



Park House Farm Wind Farm, Lowca, Cumbria

Bird Vantage Point Survey Report



**For Cannock Wind Farm Services
Limited**

March 2020

Lakeland Business Park, Lamplugh Road, Cockermouth, Cumbria, CA13 0QT


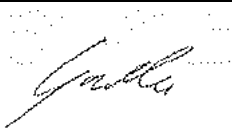


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Executive Summary

Contents	Summary
Site Location	The 'site' is located on land at Park House Farm, to the north of the village of Lowca, in Cumbria - Ordnance Survey National Grid Reference NX 98376 23260. The site comprises seven wind turbines set within grassland habitat.
Proposals	The planning application seeks to extend the life of the seven existing turbines on site until end of March 2030.
Existing Site Information	The existing planning permission was granted consent in 1998 following a successful appeal against a refusal of planning permission by Copeland Borough Council - reference no: 4/98/0486/0. Construction commenced in 1999 and the existing wind turbines are currently consented to be operational until the end of March 2020.
Scope of this Survey(s)	<ul style="list-style-type: none"> To quantify the flight activity of target bird species throughout the wind farm study area. To establish target bird species assemblages at risk of collision with the turbines / using the airspace occupied by the rotors, with particular focus on species which form qualifying features of the Solway Firth pSPA.
Results	<ul style="list-style-type: none"> The Solway Firth pSPA is located 242m west of the site. This site supports populations of European important over-wintering and migratory bird species. Ten species qualifying under the Solway Firth pSPA (including those classified under Upper Solway Flats and Marshes SPA) were observed using the site and adjacent land (up to 1km buffer) during the vantage points surveys. Three WCA Schedule 1 target bird species were recorded during the vantage point surveys. Four BoCC Red List target species were observed using the site and adjacent land during the vantage points surveys. Ten BoCC Amber List target species were observed using the site and adjacent land during the vantage points surveys. Four NERC Act target species were observed using the site and adjacent land during the vantage points surveys.
Discussion	<ul style="list-style-type: none"> The Park House Farm Wind Farm is unlikely to cause a mortality of the local pSPA species at a level that would be considered significant in the context of the pSPA. It is also considered that the existing wind farm infrastructure is unlikely to create a significant barrier for the movement for any of the Solway Firth pSPA species. It is considered that the Park House Farm Wind Farm is highly unlikely to affect local populations of WCA Schedule 1 species in form of increased mortality, displacement or barrier effect.



	<ul style="list-style-type: none">• It is considered that the Park House Farm Wind Farm is unlikely to have impact on populations of other target bird species (e.g. Amber BoCC listed, common raptor species).• Decommissioning of Park House Farm Wind Farm may create minor disturbance and displacement of migratory / wintering populations of black-headed gulls, herring gull and curlew that currently use the site. These impacts are considered to be only of temporary nature with no long-term impacts anticipated for these populations of wintering / migratory pSPA birds.
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Glossary

BAWC	Bird and Wildlife in Cumbria Report
BoCC	Bird(s) of Conservation Concern
BTO	British Trust for Ornithology
CBDC	Cumbria Biodiversity Data Centre
CC-BY-NC	Creative Commons Attribution Non-Commercial
CIEEM	Chartered Institute of Ecology & Environmental Management
CWS	County Wildlife Site
MCIEEM	Member of Chartered Institute of Ecology & Environmental Management
Natura 2000 site	A European site designated for its nature conservation value
NBN	National Biodiversity Network
NE	Natural England
NERC Act	Natural Environment and Rural Communities Act 2006
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SNH	Scottish Natural Heritage
pSPA	potential Special Protection Area
SPA	Special Protection Area
SPI	Species of Principal Importance
WCA	Wildlife and Countryside Act 1981 (as amended)
WeBS	Wetland Bird Survey
VP	Vantage Point



1.0 Introduction

1.1 Background

WYG was commissioned by Cannock Wind Farm Services Limited in June 2019 to undertake vantage point surveys for target bird species at the site known as Park House Farm Wind Farm, Lowca, Cumbria. The survey works has been commissioned in order to inform the proposal to extend the operational life of the seven turbines, currently present on the site to 2030.

This report was prepared by WYG Senior Ecologist Luke Verrall BSc (Hons) MCIEEM and WYG Senior Ecologist Patryk Gruba BSc (Hons) MCIEEM. The conditions pertinent to this report are provided in Appendix A.

1.2 Site Location

The 'site' is located on land at Park House Farm, to the north of Lowca, in Cumbria – see Figure 1. The site is centred at Ordnance Survey National Grid Reference (OSNGR) NX 98376 23260 and comprises seven wind turbines set within grassland habitat. The west coast railway line forms the western boundary of the site, separating the site from coastal habitats and the Solway Firth. In the wider area there are arable and grassland habitats to the north, south and east.

1.3 Planning Application

The section 73 planning application seeks to vary the planning condition, which requires the wind farm to cease operating at the end of March 2020 with the effect of extending the life of the seven existing turbines on site until 2030.

The existing planning permission was granted consent in 1998 following a successful appeal against a refusal of planning permission by Copeland Borough Council - reference no: 4/98/0486/0. Construction commenced in 1999 and the existing wind turbines are currently consented to be operational until the end of March 2020.

1.4 Purpose of the Report

The purpose of the bird vantage point survey report is to:

- Outline the legislative protection given to birds;
- Detail existing bird records and locally designated sites of relevance to birds;
- To quantify the flight activity of target bird species throughout the wind farm study area;
- To establish target bird species assemblages at risk of collision with the turbines / using the airspace occupied by the rotors;
- To establish potential risks of impact of the existing wind farm on the target bird species with particular focus on the qualifying species for the Solway Firth pSPA.

Note that scientific names are provided at the first mention of each species and common names (where appropriate) are then used throughout the rest of the report for ease of reading.



2.0 Methodology

2.1 Desk Study

2.1.1 Previous Reports

An Environmental Impact Assessment (EIA) was undertaken for the wind farm in March 1995 (existing planning permission reference: 4/98/0486/0¹ - Copeland Borough Council). This application was refused planning permission in September 1995. The refusal was subsequently appealed, and a public inquiry was held in March 1997.

In January 1997, an Environmental Statement (ES) Supplementary Statement was produced for the revised scheme to support the modified proposals submitted to the public inquiry. The appeal was successful, and consent issued by the Secretary of State on 6 October 1997.

Construction commenced in 1999 and the existing wind turbines are currently consented to be operational until the end of March 2020 (WYG, 2019).

The EIA did not include a detailed bird study; therefore, there is no previous bird survey data available for the site.

2.1.2 Consultation

WYG consulted Natural England regarding the scope of bird surveys required to support the planning application. The correspondence with NE has been included in Appendix C.

2.1.3 Local Ecological Records Centre

Information was gathered from the Cumbria Biodiversity Data Centre (CBDC), the ecological records centre for Cumbria regarding the presence of nature conservation designations and protected and notable bird species within 5km of the boundary of the proposed development site.

2.1.4 Online Resources

A search for relevant information was also made on the following websites:

- MAGIC www.magic.gov.uk - DEFRA's interactive, web-based database for statutory designations. The MAGIC website (managed by Natural England) was consulted to reveal records of statutory and non-statutory designated sites within 5km designated for bird interest including Special Protection Areas / potential Special Protection Area (SPA / pSPA), Ramsar sites, important bird areas, RSPB reserves, etc.
- NBN Atlas <https://nbnatlas.org/> - for records of protected and notable species.

Note that the use of some NBN Atlas data is limited (e.g. commercial use of data provided under a CC BY-NC licence is not possible) therefore we may not be able to report full details of those records in such cases.

¹ Planning Inspectorate Appeal Reference T/APP/Z0923/A/98/301037/P2



2.1.5 Bird and Wildlife in Cumbria Report

Birds and Wildlife in Cumbria (BAWC) is a County Natural History Report that is published annually by the Cumbria Naturalist Union and includes bird records for the county.

Records for the bird report are drawn from a range of sources, these include records submitted by individual observers, either through the Cumbria Bird Club recording system, or from the BTO's online reporting system 'Birdtrack'. In addition, records are supplied via several organisations or groups such as CBDC, Cumbria Wildlife Trust and RSBP.

The results of the BTO Breeding Bird Surveys and the Wetland Bird Surveys are also included in the BAWC.

The most recent Birds and Wildlife in Cumbria Report (2019) covers bird records for up to 2017. The records for the pSPA bird species, in particular WeBS counts for the Solway Estuary Outer - Parton Bay, which is 2km south from Park House Wind Farm, have been presented in this report.

2.2 Vantage Point Surveys

Vantage Point (VP) surveys were carried out to quantify the bird flight activity across the site.

A single VP was considered suitable to provide adequate cover of the site and the surrounding area. The VP was located outside of the 500m wind farm core study area (as recommended by the current guidelines – SNH, 2017) and allowed the surveyor to clearly see the turbine rotors with the furthest turbine located approximately 1.4km from the VP. The VP was located at the following Ordnance Survey Grid References (OSGR) NX 98376 23260 and shown in Figure 2.

The core study area comprised Park House Farm Wind Farm and the immediately adjacent area (up to 500m from the turbines). Wherever feasible, the observations were also carried out for the wind farm envelope area (500m to 1000m from the turbines) – see Figure 2.

Movements of target birds flying on and around the site were recorded from the VP between June 2019 and February 2020. Two surveys / vantage point sessions were conducted monthly with the exception of the month of June 2019 during which only one survey was conducted; each VP session lasted 3 hours as recommend by the current guidelines (SNH, 2017). An additional 6 hours of recording (two VP session) was conducted during the autumn bird passage season – September / October. The total site observation time from the VP accounted for 57 hours.

Surveys were carried out during days with at least good visibility and throughout various times of the day and tidal cycles in order to provide a wide overview of the bird movements throughout the study area.

Surveys were carried out by suitably qualified and experienced ornithologist Patryk Gruba WYG Senior Ecologist MCIEEM.

Bird species recorded on the site were divided into Target Species and Incidental Species. The Target Species were those that have a higher level of collision risk with the turbine infrastructure and birds which form qualifying features of the Solway Firth pSPA. Therefore, Target Species comprised all waterfowl (i.e. swans, geese, ducks, divers, grebes, cormorant, shag and herons), all wader species



(including plovers and lapwings, sandpipers, snipes and allies); all tern species; all gull species; and all raptors.

All Target Species were counted, and their flight lines mapped by the observer using binoculars (Opticron Discovery WP 8x42) and a high-powered telescope (Hawke Endurance ED x48). Flight lines indicate the observed flight path of a single bird or a flock of birds on a map. Over time, flight lines can help to predict the movements of the birds across/within a site.

For each Target Species recorded in flight the following details were recorded: start and duration time, species (using the standard British Trust for Ornithology (BTO) two letter species codes (Gilbert *et al.*, 2002), age and sex (where possible), and height during flight (flight height categories considered suitable were <20 m, 20-65 m and >65 m). Flight height categories were selected based on the turbine specification.

Each flying bout (single bird or single group of birds) were numbered and cross-referenced to a map of the observed flight path.

Non-flying target species were also counted and recorded, for example curlew *Numenius arquata* foraging in the fields on site.

The summary of bird activity data is presented in Table 4; this includes a total number of flights, a total time spent within the wind farm study area and percentage of time spent at the wind farm rotor height. The detailed collision risk study was not conducted as this was deemed unnecessary during the consultation process with NE – see Appendix C.

The following meteorological variables were recorded at the start and end of the vantage point surveys:

- Cloud cover (0% - clear sky, to 100% - total cloud cover);
- Wind direction (north, south, east or west);
- Wind speed (Beaufort scale; Force 0 – no wind, to Force 6 – strong wind (note: VPs should not be carried out above Force 6 wind));
- Temperature (°C);
- Precipitation (mm); and
- Visibility (excellent, very good, good, moderate or poor).

Incidental Species comprise passerines (e.g. thrushes, warblers, larks, pipits and finches), corvids and pigeons; it is generally considered that these groups of species are not significantly impacted by wind farms (SNH, 2017). These were noted as incidental species records during the above surveys to supplement the vantage point bird survey data.

Table 1 below gives the timings and weather conditions of the surveys. Surveys were organised to be undertaken during daylight hours and at a variety of times across a day (i.e. sampling in the morning and afternoon).



