

Report

Dengie Marshes Wind Farm

**EIA Scoping Report Appendix 7B –
Breeding Birds – Vantage Point
Surveys**

For Dengie Marshes Wind Farm Limited

30 May 2025

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Report
Dengie Windfarm

Breeding Birds - Vantage Point Survey Report

For Naseby Energy Holdings Ltd
7 January 2025

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1 Introduction

1.1 Project Background

The Client, Naseby Energy Holdings Ltd, commissioned Logika Consultants Ltd. (Logika) to provide breeding season vantage point surveys across a large area of farmland within the east and southeast of the Dengie Peninsular, Essex ahead of a proposed planning application for an onshore wind farm (hereafter "the Proposed Development").

The wider area is considered important for nature conservation and receives a high level of protection supporting the Essex Estuaries Special Area of Conservation (SAC), Dengie Special Protection Area (SPA), Ramsar site and National Nature Reserve (NNR) and the Crouch and Roach Estuaries SPA and Ramsar site. These designations support a large number of designated features between them including wintering and breeding birds, priority habitats and invertebrates.

The breeding season vantage point surveys were undertaken across a wide area to assess the collision risk of bird species present within the area inside and around the site in order to inform eventual collision risk modelling.

1.2 The Site

The current redline boundary covers approximately 1,294 hectares (ha) of farmland (hereafter referred to as "the Site") within the east and southeast of the Dengie Peninsular, see **Figure 1.1**. The site is located 5km east of Southminster and Burnham-on-Crouch, Essex. The Crouch estuary runs along the southern border of the site and the North Sea borders the site to the west. The site is dominated by arable cropland with sections of saltmarsh present near the seawall. There are ditches running along most of the field boundaries and scattered trees spread throughout.

Figure 1-1: Site Location



2 Methodology

2.1 Guidance and target species

Surveys were based on Scottish Natural Heritage (SNH) (now Nature Scot) guidance for vantage point surveys relating to the assessment of effects of wind farms on birds this includes the following publications and guidelines:

- Scottish Natural Heritage (2017). Recommended bird survey methods to inform impact assessment of onshore wind farms. <https://www.nature.scot/recommended-birdsurvey-methods-inform-impact-assessment-onshore-windfarms>;
- Scottish Natural Heritage (2018). Assessing significance of impacts from onshore windfarms outwith designated areas. <https://www.nature.scot/guidance-assessingsignificance-impacts-bird-populations-onshore-wind-farms-do-not-affect-protected>

Target species were identified as those that are provided specific protection through legislation or those that represent qualifying interest in designated sites in the wider area. The target species for the breeding surveys are:

- Species noted as interest features during the breeding season on SPA, Ramsar and SSSI sites within 5km of the site (Dengie SPA¹ and RAMSAR, Crouch and Roach Estuaries SPA² and Ramsar, Foulness SPA³ and RAMSAR.) Including pied avocet, ringed plover, sandwich tern, common tern, little tern;
- As surveys at the beginning and end of the survey period, species noted as interest features during the non-breeding season on SPA, Ramsar and SSSI sites within 5km of the site (Dengie SPA and RAMSAR, Crouch and Roach Estuaries SPA and Ramsar, Foulness SPA and RAMSAR) were also noted. Including brent goose, oystercatcher, common redshank, grey plover, hen harrier, red knot, bar-tailed godwit, curlew, black-tailed godwit, dunlin, golden plover, greenshank, little grebe, shelduck, spotted redshank,
- Protected raptors and owls including: red kite, peregrine, goshawk, merlin, kestrel, hobby, osprey, barn owl, short-eared owl
- Waterfowl and waders including: all wildfowl species (except feral species, mute swan, Canada goose, greylag goose, and mallard) and all wader species, primarily targeting species that have potential to breed onsite (oystercatcher, lapwing, redshank).

¹ European Site Conservation Objectives for Dengie (Mid-Essex Coast Phase 1) Special Protection Area, 2019, Available at: <https://publications.naturalengland.org.uk/file/6271138279981056>

² European Site Conservation Objectives for Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) Special Protection Area, 2019, Available at: <https://publications.naturalengland.org.uk/file/6067995655012352>

³ European Site Conservation Objectives for Foulness (Mid-Essex Coast Phase 5) Special Protection Area, 2019, Available at: <https://publications.naturalengland.org.uk/file/6519660187222016>

2.2 Vantage Point Survey Methods

Vantage Point (VP) watches were conducted in accordance with SNH (2017) guidance and were undertaken between April and August 2024 targeting 36 hours of observation at each VP during that period. This method focuses on identifying the flight paths of target species and allows any regularly used flight lines to be identified, allowing turbine locations to be altered where necessary to reduce collision risk to birds. The data generated can also be used to estimate the theoretical risk of collision with turbines by incorporation into a suitable model.

The SNH methodology states that VPs should be chosen to achieve maximum visibility from the minimum number of locations, such that all parts of the Site are within 2km of a VP location. Five VPs were identified. The VP locations and viewsheds are shown in Figure 2.1 and individually in Appendix A3, (Figure A3.1-A3.5) and include:

- VP1 - TQ 99216 95528 - view bearing 0°; and
- VP2 - TR 00615 98004 – view bearing 250°; and
- VP3 - TR 00615 98004 – view bearing 70°; and
- VP4 - TR 02830 97454 – view bearing 270°; and
- VP5 - TM 00925 00633– view bearing 45°.

Flights were classified using the following four height bands;

- Band A: 0-25m;
- Band B: 25-50m;
- Band C: 50-150m;
- Band D: > 150m.

Final selection of turbine model has not yet been made, though it is assumed that the maximum hub height of any eventual turbines will range between 25 and 150m. Based on the models currently being considered height band B (25m-50m) and C (50 – 150m) include flights likely to occur at Potential Collision Height though this may be subject to change during ongoing design.

Full survey details, including dates, times and weather conditions are provided in Table **A2-1** in **Appendix A2**.

Figure 2-1: Vantage Point Locations



2.2.1 Secondary Species

A large number of designated and listed bird species are unlikely to be affected by turbines due to their average flight height and size. These species, which mostly included passerines and other small birds, were recorded during surveys along with their flight height, however, flightlines and flight times for these species were not recorded.

Secondary Species were identified as:

- Species listed on Schedule 1 of the Wildlife and Countryside Act (WCA) 1981 (as amended);
- Species listed on Annex I of the European Union (EU) Birds Directive;
- Birds of Conservation Concern (BoCC) red list species (Stanbury *et al.*, 2021); and
- Species of Principal Importance (SPI) noted on The Natural Environment and Rural Communities (NERC) Act 2006 (as amended).

Target species that were recorded during

2.2.2 Incidental Records

Target Species seen outside formalised timed surveys were also recorded (i.e. those observed during walks on and off the Site, during walks between VPs and during other breaks in survey work). Notes on the activity of any target and secondary species and priority species were made.

3 Results

3.1 Target Species

Eight target species (as defined in Section 2.2) were recorded during the VP surveys undertaken within the 2024 breeding season: Barn Owl, Cormorant, Little Egret, Hobby, Merlin, Marsh Harrier, Oystercatcher and Shelduck.

Details of all target species flights are provided in Table A5.1 in Appendix A5. The flight lines for target species are shown on Figure A4.1-A4.6, Appendix A4.

Table 3.1 presents a summary of the flights of target species recorded during the breeding season VP surveys, including the number of flights recorded within the survey area (i.e. within the 2km view-sheds) and the number of observations per hour of survey. The total flight duration is also provided along with the total flight duration at the nominal PCH (i.e. between 25-150m) for all flights.

Table 3-1: Summary of flights by target species- Breeding Season 2024

Species	Number of observations in survey area	Number of observations per hour of survey	Total flight duration (secs) at all heights	Total flight duration (secs) at PCH
Barn Owl	4	0.03	375	0
Cormorant	2	0.01	90	45
Little Egret	13	0.09	570	45
Hobby	5	0.03	180	0
Merlin	1	0.01	15	0
Marsh Harrier	88	0.59	5760	435
Oystercatcher	4	0.03	120	45
Shelduck	32	0.21	1155	150

Incidental records

In addition to flights records during vantage point surveys, incidental records of the following target species were made, outside of the recording period. These records involved birds seen on route to and from surveys or birds that were present during surveys but did not fly at any point within the viewshed area. Table 3-2 lists these species along with the number and details of sightings.

Table 3-2: Notable and Secondary Species records

Species	Number of Records	Notes
Avocet	1	Avocet were recorded on one occasion, in July. A single adult feeding in the marshes beside the seawall near VP4.
Barn Owl	1	Barn owl was recorded on one occasion outside of the VP

Species	Number of Records	Notes
		surveys, in May 2024, while driving near VP5.
Curlew	1	A single curlew was recorded calling along the seawall near VP4 in May.
Redshank	2	Redshank were recorded in July and August. Four were recorded near the seawall behind VP4 and two were recorded on the mudflats south of VP1
Shelduck	1	Shelduck were recorded as a secondary species on one occasion in April 2024. 27 shelduck were recorded feeding in the arable field to the east of VP 4.

3.1.1 Secondary Species Recorded

A total of eight secondary species were recorded during or on route to the surveys, between April and August 2024, Table 3-3 lists these species along with the number of records.

