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Technical Appendix 10-1

Scout Moor II Wind Farm

2022 / 23 Year 1 Ornithology Report

Cubico UK Development (Wind 1) Ltd

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Executive Summary

This report presents the initial findings of ornithological survey work undertaken at the Scout Moor to inform an understanding of the ornithological conservation interest of the site, and potential constraints to the siting of a wind farm. The proposed wind farm is located in Rochdale, Greater Manchester.

The report presents the results of a desktop study of publicly available information, data obtained from Greater Manchester Local Record Centre (GMLRC) and Lancashire Environment Record Network (LERN) in August 2023, as well as the results of the first year (April 2022 – March 2023) of surveys at the site, comprising standard vantage point (VP) surveys and also breeding bird and raptor walkover surveys.

During the first year of vantage point surveys, eleven primary and eight secondary target species were recorded. Primary target species were Merlin *Falco columbarius*, Peregrine *Falco peregrinus*, Red kite *Milvus milvus*, Greylag goose *Anser anser*, Goosander *Mergus merganser*, Snipe *Gallinago gallinago*, Lapwing *Vanellus vanellus*, Oystercatcher *Haematopus ostralegus*, Curlew *Numenius arquata*, Mute swan *Cygnus olor*, and Little egret *Egretta garzetta*. Of these, Lapwing was both the most frequently encountered species and had the most at risk bird seconds recorded throughout (19 flights, 1385 at risk seconds), the majority of which were in the summer months. Merlin (10 flights) and Greylag goose (8 flights) were also encountered regularly; Merlin was more often encountered in the winter and Greylag goose more often in the summer but were both observed year-round. The secondary species were Buzzard (*Buteo buteo*), Raven (*Corvus corax*), Cormorant (*Phalacrocorax carbo*) and Kestrel (*Falco tinnunculus*).

Breeding bird and raptor surveys undertaken in spring and summer of 2022 (April- August) identified the presence of 16 Birds of Conservation Concern (BoCC) red list, 18 Amber BoCC list and five Schedule 1 species forming part of the breeding assemblage onsite; nine of these species were confirmed breeding onsite including Curlew, Lapwing and Kestrel. Of note, habitats present appear to be of importance to high numbers of Skylark *Alauda arvensis*, a species which features in the Lancashire Biodiversity Action Plan, although it is recognised that wind developments have little adverse effects on this species. Habitats also support moderate populations of species such as, Linnet *Linaria cannabina*, Reed bunting *Emberiza schoeniclus* and Wheatear *Oenanthe oenanthe*. Notable species such as Dunlin *Calidris alpina*, Golden plover *Pluvialis apricaria*, Black redstart *Phoenicurus ochruros*, Hen harrier *Circus cyaneus* and, and Merlin were recorded onsite in low numbers and/ or infrequently.

1. Introduction

1.1 Terms of Reference

Atmos Consulting Ltd. have undertaken the first year of ornithological surveys, commencing in April 2022, in relation to a potential wind energy development on Scout Moor, Rochdale (hereafter referred to as the “Site”).

This report presents the results of the first year of ornithological surveys, from April 2022 to February 2023 inclusive as well as the results of a desk study.

1.2 Site Description

The Site is a large area of land located in Rochdale, Greater Manchester, England. The Site has an approximate central national grid reference of SD 85570 18022.

The Site is comprised of upland habitat, predominately moorland with fields to the South of the Site that are often utilised by farmers. A series of existing wind turbines lie adjacent West of the Site with some present in the North-West extent of the Site itself. The habitats in the wider landscape is mostly urban, with Rochdale to the South of the Site and further housing developments being undertaken to the East of the Site.

1.3 Objectives

The objective of the survey work was to collect information on the usage of the Site by bird species and identify the potential ecological constraints that could arise in relation to the proposed installation of wind turbines.

The specific objectives of this Year 1 Bird Report are:

- provide a summary of the legislation and policy context relating to birds;
- provide a summary of the avian desk study information obtained to date for the Site; and
- document the ornithological survey methodologies and avian species recorded during the initial period of survey.

2. Ornithological Legislation & Conservation Status

Legislation, non-statutory conservation designations, and NatureScot (NS), formerly Scottish Natural Heritage (SNH) guidance pertaining to the ornithological interests discussed within this report are presented below.

2.1 Legislation

Wildlife and Countryside Act 1981 (as amended) & Conservation (Natural Habitats & c.) Regulations 2017 (as amended)

The Wildlife and Countryside Act 1981 (as amended) (WCA) is the principal mechanism for the legislative protection of wildlife in Great Britain. All wild birds and their active nests, eggs and young are protected from damage, destruction or capture under the WCA. Bird species listed on Schedule 1 gain additional protection particularly around their nests, with disturbance listed as an offence, with special penalties for breaches of the law related to those Schedule 1 species. The WCA also provides the mechanism by which the Conservation of Wild Birds (Directive 2009/147/EC, the 'Birds Directive') is transposed into UK law, allowing for the designation of Special Protection Areas (SPAs). Because the Birds Directive has been transposed into law, its provisions still have effect despite the withdrawal of the UK from the EU.

The Birds Directive lays out special measures to conserve wild birds, their eggs, nests and habitats, and applies special protection to those species as listed under Annex 1 of the Directive. This is to apply special protection, in particular, to those species which are migratory and are considered to be of a shared heritage and conservation responsibility across all European Union member states.

The Conservation of Habitats and Species Regulations (2017) (as amended), or 'Habitat Regulations', are the method by which the relevant European Directives are translated into law. Specifically, the Habitat Regulations transpose the Convention on the Conservation of European Wildlife and Natural Habitats (the 'Bern Convention') and Natural Habitats and Wild Fauna and Flora (92/43/EEC, the 'Habitats Directive') into an English and Welsh context.

2.2 Conservation Plans

Biodiversity Action Plans

The UK Biodiversity Action Plan (UK BAP) was the UK's response to the commitments of the Rio Convention on Biological Diversity. The plan outlines action for 26 species of birds of conservation importance/concern.

The Environment (Wales) Act 2016 places a duty of care on public bodies to further the conservation of biodiversity in Wales. This replaces that which existed under the Natural Environment and Rural Communities (NERC) Act (2006), which designated Species of Principal Importance (SPI) in Wales via Section 42. The Environment (Wales) Act replaces this with Section 7, which includes the same species.

Birds of Conservation Concern 5 (BoCC)

The leading government (Joint Nature Conservation Committee (JNCC)) and non-government conservation organisations in the UK jointly reviewed the population status of the 247 bird species that are regularly found within the United Kingdom using data from national monitoring schemes.

This was most recently reviewed in 2021 (Stanbury *et al.*, 2021)¹ and was an update to the earlier 2009 BoCC report.

On the basis of seven quantitative criteria, each species has been placed on one of three lists, these being:

- Red - red list species are those that are globally threatened, have had an historical population decline in the UK from 1800 -1995, a rapid (> or = 50%) decline in UK breeding population over the past 25 years, or a rapid (> or = 50%) contraction of UK breeding range over the past 25 years;
- Amber - amber listed species are those that have had a historical population decline from 1800-1995 but are recovering (population size has more than doubled over the past 25 years), a moderate (25-49%) decline in UK breeding population over the past 25 years, a moderate (25-49%) contraction of UK breeding range over the past 25 years, a moderate (25-49%) decline in UK non-breeding population over the past 25 years, or species with unfavourable conservation status in Europe also known as Species of European Conservation Concern (SPEC); and
- Green - green listed species are those that have no identified threat to their population status.

2.3 Ornithological Guidance

NS has produced several guidance documents in relation to the assessment of impacts of wind farm developments on bird populations. The following guidance informed the survey work and any subsequent assessments. This is the accepted guidance for use in Wales, with consequent analysis required in the Welsh context:

- Assessing the Cumulative Impacts of Onshore Wind Energy Developments (2025a)²;
- Assessing connectivity with Special Protection Areas (SPAs) (2016a)³;
- Environmental Statements and Annexes of Environmentally Sensitive Bird information (2016b)⁴;
- Recommended Bird Survey Methods to Inform Impact Assessment of Onshore Wind Farms (2025b)⁵; and
- Assessing the Significance of Impacts from Onshore Wind Farms on Birds at Sites that do not Affect Protected Areas (2025c)⁶.

¹ Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds* 114: 723-747.

² NatureScot (2025a). Guidance - Assessing the cumulative landscape and visual impact of onshore wind energy developments. [online] Available at: <https://www.nature.scot/doc/guidance-assessing-cumulative-impacts-onshore-wind-farms-birds>.

³ SNH (2016a). *Assessing Connectivity with Special Protection Areas (SPAs) Guidance*. [online] Available at: <https://www.nature.scot/sites/default/files/2022-12/Assessing%20connectivity%20with%20special%20protection%20areas.pdf>.

⁴ NatureScot (2016b). Environmental Statements and Annexes of Environmentally Sensitive Bird Information. [online] Available at: <https://www.nature.scot/doc/environmental-statements-and-annexes-environmentally-sensitive-bird-information>.

⁵ NatureScot (2025b). *Recommended bird survey methods to inform impact assessment of onshore windfarms*. [online] Available at: <https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms>.

⁶ NatureScot (2025c). Guidance note - Assessing the significance of impacts on bird populations from onshore wind farms that do not affect protected areas. [online] NatureScot. Available at: <https://www.nature.scot/doc/guidance-note-assessing-significance-impacts-bird-populations-onshore-wind-farms-do-not-affect>.

3. Methodology

3.1 Desk Study

3.1.1 Designated Sites

The desktop study consisted of a search for statutory and non-statutory designated sites with avian qualifying features within 20km of the Site, using the Assessment Boundary that was in use in August 2023.

3.1.2 Species Records

Data on protected and priority species was obtained from the following sources:

- 'Magic' UK Government mapping portal⁷ for statutory designated sites;
- Greater Manchester Local Record Centre (GMLRC) and Lancashire Environment Record Network (LERN) for records of protected and priority species and non-statutory designated sites within the Site boundary and a 2 km buffer⁸.

3.1.3 Target Species

Target avian species were identified as those that are either afforded specific legislative protection (i.e. of high conservation interest) or represent qualifying interests in designated sites in the wider area. The final list of target species was determined using these criteria along with the likelihood of each species being present at the Site and in the environs (based upon available habitat, experience of working in this region and geographical location).

Target species are considered to be those:

- Identified as potentially at risk from impacts of onshore wind farms (SNH, 2018a);
- Species listed in Annex 1 of the EC Wild Birds Directive (2009/147/EC);
- SSSI and SPA species potentially at risk from wind farm development; and
- Non-passerines listed in Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

The target species were differentiated between primary and secondary target species, with ornithological features of nearby designated sites are highlighted in **Bold**. These are as follows:

Primary Target Species

Raptors: All Schedule 1 and Annex 1 species including **Merlin** *Falco columbarius*, **Peregrine** *Falco peregrinus*, Hen harrier *Circus cyaneus* Hobby *Falco subbuteo*, Barn owl *Tyto alba*, **Short-eared owl** *Asio flammeus* and Red kite *Milvus milvus*.

Waders: all including **Little ringed plover** *Charadrius dubius* **Curlew** *Numenius arquata* **Golden plover** *Pluvialis apricaria*, **Common sandpiper** *Actitis hypoleucos*, **Dunlin** *Calidris alpina*, **Snipe** *Gallinago Gallinago*, Little egret *Egretta garzetta*, Oystercatcher *Haematopus ostralegus* and **Lapwing** *Vanellus vanellus*.

Wildfowl: all Ducks, including **Teal** *Anas crecca* and Goosander *Mergus merganser*.