Table 1: Survey Dates and Weather Conditions

Date	Survey time	Weather conditions*
26.06.19	09:45 – 12:45	START - Temp: 15°C, Cloud: 10%, Rain: 0, Wind: 1-2, Wind Direction: NE, Visibility: Excellent
		END - Temp: 18°C, Cloud: 10%, Rain: 0, Wind: 2, Wind Direction: NE Visibility: Excellent.
03.07.19	14:05 – 17:05	START - Temp: 19°C, Cloud: 0%, Rain: 0, Wind: 3, Wind Direction: W, Visibility: Excellent, but with heat haze.
		END - Temp: 19°C, Cloud: 0%, Rain: 0, Wind: 1-2, Wind Direction: W, Visibility: Excellent, but with heat haze.
18.07.19	09:45 – 12:45	START - Temp: 14°C, Cloud: 90-100%, Rain: 0, Wind: 2-3, Wind Direction: W, Visibility: Very good.
		END - Temp: 15°C, Cloud: 80%, Rain: 0, Wind: 2, Wind Direction: W, Visibility: Very good.
05.08.19	14:00 – 17:00	START - Temp: 19°C, Cloud: 30%, Rain: 0, Wind: 1-2, Wind Direction: SW, Visibility: Excellent.
		END - Temp: 18°C, Cloud: 20%, Rain: 0, Wind: 2, Wind Direction: SW, Visibility: Excellent.
21.08.19	09:00 – 12:00	START - Temp: 15°C, Cloud: 30-40%, Rain: 0, Wind: 2-3, Wind Direction: SW, Visibility: Excellent.
		END - Temp: 14°C, Cloud: 100%, Rain: 0, Wind: 3-4, Wind Direction: SW, Visibility: Very Good.
05.09.19	13:25 – 16:25	START - Temp: 14°C, Cloud: 50%, Rain: 0, Wind: 3-4, Wind Direction: W, Visibility: Very good.
		END - Temp: 14°C, Cloud: 80%, Rain: 0, Wind: 3, Wind Direction: W, Visibility: Good.
19.09.19	08:45 – 11:45	START - Temp: 14°C, Cloud: 50%, Rain: 0, Wind: 0-1, Wind Direction: SE, Visibility: Excellent.
		END - Temp: 17°C, Cloud: 5%, Rain: 0, Wind: 1-2, Wind Direction: SE, Visibility: Excellent.
30.09.19	13:45 – 16:45	START - Temp: 17°C, Cloud: 90%, Rain: 0, Wind: 1-2, Wind Direction: SE, Visibility: Excellent.
		END - Temp: 13°C, Cloud: 100%, Rain: 0, Wind: 1, Wind Direction: SE, Visibility: Excellent.
11.10.19	12:40 – 15:40	START - Temp: 13°C, Cloud: 50-40%, Rain: 0, Wind: 4, Wind Direction: W, Visibility: Excellent.
		END - Temp: 11°C, Cloud: 80%, Rain: 0, Wind: 4-5, Wind Direction: W, Visibility: Very good.
22.10.19	09:30 – 12:30	START - Temp: 9°C, Cloud: 100%, Rain: 0, Wind: 3, Wind Direction: SW, Visibility: Very good.
		END - Temp: 9°C, Cloud: 100%, Rain: 0, Wind: 3, Wind Direction: SW, Visibility: Very good.



Date	Survey time	Weather conditions*
28.10.19	13:10 – 16:10	START - Temp: 8°C, Cloud: 0%, Rain: 0, Wind: 1, Wind Direction: NE, Visibility: Excellent.
		END - Temp: 6°C, Cloud: 10%, Rain: 0, Wind: 1, Wind Direction: NE, Visibility: Excellent.
05.11.19	11:35 – 14:35	START - Temp: 7°C, Cloud: 100%, Rain: 0, Wind: 3-4, Wind Direction: NE, Visibility: Very good.
		END - Temp: 7°C, Cloud: 70%, Rain: 0, Wind: 4-5, Wind Direction: NE, Visibility: Very good.
27.11.19	09:15 – 12:15	START - Temp: 5°C, Cloud: 20%, Rain: 0, Wind: 1, Wind Direction: NE, Visibility: Good.
		END - Temp: 6°C, Cloud: 10%, Rain: 0, Wind: 1-2, Wind Direction: NE, Visibility: Very good.
02.12.19	12:45 – 15:45	START - Temp: 6°C, Cloud: 100%, Rain: 0, Wind: 1, Wind Direction: W, Visibility: Very good.
		END - Temp: 6°C, Cloud: 100%, Rain: 0, Wind: 1, Wind Direction: NW, Visibility: Very good.
17.12.19	12:40 – 15:40	START - Temp: 6°C, Cloud: 0%, Rain: 0, Wind: 1, Wind Direction: NE, Visibility: Excellent.
		END - Temp: 6°C, Cloud: 10%, Rain: 0, Wind: 1, Wind Direction: NE, Visibility: Excellent.
03.01.20	12:55 – 15:55	START - Temp: 6°C, Cloud: 60%, Rain: 0, Wind: 2, Wind Direction: W, Visibility: Very good.
		END - Temp: 5°C, Cloud: 70%, Rain: 0, Wind: 2, Wind Direction: W, Visibility: Very good.
21.01.20	11:35 – 14:35	START - Temp: 7°C, Cloud: 100%, Rain: 0, Wind: SW1, Wind Direction: SW, Visibility: Good.
		END - Temp: 6°C, Cloud: 90%, Rain: 0, Wind: 1, Wind Direction: S, Visibility: Very good.
05.02.20	9:30 – 12:30	START - Temp: 4°C, Cloud: 100%, Rain: 0, Wind: 2, Wind Direction: S, Visibility: Good.
		END - Temp: 6°C, Cloud: 70%, Rain: 0, Wind: 2, Wind Direction: S, Visibility: Very good.
18.02.20	8:55 – 11:55	START - Temp: 2°C, Cloud: 50%, Rain: 0, Wind: 4, Wind Direction: SW, Visibility: Very Good.
		END - Temp: 3°C, Cloud: 100%, Rain: 2, Wind: 4, Wind Direction: SW, Visibility: Good

* Wind speed measured on the Beaufort Scale.

2.3 Limitations

The VP location was selected in line with the current survey guidelines (SNH, 2017); this allowed the surveyor to cover the flight activity survey area such that the distance for each turbine was more



than 500m but no greater than 2km. The turbine rotor areas for each turbine were clearly visible but the VP point did not allow the surveyor to cover some of the land located near the turbines bases and the coastal section to the west (approximately 150m below the wind farm area). However, this is not considered to be a limitation as the main purpose of this survey was to record target bird species at risk of collision with the turbines / using the airspace occupied by the rotors.

The original EIA for the site did not include a detailed bird study; therefore, there is no previous bird survey data available for the site and it was not possible to compare the pre-construction bird flight data with the 2019 / 2020 VP bird survey results.

The survey data was gathered between the months of June and February and thus includes only a snapshot of information on bird activity during summer, autumn – passage and winter season. No data on early spring migration and early summer season is included within this report. However, this is not considered to significantly affect the assessment presented in this report as most of the wintering and passage bird activity would have been recorded during the duration of the surveys.

The details of this report will remain valid for a period of **12 months** from the date of the last survey, after which the validity of this assessment should be reviewed to determine whether further updates are necessary.



3.0 Baseline Conditions

3.1 Statutory Designated Sites

3.1.1 Natura 2000 Site

The following designated sites of ecological importance in relation to birds have been identified within 5km of the site.

Table 2: Designated Sites Within 5km

Site Name & Area (ha)	Designation	Distance & Direction	Summary of features
Solway Firth (135,749)	pSPA	242m west	<p>A large estuarine / marine site of international importance that includes existing Upper Solway Flats and Marshes SPA. The designation extends along the Cumbrian coast to Whitehaven and the Scottish extension of the site extends along to the Isle of Whithorn.</p> <p>The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl.</p> <p>This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of over-wintering species listed on Annex I of the Directive including red throated diver <i>Gavia stellate</i>, bar-tailed godwit <i>Limosa lapponica</i>, barnacle goose <i>Branta leucopsis</i>, golden plover <i>Pluvialis apricaria</i> and whooper swan <i>Cygnus Cygnus</i>.</p> <p>This site also qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the migratory species including but not limited to pink footed goose <i>Anser brachyrhynchus</i>, shelduck <i>Tadorna tadorna</i>, teal <i>Anas crecca</i>, pintail <i>Anas acuta</i>, shoveler <i>Anas clypeata</i>, scaup <i>Aythya marila</i>, common scoter <i>Melanitta nigra</i>, goldeneye <i>Bucephala clangula</i>, goosander <i>Mergus merganser</i>, oystercatcher <i>Haematopus ostralegus</i>, knot <i>Calidris canutus</i>, ringed plover <i>Charadrius hiaticula</i>, grey plover <i>Pluvialis squatarola</i>, lapwing <i>Vanellus vanellus</i>, dunlin <i>Calidris alpina</i>, sanderling <i>Calidris alba</i>, redshank <i>Tringa tetanus</i>, turnstone <i>Arenaria interpres</i>, curlew, cormorant <i>Phalacrocorax carbo</i> black-headed gull <i>Chroicocephalus ridibundus</i>, common gull <i>Larus canus</i> and herring gull <i>Larus argentatus</i>.</p>



3.2 Desk Study – SPA, WCA Schedule 1 and Notable Birds

The desk study returned multiple records of a range of bird species being present within 5km of the site. These included breeding, passage and wintering birds.

The NBN atlas returned records for 158 species of bird within the 5km grid square for the site.

CBDC returned 5975 records of 147 bird species within 5km of the site. Of these a total of 29 are legally protected bird species listed under Schedule 1 of the WCA.

329 of the CBDC records relating to 59 bird species were recorded to tetrad level (a 2km²) and are located within NX92W. As the exact location of these records is unknown, it is possible that they may fall within the site. However, only 23 of these records have a location of 'Lowca'. Of these 14 are designated as either Red or Amber listed Birds of Conservation Concern (BoCC) including gannet *Morus bassanus*, oystercatcher, ringed plover, curlew, herring gull, great black-backed gull *Larus marinus*, tawny owl *Strix aluco*, willow warbler *Phylloscopus trochilus*, skylark *Alauda arvensis*, meadow pipit *Anthus pratensis*, dunnock *Prunella modularis*, starling *Sturnus vulgaris*, linnet *Linaria cannabina* and reed bunting *Emberiza schoeniclus*.

CBDC data included 29 species of birds listed under Schedule 1 of the WCA (as amended) which have been recorded within 5km of the site. Additionally, CBDC data returned 18 NERC Act species within 5km of the site (see Table 3 for the relevant species). Schedule 1 listed and NERC Act species are a material consideration for planning. Schedule 1 WCA species are considered unlikely to breed within the wind farm area, although, it must be noted that no detailed breeding bird survey was conducted as part of this study.

Protected, notable and SPA listed bird species records supplied by CBDC are summarised in Table 3. Where multiple records for one species exist, the nearest and then most recent record to the site has been listed in the table. Records older than ten years (i.e. pre-2010) are not included within the table below as they are considered historic and not relevant to the assessment.

Table 3: Summary of desk study records for SPA, WCA Schedule 1 and notable bird species recorded within 5km of the site (SPA/pSPA species are highlighted in bold)

Scientific Name	Common Name	Status*	Approximate Distance (km) - CBDC	Year of record (CBDC)
<i>Acanthis cabaret</i>	Lesser redpoll	NERC; LBAP; BoCC Red	5.1	2010
<i>Accipiter gentilis</i>	Goshawk	WCA Sch1	5.1	2010
<i>Alauda arvensis</i>	Skylark	NERC; LBAP; BoCC Red	0.8	2010
<i>Alca torda</i>	Razorbill	BoCC Amber	1.3	2010
<i>Alcedo atthis</i>	Kingfisher	WCA Sch1; Annex 1; BoCC Amber	3.5	2015
<i>Anas crecca</i>	Teal	SPA; BoCC	1.9	2010



Scientific Name	Common Name	Status*	Approximate Distance (km) - CBDC	Year of record (CBDC)
		Amber		
<i>Anas platyrhynchos</i>	Mallard	BoCC Amber	0.8	2010
<i>Anser anser</i>	Greylag goose	WCA Sch1; BoCC Amber	1.3	2010
<i>Anser brachyrhynchus</i>	Pink-footed goose	SPA; BoCC Amber	2.6	2012
<i>Anser fabalis</i>	Bean goose	BoCC Amber	2.6	2012
<i>Anthus pratensis</i>	Meadow pipit	BoCC Amber	0.8	2010
<i>Apus apus</i>	Swift	BoCC Amber	0.8	2010
<i>Arenaria interpres</i>	Turnstone	SPA; BoCC Amber	1.3	2010
<i>Asio flammeus</i>	Short-eared owl	WCA Sch1	0.8	2008
<i>Aythya farina</i>	Pochard	BoCC Red	5.8	2010
<i>Bucephala clangula</i>	Goldeneye	SPA; WCA Sch1; BoCC Amber	5.8	2010
<i>Calidris maritima</i>	Purple sandpiper	WCA Sch1; BoCC Amber	1.3	2010
<i>Charadrius dubius</i>	Little ringed plover	WCA Sch1	3.8	2010
<i>Charadrius hiaticula</i>	Ringed plover	BoCC Red	0.8	2010
<i>Chroicocephalus ridibundus</i>	Black-headed gull	SPA; BoCC Amber	1.9	2010
<i>Cinclus cinclus</i>	Dipper	BoCC Amber	0.8	2010
<i>Circus cyaneus</i>	Hen harrier	WCA Sch1; BoCC Red; NERC	4.3	2011
<i>Columba oenas</i>	Stock dove	BoCC Amber	0.8	2010
<i>Cuculus canorus</i>	Cuckoo	NERC; LBAP; BoCC Red	3.6	2010
<i>Cygnus cygnus</i>	Whooper swan	WCA Sch1; Annex 1; SPA; LBAP; BoCC Amber	2.6	2013
<i>Delichon urbicum</i>	House martin	BoCC Amber	0.8	2010
<i>Emberiza citrinella</i>	Yellowhammer	NERC; LBAP; BoCC Red	1.9	2011
<i>Emberiza</i>	Reed bunting	NERC; LBAP; BoCC	0.8	2010