Table 3-3: Notable and Secondary Species records

Species	Number of Records	Notes
Corn Bunting	16	Corn bunting were recorded at all of the VP locations, with records occurring between May and July. They were mostly recorded in small groups of 2-5 individuals calling or displaying.
Cuckoo	5	Cuckoo were recorded at all VP locations except VP2, all records occurred between May and June. Most records involved individual birds calling.
Meadow Pipit	1	Meadow pipit were recorded on one occasion, with three individuals sitting on an electrical wire near VP5 in April.
Reed Bunting	7	Reed bunting were recorded exclusively near VPs 1 and 5 between April and June. The records mostly involved

Species	Number of Records	Notes
Skylark	46	Skylark were recorded at all VP locations, throughout the survey period. They are believed to be breeding in the area as they were regularly recorded displaying and alarming in the arable fields near the VP locations.
Starling	7	Starling were recorded on VPs 1, 2 and 3 in July and August. Records involved flocks feeding on arable fields near the VP locations.
Swift	6	Swift were recorded on all VP location other than VP5 in June and July. Records involved small flocks feeding over the arable fields around the VPs.
Yellow Wagtail	13	Yellow wagtail were recorded on all VPs except VP5, between April and August. The records involved 1-4 individuals feeding and displaying near the VP locations. it is believed that yellow wagtail were breeding in the area.

4 Target Species Summary

4.1 European Site – Designated Features

4.1.1 Oystercatcher

Overwintering oystercatcher are a designated feature of the Foulness Ramsar and SPA European sites. The overwintering population of oystercatcher in the European sites was recorded as being 11,756 individuals (Average five-year peak count from 1987/88 to 1991/92), however, the peak count within the surveys of two birds would represents a minor percentage of the recorded overwintering population if it was assumed that they were part of it.

Oystercatcher were recorded on 4 occasions during the 2024 breeding bird VP surveys. Two of the records were on VP4 and the other two were on VP1. Two of the records involved birds flying up from the ground to mob a marsh harrier that was flying overhead in Band A. The other two records were of bird flying over, one in flight Band A and two birds flying in flight band D.

4.1.2 Shelduck

Overwintering shelduck are a designated feature of the Foulness RAMSAR and SPA European sites.. The overwintering population of oystercatcher in the RAMSAR site is 1,024 individuals (Average 5 year peak count from 1987/88 to 1991/92), the peak count within our surveys of five birds would represents a minor percentage of the recorded overwintering population if it was assumed that they were part of it.

Shelduck were recorded on 32 occasions during the 2024 breeding bird surveys. Shelduck were recorded on all VPs other than VP3 with the most records coming from VP1. Shelduck were most commonly recorded flying in pairs or small flocks to and from the sea around VP1 and were recorded flying in flights bands A, B and C. The maximum count of Shelducks was five, on three occasions in April, where small flocks of shelduck were seen flying between ditches.

4.2 Raptors

4.2.1 Marsh Harrier

Marsh harrier were the most commonly recorded target species during the 2024 breeding bird surveys with 88 records. Marsh harriers were recorded from all five vantage point locations but flights were concentrated around VP1 and VP4. Marsh harrier were most commonly recorded individually hunting in flight band A but were recorded flying in all four height bands. The maximum count of marsh harriers was three birds, occurring on two occasions, one in April and one in May. Birds were also recorded carrying nesting material and flying in pairs near VP1 and 4 and therefore it is believed that marsh harrier were breeding in the area, however breeding locations or success was not confirmed.

4.2.2 Hobby

Hobby were recorded on five occasions during the 2024 breeding bird surveys. Hobby were recorded from VPs 1, 2 and 3 and all flights were within flight band A. The birds were recorded in June, July and August and occurred in surveys completed around the middle of the day or those which were completed in late afternoon/evening. Hobby records involved individual birds hunting or flying low over the arable fields around the VPs. There is suitable habitat for hobby to breed in the wider area, though no breeding locations or observations of breeding behaviour were made.

4.2.3 Barn Owl

Barn owl were recorded on four occasions during the 2024 breeding bird surveys. Barn owl were recorded on VPs 1 and 5 in April and June and all flights were within flight band A. Barn owl records involved individual birds hunting over the arable fields at dawn or dusk around the VPs. Barn owl are likely to breed in farm buildings or suitable structures within the red line boundary

4.2.4 Merlin

Merlin was recorded on one occasion, in May, where a single individual was spotted flying low over a ditch near VP4. This was likely to represent a passage migrant.

4.3 Waders and Waterfowl

4.3.1 Cormorant

Cormorant were recorded on two occasions during the 2024 breeding bird surveys. Cormorant were only recorded on VP1 in May and July. Both flights involved cormorants flying in straight lines, one in band B towards the Sea and the other in band C flying eastward.

4.3.2 Little Egret

Little Egret were recorded on 13 occasions during the 2024 breeding bird surveys. Little Egret were recorded on VPs 1, 4 and 5 and eight of flights were within flight band A, with four in flight band B and one in flight band C. The birds were recorded throughout the survey period from April to July and sightings occurred throughout the day. Little egret records involved birds hunting or flying low over the arable fields around the VPs.

5 Conclusions and Recommendations

Marsh harrier were the most commonly recorded target species during the 2024 breeding bird surveys. It is likely that Marsh harrier are breeding within the area, potentially onsite, although no confirmed nest sites or confirmation of breeding success was recorded during the surveys.

Shelduck were also commonly recorded throughout the site. Due to the number of sightings it is likely that shelduck were breeding within the area despite no evidence of breeding being recorded.

Oystercatcher were infrequently recorded throughout the site during the 2024 VP surveys. It is likely that oystercatcher breed on or near the site due to the mobbing behaviour seen during the surveys and the suitable habitat present.

Based on the results from the 2024 the following further surveys are recommended:

- The SNH recommends a 2-year survey programme for onshore wind farms and therefore current vantage point surveys should continue throughout the non-breeding season and then for the subsequent breeding and non-breeding season until March 2026.
- Surveys for breeding raptors, focussing on Wildlife and Countryside Act Schedule 1 raptor species should be conducted the following breeding season to identify raptor species that may be using the site to breed. Marsh harrier are believed to be breeding onsite and surveys should mainly focus on identifying breeding location for this species. However, surveys should also attempt to identify breeding location of barn owl, and hobby that were all recorded onsite.

A1 Full Species list

Table A1-1: Species list

BTO Code	Common Name	Scientific Name
AV	Avocet	<i>Recurvirostra avosetta</i>
BO	Barn Owl	<i>Tyto alba</i>
CG	Canada Goose	<i>Branta canadensis</i>
CA	Cormorant	<i>Phalacrocorax carbo</i>
CB	Corn Bunting	<i>Emberiza calandra</i>
CK	Cuckoo	<i>Cuculus canorus</i>
H	Grey Heron	<i>Ardea cinerea</i>
GJ	Greylag Goose	<i>Anser anser</i>
HY	Hobby	<i>Falco subbuteo</i>
ET	Little Egret	<i>Egretta garzetta</i>
MA	Mallard	<i>Anas platyrhynchos</i>
MR	Marsh Harrier	<i>Circus aeruginosus</i>
MP	Meadow Pipit	<i>Anthus pratensis</i>
ML	Merlin	<i>Falco columbarius</i>
OY	Oystercatcher	<i>Haematopus ostralegus</i>
RK	Redshank	<i>Tringa totanus</i>
RB	Reed Bunting	<i>Emberiza schoeniclus</i>
SU	Shelduck	<i>Tadorna tadorna</i>
S	Skylark	<i>Alauda arvensis</i>
SG	Starling	<i>Sturnus vulgaris</i>
SI	Swift	<i>Apus apus</i>
YW	Yellow Wagtail	<i>Motacilla flava</i>

A2 Survey Details

Table A2-1: Details of the VP surveys undertaken

Date	VP No ⁴	E/M/L ⁵	Start Time	End Time	Weather
17/04/2024	1	L	17:27	20:27	BF 3 NW, Showers, 8/8 cloud, Good visibility, 7°C
22/04/2024	1	M	12:37	15:37	BF 1 N, Dry, 6/8 cloud, Good visibility, 9°C
23/04/2024	1	E	05:43	08:43	BF 1 NW, Dry, 2/8 cloud, Good visibility, 9°C
18/04/2024	2	M	11:14	14:14	BF 1 NW, Dry, 3/8 cloud, Good visibility, 10°C
23/04/2024	2	E	05:46	08:46	BF 1 N, Dry, 8/8 cloud, Good visibility, 6°C
16/04/2024	2	L	17:28	20:28	BF 2 NW, Dry, 8/8 cloud, Good visibility, 11°C
19/04/2024	3	E	05:37	08:37	BF 2 NW, Dry, 7/8 cloud, Good visibility, 10°C
22/04/2024	3	L	17:36	20:36	BF 1 N, Dry, 8/8 cloud, Good visibility, 8°C
15/04/2024	3	M	12:53	15:53	BF 4 W, Showers, 8/8 cloud, Good visibility, 11°C
17/04/2024	4	E	05:38	08:38	BF 1 NW, Dry, 3/8 cloud, Good visibility, 5°C
19/04/2024	4	M	09:07	12:07	BF 2 NW, Dry, 8/8 cloud, Good visibility, 11°C
15/04/2024	4	L	17:03	20:03	BF 4 W, Showers, 8/8 cloud, Good visibility, 12°C
22/04/2024	5	L	17:36	20:36	BF 2 N, Dry, 6/8 cloud, Good visibility, 8°C
18/04/2024	5	E	05:37	08:37	BF 1 NW, Dry, 1/8 cloud, Good visibility, 6°C
15/04/2024	5	M	11:35	14:35	BF 2 NW, Showers, 8/8 cloud, Good visibility, 11°C
13/05/2024	1	M	12:03	15:03	BF 2 S, Dry, 7/8 cloud, Good visibility, 18°C
28/05/2024	1	L	18:30	21:30	BF 3 SW, Dry, 8/8 cloud, Good visibility, 15°C