Geese: all excluding Canada goose *Branta canadensis*

⁷ <https://magic.defra.gov.uk/magicmap.aspx> accessed September 2023

⁸ Generally, records provided that exceed 20 years in age are not referred to, unless particularly significant in the context of the project

Secondary Target Species

- Raptors: **Buzzard** *Buteo buteo*, **Kestrel** *Falco tinnunculus*, Sparrowhawk *Accipiter nisus*.
- Cormorant *Phalacrocorax carbo*, **Moorhen** *Gallinula chloropus* and **Grey heron** *Ardea cinerea*
- **Red grouse** *Lagopus lagopus*;
- **Raven** *Corvus corax*
- Gulls: **Lesser black-backed** *Larus fuscus*, **Mediterranean** *Larus melanocapalus*, and **Black-headed** *Chroicocephalus ridibundus*, Herring *Larus argentatus* and Common *Larus canus*.

3.2 Survey methodologies

Survey methodologies were in accordance with NatureScot (2025b) guidance.

All surveys were carried out by experienced ornithological surveyors.

3.2.1 Diurnal Vantage Point Survey

Vantage point (VP) watches were undertaken for a full 12-month period from April 2022 to March 2023, following the methods within NatureScot guidance (2025b). Each VP watch was undertaken by a suitably experienced single observer in conditions of good visibility. The surveyor positioned themselves as inconspicuously as possible to minimise their effect on the birds' natural behaviour. 6 hours of watches were undertaken per VP per month, totalling 36 hours per VP per season.

Error! Reference source not found. presents the details of the five VP locations and Figure 10-1-1 in Appendix A presents all VP locations and viewsheds.

Table 1: Details of Vantage Point Locations

VP Number	Grid Reference		View Bearing
	Easting	Northing	
VP1	-385102	416674	060°
VP2	-383254	418773	030°
VP3	-385860	418175	315°
VP4	-387337	418326	245°
VP5	-384927	420044	240°

Surveys at each VP location are being undertaken in watches of no longer than 3 hours duration for two watches per VP location per month where conditions allow. If weather conditions are such that the 3-hour watches are curtailed, these are re-commenced again in suitable conditions. When multiple surveyors were undertaking VPs on Site, care was taken to ensure the survey areas did not overlap. Other survey work and activity on the Site is taken into account to minimise the potential for disturbance of baseline conditions and issues compromising data integrity. Diurnal VPs were completed in order to cover all daylight hours (between dawn and dusk) in any given survey day.

Flight lines were recorded within the following three height bands:

- A - < 20m;
- B - 20m – 180m; and,
- C - >180m.

Details of the date, timing, and surveyors for all VP surveys are provided in Appendix B.

3.2.2 Breeding Raptor Surveys

Surveys for breeding raptors were undertaken between April and July 2022, with four visits following Hardey et al., 2013. Table 2 below provides a summary of the timing and aim of each visit.

Table 2: Timing of Raptor Survey Visits

Visit No.	Purpose	Timing
1	Detection of possible territories	End March – mid-April
2	Location of nests	Late April – mid May
3	Detection of young birds	June
4	Detection of fledging	Mid July – late July

The survey area extended up to 2 km from the Site boundary due to raptor territory sizes. It was carried out in conjunction with the upland breeding bird survey (see below). Table 3 below summarises the breeding raptor survey effort in the 2022 season.

Table 3: Breeding Raptor Survey Effort 2022

Visit No.	Dates	Observer(s)
1	April – 12 th , 13 th , 28 th , 29 th , 30 th	DH
2	May – 19 th , 20 th , 25 th , 27 th , 28 th	DY + DH
3	June – 20 th , 21 st , 22 nd , 23 rd	TB
4	July – 25 th , 26 th , 27 th , 28 th	EF

3.2.3 Upland Breeding Bird Surveys

A modified Common Bird Census approach (Gilbert, 1998) was used, which involved four visits to the Site, each comprising a Site walkover by an experienced ornithologist in which all parts of the assumed development area plus a 500m buffer were walked over to a minimum distance of 50 m (where accessible). Visits were carried out between the end of April and July and all birds seen or heard were recorded on site maps using British Trust for Ornithology (BTO) survey nomenclature. Due to the size of the Site, surveys took place over several days.

Table 4 below details the survey dates and surveyors.

Table 4: Breeding Bird Survey Visits

Visit	Dates	Surveyor
1	April – 13 th , 29 th , 30 th ,	DH
2	May – 27 th , 28 th , 29 th	DH
3	June – 20 th , 21 st , 22 nd	TB
4	July – 25 th , 26 th , 27 th	EF

Once all surveys were complete, analysis of territories was undertaken. This involved an assessment of bird records across all four survey visits. However, only species which are listed on Birds of Conservation Concern as amber or red, Annex 1 or Schedule 1 species.

Four categories were recognised:

- Confirmed territory – nest was found or adults seen carrying food (unless raptors) or nesting materials or presence of juvenile birds on the site;
- Probable territory – bird(s) were seen in the same location on more than one location, breeding behaviour was observed on at least one occasion (e.g. courtship, display or singing, pairs in suitable habitat, territorial disputes);

- Possible territory – birds observed only once in one location, but evidence of breeding was observed, or birds recorded repeatedly (i.e. across several visits) in suitable habitat although no evidence of breeding observed; and
- Non-breeding – bird was recorded with no breeding behaviour observed and on no other visit was a bird observed in the same location.

Limitations

Due to the upland nature of the Site, some surveys have been affected by adverse weather conditions. However, to minimise these impacts, where wind, rain or fog significantly affected ability to undertake surveys or detect birds, the VP watches were stopped and rescheduled to a later date when conditions were more favourable. Surveys were successfully completed within the relevant months for the full 11 month period and therefore this dataset is considered robust and representative of bird activity on site in all seasons.

The data search only includes designated sites and birds recorded within a 2km radius of the Assessment Boundary that was in use during August 2023. The most recent Assessment Boundary as of May 2025 includes some areas that were formerly in the 2km buffer, but not beyond (See Figure 10.1b that accompanies the main ES chapter). The search area used is still considered adequate for informing the ornithological interest of the site and any impacts to nearby designated sites or bird populations, as there remains an appropriate buffer between the boundary and the extent of the search area around the site.

Similarly, the breeding bird survey area in 2022 excludes Site extensions that were added in early 2023, however the difference in survey effort was compensated for through further two breeding seasons to ensure the majority of the site has undergone two breeding seasons and all areas have undergone at least 1 breeding season. As survey buffers were able to be surveyed in detail in all years, this further provides confidence that all receptors have been accounted for in the current Assessment Boundary, as of May 2025.

4. Results

4.1 Desktop Study

4.1.1 Designated Sites

Statutory Designations

Table 5 below details any nationally/internationally designated sites with an avian designation (e.g., Natura sites, Sites of Special Scientific Interest (SSSIs)) within 10 km of the proposed development boundary, or any internationally designated sites with geese or gulls as a qualifying feature within 20 km of the proposed development. Statutory designations within 10km can be found on Figure 10.1a within the main ES chapter. However, Lee Quarry SSSI, designated primarily for its geological interest, has only been included within this table as a reference point, due to the notable but undesignated assemblage of birds which it supports and proximity to the Site.

Table 5: Statutory Designated Sites

Site Name	Designation	Distance from Site & Direction	Reason(S) For Designation (Ornithological)
Lee Quarry	SSSI	0m (Adjacent)	Geological interest, however, the site regularly supports breeding Raven and Peregrine . The quarries are frequented by Twite <i>Linaria flavirostris</i> , Wheatear <i>Oenanthe Oenanthe</i> , Grey partridge <i>Perdix perdix</i> and Teal , which are probable breeders in the local area. Ring ouzel <i>Turdus torquatus</i> , Curlew , Skylark <i>Alauda arvensis</i> , Lapwing , Redshank <i>Tringa totanus</i> , Meadow pipit <i>Anthus pratensis</i> , Kestrel <i>Falco tinnunculus</i> and Song thrush <i>Turdus philomelos</i> are also regular visitors. Little ringed plover and Stonechat <i>Saxicola rubicola</i> have also been recorded. *Information extracted from Lee Quarry BHS citation which overlaps with the SSSI.
South Pennine Moors	SSSI	6.6 km E	The moorlands within the SSSI support nationally important numbers of Golden plover , Curlew , Merlin and Twite .
South Pennine Moors Phase 2	SPA	6.6 km E	During the breeding season the SPA regularly supports: Short-eared owl , 0.3% of the GB breeding population (1990), Merlin , 2.2% of the GB breeding population (1995) and Golden plover [North-Western Europe - breeding], 1.3% of the GB breeding population. Breeding Assemblage of moorland and moorland-fringe species including Golden plover , Common sandpiper <i>Actitis hypoleucos</i> , Dunlin <i>Calidris alpina schinzii</i> , Twite , Snipe , Curlew , Wheatear , Whinchat <i>Saxicola rubetra</i> , Redshank , Ring ouzel , Lapwing and Short-eared owl .
West Pennine Moors	SSSI	4.9km WSW	Diverse assemblages of upland moorland, in-bye and woodland breeding birds including nationally important populations of breeding Black-headed gulls , Mediterranean gulls and Grey herons , as well as large numbers of Lapwing and Curlew . Also supports Peregrine , Short-eared owl , Wheatear , Twite , Golden plover , Dunlin , Teal and Red grouse <i>Lagopus lagopus</i> . Declining and scarce woodland species such as Tree pipit <i>Anthus trivialis</i> , Wood warbler <i>Phylloscopus sibilatrix</i> , Spotted flycatcher <i>Muscicapa striata</i> , Pied flycatcher <i>Ficedula hypoleuca</i> and Willow tit <i>Poecile montana</i> . Some species, including Buzzards and Ravens , nest in the woodlands and hunt for food over the adjacent moorland and in-bye.

Non-statutory Designations

Overall, there are 6 non-statutory designated sites within the Site boundary or 2 km buffer across the two counties that have birds listed as part of the designation. Figure 10.1b within the main ES chapter presents their locations relevant to the Assessment Boundary and their ornithological interests are outlined below.

In Lancashire there are four **Biological Heritage Sites (BHS)** with ornithological interest:

- **Cowpe Moss and Brandwood Moor (On Site)**- The site is important as a regular breeding area for Dunlin, Golden plover and Twite. It also supports a significant breeding bird assemblage, with Curlew, Red grouse, Redshank, Ring ouzel, Snipe and Wheatear. Further bird interest is added with the presence of Skylark and Meadow pipit.
- **Scout Moor (Access track)**- The site supports a good variety of upland breeding birds including Golden plover, Dunlin, Curlew, Snipe, Redshank and Wheatear.
- **Lee Quarry (Adjacent)**- The quarries are frequented by Twite, Wheatear, Grey partridge and Teal, which are probable breeders in the local area. Ring ouzel, Curlew, Skylark, Lapwing, Redshank, Meadow pipit, Kestrel and Song thrush are also regular visitors. Little ringed plover and Stonechat have also been recorded. The cliffs support regular breeding pairs of Raven and Peregrine.
- **Dearden Clough/ Plunge Valley (NW buffer)**- Breeding birds in the valley include Meadow pipit, Skylark and Whinchat.

In Greater Manchester there are two designated **Sites of Biological Importance (SBI's)** with one, Knowl Moor overlapping with a large portion of the central region of the Site:

- **Knowl Moor (on Site)**- Designated for its heathland and bog habitats along with its upland breeding bird assemblages, including some scarce breeding species. Sheep's sorrel, an important Twite food plant, occurs locally in acid grassland. Dry stone walls provide shelter for mammals and nest sites for birds such as Little owls and Wheatear which both breed here. Characteristic moorland breeding birds include Red grouse and waders such as Curlew, Golden plover and Lapwing. Other breeding birds include Kestrel, Wheatear, Skylark and a number of birds of prey. Redshank, Dunlin, Ring ouzel and Twite have previously been recorded as breeding in the area. Other species recorded include Fieldfare, Lesser black-backed gull, Coal tit, Bullfinch *Pyrrhula pyrrhula*, Snipe, Grey partridge, Meadow pipit, Dipper, Stonechat, Sedge warbler, Willow warbler, Linnet *Linaria cannabina*, Reed bunting *Emberiza schoeniclus* and House sparrow *Passer domesticus*. Dotterel *Charadrius morinellus* has been recorded on spring passage and Snow bunting *Plectrophenax nivalis* has been recorded in winter.
- **Healey Dell (SE buffer)** – Designated for its Semi-natural Broadleaved Woodland features some areas which are classified as ancient. Alongside its SBI status, Healey Dell is also designated as a local nature reserve (LNR), however for geological interest. Birds observed at time of SBI designation included Wren, Great spotted woodpecker, Green woodpecker, Nuthatch, Chaffinch, Willow warbler, Great tit, Jay, Blackbird, and Robin. Dippers *Cinclus cinclus*, Grey wagtail *Motacilla cinerea*, and Yellow wagtail *Motacilla flava* (UK Biodiversity Priority Species) were recorded from the river with Moorhen, Canada goose and Mallard present on the lodges. The UK Biodiversity Priority Species Bullfinch and Song thrush probably breed on the site together with Blackcap, Goldfinch, Tawny owl, and Nuthatch. A rookery is also recorded, and a small heronry is present in the north of the site. Wintering species including Brambling, Siskin, and Goldcrest.

