



Appendix 5.2

Baseline Bird Reports

Knockanarragh Wind Farm EIAR Volume 3

Knockanarragh Wind Farm Limited

24 November 2023

**Year 1 Bird Survey Report
– Breeding Season 2019
– Winter Season 2019/20**

Crowinstown Wind Farm,
Co. Westmeath





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1.

INTRODUCTION

McCarthy Keville O’Sullivan (MKO) was appointed to carry out bird survey works of a proposed wind farm site at Crowinstown Co. Westmeath during the period from June 2019 to March 2020 inclusive. The site is located east of Delvin and west of Athboy in County Westmeath (Grid Ref: N 622 265). The dominant habitat onsite is wet grassland and improved agricultural grassland with accompanying smaller areas of conifer plantation and a quarry. The wider surroundings are predominantly improved agricultural grassland. The total area of the wind farm site is approximately 330ha.

This report describes the ornithological survey methods employed and survey data collected at Crowinstown, Co. Westmeath for the period from May 2019 to March 2020 inclusive. For the month of May 2019 bird surveys were undertaken by Fehily Timoney and Company (FTC). From June 2019 onwards MKO conducted all work including reporting of work carried out by FTC in May 2019. This report also contains information compiled during desktop studies. Particular attention has been paid to species of conservation importance and identified target species.

The report is supported by Technical Appendix 1 which contains the raw data for the bird surveys undertaken from June 2019 to March 2020 inclusive. This includes detail on survey times, weather conditions, surveyors, survey results and other additional information. Flightline figures from surveys are included in Appendix 2.

The report is structured as follows:

- An introduction describing the background and statement of authority regarding ornithological works.
- A description of the desktop study and consultation was carried out with regard to the site.
- A comprehensive description of the ornithological surveys carried out.
- A full description of results for all ornithological surveys carried out.
- Discussion of potential impacts.

The following defines terms used in this report

- “Zones of Influence” (ZOI) for potential ornithological receptors refers to the zone within which potential effects are anticipated. ZOIs were assigned following the best available guidance (SNH 2016 and McGuinness et.al 2015).

1.1

Statement of Authority

This report has been prepared by Andrew O’Donoghue (B.Sc.) an Ornithologist with MKO and Project Director, Dervla O’Dowd (B.Sc.). The field surveys carried out from June 2019 to March 2020 were undertaken by Andrew O’Donoghue, Eric Dempsey, Declan Manley and Kristina O’Connor all of whom are competent experts in bird surveying. Field surveys for May 2019 were carried out by an ornithologist with Fehily Timoney and Co.

2. DESK STUDY & CONSULTATION

2.1 Desk Study Methods

A comprehensive desk study was undertaken prior to surveys in summer 2019 to search for any relevant information on species of conservation concern that may potentially make use of the study area. The assessment included a thorough review of the available ornithological data including:

- Review of online web-mappers: National Parks and Wildlife Service (NPWS), National Biodiversity Data Centre (NBDC), Irish Wetland Bird Survey I-WeBS.
- Review of Bird Atlases: (Sharrock, 1976; Lack, 1986; Gibbons et al., 1993; Balmer et al., 2013).
- Review of Birds of Conservation Concern (BoCCI) in Ireland 2014-2019 (Colhoun & Cummins, 2013), with a further review of updated Birds of Conservation Concern (BoCCI) in Ireland 2020-2026 (Gilbert et al., 2021);
- Review of specially requested records from the NPWS Rare and Protected Species Database.

2.2 Desk Study Results

2.2.1 Identification of Designated Sites within the Likely Zone of Influence

Using GIS software, sites designated for nature conservation within the potential ZOI of any proposed wind farm development were identified. The ZOI was derived utilising a precautionary approach. Sites within a 15-kilometre radius of the proposed works were identified.

In addition, and in the absence of any specific Irish guidance, the Scottish Natural Heritage (SNH) Guidance, ‘Assessing Connectivity with Special Protection Areas (SPA)’ (2016) was consulted. This document guides in relation to the identification of connectivity between proposed development proposals and Special Protection Areas. The guidance takes into consideration the distances some species may travel beyond the boundary of their SPAs and outlines information on dispersal and foraging ranges of bird species which are frequently encountered when considering plans and projects.

Designated sites located within the Likely Zone of Influence are listed below in Table 2-1.

Table 2-1: Special Protection Areas within 15 kilometres of the site

Designated site and code	Distance from wind farm site (km)
River Boyne and River Blackwater SPA (SCI: kingfisher)	1.0
Lough Derravaragh SPA (SCI: whooper swan, pochard, tufted duck, coot)	14.65

2.2.2 Breeding Bird Atlas Records

Bird Atlas 2007-11: The breeding and wintering birds of Britain and Ireland (Balmer et al., 2013) is the most recent comprehensive work on wintering and breeding birds in Ireland.

The study area lies within hectad N66. Table 2-2 below presents a list of species of ornithological interest recorded within the hectad.

Table 2-2 Bird atlas data for relevant hectad (N66)

Species Name	Breeding Status	Conservation Status
Peregrine (<i>Falco peregrinus</i>)	Possible	BD
Whooper swan (<i>Cygnus cygnus</i>)	Present	BD
Black-headed gull (<i>Chroicocephalus ridibundus</i>)	Possible	RL
Curlew (<i>Numenius arquata</i>)	Present	RL
Lapwing (<i>Vanellus vanellus</i>)	Present	RL
Wigeon (<i>Mareca Penelope</i>)	Present	RL
Meadow pipit (<i>Anthus pratensis</i>)	Probable	RL
Grey wagtail (<i>Motacilla cinerea</i>)	Possible	RL
Yellowhammer (<i>Emberiza citronella</i>)	Possible	RL

BD=Birds Directive; RL = BoCCI Red List; Seen = recorded; Breed = breeding; Non-B = non-breeding; Possible = possible breeding; Probable = probable breeding; Confirmed = confirmed breeding; Present = Present during winter; -= Not Recorded

Table 2-2 above, lists eight species recorded in the relevant hectads during the most recent breeding and winter bird atlas (2007-2011) studies that are also protected under the EU Birds Directive or mentioned on the Birds of Conservation Concern in Ireland (BoCCI) red list (2014-2019).

2.2.3 Method of Identification of Target Species

Following a comprehensive desk study by MKO, initial site visit and consultation, a list of “Target species” likely to occur at the site was compiled. The survey work carried out on the site was specifically designed to survey for these identified target species in accordance with SNH guidance (2017). The target species list was drawn from:

- Annex I of the Birds Directive
- Special Conservation Interests (SCI) of Special Protection Areas (SPA) within the zone of likely significant effects
- Species protected under the fourth schedule of the Wildlife Acts 1976-2012
- Red listed birds of Conservation.

2.3 Consultation

MKO undertook a consultation exercise during the preparation of this report. Table 2-3 below provides a list of the organisations consulted and notes where responses have been received.

Table 2-3 Scoping Response Summary

No.	Consultee	Response to Consultation
1	National Parks & Wildlife Service	Response received 09/04/2020.

2.3.1 NPWS Rare and Protected Species Dataset

An information request was sent to the NPWS in April 2020 requesting records from the Rare and Protected Species Database. The reply from NPWS indicated no records regarding rare and protected bird species from the Hectad in which the study area was contained.

3. METHODS

3.1 Field Survey Methods

This section of the report describes the various field survey methods employed. Field surveys were undertaken from May¹ 2019 – March 2020 inclusive. The data provided in this report is robust and allows clear, precise and definitive conclusions to be made with regard to the likely significant effects on avian receptors identified within the subject site. Field survey methodologies have been devised to survey for the bird species composition and assemblages that occur within the study area.

3.1.1 Initial Site Assessment

Based on the results of the desk study and reconnaissance site visits, the likely importance of the study area for bird species was determined. Based on the collated information available from the above preliminary assessment and adopting a precautionary approach, a site-specific scope for the ornithological surveys was developed.

3.1.2 Vantage Point Surveys

Vantage point (VP) surveys were undertaken in accordance with SNH guidance (SNH, 2017) from two vantage point locations between May 2019 to March 2020. An additional third VP was added for the period October 2019 to March 2020.

Data on bird observations and flight activity was collected from a scanning arc of 180° and a two-kilometre radius by an observer at each fixed location for six hours per month. Surveys were orientated to provide a spread over the full daylight period including at dawn and dusk to coincide with the highest peaks of bird activity.

Details on vantage point watch survey effort are presented in Appendix 1 to this report. This appendix includes full details of dates, times, survey locations, survey duration and weather conditions for each survey. Appendix 2, Figure 1.1 shows the locations of vantage points.

Flight activity was assigned to distinct height bands. The flight bands were chosen with reference to the dimensions of likely turbine models for the site and the resulting potential collision height. Bands are split into 0-10m, 10-25m, 25m-175m and 175m+. In the absence of turbine dimension specifics, 25-175m was considered to be potential collision height (PCH) for the purposes of this report. Potential collision height is the height at which a bird is at risk of colliding with a turbine blade.

3.1.2.1 Viewshed Analysis

Viewshed analysis was carried out to inform coverage of the study area from fixed vantage point locations prior to the commencement of surveys in June 2019 (VP1, VP2) and October 2019 (VP3). Viewsheds were calculated using Resoft Wind Farm ZTV (Zone of Theoretical Visibility) software in combination with Mapinfo Professional (Version 10.0) using a notional and precautionary layer suspended at 25m, which represents the lowest swept height of the turbine blades. While the relevance of being able to view as much of the site to ground level is acknowledged, the SNH guidance emphasises the importance of visibility of the ‘collision risk volume’ when the data is to be used to estimate the risk of collision with turbines by birds.

¹ May 2019 surveys were undertaken by Fehily Timoney and Co and have been included in Appendix 2. They are not reported in the results section (4) but the key observations have been considered in the discussion in Section 5.

The viewshed analysis involved testing each VP location for its visibility coverage by creating a view shed point two metres in height (to represent the height of observer) on a map using 10 metre contours terrain data. Using the ZTV software, a viewshed of 360 degrees was produced calculating an area 10 metres from ground level up to a two-kilometre radius. The resulting viewshed image was then cropped to 180 degrees to give the viewshed from each VP location in line with SNH (2017). The output of the viewshed analysis confirmed adequate coverage of the proposed turbine layout and to a 500m radius of the viable area. Appendix 2, Figure 1.2 shows the calculated viewshed analysis.

3.1.3 Breeding Walkover Surveys

Breeding walkover transect surveys were undertaken to survey for bird species of high conservation concern and identify areas of possible, probable or confirmed breeding territories. Survey methodology followed the adapted Brown and Shepherd survey methods as outlined in Gilbert et al. (1998). The survey area extended 500m from the site boundary as recommended by SNH (SNH, 2017). Certain areas within 500m of the site proved inaccessible, where access to private land was not forthcoming or where dense forestry and vegetation was impractical to walk through. In these incidences, areas could only be surveyed from overlooking areas where public access is permitted i.e. roads, or from within permitted areas.

Transects were selected to survey every area of suitable breeding/ foraging habitat to within 100m, in areas where access was allowed. Target species included waders, raptors, waterbirds, gulls and ground birds of conservation interest. Along with target species, all additional species observed were recorded to inform the evaluation of supporting habitat.

Walkover surveys were carried out between daylight hours during the core breeding season months of May, June and July (Calladine et al. 2009). The duration of each survey visit was four days per month. Following all survey visits the field maps were analysed to determine the number and location of breeding territories. All non-breeding individuals and species encountered were also recorded.

Survey effort, including details of survey duration and weather condition, is presented in Appendix 1. Figure 1.4 in Appendix 2 shows the survey area.

3.1.4 Breeding Raptor Surveys

Breeding raptor surveys (*i.e.* birds of prey and owls) were undertaken within the study area and its immediate surroundings. These surveys aimed to identify occupied territories and ascertain whether breeding was successful. The methodology followed Hardey *et al.* (2013). Raptor surveys were undertaken onsite and to a 2km radius from the planning/ development boundary monthly during the core breeding season period (May to July 2019).

Survey effort details are provided in Appendix 1. Figure 1.3 in Appendix 2 shows the study area extending 2km from the development boundary.

3.1.5 Breeding Woodcock Surveys

Breeding season surveys for this species were undertaken in accordance with Gilbert et.al (1998). The survey area extended 500m beyond the site boundary. All surveys were undertaken in areas of suitable breeding habitat during June 2019. Surveys commenced one hour before sunset and continue for an hour after sunset/ until it was too dark to see. The survey aimed to record the presence of roding (displaying) male woodcock and thereby establish the distribution and abundance of the species in the study area. This survey method also allowed the observer to survey for owls, *i.e.* barn owls and long-eared owls. The survey effort undertaken for transect surveys is presented in Appendix 1, including details of survey duration and weather conditions. Figure 1.5 in Appendix 2 shows the transect route locations.

3.1.6 Winter Walkover Surveys

Winter transect surveys were undertaken to determine the presence of bird species of high conservation concern within the study area. The survey area extended 500m beyond the site boundary, where access was allowed.

Transect routes were devised to ensure a representative sample of different habitat were surveyed within the study area. The methodology was based on methods described in Bibby et al. (2000). Target species were raptors, waterbirds, gulls and ground birds of conservation concern. Along with target species, all additional species observed were recorded to inform the evaluation of supporting habitat.

Walkover surveys were carried out during the months of October, December, January and March for the 2019/2020 winter period. The survey effort undertaken for transect surveys is presented in Appendix 1, including details of survey duration and weather conditions. Figure 1.6 in Appendix 2 shows the transect route locations and technical data is provided in Appendix 1.

3.1.7 Wildfowl Distribution and Abundance Surveys

Wildfowl distribution and abundance surveys were focused on the immediate surroundings of the wind farm site. In compliance with SNH (2017) these surveys extend to a 500m radius of the wind farm site for foraging wildfowl and one kilometre of the site for roosting wildfowl. The surveys aimed to provide contextual information on the distribution and abundance of wildfowl in the surrounding hinterland. Count methodology was in line with survey methodology guidelines issued by SNH (2017) and BirdWatch Ireland (2015). Counts were conducted during daylight hours (after dawn or before dusk) from suitable vantage points at the wetland sites. The Survey effort is presented in Appendix 1. Figure 1.7 in Appendix 2 shows the survey area.

3.1.8 Survey Justification

A comprehensive suite of bird surveys was undertaken at the site between May 2019 and March 2020, as detailed in this report.

Results from the 2019/2020 season are derived from a continuous eleven months of surveying undertaken in accordance with SNH Guidance. It is noted that many bird species establish territories from April onward and surveys at the proposed development did not begin until May 2019. This is considered only a minor limitation in the survey scope given territories established in April that persisted until May will have been identified.

The surveys undertaken provide the information necessary to allow a complete, comprehensive and robust assessment of the potential impacts of proposed developments on avian receptors.

4. FIELD SURVEY RESULTS

4.1 Introduction

A comprehensive list of all bird species recorded within the study area is provided in Appendix 1, Table 1. This list also provides the conservation status of each species. Appendix 1, Table 2 provides a comprehensive list of all non-target species recorded within the study area.

The following target species were recorded during the 2019 breeding and 2019/2020 non-breeding seasons. Observations are described in detail in subsequent sections below. The list is ordered in accordance with conservation significance: Annex I species, SCIs of designated sites, Red listed species and raptors:

- > Golden plover (Annex I species)
- > Whooper swan (Annex I species; SCI of Lough Derravarragh SPA)
- > Hen harrier (Annex I species; Schedule IV of the Wildlife Act; 1976)
- > Merlin (Annex I species; Schedule IV of the Wildlife Act; 1976)
- > Peregrine (Annex I species; Schedule IV of the Wildlife Act; 1976)
- > Curlew (BoCCI Red Listed)
- > Kestrel (BoCCI Red Listed)
- > Lapwing (BoCCI Red Listed)
- > Snipe (BoCCI Red Listed)
- > Woodcock (BoCCI Red Listed)
- > Buzzard (Raptor, Schedule IV of the Wildlife Act; 1976)
- > Sparrowhawk (Raptor, Schedule IV of the Wildlife Act; 1976)

Other species of ornithological interest also recorded during surveys included:

- > Jack snipe
- > Cormorant
- > Herring gull
- > Black-headed gull
- > Lesser black-backed gull
- > Common gull
- > Wigeon
- > Teal
- > Shelduck
- > Mallard
- > Mute swan
- > Grey heron
- > Green sandpiper
- > Little grebe
- > Moorhen
- > Red-listed passerines (Meadow pipit, Grey wagtail and Yellowhammer)

The following sections describe the observations of each target species under the individual survey headings. Raw data and maps are provided in Appendix 1 and Appendix 2 respectively.

4.1.1 Vantage Point Survey Results

Vantage point surveys were undertaken at the site between June 2019 and March 2020 inclusive. Summary results from vantage point surveys are presented below in Table 4-1 and discussed in further detail in Section 5 of this report.

Table 4-1: Vantage Point Survey Results

Conservation Status	Species	Total number of observations recorded during this survey type	Total Number of flights at PCH	Number of observations on site/within 500m	Activity of note	Figure
Annex 1, BoCCI Red List	Golden plover	17	17	12	Flocks flying over the site, this included some large flocks. Roosting on-site in smaller numbers. Non-breeding season	1-1-1
Annex 1, BoCCI Amber List	Whooper swan	2	2	2	Travelling over the site. Non-breeding season.	1-1-2
Annex 1, BoCCI Amber List	Hen harrier	1	1	1	Ringtail travelling high then foraging over site Non-breeding season.	1-1-3
Annex 1, BoCCI Amber List	Merlin	1	0	1	Adult male flying low on site. Non-breeding season	1-1-4
Annex 1, BoCCI Green List	Peregrine	3	1	3	Juvenile hunting on site. Adult flying over. Non-breeding season	1-1-5
BoCCI Red List	Woodcock	5	0	5	Male seen and heard roding over suitable breeding habitat. Occupied breeding territory. Probable breeding	1-1-6
BoCCI Amber List	Herring gull	2	2	2	Travelling over the site. Non-breeding season.	1-1-7
BoCCI Amber List	Black-headed gull	2	2	2	Travelling over the site. Non-breeding season.	1-1-8
BoCCI Red List	Curlew	2	2	2	Travelling over the site. Non-breeding season.	1-1-9
BoCCI Red List	Lapwing	3	3	3	Travelling over the site. Non-breeding season.	1-1-10
BoCCI Red List	Common snipe	8	1	8	Feeding on and flying over the site. Non-breeding season.	1-1-11

Conservation Status	Species	Total number of observations recorded during this survey type	Total Number of flights at PCH	Number of observations on site/within 500m	Activity of note	Figure
BoCCI Amber List	Cormorant	1	1	1	Travelling over the site. Non-breeding season.	1-1-12
BoCCI Amber List	Common gull	2	2	2	Travelling over the site. Non-breeding season.	1-1-13
BoCCI Amber List	Lesser black-backed gull	10	9	10	Travelling over the site. Non-breeding season.	1-1-14
BoCCI Red List	Kestrel	17	6	17	Male and three juveniles were observed flying together. Confirmed breeding.	1-1-15
BoCCI Green List	Sparrowhawk	15	7	13	Possible breeding due to presence in suitable habitat during the breeding season.	1-1-16
BoCCI Amber List	Teal	1	1	1	Flock present all winter on site. Non-breeding season.	1-1-17
BoCCI Green List	Mallard	7	5	7	Calling pair in flight and flock of six in suitable breeding habitat. Possible breeding.	1-1-18
BoCCI Green List	Buzzard	72	33	70	Two observations of two birds flying in the breeding season, considered to be a pair. Possible breeding.	1-1-19
BoCCI Green List	Grey heron	14	5	13	Feeding on and travelling over the site. Non-breeding season.	1-1-20
BoCCI Green List	Green sandpiper	1	0	1	Heard from VP. Considered on migration. Non-breeding.	1-1-21
BoCCI Amber List	Little Grebe	1	0	1	One observation of pair present in the breeding season. Probable breeding.	-

4.1.2 Breeding Raptor Survey Results

Breeding raptor surveys were carried out during the 2019 breeding season: June to July. Summary results from breeding raptor surveys are presented in Table 4-2 below and discussed in more detail in Section 5 of this report.