⁴ Vantage Point location Number

⁵ Time of day the survey took place: Early/ Middle/ Late

Date	VP No ⁴	E/M/L ⁵	Start Time	End Time	Weather
17/05/2024	1	E	05:32	08:32	BF 1 SW, Dry, 4/8 cloud, Good visibility, 11°C
29/05/2024	2	L	18:30	21:30	BF 3 SW, Dry, 7/8 cloud, Good visibility, 15°C
17/05/2024	2	M	09:02	12:32	BF 1 SW, Dry, 3/8 cloud, Good visibility, 13°C
16/05/2024	2	E	05:32	08:32	BF 2 NE, Dry, 8/8 cloud, Good visibility, 12°C
30/05/2024	3	M	09:01	12:01	BF 2 W, Dry, 8/8 cloud, Good visibility, 13°C
13/05/2024	3	L	18:10	21:10	BF 2 S, Dry, 8/8 cloud, Good visibility, 13°C
15/05/2024	3	E	05:38	08:38	BF 2 SE, Showers, 8/8 cloud, Good visibility, 12°C
29/05/2024	4	E	05:32	08:32	BF 3 SW, Dry, 6/8 cloud, Good visibility, 12°C
28/05/2024	4	M	14:47	17:47	BF 3 SW, Dry, 8/8 cloud, Good visibility, 17°C
15/05/2024	4	L	18:11	21:11	BF 3 SE, Dry, 2/8 cloud, Good visibility, 15°C
30/05/2024	5	E	05:32	08:32	BF 2 W, Dry, 8/8 cloud, Good visibility, 12°C
16/05/2024	5	M	11:28	14:28	BF 2 NE, Showers, 8/8 cloud, Moderate visibility, 12°C
14/05/2024	5	L	18:11	21:11	BF 2 S, Showers, 6/8 cloud, Good visibility, 12°C
13/06/2024	4	M	09:05	12:05	BF 1 SW, Dry, 6/8 cloud, Good visibility, 14°C
13/06/2024	1	E	05:36	08:36	BF 1 SW, Dry, 6/8 cloud, Good visibility, 12°C
12/06/2024	5	E	05:38	08:38	BF 2 NW, Dry, 6/8 cloud, Good visibility, 12°C
12/06/2024	3	L	18:42	21:42	BF 1 NW, Showers, 7/8 cloud, Good visibility, 16°C
11/06/2024	4	L	18:36	21:36	BF 2 NW, Showers, 5/8 cloud, Good visibility, 14°C
11/06/2024	1	M	11:36	14:36	BF 2 NW, Dry, 5/8 cloud, Good visibility, 16°C
10/06/2024	5	L	18:42	21:42	BF 3 NW, Dry, 4/8 cloud, Good visibility, 14°C

Date	VP No ⁴	E/M/L ⁵	Start Time	End Time	Weather
10/06/2024	2	M	12:23	15:23	BF 3 NW, Dry, 5/8 cloud, Good visibility, 14°C
26/06/2024	1	L	18:35	21:35	BF 2 SE, Dry, 0/8 cloud, Good Visibility, 22°C
26/06/2024	2	E	06:35	08:35	BF 1 E, Dry, 1/8 cloud, Good Visibility, 15°C
24/06/2024	2	L	18:38	21:38	BF 2 SE, Dry, 0/8 cloud, Good Visibility, 22°C
27/06/2024	3	E	06:32	08:32	BF 2 SE, Dry, 2/8 cloud, Good Visibility, 15°C
24/06/2024	3	M	12:14	15:14	BF 2 SE, Dry, 0/8 cloud, Good Visibility, 24°C
25/06/2024	4	E	06:32	08:32	BF 1 SE, Dry, 0/8 cloud, Good Visibility, 15°C
25/06/2024	5	M	11:12	14:12	BF 1 SE, Dry, 0/8 cloud, Good Visibility, 25°C
02/07/2024	5	M	11:28	14:28	BF 2 NW, Dry, 7/8 cloud, Good Visibility, 15°C
04/07/2024	1	M	09:02	12:02	BF 2 NW, Dry, 3/8 cloud, Good Visibility, 17°C
04/07/2024	2	E	05:33	08:33	BF 2 NW, Showers, 3/8 cloud, Good Visibility, 14°C
03/07/2024	4	E	05:29	08:29	BF 2 NW, Showers, 7/8 cloud, Good Visibility, 14°C
02/07/2024	1	E	05:32	08:32	BF 2 NW, Showers, 7/8 cloud, Good Visibility, 14°C
03/07/2024	3	L	18:37	21:37	BF 2 NW, Dry, 8/8 cloud, Good Visibility, 19°C
01/07/2024	4	L	18:43	21:43	BF 2 NW, Dry, 8/8 cloud, Good Visibility, 20°C
01/07/2024	2	M	12:23	15:23	BF 2 NW, Dry, 8/8 cloud, Good Visibility, 20°C
24/07/2024	1	L	18:28	21:28	BF 1 S, Dry, 7/8 cloud, Good Visibility, 23°C
23/07/2024	5	L	18:27	21:27	BF 2 NW, Dry, 2/8 cloud, Good Visibility, 23°C
22/07/2024	2	L	18:29	21:29	BF 3 SW, Dry, 1/8 cloud, Good Visibility, 23°C
25/07/2024	5	E	05:33	08:33	BF 3 S, Dry, 8/8 cloud, Good Visibility, 17°C

Date	VP No ⁴	E/M/L ⁵	Start Time	End Time	Weather
24/07/2024	3	E	05:27	08:27	BF 1 S, Dry, 3/8 cloud, Good Visibility, 17°C
22/07/2024	3	M	12:19	15:19	BF 3 SW, Showers, 8/8 cloud, Good Visibility, 23°C
23/07/2024	4	M	11:36	14:36	BF 2 NW, Showers, 7/8 cloud, Good Visibility, 24°C
06/08/2024	2	L	18:01	21:01	BF 2 SW, Dry, 2/8 cloud, Good Visibility, 24°C
05/08/2024	1	L	18:02	21:02	BF 2 SW, Dry, 2/8 cloud, Good Visibility, 26°C
07/08/2024	4	M	11:03	14:03	BF 2 SW, Dry, 5/8 cloud, Good Visibility, 24°C
08/08/2024	2	M	09:03	12:03	BF 1 SW, Dry, 1/8 cloud, Good Visibility, 19°C
08/08/2024	1	E	05:32	08:32	BF 1 SW, Dry, 1/8 cloud, Good Visibility, 16°C
07/08/2024	3	E	05:30	08:30	BF 2 SW, Dry, 1/8 cloud, Good Visibility, 15°C
06/08/2024	5	M	11:13	14:13	BF 3 SW, Dry, 3/8 cloud, Good Visibility, 25°C
05/08/2024	3	M	12:33	15:33	BF 3 SW, Dry, 1/8 cloud, Good Visibility, 26°C
22/08/2024	2	E	05:33	08:33	BF 3 SW, Dry, 8/8 cloud, Good Visibility, 16°C
20/08/2024	4	E	05:34	08:34	BF 3 SW, Dry, 8/8 cloud, Good Visibility, 18°C
21/08/2024	4	L	17:31	20:31	BF 2 SW, Dry, 8/8 cloud, Good Visibility, 20°C
20/08/2024	3	L	17:32	20:32	BF 2 W, Dry, 2/8 cloud, Good Visibility, 21°C
21/08/2024	5	E	05:30	08:30	BF 2 SW, Dry, 3/8 cloud, Good Visibility, 18°C
19/08/2024	5	L	17:30	20:30	BF 3 SW, Dry, 8/8 cloud, Good Visibility, 22°C
19/08/2024	1	M	12:15	15:05	BF 3 SW, Dry, 6/8 cloud, Good Visibility, 24°C