Additionally, there is the **Bowland Fells Important Bird Area** (IBA) 16.9km North-North-West which is important for breeding gulls. Mallowdale and Tarnbrook Fells within Bowland fells SSSI support one of the five largest breeding colonies of Lesser black-backed gulls in Great Britain, which probably contains over 10% of the British and 1% of the European populations.

4.1.2 Existing Data

Birds

A full list of bird species recorded on Site and within 2 km is provided in Appendix B. In summary, the following notable species have been recorded in the past twenty years, selected due to their potential sensitivity to wind farms, conservation status and/or listing as part of the statutory designated sites in Table 5.

Raptors

Peregrine (Schedule 1 WCA) – 40 records including breeding records between 2003 and 2021.

Hobby *Falco subbuteo* (Schedule 1 WCA) – 2 field records, in 2007 and 2021.

Barn owl (Schedule 1 WCA) – 16 field records and 6 breeding records in 2018 and 2021.

Hen harrier (Schedule 1 WCA, Annex I) – 1 record of a juvenile observed in 2021.

Additional: 8 historical records of **merlin** (Schedule 1 WCA, Annex I) with two field sightings in 2002 and several breeding records in 1995 and 1988.

Waders

Curlew (BoCC Red List)- 44 records, including nest records from 2015.

Lapwing (BoCC Red List)- 37 records, including 4 probable nests in 2019.

Little ringed plover (Schedule 1 WCA)- 33 records including nesting records.

Additional: 12 historical records of **Golden plover**– (Schedule 2 WCA) including breeding records in 2002, and 6 **Dunlin** *Calidris alpina* (BoCC Red List) breeding records between 1995 and 2002 were also returned by the data search.

Passerines

Black redstart *Phoenicurus ochruros* (Schedule 1 WCA)- 3 field records, most recently observed in 2014.

Ring ouzel (BoCC Red List)- 14 records, most recently observed in 2021. Possible breeding recorded in 1990.

Twite (BoCC Red List) – 16 records, most recently sighted in 2015 and last confirmed breeding in 2005.

4.2 Vantage Point Surveys

Table 6 summarises the VP survey effort across the VP locations for an eleven-month period from April 2022 to February 2023, inclusive. Due to seasonal differences in bird assemblages, March 2023 data has been included in the year 2 report with the breeding birds. The specific details of each VP survey visit can be found in Appendix B, Table 6. Section 3.2.1 provides an explanation of the number of hours that were surveyed from each location.

Table 6: Vantage Point Survey Effort

VP No.	Apr 2022	May 2022	Jun 2022	Jul 2022	Aug 2022	Sept 2022	Oct 2022	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Total Hours
1	6	6	6	6	6	6	6	6	6	6	6	66
2	6	6	6	6	6	6	6	6	6	6	6	66
3	6	6	6	6	6	6	6	6	6	6	6	66
4	6	6	6	6	6	6	6	6	6	6	6	66
5	6	6	6	6	6	6	6	6	6	6	6	66

4.2.1 Non-Breeding Season (September 2022 – February 2023)

A total of five Primary target species were recorded during the VP watches that took place between September 2022 and February 2023.

A summary of numbers of target species flights and flight times are presented in Table 7. Appendix D, Table 8 details individual flight data for all target species. A complete species list with details on the conservation status of all species is included in Appendix E.

The flight lines for these registrations are presented in Appendix A, Figures 10-1-2 and 10-1-3, include all ground registrations, heard-only and incidental registrations.

Table 7: Summary Flight Data for Target Species Recorded during Non-breeding VP Surveys

Species	Minimum No. of Birds	Maximum No. of Birds	No. of Flights	Total Bird Seconds	At Risk Bird Seconds
Greylag goose	7	7	1	1,106	1,106
Lapwing	1	7	2	467	175
Merlin	1	2	7	993	782
Mute swan	3	3	1	156	0
Snipe	1	1	1	23	23

The most frequently observed primary target species was Merlin with 7 flights recorded, totalling 782 seconds at risk height. Greylag goose had the most total bird seconds despite only 1 record of 7 birds in the at risk height band for 1,106 seconds. Other records included two flights of Lapwing, totalling 175 seconds 'at risk' height, along with single records of Mute swan and Snipe. Kestrel was the most frequently observed secondary target species with 43 flights recorded, totalling 4883 seconds, 2,898 seconds of which were recorded 'at risk' height. Raven was recorded 39 times, with 1,113 seconds at risk height and Buzzard was recorded 15 times, with 1,056 seconds in the at risk height band. Occasional sightings of Cormorant, Black-headed gull, Herring gull and Common gull were also recorded.

4.2.2 Breeding Season (April – August 2022)

Nine primary target species were recorded during vantage point surveys during the 2022 breeding season, Curlew, Goosander, Greylag goose, Lapwing, Little egret, Merlin, Oystercatcher, Peregrine and Red kite. A further eight secondary species Buzzard, Raven, Kestrel, and Cormorant were observed including four gull species; Herring, Lesser-black backed, Black-headed and Common gull. These pertained mainly to sporadic individuals and pairs, rather than significant flocks or regular activity with peak counts of 12 Common gull and 11 Lesser- black backed gull recorded.

Of all species, Lapwing was the most frequently recorded primary species, observed 19 times over the five-month summer period, totalling 1,858 seconds in flight with just over half of that spent in the at risk height band. Kestrel, a secondary target species, was the most frequently recorded bird

overall, observed flying on 48 occasions from a peak count of 3 birds, totalling 4,882 seconds in flight, with 3396 seconds (69.6%) spent in the at risk height band. This species was observed year round and its flight activity for the full period between April 2022 and March 2023 is presented in Figure 10-1-3b. Other records of note include Merlin, encountered on three occasions, with two birds observed simultaneously on one survey. This species was observed in the at risk height band on all occasions, totalling 246 bird seconds. Small flocks of Canada and Greylag geese (peak count of 8 birds) were recorded with 422, and 726 at risk bird seconds recorded respectively. Additionally, individual, and very infrequent records of Curlew, Red kite, Goosander, Oystercatcher, and Little egret were also recorded; of these, Curlew spent 178 seconds in the at risk height band, and Peregrine for 60 seconds.

The flight lines for these registrations are presented in Appendix A, Figures 10-1-2, 10-1-3a and 10-1-4.

Table 8: Summary Flight Data for Target Species Recorded during breeding season VP Surveys

Species	Minimum No. of Birds	Maximum No. of Birds	Average No. of Birds	No. of Flights	Total Bird Seconds	At Risk Bird Seconds
Curlew	1	1	1	2	178	178
Goosander	2	2	2	1	94	0
Greylag goose	2	8	3.71	7	846	726
Lapwing	1	5	1.68	19	1,858	1,210
Little egret	1	1	1	1	41	41
Merlin	1	2	1.33	3	246	246
Oystercatcher	1	1	1	1	47	47
Peregrine	1	1	1	1	80	60
Red Kite	1	1	1	1	20	20

4.3 Breeding Bird Surveys

4.3.1 Breeding Raptors

Confidential Figure 10.7 which accompanies the main chapter, presents the territories identified in the first year of breeding raptor surveys. A total of nine raptor species were observed within the red line boundary and 2km buffer during dedicated breeding raptor surveys. Within the survey area, Little owl, Kestrel and Buzzard were confirmed as breeding, with breeding territories for both Kestrel and Buzzard confirmed in two locations. Little owl were frequently encountered on site and four possible breeding territories were identified. Sparrowhawk and Barn owl were assessed as additional probable breeding species, and Merlin, Peregrine, as possible breeders. Hen harrier and Short eared owl were identified as not breeding. Overall, the majority of breeding territories were found in the buffer and out of all breeding species observed, only possible territories for Little owl and Buzzard were recorded within the Site itself. Due to the size of the survey area, additional non-breeding territories for Kestrel, Sparrowhawk and Buzzard were also identified through these surveys where no breeding behaviour was observed.

4.3.2 Upland Breeding Birds

Figure 10.2 which accompanies the main chapter, presents the territories identified in the first year of breeding bird walkover surveys. The Site supported a variety of breeding bird species, with fifteen of these confirmed breeding within the survey boundary, an additional ten probable species and twenty additional possible breeding species; among these were several notable species which have

high conservation importance. Of particular note in the context of a wind farm development, ground nesting waders such as Curlew were confirmed breeding in the North-West portion of the site, through presence of an active nest adjacent to a predated nest. In the same area, one probable and one possible Golden plover territories were identified, along with two possible Dunlin territories. Lapwing were confirmed breeding adjacent to a reservoir in the South-Western buffer of the site. Black redstart was identified as a possible breeder in the buffer due the presence of a pair at a crag which contained suitable breeding habitat for this species.

Habitats

The matrix of acid grassland, marshy grassland and bog habitat which comprised the majority of the survey area, supported upland passerines such as Stonechat, Whinchat *Saxicola rubetra*, Wheatear, Linnet, along with many Skylark and Meadow pipits. Bogs, ditches and ponds supported Grasshopper warbler *Locustella naevia*, Reed bunting, and Snipe.

Small areas of woodland and treelines that feature occasionally across the survey area supported Redstart *Phoenicurus phoenicurus*, Stock dove *Columba oenas*, Cuckoo *Cuculus canorus*, Goldcrest *Regulus regulus*, Nuthatch *Sitta Europaea*, Jay *Garrulus glandarius*, Mistle thrush *Turdus viscivorus*, Song thrush, Willow warbler, Coal tit *Periparus ater*, Tree pipit, Crossbill *Loxia curvirostra* and Lesser redpoll *Acanthis cabaret*. Woodland edges supported Blackcap *Sylvia atricapilla*, Linnet, Garden warbler *Sylvia borin*, Dunnock *Prunella modularis*, Blue tit *Cyanistes caeruleus* and on one occasion, Fieldfare *Turdus pilaris* on passage.

Open waterbodies such as reservoirs and lakes which feature regularly throughout the survey area supported species such as Oystercatcher *Haematopus ostralegus*, Common sandpiper, Grey wagtail, Cormorant *Phalacrocorax carbo*, Grey heron, Pied wagtail *Motacilla alba*, Mallard *Anas platyrhynchos*, and Canada goose *Branta canadensis*.

Buildings present with the survey area presented breeding opportunities for Barn swallow *Hirundo rustica*, House martin *Delichon urbicum*, Barn owl, and Swift *Apus apus*.

Breeding Species

Confirmed breeding species within the red line boundary and 250m buffer were Stonechat, Pied wagtail, Mallard, Stock dove, Reed bunting, Canada goose, Oystercatcher, Blue tit, Wheatear, Curlew, Lapwing, House martin, Carrion crow, Mistle thrush and Barn swallow.

Additional **probable breeders** where territories were apparent due to territorial behaviour, repeated singing or pairs observed on multiple visits, were Snipe, Raven, Rook, Grey wagtail, Willow warbler, Golden plover, Wren, Dunnock, Skylark and Meadow pipit.

Through surveys, the Site has been identified as being important for breeding Skylark, with areas of the Site featuring high levels of activity, particularly high densities of singing Skylark were noted were noted between Ding quarry and Hamer Hill on more than one visit, with more dispersed activity present across the site.