Scientific Name	Common Name	Status*	Approximate Distance (km) - CBDC	Year of record (CBDC)
<i>schoeniclus</i>		Amber		
<i>Falco tinnunculus</i>	Kestrel	BoCC Amber	0.8	2010
<i>Falco peregrinus</i>	Peregrine	WCA Sch1	4.3	2011
<i>Ficedula hypoleuca</i>	Pied flycatcher	BoCC Red	5.3	2011
<i>Fulmarus glacialis</i>	Fulmar	BoCC Amber	4.4	2012
<i>Gallinago gallinago</i>	Snipe	BoCC Amber	4.3	2011
<i>Gavia artica</i>	Black-throated diver	Annex 1; WCA Sch1; LBAP; BoCC Amber	2.6	2010
<i>Gavia stellata</i>	Red-throated diver	SPA; Annex 1; WCA Sch1	2.6	2013
<i>Haematopus ostralegus</i>	Oystercatcher	SPA; BoCC Amber	0.8	2010
<i>Larus argentatus</i>	Herring gull	SPA; NERC; BoCC Red	0.8	2010
<i>Larus canus</i>	Common gull	SPA; BoCC Amber	2.4	2010
<i>Larus Fuscus</i>	Lesser black-backed gull	BoCC Amber	1.3	2010
<i>Larus glaucooides</i>	Iceland gull	BoCC Amber	2.6	2012
<i>Larus marinus</i>	Great black-backed gull	BoCC Amber	1.3	2010
<i>Larus melanocephalus</i>	Mediterranean gull	WCA Sch1; BoCC Amber	2.6	2010
<i>Larus michahellis</i>	Yellow-legged gull	BoCC Amber	2.6	2013
<i>Linaria cannabina</i>	Linnet	NERC; LBAP; BoCC Red	0.8	2010
<i>Locustella naevia</i>	Grasshopper warbler	NERC; LBAP; BoCC Red	1.9	2010
<i>Melanitta nigra</i>	Common scoter	SPA; WCA Sch1; NERC; LBAP; BoCC Red	5.8	2013
<i>Mergus merganser</i>	Goosander	SPA	5.8	2013
<i>Morus bassanus</i>	Gannet	BoCC Amber	1.3	2010
<i>Motacilla cinerea</i>	Grey wagtail	BoCC Red	0.8	2010
<i>Muscicapa striata</i>	Spotted flycatcher	BoCC Red; NERC	2.8	2011



Scientific Name	Common Name	Status*	Approximate Distance (km) - CBDC	Year of record (CBDC)
<i>Numenius arquata</i>	Curlew	SPA; BoCC Red; NERC	1.9	2011
<i>Passer domesticus</i>	House sparrow	BoCC Red; NERC	1.9	2011
<i>Passer montanus</i>	Tree sparrow	BoCC Red; NERC	6.1	2010
<i>Perdix perdix</i>	Grey partridge	BoCC Red; NERC	0.8	2010
<i>Phalacrocorax aristotelis</i>	Shag	BoCC Red	0.2	2010
<i>Phylloscopus trochilus</i>	Willow warbler	BoCC Amber	0.8	2011
<i>Prunella modularis</i>	Dunnock	BoCC Amber; NERC	0.8	2010
<i>Puffinus puffinus</i>	Manx shearwater	BoCC Amber	2.6	2013
<i>Pyrrhula pyrrhula</i>	Bullfinch	BoCC Amber; NERC	2.4	2010
<i>Rissa tridactyla</i>	Kittiwake	BoCC Red	5.8	2013
<i>Scolopax rusticola</i>	Woodcock	BoCC Red	2.8	2010
<i>Somateria mollissima</i>	Eider	BoCC Amber	5.8	2010
<i>Stercorarius parasiticus</i>	Arctic skua	BoCC Red	5.8	2010
<i>Sterna sandvicensis</i>	Sandwich tern	Annex 1; BoCC Amber	5.8	2013
<i>Strix aluco</i>	Tawny owl	BoCC Amber	2.4	2010
<i>Sturnus vulgaris</i>	Starling	BoCC Red; LBAP; NERC	0.8	2010
<i>Tringa totanus</i>	Redshank	SPA; BoCC Amber	1.9	2011
<i>Turdus iliacus</i>	Redwing	WCA Sch1; BoCC Red	2.4	2010
<i>Turdus philomelos</i>	Song thrush	BoCC Red; LBAP; NERC	0.8	2010
<i>Turdus viscivorus</i>	Mistle thrush	BoCC Red	2.4	2010
<i>Tyto Alba</i>	Barn owl	WCA Sch1; LBAP	2.8	2010
<i>Uria aalge</i>	Guillemot	BoCC Amber	2.6	2010
<i>Vanellus vanellus</i>	Lapwing	SPA; BoCC Red; NERC; LBAP	0.8	2010

*Status Key:

- Annex 1: Species listed on Annex 1 of the EU Birds Directive.
- WCA Sch1: Species listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).



Scientific Name	Common Name	Status*	Approximate Distance (km) - CBDC	Year of record (CBDC)
<ul style="list-style-type: none"> • NERC: Species of Principal Importance as listed under Section 41 of the Natural Environment and Rural Communities Act (2006). • BoCC: British Trust for Ornithology (BTO) Birds of Conservation Concern – Red, Amber Lists. • LBAP: Included as a Priority Species under the Cumbria Biodiversity Action Plan (CBAP). • SPA: Qualifying species in adjacent pSPA/SPA. 				

The WeBS counts included in the Bird and Wildlife in Cumbria (2017) at Parton Bay recorded the following SPA / pSPA species:

- Red-throated diver – individual birds were observed in January and October 2017 and two birds were observed in February 2017.
- Cormorant – 15 birds were observed in January 2017 and nine in August 2017, counts of between 2 - 4 birds were recorded in February, March, April, May, June, July and October 2017.
- Oystercatcher – 100 birds were observed in October 2017 and 46 in September 2017, counts of between 6 – 21 birds were recorded in January, February, March, April, May, June, July, August, November and December 2017.
- Golden plover *Pluvialis apricaria* – 80 birds were observed in December 2017.
- Lapwing – eight birds were observed in September 2017.
- Ringed plover - counts of between 2 - 10 birds were recorded in January, February, March, April, June, July, August, September, November and December 2017.
- Curlew – Individual birds were observed in October and November 2017 and counts of between 2 – 4 birds were observed in January, February, April, May, June, July, August, September and December 2017.
- Turnstone - counts of between 4 – 10 birds were observed in January, March, April, May, June, July and December. Counts of between 18 – 27 birds were observed in February, August, September, October and November.
- Redshank - counts of between 5 – 10 birds were observed in May, June, July, October and November. Counts of 14 and 16 birds were observed in January, February, March, April, August, September and December.
- Herring gull - counts of between 26 – 80 birds were observed in February, May, June, August, September and October. Counts of 111 – 200 birds were observed in January, March, April, July, November and December.

3.2.1 Vantage Point Bird Survey Results – Target Birds

A total of twenty target bird species were recorded within the 1km of the Park House Farm Wind Farm turbines during the 2019 / 2020 VP bird surveys. These included black-headed gull, buzzard *Buteo buteo*, cormorant, common gull, curlew, common scoter, great black-backed gull, greylag goose, gannet, grey heron *Ardea cinerea*, herring gull, kestrel, lapwing, lesser black-backed gull, peregrine, pink-footed goose, redshank, sparrowhawk *Accipiter nisus* and snipe.



Additionally, occasional sightings of substantial flocks of starling (more than 100 individuals) were observed throughout the entire monitoring period. The total survey recording time throughout the 19 survey visits accounted for 57 hours.

A summary of the vantage point survey results is provided in Table 4. The table includes total number of flights, total time recorded within the study area and percentage of flights recorded at the turbine rotor collision risk height for each target bird species. The Cumbria status of the birds recorded within the study area is provided in Table 5

All flight lines recorded for target bird species during the vantage point surveys are mapped in Figures 3 to 8.

Table 4. Target bird species recorded flying within the Park House Farm Wind Farm study area and adjacent land (within 1km)

Common Name (BTO code)	Status ¹	Number of flights	Total time recorded within the study area (h:m:s) ²	Percentage of flight recorded at rotor height
Black-headed gull (BH)	SPA , BoCC Amber	935	23:16:30	61.94%
Buzzard (BZ)	BoCC Green	33	01:01:15	57.14%
Cormorant (CA)	SPA , BoCC Green	201	04:18:15	22.17%
Common gull (CM)	SPA , BoCC Amber	71	02:20:30	90.75%
Curlew (CU)	SPA , BoCC Red, NERC	326	03:57:00	37.24%
Common scoter (CX)	SPA , WCA Sch1, BoCC Red, NERC	6	00:12:00	0.00%
Great black-backed gull (GB)	BoCC Amber	19	00:16:15	61.54%
Goosander (GD)	SPA , BoCC Green	2	00:06:00	100.00%
Greylag goose (GJ)	WCA Sch1, BoCC Amber	11	00:08:15	33.33%
Gannet (GX)	BoCC Amber	32	00:44:15	5.65%
Grey heron (H.)	BoCC Green	4	00:05:15	85.71%
Herring gull (HG)	SPA , BoCC Red, NERC	677	11:24:45	57.76%
Kestrel (K.)	BoCC Amber	5	00:12:45	70.59%
Lapwing (L.)	SPA , BoCC Red, NERC	14	00:09:30	21.05%
Lesser black-backed gull (LB)	BoCC Amber	143	02:29:30	47.83%
Peregrine (PE)	WCA Sch1, BoCC Green	1	00:01:00	75.00%
Pink-footed goose (PG)	SPA , BoCC	231	03:59:30	31.32%



Common Name (BTO code)	Status ¹	Number of flights	Total time recorded within the study area (h:m:s) ²	Percentage of flight recorded at rotor height
	Amber, LBAP			
Redshank (RK)	SPA , BoCC Amber	9	00:09:00	20.00%
Sparrowhawk (SH)	BoCC Green	6	00:04:00	6.25%
Snipe (SN)	BoCC Amber	5	00:03:45	60.00%
n = 57 hours of observations ¹ Key <ul style="list-style-type: none"> • WCA Sch1: Species listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). • NERC: Species of Principal Importance as listed under section 41 of the Natural Environment and Rural Communities Act (2006). • BoCC: British Trust for Ornithology (BTO) Birds of Conservation Concern – Red, Amber and Green Lists. • SPA: Qualifying species in adjacent SPA/pSPA. ² Total time was calculated by adding the flight duration of individual birds recorded at the time of the observation; for example, if flock of 10 black-headed gulls was observed overflying the wind farm area for 30 seconds the total time for the species will be 300 seconds e.g. 5 minutes (10 birds x 30 sec) and the total number of flights will be 10.				



Birds Listed as SPA Species

Ten species qualifying under The Solway Firth pSPA (including the classified Upper Solway Flats and Marshes) were observed using the site and adjacent land (up to 1km buffer) during the vantage points surveys. These included: black-headed gull, cormorant, common gull, curlew, common scoter, goosander, herring gull, lapwing, pink-footed goose and redshank.

Black-headed gull and herring gull were the two most frequently observed species during the vantage point surveys with a total of 935 and 667 flights respectively. These accounted for a total time recorded flying within the study area of 23 hours, 16 minutes and 30 seconds for black-headed gull (of which 61.94% of the flights were recorded at the rotor collision height) and 11 hours 24 minutes and 45 seconds for herring gull (of which 57.76% flights were recorded at the rotor collision risk height). See Figures 3 and 4.

Curlew was the third most frequently recorded pSPA species with 326 flights recorded within the study area. Medium sized flocks of Curlew (up to 40 birds) were frequently recorded within the wind farm area and adjacent land (up to 1km). The total time recorded flying within the study area for this species was 3 hours and 57 minutes; most of the flights were low / near the ground commuting flights from field to field and only 37.24% of flights were recorded at the rotor potential collision height. See Figure 5.

A total of 231 individual pink-footed goose flights were recorded within the study area. However, these observations included four flocks commuting through the study area on the 30th of September 2019, 27th of November 2019 and 5th February 2020. The largest flock was recorded on the 5th of February and included 120 birds; this flock was commuting north, high above the rotor collision risk height and only spent approximately 30 seconds within the study area (wind farm site plus 1km buffer). A total time in flight within the study area for individual birds accounted for 3 hours 39 minutes and 30 seconds (of which 31.32% of the flight time was recorded at the rotor potential collision height). See Figure 6.

A total of 201 flights were recorded for cormorant; these accounted for 4 hours 18 minutes and 15 seconds of total time in flight within the study area of which, 22.17% of flights were recorded at the rotor collision risk height. The vast majority of the cormorant flights were commuting movements over the sea to the west of the wind farm area. See Figure 6.

Common gulls were recorded 71 times flying within the study area (2 hours 20 minutes and 30 seconds of total time in flight). Of which 90.75% of the total flight time for this species was recorded at the rotor collision risk height. See Figure 7.