A3 Vantage Point Viewsheds

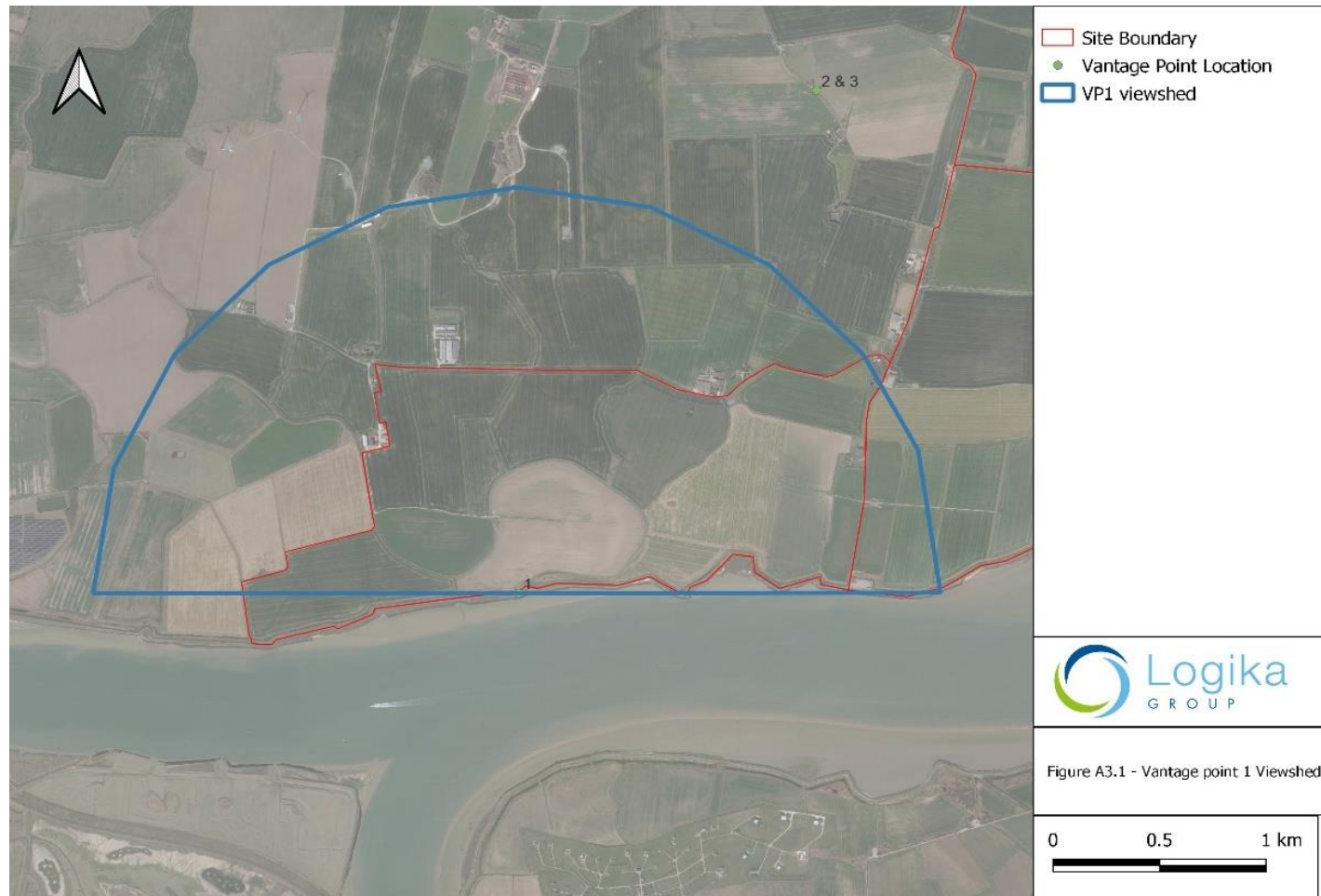


Figure A3-1: Vantage Point 1 Viewshed

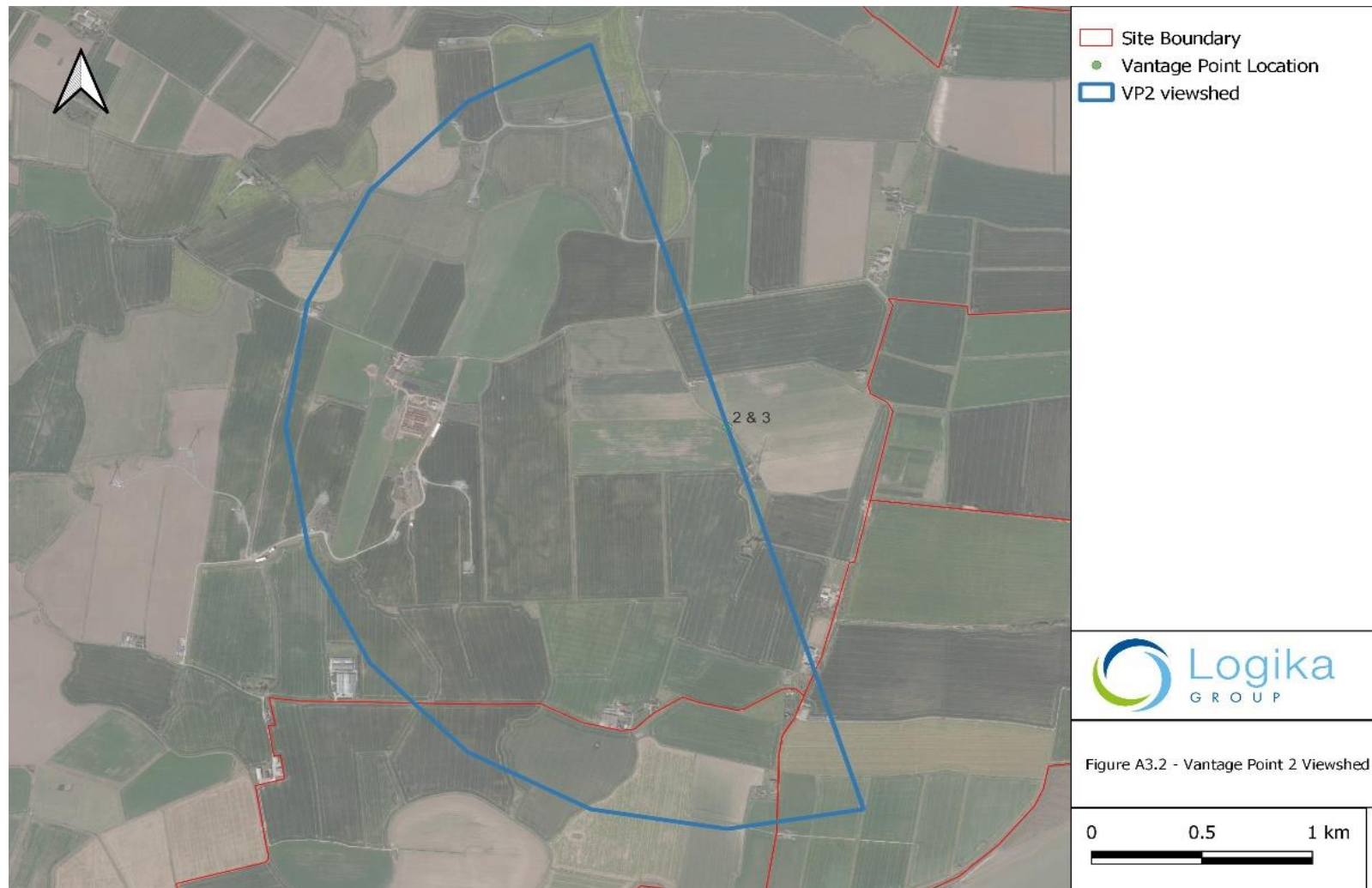


Figure A3-2: Vantage Point 2 Viewshed



Figure A3-3: Vantage Point 3 Viewshed

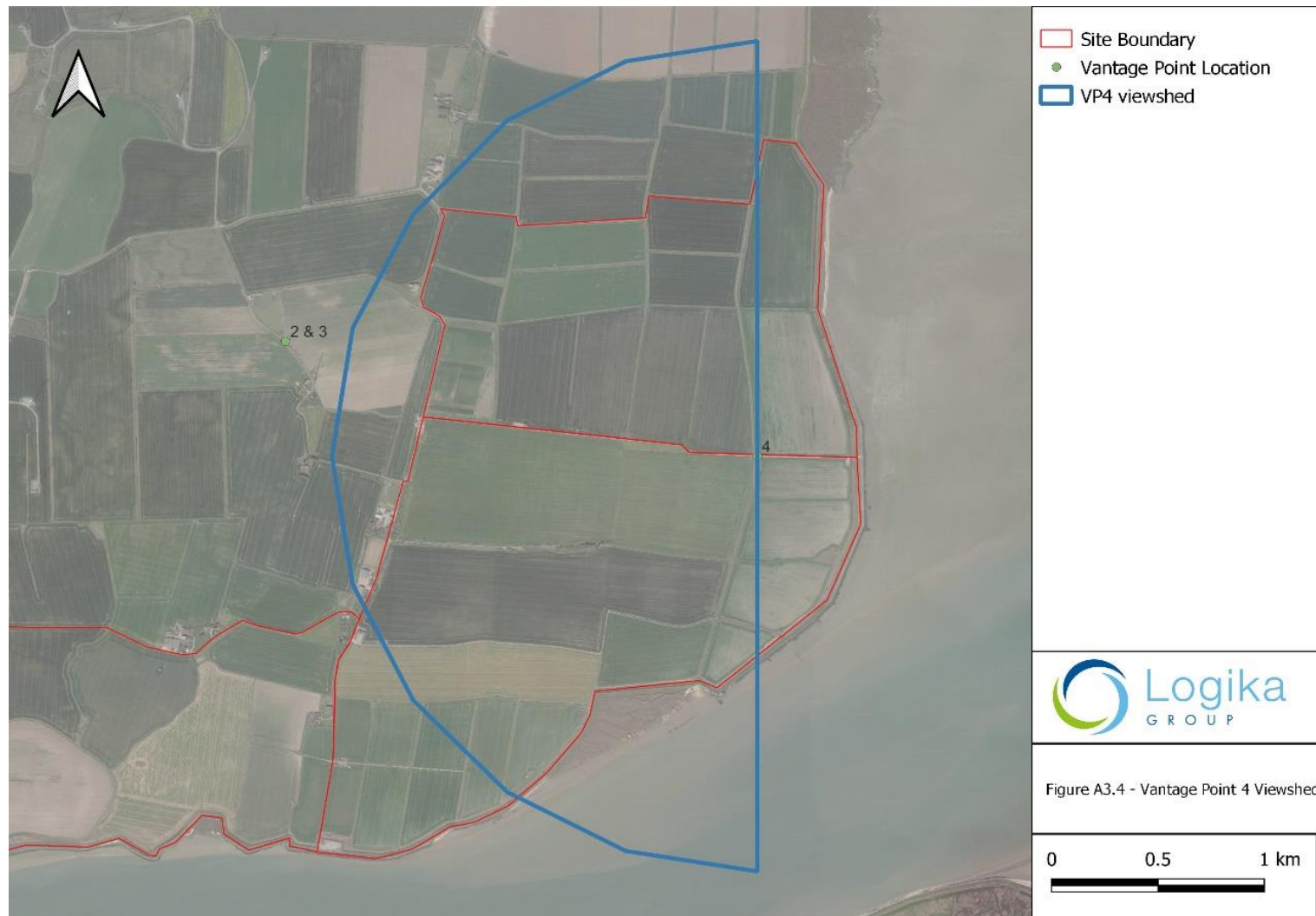


Figure A3-4: Vantage Point 4 Viewshed

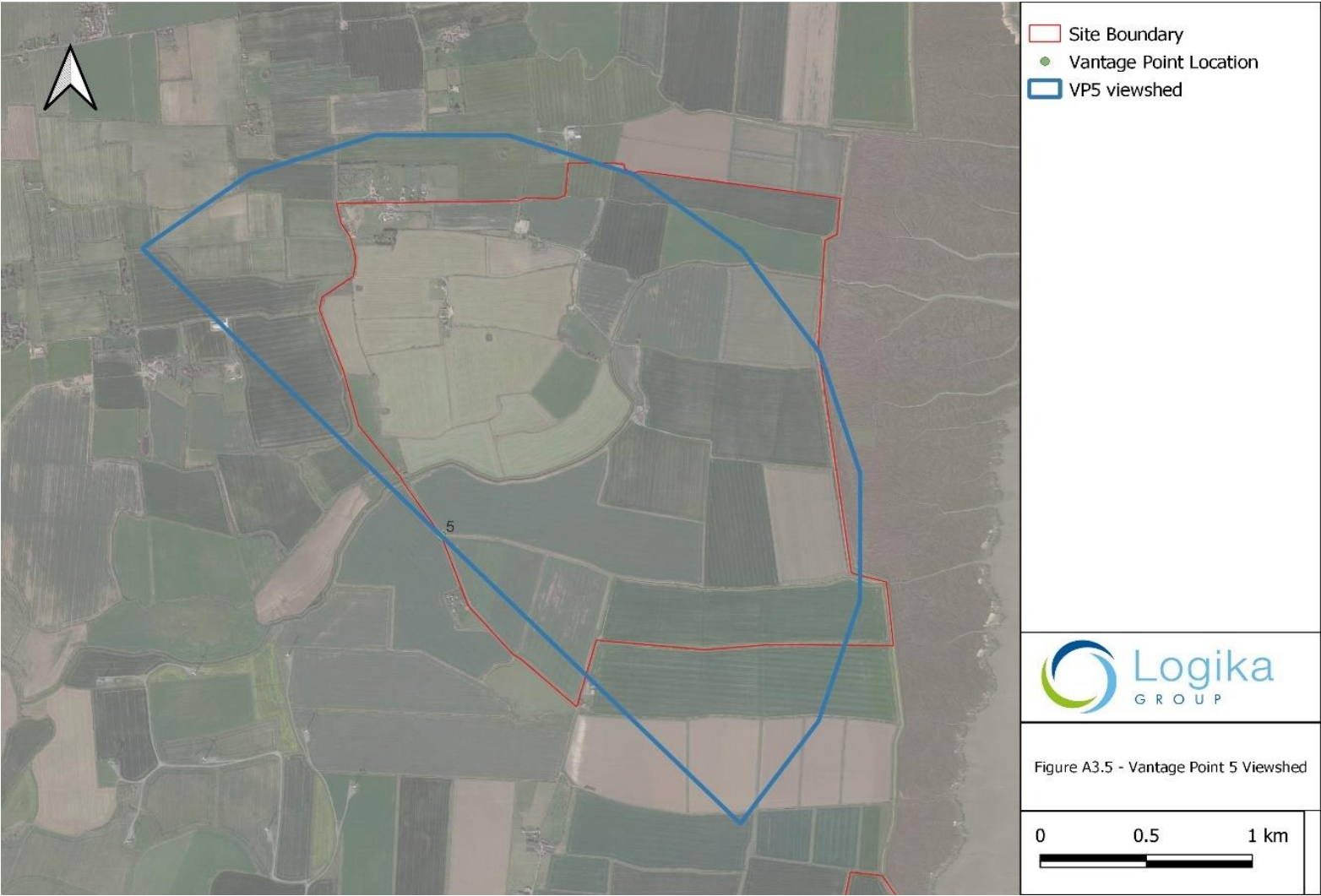


Figure A3-5: Vantage Point 5 Viewshed

A4 Flightline Maps



Figure A4-1: Shelduck Flightlines April-August



Figure A4-2: Other Waders and Wildfowl Flightlines April-August



Figure A4-3: Marsh Harrier April Flightlines



Figure A4-4: Marsh Harrier May and June Flightlines



Figure A4-5: Marsh Harrier July and August Flightlines



Figure A4-6: Other Raptors Flightlines April-August

A5 Full Results

Table A5-1: Full Results Table (note – includes flights of non-target waterfowl and gull species)

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
3	15/04/2024	APR	M	3_APR_M_1	MA	1	12:58	15	0	0	0	Mallard flushed and flew S
3	15/04/2024	APR	M	3_APR_M_2	LB	3	13:05	30	0	0	0	Three lesser black-backed gull flew from W to E
3	15/04/2024	APR	M	3_APR_M_3	MA	1	13:23	15	15	30	0	Same mallard flew up and circled over at roughly 60m
3	15/04/2024	APR	M	3_APR_M_4	MR	1	13:37	30	0	0	0	Marsh harrier flying across fields
3	15/04/2024	APR	M	3_APR_M_5	MA	2	14:45	0	0	15	0	Pair of Mallard flying quickly at roughly 100m
4	15/04/2024	APR	L	4_APR_L_1	MR	3	17:12	240	0	0	0	Three marsh harrier hunting in fields in front of VP

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
4	15/04/2024	APR	L	4_APR_L_2	MA	4	17:28	0	0	15	0	Mallards flew up chasing female
4	15/04/2024	APR	L	4_APR_L_3	MA	1	17:30	15	0	0	0	One of the male mallards returned and landed in ditch
4	15/04/2024	APR	L	4_APR_L_4	MR	1	17:34	195	0	0	0	Two Marsh Harrier left area and 1 stayed and hunted similar flightline
4	15/04/2024	APR	L	4_APR_L_5	MA	3	17:54	0	15	0	0	Three mallards took off from the ditch
4	15/04/2024	APR	L	4_APR_L_6	MR	1	17:56	15	15	0	0	Marsh harrier flew slowly and landed on bank
4	15/04/2024	APR	L	4_APR_L_7	MR	2	18:34	30	30	45	0	Two marsh harriers flew slowly together getting higher and higher up to 60m

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