Possible breeders, usually either where individuals were observed singing, or a pair was simply observed on one occasion in suitable breeding habitat, included Whinchat, Linnet, Grasshopper warbler, Song thrush, Chaffinch, Goldfinch, Redstart, Black redstart, Nuthatch, Dunlin, Cuckoo, Common sandpiper, Robin, Blackbird, Great tit, Blackcap, Garden warbler, Lesser redpoll, Goldcrest, Whitethroat and Twite.

Several species were identified as **non-breeding**, where no breeding behaviours were exhibited and were simply observed, usually on one occasion in unsuitable breeding habitat or commuting in flight. Non-breeding species were Grey heron, Jay, Cormorant, Swift, Woodpigeon, Fieldfare, Coal tit,

Crossbill, Pheasant, Herring gull and Ring ouzel. Whilst suitable breeding habitat may be available elsewhere on Site for some of these species, breeding status was unable to be confirmed.

Locally Important Species

Knowl Moor SBI which falls partially within the Site boundary is designated for supporting breeding assemblages of Curlew, Lapwing, Golden plover, and Red grouse, and was previously known for supporting increasingly scarce moorland breeding species such as Redshank, Dunlin, Twite and Ring ouzel. Of these species, Curlew and Lapwing were confirmed breeding onsite alongside probable and possible breeding territories for Golden plover, and a possible Dunlin territory. A possible Twite territory was found on site and a single sighting of a female Ring ouzel in the buffer indicate these species are still present in the locality.

Species featured on the Lancashire BAP which were observed onsite were Skylark, Song thrush, Linnet, Lapwing, Reed bunting and Hen harrier. Lapwing were confirmed breeding onsite, with all except Hen harrier identified as either possible or probable breeders. Black redstart which features in the Greater Manchester BAP were identified as possible breeders. Additionally, Twite, a species featured in both county BAPs, were incidentally observed 1km from the survey boundary, an area which now falls within the Assessment Boundary.

BoCC and Schedule 1 Species

Schedule 1 species recorded during breeding surveys were Barn owl, which was identified as a probable breeder, along with Merlin, Black redstart and Peregrine which were identified as possible breeders. Additionally, Crossbill and Hen harrier were identified as non-breeders on Site. As such, four schedule 1 species make up the likely breeding assemblage on Site.

Four species with red BoCC status were confirmed breeding on Site, Curlew, Lapwing, House martin and Mistle thrush, along with Skylark and Barn owl identified as probable breeders. A further nine possible breeders on the red list were Merlin, Black redstart, Peregrine, Dunlin, Cuckoo, Whinchat, Linnet, Lesser redpoll and Grasshopper warbler. Swift, Herring gull, Hen harrier, Fieldfare and Ring ouzel were also observed during surveys, but no indication of breeding activity was observed, and they are not considered to be breeding within the Assessment Boundary. In total, 15 species with red BoCC status form part of the likely breeding assemblage on Site.

Five Amber listed BoCC species were confirmed breeding on Site (Kestrel, Mallard, Oystercatcher, Reed bunting and Wheatear). A further eight were identified as probable breeders (Sparrowhawk, Snipe, Rook, Grey wagtail, Willow warbler, Wren, Dunnock, and Meadow pipit), and five additional species identified as possible breeders (Song thrush, Redstart, Common sandpiper, Lesser redpoll, and Whitethroat). Woodpigeon and Short-eared owl were also recorded onsite during surveys; however, no evidence of breeding activity was observed. In total 18 species with amber BoCC status form part of the likely breeding assemblage onsite.

Appendices



Appendix A. Figures

- Figure 10-1-1 - Vantage Point Flightlines Target Species: April - August 2022
- Figure 10-1-2 - Vantage Point Flightlines of Waders: April 2022- March 2023
- Figure 10-1-3a - Vantage Point Flightlines of Raptors: April 2022- March 2023
- Figure 10-1-3b - Vantage Point Flightlines of Kestrel: April 2022- March 2023
- Figure 10-1-4 - Vantage Point Flightlines of Waterfowl: April 2022- March 2023

Appendix B. Vantage Point Survey Visit Details

Table 9: Vantage Point Survey Details

Survey Date	Start Time	Finish Time	Duration	Surveyor	VP Type	VP Number
11/04/2022	11:05	14:05	03:00:00	TB	Diurnal	3
11/04/2022	14:45	17:45	03:00:00	TB	Diurnal	5
12/04/2022	07:00	10:00	03:00:00	TB	Dawn	5
12/04/2022	10:45	14:15	03:30:00	TB	Diurnal	3
13/04/2022	07:00	10:00	03:00:00	TB	Dawn	2
13/04/2022	11:00	14:00	03:00:00	TB	Diurnal	4
13/04/2022	15:30	18:30	03:00:00	TB	Diurnal	1
14/04/2022	08:00	11:00	03:00:00	TB	Dawn	1
14/04/2022	13:00	16:00	03:00:00	TB	Diurnal	4
19/04/2022	13:30	16:30	03:00:00	MS	Diurnal	2
04/05/2022	09:30	12:30	03:00:00	DE	Diurnal	5
04/05/2022	12:45	15:45	03:00:00	DE	Diurnal	3
06/05/2022	06:50	09:50	03:00:00	DE	Diurnal	1
06/05/2022	10:20	13:20	03:00:00	DE	Diurnal	2
18/05/2022	09:00	12:00	03:00:00	MS	Diurnal	2
18/05/2022	14:00	17:00	03:00:00	MS	Diurnal	4
19/05/2022	09:00	12:00	03:00:00	MS	Diurnal	3
19/05/2022	12:30	15:30	03:00:00	MS	Diurnal	5
20/05/2022	09:00	12:00	03:00:00	MS	Diurnal	4
20/05/2022	13:00	16:00	03:00:00	MS	Diurnal	1
09/06/2022	09:00	12:00	03:00:00	EF and MS	Diurnal	1
09/06/2022	13:30	16:30	03:00:00	EF	Diurnal	4
09/06/2022	14:00	17:00	03:00:00	MS	Diurnal	2
10/06/2022	07:30	10:30	03:00:00	EF	Diurnal	3
10/06/2022	11:00	14:00	03:00:00	EF	Diurnal	5
28/06/2022	07:45	10:45	03:00:00	EF	Diurnal	5
28/06/2022	11:45	14:45	03:00:00	EF	Diurnal	3
29/06/2022	07:30	10:30	03:00:00	EF	Diurnal	4
29/06/2022	11:45	14:45	03:00:00	EF	Diurnal	1
30/06/2022	08:15	11:15	03:00:00	EF	Diurnal	2
04/07/2022	08:30	11:30	03:00:00	TB	Diurnal	3
04/07/2022	04:30	07:30	03:00:00	TB	Dawn	5
11/07/2022	09:00	12:00	03:00:00	DD	Diurnal	1

Survey Date	Start Time	Finish Time	Duration	Surveyor	VP Type	VP Number
11/07/2022	14:50	17:50	03:00:00	DD	Diurnal	2
12/07/2022	09:10	12:10	03:00:00	DD	Diurnal	3
12/07/2022	13:20	16:20	03:00:00	DD	Diurnal	5
13/07/2022	07:50	10:50	03:00:00	DD	Diurnal	4
13/07/2022	13:00	16:00	03:00:00	DD	Diurnal	1
14/07/2022	08:10	11:10	03:00:00	DD	Diurnal	2
14/07/2022	13:00	16:00	03:00:00	DD	Diurnal	4
02/08/2022	12:45	15:45	03:00:00	DD	Diurnal	3
08/08/2022	08:00	11:00	03:00:00	MS	Diurnal	3
08/08/2022	12:00	15:00	03:00:00	MS	Diurnal	5
10/08/2022	08:30	11:30	03:00:00	EF	Diurnal	5
11/08/2022	07:00	10:00	03:00:00	TB	Diurnal	4
11/08/2022	15:00	18:00	03:00:00	TB	Diurnal	1
14/07/2022	13:00	16:00	03:00:00	DD	Diurnal	4
02/08/2022	12:45	15:45	03:00:00	DD	Diurnal	3
08/08/2022	08:00	11:00	03:00:00	MS	Diurnal	3
08/08/2022	12:00	15:00	03:00:00	MS	Diurnal	5
10/08/2022	08:30	11:30	03:00:00	EF	Diurnal	5
11/08/2022	07:00	10:00	03:00:00	TB	Diurnal	4
11/08/2022	15:00	18:00	03:00:00	TB	Diurnal	1
15/08/2022	08:15	11:15	03:00:00	EF	Diurnal	2
15/08/2022	12:30	15:30	03:00:00	EF	Diurnal	4
17/08/2022	08:15	11:15	03:00:00	EF	Diurnal	1
17/08/2022	12:25	15:25	03:00:00	EF	Diurnal	2
14/09/2022	07:45	10:45	03:00:00	EF	Diurnal	2
14/09/2022	12:10	15:10	03:00:00	EF	Diurnal	1
15/09/2022	08:05	11:05	03:00:00	EF	Diurnal	3
15/09/2022	11:35	14:35	03:00:00	EF	Diurnal	5
27/09/2022	07:45	10:45	03:00:00	EF	Diurnal	2
27/09/2022	12:00	15:00	03:00:00	EF	Diurnal	4
28/09/2022	07:20	10:20	03:00:00	DD	Diurnal	4
28/09/2022	13:10	16:10	03:00:00	DD	Diurnal	1
29/09/2022	08:00	11:00	03:00:00	DD	Diurnal	3
29/09/2022	12:00	15:00	03:00:00	DD	Diurnal	5
11/10/2022	09:00	12:00	03:00:00	MS	Diurnal	1
11/10/2022	13:10	16:10	03:00:00	MS	Diurnal	2
13/10/2022	08:45	11:45	03:00:00	DD	Diurnal	1
13/10/2022	14:10	17:10	03:00:00	DD	Diurnal	3
14/10/2022	13:00	16:00	03:00:00	MS	Diurnal	5
15/10/2022	09:00	12:00	03:00:00	MS	Diurnal	3
25/10/2022	09:00	12:00	03:00:00	MS	Diurnal	5
25/10/2022	14:30	17:30	03:00:00	MS	Diurnal	4
26/10/2022	08:00	11:00	03:00:00	EF	Diurnal	4
26/10/2022	12:15	15:15	03:00:00	EF	Diurnal	2
09/11/2022	08:15	11:15	03:00:00	TB	Diurnal	1
09/11/2022	13:15	16:15	03:00:00	TB	Diurnal	4
10/11/2022	08:50	11:50	03:00:00	DD	Diurnal	3