Table 4-2: Breeding Raptor Survey Results

Conservation Status	Species	Total number of observations recorded during survey type	Number of observations on site/within 500m	Activity of note	Breeding Status (Possible, Probable, Confirmed)	Figure
BoCCI Green List	Sparrowhawk	1	1	No activity of note.	Possible breeding	1-3-1
BoCCI Green List	Buzzard	8	4	No activity of note.	Possible breeding due to presence in suitable habitat during the breeding season.	1-3-2

4.1.3 Breeding Walkover Survey Results

Breeding walkover surveys were carried out during the 2019 breeding season: June to July. Summary results from breeding walkover surveys are presented below in Table 4-3 and discussed in more detail in Section 5 of this report.

Table 4-3: Breeding Walkover Survey Results

Conservation Status	Species	Total number of observations recorded during survey type	Number of observations on site/ within 500m	Activity of note	Breeding Status (Possible, Probable, Confirmed)	Figure
BoCCI Amber List	Little grebe	1	1	Pair with young on a small pool.	Confirmed breeding due to presence adults with recently fledged young	1-4-1
BoCCI Green List	Grey heron	1	1	No breeding activity of note.	Non-breeding. Flying over.	1-4-2

Conservation Status	Species	Total number of observations recorded during survey type	Number of observations on site/ within 500m	Activity of note	Breeding Status (Possible, Probable, Confirmed)	Figure
BoCCI Green List	Buzzard	3	3	No breeding activity of note.	Possible breeding due to presence in suitable habitat during the breeding season.	1-4-3
BoCCI Red List	Yellowhammer	1	0	No breeding activity of note.	Possible breeding due to presence in suitable habitat during the breeding season.	N/A
BoCCI Green List	Sparrowhawk	1	1	Adult observed alarm calling near Cavestown and Rosmead west of N52.	Probable breeding	1-4-4

4.1.4 Breeding Woodcock Survey Results

Several woodcock observations were recorded during targeted breeding woodcock surveys. All observations are detailed in Table 4-4 below and discussed in further detail in Section 5 of this report.

Table 4-4: Breeding Woodcock Survey Results

Conservation Status	Species	Survey Type	Observations recorded during surveys	Number of birds within 500m of site	Activity of note	Figure
BoCCI Red List (Breeding populations only)	Woodcock	Breeding woodcock survey	9	9	Roding flights were recorded on five occasions. Occupied breeding territory - Probable breeding	1-5-1

4.1.5 Winter Walkover Survey Results

Winter Walkover surveys were carried out during the non-breeding season from October 2019 to March 2020. All observations are detailed in Table 4-5 below and discussed in further detail in Section 5 of this report.

Table 4-5: Winter Walkover Survey Results

Conservation Status	Species	Total number of observations recorded during survey type	Number of observations on site/ within 500m	Number of birds on site/within 500m	Activity of note	Figure
Annex 1, BoCCI Red List	Golden plover	2	2	70	Flock recorded on site roosting on improved agricultural grassland North of Robinstown little.	1-6-1
BoCCI Amber List	Wigeon	1	1	42	Flock on Newtown Lough.	1-6-2
BoCCI Red List	Kestrel	2	2	2	Male and female seen close together near Ballinlig. Possible pair.	1-6-3
BoCCI Amber List	Little grebe	2	2	4	Two pair's feeding on site.	1-6-4
BoCCI Amber List	Teal	2	2	37	Flock recorded on lough south of Ballinlig.	1-6-5
BoCCI Amber List	Common snipe	1	1	1	Flushed bird.	1-6-6
BoCCI Green List	Sparrowhawk	2	2	2	Flying over/Foraging.	1-6-7
BoCCI Amber List	Mute swan	1	1	1	Feeding in flooded field.	1-6-8
BoCCI Green List	Buzzard	11	11	6	Flying over/Foraging/Calling	1-6-9

4.1.6

Wildfowl Distribution and Abundance Survey Results

Wildfowl surveys were carried out during the non-breeding season from September 2019 to March 2020. All observations are detailed in Table 4-6 below and discussed in further detail in Section 5 of this report.

Table 4-6 Wildfowl Survey Results

Conservation Status	Species	Total number of observations recorded during survey type	Number of observations on site/ within 500m	Number of birds on site/within 500m	Figure
Annex 1, BoCCI Red List	Golden plover	3	3	65	1-7-1
BoCCI Amber List	Black-headed gull	1	0	0	1-7-2
BoCCI Amber List	Wigeon	2	2	45	1-7-3

Conservation Status	Species	Total number of observations recorded during survey type	Number of observations on site/ within 500m	Number of birds on site/within 500m	Figure
BoCCI Amber List	Herring gull	1	1	67	1-7-4
BoCCI Amber List	Teal	12	11	50	1-7-5
BoCCI Amber List	Shelduck	1	1	1	1-7-6
BoCCI Amber List	Lesser black-backed gull	3	3	2	1-7-7
BoCCI Amber List	Cormorant	1	1	1	1-7-8
BoCCI Amber List	Little grebe	1	1	2	1-7-9
BoCCI Amber List	Jack snipe	2	2	1	1-7-10
BoCCI Amber List	Mute swan	3	3	3	1-7-11
BoCCI Red List	Common snipe	4	3	4	1-7-12
BoCCI Green List	Mallard	9	4	7	1-7-13
BoCCI Green List	Green sandpiper	1	1	1	1-7-14
BoCCI Green List	Moorhen	3	2	5	1-7-15
BoCCI Green List	Grey heron	4	4	1	1-7-16

4.1.7 Incidentals

A number of incidental observations of target species were recorded during the survey period. The most significant of these observations are detailed in Table 4-7 below and discussed in further detail in Section 5 of this report.

Table 4-7 Incidental Observations

Conservation Status	Species	Survey Type	Observations recorded during surveys	Activity of note
BoCCI Amber List	Common gull	Breeding raptor survey	1	Pair flying over. Non-breeding
BoCCI Red List	Common snipe	VP survey	4	Calling unseen near VPs. Non-breeding season.
BoCCI Green List	Mallard	VP survey, Breeding raptor survey	2	Adults on pool near Robinstown little. Possible breeding

4.1.8 Target Species Breeding Status Summary

While breeding status is assigned according to the evidence obtained during individual breeding bird survey types in Tables 4-1 to 4-5 above, Table 4-6 below provides the highest breeding status of target species observed during breeding season surveys (2019) at Crowinstown. Maps showing confirmed breeding territories for each species are provided in Appendix 2 (Figures 2-1, 2-2 and 2-3).

Table 4-8: Target Species Breeding Status Summary

Target Species Breeding Status Summary	
Species	Overall breeding status
Golden plover	Non-breeding
Whooper swan	Non-breeding
Hen Harrier	Non-breeding
Merlin	Non-breeding
Peregrine	Non-breeding
Golden plover	Non-breeding
Woodcock	Probable breeding
Curlew	Non-breeding
Lapwing	Non-breeding
Common Snipe	Non-breeding
Kestrel	Confirmed breeding
Sparrowhawk	Probable breeding
Buzzard	Possible breeding
Other species of ornithological interest	
Wigeon	Non-breeding
Shelduck	Non-breeding
Teal	Non-breeding
Mallard	Possible breeding
Jack snipe	Non-breeding
Cormorant	Non-breeding
Little grebe	Confirmed breeding
Mute swan	Non-breeding
Herring gull	Non-breeding
Black-headed gull	Non-breeding
Common gull	Non-breeding
Lesser black-backed gull	Non-breeding
Grey heron	Possible breeding
Green sandpiper	Non-breeding
Moorhen	Non-breeding
Meadow pipit	Possible breeding
Grey wagtail	Possible breeding
Yellowhammer	Possible breeding

5. DISCUSSION

This section provides a synopsis of the findings of the surveys undertaken during the 2019/2020 season (May 2019 - March 2020) for each of the target species recorded.

5.1 Golden Plover

Golden plover was recorded on 22 occasions throughout the survey period. One observation was during the breeding season, all other observations were outside of the breeding season.

There were a total of 17 observations of golden plover from VP surveys, of these all were at PCH for the duration or part of the observation. On the 12th of August, two birds were recorded travelling over the site at PCH for the duration near Robinstown Little within the site boundary. These are likely non-breeding birds arriving early to wintering grounds. It is noted that breeding birds in Ireland are confined to the north and west of the country.

During the winter months, the largest numbers recorded from VP surveys was on the 19th of December, a flock of 960 birds were recorded c.1km from the site boundary near Ballinlough. The largest flock recorded on site, was of 500 birds on the 23rd of December. This flock was observed west of Carnybrogan for 33 minutes within 500m of the site boundary and spent roughly half of this time at PCH. Most other Golden plover observations from VP surveys were concentrated in two areas; south of Cloneveran and near Ballinlough.

Three observations were recorded during Wildfowl surveys. All of these were on arable land near a dry lough east of Clonmaskill within 500m of the site boundary. The largest flock observed here on the 6th of January was of 65 roosting birds. Winter walkover surveys recorded two observations both in the Cavestown and Rosmead area on site. On the 23rd of December and the 7th of January, 70 birds were flushed from improved grassland.

Much of the site is made up of improved agricultural grassland, that is utilised by this species for foraging. In the winter this species is highly mobile and may not be present in the area for some of the winter/non-breeding period given the lack of observations before the 12th of December or after the 1st of February. Given the number of flights at PCH and their long durations, collision risk will be a key consideration for this species.

5.2 Whooper Swan

Whooper swan were recorded twice during the survey period. On the 1st of February, a flock of four birds were recorded from VP survey travelling over the site within PCH at Rosmead flying southeast. On the 4th of February, a flock of 28 birds was recorded during a VP survey at PCH south of Newtown lough flying northeast.

Both flocks were travelling over the site and were not recorded on any water bodies in the area during other survey types. Because of this and the low overall number of observations, the site is not thought to be of importance to this species.

5.3 Hen Harrier

A single hen harrier was recorded on one occasion during VP survey on the 30th of October 2019. A ringtail (female or juvenile bird) was recorded flying high over the site before dropping low and moving west to forage. The flight was below and at PCH for a proportion of the time. The bird was recorded within 500m of the site boundary, just north-east of Cloneveran.

The absence of any further observations or historical records from the area suggests this observation was unusual and that the bird was likely passing through the area.

5.4 Merlin

This species was recorded only once during the survey period, outside of the breeding season during VP surveys. On the 30th of October an adult male was seen flying low, below PCH. It flew in a southerly direction north of Cloneveran within 500m of the site boundary.

There were no other observations of this species during the survey period. The lack of further observation suggests the bird was passing through the area, and the site is unlikely to be of importance to this species.

5.5 Peregrine

Peregrine was recorded three times throughout the survey period. All three observations were from VP surveys and outside the breeding season. On the 25th of November, a juvenile was recorded hunting north of Robinstown Little on site. It flew at PCH for part of the observation and was later recorded returning south below PCH. On the 18th of February, an adult bird was seen flying west of Carnybrogan below PCH on site and within 500m of the site boundary.

This species was not recorded during any other survey type and is unlikely to have bred within the study area. These observations were likely of birds following prey flocks over the winter period, and the site may be of some importance to this species in this regard.

5.6 Curlew

There were two observations of curlew across the survey period. These were both from VP surveys on the 13th of November outside of the breeding season. The first observation was of a loose flock of 19 birds flying west. The flight was below and at PCH for a proportion of time and was recorded just north of Cloneveran. A flock of 14 birds was also noted flying west at PCH just south of Cloneveran.

Both flocks were travelling over the site. The birds may have been foraging in the area given the suitable feeding area around Newtown lough. However, due to the lack of repeat observations from other survey types, it is more likely the birds were passing through the area. If this is the case it is likely the site is of low importance to this species.

5.7 Lapwing

Lapwing was recorded on three occasions throughout the survey period. All observations were outside the breeding season and from VP surveys. On the 30th of October, there were two observations, first a flock of 6 birds followed by 28 birds. Both flocks were within 500m of the site boundary flying from Cloneveran towards Newtown lough. The flights included periods at PCH. On the 23rd of December, two birds were recorded flying in the same area at PCH.

The birds may have been foraging in the area given the suitable feeding area around Newtown lough. However, due to the lack of repeat observations from other survey types, it is more likely the birds were passing through the area. If this is the case it is likely the site is of low importance to this species.

5.8 Woodcock

Woodcock was recorded a total of 15 times across the survey period. Five observations were made from VP surveys, all outside of the breeding season. All of these were of one or two birds below PCH. One

bird was also recorded from winter walkover surveys flushed from mixed woodland within 500m of the survey buffer.

Dedicated breeding woodcock surveys were carried out during the 2019 breeding season. Woodcock were observed on nine occasions during these surveys within the site boundary or 500m of same. Of the nine flights recorded there were four observations of roding woodcock. All observations were recorded on site or within 500m of the development boundary. This species is likely to have bred on site due to the presence of roding males in suitable breeding habitat.

5.9 Wigeon

Wigeon was recorded three times during the 2019/2020 survey period, all outside the breeding season. Two observations were of a flock of the same number recorded on Newtown lough on the 6th and 7th of January within 500m of the site boundary. A peak count of 45 birds was recorded roosting on the lough at this time. On the 18th of February, eight Wigeon were recorded roosting again on Newtown lough during wildfowl surveys.

The roosting birds only make use of the lough for part of the winter or were passing through the area as their presence was not recorded consistently throughout the winter.

5.10 Herring Gull

Herring gull was recorded three times during the 2019/2020 survey period. Two observations were from VP surveys on the 1st of February. Two flocks flew across the site at PCH from the Cavestown and Rosmead area. A flock (144 birds) flew south-east followed by another flock of 100 birds flying in a south-westerly direction. A herring gull flock (67 birds) were recorded flying over Newtown lough and the surrounding fields during wildfowl surveys on the 4th of February. All observations involved a mix of juvenile and adult birds

All three observations were outside the breeding season. The initial observations on the 1st of February totalling 244 birds, constitutes a regionally important flock. However, the large numbers were likely attracted to some temporary agricultural activity that was occurring in the wider area. Due to the low number of observations over the entire survey period and the lack of suitable breeding habitat, the site is unlikely to be of importance to the species.

5.11 Black-headed Gull

Black-headed gull were recorded on three occasions during the 2019/2020 survey period. All observations were outside the breeding season. Two of these observations were recorded from VP surveys. On the 12th of September and 23rd of December lone birds were recorded travelling over the site in the Cavestown and Rosmead area. During the wildfowl survey on the 20th of March, a lone adult was recorded over Crowinstown lough c1km from the site boundary. All observations were of birds travelling through the area and given the lack of observations in the breeding season, the site is unlikely to be of importance to this species.

5.12 Kestrel

Kestrel was recorded on 19 occasions over the survey period. Of these 17 were recorded from VP surveys, all of which were within 500m of the site boundary for a proportion of the flight. Six of these were recorded at PCH for all or part of the observation. Three observations were during the breeding season with the rest during non-breeding. On the 25th of July four birds were observed flying for ten minutes together, an adult male and three juveniles north of Ballinlig on site below PCH. This observation

confirms breeding for this species. See Appendix 2 figure 2.2 for the location of confirmed breeding observation.

Two observations were recorded during winter walkover surveys. On the 4th of March, a female and male were observed foraging separately in the same area near Ballinlig within 500m of the site boundary. These two birds are likely the same pair given their proximity to the breeding season observation.

5.13 Sparrowhawk

There were 20 observations of Sparrowhawk throughout the survey period. Of these 15 were recorded from VP surveys. Seven of these were at PCH for some or the duration of the observation. All these observations were of individual birds flying over or foraging/hunting. During breeding walkover surveys one male was recorded soaring within 500m of the site boundary. Winter walkover surveys also recorded two observations of individual birds foraging within 500m of the site boundary.

There were two observations during breeding raptor surveys. A female was recorded flying on site on the 26th of June. On the 19th of May, a male was recorded alarm calling briefly south of Cavestown and Rosmead just west of the N52. This observation indicates probable breeding for this species. There is suitable breeding habitat for this species across the site and given the widespread nature and relative frequency of observations, the species is likely breeding in more than one location in the study area.

5.14 Teal

Teal was recorded 15 times throughout the survey period. All observations were outside the breeding season. Only one observation was from VP surveys. A flock of 33 birds was recorded flying briefly at PCH near a small lough near Ballinlig within 500m of the site boundary.

During wildfowl surveys, twelve observations were recorded. Small numbers (less than six birds) were observed on loughs across the study area, with a larger flock regularly recorded on the same small lough near Ballinlig. On the 18th of February, a peak count of 50 teal were recorded on this lough, with smaller numbers recorded here consistently from October to March. Winter walkover surveys also recorded this flock with 37 birds present on the 7th of January and 37 birds again on the 4th of March. This lough holds a regionally important (County Importance) number of teal and will require further consideration at the assessment stage.

5.15 Common Snipe

Common snipe was recorded 18 times throughout the survey period, all outside the breeding season. Thirteen observations were from VP surveys, 9 flights and 4 calling unseen birds within 500m of the site boundary. Of the nine flights, only one was briefly at PCH. The largest flock was six birds on the 28th of February near Cavestown and Rosmead below PCH over improved grassland.

From wildfowl surveys, four observations were recorded, with a max. flock size of three birds around Newtown lough on the 18th of February. Winter walkover surveys recorded one observation of a flushed bird within 500m of the site boundary on the 20th of December. Given all observations were outside of the breeding season and the relatively low number of observations on site, the study area is unlikely to be of importance to this species.

5.16 Jack Snipe

Jack snipe was recorded twice during the survey period outside of the breeding season. Both observations were during wildfowl surveys on Newtown lough, within 500m of the site boundary. On the 4th and 18th of February, a single individual was recorded. Flushed by the surveyor in the same area on both

occasions. Due to its status as a non-breeding species in Ireland and the low numbers encountered, the site is unlikely to be of importance to this species.

5.17 **Shelduck**

This species was observed once during the 2019/2020 survey period, outside the breeding season. On the 6th of January during wildfowl surveys an individual shelduck male was observed associating with a flock of wigeon on Newtown lough within 500m of the site boundary. There were no further records of this species during any other surveys at the site. Due to the lack of suitable breeding habitat on site or in the surrounding areas, it is unlikely that this species regularly uses the site.

5.18 **Lesser Black-backed Gull**

Lesser black-backed gull was recorded on 13 occasions throughout the 2019/2020 season. All but two of these were recorded outside the breeding season. Ten observations were made from VP surveys, of these nine were at PCH for part or the entirety of the observation. The largest flock recorded was on the 20th of March when six birds were observed near Cloneveran at PCH for a time, on site and within 500m of the site boundary. There were also three observations of pairs or lone birds from wildfowl surveys.

Due to the lack of breeding observations and the fact most observations recorded were of birds travelling over the site, the site is unlikely to be of importance for this species.

5.19 **Common Gull**

Common gull was recorded three times throughout the 2019/2020 season. From VP surveys two separate juvenile birds were both recorded at PCH near Cloneveran on the 6th of January outside of the breeding season. This was within 500m of the site boundary. One incidental observation was made during the breeding season of two birds on the 19th of May flying near Ballinlough castle c.1km from the site. These birds were considered flying over rather than breeding in the study area due to a lack of suitable habitat. There were no further records of this species and no breeding activity was recorded.

5.20 **Cormorant**

This species was observed twice during the 2019/2020 season. On the 27th of May, an individual cormorant was observed in flight at PCH on site during the breeding season. Outside the breeding season on the 4th of February a bird was observed feeding on Newtown lough during wildfowl surveys. Due to the lack of suitable breeding habitat on site or in the surrounding areas and the low numbers of observations, it is unlikely that this species uses the site regularly.

5.21 **Little Grebe**

Little grebe was recorded five times over the survey period. VP surveys recorded one observation on the 25th of July a pair were present on a pool west of Ballinlig within 500m of the site boundary for the duration of the survey. During breeding walkover surveys the same pair were recorded with young on the 29th of June. This observation confirmed this species as breeding. See Appendix 2, Figure 2.3 for confirmed breeding location.

Winter walkover surveys recorded two observations both on the 4th of March and within 500m of the site boundary. A pair were recorded feeding on flooded fields north of Cavestown and Rosmead and another pair were recorded on Newtown lough. One observation was recorded from wildfowl surveys of a pair on Newtown lough on the 6th of January.

5.22 Buzzard

Buzzard was recorded 95 times over the survey period. Of these 72 observations were from VP surveys and all but two of these were within 500m of the site boundary. Of these 33 flights were recorded at PCH for all or part of the observation. Most VP survey observations were of one or two birds. The most significant number recorded was on the 20th of March when four birds were recorded soaring together near Newtown on site and within 500m of the site boundary.