Other SPA birds were recorded only occasionally within the wind farm area and adjacent land; these included 14 lapwing flights (two flocks recorded on separate occasions), 9 redshank flights (one flock recorded on the 26th of June 2019), 6 common scoter flights (one flock recorded on the 22nd of October 2019) and 2 goosander flights (two males recorded on the 2nd of December 2019). See Figures 5 and 6.



WCA Schedule 1 Species

WCA Schedule 1 target bird species recorded during the vantage point surveys included peregrine, common scoter, and greylag goose; common scoter is also a qualifying feature of the Solway Firth pSPA.

Peregrine was only recorded once during the VP surveys; this included a single 60 second flight on the 22nd of October 2019 (45 seconds at the wind farm rotor height) over 500m north from the windfarm (see Figure 8).

A total of 11 greylag goose flights were recorded within the study area. These observations included only two flight events; one included a flock of ten geese commuting south along the coast on the 19th September 2019 and second included a single bird flying east through the wind farm on the 7th of July 2019. The total time in flight recorded for this species was 8 minutes and 15 seconds, of which, 33.33% was recorded at turbine rotor height.

No other WCA Sch1 Target Bird species were recorded during the 2019 / 2020 surveys.

BoCC Red List Species

Four BoCC Red List target species were observed using the site and adjacent land (up to 1km buffer) during the vantage points surveys. These included: curlew, common scoter, herring gull and lapwing. All of these are also pSPA bird species.

Additionally, occasional sightings of substantial flocks of starling (more than 100 individuals) were observed throughout the entire monitoring period; these accounted for 4000 individual flights of which 57.61% were recorded at the wind turbine rotor height.

BoCC Amber List Species

Ten BoCC Amber List target species were observed using the site and adjacent land (up to 1km buffer) during the vantage points surveys. These included: black-headed gull, common gull, great black-backed gull, greylag goose, gannet, kestrel, lesser black-backed gull, pink-footed goose, redshank and snipe. Black-headed gull, common gull, pink-footed goose and redshank are also local pSPA species.

Lesser black-backed gull and great black-backed gull were two BoCC Amber List gull species observed within the study area; a total of 143 and 19 flights respectively were recorded for these species. These accounted for a total time recorded flying within the study area of 2 hours, 29 minutes and 30 seconds for lesser black-backed gull (of which 47.83% flights were recorded at the rotor collision risk height) and 16 minutes and 15 seconds for great black-backed gulls (of which 61.54% flights were recorded at the rotor collision risk height).

A total of 32 flights were recorded for cormorant; these accounted for 44 minutes and 15 seconds of total time in flight within the study area of which only 5.65% of flights were recorded at the rotor potential collision height. All the gannet flights included commuting movements and fishing activity were over the sea to the west of the wind farm area.



Kestrel was recorded occasionally hunting within the wind farm site and adjacent land (up to 1km). The observations included 5 flights (total time in flight of 12 minutes and 45 seconds) 70.59% of which were recorded at the rotor collision risk height.

Snipe was also recorded occasionally; the observations included 5 flights – most of these were short flights of birds flushed from the marshy grassland on site. These accounted for 3 minutes and 45 seconds of total time in flight – 60% of this time was recorded at the wind farm rotor height.

NERC Act 2006 Section 41 Species

Four NERC Act target species were observed using the site and adjacent land (up to 1km buffer) during the vantage points surveys. These included: curlew, common scoter, herring gull and lapwing. All of these are also qualifying features for the Solway Firth pSPA. Starling is also a NERC Act species.

Other Species

Other target birds recorded on site included buzzard, grey heron and sparrowhawk. All of these are BoCC Green List species.

Buzzard was recorded 33 times flying through the study area; most of these observations included single birds or a pair hunting, commuting or being mobbed by corvids. The total time recorded flying within the study area for this species was 1 hours 1 minute and 15 seconds of which, 57.14% was recorded at the rotor collision risk height.

A total of 6 flights for Sparrowhawk were recorded – these accounted for 4 minutes of total time in flight, 6.25% of which was at the rotor height. The majority of the observations included birds commuting / hunting low near the ground.

Only four flights were observed for heron; these were for individual birds commuting through the study area with 85.71% of total flight height recorded at the rotor potential collision height.

3.2.2 Cumbria status of the birds recorded on site

Birds and Wildlife in Cumbria is a County Natural History Report that is published annually by the Cumbria Naturalist Union. Table 5 below shows local status in Cumbria of the target bird species recorded within the study area as described within the most recent Bird and Wildlife in Cumbria report that covers 2017 period (Cumbria Naturalists Union, 2017).

Table 5. Cumbria status of the target bird species recorded on site

Common Name (BTO code)	Cumbria Status*
Black-headed gull (BH)	An abundant resident, passage migrant and winter visitor; breeds in large numbers.
Buzzard (BZ)	A common resident; breeds in large numbers.
Cormorant (CA)	A common resident, winter visitor and passage migrant; breeds in small numbers.



Common Name (BTO code)	Cumbria Status*
Common gull (CM)	An abundant winter visitor and passage migrant, occasional breeder.
Curlew (CU)	A common resident, abundant winter visitor and passage migrant; breeds in large numbers.
Common scoter (CX)	An uncommon winter visitor and common passage migrant; scarce inland.
Great black-backed gull (GB)	A common resident and winter visitor; breeds in small numbers.
Goosander (GD)	A common resident and winter visitor; breeds in moderate numbers.
Greylag goose (GJ)	A common resident and winter visitor; breeds in moderate numbers.
Gannet (GX)	A common offshore summer visitor and passage migrant.
Grey heron (H.)	A fairly common resident; breeds in moderate numbers.
Herring gull (HG)	An abundant resident; breeds in large numbers.
Kestrel (K.)	A common resident, passage migrant and winter visitor; breeds in moderate numbers.
Lapwing (L.)	An abundant resident, passage migrant and winter visitor; breeds in large numbers.
Lesser black-backed gull (LB)	An abundant summer visitor, common passage migrant and overwintering bird; breeds in very large numbers.
Peregrine (PE)	A fairly common resident; breeds in small numbers.
Pink-footed goose (PG)	An abundant winter visitor and passage migrant, birds of unknown origin bred in 2010.
Redshank (RK)	Fairly common resident, abundant winter visitor and passage migrant; breeds in moderate numbers.
Sparrowhawk (SH)	A common resident; breeds in moderate numbers.
Snipe (SN)	A common but declining resident, abundant winter visitor and passage migrant; breeds in large numbers.
* Birds and Wildlife in Cumbria 2017, A County Natural History Report.	

3.2.3 Incidental Bird Records

Twenty-five non-target (incidental) bird species were recorded within the study area during the vantage point surveys (19 visits in total). These are non-target bird species and are not considered further in this report. The incidental bird records included blackbird *Turdus merula*, blue tit *Cyanistes caeruleus*, carrion crow *Corvus corone*, chaffinch *Fringilla coelebs*, fieldfare *Turdus pilaris*, goldfinch *Carduelis carduelis*, house martin, jackdaw *Coloeus monedula*, linnet, long-tailed tit *Aegithalos caudatus*, magpie *Pica pica*, meadow pipit, pheasant *Phasianus colchicus*, redwing, reed bunting, skylark, song thrush *Turdus philomelos*, starling, stock dove, stonechat *Saxicola rubicola*, swallow *Hirundo rustica*, swift *Apus apus*, willow warbler, woodpigeon *Columba palumbus*, wren *Troglodytes*



trogodytes, yellowhammer *Emberiza citrinella*. Table 6 below shows the observation dates for all non-target bird species.

Table 6. Incidental bird observations within the study area.

Common Name (BTO code)	Observation dates
Blackbird (B.)	03/07/19, 19/09/19, 30/09/19, 11/10/19, 28/10/19, 27/11/19, 05/02/20, 18/02/20
Blue tit (BT)	19/09/19, 30/09/19
Carrion crow (C.)	26/06/19, 03/07/19, 18/07/19, 05/08/19, 21/08/19, 05/09/19, 19/09/19, 30/09/19, 11/10/19, 22/10/19, 28/10/19, 05/11/19, 27/11/19, 02/12/19, 17/12/19, 08/01/20, 21/01/20, 05/02/20, 18/05/20
Chaffinch (CH)	21/08/19, 30/09/19, 11/10/19
Fieldfare (FF)	05/11/19, 05/02/20
Goldfinch (GO)	03/07/19, 05/08/19, 21/08/19, 05/09/19, 19/09/19, 22/10/19, 27/11/19, 05/02/20
House martin (HM)	03/07/19, 18/07/19, 05/09/19
Jackdaw (JD)	19/09/19, 30/09/19, 22/10/19, 05/11/19, 27/11/19, 21/01/20, 05/02/20, 18/02/20
Linnet (LI)	05/08/19
Long-tailed tit (LT)	30/09/19
Magpie (MG)	03/07/19, 18/07/19, 05/08/19, 19/09/19, 30/09/19, 11/10/19, 22/10/19, 28/10/19, 05/11/19, 27/11/19, 02/12/19, 17/12/19, 21/01/20, 05/02/20, 18/02/20
Meadow pipit (MP)	26/06/19, 03/07/19, 18/07/19, 05/08/19, 19/09/19, 11/10/19, 28/10/19, 05/11/19, 27/11/19, 21/01/20
Pheasant (PH)	11/10/19, 02/12/19, 05/02/20
Redwing (RE)	28/10/19, 17/12/19
Reed bunting (RB)	03/07/19, 18/07/19, 05/08/19, 22/10/19, 28/10/19, 21/01/20
Skylark (S.)	26/06/19, 03/07/19, 18/07/19, 19/09/19, 30/09/19, 05/02/20, 18/02/20
Song thrush (ST)	05/02/20
Starling (SG)	22/10/19, 28/10/19, 27/11/19, 02/12/19, 17/12/19, 08/01/20, 21/01/20, 05/02/20
Stock dove (SD)	26/06/19
Stonechat (SC)	11/10/19, 27/11/19
Swallow (SL)	03/07/19, 05/08/19, 21/08/19
Swift (SI)	03/07/19, 18/07/19
Willow warbler (WW)	18/07/19
Woodpigeon (WP)	03/07/19, 18/07/19, 05/08/19, 21/08/19, 19/09/19, 30/09/19, 11/10/19, 22/10/19, 05/11/19, 27/11/19, 02/12/19, 05/02/20, 18/02/20



Common Name (BTO code)	Observation dates
Wren (WR)	21/08/19, 19/09/19, 17/12/19
Yellowhammer (Y.)	26/06/19, 03/07/19

4.0 Relevant Legislation & Planning Policy

4.1 Birds Directive 1979

Annex 1 of the EU 'Birds' Directive (1979) lists 194 species that are subject to special conservation measures concerning their habitat in order to ensure their survival and reproduction. Member States are required to designate Special Protection Areas (SPAs) for the Annex 1 and all migratory species. SPAs are scientifically identified areas critical to the survival of the targeted species. The SPAs form part of the Natura 2000 EU network of protected nature sites. The designation of an area as an SPA gives it a high level of protection from potentially damaging developments. The also applies to potential Special Protection Areas (pSPAs).

4.2 Wildlife and Countryside Act 1981 (as amended)

All wild birds in the UK are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Bird species listed in Schedule 1 of the 1981 Act (as amended) receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

4.3 Natural Environment and Rural Communities Act 2006

Forty-nine bird species are listed as 'species of principal importance for the conservation of biological diversity in England' under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Section 40 of this act places a duty (the Statutory Biodiversity Duty) on public bodies (including local planning authorities) when undertaking their duties (including the making of planning decisions) "to take such measures as they consider expedient for the purposes of conserving biodiversity". The conservation of species listed on Section 41 of the NERC Act 2006, including the restoration or enhancement of a population or habitat, is therefore legally required to be considered in planning decisions. *ODPM Circular 06/2005* further clarifies that they are capable of being a material consideration for planning decisions, along with Local Biodiversity Action Plan priority species, as referred to below.

4.4 Revised National Planning Policy Framework

A revised NPPF was issued on 19th February 2019 (Ministry of Housing Communities and Local Government, 2019) and currently supplements government Circular *06/2005, Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System* (Office of the Deputy Prime Minister, 2005).



Circular 06/2005 states that the presence of protected species is a material consideration in the planning process. Paragraph 170 of the NPPF also states that:

‘Planning policies and decisions should contribute to and enhance the natural environment by:

- a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
- b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*
- c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
- d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*
- e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
- f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.*

The conservation and enhancement of wildlife is also specifically reference re: development within the National Parks or the Broads.

Paragraph 174 then goes on to confirmed that:

When determining planning applications, local planning authorities should apply the following principles:

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.*



Regarding EcIA's and HRA's – any sites identified, or required, as compensatory measures for adverse effects on any Natura 2000/habitats site should also be given the same level as protection as the pSPA's and cSAC's themselves. In addition, when an application is being determined, Paragraph 177 clarifies that:

"The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site."

Paragraph 180 is also relevant as;

"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:...

limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation".

4.5 Other Conservation Lists and Guidance

4.5.1 Local Biodiversity Action Plan

Local Biodiversity Action Plans (LBAPs) identify habitat and species conservation priorities at a local level (typically County by County) and are usually drawn up by a consortium of local Government organisations and conservation charities. Although they are no-longer managed at a national level many are still reviewed and updated at a local level.

