common name	No. of records	Date range of records
Cuckoo	3	2008-2017
Green woodpecker	3	2008-2014
Kestrel	3	2008-2017
Peregrine	1	2017
Barn owl	6	2007-2017
Swallow	2	2008 and 2011
House martin	3	2008-2017
Sand martin	1	2008
Kingfisher	2	2007 and 2020
Skylark	4	2008-2018
Rook	1	2000
Willow warbler	2	2008 and 2017
Goldcrest	1	2008
Blue tit	1	2014
Marsh tit	1	2017
Great tit	2	2014 and 2020
Spotted flycatcher	1	2017
Starling	3	2008-2017
Song thrush	3	2008-2017
Mistle thrush	3	2008-2017
Fieldfare	1	2013
Redwing	1	2013
Robin	2	2014 and 2020
Wren	2	2014 and 2020
Dunnock	4	2008-2017
Tree sparrow	1	2013
Meadow pipit	4	2008-2017
Bullfinch	4	2008-2017
Goldfinch	1	2014
Lesser redpoll	1	2013

<b>Common name</b>	<b>No. of records</b>	<b>Date range of records</b>
Linnet	4	2008-2017
Yellowhammer	3	2008 -2017
Corn bunting	1	2013
Reed bunting	3	2008-2017

## **Annex B1: Lower Derwent Valley Special Protection Area: non-breeding waterbird assemblage (Version 1.1, June 2023)**

The Lower Derwent Valley Special Protection Area (SPA) qualifies under article 4.2 of the European Commission Bird Directive (79/409/EEC) in that it supports an internationally important assemblage of waterbirds. Confusion can arise concerning which species to consider when assessing the Lower Derwent Valley SPA non-breeding, waterbird assemblage feature.

Natural England recommends focusing on what are referred to as the 'main component species' of the assemblage. Main component species are defined as:

- a) All species listed individually under the assemblage feature on the SPA citation (i.e. the species that qualified when the site was designated).
- b) Species which might not be listed on the SPA citation but occur at site levels of more than 1% of the national population according to the most recent Lower Derwent Ings Wetland Bird Survey (WeBS) count.
- c) Species where more than 2000 individuals are present according to the most recent Lower Derwent Ings WeBS count.

The assemblage qualification is therefore subject to change as species' populations change. It should be noted that species listed on the citation under the assemblage feature, whose populations have fallen to less than 1% of the national population, retain their status as a main component species and should be considered when assessing the impacts of a project or plan on the Lower Derwent Valley SPA.

Natural England advises that the main component species of the Lower Derwent Valley SPA include (June 2023):

a) *Species listed individually under the assemblage feature on the SPA citation:*

- Pochard, *Aythya ferina* (non-breeding)
- **Ruff, *Philomachus pugnax* (non-breeding)<sup>1</sup>**
- Shoveler, *Anas clypeata* (non-breeding)
- **Teal, *Anas crecca* (non-breeding)<sup>1</sup>**
- **Whimbrel, *Numenius phaeopus* (non-breeding)<sup>1</sup>**
- **Wigeon, *Anas Penelope* (non-breeding)<sup>1</sup>**

*And*

b) *Species which are not listed on the SPA citation but occur at site levels of more than 1% of the national population according to the most recent Lower Derwent Ings Wetland Bird Survey (WeBS) 5-year average count:*

- Gadwall, *Anas strepera* (non-breeding)
- **Greylag goose, *Anser answer* (non-breeding)<sup>1</sup>**
- Pintail, *Anas acuta* (non-breeding)
- **Whooper swan, *Cygnus cygnus* (non-breeding)<sup>1</sup>**

*And*

c) *Species where more than 2000 individuals are present according to the most recent Lower Derwent Ings WeBS 5-year average count:*

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<sup>1</sup> Species known to use off-site supporting habitat / functionally linked land (FLL)

- **Golden plover, *Pluvialis apricaria* (non-breeding)**<sup>1</sup>
- **Lapwing, *Vanellus vanellus* (non-breeding)**<sup>1</sup>

As stated above, the assemblage qualification is subject to change as species' populations change; therefore, the appropriate WeBS data should be considered in any assessment and the above list should be used as a guide only.

Please note, the advice set out above should be considered when assessing potential impacts on the waterbird assemblage feature. You will also need to consider potential impacts on other individual species listed on the citation qualifying under article 4.1 and 4.2 of the Directive. These include:

- **Bewick's swan, *Cygnus columbianus bewickii* (non-breeding)**<sup>1</sup>
- Shoveler, *Anas clypeata* (breeding)

Further detailed guidance on assessing potential impacts on the Lower Derwent Valley SPA can be found in the [Supplementary advice on conserving and restoring site features](#).

Individual species listed on the citations for the relevant underpinning Sites of Special Scientific Interest (SSSIs) should also be considered in assessments of potential SSSI impacts, where appropriate.

The species marked <sup>1</sup> **in bold text** are known to use off-site supporting habitat / functionally linked land (FLL) (e.g. arable farmland, grassland/pasture, and/or wetlands/waterbodies outside the designated site) and may therefore be the most relevant for assessing potential impacts of a proposed plan/project on birds using FLL associated with the Lower Derwent Valley SPA. However, please note that this list should be used as a guide only; usage may depend on factors such as the habitats available on the site and distance to the Lower Derwent Valley SPA etc. Therefore, assessments of potential impacts on birds using functionally linked land should consider all relevant species and clear justification should be provided if any species are excluded from the assessment.