5	15/04/2024	APR	M	5_APR_M_1	MA	2	13:16	0	15	0	0	Two mallards took off and flew W
2	16/04/2024	APR	L	2_APR_L_1	MA	1	17:56	15	0	0	0	Mallard landed on ditch
2	16/04/2024	APR	L	2_APR_L_2	MA	2	18:13	15	0	0	0	Two mallards left ditch
2	16/04/2024	APR	L	2_APR_L_3	MA	1	18:29	15	0	0	0	Mallard landed back in ditch
2	16/04/2024	APR	L	2_APR_L_4	MA	1	18:41	15	15	0	0	Mallard took off from ditch
2	16/04/2024	APR	L	2_APR_L_5	H	1	19:53	0	0	30	0	Grey heron flying S at 100m high
1	17/04/2024	APR	L	1_APR_L_1	MA	2	17:35	30	0	0	0	Two mallards flew off from ditch
1	17/04/2024	APR	L	1_APR_L_10	SU	2	18:45	30	0	0	0	Two shelduck flying to sea
1	17/04/2024	APR	L	1_APR_L_11	SU	4	18:52	45	0	0	0	Four shelduck flew over and landed in ditch

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
1	17/04/2024	APR	L	1_APR_L_12	GJ	2	18:57	0	30	0	0	Two flying inland
1	17/04/2024	APR	L	1_APR_L_13	GJ	2	18:59	0	30	0	0	Two flying inland
1	17/04/2024	APR	L	1_APR_L_14	GJ	2	19:03	0	30	0	0	Two more greylag geese flew inland, further west than previous
1	17/04/2024	APR	L	1_APR_L_15	SU	4	19:06	30	0	0	0	Shelduck flew out to sea
1	17/04/2024	APR	L	1_APR_L_16	GJ	5	19:08	0	30	0	0	Greylag geese flew inland
1	17/04/2024	APR	L	1_APR_L_17	H	1	19:11	30	0	0	0	Grey heron flying inland
1	17/04/2024	APR	L	1_APR_L_18	MA	1	19:20	15	0	15	0	Mallard flying at 70m and then landing quickly in ditch
1	17/04/2024	APR	L	1_APR_L_19	GJ	2	19:21	0	0	30	0	Two greylag geese flying out to sea
1	17/04/2024	APR	L	1_APR_L_2	MA	2	17:48	0	30	0	0	Two mallards flying east

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
1	17/04/2024	APR	L	1_APR_L_20	MR	1	19:36	15	0	0	0	Marsh harrier flying low over field
1	17/04/2024	APR	L	1_APR_L_21	SU	5	19:48	30	0	0	0	Shelduck flying over
1	17/04/2024	APR	L	1_APR_L_22	GJ	3	19:52	0	30	0	0	Greylag Geese flying out to sea
1	17/04/2024	APR	L	1_APR_L_23	SU	5	20:05	15	0	15	0	Shelduck landed on ditch.
1	17/04/2024	APR	L	1_APR_L_3	SU	4	17:56	15	0	15	0	Four shelduck circled round area then landed in ditch
1	17/04/2024	APR	L	1_APR_L_4	SU	2	17:59	30	0	0	0	Two shelduck flew S
1	17/04/2024	APR	L	1_APR_L_5	MA	2	18:02	30	0	0	0	Two mallards flew west
1	17/04/2024	APR	L	1_APR_L_6	ET	1	18:13	30	0	0	0	Little egret took off from ditch and flew E