The Cumbria Biodiversity Action Plan (CBAP) was launched in 2001; Species Action Plans (SAPs) were drawn up for 21 species. Following the UKBAP review in 2007, the CBAP was reviewed in 2009 and it was decided to include all species which are listed as SPI under the NERC Act 2006. A list of all 268 SPI which occur in Cumbria is provided at:

<https://www.cumbriawildlifetrust.org.uk/sites/default/files/cumbria%20bap%20species%20updated%20list%202009%20web.pdf>

The original action plans for Cumbria were further reviewed as part of the Cumbria Biodiversity Evidence Base (CBEB) and detailed statements have been prepared for 11 species/species groups and 21 habitats. For the purposes of this report, the following bird species are considered to represent the current CBAP:

- Barn owl
- Hen harrier
- Wintering geese and swans

It should be noted that the existence of an SAP does not always infer an elevated level importance for those features. These plans may be designed to encourage an increase in these species, rather than to protect a county-scarce feature (for example).



4.5.2 Birds of Conservation Concern

The conservation status of all regularly occurring British birds has been analysed in co-operation with the leading governmental and non-governmental conservation organisations, including the Royal Society for the Protection of Birds (RSPB), British Trust for Ornithology (BTO) and Birdlife International Birds of Conservation Concern 4 (Eaton *et al.*, 2015). The basis of species ongoing population trends are assigned to one of three lists of Conservation Concern. These are the UK Red, Amber and Green list.

The criteria for birds being include in the lists is as follows.

Red List

- Globally threatened
- Historical population decline in UK during 1800–1995
- Severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period (the entire period used for assessments since the first BoCC review, starting in 1969). Severe (at least 50%) contraction of UK breeding range over last 25 years, or the longer-term period

Amber List

- Species with unfavourable conservation status in Europe (SPEC = Species of European Conservation Concern)
- Historical population decline during 1800–1995, but recovering; population size has more than doubled over last 25 years
- Moderate (25-49%) decline in UK breeding population over last 25 years, or the longer-term period
- Moderate (25-49%) contraction of UK breeding range over last 25 years, or the longer-term period
- Moderate (25-49%) decline in UK non-breeding population over last 25 years, or the longer-term period
- Rare breeder; 1–300 breeding pairs in UK
- Rare non-breeders; less than 900 individuals
- Localised; at least 50% of UK breeding or non-breeding population in 10 or fewer sites, but not applied to rare breeders or non-breeders
- Internationally important; at least 20% of European breeding or non-breeding population in UK (NW European and East Atlantic Flyway populations used for non-breeding wildfowl and waders respectively)

Green List

- Species that occur regularly in the UK but do not qualify under any or the above criteria
- Although the lists confer no legal status in themselves, they are useful in evaluating the conservation significance of bird assemblages, and for assessing the potential significance of impacts and informing appropriate levels of mitigation with respect to bird populations

4.5.3 Birds and Wildlife in Cumbria

Birds and Wildlife in Cumbria is a County Natural History Report that is published annually by the Cumbria Naturalist Union. The report includes local status of bird species in Cumbria and includes bird records collated by Cumbria Bird Club from various sources (e.g. CBDC, BTO's online reporting system bird track or directly submitted to the Cumbria Bird Club).



5.0 Discussion

5.1 pSPA Species

Black-headed gull and herring gull

The WYG surveys undertaken between June 2019 and February 2020 revealed that the site is used frequently by black-headed gull and herring gulls which are qualifying features of the Solway Firth pSPA (non-breeding migratory birds). In the context of the pSPA population - 13,732 individuals for black-headed gull and 3,034 individuals for herring gull (SNH, 2016). The maximum number of birds recorded during the surveys at one time comprised 150 birds for black-headed gull and 40 birds for herring gull. This represents 1.09% and 1.31% respectively of the Solway Firth pSPA populations for these species. Therefore, based on the very low percentage recorded and professional judgment, it is considered that the site qualifies as 'low use' for the above qualifying species (there is no clear indication from SNH/NE on what percentage of SPA bird populations would be considered significant in the context of adjacent SPA/pSPA).

Most of the observations of black-headed gull and herring gull were observed commuting through the site with occasional roosting observed in the field located approximately 300m east from the wind farm site. These species were also observed flying frequently near the wind turbines with significant proportion of flights recorded at the potential rotor collision height (61.94% for black-headed gull and 57.76% for herring gull). However, no direct collisions with the turbines were observed during the survey period with majority of birds generally avoiding the rotor swept zones; gull species have one of the highest wind turbine avoidance rates (0.995 for large gulls and 0.992 for small gull species) (Furness, 2019).

Therefore, it is considered that extension of the operational period of the Park House Farm Wind Farm is unlikely to cause a mortality of black-headed gull or herring gull at a level that would be considered significant in the context of pSPA populations. As birds were frequently observed commuting through the site, it is also considered that the existing wind farm is highly unlikely to create a barrier effect for the migratory populations of these species.

Curlew

The vantage point surveys showed that the site is frequently used by curlew (pSPA qualifying species under Article 4.2 – non-breeding migratory birds) with 326 flights for this species recorded within the study area. Flocks of curlew were recorded frequently roosting within the wind farm area and adjacent land (up to 1km) with the largest flock of 40 birds recorded on the 28th of October 2019; in the context of the Solway Firth pSPA population (6,700 individuals) this number represents less than 1% of the total pSPA population and the site is considered to be of 'low use' for this species.

The activity for this species recorded within the study area included predominantly short commuting flights (from field to field) recorded below the potential collision height; only 37.24% of flights were recorded at the potential collision risk height. No direct collisions with the turbines were observed and it is considered that the wind farm is unlikely to cause a mortality of curlew at a level that would be considered significant in the context of pSPA populations. It is also considered that the extension of



the operational period of the wind farm infrastructure is unlikely to create a significant barrier for the movement of this species.

Cormorant

Cormorant (pSPA qualifying species under Article 4.2 – non-breeding migratory birds) was recorded frequently using the study area with 201 flights recorded. The activity for this species included commuting flights associated with movements of birds between the large roosts at St Bees (1500 birds according to 2017 WeBS counts) and Workington Harbour (700 birds according to 2017 WeBS counts); most of these flights were recorded over the sea to the west from the wind farm area with very few flights through or near the wind turbines. The Park House Farm Wind Farm does not appear to support the pSPA populations of non-breeding migratory cormorants (estimated population site 518 birds – SNH, 2016) and no interaction of the commuting birds with the site was observed.

Only 22.17% flights of this species were recorded at the potential collision risk height and it is considered that the wind farm is highly unlikely to cause mortality for the local cormorant populations that would be significant in the context of the local pSPA; additionally, the survey results indicate that the wind farm infrastructure does not create a barrier for the cormorant commuting movements.

Other pSPA birds

The other target birds that were recorded within the study area and are listed as qualifying features of the adjacent Solway Firth pSPA included pink-footed goose (pSPA population of 14,900), common gull (pSPA population of 12,486), lapwing (pSPA population of 5037), redshank (pSPA population of 2,100), common scoter (pSPA population of 1,588) and goosander (pSPA population of 146).

All of the above species were recorded in small numbers and the observation on site represented less than 1% of the Solway Firth pSPA populations apart from goosander, for which two males recorded commuting through the site on the 2nd of December 2019 represented 1.37% of the total pSPA population.

No interaction with the wind farm infrastructure was recorded for the above pSPA species with most of the birds recorded commuting away or high above the turbines. Therefore, it is considered that the Park House Farm Wind Farm does not create a barrier effect for the above bird species.

5.2 WCA Schedule 1 Species

Peregrine was recorded within the study area during the 2019/2020 vantage point surveys. The observation included a single flight high above the potential collision height and it is considered that the extension of the operational period of Park House Farm Wind Farm is highly unlikely to affect local peregrine populations in the form of increased mortality, displacement or barrier effect. The wind farm area is unlikely to support breeding population for this species with the cliffs at St Bees (approx. 10km away for the site) and Quarry at Derwent Howe, Workington (approx. 4km away from the site) providing potential suitable breeding habitat for this species.

There were only two flight events recorded for greylag goose during the 2019/2020 vantage point surveys (11 flights in total) and it is considered that the wind farm is highly unlikely to impact on local greylag goose populations.



5.3 Other Target Species

It is considered that the Park House Farm Wind Farm is unlikely to have impact on populations of other target bird species (e.g. Amber BoCC listed, NERC Act common raptor species).

The majority of the bird flights for these species were recorded in relatively small numbers and the surveys show that birds generally avoid the rotor collision impact areas; no bird collisions were observed during the 2019/2020 VP surveys.

Therefore, it is considered unlikely that the Park House Farm Wind Farm contributes to an increased mortality of local populations for these species or creates displacement or barrier effect.

5.4 Impacts During / Post Decommissioning

Decommissioning of Park House Farm Wind Farm may create a disturbance and displacement of migratory / wintering populations of black-headed gulls, herring gull and curlew that have been recorded using the site.

These impacts are considered to be only of a temporary nature with no long-term impacts anticipated for these populations of wintering / migratory pSPA birds.



6.0 Summary

6.1 Results

- The Solway Firth pSPA is located 242m west of the site and supports populations of European importance of over-wintering species listed on Annex I of the Directive including red throated, bar-tailed godwit, barnacle goose, golden plover and whooper swan. This site also supports populations of European importance of migratory pink footed goose, shelduck, teal, pintail, shoveler, scaup, common scoter, goldeneye, goosander, oystercatcher, knot, ringed plover, grey plover, lapwing, dunlin, sanderling, redshank, turnstone, curlew, cormorant, black-headed gull, common gull and herring gull.
- Ten species qualifying under the Solway Firth pSPA (including the classified Upper Solway Flats and Marshes) were observed using the site and adjacent land (up to 1km buffer) during the vantage points surveys. These included: black-headed gull, cormorant, common gull, curlew, common scoter, goosander, herring gull, lapwing, pink-footed goose and redshank.
- Three WCA Schedule 1 target bird species recorded during the vantage point surveys; these included peregrine, common scoter and greylag goose; common scoter is also a qualifying feature of the Solway Firth pSPA.
- Four BoCC Red List target species were observed using the site and adjacent land (up to 1km buffer) during the vantage points surveys. These included: curlew, common scoter, herring gull and lapwing. All of these are also pSPA bird species.
- Ten BoCC Amber List target species were observed using the site and adjacent land (up to 1km buffer) during the vantage points surveys. These included: black-headed gull, common gull, great black-backed gull, greylag goose, gannet, kestrel, lesser black-backed gull, pink-footed goose, redshank and snipe. Black-headed gull, common gull, pink-footed goose and redshank are also pSPA species.
- Four NERC Act target species were observed using the site and adjacent land (up to 1km buffer) during the vantage points surveys. These included: curlew, common scoter and herring gull. All of these are also qualifying features for the Solway Firth pSPA.
- Other target birds recorded on site included buzzard, grey heron and sparrowhawk. All of these are BoCC Green List species – of least conservation concern.

6.2 Discussion

- The Park House Farm Wind Farm is unlikely to cause the mortality of the pSPA species at a level that would be considered significant in the context of the pSPA.
- It is also considered that the existing wind farm infrastructure is unlikely to create a significant barrier for the movement for any of the Solway Firth pSPA species.
- It is considered that the Park House Farm Wind Farm is highly unlikely to affect local populations of WCA Schedule 1 species in form of increased mortality, displacement or barrier effect.
- It is considered that the Park House Farm Wind Farm is unlikely to have impact on populations of other target bird species (e.g. Amber BoCC listed, NERC Act, common raptor species).
- Decommissioning of Park House Farm Wind Farm may create a disturbance and displacement of migratory and/or wintering populations of black-headed gulls, herring gull and curlew that currently use the site. These impacts are considered to be only of temporary nature with no long-term impacts anticipated for these populations of wintering and/or migratory pSPA birds.