Survey Date	Start Time	Finish Time	Duration	Surveyor	VP Type	VP Number
10/11/2022	12:30	15:30	03:00:00	DD	Diurnal	5
21/11/2022	08:05	11:05	03:00:00	EF	Diurnal	2
21/11/2022	12:10	15:10	03:00:00	EF	Diurnal	1
22/11/2022	08:00	11:00	03:00:00	EF	Diurnal	5
22/11/2022	11:30	14:30	03:00:00	EF	Diurnal	3
23/11/2022	08:00	11:00	03:00:00	EF	Diurnal	4
23/11/2022	12:15	15:15	03:00:00	EF	Diurnal	2
02/12/2022	08:30	11:30	03:00:00	MS	Diurnal	1
02/12/2022	13:00	16:00	03:00:00	MS	Diurnal	4
05/12/2022	08:30	11:30	03:00:00	JW	Diurnal	3
05/12/2022	12:15	15:15	03:00:00	JW	Diurnal	5
06/12/2022	08:30	11:30	03:00:00	JW	Diurnal	5
06/12/2022	12:15	15:15	03:00:00	JW	Diurnal	3
07/12/2022	08:30	11:30	03:00:00	JW	Diurnal	2
07/12/2022	12:30	15:30	03:00:00	JW	Diurnal	1
08/12/2022	08:00	11:00	03:00:00	JW	Diurnal	4
08/12/2022	12:00	15:00	03:00:00	JW	Diurnal	2
05/01/2023	08:30	11:30	03:00:00	EF	Diurnal	3
05/01/2023	12:00	15:00	03:00:00	EF	Diurnal	5
29/09/2022	12:00	15:00	03:00:00	DD	Diurnal	5
11/10/2022	09:00	12:00	03:00:00	MS	Diurnal	1
11/10/2022	13:10	16:10	03:00:00	MS	Diurnal	2
13/10/2022	08:45	11:45	03:00:00	DD	Diurnal	1
13/10/2022	14:10	17:10	03:00:00	DD	Diurnal	3
14/10/2022	13:00	16:00	03:00:00	MS	Diurnal	5
15/10/2022	09:00	12:00	03:00:00	MS	Diurnal	3
25/10/2022	09:00	12:00	03:00:00	MS	Diurnal	5
25/10/2022	14:30	17:30	03:00:00	MS	Diurnal	4
26/10/2022	08:00	11:00	03:00:00	EF	Diurnal	4
26/10/2022	12:15	15:15	03:00:00	EF	Diurnal	2
09/11/2022	08:15	11:15	03:00:00	TB	Diurnal	1
09/11/2022	08:15	11:15	03:00:00	TB	Diurnal	1
09/11/2022	13:15	16:15	03:00:00	TB	Diurnal	4
09/11/2022	13:15	16:15	03:00:00	TB	Diurnal	4
10/11/2022	08:50	11:50	03:00:00	DD	Diurnal	3
10/11/2022	12:30	15:30	03:00:00	DD	Diurnal	5
21/11/2022	08:05	11:05	03:00:00	EF	Diurnal	2
21/11/2022	12:10	15:10	03:00:00	EF	Diurnal	1
22/11/2022	08:00	11:00	03:00:00	EF	Diurnal	5
22/11/2022	11:30	14:30	03:00:00	EF	Diurnal	3
23/11/2022	08:00	11:00	03:00:00	EF	Diurnal	4
23/11/2022	12:15	15:15	03:00:00	EF	Diurnal	2
02/12/2022	08:30	11:30	03:00:00	MS	Diurnal	1
02/12/2022	13:00	16:00	03:00:00	MS	Diurnal	4
05/12/2022	08:30	11:30	03:00:00	JW	Diurnal	3
05/12/2022	12:15	15:15	03:00:00	JW	Diurnal	5
06/12/2022	08:30	11:30	03:00:00	JW	Diurnal	5

Survey Date	Start Time	Finish Time	Duration	Surveyor	VP Type	VP Number
06/12/2022	12:15	15:15	03:00:00	JW	Diurnal	3
07/12/2022	08:30	11:30	03:00:00	JW	Diurnal	2
07/12/2022	12:30	15:30	03:00:00	JW	Diurnal	1
08/12/2022	08:00	11:00	03:00:00	JW	Diurnal	4
08/12/2022	12:00	15:00	03:00:00	JW	Diurnal	2
05/01/2023	08:30	11:30	03:00:00	EF	Diurnal	3
05/01/2023	12:00	15:00	03:00:00	EF	Diurnal	5
06/01/2023	08:35	11:35	03:00:00	MS	Diurnal	2
06/01/2023	13:00	16:00	03:00:00	MS	Diurnal	4
17/01/2023	10:30	13:30	03:00:00	MS	Diurnal	1
18/01/2023	12:15	15:15	03:00:00	MS	Diurnal	2
23/01/2023	08:15	11:15	03:00:00	TB	Diurnal	4
23/01/2023	13:45	16:45	03:00:00	TB	Diurnal	3
24/01/2023	08:30	11:30	03:00:00	TB	Diurnal	5
24/01/2023	13:15	16:15	03:00:00	TB	Diurnal	1
01/02/2023	08:15	11:15	03:00:00	TB	Diurnal	3
01/02/2023	12:45	15:45	03:00:00	TB	Diurnal	5
02/02/2023	09:30	12:30	03:00:00	MS	Diurnal	2
02/02/2023	13:45	16:45	03:00:00	MS	Diurnal	4
03/02/2023	08:00	11:00	03:00:00	TB	Diurnal	1
03/02/2023	12:30	15:30	03:00:00	TB	Diurnal	3
09/02/2023	09:30	12:30	03:00:00	Efa	Diurnal	5
09/02/2023	14:00	17:00	03:00:00	Efa	Diurnal	1
10/02/2023	09:00	12:00	03:00:00	Efa	Diurnal	4
10/02/2023	13:40	16:40	03:00:00	Efa	Diurnal	2
27/02/2023	12:00	15:00	03:00:00	MS	Diurnal	6
28/02/2023	09:15	12:15	03:00:00	MS	Diurnal	6

Appendix C. Vantage Point Survey Summary of Weather Conditions

Table 10: Vantage Point Weather Summary (April 2022 - February 2023)

Survey Date	VP Number	VP Type	Mean Cloud Cover (eights)	Modal Visibility	Modal Precipitation	Mean Temperature (°C)	Speed (Beaufort Scale)	Modal Wind Direction
11/04/2022	3	Diurnal	8	1km - 2km	Light Intermittent	9	3	W
12/04/2022	5	Diurnal	7	1km - 2km	Light Intermittent	8	4	W
	3	Diurnal	8	1km - 2km	Light Persistent	7	4	E
13/04/2022	5	Dawn	7	1km - 2km	None	7	3	E
	1	Diurnal	8	> 2km	Light Intermittent	9	3	SE
	2	Dawn	8	1km - 2km	Heavy Intermittent	6	4	NE
14/04/2022	4	Diurnal	7	> 2km	None	9	3	SE
	1	Dawn	4	> 2km	None	10	3	S
	4	Diurnal	4	> 2km	None	12	3	S

Survey Date	VP Number	VP Type	Mean Cloud Cover (eights)	Modal Visibility	Modal Precipitation	Mean Temperature (°C)	Speed (Beaufort Scale)	Modal Wind Direction
19/04/2022	2	Diurnal	6	> 2km	None	12	2	NW
04/05/2022	3	Diurnal	8	1km - 2km	Light Intermittent	11		U
	5	Diurnal	8	1km - 2km	Heavy Intermittent	10		U
06/05/2022	1	Diurnal	7	> 2km	None	11	1	NE
	2	Diurnal	8	> 2km	None	13	3	NE
18/05/2022	2	Diurnal	5	> 2km	None	17	2	W
	4	Diurnal	7	> 2km	None	17	2	W
19/05/2022	3	Diurnal	8	> 2km	None	14	2	W
	5	Diurnal	3	> 2km	None	18	2	SW
20/05/2022	1	Diurnal	5	> 2km	None	15	2	SW
	4	Diurnal	5	> 2km	None	15	2	SW
09/06/2022	1	Diurnal	6	> 2km	None	16	2	SW
	2	Diurnal	8	> 2km	Light Intermittent	15	3	S
	4	Diurnal	8	> 2km	Light Persistent	13	3	SW
10/06/2022	3	Diurnal	7	> 2km	None	12	3	SW
	5	Diurnal	6	> 2km	None	16	3	SW
28/06/2022	3	Diurnal	7	> 2km	None	14	7	SW
	5	Diurnal	7	> 2km	None	13	7	SW
29/06/2022	1	Diurnal	6	> 2km	None	16	3	S
	4	Diurnal	7	> 2km	None	13	3	S
30/06/2022	2	Diurnal	6	> 2km	None	14	2	S
04/07/2022	5	Dawn	7	> 2km	None	14	4	W
			7	> 2km	None	14	4	W
11/07/2022	1	Diurnal	4	> 2km	None	19	1	SSW
	2	Diurnal	7	> 2km	None	23	2	SSW
12/07/2022	3	Diurnal	7	> 2km	Light Intermittent	20	2	WSW
	5	Diurnal	8	> 2km	None	21	3	SW
13/07/2022	1	Diurnal	1	> 2km	None	17	3	WNW
	4	Diurnal	4	> 2km	None	14	3	WNW
14/07/2022	2	Diurnal	7	> 2km	None	11	4	NW
	4	Diurnal	4	> 2km	None	12	4	WNW
02/08/2022	3	Diurnal	8	> 2km	None	19	4	SW
08/08/2022	3	Diurnal	6	> 2km	None	20	1	WSW
	5	Diurnal	5	> 2km	None	26	1	WNW
10/08/2022	5	Diurnal	0	> 2km	None	19	2	S
11/08/2022	1	Diurnal	1	> 2km	None	29	1	N
15/08/2022			1	> 2km	None	29	1	N
	4	Diurnal	1	> 2km	None	22	1	N
			1	> 2km	None	22	1	N
	2	Diurnal	6	> 2km	None	17	2	NW

Survey Date	VP Number	VP Type	Mean Cloud Cover (eights)	Modal Visibility	Modal Precipitation	Mean Temperature (°C)	Speed (Beaufort Scale)	Modal Wind Direction
	4	Diurnal	8	> 2km	Light Intermittent	20	3	NW
17/08/2022	1	Diurnal	6	> 2km	None	13	8	NE
14/09/2022	2	Diurnal	5	> 2km	None	14	6	ENE
	1	Diurnal	5	> 2km	None	14	3	NW
	2	Diurnal	8	> 2km	None	9	3	NW
15/09/2022	3	Diurnal	7	> 2km	None	11	4	NNW
	5	Diurnal	5	> 2km	None	13	4	NNW
27/09/2022	2	Diurnal	8	> 2km	Light Intermittent	7	5	WNW
	4	Diurnal	6	> 2km	None	9	8	WNW
28/09/2022	1	Diurnal	5	> 2km	None	9	3	NW
	4	Diurnal	1	> 2km	None	6	2	NW
29/09/2022	3	Diurnal	6	> 2km	None	8	4	NE
	5	Diurnal	5	> 2km	None	11	4	NNE
11/10/2022	1	Diurnal	8	> 2km	None	8	1	SSW
	2	Diurnal	6	> 2km	None	11	1	SW
13/10/2022	1	Diurnal	0	> 2km	None	6	1	ENE
	3	Diurnal	3	> 2km	None	12	2	SSW
14/10/2022	5	Diurnal	8	> 2km	Light Intermittent	13	1	SW
15/10/2022	3	Diurnal	7	> 2km	None	11	3	SW
25/10/2022	4	Diurnal	7	> 2km	None	14	2	SE
	5	Diurnal	7	> 2km	None	11	2	SW
26/10/2022	2	Diurnal	6	> 2km	Light Intermittent	12	4	SSW
	4	Diurnal	7	> 2km	Light Intermittent	13	7	S
09/11/2022	1	Diurnal	5	> 2km	None	10	3	SSW
			5	> 2km	None	10	3	SSW
	4	Diurnal	5	> 2km	None	11	4	SW
			5	> 2km	None	11	4	SW
10/11/2022	3	Diurnal	8	> 2km	None	12	4	SSW
	5	Diurnal	8	> 2km	None	12	4	SSW
21/11/2022	1	Diurnal	8	> 2km	Light Persistent	3	5	E
	2	Diurnal	7	> 2km	None	1	4	ESE
22/11/2022	3	Diurnal	7	> 2km	None	5	2	NNE
	5	Diurnal	7	> 2km	None	4	2	N
23/11/2022	2	Diurnal	7	> 2km	None	6	5	SSW
	4	Diurnal	8	> 2km	Light Persistent	5	5	SW
02/12/2022	1	Diurnal	8	> 2km	None	4	1	NE
	4	Diurnal	8	> 2km	None	5	1	NE
05/12/2022	3	Diurnal	6	> 2km	None	4	3	SE
	5	Diurnal	6	> 2km	None	6	2	SE