Eight observations were recorded during breeding raptor surveys, while four observations were recorded during breeding walkover surveys within 500m of the site boundary. All breeding season observations were of individual birds flying over, foraging or perched, without (breeding) activity of note. There were eleven observations from winter walkover surveys. The highest number of individuals recorded from this survey type was six birds across the study area on the 6th of March.

No breeding behaviour was recorded from any survey type but the continued presence of birds in suitable breeding habitat on site suggest possible breeding for this species, with the possibility of two pairs likely in the study area.

5.23 Mute Swan

This species was recorded on four occasions during the survey period, all outside of the breeding season. Three observations were from wildfowl surveys. The most significant observation being a flock of three adult birds was recorded on the 5th of December on the small lough at Carnybrogan within 500m of the site boundary. During winter walkovers surveys a lone bird was recorded on the 4th of March feeding in a flooded field north of Cavestown and Rosmead. No breeding activity was recorded during the survey period.

5.24 Mallard

Mallard was recorded 19 times over the survey period. There were seven flights recorded from VP surveys with five of these being at PCH for the duration or part of the observation. Three of these observations were during the breeding season. This included the largest flock observed with nine birds recorded on the 29th of July near Ballinlig, within 500m of the site boundary. Breeding walkover surveys made three observations of mallard during the breeding season. Two of these were recorded on the 15th of May within 500m of the site boundary north of Clonarney. Wildfowl surveys recorded mallard on nine occasions on waterbodies in the study area outside the breeding season. The largest flock observed was of seven birds.

Due to the presence of birds in suitable habitat in the breeding season, this species is considered to be a possible breeder.

5.25 Grey Heron

This species was recorded 20 times during the survey period. Of these observations 14 were recorded from VP surveys, four from wildfowl surveys and two from breeding walkover surveys. Eighteen observations were within 500m of the site boundary. Of those recorded from VP, five of these were at PCH for some or all of the observation. All observations were of single birds except on the 18th of February a pair were recorded flying together.

Of these observations, four were within the breeding season and 16 were outside the breeding season. On the 15th of May from VP surveys, a lone bird was observed flying from suitable breeding habitat in mature woodland north of Robinstown Little. The species is regarded as a possible breeder because of this observation.

5.26 Green Sandpiper

Green sandpiper was recorded twice during the 2019/2020 season. On the 3rd of August, one bird was heard calling during a VP survey near Ballinlig. Another bird was recorded on the 12th of September on a small lough in the same location during wildfowl surveys. Both observations were outside the breeding season for this species and considered to be of birds passing through the site while on migration. The low numbers recorded mean the site is unlikely to be of significant importance to this species.

5.27 Moorhen

Moorhen was recorded three times over the survey period. All observations were from wildfowl surveys outside of the breeding season. The most significant observation was on the 7th of November, five birds were recorded feeding on a small pond at Ballinlig within 500m of the site boundary. The remaining observations were at Ballinlough, both of two birds. Due to the low numbers and lack of records in the breeding season, the site is likely of low importance to this species.

5.28 Red-listed Passerines

Meadow pipit was recorded 18 times across the survey period. Only one of these observations was within the breeding season when six birds were recorded near Ballinlig on the 28th of June. Grey wagtail was also recorded in the study area with a total of eight observations. One of these was during the breeding season, with a lone bird calling near Cavestown and Rosmead on the 28th of August. Yellowhammer was recorded once during the breeding season c.1km from the site boundary. These species are all red-listed due to a decline in their breeding population in recent years.

6.

CONCLUSION

Key impacts resulting from the proposed development for local avian receptors could include habitat loss, disturbance, displacement and collision risk. Collision risk should be a key consideration at the assessment stage for many of the target species noted at Crowinstown. However, until the collision risk analysis is undertaken this impact cannot be considered in any detail. All findings should be considered in the context of two full years of surveys, i.e. two breeding seasons and two non-breeding seasons. Two years of flight activity data is required to inform a robust collision risk analysis.

Golden plover was recorded in the study area in regionally important numbers across the non-breeding/winter period (960 birds peak flock size). Given the frequency of observations at the site and time spent at PCH, collision risk is likely to be a key consideration for this species. The magnitude of this impact will only be understood following the collision risk analysis. This species is red-listed in Ireland and will need to be considered at the assessment stage. Other impacts aside from collision risk could include, habitat loss to the development footprint and disturbance displacement during the construction and operational phase of the proposed development.

Occupied breeding Woodcock territories were recorded in two areas to the north and south of Cavestown and Rosmead. Both areas are dominated by mature broadleaf woodland. The territory to the south is on site and the territory to the north is within 500m of the proposed development boundary. The proposed development could result in the direct or indirect (disturbance/displacement) loss of habitat for this species. This potential impact should be considered in greater detail at the assessment stage.

Wintering wildfowl species of conservation concern including whooper swan, curlew, lapwing, herring gull, black-headed gull and wigeon were all recorded within the study area. Most of these observations were of birds travelling over the study area or roosting on waterbodies. Collision risk assessment, once complete will be the key consideration for these species. For those present on waterbodies (wigeon and teal (Amber listed)), habitat loss from disturbance/displacement will need to be examined at the assessment stage.

Both Hen harrier and Merlin were only recorded on one occasion each. While these species are of high conservation concern (Annex I and Red List), both observations were likely passing through the area due to the lack of observations and the time of year in which they were observed. Given the Hen harrier observation was at PCH for a time, collision risk will need to be considered for this species. Disturbance to both these species, while unlikely to be significant based on the rate of occurrence should be considered in greater detail at the assessment stage.

Kestrel (red-listed (BoCCI)) and sparrowhawk were recorded as confirmed breeding/possibly breeding respectively during breeding season 2019 surveys at Crowinstown. Kestrel were confirmed to have successfully bred locally; with fledglings being recorded within 500m of the proposed development site. A possible sparrowhawk breeding territory was recorded within the proposed development site to the south of Cavestown and Rosmead. The proposed development could result in disturbance that displaces breeding kestrel and sparrowhawk. This potential impact should be considered in greater detail at the assessment stage.

Buzzard was recorded utilising the proposed development area and/or adjacent areas for foraging, commuting and possibly breeding. The proposed development could result in habitat loss and disturbance/displacement impacts on this species. These potential impacts should be considered in greater detail at the assessment stage. Given the frequency of observations at the site, collision risk is likely to be a key consideration for kestrel, sparrowhawk and buzzard, however the magnitude of this impact will only be fully understood following the collision risk analysis.

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APPENDIX 1

BIRD TECHNICAL



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Table 1 Target Species List

Species	Latin Name	Rationale
Golden Plover	<i>Pluvialis apricaria</i>	Annex I EU Birds Directive
Whooper Swan	<i>Cygnus cygnus</i>	Annex I EU Birds Directive
Hen Harrier	<i>Circus cyaneus</i>	Annex I EU Birds Directive
Merlin	<i>Falco columbarius</i>	Annex I EU Birds Directive
Peregrine Falcon	<i>Falco peregrinus</i>	Annex I EU Birds Directive
Curlew	<i>Numenius arquata</i>	BoCCI Red Listed
Kestrel	<i>Falco tinnunculus</i>	BoCCI Red Listed
Lapwing	<i>Vanellus vanellus</i>	BoCCI Red Listed
Snipe	<i>Gallinago gallinago</i>	BoCCI Red Listed
Woodcock	<i>Scolopax rusticola</i>	BoCCI Red Listed
Buzzard	<i>Buteo buteo</i>	Schedule IV of the Wildlife Act; 1976 (Raptor Species)
Sparrowhawk	<i>Accipiter nisus</i>	Schedule IV of the Wildlife Act; 1976 (Raptor Species)
Meadow Pipit	<i>Anthus pratensis</i>	BoCCI Red Listed
Grey Wagtail	<i>Motacilla cinerea</i>	BoCCI Red Listed
Redwing	<i>Turdus iliacus</i>	BoCCI Red Listed
Yellowhammer	<i>Emberiza citrinella</i>	BoCCI Red Listed

Table 2 Non-target species list

Species	Latin Name
Blackbird	<i>Turdus merula</i>
Blackcap	<i>Sylvia atricapilla</i>
Black-headed Gull	<i>Chroicocephalus ridibundus</i>
Blue Tit	<i>Cyanistes caeruleus</i>
Bullfinch	<i>Pyrrhula pyrrhula</i>
Chaffinch	<i>Fringilla coelebs</i>
Chiffchaff	<i>Phylloscopus collybita</i>
Coal Tit	<i>Parus ater</i>
Collared Dove	<i>Streptopelia decaocto</i>
Common Gull	<i>Larus canus</i>
Cormorant	<i>Phalacrocorax aristotelis</i>
Duncock	<i>Prunella modularis</i>
Feral Pigeon	<i>Columba livia f. domestica</i>
Fieldfare	<i>Turdus pilaris</i>
Goldcrest	<i>Regulus regulus</i>
Goldfinch	<i>Carduelis carduelis</i>
Great Tit	<i>Parus major</i>
Green Sandpiper	<i>Tringa ochropus</i>
Greenfinch	<i>Chloris chloris</i>
Grey Heron	<i>Ardea cinerea</i>
Grey Wagtail	<i>Motacilla cinerea</i>
Herring Gull	<i>Larus argentatus</i>
Hooded Crow	<i>Corvus cornix</i>
House Martin	<i>Delichon urbicum</i>
House Sparrow	<i>Passer domesticus</i>
Jack Snipe	<i>Lymnocyptes minimus</i>
Jackdaw	<i>Coloeus monedula</i>
Jay	<i>Garrulus glandarius</i>
Lesser Black-backed Gull	<i>Larus fuscus</i>
Lesser Redpoll	<i>Acanthis flammea</i>
Linnet	<i>Carduelis cannabina</i>
Little Grebe	<i>Tachybaptus ruficollis</i>
Long-tailed Tit	<i>Aegithalos caudatus</i>
Magpie	<i>Pica pica</i>
Mallard	<i>Anas platyrhynchos</i>
Mistle Thrush	<i>Turdus viscivorus</i>
Moorhen	<i>Gallinula chloropus</i>
Mute Swan	<i>Cygnus olor</i>
Pied Wagtail	<i>Motacilla alba yarrellii</i>
Raven	<i>Corvus corax</i>
Reed Bunting	<i>Emberiza schoeniclus</i>
Robin	<i>Erithacus rubecula</i>
Rook	<i>Corvus frugilegus</i>
Sand Martin	<i>Riparia riparia</i>
Shelduck	<i>Tadorna tadorna</i>



Species	Latin Name
Siskin	<i>Carduelis spinus</i>
Skylark	<i>Alauda arvensis</i>
Song Thrush	<i>Turdus philomelos</i>
Starling	<i>Sturnus vulgaris</i>
Swallow	<i>Hirundo rustica</i>
Teal	<i>Anas crecca</i>
Wheatear	<i>Oenanthe oenanthe</i>
Wigeon	<i>Mareca penelope</i>
Willow Warbler	<i>Phylloscopus trochilus</i>
Woodpigeon	<i>Columba palumbus</i>
Wren	<i>Troglodytes troglodytes</i>



Table 3 Survey Effort

Date	Survey Method	VP/ transect/ area number	Survey Duration	Weather Conditions	Comments	Surveyor
25/06/2019	Breeding Raptor Survey	MAP2	06:00 starting at 14:40	Light NE, with overcast conditions		ED
25/06/2019	Breeding Woodcock Survey	1	02:15 starting at 21:35	Light SE, clear		ED
26/06/2019	Vantage Point Survey	VP1	06:00 starting at 14:20	Fresh NE winds, sunny		ED
26/06/2019	Breeding Woodcock Survey	2	02:10 starting at 21:35	Light NE winds, no rain, clear		ED
27/06/2019	Breeding Raptor Survey	MAP1	06:00 starting at 14:50	Light E winds, sunny		ED
27/06/2019	Breeding Woodcock Survey	3	02:15 starting at 21:35	Light E, no rain - clear		ED
28/06/2019	Vantage Point Survey	VP2	06:00 starting at 12:10	Light SE winds, overcast but no rain		ED
29/06/2019	Breeding Walkover	MAP 1-BW	06:00 starting at 11:00	Light SW winds, no rain but overcast and warm		ED
18/07/2019	Breeding Raptor Survey	MAP1	06:00 starting at 12:10	Moderate W winds with showers		ED
19/07/2019	Breeding Raptor Survey	MAP2	06:00 starting at 11:10	Light SW, with sunny spells		ED
24/07/2019	Breeding Walkover	MAP 1-BW	06:00 starting at 11:10	Light S winds, warm with sunny spells		ED
25/07/2019	Vantage Point Survey	VP2	06:00 starting at 10:40	Light SE winds, overcast but no rain		ED
26/07/2019	Vantage Point Survey	VP1	06:00 starting at 11:05	Strong SW winds, with heavy showers clearing in late afternoon		ED
12/08/2019	Vantage Point Survey	VP1	01:00 starting at 15:30	Wind Speed and Direction: Light Breeze, w; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100% Rain: Light Showers; Frost: None; Snow: None		DM
12/08/2019	Vantage Point Survey	VP1	02:00 starting at 16:30	Wind Speed and Direction: Light Breeze, w; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100% Rain: None; Frost: None; Snow: None		DM
12/08/2019	Vantage Point Survey	VP1	01:00 starting at 19:00	Wind Speed and Direction: Light Breeze, NW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66% Rain: None; Frost: None; Snow: None		DM
12/08/2019	Vantage Point Survey	VP1	02:00 starting at 20:00	Wind Speed and Direction: Light Air, w; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66% Rain: None; Frost: None; Snow: None		DM
13/08/2019	Vantage Point Survey	VP2	01:00 starting at 15:30	Wind Speed and Direction: Light Air, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100% Rain: Light Showers; Frost: None; Snow: None		DM
13/08/2019	Vantage Point Survey	VP2	02:00 starting at 16:30	Wind Speed and Direction: Light Air, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100% Rain: None; Frost: None; Snow: None		DM
13/08/2019	Vantage Point Survey	VP2	01:00 starting at 19:00	Wind Speed and Direction: Light Air, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100% Rain: None; Frost: None; Snow: None		DM
13/08/2019	Vantage Point Survey	VP2	02:00 starting at 20:00	Wind Speed and Direction: Light Air, s; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100% Rain: None; Frost: None; Snow: None		DM

Date	Survey Method	VP/ transect/ area number	Survey Duration	Weather Conditions	Comments	Surveyor
28/08/2019	Vantage Point Survey	VP1	02:00 starting at 05:30	Wind Speed and Direction: Gentle Breeze, w; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100% Rain: None; Frost: None; Snow: None		DM
28/08/2019	Vantage Point Survey	VP1	01:00 starting at 07:30	Wind Speed and Direction: Light Breeze, w; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100% Rain: None; Frost: None; Snow: None		DM
28/08/2019	Vantage Point Survey	VP1	03:00 starting at 09:00	Wind Speed and Direction: Light Breeze, w; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66% Rain: None; Frost: None; Snow: None		DM
29/08/2019	Vantage Point Survey	VP2	03:00 starting at 05:30	Wind Speed and Direction: Light Breeze, s; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100% Rain: None; Frost: None; Snow: None		DM
29/08/2019	Vantage Point Survey	VP2	02:00 starting at 09:00	Wind Speed and Direction: Gentle Breeze, s; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100% Rain: None; Frost: None; Snow: None		DM
29/08/2019	Vantage Point Survey	VP2	01:00 starting at 11:00	Wind Speed and Direction: Moderate Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100% Rain: None; Frost: None; Snow: None		DM
12/09/2019	Vantage Point Survey	VP1	01:00 starting at 12:10	Wind Speed and Direction: Gentle Breeze, SW; Visibility: Poor (<km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: Drizzle Mist; Frost: None; Snow: None		AOD
12/09/2019	Vantage Point Survey	VP1	01:00 starting at 13:10	Wind Speed and Direction: Light Breeze, SW; Visibility: Moderate (1-2km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: Drizzle Mist; Frost: None; Snow: None		AOD
12/09/2019	Vantage Point Survey	VP1	01:00 starting at 14:10	Wind Speed and Direction: Light Air, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 33-66 Rain: None; Frost: None; Snow: None		AOD
12/09/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 15:10	Wind Speed and Direction: Light Air, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
12/09/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 16:10	Wind Speed and Direction: Light Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Drizzle Mist; Frost: None; Snow: None		AOD
12/09/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 17:10	Wind Speed and Direction: Light Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Drizzle Mist; Frost: None; Snow: None		AOD
19/09/2019	Vantage Point Survey	VP1	01:00 starting at 06:10	Wind Speed and Direction: Calm, S ; Visibility: Limited (<500m); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
19/09/2019	Vantage Point Survey	VP1	01:00 starting at 07:10	Wind Speed and Direction: Calm, S; Visibility: Poor (<km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
19/09/2019	Vantage Point Survey	VP1	01:00 starting at 08:10	Wind Speed and Direction: Calm, S; Visibility: Poor (<km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
19/09/2019	Vantage Point Survey	VP2	01:00 starting at 09:40	Wind Speed and Direction: Calm, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD

Date	Survey Method	VP/ transect/ area number	Survey Duration	Weather Conditions	Comments	Surveyor
19/09/2019	Vantage Point Survey	VP2	01:00 starting at 10:40	Wind Speed and Direction: Light Air, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD
19/09/2019	Vantage Point Survey	VP2	01:00 starting at 11:40	Wind Speed and Direction: Light Air, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD
27/09/2019	Vantage Point Survey	VP2	01:00 starting at 06:30	Wind Speed and Direction: Light Breeze, S; Visibility: Poor (<km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: Heavy Showers; Frost: None; Snow: None		AOD
27/09/2019	Vantage Point Survey	VP2	01:00 starting at 07:30	Wind Speed and Direction: Gentle Breeze, S; Visibility: Poor (<km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: Heavy Showers; Frost: None; Snow: None		AOD
27/09/2019	Vantage Point Survey	VP2	01:00 starting at 08:30	Wind Speed and Direction: Gentle Breeze, S; Visibility: Moderate (1-2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
27/09/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 09:40	Wind Speed and Direction: Gentle Breeze, S; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
27/09/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 10:40	Wind Speed and Direction: Gentle Breeze, S; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
27/09/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 11:40	Wind Speed and Direction: Gentle Breeze, S; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
07/10/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 13:50	Wind Speed and Direction: Moderate Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
07/10/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 14:50	Wind Speed and Direction: Fresh Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
07/10/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 15:50	Wind Speed and Direction: Moderate Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
07/10/2019	Vantage Point Survey	VP1	01:00 starting at 16:50	Wind Speed and Direction: Fresh Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
07/10/2019	Vantage Point Survey	VP1	01:00 starting at 17:50	Wind Speed and Direction: Fresh Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
07/10/2019	Vantage Point Survey	VP1	01:00 starting at 18:50	Wind Speed and Direction: Moderate Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD



Date	Survey Method	VP/ transect/ area number	Survey Duration	Weather Conditions	Comments	Surveyor
08/10/2019	Winter Walkover	500m Survey Radius	01:00 starting at 14:15	Wind Speed and Direction: Fresh Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
08/10/2019	Winter Walkover	500m Survey Radius	01:00 starting at 15:15	Wind Speed and Direction: Fresh Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Heavy Showers; Frost: None; Snow: None		AOD
08/10/2019	Winter Walkover	500m Survey Radius	01:00 starting at 16:15	Wind Speed and Direction: Fresh Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
08/10/2019	Vantage Point Survey	VP2	01:00 starting at 17:50	Wind Speed and Direction: Moderate Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
08/10/2019	Vantage Point Survey	VP2	01:00 starting at 18:50	Wind Speed and Direction: Gentle Breeze, SW; Visibility: Moderate (1-2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Heavy Showers; Frost: None; Snow: None		AOD
10/10/2019	Vantage Point Survey	VP1	01:00 starting at 10:30	Wind Speed and Direction: Gentle Breeze, S; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Drizzle Mist; Frost: None; Snow: None		AOD
10/10/2019	Vantage Point Survey	VP1	01:00 starting at 11:30	Wind Speed and Direction: Moderate Breeze, S; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Drizzle Mist; Frost: None; Snow: None		AOD
10/10/2019	Vantage Point Survey	VP1	01:00 starting at 12:30	Wind Speed and Direction: Moderate Breeze, S; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Drizzle Mist; Frost: None; Snow: None		AOD
10/10/2019	Winter Walkover	500m Survey Radius	01:00 starting at 13:40	Wind Speed and Direction: Light Breeze, S; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
10/10/2019	Winter Walkover	500m Survey Radius	01:00 starting at 14:40	Wind Speed and Direction: Light Breeze, S; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
10/10/2019	Winter Walkover	500m Survey Radius	01:00 starting at 15:40	Wind Speed and Direction: Light Breeze, S; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
14/10/2019	Vantage Point Survey	VP2	01:00 starting at 14:40	Wind Speed and Direction: Gentle Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
14/10/2019	Vantage Point Survey	VP2	01:00 starting at 15:40	Wind Speed and Direction: Light Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
14/10/2019	Vantage Point Survey	VP2	01:00 starting at 16:40	Wind Speed and Direction: Light Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 33-66 Rain: None; Frost: None; Snow: None		AOD