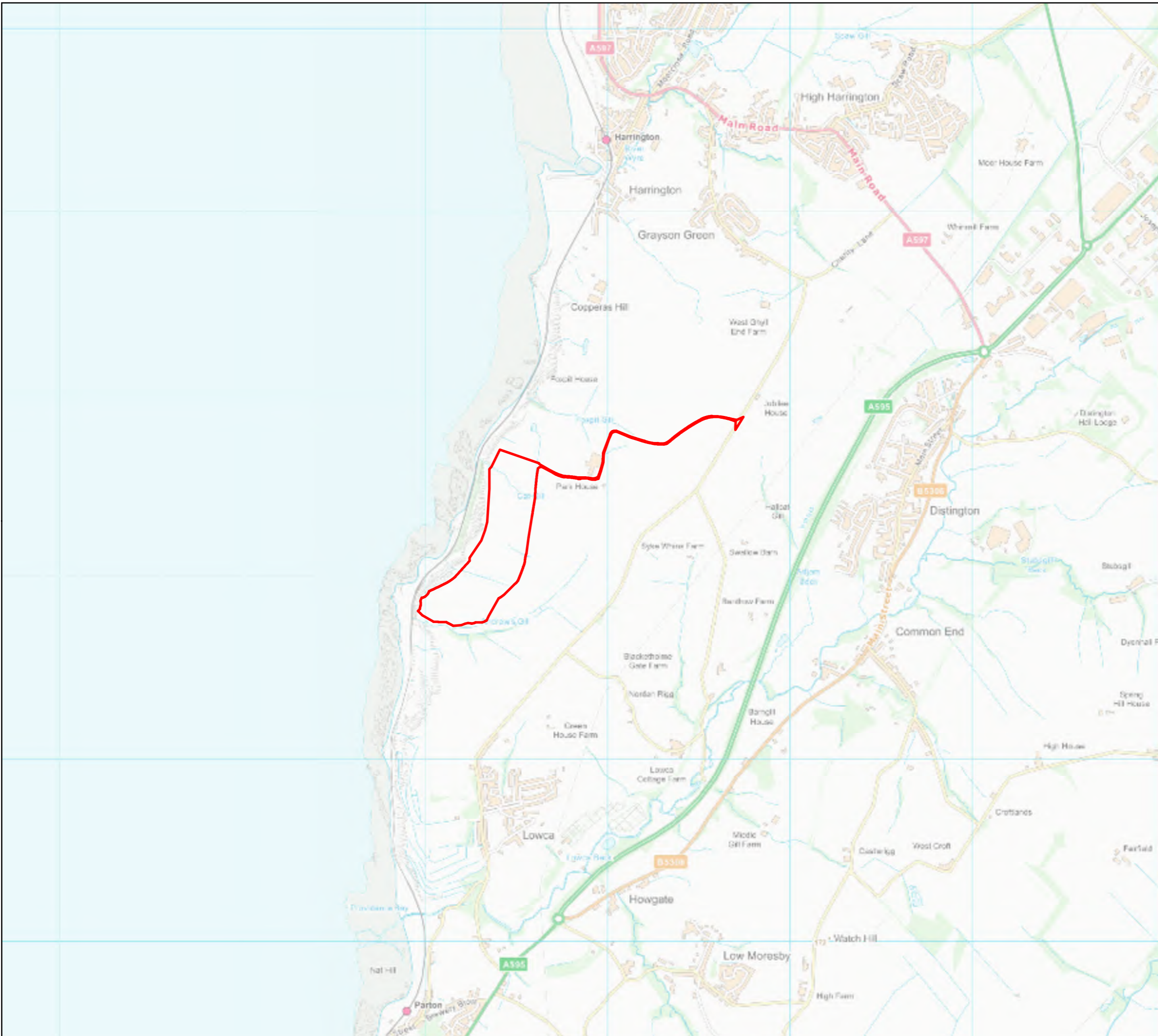
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FIGURES

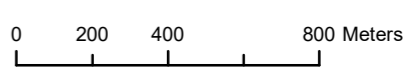
Figure 1 – Site Location Plan



Rev	Date	Notes
A	04/03/20	Initial map production

Legend

 Site boundary



Site Location Plan

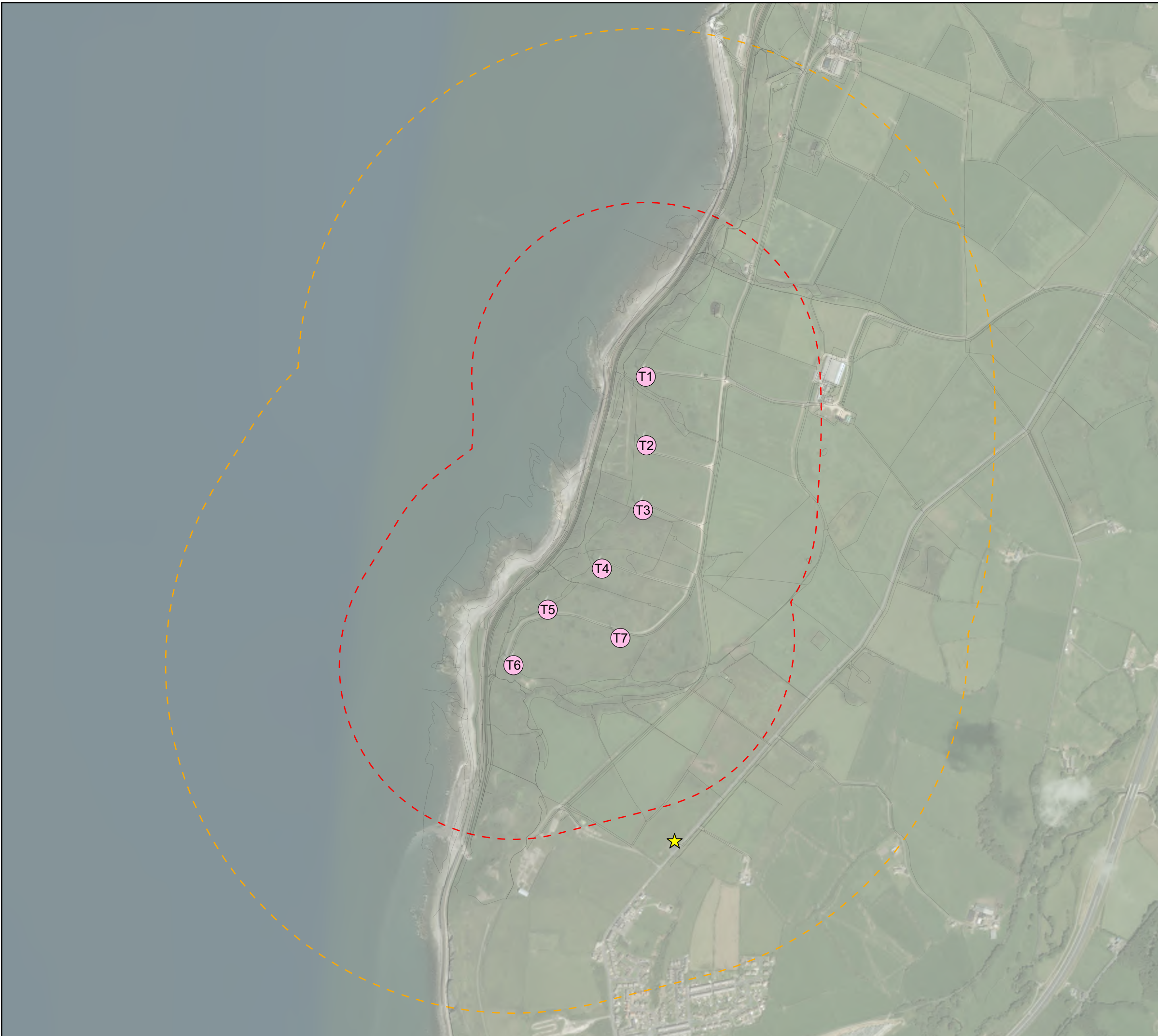
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Cannock Wind Farm Services Limited**

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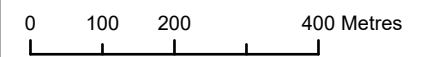
Figure 2 – Study Area and Vantage Point Location



Rev	Date	Notes
A	04/03/20	Initial map production

Legend

-  Turbines
-  Vantage point
-  500m buffer
-  1000m buffer



**Bird Vantage Point Survey–
Study Area and Vantage Point Location**

**Park House Farm Wind Farm
Cannock Wind Farm Services Limited**

Scale at A3: 1:10,500	Project No: A108663	Drawing No: Figure 2	Revision: A
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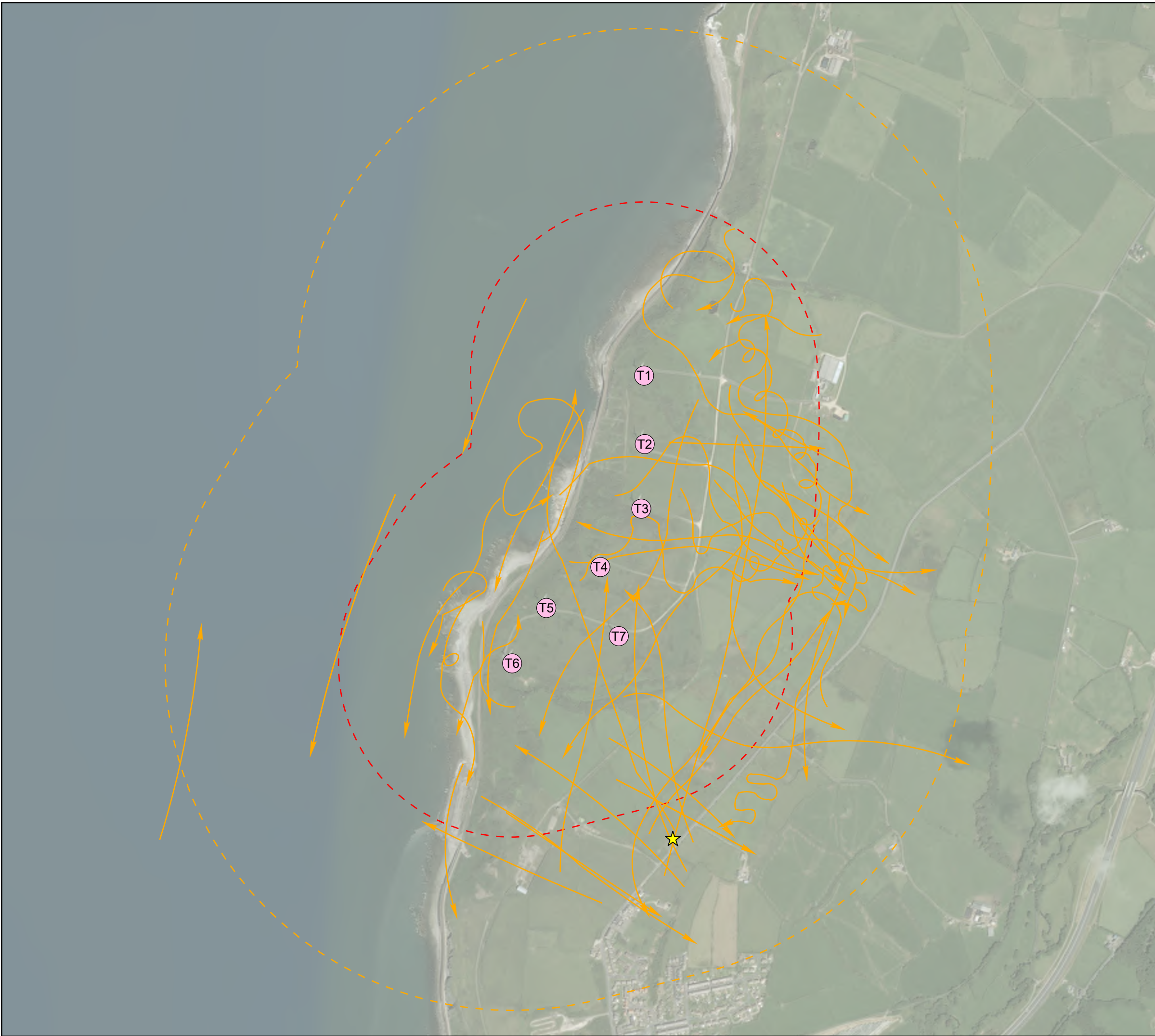
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Figure 3 – Bird Vantage Point Survey Results – Black-headed Gull Flight Lines



Rev	Date	Notes
A	04/03/20	Initial map production

Legend

- Turbines
- ★ Vantage point
- 500m buffer
- 1000m buffer
- BH - Black-headed Gull