Survey Date	VP Number	VP Type	Mean Cloud Cover (eights)	Modal Visibility	Modal Precipitation	Mean Temperature (°C)	Speed (Beaufort Scale)	Modal Wind Direction
06/12/2022	3	Diurnal	0	> 2km	None	4	1	SE
	5	Diurnal	0	> 2km	None	2	3	ESE
07/12/2022	1	Diurnal	0	> 2km	None	-1	2	NNW
	2	Diurnal	0	> 2km	None	1	2	NNW
08/12/2022	2	Diurnal	0	> 2km	None	0	2	NNW
	4	Diurnal	0	> 2km	None	0	2	NNW
05/01/2023	3	Diurnal	8	1km - 2km	Light Persistent	7	4	SSW
	5	Diurnal	8	> 2km	None	8	7	SW
06/01/2023	2	Diurnal	7	> 2km	None	5	4	SW
	4	Diurnal	8	1km - 2km	None	5	4	SW
17/01/2023	1	Diurnal	7	1km - 2km	None	-1	1	W
18/01/2023	2	Diurnal	2	> 2km	None	3	3	NW
23/01/2023	3	Diurnal	7	> 2km	None	4	3	N
	4	Diurnal	8	> 2km	None	4	3	N
24/01/2023	1	Diurnal	6	> 2km	None	5	1	NW
	5	Diurnal	6	> 2km	None	4	1	N
01/02/2023	3	Diurnal	8	> 2km	None	4	4	SW
	5	Diurnal	8	> 2km	None	4	4	SW
02/02/2023	2	Diurnal	8	> 2km	Light Intermittent	7	6	WSW
	4	Diurnal	8	> 2km	Light Intermittent	5	6	WSW
03/02/2023	1	Diurnal	8	> 2km	Light Intermittent	6	3	SW
09/02/2023	1	Diurnal	6	> 2km	None	5	2	W
	5	Diurnal	1	> 2km	None	4	2	W
10/02/2023	2	Diurnal	8	> 2km	None	8	3	SW
	4	Diurnal	8	> 2km	None	5	2	SW
27/02/2023	6	Diurnal	7	> 2km	None	6	4	NE
28/02/2023	6	Diurnal	7	> 2km	None	5	4	NNE

Appendix D. Vantage Point Survey Target Species Flights

Table 11: VP Flight Line Details (April 2022 - February 2023)

Date	Species	VP Number	Time First Observed	Number of Birds	Height Band	Time in Height Band (s)	No. of Birds Seconds at Risk height	Average Height (m)	Record Type*
11/04/2022	Canada goose	3	11:53	3	B	92	276	60	Standard
11/04/2022	Greylag goose	3	12:27	1	B	56	56	50	Standard
11/04/2022	Greylag goose	5	15:37	2	B	46	92	60	Standard

Date	Species	VP Number	Time First Observed	Number of Birds	Height Band	Time in Height Band (s)	No. of Birds Seconds at Risk height	Average Height (m)	Record Type*
12/04/2022	Canada goose	5	09:21	2	A	147	0	0	Standard
13/04/2022	Greylag goose	1	16:46	8	B	35	280	45	Standard
13/04/2022	Greylag goose	1	16:47	8	A	15	0	5	Standard
13/04/2022	Greylag goose	4	13:12	2	B	47	94	50	Standard
13/04/2022	Oystercatcher	1	16:07	1	B	47	47	60	Standard
14/04/2022	Canada goose	1	10:14	8	A	64	0	15	Standard
14/04/2022	Canada goose	4	14:12	2	B	73	146	50	Standard
14/04/2022	Goosander	1	08:32	2	A	47	0	10	Standard
04/05/2022	Lapwing	5	11:35	1	B	20	20	180	Standard
04/05/2022	Red kite	3	13:20	1	B	20	20	200	Standard
06/05/2022	Canada goose	1	09:35	2	A	60	0	10	Standard
06/05/2022	Curlew	2	12:20	1	B	32	32	100	Standard
06/05/2022	Lapwing	1	07:45	2	C	60	0	200	Standard
18/05/2022	Greylag goose	4	15:08	2	B	52	104	40	Standard
19/05/2022	Curlew	5	13:36	1	B	146	146	150	Standard
19/05/2022	Lapwing	5	12:25	2	A		0	15	Incidental
19/05/2022	Lapwing	5	15:23	2	B	42	84	50	Standard
20/05/2022	Greylag goose	4	10:03	2	B	46	92	25	Standard
20/05/2022	Greylag goose	4	11:14	2	B	32	64	60	Standard
09/06/2022	Lapwing	1	10:16	1	B	54	54	50	Standard
09/06/2022	Lapwing	1	10:16	1	C	38	0	200	Standard
09/06/2022	Lapwing	1	11:12	1	B	10	10	160	Standard
09/06/2022	Lapwing	1	11:28	1	A	10	0	15	Standard
09/06/2022	Lapwing	4	13:38	3	B	65	195	150	Standard
09/06/2022	Lapwing	4	13:53	1	B	90	90	100	Standard
09/06/2022	Lapwing	4	14:00	1	A	100	0	18	Standard
09/06/2022	Lapwing	4	14:10	2	A	40	0	19	Standard
09/06/2022	Lapwing	4	14:10	2	B	40	80	110	Standard
09/06/2022	Lapwing	4	14:17	1	B	50	50	100	Standard
09/06/2022	Lapwing	4	14:20	1	B	60	60	130	Standard
09/06/2022	Lapwing	4	14:37	3	B	75	225	100	Standard
09/06/2022	Lapwing	4	14:40	2	A	20	0	20	Standard
09/06/2022	Lapwing	4	14:40	2	B	60	120	100	Standard
09/06/2022	Lapwing	4	14:40	2	B	50	100	100	Standard

Date	Species	VP Number	Time First Observed	Number of Birds	Height Band	Time in Height Band (s)	No. of Birds Seconds at Risk height	Average Height (m)	Record Type*
09/06/2022	Lapwing	4	14:57	1	A	15	0	15	Standard
09/06/2022	Lapwing	4	15:15	1	A	10	0	15	Standard
09/06/2022	Lapwing	4	15:30	2	B	30	60	25	Standard
09/06/2022	Merlin	1	10:52	1	B	65	65	150	Standard
09/06/2022	Oystercatcher	1	08:26	1	A	25	0	15	Incidental
10/06/2022	Lapwing	3	07:40	1	B	62	62	120	Standard
10/06/2022	Peregrine	5	12:44	1	B	60	60	140	Standard
10/06/2022	Peregrine	5	12:44	1	C	20	0	200	Standard
11/08/2022	Lapwing	1	15:40	5	A	47	0	10	Standard
11/08/2022	Lapwing	1	15:40	5	A	47	0	10	Standard
11/08/2022	Little egret	4	09:24	1	B	41	41	60	Standard
11/08/2022	Merlin	4	08:19	1	B	109	109	100	Standard
11/08/2022	Merlin	4	08:19	1	B	109	109	100	Standard
17/08/2022	Merlin	1	09:50	2	B	36	72	90	Standard
28/09/2022	Canada goose	4	08:52	12	A	11	0	10	Standard
29/09/2022	Canada goose	3	10:00	7	B	59	413	40	Standard
29/09/2022	Merlin	5	13:44	1	B	56	56	120	Standard
29/09/2022	Mute swan	3	09:46	3	C	52	0	220	Standard
29/09/2022	Snipe	3	10:09	1	B	23	23	90	Standard
13/10/2022	Canada goose	1	10:09	160	C	141	0	200	Standard
13/10/2022	Merlin	1	09:35	1	A	8	0	5	Standard
13/10/2022	Merlin	1	09:35	1	B	97	97	30	Standard
13/10/2022	Merlin	1	10:28	1	B	75	75	40	Standard
13/10/2022	Snipe	3	14:01	1	A	17	0	5	Incidental
26/10/2022	Merlin	2	13:34	1	B	21	21	60	Standard
26/10/2022	Merlin	2	13:34	1	C	36	0	200	Standard
09/11/2022	Greylag goose	1	09:12	7	B	79	553	50	Standard
09/11/2022	Greylag goose	1	09:12	7	B	79	553	50	Standard
10/11/2022	Snipe	3	08:46	1	A	19	0	4	Incidental
10/11/2022	Snipe	3	08:46	1	B	47	47	40	Incidental
05/12/2022	Canada goose	5	12:49	2	A	76	0	15	Standard
17/01/2023	Canada goose	1	12:58	14	B	32	448	100	Standard
09/02/2023	Merlin	5	11:29	2	B	112	224	100	Standard
09/02/2023	Merlin	5	11:29	2	B	81	162	60	Standard
09/02/2023	Merlin	5	11:29	2	C	65	0	200	Standard

Date	Species	VP Number	Time First Observed	Number of Birds	Height Band	Time in Height Band (s)	No. of Birds Seconds at Risk height	Average Height (m)	Record Type*
09/02/2023	Merlin	5	11:34	2	B	33	66	50	Standard
09/02/2023	Merlin	5	11:41	1	A	37	0	10	Standard
09/02/2023	Merlin	5	11:41	1	B	81	81	35	Standard
10/02/2023	Lapwing	4	09:03	1	A	5	0	2	Standard
10/02/2023	Lapwing	4	09:07	7	A	2	0	5	Standard
10/02/2023	Lapwing	4	09:07	7	A	39	0	15	Standard
10/02/2023	Lapwing	4	09:07	7	B	25	175	50	Standard
11/04/2022	Canada goose	3	11:53	3	B	92	276	60	Standard
11/04/2022	Greylag goose	3	12:27	1	B	56	56	50	
11/04/2022	Greylag goose	5	15:37	2	B	46	92	60	Standard
12/04/2022	Canada goose	5	09:21	2	A	147	0	0	Standard
13/04/2022	Greylag goose	1	16:46	8	B	35	280	45	Standard
13/04/2022	Greylag goose	1	16:47	8	A	15	0	5	Standard
13/04/2022	Greylag goose	4	13:12	2	B	47	94	50	Standard
13/04/2022	Oystercatcher	1	16:07	1	B	47	47	60	Standard
14/04/2022	Canada goose	1	10:14	8	A	64	0	15	Standard
14/04/2022	Canada goose	4	14:12	2	B	73	146	50	Standard
14/04/2022	Goosander	1	08:32	2	A	47	0	10	Standard
04/05/2022	Lapwing	5	11:35	1	B	20	20	180	Standard
04/05/2022	Red kite	3	13:20	1	B	20	20	200	Standard
06/05/2022	Canada goose	1	09:35	2	A	60	0	10	Standard
06/05/2022	Curlew	2	12:20	1	B	32	32	100	Standard
06/05/2022	Lapwing	1	07:45	2	C	60	0	200	Standard
18/05/2022	Greylag goose	4	15:08	2	B	52	104	40	Standard
19/05/2022	Curlew	5	13:36	1	B	146	146	150	Standard
19/05/2022	Lapwing	5	12:25	2	A		0	15	Incidental
19/05/2022	Lapwing	5	15:23	2	B	42	84	50	Standard
20/05/2022	Greylag goose	4	10:03	2	B	46	92	25	Standard
20/05/2022	Greylag goose	4	11:14	2	B	32	64	60	Standard
09/06/2022	Lapwing	1	10:16	1	B	54	54	50	Standard
09/06/2022	Lapwing	1	10:16	1	C	38	0	200	Standard