Date	Survey Method	VP/ transect/ area number	Survey Duration	Weather Conditions	Comments	Surveyor
14/10/2019	Vantage Point Survey	VP2	01:00 starting at 18:10	Wind Speed and Direction: Light Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
29/10/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 13:00	Wind Speed and Direction: Gentle Breeze, W; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 33-66 Rain: None; Frost: None; Snow: None		AOD
29/10/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 14:00	Wind Speed and Direction: Gentle Breeze, W; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66 Rain: None; Frost: None; Snow: None		AOD
29/10/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 15:00	Wind Speed and Direction: Gentle Breeze, W; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66 Rain: None; Frost: None; Snow: None		AOD
30/10/2019	Vantage Point Survey	VP3	01:00 starting at 11:30	Wind Speed and Direction: Gentle Breeze, NE; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
30/10/2019	Vantage Point Survey	VP3	01:00 starting at 12:30	Wind Speed and Direction: Fresh Breeze, NE; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
30/10/2019	Vantage Point Survey	VP3	01:00 starting at 13:30	Wind Speed and Direction: Moderate Breeze, NE; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
30/10/2019	Vantage Point Survey	VP3	01:00 starting at 15:00	Wind Speed and Direction: Light Breeze, NE; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
30/10/2019	Vantage Point Survey	VP3	01:00 starting at 16:00	Wind Speed and Direction: Gentle Breeze, E; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
30/10/2019	Vantage Point Survey	VP3	01:00 starting at 17:00	Wind Speed and Direction: Gentle Breeze, E; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
07/11/2019	Vantage Point Survey	VP2	01:00 starting at 12:15	Wind Speed and Direction: Gentle Breeze, N; Visibility: Moderate (1-2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Heavy Showers; Frost: None; Snow: None		AOD
07/11/2019	Vantage Point Survey	VP2	01:00 starting at 13:15	Wind Speed and Direction: Gentle Breeze, N; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Heavy Showers; Frost: None; Snow: None		AOD
07/11/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 14:15	Wind Speed and Direction: Gentle Breeze, N; Visibility: Moderate (1-2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Heavy Rain; Frost: None; Snow: None		AOD
07/11/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 15:15	Wind Speed and Direction: Gentle Breeze, N; Visibility: Moderate (1-2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Heavy Rain; Frost: None; Snow: None		AOD
07/11/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 16:15	Wind Speed and Direction: Gentle Breeze, N; Visibility: Moderate (1-2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Heavy Showers; Frost: None; Snow: None		AOD

Date	Survey Method	VP/ transect/ area number	Survey Duration	Weather Conditions	Comments	Surveyor
08/11/2019	Vantage Point Survey	VP2	01:00 starting at 06:45	Wind Speed and Direction: Light Air, N; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: On site; Snow: None		AOD
08/11/2019	Vantage Point Survey	VP2	01:00 starting at 07:45	Wind Speed and Direction: Light Air, N; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66 Rain: None; Frost: On site; Snow: None		AOD
08/11/2019	Vantage Point Survey	VP2	01:00 starting at 08:45	Wind Speed and Direction: Gentle Breeze, N; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: On site; Snow: None		AOD
08/11/2019	Vantage Point Survey	VP2	01:00 starting at 10:15	Wind Speed and Direction: Light Breeze, N; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD
13/11/2019	Vantage Point Survey	VP3	01:00 starting at 06:50	Wind Speed and Direction: Moderate Breeze, E; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
13/11/2019	Vantage Point Survey	VP3	01:00 starting at 07:50	Wind Speed and Direction: Gentle Breeze, E; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
13/11/2019	Vantage Point Survey	VP3	01:00 starting at 08:50	Wind Speed and Direction: Light Breeze, E; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
13/11/2019	Vantage Point Survey	VP3	03:00 starting at 10:20	Wind Speed and Direction: Light Breeze, E; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
13/11/2019	Vantage Point Survey	VP3	01:00 starting at 13:20	Wind Speed and Direction: Light Breeze, E; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
13/11/2019	Vantage Point Survey	VP3	01:00 starting at 14:20	Wind Speed and Direction: Gentle Breeze, E; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
22/11/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 13:50	Wind Speed and Direction: Light Breeze, SE; Visibility: Moderate (1-2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Heavy Showers; Frost: None; Snow: None		AOD
22/11/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 14:50	Wind Speed and Direction: Light Air, SE; Visibility: Poor (<km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: Heavy Showers; Frost: None; Snow: None		AOD
22/11/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 15:50	Wind Speed and Direction: Light Air, SE; Visibility: Poor (<km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: Heavy Rain; Frost: None; Snow: None		AOD
25/11/2019	Vantage Point Survey	VP1	01:00 starting at 11:30	Wind Speed and Direction: Light Air, SE; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Drizzle Mist; Frost: None; Snow: None		AOD
25/11/2019	Vantage Point Survey	VP1	01:00 starting at 12:30	Wind Speed and Direction: Gentle Breeze, SE; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Drizzle Mist; Frost: None; Snow: None		AOD

Date	Survey Method	VP/ transect/ area number	Survey Duration	Weather Conditions	Comments	Surveyor
25/11/2019	Vantage Point Survey	VP1	01:00 starting at 13:30	Wind Speed and Direction: Gentle Breeze, SE; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Drizzle Mist; Frost: None; Snow: None		AOD
29/11/2019	Vantage Point Survey	VP1	01:00 starting at 07:20	Wind Speed and Direction: Light Air, E; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: On site; Snow: None		AOD
29/11/2019	Vantage Point Survey	VP1	01:00 starting at 08:20	Wind Speed and Direction: Light Breeze, E; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: On site; Snow: None		AOD
29/11/2019	Vantage Point Survey	VP1	01:00 starting at 09:20	Wind Speed and Direction: Light Breeze, E; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: On site; Snow: None		AOD
05/12/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 12:10	Wind Speed and Direction: Fresh Breeze, SW; Visibility: Moderate (1-2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
05/12/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 13:10	Wind Speed and Direction: Fresh Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
05/12/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 14:10	Wind Speed and Direction: Moderate Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
05/12/2019	Vantage Point Survey	VP3	01:00 starting at 15:10	Wind Speed and Direction: Strong Breeze, SW; Visibility: Moderate (1-2km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: Drizzle Mist; Frost: None; Snow: None		AOD
05/12/2019	Vantage Point Survey	VP3	01:00 starting at 16:10	Wind Speed and Direction: Fresh Breeze, SW; Visibility: Poor (<km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: Heavy Showers; Frost: None; Snow: None		AOD
12/12/2019	Vantage Point Survey	VP3	01:00 starting at 13:00	Wind Speed and Direction: Light Breeze, S ; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
12/12/2019	Vantage Point Survey	VP2	01:00 starting at 14:10	Wind Speed and Direction: Moderate Breeze, W; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
12/12/2019	Vantage Point Survey	VP2	01:00 starting at 15:10	Wind Speed and Direction: Light Breeze, W; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
12/12/2019	Vantage Point Survey	VP2	01:00 starting at 16:10	Wind Speed and Direction: Light Air, W; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
19/12/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 11:00	Wind Speed and Direction: Light Air, S; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
19/12/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 12:00	Wind Speed and Direction: Calm, S; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD

Date	Survey Method	VP/ transect/ area number	Survey Duration	Weather Conditions	Comments	Surveyor
19/12/2019	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 13:00	Wind Speed and Direction: Calm, S; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
19/12/2019	Vantage Point Survey	VP1	01:00 starting at 14:10	Wind Speed and Direction: Light Breeze, W; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
19/12/2019	Vantage Point Survey	VP1	01:00 starting at 15:10	Wind Speed and Direction: Light Breeze, W; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: Heavy Showers; Frost: None; Snow: None		AOD
19/12/2019	Vantage Point Survey	VP1	01:00 starting at 16:10	Wind Speed and Direction: Light Breeze, W; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: Heavy Showers; Frost: None; Snow: None		AOD
20/12/2019	Winter Walkover	500m Survey Radius	01:00 starting at 11:00	Wind Speed and Direction: Light Air, W; Visibility: Poor (<km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: None; Frost: On site; Snow: None		AOD
20/12/2019	Winter Walkover	500m Survey Radius	01:00 starting at 12:00	Wind Speed and Direction: Light Air, W; Visibility: Poor (<km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: None; Frost: On site; Snow: None		AOD
20/12/2019	Winter Walkover	500m Survey Radius	01:00 starting at 13:00	Wind Speed and Direction: Light Air, W; Visibility: Poor (<km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: None; Frost: On site; Snow: None		AOD
20/12/2019	Winter Walkover	500m Survey Radius	01:00 starting at 14:00	Wind Speed and Direction: Light Air, W; Visibility: Poor (<km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: None; Frost: On site; Snow: None		AOD
20/12/2019	Winter Walkover	500m Survey Radius	01:00 starting at 15:00	Wind Speed and Direction: Light Air, W; Visibility: Poor (<km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: None; Frost: On site; Snow: None		AOD
20/12/2019	Vantage Point Survey	VP2	01:00 starting at 16:00	Wind Speed and Direction: Light Air, W; Visibility: Poor (<km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: None; Frost: On site; Snow: None		AOD
23/12/2019	Vantage Point Survey	VP3	01:00 starting at 08:00	Wind Speed and Direction: Gentle Breeze, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD
23/12/2019	Vantage Point Survey	VP3	01:00 starting at 09:00	Wind Speed and Direction: Gentle Breeze, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD
23/12/2019	Vantage Point Survey	VP3	01:00 starting at 10:00	Wind Speed and Direction: Moderate Breeze, S; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
23/12/2019	Vantage Point Survey	VP1	01:00 starting at 11:00	Wind Speed and Direction: Moderate Breeze, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
23/12/2019	Vantage Point Survey	VP1	01:00 starting at 12:00	Wind Speed and Direction: Gentle Breeze, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66 Rain: None; Frost: None; Snow: None		AOD
23/12/2019	Vantage Point Survey	VP1	01:00 starting at 13:00	Wind Speed and Direction: Moderate Breeze, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD
23/12/2019	Winter Walkover	500m Survey Radius	01:00 starting at 14:20	Wind Speed and Direction: Light Breeze, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD
23/12/2019	Vantage Point Survey	VP2	01:00 starting at 15:20	Wind Speed and Direction: Light Breeze, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD

Date	Survey Method	VP/ transect/ area number	Survey Duration	Weather Conditions	Comments	Surveyor
23/12/2019	Vantage Point Survey	VP2	01:00 starting at 16:20	Wind Speed and Direction: Light Air, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD
06/01/2020	Vantage Point Survey	VP3	01:00 starting at 09:30	Wind Speed and Direction: Strong Breeze, SE; Visibility: Moderate (1-2km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: Heavy Rain; Frost: None; Snow: None		AOD
06/01/2020	Vantage Point Survey	VP3	01:00 starting at 10:30	Wind Speed and Direction: Fresh Breeze, SE; Visibility: Moderate (1-2km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: Heavy Showers; Frost: None; Snow: None		AOD
06/01/2020	Vantage Point Survey	VP3	01:00 starting at 11:30	Wind Speed and Direction: Gentle Breeze, SE; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
06/01/2020	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 12:45	Wind Speed and Direction: Moderate Breeze, SE; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: Light Showers; Frost: None; Snow: None		AOD
06/01/2020	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 13:45	Wind Speed and Direction: Moderate Breeze, SE; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD
06/01/2020	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 14:45	Wind Speed and Direction: Moderate Breeze, SE; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD
07/01/2020	Winter Walkover	500m Survey Radius	01:00 starting at 10:00	Wind Speed and Direction: Moderate Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
07/01/2020	Winter Walkover	500m Survey Radius	01:00 starting at 11:00	Wind Speed and Direction: Fresh Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
07/01/2020	Winter Walkover	500m Survey Radius	01:00 starting at 12:00	Wind Speed and Direction: Fresh Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
07/01/2020	Winter Walkover	500m Survey Radius	01:00 starting at 13:00	Wind Speed and Direction: Fresh Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
07/01/2020	Winter Walkover	500m Survey Radius	01:00 starting at 14:00	Wind Speed and Direction: Fresh Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
07/01/2020	Winter Walkover	500m Survey Radius	01:00 starting at 15:00	Wind Speed and Direction: Fresh Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		AOD
16/01/2020	Vantage Point Survey	VP3	01:00 starting at 07:40	Wind Speed and Direction: Strong Breeze, SE; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Drizzle Mist; Frost: None; Snow: None		AOD

Date	Survey Method	VP/ transect/ area number	Survey Duration	Weather Conditions	Comments	Surveyor
16/01/2020	Vantage Point Survey	VP3	01:00 starting at 08:40	Wind Speed and Direction: Strong Breeze, SE; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
16/01/2020	Vantage Point Survey	VP3	01:00 starting at 09:40	Wind Speed and Direction: Fresh Breeze, SE; Visibility: Moderate (1-2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Heavy Showers; Frost: None; Snow: None		AOD
16/01/2020	Vantage Point Survey	VP2	01:00 starting at 10:50	Wind Speed and Direction: Fresh Breeze, SE; Visibility: Moderate (1-2km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: Heavy Rain; Frost: None; Snow: None		AOD
16/01/2020	Vantage Point Survey	VP2	01:00 starting at 11:50	Wind Speed and Direction: Fresh Breeze, SE; Visibility: Moderate (1-2km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: Heavy Rain; Frost: None; Snow: None		AOD
24/01/2020	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 11:50	Wind Speed and Direction: Light Breeze, S; Visibility: Good (>2km); Cloud Height: <150m; Cloud Cover %: 66-100 Rain: None; Frost: On site; Snow: None		AOD
24/01/2020	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 12:50	Wind Speed and Direction: Light Breeze, S; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: On site; Snow: None		AOD
24/01/2020	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 13:50	Wind Speed and Direction: Light Breeze, S; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
24/01/2020	Vantage Point Survey	VP1	01:00 starting at 14:50	Wind Speed and Direction: Light Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
24/01/2020	Vantage Point Survey	VP1	01:00 starting at 15:50	Wind Speed and Direction: Light Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
24/01/2020	Vantage Point Survey	VP1	01:00 starting at 16:50	Wind Speed and Direction: Light Breeze, SW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		AOD
31/01/2020	Vantage Point Survey	VP2	01:00 starting at 07:30	Wind Speed and Direction: Fresh Breeze, S; Visibility: Moderate (1-2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Heavy Showers; Frost: On site; Snow: None		AOD
31/01/2020	Vantage Point Survey	VP2	01:00 starting at 08:30	Wind Speed and Direction: Fresh Breeze, S; Visibility: Moderate (1-2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: On site; Snow: None		AOD
31/01/2020	Vantage Point Survey	VP2	01:00 starting at 09:30	Wind Speed and Direction: Fresh Breeze, S; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Drizzle Mist; Frost: On site; Snow: None		AOD
31/01/2020	Vantage Point Survey	VP2	01:00 starting at 11:00	Wind Speed and Direction: Fresh Breeze, S; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: None; Frost: On site; Snow: None		AOD
01/02/2020	Vantage Point Survey	VP1	01:00 starting at 07:20	Wind Speed and Direction: Fresh Breeze, W; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: Drizzle Mist; Frost: None; Snow: None		AOD

Date	Survey Method	VP/ transect/ area number	Survey Duration	Weather Conditions	Comments	Surveyor
01/02/2020	Vantage Point Survey	VP1	01:00 starting at 08:20	Wind Speed and Direction: Fresh Breeze, W; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD
01/02/2020	Vantage Point Survey	VP1	01:00 starting at 09:20	Wind Speed and Direction: Fresh Breeze, W; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD
10/03/2020	Vantage Point Survey	VP1	01:00 starting at 06:20	Wind Speed and Direction: Gentle Breeze, W; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Drizzle Mist; Frost: None; Snow: None	drizzle, very light rain	KOC
10/03/2020	Vantage Point Survey	VP1	01:00 starting at 07:20	Wind Speed and Direction: Moderate Breeze, W; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		KOC
10/03/2020	Vantage Point Survey	VP1	01:00 starting at 08:20	Wind Speed and Direction: Moderate Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		KOC
10/03/2020	Vantage Point Survey	VP1	01:00 starting at 09:50	Wind Speed and Direction: Moderate Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		KOC
10/03/2020	Vantage Point Survey	VP1	01:00 starting at 10:50	Wind Speed and Direction: Fresh Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		KOC
10/03/2020	Vantage Point Survey	VP1	01:00 starting at 11:50	Wind Speed and Direction: Fresh Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66 Rain: None; Frost: None; Snow: None		KOC
11/03/2020	Vantage Point Survey	VP2	01:00 starting at 06:20	Wind Speed and Direction: Moderate Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		KOC
11/03/2020	Vantage Point Survey	VP2	01:00 starting at 07:20	Wind Speed and Direction: Moderate Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66 Rain: Light Showers; Frost: None; Snow: None	short shower	KOC
11/03/2020	Vantage Point Survey	VP2	01:00 starting at 08:20	Wind Speed and Direction: Moderate Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		KOC
11/03/2020	Vantage Point Survey	VP2	01:00 starting at 09:50	Wind Speed and Direction: Gentle Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		KOC
11/03/2020	Vantage Point Survey	VP2	01:00 starting at 10:50	Wind Speed and Direction: Gentle Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: None; Frost: None; Snow: None		KOC
11/03/2020	Vantage Point Survey	VP2	01:00 starting at 11:50	Wind Speed and Direction: Gentle Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: Light Showers; Frost: None; Snow: None		KOC
03/03/2020	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 12:30	Wind Speed and Direction: Light Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66 Rain: None; Frost: None; Snow: None		AOD

Date	Survey Method	VP/ transect/ area number	Survey Duration	Weather Conditions	Comments	Surveyor
03/03/2020	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 13:30	Wind Speed and Direction: Light Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66 Rain: None; Frost: None; Snow: None		AOD
03/03/2020	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 14:30	Wind Speed and Direction: Light Air, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66 Rain: None; Frost: None; Snow: None		AOD
04/03/2020	Winter Walkover	500m Survey Radius	01:00 starting at 11:00	Wind Speed and Direction: Light Air, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD
04/03/2020	Winter Walkover	500m Survey Radius	01:00 starting at 12:00	Wind Speed and Direction: Light Air, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD
04/03/2020	Winter Walkover	500m Survey Radius	01:00 starting at 13:00	Wind Speed and Direction: Light Air, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66 Rain: None; Frost: None; Snow: None		AOD
04/03/2020	Winter Walkover	500m Survey Radius	01:00 starting at 14:00	Wind Speed and Direction: Light Air, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66 Rain: None; Frost: None; Snow: None		AOD
04/03/2020	Winter Walkover	500m Survey Radius	01:00 starting at 15:00	Wind Speed and Direction: Light Air, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66 Rain: None; Frost: None; Snow: None		AOD
04/03/2020	Winter Walkover	500m Survey Radius	01:00 starting at 16:00	Wind Speed and Direction: Light Air, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66 Rain: None; Frost: None; Snow: None		AOD
20/03/2020	Vantage Point Survey	VP3	01:00 starting at 13:00	Wind Speed and Direction: Gentle Breeze, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66 Rain: None; Frost: None; Snow: None	3hrs missed due to covid restrictions	AOD
20/03/2020	Vantage Point Survey	VP3	01:00 starting at 14:00	Wind Speed and Direction: Moderate Breeze, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66 Rain: None; Frost: None; Snow: None		AOD
20/03/2020	Vantage Point Survey	VP3	01:00 starting at 15:00	Wind Speed and Direction: Gentle Breeze, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66 Rain: None; Frost: None; Snow: None		AOD
20/03/2020	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 16:00	Wind Speed and Direction: Gentle Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD
20/03/2020	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 17:00	Wind Speed and Direction: Gentle Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD
20/03/2020	Wildfowl Distribution Survey	1km Survey Radius	01:00 starting at 18:00	Wind Speed and Direction: Gentle Breeze, SW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None; Snow: None		AOD