0 100 200 400 Metres



**Bird Vantage Point Survey Results –
Black-headed Gull Flight Lines**

**Park House Farm Wind Farm
Cannock Wind Farm Services Limited**

Scale at A3: 1:10,500	Project No: A108663	Drawing No: Figure 3	Revision: A
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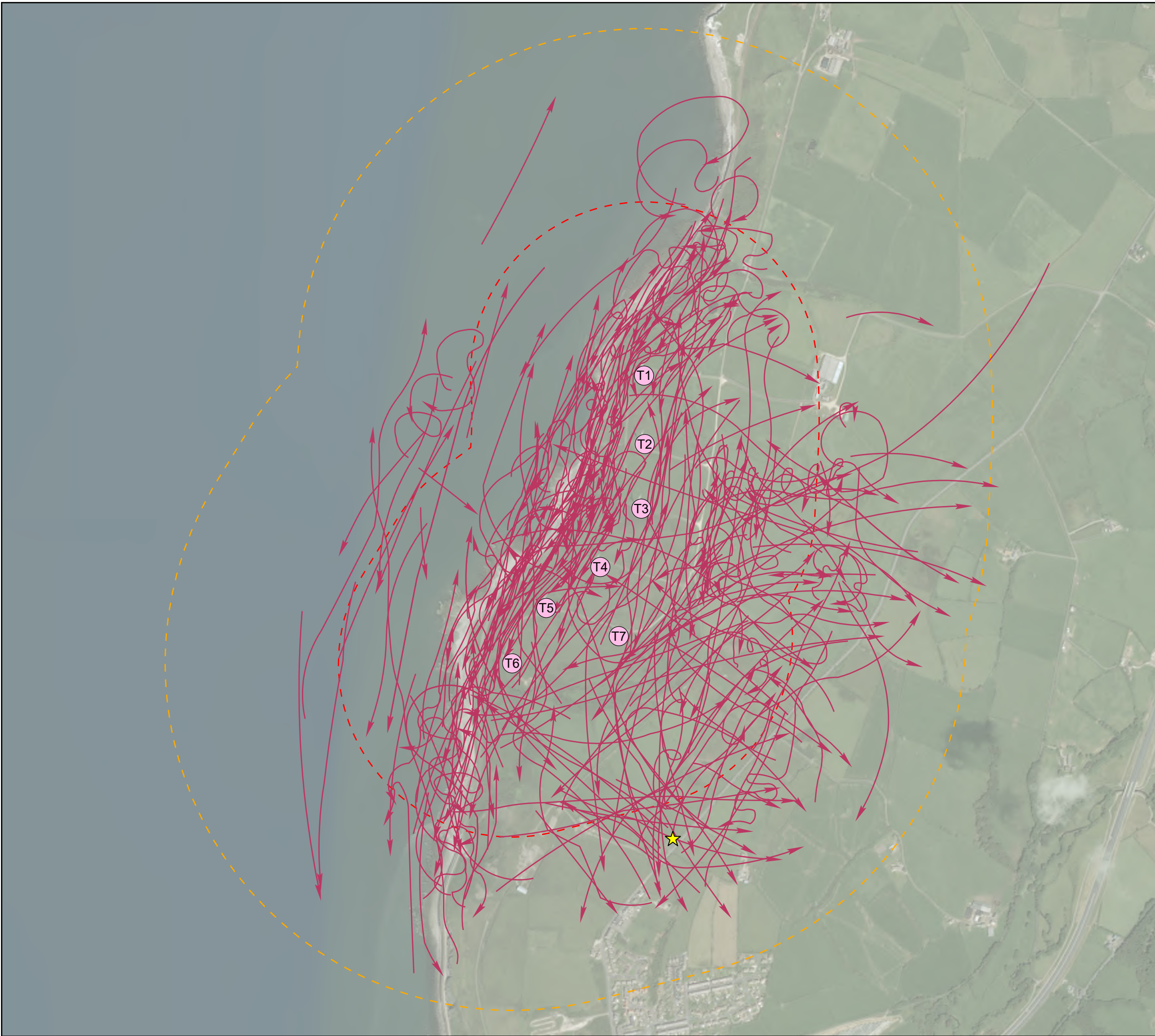
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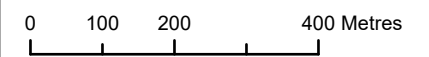
Figure 4 – Bird Vantage Point Survey Results – Herring Gull Flight Lines



Rev	Date	Notes
A	04/03/20	Initial map production

Legend

- Turbines
- ★ Vantage point
- 500m buffer
- 1000m buffer
- HG - Herring Gull



Bird Vantage Point Survey Results – Herring Gull Flight Lines

**Park House Farm Wind Farm
Cannock Wind Farm Services Limited**

Scale at A3: 1:10,500	Project No: A108663	Drawing No: Figure 4	Revision: A
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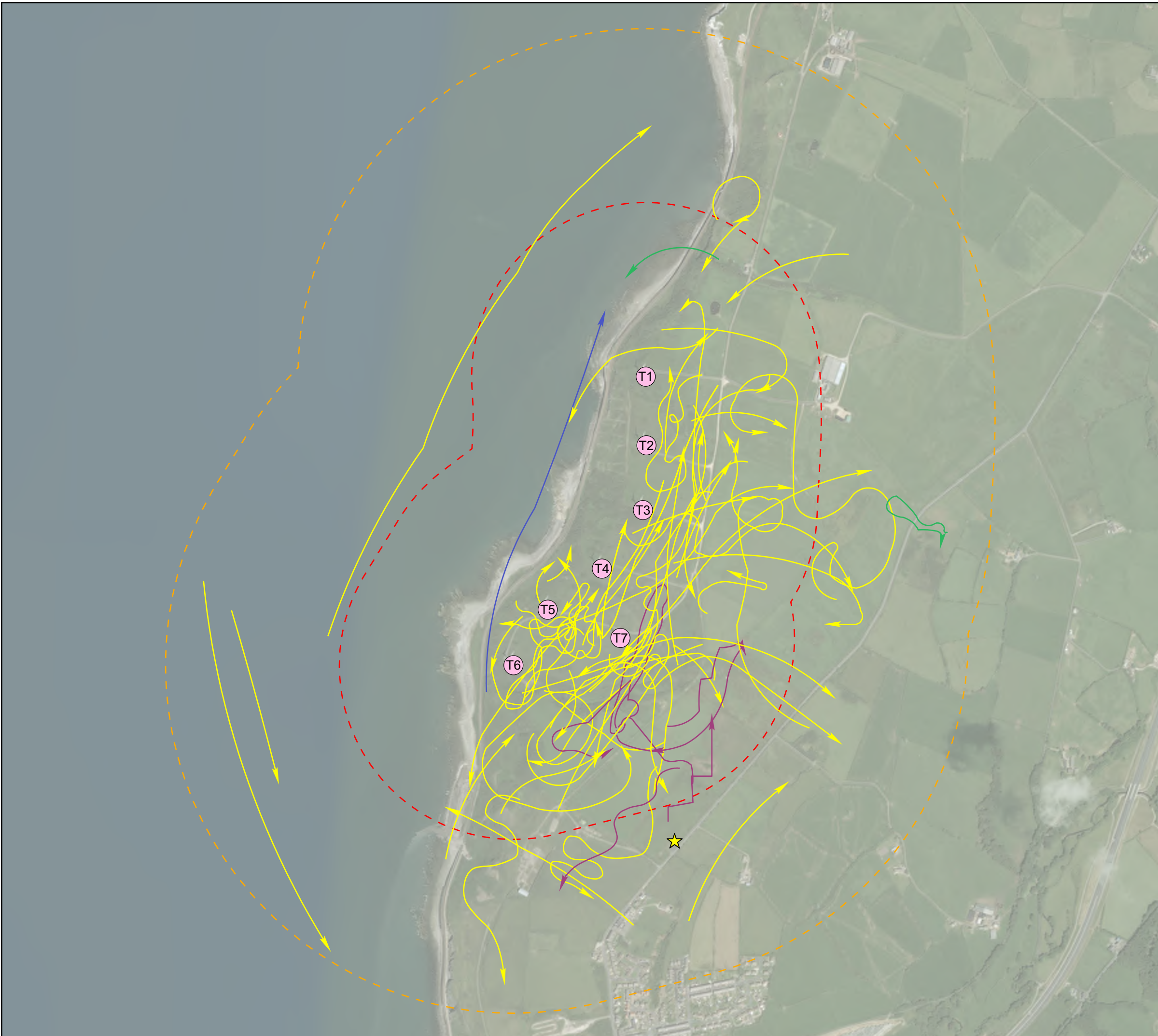
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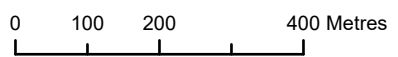
Figure 5 – Bird Vantage Point Survey Results – Waders Flight Lines



Rev	Date	Notes
A	04/03/20	Initial map production

Legend

- Turbines
- ★ Vantage point
- 500m buffer
- 1000m buffer
- CU - Curlew
- L. - Lapwing
- RK - Redshank
- SN - Snipe



**Bird Vantage Point Survey Results –
Waders Flight Lines**

**Lowca Wind Farm
Cannock Wind Farm Services Limited**

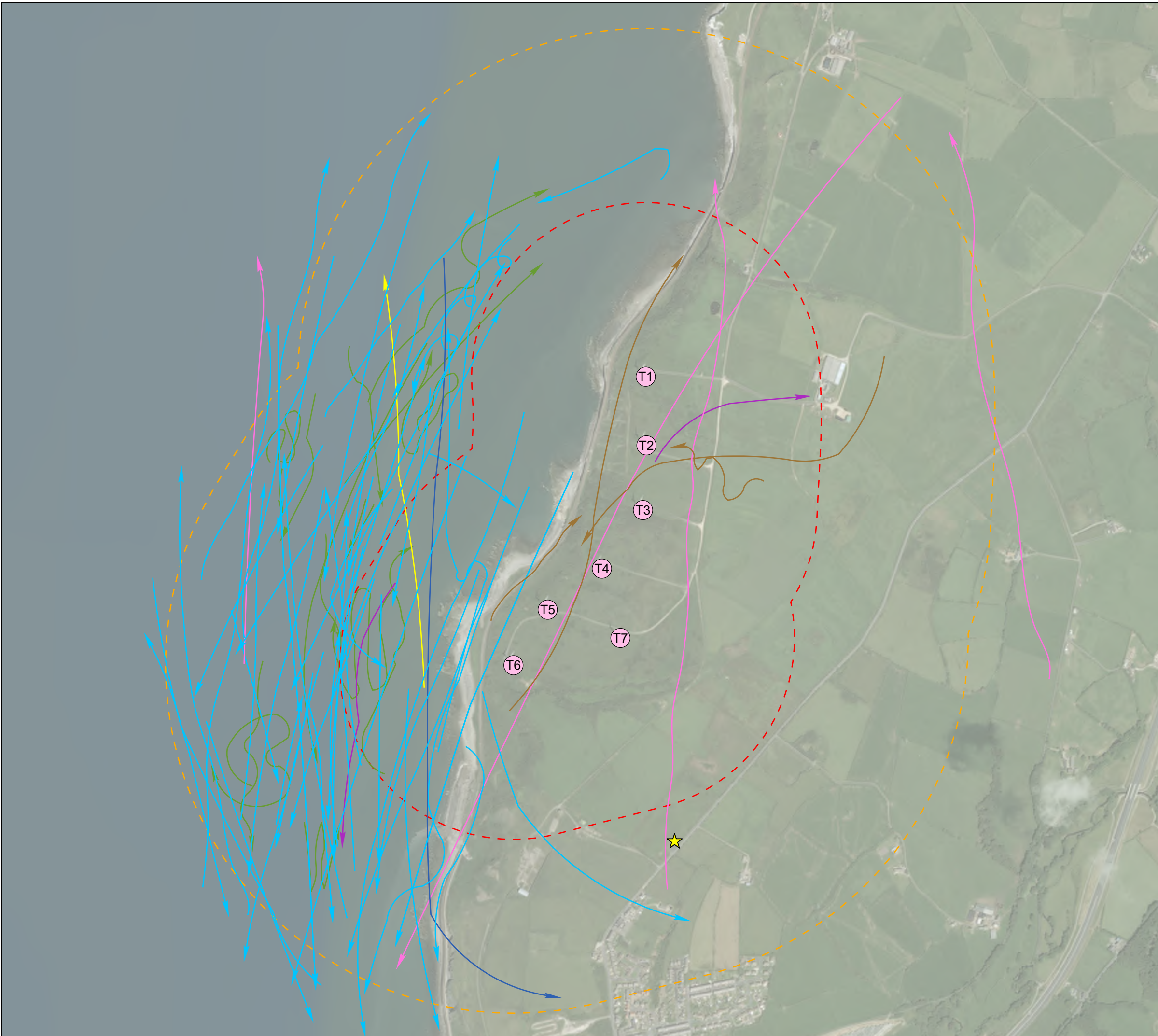
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Figure 6 – Bird Vantage Point Survey Results – Waterfowl and Sea Birds Flight Lines



Rev	Date	Notes
A	04/03/20	Initial map production

Legend

- Turbines
- ★ Vantage point
- 500m buffer
- 1000m buffer
- CA - Cormorant
- CX - Common Scoter
- GD - Goosander
- GJ - Greylag Goose
- GX - Gannet
- H. - Grey Heron
- PG - Pink-footed Goose