Date	Species	VP Number	Time First Observed	Number of Birds	Height Band	Time in Height Band (s)	No. of Birds Seconds at Risk height	Average Height (m)	Record Type*
09/06/2022	Lapwing	1	11:12	1	B	10	10	160	Standard
09/06/2022	Lapwing	1	11:28	1	A	10	0	15	Standard
09/06/2022	Lapwing	4	13:38	3	B	65	195	150	Standard
09/06/2022	Lapwing	4	13:53	1	B	90	90	100	Standard
09/06/2022	Lapwing	4	14:00	1	A	100	0	18	Standard
09/06/2022	Lapwing	4	14:10	2	A	40	0	19	Standard
09/06/2022	Lapwing	4	14:10	2	B	40	80	110	Standard
09/06/2022	Lapwing	4	14:17	1	B	50	50	100	Standard
09/06/2022	Lapwing	4	14:20	1	B	60	60	130	Standard
09/06/2022	Lapwing	4	14:37	3	B	75	225	100	Standard
09/06/2022	Lapwing	4	14:40	2	A	20	0	20	Standard
09/06/2022	Lapwing	4	14:40	2	B	60	120	100	Standard
09/06/2022	Lapwing	4	14:40	2	B	50	100	100	Standard
09/06/2022	Lapwing	4	14:57	1	A	15	0	15	Standard
09/06/2022	Lapwing	4	15:15	1	A	10	0	15	Standard
09/06/2022	Lapwing	4	15:30	2	B	30	60	25	Standard
09/06/2022	Merlin	1	10:52	1	B	65	65	150	Standard
09/06/2022	Oystercatcher	1	08:26	1	A	25	0	15	Incidental
10/06/2022	Lapwing	3	07:40	1	B	62	62	120	Standard
10/06/2022	Peregrine	5	12:44	1	B	60	60	140	Standard
10/06/2022	Peregrine	5	12:44	1	C	20	0	200	Standard
11/08/2022	Lapwing	1	15:40	5	A	47	0	10	Standard
11/08/2022	Lapwing	1	15:40	5	A	47	0	10	Standard
11/08/2022	Little egret	4	09:24	1	B	41	41	60	Standard
11/08/2022	Merlin	4	08:19	1	B	109	109	100	Standard
11/08/2022	Merlin	4	08:19	1	B	109	109	100	Standard
17/08/2022	Merlin	1	09:50	2	B	36	72	90	Standard
28/09/2022	Canada goose	4	08:52	12	A	11	0	10	Standard
29/09/2022	Canada goose	3	10:00	7	B	59	413	40	Standard
29/09/2022	Merlin	5	13:44	1	B	56	56	120	Standard
29/09/2022	Mute swan	3	09:46	3	C	52	0	220	Standard
29/09/2022	Snipe	3	10:09	1	B	23	23	90	Standard
13/10/2022	Canada goose	1	10:09	160	C	141	0	200	Standard
13/10/2022	Merlin	1	09:35	1	A	8	0	5	Standard
13/10/2022	Merlin	1	09:35	1	B	97	97	30	Standard
13/10/2022	Merlin	1	10:28	1	B	75	75	40	Standard
13/10/2022	Snipe	3	14:01	1	A	17	0	5	Incidental
26/10/2022	Merlin	2	13:34	1	B	21	21	60	Standard

Date	Species	VP Number	Time First Observed	Number of Birds	Height Band	Time in Height Band (s)	No. of Birds Seconds at Risk height	Average Height (m)	Record Type*
26/10/2022	Merlin	2	13:34	1	C	36	0	200	Standard
09/11/2022	Greylag goose	1	09:12	7	B	79	553	50	Standard
09/11/2022	Greylag goose	1	09:12	7	B	79	553	50	Standard
10/11/2022	Snipe	3	08:46	1	A	19	0	4	Incidental
10/11/2022	Snipe	3	08:46	1	B	47	47	40	Incidental
05/12/2022	Canada goose	5	12:49	2	A	76	0	15	Standard
17/01/2023	Canada goose	1	12:58	14	B	32	448	100	Standard
09/02/2023	Merlin	5	11:29	2	B	112	224	100	Standard
09/02/2023	Merlin	5	11:29	2	B	81	162	60	Standard
09/02/2023	Merlin	5	11:29	2	C	65	0	200	Standard
09/02/2023	Merlin	5	11:34	2	B	33	66	50	Standard
09/02/2023	Merlin	5	11:41	1	A	37	0	10	Standard
09/02/2023	Merlin	5	11:41	1	B	81	81	35	Standard
10/02/2023	Lapwing	4	09:03	1	A	5	0	2	Standard
10/02/2023	Lapwing	4	09:07	7	A	2	0	5	Standard
10/02/2023	Lapwing	4	09:07	7	A	39	0	15	Standard
10/02/2023	Lapwing	4	09:07	7	B	25	175	50	Standard

* Standard record type means that the bird was observed during the duration of the vantage point watch and was within the viewshed of the VP (formed from a 180° arc centred on a predetermined view bearing out to a distance of 2km).

Incidental record type means that the bird was observed out with the duration of the vantage point watch and / or was beyond the 2km limit.

Appendix E. Conservation Status of Recorded Bird Species – Raptors, Waders, Geese and Gulls

Table 12: List of Species Recorded on Site

Species	Scientific Name	Annex I	Schedule 1	Birds of Conservation Concern	UK Conservation Status	Vantage Point Survey (April 2022 – February 2023)
Barn Owl	<i>Tyto alba</i>		Yes		Green	No
Black-headed Gull	<i>Chroicocephalus ridibundus</i>			Yes	Amber	Yes
Buzzard	<i>Buteo buteo</i>				Green	Yes
Cormorant	<i>Phalacrocorax carbo</i>				Green	Yes
Common Gull	<i>Larus canus</i>			Yes	Amber	Yes
Common sandpiper	<i>Actitis hypoleucos</i>			Yes	Amber	No
Curlew	<i>Numenius arquata</i>			Yes	Red	Yes
Dunlin	<i>Calidris alpina</i>			Yes	Red	No
Golden plover	<i>Pluvialis apricaria</i>	Yes		Yes	Green	No

Species	Scientific Name	Annex I	Schedule 1	Birds of Conservation Concern	UK Conservation Status	Vantage Point Survey (April 2022 – February 2023)
Goosander	<i>Mergus merganser</i>				Green	Yes
Greylag Goose	<i>Anser anser</i>			Yes	Amber	Yes
Grey Heron	<i>Ardea cinerea</i>				Green	No
Hen harrier	<i>Circus cyaneus</i>	Yes	Yes	Yes	Red	Yes
Herring gull	<i>Larus argentatus</i>				Red	Yes
Kestrel	<i>Falco tinnunculus</i>			Yes	Amber	Yes
Lapwing	<i>Vanellus vanellus</i>			Yes	Red	Yes
Lesser Black-backed gull	<i>Larus fuscus</i>			Yes	Amber	Yes
Little egret	<i>Egretta garzetta</i>				Green	Yes
Little Owl	<i>Athene Noctua</i>				Introduced	No
Mallard	<i>Anas Platyrhynchos</i>			Yes	Amber	No
Merlin	<i>Falco columbarius</i>	Yes	Yes	Yes	Red	Yes
Mute swan	<i>Cygnus olor</i>				Green	Yes
Oystercatcher	<i>Haematopus ostralegus</i>			Yes	Amber	Yes
Peregrine	<i>Falco peregrinus</i>	Yes	Yes		Green	Yes
Red Kite	<i>Milvus milvus</i>	Yes	Yes		Green	Yes
Snipe	<i>Gallinago gallinago</i>			Yes	Amber	Yes
Short-eared owl	<i>Asio flammeus</i>	Yes		Yes	Amber	No
Sparrowhawk	<i>Accipiter nisus</i>				Amber	No

Scout Moor 2 Wind Farm



Figure 10-1-1
Vantage Point Activity - Target
Species (April - August 2022)

Key

- Assessment boundary
- Proposed turbine location
- Vantage Point

Target species registrations

- Curlew
- Goosander
- Greylag goose
- Lapwing
- Merlin
- Peregrine
- Red kite

Height Band

- Below 30m height
- 30 - 180m height
- Above 180m height
- On ground
- Heard only

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Kilometres

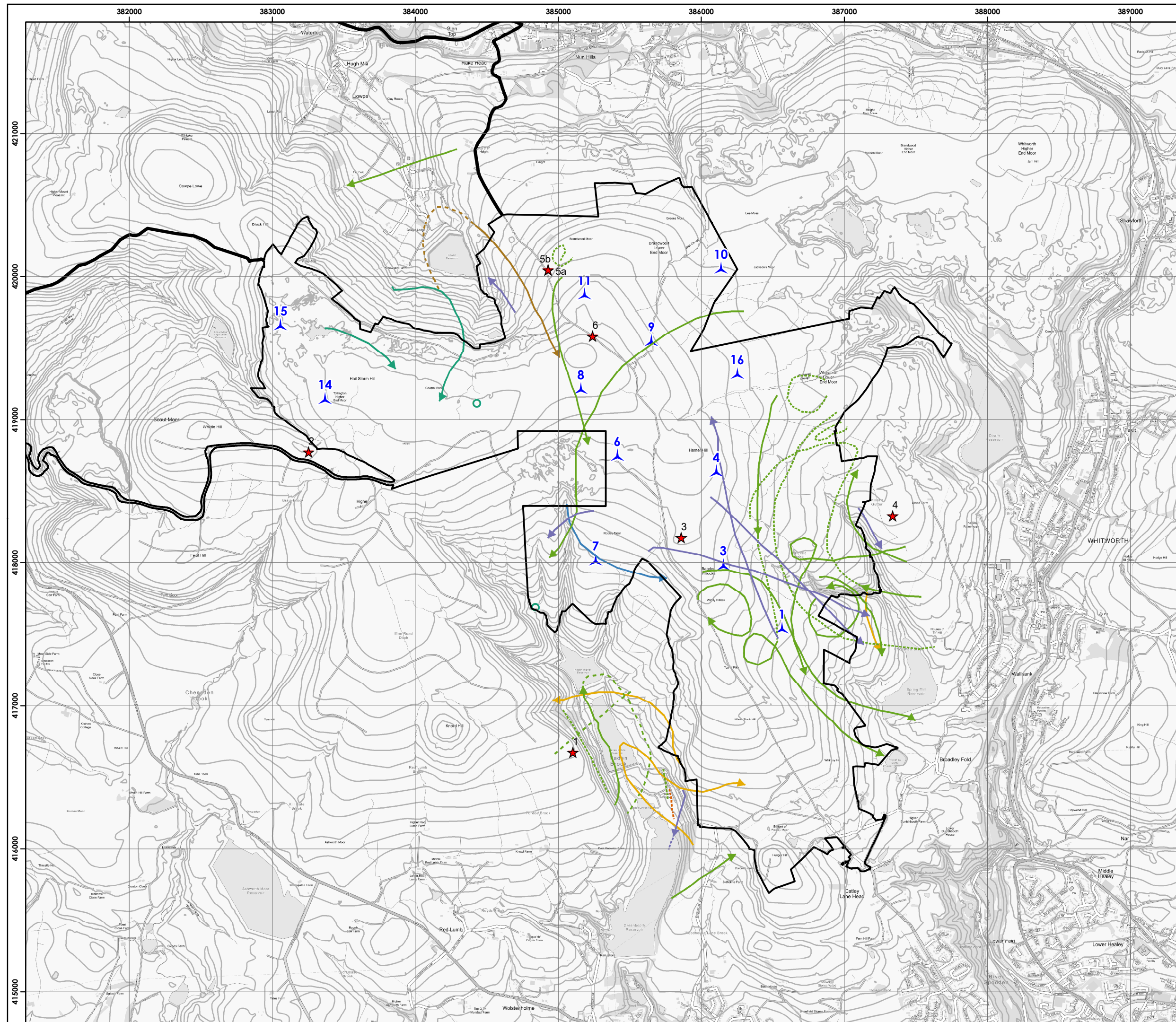


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08/05/2026 TL02f 8706/OR/060b
Drawn by: KM Checked by: TH Approved by: JH



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Figure 10-1-2
Vantage Point Activity - Waders
(April 2022- March 2023)

- Key**
- Assessment boundary
 - Proposed turbine location
 - Vantage Point
- Target species registrations**
- Curlew
 - Lapwing
 - Oystercatcher
 - Snipe
- Height Band**
- Below 30m height
 - 30 - 180m height
 - Above 180m height
 - On ground
 - Heard only