Table 4 Vantage Point Survey Observations

Map Ref.	Date	VP	Species	No. of Birds	Time of flight	Duration of flight (s)	Duration Within 500m of Site	Duration Outside 500m of Site	Band 1 (0-10m)	Band 2 (10-25m)	Band 3 PCH (25-175m)	Band 4 (>175m)	Notes on habitat and activity	Comments	Survey or
BZ001	26/06/2019	VP1	Buzzard	1	16:15	620	600	20	20	35	565	0	W, (Woodland and scrub) GA1, (Improved agricultural grassland) soaring and flying		ED
BZ002	26/06/2019	VP1	Buzzard	1	18:50	70	70	0	0	0		70	W, (Woodland and scrub) GA1, (Improved agricultural grassland) soaring very high. Possibly same bird as above		ED
H001	26/06/2019	VP1	Grey Heron	1	16:20	20			20				W, (Woodland and scrub) In flight		ED
SH001	28/06/2019	VP2	Sparrowhawk	1	14:18	15	0	15	15	0		0	GA1, (Improved agricultural grassland) Flying		ED
BZ003	28/06/2019	VP2	Buzzard	1	15:20	35	20	15	0	35	0		GA1, (Improved agricultural grassland) WD4, (Conifer plantation) Soaring		ED
BZ004	28/06/2019	VP2	Buzzard	2	15:35	55	50	5	0	0	55	0	GA1, (Improved agricultural grassland) WD4, (Conifer plantation) Pair soaring	Probably a breeding pair	ED
BZ005	28/06/2019	VP2	Buzzard	1	15:55	70	70	0	0	0	70	0	WD4, (Conifer plantation) Soaring		ED
BZ006	28/06/2019	VP2	Buzzard	2	16:40	140	140	0	0	0	140	0	WD4, (Conifer plantation) Pair soaring	Probably a breeding pair	ED
SH002	25/07/2019	VP2	Sparrowhawk	1	11:48	25	20	5	25	0		0	GA1, (Improved agricultural grassland) Hunting/flying		ED
K001	25/07/2019	VP2	Kestrel	4	12:35	600	600	0	0	600	0	0	GA1, (Improved agricultural grassland) W, (Woodland and scrub) Flying	Male with three juvs	ED
BZ007	25/07/2019	VP2	Buzzard	1	12:48:35	35	30	5	0	35	0	0	GA1, (Improved agricultural grassland) W, (woodland and scrub) Flying		ED
K002	25/07/2019	VP2	Kestrel	1	15:25	20	20	0	0	20	0	0	W, (Woodland and scrub) Flying		ED
LG001	25/07/2019	VP2	Little Grebe	1									GA1, (Improved agricultural grassland) Mixed broadleaved/conifer woodland perched on site	Breeding there. Present throughout VP Frame	ED

Map Ref.	Date	VP	Species	No. of Birds	Time of flight	Duration of flight (s)	Duration Within 500m of Site	Duration Outside 500m of Site	Band 1 (0-10m)	Band 2 (10-25m)	Band 3 PCH (25-175m)	Band 4 (>175m)	Notes on habitat and activity	Comments	Survey or
BZ008	26/07/2019	VP1	Buzzard	1	12:10	45	45	0	0	0	45	0	W, (Woodland and scrub) Soaring		ED
BZ009	26/07/2019	VP1	Buzzard	1	16:18	15	15	0	0	15		0	W, (Woodland and scrub) Flying		ED
H002	12/08/2019	VP1	Grey Heron	1	16:40	60	60				60		GA1, (Improved agricultural grassland) Travelling		DM
GP001	12/08/2019	VP1	Golden Plover	4	18:20	65	65				65		GA1, (Improved agricultural grassland) Travelling		DM
BZ010	13/08/2019	VP2	Buzzard	1	16:35	35	35				35		GA1, (Improved agricultural grassland) Travelling		DM
SH003	13/08/2019	VP2	Sparrowhawk	1	19:00	30		30	30				GA1, (Improved agricultural grassland) Male-hunting		DM
K003	13/08/2019	VP2	Kestrel	1	19:05	40	40			40			GA1, (Improved agricultural grassland) Hunting		DM
LB001	13/08/2019	VP2	Lesser Black-backed Gull	3	19:20	90	35	55			90		GA1, (Improved agricultural grassland) Travelling		DM
GE001	13/08/2019	VP2	Green Sandpiper	1	21:25								GA1, (Improved agricultural grassland) Heard only		DM
SH004	28/08/2019	VP1	Sparrowhawk	1	11:55	120	120				20	100	GA1, (Improved agricultural grassland) Circling		DM
BZ011	29/08/2019	VP2	Buzzard	1	06:30										DM
BZ012	29/08/2019	VP2	Buzzard	1	11:15	115		115			40	75	GA1, (Improved agricultural grassland) Mixed broadleaved/conifer woodland Hunting		DM
MA001	29/08/2019	VP2	Mallard	9	11:25	120	120				120		GA1, (Improved agricultural grassland) Mixed broadleaved/conifer woodland Travelling		DM
LB002	29/08/2019	VP2	Lesser Black-backed Gull	2	11:55	155	130	25			55	100	GA1, (Improved agricultural grassland) Mixed broadleaved/conifer woodland Travelling		DM
BH001	12/09/2019	VP1	Black-headed Gull	1	14:58	200	200	0		0	200		GA1, (Improved agricultural grassland)	travelling north	AOD

Map Ref.	Date	VP	Species	No. of Birds	Time of flight	Duration of flight (s)	Duration Within 500m of Site	Duration Outside 500m of Site	Band 1 (0-10m)	Band 2 (10-25m)	Band 3 PCH (25-175m)	Band 4 (>175m)	Notes on habitat and activity	Comments	Survey or
K004	19/09/2019	VP2	Kestrel	1	10:22	15	10	5		15	0		ED4, (Active quarries and mines)	female flew from quarry near vp onto site	AOD
K005	19/09/2019	VP2	Kestrel	1	11:00	18	18	0		8	0		GA1, (Improved agricultural grassland)	same female flying low perched on ground then flew toward site	AOD
K006	19/09/2019	VP2	Kestrel	1	11:58	240	240	0		20	0		WD4, (Conifer plantation)	same female perched on pole with prey	AOD
K007	19/09/2019	VP2	Kestrel	1	12:13	25	25	0		25	0		GA1, (Improved agricultural grassland)	female again hovering	AOD
BZ013	19/09/2019	VP2	Buzzard	1	12:33	420	400	20		420	0		GA1, (Improved agricultural grassland)	soaring	AOD
MA002	27/09/2019	VP2	Mallard	6	09:12	40	20	20		40	0		GA1, (Improved agricultural grassland)	travelling flock towards site	AOD
BZ014	07/10/2019	VP1	Buzzard	1	17:29	170	170	0		70	100		GA1, (Improved agricultural grassland) Mixed broadleaved/conifer woodland Soaring NW	soaring nw	AOD
BZ015	07/10/2019	VP1	Buzzard	1	18:02	25	25	0		25	0		GA1, (Improved agricultural grassland) Flew SE	flew se	AOD
K008	14/10/2019	VP2	Kestrel	1	15:02	35	35	0		35	0		GA1, (Improved agricultural grassland) ED4, (Active quarries and mines) hunting in quarry then flew to site	hunting in quarry then flew to site	AOD
BZ016	14/10/2019	VP2	Buzzard	2	16:03	600	600	0		200	300		WD4, (Conifer plantation) pair soaring and calling	pair soaring and calling	AOD
K009	14/10/2019	VP2	Kestrel	1	16:05	15	15	0		15	0		WD4, (Conifer plantation) female foraging	female foraging	AOD
BZ017	30/10/2019	3	Buzzard	1	11:45	15	15	0		15	0		GA1, (Improved agricultural grassland) flew west	flew west	AOD
BZ018	30/10/2019	3	Buzzard	1	11:50	240	240	0		40	200		GA1, (Improved agricultural grassland) Soaring	soaring	AOD
BZ019	30/10/2019	3	Buzzard	1	11:56	45	45	0		0	45		GA1, (Improved agricultural grassland) Soaring	soaring	AOD
BZ020	30/10/2019	3	Buzzard	1	12:00	10	10	0		5	0		GA1, (Improved agricultural grassland) Flew south	flew south	AOD

Map Ref.	Date	VP	Species	No. of Birds	Time of flight	Duration of flight (s)	Duration Within 500m of Site	Duration Outside 500m of Site	Band 1 (0-10m)	Band 2 (10-25m)	Band 3 PCH (25-175m)	Band 4 (>175m)	Notes on habitat and activity	Comments	Survey or
L001	30/10/2019	3	Lapwing	6	12:02	150	150	0		10	140		GA1, (Improved agricultural grassland) Flew east	flew east	AOD
BZ021	30/10/2019	3	Buzzard	1	12:07	6	6	0		4	0		GA1, (Improved agricultural grassland) Flew east	flew east	AOD
BZ022	30/10/2019	3	Buzzard	2	12:18	40	40	0		30	0		GA1, (Improved agricultural grassland) Flew east	flew east	AOD
BZ023	30/10/2019	3	Buzzard	1	12:25	12	12	0		0	12		GA1, (Improved agricultural grassland) WD4, (Conifer plantation) Mixed broadleaved/conifer woodland Soaring	soaring	AOD
MA003	30/10/2019	3	Mallard	8	12:38	50	50	0		20	30		GA1, (Improved agricultural grassland) Flew south	flew south	AOD
K010	30/10/2019	3	Kestrel	1	12:41	180	180	0		80	100		GA1, (Improved agricultural grassland) Foraging male moving south	foraging male moving south	AOD
BZ024	30/10/2019	3	Buzzard	1	12:43	360	360	0		300	0		GA1, (Improved agricultural grassland) Flew east	flew east	AOD
ML001	30/10/2019	3	Merlin	1	12:51	10	10	0		5	0		GA1, (Improved agricultural grassland) Adult male flew south	adult male flew south	AOD
BZ025	30/10/2019	3	Buzzard	1	12:56	20	20	0		15	0		GA1, (Improved agricultural grassland) Soaring	soaring	AOD
L002	30/10/2019	3	Lapwing	18	12:58	120	120	0		0	120		GA1, (Improved agricultural grassland) Flew east	flew east	AOD
K011	30/10/2019	3	Kestrel	1	12:59	300	300	0		120	150		GA1, (Improved agricultural grassland) Adult female foraging flew east	adult female foraging flew east	AOD
BZ026	30/10/2019	3	Buzzard	1	13:17	120	120	0		120	0		GA1, (Improved agricultural grassland) Flew east	flew east	AOD
BZ027	30/10/2019	3	Buzzard	1	13:37	30	30	0		30	0		GA1, (Improved agricultural grassland) Flew West	flew west	AOD
HH001	30/10/2019	3	Hen Harrier	1	15:07	45	45	0		10	35		GA1, (Improved agricultural grassland) Ringtail flew high over site then dropped low moving west foraging	ringtail flew high over site then dropped low moving west foraging	AOD

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BZ028	30/10/2019	3	Buzzard	2	11:45	22	22	0		22	0		GA1, (Improved agricultural grassland) Flew west	flew west	AOD
BZ029	30/10/2019	3	Buzzard	1	16:37	50	50	0		50	0		GA1, (Improved agricultural grassland) flew south	flew south	AOD
SH005	30/10/2019	3	Sparrowhawk	1	16:49	135	135	0		100	20		GA1, (Improved agricultural grassland) flew east	flew east	AOD
H003	30/10/2019	3	Grey Heron	1	17:05	14	14	0		14	0		GA1, (Improved agricultural grassland) flew south	flew south	AOD
SN001	30/10/2019	3	Common Snipe	2	17:27	0	0	0		0	0		GA1, (Improved agricultural grassland) 2 calling after dark	2 calling after dark	AOD
WK001	08/11/2019	VP2	Woodcock	1	07:01	3	3	0		3	0		GA1, (Improved agricultural grassland) WD4, (Conifer plantation) flew south	flew south	AOD
WK002	08/11/2019	VP2	Woodcock	1	07:07	4	4	0		4	0		GA1, (Improved agricultural grassland) flew south	flew south	AOD
SN002	08/11/2019	VP2	Common Snipe	1	09:25	15	15	0		10	0		GA1, (Improved agricultural grassland) flew south	flew south	AOD
SH006	08/11/2019	VP2	Sparrowhawk	1	11:03	2	2	0		0	0		GA1, (Improved agricultural grassland) female low	female low	AOD
K012	08/11/2019	VP2	Kestrel	1	11:06	10	10	0		10	0		GA1, (Improved agricultural grassland) WD4, (Conifer plantation) female foraging	female foraging	AOD
MA004	13/11/2019	3	Mallard	6	08:21	15	15	0		0	15		GA1, (Improved agricultural grassland) flew south	flew south	AOD
CA001	13/11/2019	3	Cormorant	1	09:17	45	45	0		10	35		GA1, (Improved agricultural grassland) Flew NW	flew nw	AOD
CU001	13/11/2019	3	Curlew	19	10:41	180	180	0		100	80		GA1, (Improved agricultural grassland) FLEW WEST. LOOSE FLOCK	flew west. loose flock	AOD
CU002	13/11/2019	3	Curlew	14	11:43	100	100	0		0	100		GA1, (Improved agricultural grassland) WD4, (Conifer plantation) FLEW WEST	flew west	AOD
BZ030	13/11/2019	3	Buzzard	1	12:17	120	120	0		100	0		WD4, (Conifer plantation) GA1, (Improved agricultural grassland) FLEW EAST SOARING	flew east soaring	AOD

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BZ031	13/11/2019	3	Buzzard	1	12:22	25	25	0		15	0		GA1, (Improved agricultural grassland) Mixed broadleaved/conifer woodland WD4, (Conifer plantation) FLEW WEST.MOBBED BY JD	flew west. mobbed by JD	AOD
K013	13/11/2019	3	Kestrel	1	12:33	300	300	0		200	0		Mixed broadleaved/conifer woodland GA1, (Improved agricultural grassland) FORAGING BIRD NO SEX/AGE	foraging bird, no sex/age	AOD
SN003	25/11/2019	1	Common Snipe	1	12:08	6	6	0		0	0		GA1, (Improved agricultural grassland) FLUSHED	flushed	AOD
PE001	25/11/2019	1	Peregrine Falcon	1	12:43	70	70	0		30	30		GA1, (Improved agricultural grassland) Mixed broadleaved/conifer woodland WD4, (Conifer plantation) JUV BIRD FLEW INTO WP FLOCK CHASING FLEW NE	juv bird flew into WP flock chasing flew ne	AOD
BZ032	25/11/2019	1	Buzzard	1	13:15	45	45	0		30	0		Mixed broadleaved/conifer woodland GA1, (Improved agricultural grassland) FLEW ALONG HEDGLINE SW	flew along headline SW	AOD
PE002	25/11/2019	1	Peregrine Falcon	1	13:25	10	10	0		10	0		GA1, (Improved agricultural grassland) JUV RETURNING THE WAY IT CAME TO WEST	juv returning the way it came to west	AOD
SH007	29/11/2019	1	Sparrowhawk	1	09:42	30	30	0		0	30		GA1, (Improved agricultural grassland) FEMALE FLYING HIGH EAST	female flying high east	AOD
BZ033	05/12/2019	3	Buzzard	1	15:43	22	22	0		22	0		GA1, (Improved agricultural grassland) FLYING	flying	AOD
MA005	05/12/2019	3	Mallard	2	16:12	20	20	0		0	20		GA1, (Improved agricultural grassland) FLYING WEST	flying west	AOD
H004	05/12/2019	3	Grey Heron	1	16:50	8	8	0		0	0		GA1, (Improved agricultural grassland) FLYING NEAR STREAM	flying near stream	AOD

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SN004	05/12/2019	3	Common Snipe	1	16:58	5	5	0		3	0		GA1, (Improved agricultural grassland) FLUSHED	flushed	AOD
K014	12/12/2019	3	Kestrel	1	13:20	140	140	0		40	80		GA1, (Improved agricultural grassland) FORAGING.NO AGE/SEX MOVING WEST	foraging.no age/sex moving west	AOD
GP002	12/12/2019	3	Golden Plover	400	14:00	3600	800	1000		500	1000		GA1, (Improved agricultural grassland) GS4, (Wet grassland) Mixed broadleaved/conifer woodland MOVING FLOCK FOR ENTIRE HOUR OF VP	moving flock for entire hour of VP	AOD
SH008	12/12/2019	2	Sparrowhawk	1	14:13	20	20	0		10	0		Mixed broadleaved/conifer woodland FEMALE	female	AOD
K015	12/12/2019	2	Kestrel	1	14:28	600	600	0		250	250		WD4, (Conifer plantation) Mixed broadleaved/conifer woodland GS4, (Wet grassland) FORAGING ON SITE.MOVING SW	foraging on site. Moving SW	AOD
SH009	12/12/2019	2	Sparrowhawk	1	16:22	6	6	0		0	0		GA1, (Improved agricultural grassland) FEMALE	female	AOD
GP003	19/12/2019	1	Golden Plover	800	14:05	1320	0	1320		420	900		GA1, (Improved agricultural grassland) WD4, (Conifer plantation) LARGE FLOCK JUST OFF SITE	large flock just off site	AOD
GP004	19/12/2019	1	Golden Plover	80	14:20	35	35	0		0	35		GA1, (Improved agricultural grassland) SMALLER FLOCK FLEW TOWARD LARGER FLOCK MAKING 880 BIRDS JUST OFF SITE.	smaller flock flew toward larger flock making 880 birds just off site.	AOD
GP005	19/12/2019	1	Golden Plover	960	14:35	1260	0	1260		0	1260		WD4, (Conifer plantation) Mixed broadleaved/conifer woodland GA1, (Improved agricultural grassland) LARGEST COUNT. FLOCK MOVING HIGH JUST OFF SITE.	largest count. flock moving high just off site.	AOD

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H005	19/12/2019	1	Grey Heron	1	15:14	14	14	0		0	0		GA1, (Improved agricultural grassland) FLEW LOW NEAR STONYFORD RIVER	flew low near Stonyford river	AOD
SN005	19/12/2019	1	Common Snipe	1	15:15	8	8	0		5	3		GA1, (Improved agricultural grassland) SN FLUSHED	SN flushed	AOD
SN006	19/12/2019	1	Common Snipe	2	16:17	5	5	0		5	0		GA1, (Improved agricultural grassland) PAIR FLYING	pair flying	AOD
K016	23/12/2019	3	Kestrel	1	08:30	300	250	50		100	150		GA1, (Improved agricultural grassland) FORAGING MALE	foraging male	AOD
GP006	23/12/2019	3	Golden Plover	90	09:16	660	400	260		160	500		GA1, (Improved agricultural grassland) WD4, (Conifer plantation) Mixed broadleaved/conifer woodland FLOCK	flock	AOD
BZ034	23/12/2019	3	Buzzard	1	09:22	20	20	0		20	0		GA1, (Improved agricultural grassland) FLEW EAST	flew east	AOD
GP007	23/12/2019	3	Golden Plover	500	10:15	2940	2000	940		1000	1000		GA1, (Improved agricultural grassland) LARGE FLOCK MOVING OVER SITE	large flock moving over site	AOD
L003	23/12/2019	3	Lapwing	2	10:15	130	130	0		30	100		GA1, (Improved agricultural grassland) PAIR FLEW EAST	pair flew east	AOD
GP008	23/12/2019	3	Golden Plover	400	10:46	1560	0	1560		560	800		GA1, (Improved agricultural grassland) FLOCK OFF SITE	flock off site	AOD
GP009	23/12/2019	1	Golden Plover	340	12:01	3480	0	3480		500	2000		GA1, (Improved agricultural grassland) WD4, (Conifer plantation) FLOCK OFF SITE	flock off site	AOD
SH010	23/12/2019	1	Sparrowhawk	1	11:39	30	30	0		0	30		GA1, (Improved agricultural grassland) FEMALE SOARING	female soaring	AOD
BH002	23/12/2019	1	Black-headed Gull	1	11:58	15	15	0		0	15		GA1, (Improved agricultural grassland) WD4, (Conifer plantation) LONE BIRD	lone bird	AOD
GP010	23/12/2019	1	Golden Plover	90	13:37	1800	0	1800		200	1200		GA1, (Improved agricultural grassland) WD4, (Conifer plantation) SMALLER FLOCK THAN EARLIER.OFF SITE	smaller flock than earlier. Off site	AOD