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
1	17/04/2024	APR	L	1_APR_L_7	H	1	18:15	0	0	30	0	Grey heron flying towards sea
1	17/04/2024	APR	L	1_APR_L_8	MR	1	18:20	45	0	0	0	Marsh harrier hunting over fields
1	17/04/2024	APR	L	1_APR_L_9	GJ	2	18:29	0	30	0	0	Greylag geese flying inland
4	17/04/2024	APR	E	4_APR_E_1	MR	1	05:42	45	0	0	0	Marsh harrier flying slowly East
4	17/04/2024	APR	E	4_APR_E_2	MA	1	06:05	15	0	0	0	Mallard flew up from field
4	17/04/2024	APR	E	4_APR_E_3	MR	1	06:21	30	0	0	0	Marsh harrier flew up from bank South
4	17/04/2024	APR	E	4_APR_E_4	MA	3	06:22	15	0	0	0	Mallards flushed from field as MR flew over
4	17/04/2024	APR	E	4_APR_E_5	MR	1	06:39	60	0	0	0	Marsh harrier flying slowly north
4	17/04/2024	APR	E	4_APR_E_6	SU	2	07:19	0	30	0	0	Two shelduck flew over

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
4	17/04/2024	APR	E	4_APR_E_7	SU	2	07:29	15	0	0	0	Two shelduck landed on ditch
4	17/04/2024	APR	E	4_APR_E_8	SU	2	07:41	0	30	0	0	Two shelduck flying West
5	18/04/2024	APR	E	5_APR_E_1	SU	2	07:03	30	0	0	0	Two shelduck flying NW
3	19/04/2024	APR	E	3_APR_E_1	MA	2	06:47	0	15	0	0	Two mallards flushed as car went past
3	19/04/2024	APR	E	3_APR_E_2	MR	1	07:46	30	0	0	0	Marsh harrier hunting over farmland
3	19/04/2024	APR	E	3_APR_E_3	MA	2	08:15	0	0	15	0	Two mallards flying at 70m and then flew low and landed on ditch
3	19/04/2024	APR	E	3_APR_E_4	MA	1	08:16	0	15	0	0	Male mallard flew and joined pair on ditch
4	19/04/2024	APR	M	4_APR_M_1	MR	1	09:09	60	0	0	0	Female marsh harrier seen carrying

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
												nesting materials to field, landed for a few seconds, then flew north
4	19/04/2024	APR	M	4_APR_M_2	MR	1	09:10	30	0	0	0	Second female marsh harrier was flying nearby and then was chased off north by first marsh harrier
4	19/04/2024	APR	M	4_APR_M_3	MR	1	09:15	30	0	0	0	Female marsh harrier flying around fields
4	19/04/2024	APR	M	4_APR_M_4	MR	1	10:02	30	0	0	0	Female marsh harrier flying around fields
4	19/04/2024	APR	M	4_APR_M_5	MR	1	11:05	60	0	0	0	Female marsh harrier hunting
5	22/04/2024	APR	L	5_APR_L_1	MR	1	18:40	60	0	0	0	Marsh harrier flying low across field

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
5	22/04/2024	APR	L	5_APR_L_2	MR	1	19:27	30	0	45	0	Marsh harrier flying low across field
1	13/05/2024	MAY	M	1_MAY_M_1	MR	1	12:03	60	0	0	0	Marsh harrier hunting in front of VP
1	13/05/2024	MAY	M	1_MAY_M_10	GJ	5	13:18	45	0	0	0	Greylag geese flying out to sea
1	13/05/2024	MAY	M	1_MAY_M_11	ET	1	13:19	60	0	0	0	Little egret flying slowly out to sea, same as ref 4
1	13/05/2024	MAY	M	1_MAY_M_12	MR	2	13:23	0	0	90	0	Male and female marsh harrier displaying at 100m
1	13/05/2024	MAY	M	1_MAY_M_13	MR	1	13:45	105	0	0	0	Marsh harrier flying through
1	13/05/2024	MAY	M	1_MAY_M_2	MA	1	12:09	30	30	0	0	Mallard flew up from ditch and then landed in another

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
1	13/05/2024	MAY	M	1_MAY_M_3	MR	1	12:20	90	0	0	0	Male marsh harrier flying around field
1	13/05/2024	MAY	M	1_MAY_M_4	CA	1	12:28	0	45	0	0	Cormorant flying towards sea
1	13/05/2024	MAY	M	1_MAY_M_5	MR	1	12:39	105	0	0	0	Marsh harrier hunting in front of VP
1	13/05/2024	MAY	M	1_MAY_M_6	H	1	12:41	0	45	0	0	Grey heron flying through and landing
1	13/05/2024	MAY	M	1_MAY_M_7	MA	1	12:42	0	0	45	0	Mallard flying over
1	13/05/2024	MAY	M	1_MAY_M_8	SU	2	12:52	0	45	0	0	Shelduck flying from one ditch to another
1	13/05/2024	MAY	M	1_MAY_M_9	MA	6	13:15	0	0	60	0	Mallards flushed by car in field
3	13/05/2024	MAY	L	3_MAY_L_1	MR	1	18:35	60	0	0	0	Marsh harrier hunting
3	15/05/2024	MAY	E	3_MAY_E_1	GJ	2	06:58	0	45	0	0	Two greylag geese flying over

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
3	15/05/2024	MAY	E	3_MAY_E_2	GJ	4	08:12	60	0	0	0	Four greylag geese flying south
4	15/05/2024	MAY	L	4_MAY_L_1	ET	1	18:40	0	0	45	0	Little egret flying past
4	15/05/2024	MAY	L	4_MAY_L_2	MA	2	18:50	45	0	0	0	Mallards flew up from ditch
4	15/05/2024	MAY	L	4_MAY_L_3	MA	1	19:01	0	0	30	0	Mallard flying quickly at 70m
4	15/05/2024	MAY	L	4_MAY_L_4	MR	1	19:08	45	0	0	0	Marsh harrier flying slowly north
4	15/05/2024	MAY	L	4_MAY_L_5	MR	1	19:13	30	0	0	0	Male Marsh harrier flying towards the coast
4	15/05/2024	MAY	L	4_MAY_L_6	MR	1	19:20	30	0	0	0	Female marsh harrier flying east
4	15/05/2024	MAY	L	4_MAY_L_7	MA	2	19:22	0	30	0	0	Two mallards flying over
4	15/05/2024	MAY	L	4_MAY_L_8	MR	1	20:32	30	0	0	0	Male marsh harrier flew in and landed in field

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
4	15/05/2024	MAY	L	4_MAY_L_9	MR	3	20:34	45	0	0	0	Pair of marsh harriers flew over and chased the original one off food
1	17/05/2024	MAY	E	1_MAY_E_1	MR	1	05:38	45	0	0	0	Marsh harrier flying over fields
1	17/05/2024	MAY	E	1_MAY_E_10	GJ	2	07:15	0	30	0	0	Greylag geese flying north
1	17/05/2024	MAY	E	1_MAY_E_11	MR	1	07:45	60	0	0	0	Marsh harrier flew slowly over fields and then turned and flew back
1	17/05/2024	MAY	E	1_MAY_E_12	SU	1	07:56	45	0	0	0	Shelduck flew up off ditch towards West
1	17/05/2024	MAY	E	1_MAY_E_2	SU	4	05:46	0	30	30	0	Shelduck flew up and around and landed on ditch
1	17/05/2024	MAY	E	1_MAY_E_3	SU	4	05:57	0	45	0	0	Shelduck flew over towards sea

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
1	17/05/2024	MAY	E	1_MAY_E_4	SU	4	06:01	0	0	60	0	Three male shelducks chasing a female high over, circled and then flew north
1	17/05/2024	MAY	E	1_MAY_E_5	H	1	06:19	0	0	45	0	Grey Heron flying south
1	17/05/2024	MAY	E	1_MAY_E_6	MR	1	06:28	30	0	0	0	Marsh harrier flying over and landing in field
1	17/05/2024	MAY	E	1_MAY_E_7	GJ	2	06:35	30	0	0	0	Two greylag geese flying along the seawall
1	17/05/2024	MAY	E	1_MAY_E_8	MR	1	06:49	0	45	0	0	Marsh harrier flying east
1	17/05/2024	MAY	E	1_MAY_E_9	MA	3	07:03	0	15	30	0	Two male mallards chasing female
2	17/05/2024	MAY	M	2_MAY_M_1	MA	2	09:05	15	30	0	0	Two mallards flew up from ditch

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
2	17/05/2024	MAY	M	2_MAY_M_2	SU	1	09:19	0	45	0	0	Shelduck flying north
1	28/05/2024	MAY	L	1_MAY_L_1	MA	2	19:38	45	0	0	0	Pair of Mallards flying over
1	28/05/2024	MAY	L	1_MAY_L_2	MA	1	20:19	15	30	0	0	Mallard flying up from ditch
1	28/05/2024	MAY	L	1_MAY_L_3	MR	1	20:53	45	0	0	0	Female marsh harrier hunting along field edge
4	28/05/2024	MAY	M	4_MAY_M_1	ML	1	15:05	15	0	0	0	Merlin flying low over ditch
4	28/05/2024	MAY	M	4_MAY_M_2	SU	1	16:13	0	45	0	0	Shelduck flying over
4	28/05/2024	MAY	M	4_MAY_M_3	ET	2	16:48	30	0	0	0	Little egrets flying towards coast
2	29/05/2024	MAY	L	2_MAY_L_1	MR	1	19:26	60	0	0	0	Female Marsh harrier hunting in fields
4	29/05/2024	MAY	E	4_MAY_E_1	SU	2	05:45	45	0	0	0	Pair of shelducks flying south