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<sup>1</sup> Species known to use off-site supporting habitat / functionally linked land (FLL)

## Annex B: Humber Estuary Special Protection Area: non-breeding waterbird assemblage (Version 1.2, June 2023)

The Humber Estuary Special Protection Area (SPA) qualifies under article 4.2 of the European Commission Bird Directive (79/409/EEC) in that it supports an internationally important assemblage of waterbirds. Confusion can arise concerning which species to consider when assessing the Humber Estuary SPA non-breeding, waterbird assemblage feature.

Natural England recommends focusing on what are referred to as the 'main component species' of the assemblage. Main component species are defined as:

- a) All species listed individually under the assemblage feature on the SPA citation (i.e. the species that qualified in 2007 when the site was designated).
- b) Species which might not be listed on the SPA citation but occur at site levels of more than 1% of the national population according to the most recent Humber Estuary Wetland Bird Survey (WeBS) 5-year average count (currently 2017/18 - 2021/22).
- c) Species where more than 2000 individuals are present according to the most recent Humber Estuary WeBS count.

The assemblage qualification is therefore subject to change as species' populations change. It should be noted that species listed on the citation under the assemblage features, whose populations have fallen to less than 1% of the national population, retain their status as a main component species and should be considered when assessing the impacts of a project or plan on the Humber Estuary SPA.

Natural England advises that the main component species of the Humber Estuary SPA non-breeding waterbird assemblage include (June 2023):

a) *Species listed individually under the assemblage feature on the SPA citation:*

- Avocet, *Recurvirostra avosetta* (non-breeding)
- Bar-tailed godwit, *Limosa lapponica* (non-breeding)
- Bittern, *Botaurus stellaris* (non-breeding)
- **Black-tailed godwit, *Limosa limosa islandica* (non-breeding)<sup>1</sup>**
- **Brent goose, *Branta bernicla* (non-breeding)<sup>1</sup>**
- **Curlew, *N. arquata* (non-breeding)<sup>1</sup>**
- **Dunlin, *Calidris alpina alpina* (non-breeding)<sup>1</sup>**
- **Golden plover, *Pluvialis apricaria* (non-breeding)<sup>1</sup>**
- Goldeneye, *Bucephala clangula* (non-breeding)
- Greenshank, *T. nebularia* (non-breeding)
- Grey plover, *P. squatarola* (non-breeding)
- Knot, *Calidris canutus* (non-breeding)
- **Lapwing, *Vanellus vanellus* (non-breeding)<sup>1</sup>**
- **Mallard, *Anas platyrhynchos* (non-breeding)<sup>1</sup>**
- Oystercatcher, *Haematopus ostralegus* (non-breeding)
- Pochard, *Aythya farina* (non-breeding)
- **Redshank, *Tringa totanus* (non-breeding)<sup>1</sup>**
- Ringed plover, *Charadrius hiaticula* (non-breeding)
- **Ruff, *Philomachus pugnax* (non-breeding)<sup>1</sup>**
- Sanderling, *Calidris alba* (non-breeding)

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<sup>1</sup> Species known to use off-site supporting habitat / functionally linked land (FLL) in the non-breeding season

- Scaup, *Aythya marila* (non-breeding)
- **Shelduck, *Tadorna tadorna* (non-breeding)<sup>1</sup>**
- **Teal, *Anas crecca* (non-breeding)<sup>1</sup>**
- Turnstone, *Arenaria interpres* (non-breeding)
- **Whimbrel, *Numenius phaeopus* (non-breeding)<sup>1</sup>**
- **Wigeon, *Anas Penelope* (non-breeding)<sup>1</sup>**

And

b) Species which are not listed on the SPA citation but occur at site levels of more than 1% of the national population according to the most recent Humber Estuary Wetland Bird Survey (WeBS) 5-year average count:

- Green sandpiper, *Tringa ochropus* (non-breeding)
- **Greylag goose, *Anser anser* (non-breeding)<sup>1</sup>**
- **Little egret, *Egretta garzetta* (non-breeding)<sup>1</sup>**
- **Pink-footed goose, *Anser brachyrhynchus* (non-breeding)<sup>1</sup>**
- Shoveler, *Anas clypeata* (non-breeding)
- **Crane, *Grus grus* (non-breeding)<sup>1</sup>**

As stated above, the assemblage qualification is subject to change as species' populations change; therefore, the appropriate WeBS data should be considered in any assessment and the above list should be used as a guide only.

Please note, the advice set out above should be considered when assessing potential impacts on the waterbird assemblage feature. You will also need to consider potential impacts on species which are not considered to be non-breeding waterbirds but are listed on the citation qualifying under article 4.1 and 4.2 of the Directive. These include:

- **Hen harrier, *Circus cyaneus* (non-breeding)<sup>1</sup>**
- **Marsh Harrier, *Circus aeruginosus* (breeding)<sup>1</sup>**
- Little tern, *Sterna albifrons* (breeding)
- Avocet, *Recurvirostra avosetta* (breeding)
- Bittern, *Botaurus stellaris* (breeding)

The species marked <sup>1</sup> **in bold text** are known to use off-site supporting habitat / functionally linked land (FLL) (e.g. arable farmland, grassland/pasture, and/or non-estuarine waterbodies) in the non-breeding season and may therefore be the most relevant for assessing potential impacts of a proposed plan/project on birds using FLL associated with the Humber Estuary SPA. However, please note that this list should be used as a guide only; usage may depend on factors such as the habitats available on the site and distance to the Humber Estuary etc. Therefore, assessments of potential impacts on birds using functionally linked land should consider all relevant species and clear justification should be provided if any species are excluded from the assessment.

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<sup>1</sup> Species known to use off-site supporting habitat / functionally linked land (FLL) in the non-breeding season