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BZ035	23/12/2019	2	Buzzard	2	16:01	12	12	0		12	0		GA1, (Improved agricultural grassland) WD4, (Conifer plantation) PAIR	pair	AOD
H006	06/01/2020	3	Grey Heron	1	10:57	8	8	0					GA1, (Improved agricultural grassland)		AOD
LB003	06/01/2020	3	Lesser Black-backed Gull	2	11:31	190	170	20		40	150		Mixed broadleaved/conifer woodland GA1, (Improved agricultural grassland) ADULT PAIR SLOW EAST	adult pair slow east	AOD
SH011	06/01/2020	3	Sparrowhawk	1	11:37	120	120	0	30	90	0		GA1, (Improved agricultural grassland) MOBBED BY HC	mobbed by HC	AOD
SN007	06/01/2020	3	Common Snipe	1	11:40	4	4	0	4	0	0		GA1, (Improved agricultural grassland) Mixed broadleaved/conifer woodland FLUSHED NEAR VP	flushed near VP	AOD
CM001	06/01/2020	3	Common Gull	1	11:55	70	70	0	0	0	70		GA1, (Improved agricultural grassland) JUV TRAVELLING S	Juv travelling s	AOD
CM002	06/01/2020	3	Common Gull	1	12:20	45	45	0	0	0	45		GA1, (Improved agricultural grassland) JUV TRAVELLING	Juv travelling	AOD
SN008	16/01/2020	3	Common Snipe	1	09:04	12	12	0	6	6	0		Mixed broadleaved/conifer woodland FLEW FROM SITE	flew from site	AOD
BZ036	16/01/2020	3	Buzzard	1	09:17	30	30	0	30	0	0		GA1, (Improved agricultural grassland) FL5, (Eutrophic lakes) FLYING LOW IN WIND	flying low in wind	AOD
LB004	16/01/2020	3	Lesser Black-backed Gull	1	10:19	45	45	0	0	20	25		GA1, (Improved agricultural grassland) Mixed broadleaved/conifer woodland OVER LOUGH	over lough	AOD
SH012	24/01/2020	1	Sparrowhawk	1	16:03	360	360	0	60	100	200		GA1, (Improved agricultural grassland) SOARING	soaring	AOD
LB005	24/01/2020	1	Lesser Black-backed Gull	1	16:04	70	70	0			70		GA1, (Improved agricultural grassland) TRAVELLING	travelling	AOD
H007	24/01/2020	1	Grey Heron	1	16:17	12	12	0	0	12	0		GA1, (Improved agricultural grassland) FLEW SE	flew se	AOD
GP011	24/01/2020	1	Golden Plover	75	16:30	80	80	0	0	0	80		GA1, (Improved agricultural grassland) FLEW OVER SITE	flew over site	AOD

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GP012	24/01/2020	1	Golden Plover	75	16:42	180	180	0	0	50	130		WD4, (Conifer plantation) MOVING FLOCK	moving flock	AOD
T001	31/01/2020	2	Teal	33	09:45	8	8	0	0	4	4		WD4, (Conifer plantation) FLOCK FROM LOUGH	flock from lough	AOD
BZ037	31/01/2020	2	Buzzard	1	11:02	140	140	0	100	40	0		GA1, (Improved agricultural grassland) LANDED IN WD4	landed in wd4	AOD
LB006	31/01/2020	2	Lesser Black-backed Gull	2	11:17	180	180	0			180		WD4, (Conifer plantation) FLEW SE	flew se	AOD
BZ038	31/01/2020	2	Buzzard	2	11:27	480	480	0	0	180	300		WD4, (Conifer plantation) GA1, (Improved agricultural grassland) SOARING PAIR	soaring pair	AOD
GP013	01/02/2020	1	Golden Plover	40	07:49	240	240	0	0	0	240		GA1, (Improved agricultural grassland) MOVING FLOCK	moving flock	AOD
BZ039	01/02/2020	1	Buzzard	1	07:55	40	40	0	40	0	0		GA1, (Improved agricultural grassland) LOW	low	AOD
WS001	01/02/2020	1	Whooper Swan	4	08:14	70	60	10	0	0	70		GA1, (Improved agricultural grassland) TRAVELLING SE	travelling se	AOD
BZ040	01/02/2020	1	Buzzard	1	08:20	120	120	0	40	80	0		GA1, (Improved agricultural grassland) FLYING	flying	AOD
BZ041	01/02/2020	1	Buzzard	1	09:02	20	20	0	0	0	20		GA1, (Improved agricultural grassland) FLYING	flying	AOD
GP014	01/02/2020	1	Golden Plover	75	09:45	1200	1200	0	200	500	500		GA1, (Improved agricultural grassland) MOVING FLOCK FOR 20 MINS. LANDED IN FIELD JUST OUT OF VIEW FOR DURATION OF VP	moving flock for 20 mins. Landed in field just out of view for duration of vp	AOD
HG001	01/02/2020	1	Herring Gull	144	09:37	180	180	0	0	40	140		GA1, (Improved agricultural grassland) travelling flock.c60/40 immature/adult ratio.	travelling flock.c60/40 immature/adult ratio.	AOD
HG002	01/02/2020	1	Herring Gull	100	09:44	80	80	0	0	30	50		GA1, (Improved agricultural grassland) travelling flock total 244hg passing over.	travelling flock total 244hg passing over.	AOD
GP015	01/02/2020	1	Golden Plover	22	10:12	360	360	0	200	100	60		GA1, (Improved agricultural grassland) Flock	flock	AOD
BZ042	04/02/2020	3	Buzzard	1	13:20	20	20	0	20				GA1, (Improved agricultural grassland)	flew low	AOD

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BZ043	04/02/2020	3	Buzzard	1	15:42	10	10	0	10				GA1, (Improved agricultural grassland)	adult	AOD
H008	04/02/2020	3	Grey Heron	1	16:37	45	45	0			45		GA1, (Improved agricultural grassland) Mixed broadleaved/conifer woodland	travelling	AOD
WS002	04/02/2020	3	Whooper Swan	28	16:46	50	30	20			50		GA1, (Improved agricultural grassland) Mixed broadleaved/conifer woodland WD4, (Conifer plantation)	flock travelling ne	AOD
BZ044	07/02/2020	2	Buzzard	1	12:46	15	15	0		15			GA1, (Improved agricultural grassland)	soaring into trees.	AOD
BZ045	07/02/2020	2	Buzzard	1	13:24	30	30	0			30		GA1, (Improved agricultural grassland)	soaring	AOD
H009	07/02/2020	2	Grey Heron	1	13:36	50	50	0			50		GA1, (Improved agricultural grassland)	travelling south	AOD
BZ046	07/02/2020	2	Buzzard	2	13:51	180	180	0		40	140		GA1, (Improved agricultural grassland) WD4, (Conifer plantation)	soaring pair; Calling	AOD
BZ047	07/02/2020	2	Buzzard	3	14:05	300	300	0		100	200		GA1, (Improved agricultural grassland) WD4, (Conifer plantation)	3 soaring calling	AOD
SH013	07/02/2020	2	Sparrowhawk	1	14:55	5	5	0	5				GA1, (Improved agricultural grassland)	hunting male	AOD
GP016	07/02/2020	3	Golden Plover	22	17:10	10	10	0			10		GA1, (Improved agricultural grassland)	flock	AOD
BZ048	18/02/2020	2	Buzzard	1	15:49	120	120	0		20	100		WD4, (Conifer plantation)	soaring	AOD
BZ049	18/02/2020	2	Buzzard	1	16:14	130	130	0		130			GA1, (Improved agricultural grassland)	flying	AOD
K017	18/02/2020	2	Kestrel	1	16:17	18	18	0			18		GA1, (Improved agricultural grassland)	Travelling male	AOD
SH014	18/02/2020	2	Sparrowhawk	1	16:24	15	15	0	5	5	5		WD4, (Conifer plantation) GA1, (Improved agricultural grassland)	hunting. Flew into WP flock	AOD
GP017	18/02/2020	2	Golden Plover	90	16:55	240	240	0			200	40	GA1, (Improved agricultural grassland)	flock moving west	AOD

Map Ref.	Date	VP	Species	No. of Birds	Time of flight	Duration of flight (s)	Duration Within 500m of Site	Duration Outside 500m of Site	Band 1 (0-10m)	Band 2 (10-25m)	Band 3 PCH (25-175m)	Band 4 (>175m)	Notes on habitat and activity	Comments	Survey or
BZ050	18/02/2020	2	Buzzard	3	17:11	45	45	0		20	25		GA1, (Improved agricultural grassland)	soaring	AOD
H010	18/02/2020	2	Grey Heron	2	17:12	40	40	0		40			GA1, (Improved agricultural grassland)	travelling pair	AOD
PE003	18/02/2020	2	Peregrine Falcon	1	17:52	15	15	0		15			GA1, (Improved agricultural grassland) WD4, (Conifer plantation)	adult moving unlikely hunting GP flocks	AOD
WK003	18/02/2020	2	Woodcock	2	18:17	6	6	0		6			GA1, (Improved agricultural grassland) WD4, (Conifer plantation)	flew	AOD
WK004	18/02/2020	2	Woodcock	2	18:23	10	10	0	5	5			GA1, (Improved agricultural grassland)	flying	AOD
WK005	18/02/2020	2	Woodcock	1	18:24	12	12	0		12			GA1, (Improved agricultural grassland) Mixed broadleaved/conifer woodland	flying from scrub	AOD
BZ051	28/02/2020	1	Buzzard	2	17:46	8	8	0		8			GA1, (Improved agricultural grassland) Mixed broadleaved/conifer woodland	pair flushed by 2 RN	AOD
BZ052	28/02/2020	1	Buzzard	1	17:46	10	10	0	10				GA1, (Improved agricultural grassland)	flying low	AOD
BZ053	28/02/2020	1	Buzzard	1	18:11	22	22	0	22				GA1, (Improved agricultural grassland)	flying	AOD
SN009	28/02/2020	1	Common Snipe	6	18:15	15	15	0	15				GA1, (Improved agricultural grassland)	flock	AOD
BZ054	20/03/2020	3	Buzzard	2	13:20	240	240	0		140	100			pair soaring	AOD
LB007	20/03/2020	3	Lesser Black-backed Gull	2	13:48	40	40	0	10	30				adults	AOD
BZ055	20/03/2020	3	Buzzard	1	14:04	480	480	0		80	200	200		soaring	AOD
BZ056	20/03/2020	3	Buzzard	1	14:09	160	160	0	60	100					AOD
LB008	20/03/2020	3	Lesser Black-backed Gull	3	14:13	90	90	0	5	20	65		GA1, (Improved agricultural grassland)	adults	AOD
BZ057	20/03/2020	3	Buzzard	1	14:14	600	600	0			200	400	GA1, (Improved agricultural grassland)	soaring high	AOD

Map Ref.	Date	VP	Species	No. of Birds	Time of flight	Duration of flight (s)	Duration Within 500m of Site	Duration Outside 500m of Site	Band 1 (0-10m)	Band 2 (10-25m)	Band 3 PCH (25-175m)	Band 4 (>175m)	Notes on habitat and activity	Comments	Survey or
MA006	20/03/2020	3	Mallard	3	14:16	45	45	0		45			GA1, (Improved agricultural grassland)	2m 1f	AOD
BZ058	20/03/2020	3	Buzzard	4	14:24	200	200	0		100	100		GA1, (Improved agricultural grassland)	soaring group. Calling	AOD
LB009	20/03/2020	3	Lesser Black-backed Gull	4	14:37	80	60	20		30	50		GA1, (Improved agricultural grassland)	adults	AOD
LB010	20/03/2020	3	Lesser Black-backed Gull	6	14:46	90	90	0	20	40	30		GA1, (Improved agricultural grassland)	5adult 1juv	AOD
BZ059	20/03/2020	3	Buzzard	2	15:30	50	50	0		50			GA1, (Improved agricultural grassland)	soaring pair	AOD
H011	11/03/2020	2	Grey Heron	1	08:06	95	95			35	60		GA1, (Improved agricultural grassland) WD4, (Conifer plantation) flying	commuting through	KOC
BZ0060	11/03/2020	2	Buzzard	1	08:22	24	24				24		GA1, (Improved agricultural grassland) Mixed broadleaved/conifer woodland WD4, (Conifer plantation) circling, gliding		KOC
SH015	11/03/2020	2	Sparrowhawk	1	08:59	27	27			17	10		WD4, (Conifer plantation) gliding, flying	mobbed by HC	KOC
BZ0061	11/03/2020	2	Buzzard	1	09:18	159	159				159		WD4, (Conifer plantation) gliding, circling		KOC
BZ0062	11/03/2020	2	Buzzard	1	09:20	35	35			15	10		WD4, (Conifer plantation) gliding, flying		KOC
BZ0063	11/03/2020	2	Buzzard	1	10:27	63	63			43	20		Mixed broadleaved/conifer woodland GA1, (Improved agricultural grassland) gliding, flying		KOC
H012	11/03/2020	2	Grey Heron	1	11:12	58	58			58			WD4, (Conifer plantation) Mixed broadleaved/conifer woodland gliding		KOC
MA007	11/03/2020	2	Mallard	2	11:33	60	30	30		50	10		GA1, (Improved agricultural grassland) flying calling	flying together	KOC
H013	11/03/2020	2	Grey Heron	1	11:41	52	25	27			52		GA1, (Improved agricultural grassland) flying		KOC

Map Ref.	Date	VP	Species	No. of Birds	Time of flight	Duration of flight (s)	Duration Within 500m of Site	Duration Outside 500m of Site	Band 1 (0-10m)	Band 2 (10-25m)	Band 3 PCH (25-175m)	Band 4 (>175m)	Notes on habitat and activity	Comments	Surveyor
BZ0064	11/03/2020	2	Buzzard	1	11:47	21	21			21			GA1, (Improved agricultural grassland) gliding fast, descending		KOC
BZ0065	11/03/2020	2	Buzzard	1	11:59	61	61		10	51			Mixed broadleaved/conifer woodland flying. Gliding		KOC
BZ0066	11/03/2020	2	Buzzard	2	12:04	266	266				266		GA1, (Improved agricultural grassland) Mixed broadleaved/conifer woodland gliding together, displaying	gliding together, then separate, then back together	KOC
BZ0067	11/03/2020	2	Buzzard	1	12:23	20	20		5	10	5		WD4, (Conifer plantation) Mixed broadleaved/conifer woodland gliding fast, descending		KOC

Table 5 Breeding Walkover Survey Observations

Map Ref.	Survey Date	Species	Habitat and Activity	Comments	Surveyor
	29/06/2019	Swallow	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	29/06/2019	Rook	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	29/06/2019	Magpie	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	29/06/2019	Blackbird	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	29/06/2019	Lesser Redpoll	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	29/06/2019	Siskin	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	29/06/2019	Wood Pigeon	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	29/06/2019	Blackcap	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	29/06/2019	Song Thrush	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	29/06/2019	Goldfinch	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	29/06/2019	Jackdaw	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	29/06/2019	Blue Tit	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	29/06/2019	Bullfinch	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	29/06/2019	Chiffchaff	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	29/06/2019	Chaffinch	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	29/06/2019	Willow Warbler	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
LG001	29/06/2019	Little Grebe	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation) Pair and young	on small pond	ED
	29/06/2019	Skylark	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	29/06/2019	House Martin	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
H001	29/06/2019	Grey Heron	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation) in flight		ED
	29/06/2019	Robin	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	29/06/2019	Long-tailed Tit	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	29/06/2019	Mistle Thrush	GA1, (Improved agricultural grassland) W, (Woodland and scrub) WD4, (Conifer plantation)		ED
	24/07/2019	Starling			ED
	24/07/2019	Rook			ED



Map Ref.	Survey Date	Species	Habitat and Activity	Comments	Surveyor
	24/07/2019	Rook			ED
	24/07/2019	Rook			ED
	24/07/2019	Wood Pigeon			ED
	24/07/2019	Dunnock			ED
	24/07/2019	Wood Pigeon			ED
	24/07/2019	Swallow			ED
	24/07/2019	Jackdaw			ED
	24/07/2019	House Martin			ED
	24/07/2019	Chaffinch			ED
	24/07/2019	House Sparrow			ED
	24/07/2019	Blackbird			ED
	24/07/2019	Reed Bunting			ED
	24/07/2019	Goldfinch			ED
	24/07/2019	Hooded Crow			ED
	24/07/2019	Song Thrush			ED
	24/07/2019	Blue Tit			ED
	24/07/2019	Long-tailed Tit			ED
	24/07/2019	Bullfinch			ED
	24/07/2019	Willow Warbler			ED
	24/07/2019	Great Tit			ED
SH001	24/07/2019	Sparrowhawk			ED
	24/07/2019	Blackcap			ED
	24/07/2019	Jay			ED
	24/07/2019	Chiffchaff			ED
BZ001	24/07/2019	Buzzard			ED
BZ002	24/07/2019	Buzzard			ED



Map Ref.	Survey Date	Species	Habitat and Activity	Comments	Surveyor
	24/07/2019	Magpie			ED
	24/07/2019	Lesser Redpoll			ED

Table 6 Breeding Raptor Survey Observations

Map Ref.	Date	Species Name	No. of Birds	Time of flight	Notes on habitat and activity	Comments	Surveyor
BZ003	25/06/2019	Buzzard	1	17:50	WD4, (Conifer plantation) Soaring		ED
BZ001	27/06/2019	Buzzard	1	15:55	WD4, (Conifer plantation) Soaring		ED
SH001	27/06/2019	Sparrowhawk	1	18:10	GA1, (Improved agricultural grassland) Flying	Female	ED
BZ002	27/06/2019	Buzzard	1	17:20	GA1, (improved agricultural grassland) soaring high. 100m		ED
BZ004	18/07/2019	Buzzard	1	15:20	GA1, (improved agricultural grassland) Soaring		ED
BZ005	18/07/2019	Buzzard	1	17:45	GA1, (Improved agricultural grassland) Flying		ED
BZ006	19/07/2019	Buzzard	1	13:20	GA1, (Improved agricultural grassland) WD4, (Conifer plantation) Flying		ED
BZ007	19/07/2019	Buzzard	1	16:30	GA1, (Improved agricultural grassland) WD4, (Conifer plantation) Soaring		ED

Table 7 Winter Walkover Survey Observations

Map Ref.	Survey Date	Time of observation	Species	Number of birds	Habitat and Activity	Comments	Surveyor
SH001	08/10/2019	14:54	Sparrowhawk	1	GA1, (Improved agricultural grassland) Foraging low along river		AOD
BZ001	10/10/2019	14:31	Buzzard	1	Mixed broadleaved/conifer woodland GA1, (Improved agricultural grassland)		AOD
BZ002	10/10/2019	15:03	Buzzard	1	WD4, (Conifer plantation) GA1, (Improved agricultural grassland) Soaring		AOD
BZ003	10/10/2019	16:00	Buzzard	1	Mixed broadleaved/conifer woodland GA1, (Improved agricultural grassland) Calling from WD2		AOD
	20/12/2019	11:35	Meadow Pipit	6	GA1, (Improved agricultural grassland) Feeding		AOD
SN001	20/12/2019	11:39	Common Snipe	1	GA1, (Improved agricultural grassland) Feeding		AOD
BZ004	20/12/2019	12:15	Buzzard	1	GA1, (Improved agricultural grassland) Perched		AOD
	20/12/2019	13:00	Woodcock	1	Mixed broadleaved/conifer woodland Flying	Flushed	AOD
BZ005	23/12/2019	14:00	Buzzard	2	GA1, (Improved agricultural grassland) Flying	Pair soaring	AOD
GP001	23/12/2019	14:20	Golden Plover	70	GA1, (Improved agricultural grassland) Roosting	Roosting flock. flushed from field flew se	AOD
SH002	07/01/2020	10:17	Sparrowhawk	1	GA1, (Improved agricultural grassland) Flying	Female foraging low	AOD
BZ006	07/01/2020	10:35	Buzzard	1	GA1, (Improved agricultural grassland) Perched	Perched	AOD
WN001	07/01/2020	12:14	Wigeon	42	FL5, (Eutrophic lakes) Roosting	Roosting on lough	AOD
T001	07/01/2020	13:25	Teal	37	FL5, (Eutrophic lakes) Roosting	On lough	AOD
	07/01/2020	13:34	Grey Wagtail	1	GA1, (Improved agricultural grassland) Flying		AOD
BZ007	07/01/2020	14:02	Buzzard	3	Mixed broadleaved/conifer woodland GA1, (Improved agricultural grassland) Flying	Soaring calling	AOD
	07/01/2020	14:03	Meadow Pipit	4	GA1, (Improved agricultural grassland) Flying		AOD
GP002	07/01/2020	14:17	Golden Plover	70	GA1, (Improved agricultural grassland) Roosting	Flock flushed from field with sheep	AOD
	04/03/2020	12:00	Mute Swan	1	GA1, (Improved agricultural grassland) Flying	Feeding in flooded field	AOD
LG001	04/03/2020	12:00	Little Grebe	2	GA1, (Improved agricultural grassland) Flying	Feeding in flooded field	AOD
BZ008	04/03/2020	12:30	Buzzard	2	GA1, (Improved agricultural grassland) Mixed broadleaved/conifer woodland FLYING	Pair soaring calling over trees	AOD
LG002	04/03/2020	12:33	Little Grebe	2	FL5, (Eutrophic lakes) Flying	Pair feeding on lough	AOD
BZ009	04/03/2020	12:44	Buzzard	1	Mixed broadleaved/conifer woodland Roosting	Perched	AOD
T002	04/03/2020	12:46	Teal	37	FL5, (Eutrophic lakes) Flying	On lough	AOD