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
4	29/05/2024	MAY	E	4_MAY_E_2	SU	1	06:37	30	0	0	0	Shelduck flying north
4	29/05/2024	MAY	E	4_MAY_E_3	SU	1	07:01	30	0	0	0	Shelduck flew over and landed in field
4	29/05/2024	MAY	E	4_MAY_E_4	MR	1	07:24	45	0	0	0	Marsh harrier hunting over fields heading south
4	29/05/2024	MAY	E	4_MAY_E_5	MA	2	08:01	15	15	0	0	Mallards flushed as marsh harrier flew over
4	29/05/2024	MAY	E	4_MAY_E_6	OC	1	08:01	30	0	0	0	Oystercatcher flew up to mob marsh harrier and then returned to ground
4	29/05/2024	MAY	E	4_MAY_E_7	MR	1	08:00	60	0	0	0	Marsh harrier hunting over fields, was mobbed by oystercatcher and flew north

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
5	30/05/2024	MAY	E	5_MAY_E_1	SU	1	05:56	30	0	0	0	Shelduck took off from field and flew west
5	30/05/2024	MAY	E	5_MAY_E_2	ET	2	06:23	0	30	0	0	Pair of little egrets flying inland
5	30/05/2024	MAY	E	5_MAY_E_3	SU	1	06:56	30	0	0	0	Shelduck flew up from field towards west
5	30/05/2024	MAY	E	5_MAY_E_4	MA	3	07:55	0	0	45	0	Two male mallards chasing female at 80m
5	30/05/2024	MAY	E	5_MAY_E_5	MA	2	08:14	0	0	30	0	Pair of mallards flying over at 70m
5	10/06/2024	JUN	L	5_JUN_L_1	MR	1	19:51	60	0	0	0	Female marsh harrier hunting
5	10/06/2024	JUN	L	5_JUN_L_2	BO	1	20:24	150	0	0	0	Barn owl hunting in front of VP
5	10/06/2024	JUN	L	5_JUN_L_3	BO	1	20:56	120	0	0	0	Barn owl hunting in front of VP

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
1	11/06/2024	JUN	M	1_JUN_M_1	MR	1	12:49	75	0	0	0	Marsh harrier hunting
1	11/06/2024	JUN	M	1_JUN_M_2	ET	1	13:11	30	0	0	0	Little egret flying along ditch
1	11/06/2024	JUN	M	1_JUN_M_3	MA	2	13:15	0	30	0	0	Pair of Mallard flying over
4	11/06/2024	JUN	L	4_JUN_L_1	MR	1	20:15	30	0	0	0	Ringtail marsh harrier flying towards coast
5	12/06/2024	JUN	E	5_JUN_E_1	MA	1	05:58	0	30	30	0	Mallard flying over
5	12/06/2024	JUN	E	5_JUN_E_2	ET	1	06:27	0	45	0	0	Little egret flying across fields
1	13/06/2024	JUN	E	1_JUN_E_1	ET	1	07:12	0	45	0	0	Little egret flying across fields
1	13/06/2024	JUN	E	1_JUN_E_2	GJ	2	07:56	0	60	0	0	Greylag geese flying along seawall
1	13/06/2024	JUN	E	1_JUN_E_3	MR	1	08:23	45	0	0	0	Male marsh harrier hunting over VP

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
1	13/06/2024	JUN	E	1_JUN_E_4	BO	1	08:32	45	0	0	0	Barn owl hunting
4	13/06/2024	JUN	M	4_JUN_M_1	SU	2	09:07	30	30	0	0	Shelducks flying towards coast
4	13/06/2024	JUN	M	4_JUN_M_2	MR	1	09:08	0	60	0	0	Marsh harrier hunting
4	13/06/2024	JUN	M	4_JUN_M_3	MR	1	09:15	120	0	0	0	Male marsh harrier hunting over VP, chased away female marsh harrier same time
4	13/06/2024	JUN	M	4_JUN_M_4	MR	1	09:16	30	0	0	0	Female, flew passed and was chased off by male marsh harrier
4	13/06/2024	JUN	M	4_JUN_M_5	SU	1	09:39	0	45	0	0	Shelduck flying south
4	13/06/2024	JUN	M	4_JUN_M_6	MR	1	10:47	30	0	0	0	Marsh harrier flying south west
4	13/06/2024	JUN	M	4_JUN_M_7	MR	1	11:16	60	0	0	0	Female marsh harrier hunting

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
2	24/06/2024	JUN	L	2_JUN_L_1	MR	1	18:49	45	0	0	0	Female marsh harrier hunting over fields
3	24/06/2024	JUN	M	3_JUN_M_1	HY	1	12:29	30	0	0	0	Hobby hunting over fields
3	24/06/2024	JUN	M	3_JUN_M_2	MR	1	13:06	30	45	0	0	Male marsh harrier hunting
4	25/06/2024	JUN	E	4_JUN_E_1	OC	2	06:16	0	0	0	45	Oystercatchers flying high over
5	25/06/2024	JUN	M	5_JUN_M_1	H	1	12:03	45	0	0	0	Grey heron flying over ditch
5	25/06/2024	JUN	M	5_JUN_M_2	MR	1	13:07	60	0	0	0	Male Marsh harrier hunting
1	26/06/2024	JUN	L	1_JUN_L_1	MR	1	18:35	30	0	0	0	Male marsh harrier hunting over fields
1	26/06/2024	JUN	L	1_JUN_L_2	ET	2	18:40	0	75	0	0	Two little egrets flying across fields, over seawall
1	26/06/2024	JUN	L	1_JUN_L_3	ET	2	18:43	30	0	0	0	Two little egrets flying along ditch in

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
												front of seawall
1	26/06/2024	JUN	L	1_JUN_L_4	ET	1	19:26	45	0	0	0	Little egret flying north
1	26/06/2024	JUN	L	1_JUN_L_5	MR	1	19:28	75	0	0	0	Male marsh harrier hunting over fields
2	01/07/2024	JUL	M	2_JUL_M_1	MR	1	13:48	0	60	0	0	Marsh harrier flying slowly over fields
4	01/07/2024	JUL	L	4_JUL_L_1	MR	1	20:23	45	0	0	0	Female marsh harrier hunting near VP
1	02/07/2024	JUL	E	1_JUL_E_1	MR	1	06:42	45	0	0	0	Male marsh harrier hunting near VP
1	02/07/2024	JUL	E	1_JUL_E_2	ET	2	06:50	60	0	0	0	Little egret flying between ditches
1	02/07/2024	JUL	E	1_JUL_E_3	MR	2	06:55	105	0	0	0	Male and female marsh harrier flying together

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
1	02/07/2024	JUL	E	1_JUL_E_4	MR	1	07:18	30	0	0	0	Male marsh harrier flying across
1	02/07/2024	JUL	E	1_JUL_E_5	ET	1	08:02	45	0	0	0	Little egret flying along ditch
5	02/07/2024	JUL	M	5_JUL_M_1	MR	1	12:28	30	0	0	0	Female marsh harrier flying across VP
3	03/07/2024	JUL	L	3_JUL_L_1	MR	1	19:46	60	0	0	0	Male marsh harrier flying past
4	03/07/2024	JUL	E	4_JUL_E_1	MR	1	06:29	60	0	0	0	Male marsh harrier hunting near VP
4	03/07/2024	JUL	E	4_JUL_E_2	MA	2	07:46	0	30	0	0	Mallards flying past
1	04/07/2024	JUL	M	1_JUL_M_1	H	1	09:05	45	0	0	0	Grey heron flying from one ditch to another
1	04/07/2024	JUL	M	1_JUL_M_2	MR	1	10:29	105	0	0	0	Female marsh harrier hunting
1	04/07/2024	JUL	M	1_JUL_M_3	MR	1	11:12	60	0	0	0	Female marsh harrier hunting

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
2	04/07/2024	JUL	E	2_JUL_E_1	MR	1	07:02	30	0	0	0	Male marsh harrier hunting near VP
3	22/07/2024	JUL	M	3_JUL_M_1	MR	1	12:56	75	0	0	0	Male Marsh harrier hunting
5	23/07/2024	JUL	L	5_JUL_L_1	MA	3	19:45	0	0	0	60	Three mallards flying high over
5	23/07/2024	JUL	L	5_JUL_L_2	MR	1	19:49	45	0	0	0	Female marsh harrier flying south
1	24/07/2024	JUL	L	1_JUL_L_1	HY	1	18:38	30	0	0	0	Hobby hunting along ditch
1	24/07/2024	JUL	L	1_JUL_L_10	MA	1	20:22	45	0	0	0	Mallard fling along seawall.
1	24/07/2024	JUL	L	1_JUL_L_11	MR	1	20:43	90	0	0	0	Female Marsh harrier hunting
1	24/07/2024	JUL	L	1_JUL_L_2	MA	11	18:48	0	0	60	0	Two flocks of mallards flew up and towards seawall
1	24/07/2024	JUL	L	1_JUL_L_3	OC	1	18:51	30	0	0	0	Oystercatcher flying along seawall