0 100 200 400 Metres



**Bird Vantage Point Survey Results –
Waterfowl and Sea Birds Flight Lines**

**Park House Farm Wind Farm
Cannock Wind Farm Services Limited**

Scale at A3: 1:10,500	Project No: A108663	Drawing No: Figure 6	Revision: A
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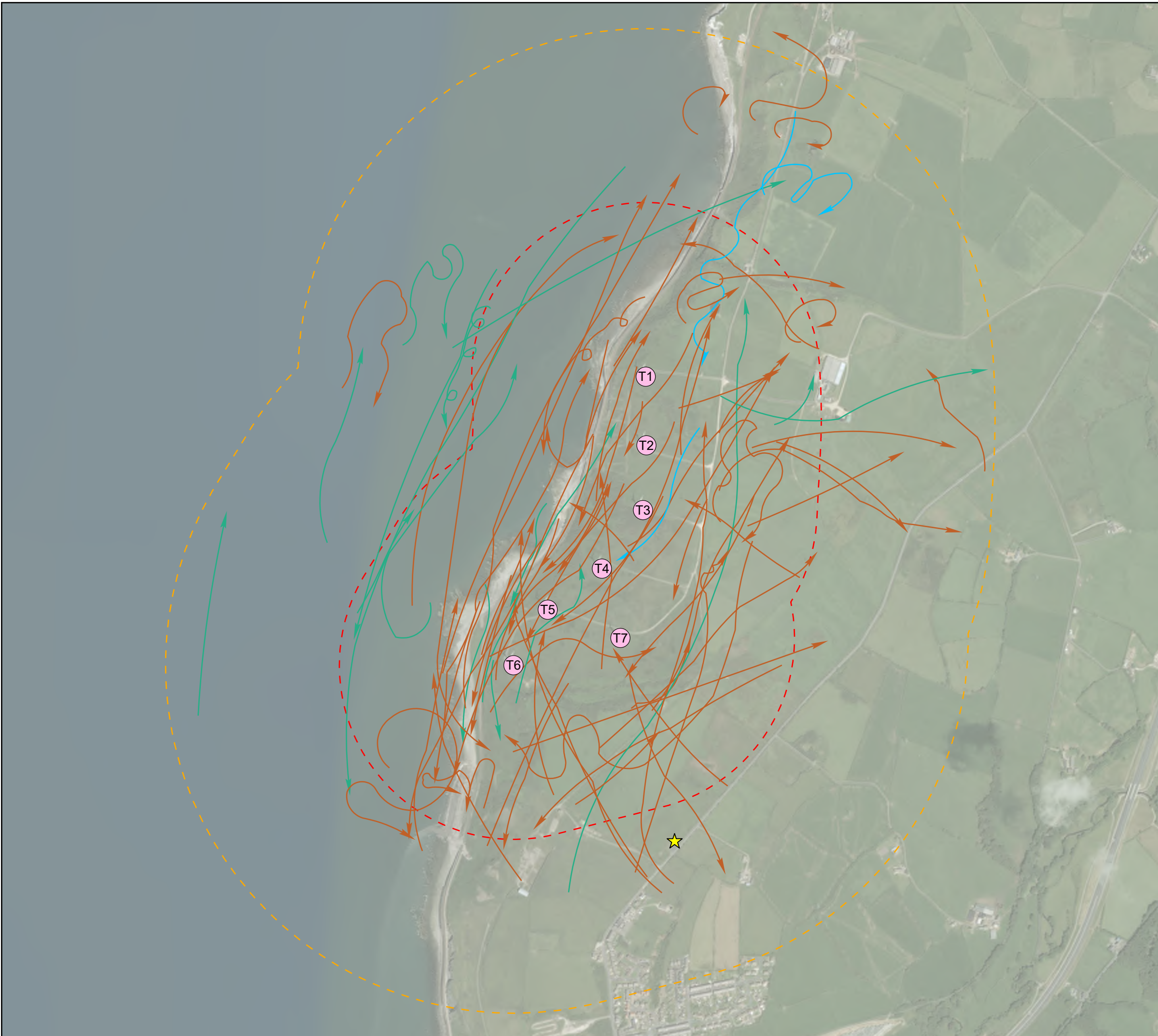
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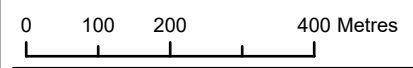
Figure 7 – Bird Vantage Point Survey Results – Common Gull, Great Black-backed Gull and Lesser Black-backed Gull Flight Lines



Rev	Date	Notes
A	04/03/20	Initial map production

Legend

- Turbines
- ★ Vantage point
- 500m buffer
- 1000m buffer
- CM - Common Gull
- GB - Great Black-backed Gull
- LB - Lesser Black-backed Gull



**Bird Vantage Point Survey Results –
Common Gull, Great Black-backed Gull
and Lesser Black-backed Gull Flight Lines**

**Park House Farm Wind Farm
Cannock Wind Farm Services Limited**

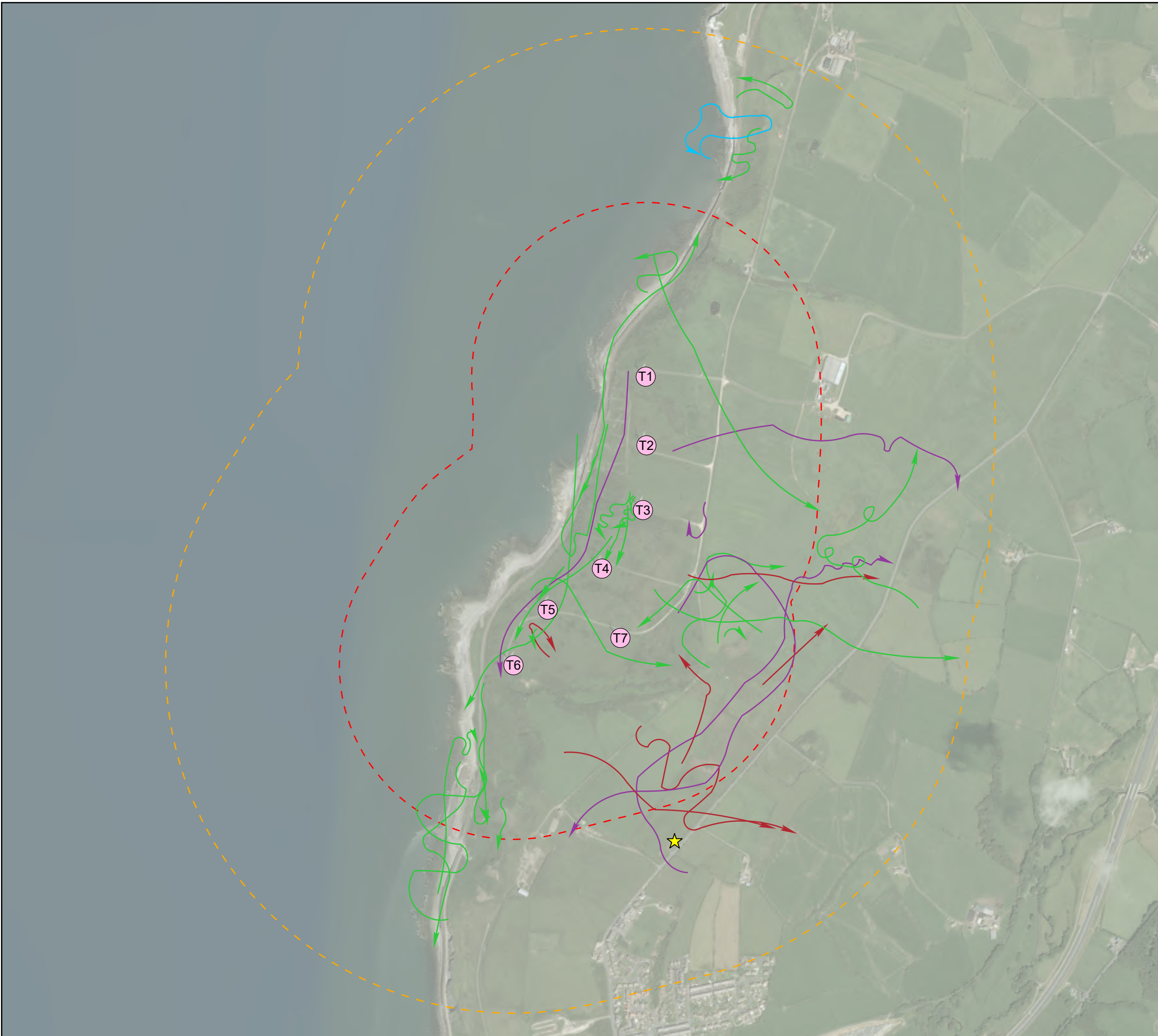
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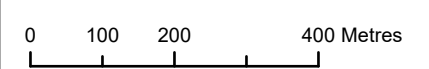
Figure 8 – Bird Vantage Point Survey Results – Raptor Flight Lines



Rev	Date	Notes
A	04/03/20	Initial map production

Legend

- Turbines
- ★ Vantage point
- 500m buffer
- 1000m buffer
- BZ - Buzzard
- K. - Kestrel
- PE - Peregrine
- SH - Sparrowhawk



Bird Vantage Point Survey Results – Raptor Flight Lines

**Park House Farm Wind Farm
Cannock Wind Farm Services Limited**

Scale at A3: 1:10,500	Project No: A108663	Drawing No: Figure 8	Revision: A
Drawn by: Maddie Errington	Drawn date: 04/03/2020	Approved by: Patrik Gruba	

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Appendix A – Report Conditions



REPORT CONDITIONS

This Report has been prepared using reasonable skill and care for the sole benefit of Cannock Wind Farm Services Limited ("the Client") for the proposed uses stated in the report by WYG Environment Planning Transport Limited ("WYG"). WYG exclude all liability for any other uses and to any other party. The report must not be relied on or reproduced in whole or in part by any other party without the copyright holder's permission.

No liability is accepted or warranty given for; unconfirmed data, third party documents and information supplied to WYG or for the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report. WYG does not purport to provide specialist legal, tax or accounting advice.

The report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections'. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times. No investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions. The "shelf life" of the Report will be determined by a number of factors including; its original purpose, the Client's instructions, passage of time, advances in technology and techniques, changes in legislation etc. and therefore may require future re-assessment.

The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. WYG accept no liability for issues with performance arising from such factors.



Appendix B – Qualifying species and selection criteria of Solway Firth pSPA (A composite of the existing Upper Solway Flats and Marshes SPA and a proposed marine extension)



Solway Firth pSPA (a composite of the existing Upper Solway Flats and Marshes SPA and a proposed marine extension)

This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting **non-breeding populations** of European importance of the following species listed on Annex I of the Directive:

- Red-throated diver *Gavia stellata* (a mean peak estimate of 521 individuals; 3.1% of the Great Britain population);
- Whooper swans *Cygnus cygnus* (an average of 250 individuals; 1.5% of the north west European population; 4% of the British nonbreeding population);
- Golden plover *Pluvialis apricaria* (an average of 3,380 individuals; 2% of the Great Britain population);
- Bar-tailed godwit *Limosa lapponica* (an average of 4,800 individuals; 4% of east Atlantic flyway, 8% of the Great Britain population).

This site also qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting populations of European importance of the following **migratory** species:

- Pink-footed geese *Anser brachyrhynchus* (an average of 14,900 individuals; 14% of the Icelandic population, all of which winter in Britain);
- Pintail *Anas acuta* (an average of 1,400 individuals; 2% of north west European, 6% of the Great Britain population);
- Scaup *Aythya marila* (an average of 2,300 individuals; 2% of north west European, 57% of the 31 Great Britain population);
- Oystercatcher *Haematopus ostralegus* (an average of 33,850 individuals; 4% of east Atlantic flyway population, 12% of the Great Britain population);
- Knot *Calidris canutus* (an average of 15,300 individuals; 4% of the east Atlantic flyway, 7% of the Great Britain population);
- Curlew *Numenius arquata* (an average of 6,700 individuals; 2% of east Atlantic flyway, 7% of the Great Britain population);
- Redshank *Tringa totanus* (an average of 2,100 individuals; 2% of east Atlantic flyway, 3% of the Great Britain population).

The site also qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting populations of European importance of ringed plover *Charadrius hiaticula* during the **non-breeding (passage)** period (a mean peak population estimate of 981 individuals; 1.3% of the biogeographic population).

The site further qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting in excess of 20,000 water birds. In addition to the species named above this includes nationally important **non-breeding populations** of the following species:

- Shelduck *Tadorna tadorna* (an average of 1,600 individuals; 2% of the Great Britain population);
- Teal *Anas crecca* (an average of 1,400; 1% of the Great Britain population);
- Shoveler *Anas clypeata* (an average of 120 individuals; 1% of the Great Britain population);
- Goldeneye *Bucephala clangula* (an average of 300 birds; 2% of the Great Britain population);
- Grey plover *Pluvialis squatarola* (an average of 720 individuals; 3% of the Great Britain population);
- Sanderling *Calidris alba* (an average of 260 individuals; 2% of the Great Britain population);



- Dunlin *Calidris alpina* (an average of 11,900 individuals; 3% of the Great Britain population);
- Turnstone *Arenaria interpres* (an average of 600 individuals; 1% of the Great Britain population);
- Common scoter *Melanitta nigra* (a mean peak population estimate of over 1,588 individuals; 1.6% of the Great Britain population);
- Goosander *Mergus merganser* (a minimum mean peak population estimate of 146 individuals; 1.6% of the Great Britain population);
- Lapwing *Vanellus vanellus* (a mean peak population estimate of 5037 individuals; 0.8% of the Great Britain population and > 2,000 individuals);
- Cormorant *Phalacrocorax carbo* (a mean peak population estimate of 581 individuals; 1.6% of the Great Britain population);
- Black-headed gull *Chroicocephalus ridibundus* (a peak population estimate of 13,732 individuals; 0.6% of the Great Britain population);
- Common gull *Larus canus* (12,486 individuals; 1.8% of the Great Britain population);
- Herring gull *Larus argentatus* (a peak population estimate of 3034 individuals; 0.4% of the Great Britain population);



Appendix C – Natural England Discretionary Advice Service Consultation Response

patryk.gruba

Subject: FW: Scope of surveys

From: Berry, Kate <Kate.Berry@naturalengland.org.uk>

Sent: 26 September 2019 16:52

To: rachel.kerr <rachel.kerr@wyg.com>

Subject: RE: Scope of surveys

Hi Rachel

We have no concerns of any designated site impacts at Lowca, despite its proximity, as there is nothing that will be attract the pSPA birds inland to cause flights through the site, so these surveys are not required here.

Thanks

Kate

Kate Berry
Adviser
Cumbria Team

Tel: 0208 026 2178

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Please note I do not work Wednesdays



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