Map Ref.	Survey Date	Time of observation	Species	Number of birds	Habitat and Activity	Comments	Surveyor
K001	04/03/2020	12:50	Kestrel	1	Mixed broadleaved/conifer woodland Roosting	Perched female	AOD
K002	04/03/2020	12:51	Kestrel	1	GA1, (Improved agricultural grassland) Hunting	Male, likely pair of female perched.	AOD
	04/03/2020	12:59	Meadow Pipit	10	(Mixed) broadleaved woodland Flying	In young wd1 plantation	AOD
	04/03/2020	14:15	Grey Wagtail	2	GA1, (Improved agricultural grassland) Flying	Pair	AOD
BZ010	04/03/2020	14:25	Buzzard	1	GA1, (Improved agricultural grassland) Flying	Soaring low 20s	AOD
BZ011	04/03/2020	14:57	Buzzard	2	GA1, (Improved agricultural grassland) Feeding	Pair worming	AOD

Table 8 Breeding Woodcock Survey Observations

Map Ref.	Date	Species Name	No. of Birds	Time of flight	Notes on habitat and activity	Comments	Surveyor
WK001	25/06/2019	Woodcock	1	22:22	WD4, (Conifer plantation) Roding male		ED
WK002	25/06/2019	Woodcock	2	22:26	WD4, (Conifer plantation) Roding male		ED
WK003	25/06/2019	Woodcock	3	22:37	WD4, (Conifer plantation) Roding male		ED
WK004	25/06/2019	Woodcock	4	23:05	WD4, (Conifer plantation)	Heading to fields	ED
WK005	26/06/2019	Woodcock	1	22:40	W, (Woodland and scrub) in flight		ED
WK006	26/06/2019	Woodcock	1		W, (Woodland and scrub) Roding		ED
WK007	26/06/2019	Woodcock	1		W, (Woodland and scrub) in flight		ED
WK008	26/06/2019	Woodcock	2		W, (Woodland and scrub) came out together with one peeling off to do a lengthy roding display		ED
WK009	27/06/2019	Woodcock	1	22:47	WD4, (Conifer plantation) flying		ED

Table 9 Wildfowl Distribution Surveys

Date	Species	Number of birds	Notes on habitat and activity	Surveyor
12/09/2019	Mallard	7	FL1, (Dystrophic lakes) 3 male 4 female flushed from pond flew north circling	AOD
12/09/2019	Green Sandpiper	1	FL1, (Dystrophic lakes) flushed from pond calling.	AOD
07/10/2019	Teal	4	FL1, (Dystrophic lakes) flew SW when flushed	AOD
29/10/2019	Teal	14	FL1, (Dystrophic lakes) flushed from pond flew SW	AOD
07/11/2019	Moorhen	5	FL8, (Other artificial lakes and ponds) flock in pool	AOD
07/11/2019	Teal	12	Roosting in pool	AOD
22/11/2019	Teal	8	Roosting	AOD
22/11/2019	Mallard	4	Roosting	AOD
22/11/2019	Grey Heron	1	GA1, (Improved agricultural grassland) Pool in field	AOD
22/11/2019	Mallard	3	Roosting	AOD
05/12/2019	Teal	24		AOD
05/12/2019	Mallard	2		AOD
05/12/2019	Mute Swan	3		AOD
05/12/2019	Common Snipe	1		AOD
05/12/2019	Lesser Black-backed Gull	1		AOD
19/12/2019	Mute Swan	1		AOD
19/12/2019	Teal	10		AOD
19/12/2019	Mallard	6		AOD
19/12/2019	Teal	22		AOD
06/01/2020	Wigeon	45	flock roosting on lough	AOD
06/01/2020	Shelduck	1	shelduck male with wigeon flock.flushed flew north.wn stayed.	AOD
06/01/2020	Little Grebe	2		AOD
06/01/2020	Lesser Black-backed Gull	2	2 juv flying over lough	AOD
06/01/2020	Golden Plover	65	roosting in field near lough	AOD
06/01/2020	Teal	34		AOD
04/02/2020	Herring Gull	67	over lough and surrounding fields. remained in area for duration of visit.	AOD

Date	Species	Number of birds	Notes on habitat and activity	Surveyor
04/02/2020	Jack Snipe	1		AOD
04/02/2020	Cormorant	1		AOD
04/02/2020	Teal	45	flock on lough	AOD
04/02/2020	Mallard	4		AOD
04/02/2020	Moorhen	2		AOD
18/02/2020	Golden Plover	55	roosting flock	AOD
18/02/2020	Teal	50	flock on lough.highest count for winter	AOD
18/02/2020	Mallard	2		AOD
18/02/2020	Common Snipe	3	flushed	AOD
18/02/2020	Wigeon	8	roosting on lough	AOD
18/02/2020	Jack Snipe	1		AOD
03/03/2020	Teal	37		AOD
03/03/2020	Mallard	4		AOD
03/03/2020	Grey Heron	1	flushed around shore	AOD
20/03/2020	Common Snipe	3	adults	AOD
20/03/2020	Lesser Black-backed Gull	2		AOD
20/03/2020	Mallard	4		AOD
20/03/2020	Common Snipe	1		AOD
20/03/2020	Grey Heron	1		AOD
20/03/2020	Mute Swan	2	flying over	AOD
20/03/2020	Black-headed Gull	1		AOD

Table 10 Incidental Observations

Date	Survey Type	Location	Species	Number of Individuals	Notes	Surveyor
28/03/2019	Vantage Point Survey	VP1	Mallard	3	on a small pond behind VP	DM
28/03/2019	Vantage Point Survey	VP1	Swallow		groups passing and feeding	DM
29/11/2019	Vantage Point Survey	VP1	Snipe	1	Calling at VP before dawn	AOD
05/12/2019	Vantage Point Survey	VP3	Snipe	2	Calling on site. Leaving VP	AOD
16/01/2020	Vantage Point Survey	VP3	Snipe	2	Calling near VP3 dark	AOD
31/01/2020	Vantage Point Survey	VP2	Snipe	2	Calling near VP2 dark	AOD

Table 11 Vantage Point Surveys Non-target Species Observations

Date	VP	Species	No. of Birds	Comments	Surveyor
26/06/2019	VP01	Goldfinch	3		ED
26/06/2019	VP01	Rook	35		ED
26/06/2019	VP01	Jackdaw	16		ED
26/06/2019	VP01	Woodpigeon	12		ED
26/06/2019	VP01	Swallow	10		ED
26/06/2019	VP01	Starling	15		ED
26/06/2019	VP01	Blackbird	2		ED
26/06/2019	VP01	Hooded Crow	4		ED
26/06/2019	VP01	House Martin	2		ED
26/06/2019	VP01	Mistle Thrush	1		ED
26/06/2019	VP01	Chaffinch	3		ED
26/06/2019	VP01	Chiffchaff	1		ED
28/06/2019	VP02	Swallow	35		ED
28/06/2019	VP02	House Martin	20		ED
28/06/2019	VP02	Woodpigeon	20		ED
28/06/2019	VP02	Mistle Thrush	1		ED
28/06/2019	VP02	Blackcap	1		ED
28/06/2019	VP02	Hooded Crow	6		ED
28/06/2019	VP02	Rook	10		ED
28/06/2019	VP02	Blackbird	2		ED
28/06/2019	VP02	Chaffinch	3		ED
28/06/2019	VP02	Chiffchaff	1		ED
28/06/2019	VP02	Wren	1		ED
28/06/2019	VP02	Goldfinch	4		ED
28/06/2019	VP02	Lesser Redpoll	2		ED
28/06/2019	VP02	Meadow Pipit	6		ED



Date	VP	Species	No. of Birds	Comments	Surveyor
28/06/2019	VP02	Siskin	2		ED
28/06/2019	VP02	Collared Dove	2		ED
25/07/2019	VP02	Swallow	25		ED
25/07/2019	VP02	Sand Martin	15		ED
25/07/2019	VP02	House Martin	25		ED
25/07/2019	VP02	Greenfinch	2		ED
25/07/2019	VP02	Goldfinch	3		ED
25/07/2019	VP02	Willow Warbler	1		ED
25/07/2019	VP02	Chiffchaff	1		ED
25/07/2019	VP02	Starling	60		ED
25/07/2019	VP02	Rook	10		ED
25/07/2019	VP02	Hooded Crow	3		ED
25/07/2019	VP02	Magpie	4		ED
25/07/2019	VP02	Blackbird	1		ED
25/07/2019	VP02	Robin	1		ED
25/07/2019	VP02	Wren	2		ED
25/07/2019	VP02	Dunnock	1		ED
25/07/2019	VP02	Woodpigeon	14		ED
25/07/2019	VP02	Chaffinch	3		ED
25/07/2019	VP02	Bullfinch	1		ED
25/07/2019	VP02	Pied Wagtail	1		ED
26/07/2019	VP01	Swallow	20		ED
26/07/2019	VP01	Starling	40		ED
26/07/2019	VP01	Rook	4		ED
26/07/2019	VP01	Hooded Crow	3		ED
26/07/2019	VP01	Jackdaw	30		ED
26/07/2019	VP01	Chaffinch	1		ED



Date	VP	Species	No. of Birds	Comments	Surveyor
26/07/2019	VP01	Wren	2		ED
26/07/2019	VP01	Blackbird	1		ED
26/07/2019	VP01	House Martin	2		ED
26/07/2019	VP01	Chiffchaff	1		ED
26/07/2019	VP01	Woodpigeon	18		ED
26/07/2019	VP01	Bullfinch	1		ED
26/07/2019	VP01	Magpie	2		ED
26/07/2019	VP01	Mistle Thrush	2		ED
12/08/2019	vp1	Jackdaw	200	on ruined house	DM
12/08/2019	vp1	Rook	10		DM
12/08/2019	vp1	Wood Pigeon	3		DM
12/08/2019	vp1	Hooded Crow	2		DM
12/08/2019	vp1	House Martin	7		DM
12/08/2019	vp1	Blackcap	1	calling	DM
12/08/2019	vp1	Wren	1	calling	DM
12/08/2019	vp1	Sand Martin	1		DM
12/08/2019	vp1	Swallow	25		DM
12/08/2019	vp1	Blue Tit	1	calling	DM
12/08/2019	vp1	Feral Pigeon	1		DM
12/08/2019	vp1	Collared Dove	1		DM
12/08/2019	vp1	Chiffchaff	1	calling	DM
12/08/2019	vp1	Pied Wagtail	13	feeding on gravel road	DM
13/08/2019	vp2	Sand Martin	25	colony in sand-pit	DM
13/08/2019	vp2	Chiffchaff	3	calling	DM
13/08/2019	vp2	Wren	1	calling	DM
13/08/2019	vp2	Wood Pigeon	4		DM
13/08/2019	vp2	Rook	45		DM

Date	VP	Species	No. of Birds	Comments	Surveyor
13/08/2019	vp2	Blackcap	1	calling	DM
13/08/2019	vp2	Blue Tit	1	calling	DM
13/08/2019	vp2	Robin	1	calling	DM
13/08/2019	vp2	Chaffinch	4	calling	DM
13/08/2019	vp2	Goldfinch	4	calling	DM
13/08/2019	vp2	House Martin	2		DM
13/08/2019	vp2	Swallow	3		DM
13/08/2019	vp2	Great Tit	6		DM
13/08/2019	vp2	Blackbird	1		DM
13/08/2019	vp2	Bullfinch	2	calling	DM
13/08/2019	vp2	Hooded Crow	1	calling	DM
28/08/2019	vp1	Wren	1	calling	DM
28/08/2019	vp1	Hooded Crow	2	calling	DM
28/08/2019	vp1	Goldfinch	1	calling	DM
28/08/2019	vp1	Swallow	15		DM
28/08/2019	vp1	Chiffchaff	1		DM
28/08/2019	vp1	Great Tit	1		DM
28/08/2019	vp1	Jackdaw	225		DM
28/08/2019	vp1	Chaffinch	1		DM
28/08/2019	vp1	Starling	27		DM
28/08/2019	vp1	Wood Pigeon	12		DM
28/08/2019	vp1	Sand Martin	1		DM
28/08/2019	vp1	Feral Pigeon	2		DM
28/08/2019	vp1	House Martin	2		DM
28/08/2019	vp1	Bullfinch	2		DM
28/08/2019	vp1	Robin	1	Singing	DM
28/08/2019	vp1	Grey Wagtail	1	calling	DM



Date	VP	Species	No. of Birds	Comments	Surveyor
28/08/2019	vp1	Goldcrest	1		DM
28/08/2019	vp1	Blackcap	1	calling	DM
29/08/2019	vp2	Robin	2	Singing	DM
29/08/2019	vp2	Hooded Crow	1	calling	DM
29/08/2019	vp2	Blackcap	1	calling	DM
29/08/2019	vp2	Wood Pigeon	4		DM
29/08/2019	vp2	Jackdaw	2		DM
29/08/2019	vp2	Swallow	25		DM
29/08/2019	vp2	Goldfinch	4	calling	DM
29/08/2019	vp2	Chaffinch	3		DM
29/08/2019	vp2	Starling	4		DM
29/08/2019	vp2	Sand Martin	4		DM
29/08/2019	vp2	Wren	1	calling	DM
29/08/2019	vp2	Chiffchaff	1	calling	DM
29/08/2019	vp2	Bullfinch	1	calling	DM
29/08/2019	vp2	Raven	6		DM
29/08/2019	vp2	Linnet	4		DM
29/08/2019	vp2	Blackbird	1		DM
29/08/2019	vp2	Feral Pigeon	1		DM
29/08/2019	vp2	House Martin	1		DM
29/08/2019	vp2	Rook	4		DM
29/08/2019	vp2	Mistle Thrush	1		DM
29/08/2019	vp2	Wheatear	1		DM
12/09/2019	1	Meadow Pipit			AOD
12/09/2019	1	Swallow			AOD
12/09/2019	1	House Martin			AOD
12/09/2019	1	Rook			AOD



Date	VP	Species	No. of Birds	Comments	Surveyor
12/09/2019	1	Jackdaw			AOD
12/09/2019	1	Blackbird			AOD
12/09/2019	1	Robin			AOD
12/09/2019	1	Raven			AOD
12/09/2019	1	Great Tit			AOD
12/09/2019	1	Pied Wagtail			AOD
12/09/2019	1	Mistle Thrush			AOD
19/09/2019	1	Swallow			AOD
19/09/2019	1	Meadow Pipit			AOD
19/09/2019	1	Rook			AOD
19/09/2019	1	Hooded Crow			AOD
19/09/2019	1	Wood Pigeon			AOD
19/09/2019	1	Jackdaw			AOD
19/09/2019	1	Great Tit			AOD
19/09/2019	1	Coal Tit			AOD
19/09/2019	1	Robin			AOD
19/09/2019	1	Blackbird			AOD
19/09/2019	1	Starling			AOD
19/09/2019	1	Song Thrush			AOD
19/09/2019	2	Hooded Crow			AOD
19/09/2019	2	Rook			AOD
19/09/2019	2	Jackdaw			AOD
19/09/2019	2	Magpie			AOD
19/09/2019	2	Mistle Thrush			AOD
19/09/2019	2	Blackbird			AOD
19/09/2019	2	Swallow			AOD
27/09/2019	2	Starling			AOD



Date	VP	Species	No. of Birds	Comments	Surveyor
27/09/2019	2	Magpie			AOD
27/09/2019	2	Hooded Crow			AOD
27/09/2019	2	Rook			AOD
27/09/2019	2	Jackdaw			AOD
27/09/2019	2	Mistle Thrush			AOD
27/09/2019	2	Robin			AOD
27/09/2019	2	Wren			AOD
27/09/2019	2	Meadow Pipit			AOD
27/09/2019	2	Lesser Redpoll			AOD
07/10/2019	1	Swallow			AOD
07/10/2019	1	House Martin			AOD
07/10/2019	1	Hooded Crow			AOD
07/10/2019	1	Rook			AOD
07/10/2019	1	Jackdaw			AOD
07/10/2019	1	Magpie			AOD
07/10/2019	1	Starling			AOD
07/10/2019	1	Coal Tit			AOD
07/10/2019	1	Great Tit			AOD
07/10/2019	1	Raven			AOD
07/10/2019	1	Wren			AOD
07/10/2019	1	Grey Wagtail			AOD
07/10/2019	1	Song Thrush			AOD
07/10/2019	1	Mistle Thrush			AOD
07/10/2019	1	Meadow Pipit			AOD
07/10/2019	1	Pied Wagtail			AOD
07/10/2019	1	Robin			AOD
07/10/2019	1	Blackbird			AOD



Date	VP	Species	No. of Birds	Comments	Surveyor
07/10/2019	1	Wood Pigeon			AOD
07/10/2019	1	Chaffinch			AOD
08/10/2019	2	Magpie			AOD
08/10/2019	2	Mistle Thrush			AOD
08/10/2019	2	Starling			AOD
08/10/2019	2	Meadow Pipit			AOD
08/10/2019	2	Swallow			AOD
08/10/2019	2	Blackbird			AOD
08/10/2019	2	Wren			AOD
08/10/2019	2	Blackbird			AOD
08/10/2019	2	Hooded Crow			AOD
08/10/2019	2	Rook			AOD
08/10/2019	2	Jackdaw			AOD
10/10/2019	1	Wood Pigeon			AOD
10/10/2019	1	Rook			AOD
10/10/2019	1	Jackdaw			AOD
10/10/2019	1	Wren			AOD
10/10/2019	1	Mistle Thrush			AOD
10/10/2019	1	Blackbird			AOD
10/10/2019	1	Meadow Pipit			AOD
10/10/2019	1	Swallow			AOD
10/10/2019	1	Pied Wagtail			AOD
10/10/2019	1	Chaffinch			AOD
10/10/2019	1	Lesser Redpoll			AOD
14/10/2019	2	Wood Pigeon			AOD
14/10/2019	2	Feral Pigeon			AOD
14/10/2019	2	Jackdaw			AOD



Date	VP	Species	No. of Birds	Comments	Surveyor
14/10/2019	2	Mistle Thrush			AOD
14/10/2019	2	Rook			AOD
14/10/2019	2	Hooded Crow			AOD
14/10/2019	2	Wren			AOD
14/10/2019	2	Raven			AOD
14/10/2019	2	Starling			AOD
14/10/2019	2	Song Thrush			AOD
14/10/2019	2	Blackbird			AOD
14/10/2019	2	Robin			AOD
14/10/2019	2	Swallow			AOD
14/10/2019	2	Chaffinch			AOD
14/10/2019	2	Meadow Pipit			AOD
30/10/2019	3	Wood Pigeon			AOD
30/10/2019	3	Raven			AOD
30/10/2019	3	Hooded Crow			AOD
30/10/2019	3	Rook			AOD
30/10/2019	3	Meadow Pipit			AOD
30/10/2019	3	Chaffinch			AOD
30/10/2019	3	Wren			AOD
30/10/2019	3	Fieldfare			AOD
30/10/2019	3	Redwing			AOD
30/10/2019	3	Mistle Thrush			AOD
30/10/2019	3	Starling			AOD
30/10/2019	3	Magpie			AOD
30/10/2019	3	Pied Wagtail			AOD
30/10/2019	3	Great Tit			AOD
30/10/2019	3	Linnet			AOD