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
1	24/07/2024	JUL	L	1_JUL_L_4	CA	1	19:05	0	0	45	0	Cormorant flying east
1	24/07/2024	JUL	L	1_JUL_L_5	MR	1	19:09	90	0	0	0	Male marsh harrier hunting along seawall and then turned as it saw me
1	24/07/2024	JUL	L	1_JUL_L_6	OC	1	19:09	15	0	0	0	Oystercatcher came up to mob marsh harrier
1	24/07/2024	JUL	L	1_JUL_L_7	MA	4	19:12	60	0	0	0	Mallards flying from ditch
1	24/07/2024	JUL	L	1_JUL_L_8	MR	2	19:32	195	0	0	0	Male and Female Marsh harriers hunting
1	24/07/2024	JUL	L	1_JUL_L_9	MR	1	20:01	105	0	0	0	Female Marsh harrier hunting
5	25/07/2024	JUL	E	5_JUL_E_1	MR	1	06:43	0	30	0	0	Female marsh harrier flying over
1	05/08/2024	AUG	L	1_AUG_L_1	GJ	2	18:12	30	0	0	0	Greylag geese flying out to sea

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
1	05/08/2024	AUG	L	1_AUG_L_10	CG	4	19:16	45	0	0	0	
1	05/08/2024	AUG	L	1_AUG_L_11	CG	10	19:23	0	0	60	0	10 Canada Geese flying high inland
1	05/08/2024	AUG	L	1_AUG_L_12	CG	6	19:51	45	0	0	0	Canada Geese flying inland
1	05/08/2024	AUG	L	1_AUG_L_13	CG	10	20:02	45	0	0	0	Canada Geese flying out to sea
1	05/08/2024	AUG	L	1_AUG_L_2	CG	7	18:31	60	0	0	0	Canada Gesse flying inland and landing on field
1	05/08/2024	AUG	L	1_AUG_L_3	CG	12	18:35	60	0	0	0	More Canada Geese
1	05/08/2024	AUG	L	1_AUG_L_4	CG	4	18:41	60	0	0	0	
1	05/08/2024	AUG	L	1_AUG_L_5	CG	13	18:52	60	0	0	0	
1	05/08/2024	AUG	L	1_AUG_L_6	CG	10	19:01	30	0	0	0	Canada Geese flying north
1	05/08/2024	AUG	L	1_AUG_L_7	CG	26	19:05	60	0	0	0	Large flock of Canada

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
												Geese, joining rest of big flock in field
1	05/08/2024	AUG	L	1_AUG_L_8	MA	4	19:09	45	0	0	0	Four female mallards flying over fields
1	05/08/2024	AUG	L	1_AUG_L_9	CG	6	19:10	45	0	0	0	Six Canada Geese flying out to sea
3	05/08/2024	AUG	M	3_AUG_M_1	MR	1	12:51	45	0	0	0	Female marsh harrier flying over
3	05/08/2024	AUG	M	3_AUG_M_2	MR	1	13:13	90	0	0	0	Female marsh harrier hunting
3	05/08/2024	AUG	M	3_AUG_M_3	MR	1	13:59	135	0	0	0	Female marsh harrier hunting
2	06/08/2024	AUG	L	2_AUG_L_1	MR	1	19:35	60	30	0	0	Female marsh harrier flew over field, dove to catch something and flew off without food east
2	06/08/2024	AUG	L	2_AUG_L_2	MR	1	20:20	75	0	0	0	Female marsh harrier flew

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
												slowly over fields
3	07/08/2024	AUG	E	3_AUG_E_1	MR	1	08:15	60	0	0	0	Male marsh harrier flying over
4	07/08/2024	AUG	M	4_AUG_M_1	MR	1	12:46	75	0	0	0	Male marsh harrier flying over
1	08/08/2024	AUG	E	1_AUG_E_1	CG	6	05:48	60	0	0	0	Canada geese flying west
1	08/08/2024	AUG	E	1_AUG_E_2	CG	7	06:35	45	0	0	0	Canada geese flying over
1	08/08/2024	AUG	E	1_AUG_E_3	CG	2	06:49	30	0	0	0	Canada Geese flying low
1	08/08/2024	AUG	E	1_AUG_E_4	CG	9	07:35	30	0	0	0	
1	08/08/2024	AUG	E	1_AUG_E_5	CG	5	07:53	45	0	0	0	
1	08/08/2024	AUG	E	1_AUG_E_6	GJ	52	08:09	30	0	0	0	
1	08/08/2024	AUG	E	1_AUG_E_7	CG	153	08:09	30	0	0	0	
1	08/08/2024	AUG	E	1_AUG_E_8	CG	7	08:23	45	0	0	0	

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
2	08/08/2024	AUG	M	2_AUG_M_1	HY	1	09:38	60	0	0	0	Hobby being mobbed by swallows
2	08/08/2024	AUG	M	2_AUG_M_2	HY	1	10:57	30	0	0	0	Hobby flying across field
2	08/08/2024	AUG	M	2_AUG_M_3	MR	1	11:20	45	0	0	0	Female marsh harrier hunting
1	19/08/2024	AUG	M	1_AUG_M_1	MR	1	12:23	30	0	0	0	Male marsh harrier flying across fields
1	19/08/2024	AUG	M	1_AUG_M_2	H	1	12:49	0	45	0	0	Grey Heron flying north west
1	19/08/2024	AUG	M	1_AUG_M_3	MR	1	13:18	60	0	0	0	Male marsh harrier hunting
1	19/08/2024	AUG	M	1_AUG_M_4	MR	1	15:02	45	0	0	0	Male marsh harrier hunting
3	20/08/2024	AUG	L	3_AUG_L_1	HY	1	18:43	30	0	0	0	Hobby flying low along ground
4	20/08/2024	AUG	E	4_AUG_E_1	MR	1	06:40	45	0	0	0	Male marsh harrier hunting
4	21/08/2024	AUG	L	4_AUG_L_1	MR	1	18:23	45	0	0	0	Female marsh harrier hunting and being

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
												mobbed by kestrel
4	21/08/2024	AUG	L	4_AUG_L_2	MR	1	19:23	75	0	0	0	Female marsh harrier hunting over fields
1	22/04/2024	APR	M	1_APR_M_1	GJ	2	12:45	30	0	0	0	
1	22/04/2024	APR	M	1_APR_M_10	GJ	1	13:27	15	0	0	0	Greylag goose flying along coast and landed in ditch
1	22/04/2024	APR	M	1_APR_M_11	MR	1	13:55	0	30	90	165	Male marsh harrier flew over and slowly rose in height until it was soaring high above
1	22/04/2024	APR	M	1_APR_M_12	MR	1	13:56	75	0	0	0	Second male marsh harrier flew low across the fields
1	22/04/2024	APR	M	1_APR_M_13	GJ	1	14:23	30	0	0	0	Greylag goose flew inland

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
1	22/04/2024	APR	M	1_APR_M_14	GJ	1	14:30	45	0	0	0	Greylag goose flew towards sea
1	22/04/2024	APR	M	1_APR_M_15	GJ	2	14:48	90	0	0	0	Greylag goose flying over
1	22/04/2024	APR	M	1_APR_M_16	GJ	1	15:23	30	0	0	0	Greylag flying inland
1	22/04/2024	APR	M	1_APR_M_2	GJ	2	12:47	30	0	0	0	
1	22/04/2024	APR	M	1_APR_M_3	SU	2	12:48	0	0	30	0	
1	22/04/2024	APR	M	1_APR_M_4	SU	3	12:52	45	0	0	0	3 shelduck flying around and flew towards sea
1	22/04/2024	APR	M	1_APR_M_5	SU	2	12:54	15	0	0	0	Shelduck flying towards the sea
1	22/04/2024	APR	M	1_APR_M_6	GJ	1	12:55	0	30	0	0	
1	22/04/2024	APR	M	1_APR_M_7	SU	5	12:57	30	0	0	0	Five shelduck flying inland from sea

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
1	22/04/2024	APR	M	1_APR_M_8	SU	2	13:13	0	30	0	0	Two shelduck flying out to sea
1	22/04/2024	APR	M	1_APR_M_9	GJ	1	13:16	0	30	0	0	
1	23/04/2024	APR	E	1_APR_E_8	MR	1	07:58	60	0	0	0	Marsh harrier flying over fields
2	23/04/2024	APR	E	2_APR_E_1	MA	1	06:57	15	0	15	0	Mallard flew over at roughly 70m and then landed on field
1	24/04/2024	APR	E	1_APR_E_1	BO	1	06:32	60	0	0	0	Barn owl hunting in front of VP
1	24/04/2024	APR	E	1_APR_E_10	SU	2	08:05	0	30	0	0	Two shelducks circled and flew N
1	24/04/2024	APR	E	1_APR_E_11	GJ	3	08:16	0	0	30	0	
1	24/04/2024	APR	E	1_APR_E_12	MR	1	08:21	45	0	0	0	Marsh harrier flying over fields

VP No	Date	Month	E/M/L	Flight_ID	Species	No. of Birds	Start time	Time in band A (s)	Time in band B (s)	Time in band C (s)	Time in band D (s)	Notes
1	24/04/2024	APR	E	1_APR_E_2	MA	2	06:41	30	0	0	0	Mallards flew from one ditch to another
1	24/04/2024	APR	E	1_APR_E_3	SU	2	07:03	0	30	0	0	Shelduck flew up, circled and then re-landed in field
1	24/04/2024	APR	E	1_APR_E_4	GJ	2	07:21	0	0	45	0	Greylag geese flying over at roughly 60m
1	24/04/2024	APR	E	1_APR_E_5	MR	1	07:32	75	0	0	0	Marsh harrier flying over fields
1	24/04/2024	APR	E	1_APR_E_6	GJ	3	07:33	0	0	45	0	Greylag geese flying east
1	24/04/2024	APR	E	1_APR_E_7	GJ	2	07:52	30	0	0	0	Two greylag geese flying inland
1	24/04/2024	APR	E	1_APR_E_9	GJ	3	08:02	0	30	0	0	



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