0 200 400 800
Meters

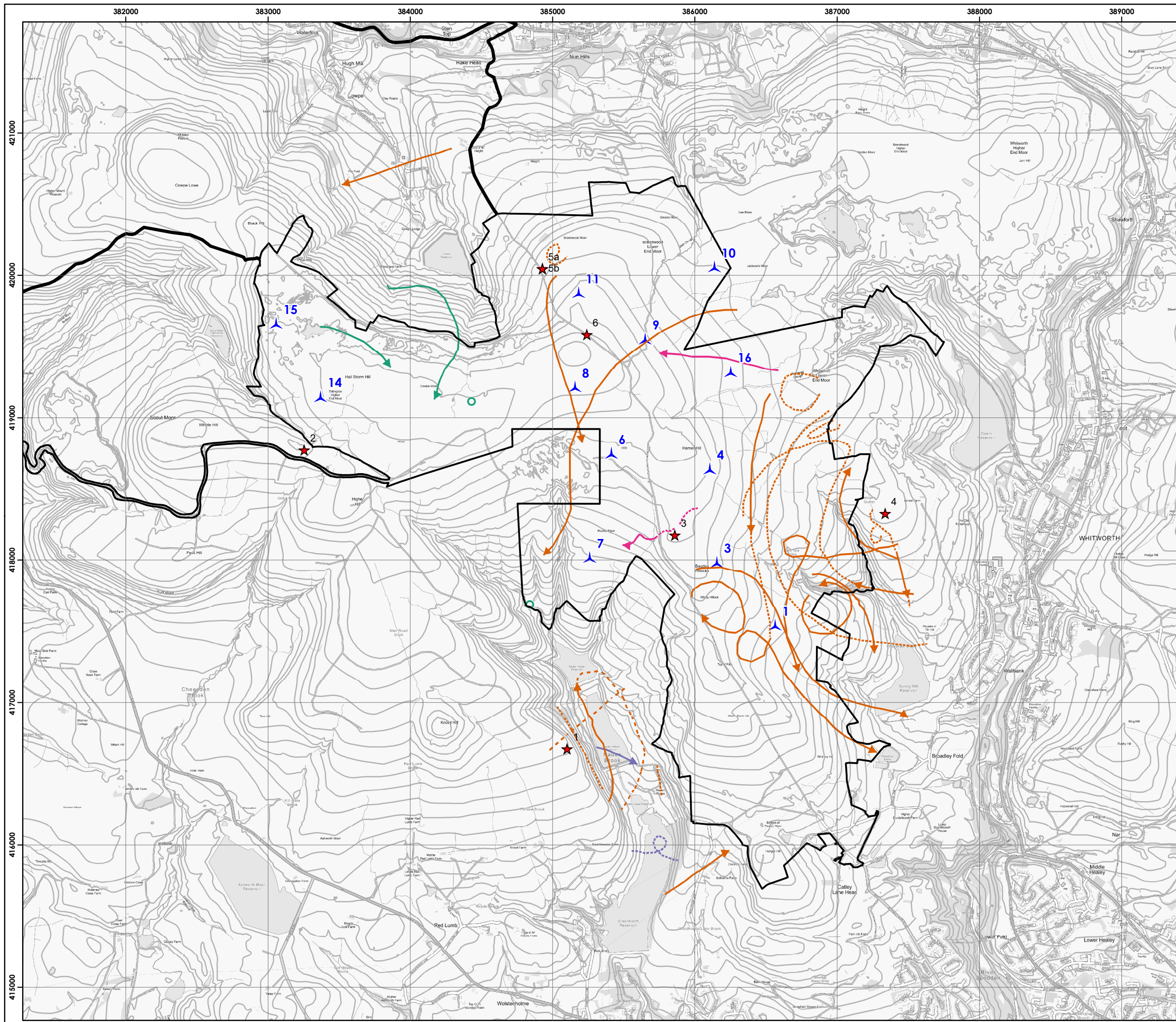


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Figure 10-1-3a
Vantage Point Activity - Raptors
(April 2022- March 2023)

Key

- Assessment boundary
- Proposed turbine location
- Vantage Point

Target species registrations

- Merlin
- Peregrine
- Red kite

Height Band

- Below 30m height
- 30 - 180m height
- Above 180m height
- On ground
- Heard only



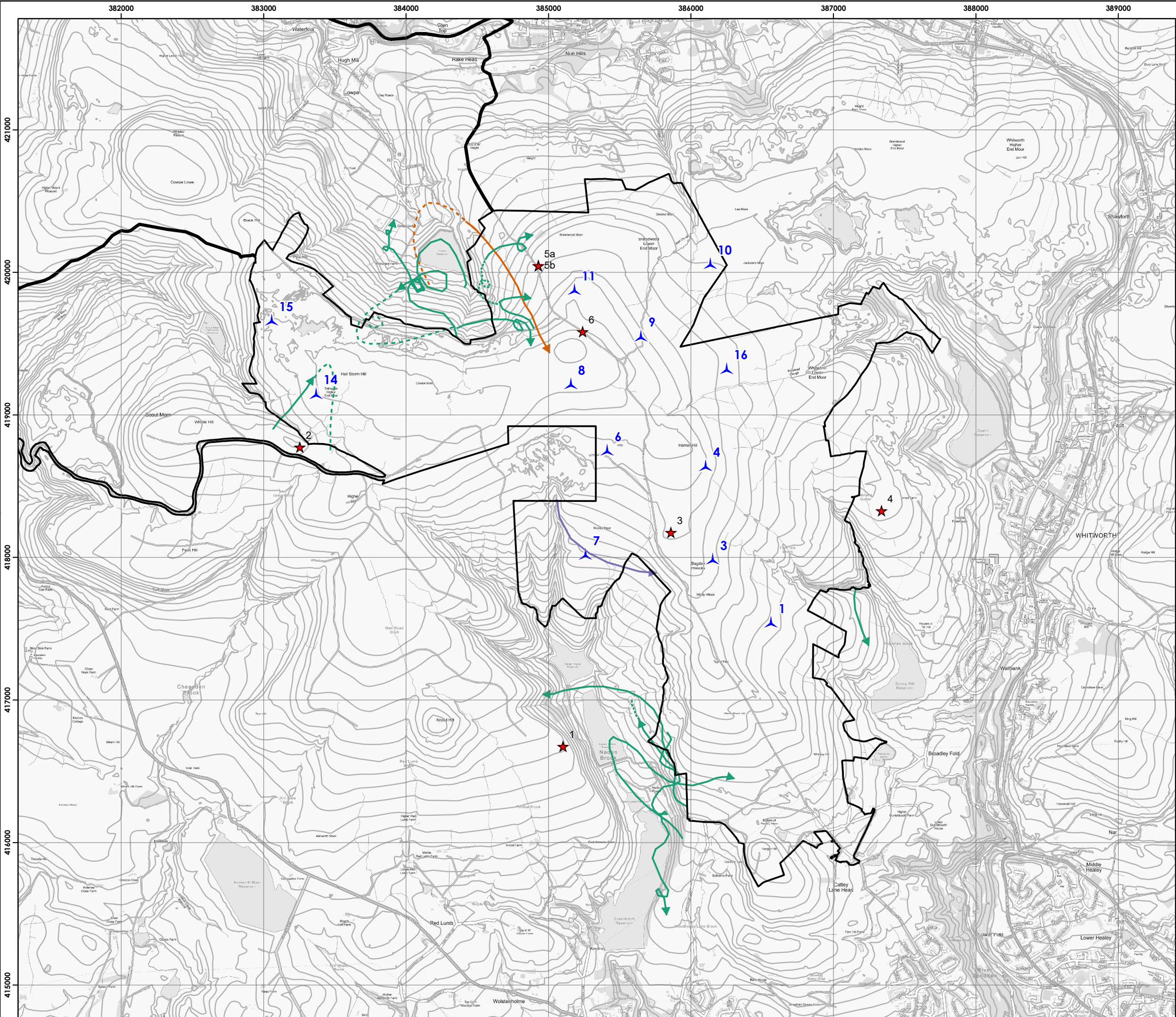
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Figure 10-1-3b
Vantage Point Activity - Kestrel
(April 2022- March 2023)

Key

- Assessment boundary
- Proposed turbine location
- Vantage Point

Target species registrations

- Kestrel

Height Band

- Below 30m height
- 30 - 180m height
- Above 180m height
- On ground
- Heard only

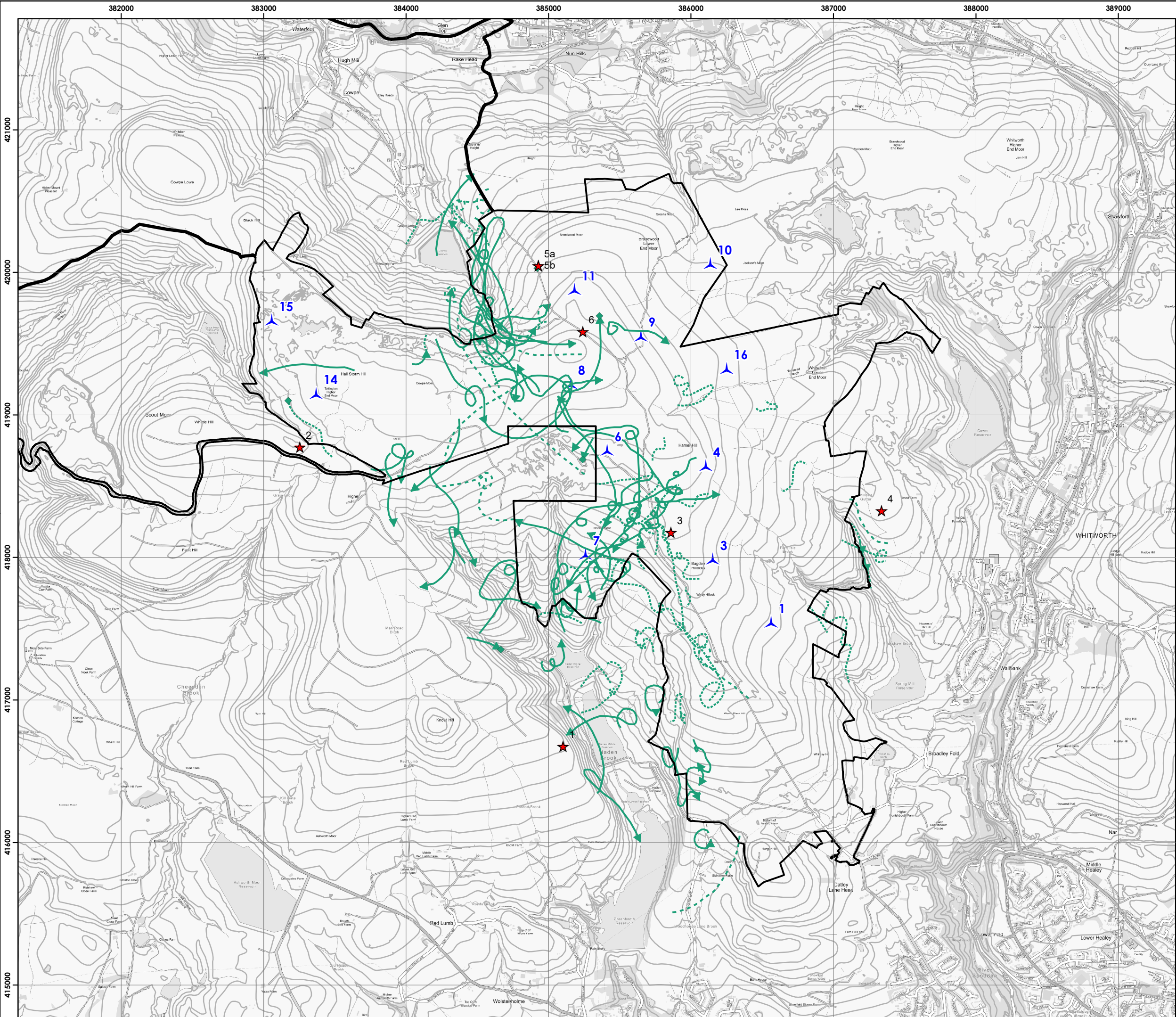


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Kilometres

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Figure 10-1-4
Vantage Point Activity - Waterfowl
(April 2022- March 2023)

Key

- Assessment boundary
- Proposed turbine location
- Vantage Point

Target species registrations

- Greylag goose
- Mute swan
- Goosander

Height Band

- Below 30m height
- 30 - 180m height
- Above 180m height
- On ground
- Heard only



0 0.3 0.6 1.2
Kilometres

N

Scale @ A3:
1:25,000

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