Date	VP	Species	No. of Birds	Comments	Surveyor
30/10/2019	3	Jackdaw			AOD
07/11/2019	2	Starling			AOD
07/11/2019	2	Rook			AOD
07/11/2019	2	Hooded Crow			AOD
07/11/2019	2	Jackdaw			AOD
07/11/2019	2	Pied Wagtail			AOD
07/11/2019	2	Great Tit			AOD
07/11/2019	2	Fieldfare			AOD
07/11/2019	2	Redwing			AOD
07/11/2019	2	Wren			AOD
07/11/2019	2	Blue Tit			AOD
07/11/2019	2	Robin			AOD
07/11/2019	2	Meadow Pipit			AOD
08/11/2019	2	Wren			AOD
08/11/2019	2	Robin			AOD
08/11/2019	2	Starling			AOD
08/11/2019	2	Song Thrush			AOD
08/11/2019	2	Jackdaw			AOD
08/11/2019	2	Rook			AOD
08/11/2019	2	Meadow Pipit			AOD
08/11/2019	2	Wood Pigeon			AOD
13/11/2019	3	Rook			AOD
13/11/2019	3	Hooded Crow			AOD
13/11/2019	3	Jackdaw			AOD
13/11/2019	3	Magpie			AOD
13/11/2019	3	Starling			AOD
13/11/2019	3	Wren			AOD



Date	VP	Species	No. of Birds	Comments	Surveyor
13/11/2019	3	Robin			AOD
13/11/2019	3	Wood Pigeon			AOD
13/11/2019	3	Meadow Pipit			AOD
13/11/2019	3	Lesser Redpoll			AOD
13/11/2019	3	Blackbird			AOD
13/11/2019	3	Mistle Thrush			AOD
13/11/2019	3	Fieldfare			AOD
25/11/2019	1	Fieldfare			AOD
25/11/2019	1	Rook			AOD
25/11/2019	1	Jackdaw			AOD
25/11/2019	1	Raven			AOD
25/11/2019	1	Grey Wagtail			AOD
25/11/2019	1	Robin			AOD
25/11/2019	1	Wood Pigeon			AOD
25/11/2019	1	Starling			AOD
25/11/2019	1	Bullfinch			AOD
29/11/2019	1	Blue Tit			AOD
29/11/2019	1	Redwing			AOD
29/11/2019	1	Fieldfare			AOD
29/11/2019	1	Jackdaw			AOD
29/11/2019	1	Rook			AOD
29/11/2019	1	Wood Pigeon			AOD
29/11/2019	1	Hooded Crow			AOD
29/11/2019	1	Raven			AOD
29/11/2019	1	Wren			AOD
29/11/2019	1	Pied Wagtail			AOD
29/11/2019	1	Grey Wagtail			AOD

Date	VP	Species	No. of Birds	Comments	Surveyor
29/11/2019	1	Meadow Pipit			AOD
29/11/2019	1	Starling			AOD
29/11/2019	1	Magpie			AOD
05/12/2019	3	Jackdaw			AOD
05/12/2019	3	Rook			AOD
05/12/2019	3	Dunnock			AOD
05/12/2019	3	Robin			AOD
05/12/2019	3	Blackbird			AOD
05/12/2019	3	Mistle Thrush			AOD
05/12/2019	3	Fieldfare			AOD
05/12/2019	3	Redwing			AOD
05/12/2019	3	Pied Wagtail			AOD
12/12/2019	3	Jackdaw			AOD
12/12/2019	3	Rook			AOD
12/12/2019	3	Redwing			AOD
12/12/2019	3	Mistle Thrush			AOD
12/12/2019	3	Song Thrush			AOD
12/12/2019	3	Starling			AOD
12/12/2019	3	Raven			AOD
12/12/2019	3	Hooded Crow			AOD
12/12/2019	3	Wood Pigeon			AOD
12/12/2019	3	Magpie			AOD
12/12/2019	2	Hooded Crow			AOD
12/12/2019	2	Jackdaw			AOD
12/12/2019	2	Rook			AOD
12/12/2019	2	Wood Pigeon			AOD
12/12/2019	2	Magpie			AOD



Date	VP	Species	No. of Birds	Comments	Surveyor
12/12/2019	2	Pied Wagtail			AOD
12/12/2019	2	Redwing			AOD
12/12/2019	2	Fieldfare			AOD
12/12/2019	2	Mistle Thrush			AOD
12/12/2019	2	Blackbird			AOD
12/12/2019	2	Wren			AOD
19/12/2019	1	Rook			AOD
19/12/2019	1	Jackdaw			AOD
19/12/2019	1	Hooded Crow			AOD
19/12/2019	1	Raven			AOD
19/12/2019	1	Redwing			AOD
19/12/2019	1	Fieldfare			AOD
19/12/2019	1	Starling			AOD
19/12/2019	1	Wood Pigeon			AOD
20/12/2019	2	Meadow Pipit			AOD
20/12/2019	2	Rook			AOD
20/12/2019	2	Jackdaw			AOD
20/12/2019	2	Hooded Crow			AOD
20/12/2019	2	Wren			AOD
20/12/2019	2	Robin			AOD
20/12/2019	2	Starling			AOD
23/12/2019	3	Wood Pigeon			AOD
23/12/2019	3	Rook			AOD
23/12/2019	3	Jackdaw			AOD
23/12/2019	3	Hooded Crow			AOD
23/12/2019	3	Robin			AOD
23/12/2019	3	Starling			AOD



Date	VP	Species	No. of Birds	Comments	Surveyor
23/12/2019	3	Pied Wagtail			AOD
23/12/2019	3	Grey Wagtail			AOD
23/12/2019	3	Chaffinch			AOD
23/12/2019	3	Magpie			AOD
23/12/2019	3	Fieldfare			AOD
23/12/2019	3	Coal Tit			AOD
23/12/2019	1	Rook			AOD
23/12/2019	1	Jackdaw			AOD
23/12/2019	1	Wood Pigeon			AOD
23/12/2019	1	Starling			AOD
23/12/2019	1	Magpie			AOD
23/12/2019	1	Blackbird			AOD
23/12/2019	1	Pied Wagtail			AOD
23/12/2019	1	Wren			AOD
23/12/2019	1	Song Thrush			AOD
23/12/2019	1	Fieldfare			AOD
23/12/2019	1	Robin			AOD
23/12/2019	1	Blue Tit			AOD
23/12/2019	2	Wren			AOD
23/12/2019	2	Meadow Pipit			AOD
23/12/2019	2	Jackdaw			AOD
23/12/2019	2	Rook			AOD
23/12/2019	2	Goldcrest			AOD
23/12/2019	2	Hooded Crow			AOD
06/01/2020	3	Wood Pigeon			AOD
06/01/2020	3	Rook			AOD
06/01/2020	3	Jackdaw			AOD



Date	VP	Species	No. of Birds	Comments	Surveyor
06/01/2020	3	Magpie			AOD
06/01/2020	3	Starling			AOD
06/01/2020	3	Hooded Crow			AOD
06/01/2020	3	Blackbird			AOD
06/01/2020	3	Raven			AOD
06/01/2020	3	Wren			AOD
16/01/2020	3	Jackdaw			AOD
16/01/2020	3	Rook			AOD
16/01/2020	3	Hooded Crow			AOD
16/01/2020	3	Blackbird			AOD
16/01/2020	3	Robin			AOD
16/01/2020	3	Redwing			AOD
16/01/2020	3	Mistle Thrush			AOD
16/01/2020	3	Blue Tit			AOD
16/01/2020	3	Wood Pigeon			AOD
16/01/2020	3	Feral Pigeon			AOD
16/01/2020	3	Starling			AOD
16/01/2020	3	Pied Wagtail			AOD
16/01/2020	3	Grey Wagtail			AOD
16/01/2020	2	Wood Pigeon			AOD
16/01/2020	2	Hooded Crow			AOD
16/01/2020	2	Rook			AOD
16/01/2020	2	Jackdaw			AOD
16/01/2020	2	Starling			AOD
24/01/2020	1	Great Tit			AOD
24/01/2020	1	Pied Wagtail			AOD
24/01/2020	1	Wood Pigeon			AOD

Date	VP	Species	No. of Birds	Comments	Surveyor
24/01/2020	1	Rook			AOD
24/01/2020	1	Hooded Crow			AOD
24/01/2020	1	Jackdaw			AOD
24/01/2020	1	Magpie			AOD
24/01/2020	1	Blackbird			AOD
31/01/2020	2	Wood Pigeon			AOD
31/01/2020	2	Rook			AOD
31/01/2020	2	Jackdaw			AOD
31/01/2020	2	Hooded Crow			AOD
31/01/2020	2	Song Thrush			AOD
31/01/2020	2	Starling			AOD
31/01/2020	2	Redwing			AOD
31/01/2020	2	Fieldfare			AOD
31/01/2020	2	Mistle Thrush			AOD
31/01/2020	2	Wren			AOD
01/02/2020	1	Pied Wagtail			AOD
01/02/2020	1	Song Thrush			AOD
01/02/2020	1	Blackbird			AOD
01/02/2020	1	Robin			AOD
01/02/2020	1	Starling			AOD
01/02/2020	1	Wood Pigeon			AOD
01/02/2020	1	Rook			AOD
01/02/2020	1	Jackdaw			AOD
01/02/2020	1	Hooded Crow			AOD
01/02/2020	1	Raven			AOD
10/03/2020	1	Wren	4	Singing	KOC
10/03/2020	1	Blackbird	1	Singing	KOC



Date	VP	Species	No. of Birds	Comments	Surveyor
10/03/2020	1	Raven	1	Singing	KOC
10/03/2020	1	Jackdaw	3	flying	KOC
10/03/2020	1	Jackdaw	7	flying	KOC
10/03/2020	1	Jackdaw	9	flying	KOC
10/03/2020	1	Jackdaw	13	flying	KOC
10/03/2020	1	Blackbird	1	perching, flying	KOC
10/03/2020	1	Starling	100	flying	KOC
10/03/2020	1	Hooded Crow	4	flying	KOC
10/03/2020	1	Jackdaw	120	flying	KOC
10/03/2020	1	Raven	1	flying	KOC
10/03/2020	1	Wood Pigeon	2	flying	KOC
10/03/2020	1	Jackdaw	5	flying	KOC
10/03/2020	1	Wood Pigeon	4	flying	KOC
10/03/2020	1	Jackdaw	140	flying	KOC
10/03/2020	1	Rook	2	flying	KOC
10/03/2020	1	Jackdaw	9	flying	KOC
10/03/2020	1	Hooded Crow	2	flying	KOC
10/03/2020	1	Starling	400	flying	KOC
10/03/2020	1	Jackdaw	12	flying	KOC
10/03/2020	1	Jackdaw	8	flying	KOC
10/03/2020	1	Starling	40	flying	KOC
10/03/2020	1	Jackdaw	21	flying	KOC
10/03/2020	1	Hooded Crow	4	flying, perching	KOC
10/03/2020	1	Jackdaw	22	flying, perching	KOC
10/03/2020	1	Raven	2	gliding	KOC
10/03/2020	1	Wood Pigeon	2	flying	KOC
10/03/2020	1	Jackdaw	16	flying, perching	KOC

Date	VP	Species	No. of Birds	Comments	Surveyor
10/03/2020	1	Jackdaw	7	flying	KOC
10/03/2020	1	Jackdaw	5	flying	KOC
10/03/2020	1	Wood Pigeon	2	flying	KOC
10/03/2020	1	Jackdaw	34	perching, flying	KOC
10/03/2020	1	Jackdaw	12	flying	KOC
10/03/2020	1	Wood Pigeon	2	flying	KOC
11/03/2020	2	Robin	1	calling	KOC
11/03/2020	2	Chaffinch	5	calling	KOC
11/03/2020	2	Jackdaw	1	flying	KOC
11/03/2020	2	Starling	60	flying	KOC
11/03/2020	2	Jackdaw	2	flying	KOC
11/03/2020	2	Starling	200	flying	KOC
11/03/2020	2	Wood Pigeon	2	flying	KOC
11/03/2020	2	Starling	120	flying	KOC
11/03/2020	2	Wood Pigeon	2	flying	KOC
11/03/2020	2	Starling	80	flying	KOC
11/03/2020	2	Wood Pigeon	1	flying	KOC
11/03/2020	2	Starling	300	flying	KOC
11/03/2020	2	Wood Pigeon	7	flying	KOC
11/03/2020	2	Hooded Crow	3	flying	KOC
11/03/2020	2	Linnet	25	flying	KOC
11/03/2020	2	Rook	1	flying	KOC
11/03/2020	2	Hooded Crow	1	flying	KOC
11/03/2020	2	Wood Pigeon	4	flying perching	KOC
11/03/2020	2	Wood Pigeon	5	flying	KOC
11/03/2020	2	Magpie	1	flying, perching	KOC
11/03/2020	2	Hooded Crow	3	flying, calling	KOC



Date	VP	Species	No. of Birds	Comments	Surveyor
11/03/2020	2	Wood Pigeon	4	flying	KOC
11/03/2020	2	Wood Pigeon	2	flying	KOC
11/03/2020	2	Hooded Crow	1	flying	KOC
11/03/2020	2	Wood Pigeon	4	flying	KOC
11/03/2020	2	Wood Pigeon	2	flying, perching	KOC
11/03/2020	2	Hooded Crow	1	flying	KOC
11/03/2020	2	Hooded Crow	6	flying	KOC
11/03/2020	2	Wood Pigeon	3	flying	KOC
11/03/2020	2	Starling	280	flying	KOC
11/03/2020	2	Hooded Crow	2	flying	KOC
11/03/2020	2	Jackdaw	2	flying	KOC
11/03/2020	2	Hooded Crow	1	flying	KOC
11/03/2020	2	Wood Pigeon	1	flying	KOC
11/03/2020	2	Wood Pigeon	3	flying	KOC
11/03/2020	2	Wood Pigeon	2	flying	KOC
11/03/2020	2	Jackdaw	1	flying	KOC
11/03/2020	2	Rook	2	flying, gliding	KOC
11/03/2020	2	Rook	1	flying	KOC
20/03/2020	3	Rook			AOD
20/03/2020	3	Hooded Crow			AOD
20/03/2020	3	Raven			AOD
20/03/2020	3	Jackdaw			AOD
20/03/2020	3	Blackbird			AOD
20/03/2020	3	Robin			AOD
20/03/2020	3	Wren			AOD
20/03/2020	3	Wood Pigeon			AOD
20/03/2020	3	Chaffinch			AOD



Date	VP	Species	No. of Birds	Comments	Surveyor
20/03/2020	3	Pied Wagtail			AOD



Table 12 Fehily Timoney and Co. Survey Effort

Survey Type	Survey Location	Date	Observer	Start Time	End Time	Cloud	Visibility	Rain	Wind
Vantage Point	VP1	14/05/2019	KW	10:00	16:00	5/8 - 8/8	Good	Dry	SE 2-3
Vantage Point	VP2	15/05/2019	KW	13:30	16:30	4/8	Good	Dry	SE 3-4
Vantage Point	VP2	16/05/2019	KW	10:00	13:00	8/8	Good	Dry	SE F3
Breeding Walkover	Transect 1	15/05/2019	KW	06:45	07:15	1/2	Good	Dry	F0
Breeding Walkover	Transect 2	15/05/2019	KW	07:25	07:52	1/2	Good	Dry	F0
Breeding Walkover	Transect 3	15/05/2019	KW	08:05	08:20	1/4	Good	Dry	F0
Breeding Walkover	Transect 4	15/05/2019	KW	08:40	09:05	1/4	Good	Dry	F0
Breeding Walkover	Transect 5	14/05/2019	KW	07:00	07:30	3/4	Good	Dry	F2-4

Table 13 Fehily Timoney and Co. Vantage Point Survey Observations

Date	Species	Species Quantity	Start Time	Inside / outside Buffer	Total Duration (s)	0-25 (s)	25-40 (s)	40-50 (s)	50-170 (s)	>170 (s)	Bird Notes
14/05/2019	BZ	1	11:09	IN	302	93	209				Soaring over plantation. Dropped behind treeline east-west then north.
14/05/2019	BZ	1	12:08	IN	911	54	21	24	812		Soaring above plantation. Eventually lost in cloud 150m+.
14/05/2019	BZ	1	12:26	IN	174	53	102	19			Out of cloud, circling downwards, then long glide down into plantation edging road.
14/05/2019	WP	1									
14/05/2019	RO	1									
14/05/2019	D.	1									
14/05/2019	R.	1									
14/05/2019	JD	1									
14/05/2019	CH	1									
14/05/2019	WR	1									
14/05/2019	BC	1									
14/05/2019	SL	1									
14/05/2019	MG	1									
14/05/2019	SG	1									
14/05/2019	B.	1									
14/05/2019	BT	1									
14/05/2019	HS	1									
14/05/2019	HC	1									
14/05/2019	PH	1									
14/05/2019	GR	1									
15/05/2019	H.	1	14:47	IN	29	29					Flying west out of plantation surrounding ruined house.



Date	Species	Species Quantity	Start Time	Inside / outside Buffer	Total Duration (s)	0-25 (s)	25-40 (s)	40-50 (s)	50-170 (s)	>170 (s)	Bird Notes
15/05/2019				OUT	8	8					
15/05/2019	BZ	1	15:27	IN	41	41					Soared above plantation to north of ruin, soared south first then drifted back north below plantation.
15/05/2019	JD	1									
15/05/2019	ST	1									
15/05/2019	SL	1									
15/05/2019	R.	1									
15/05/2019	B.	1									
15/05/2019	WW	1									
15/05/2019	SG	1									
15/05/2019	CH	1									
15/05/2019	D.	1									
15/05/2019	HC	1									
15/05/2019	WR	1									
15/05/2019	GT	1									
15/05/2019	WP	1									
15/05/2019	PW	1									
15/05/2019	BC	1									
15/05/2019	GB	1									
15/05/2019	HM	1									
16/05/2019	BZ	1	11:18	IN	103				103		In low cloud circling south-east. Drifted east into cloud and out of sight.
16/05/2019	GT	1									
16/05/2019	CH	1									
16/05/2019	GO	1									



Date	Species	Species Quantity	Start Time	Inside / outside Buffer	Total Duration (s)	0-25 (s)	25-40 (s)	40-50 (s)	50-170 (s)	>170 (s)	Bird Notes
16/05/2019	JD	1									
16/05/2019	RO	1									
16/05/2019	B.	1									
16/05/2019	WR	1									
16/05/2019	WP	1									
16/05/2019	HS	1									
16/05/2019	BC	1									
16/05/2019	D.	1									
16/05/2019	HC	1									
16/05/2019	SL	1									
16/05/2019	SG	1									
16/05/2019	M	1									
16/05/2019	R.	1									
16/05/2019	ST	1									
16/05/2019	WW	1									
16/05/2019	PW	1									
16/05/2019	HM	1									

Table 14 Fehily Timoney and Co. Walkover Survey Observations

Transect number	Date	Species	BTO code	0-25m	25-100m
1	15/05/2019	Blackbird	B.	3	1
1	15/05/2019	Blackcap	BC	1	
1	15/05/2019	Bullfinch	BF	2	
1	15/05/2019	Blue Tit	BT		2
1	15/05/2019	Buzzard	BZ		1
1	15/05/2019	Chiffchaff	CC		
1	15/05/2019	Chaffinch	CH		2
1	15/05/2019	Dunnock	D.	2	
1	15/05/2019	Goldfinch	GO		2
1	15/05/2019	Great Tit	GT		1
1	15/05/2019	Hooded Crow	HC		
1	15/05/2019	Jackdaw	JD		
1	15/05/2019	Mallard	MA		
1	15/05/2019	Magpie	MG	1	
1	15/05/2019	Robin	R.	2	1
1	15/05/2019	Woodpigeon	WP		
1	15/05/2019	Wren	WR	2	2
1	15/05/2019	Willow Warbler	WW		2
2	15/05/2019	Blackbird	B.	4	3
2	15/05/2019	Blue Tit	BT	1	
2	15/05/2019	Bullfinch	BF		
2	15/05/2019	Chaffinch	CH	3	4
2	15/05/2019	Chiffchaff	CC		
2	15/05/2019	Coal Tit	CT	1	
2	15/05/2019	Dunnock	D.	1	1
2	15/05/2019	Goldfinch	GO	1	

Transect number	Date	Species	BTO code	0-25m	25-100m
2	15/05/2019	Great Tit	GT		1
2	15/05/2019	Heron	H.	1	
2	15/05/2019	Hooded Crow	HC	1	2
2	15/05/2019	House Sparrow	HS	2	
2	15/05/2019	Jackdaw	JD	1	1
2	15/05/2019	Lesser Redpoll	LR	1	
2	15/05/2019	Linnet	LI	1	
2	15/05/2019	Magpie	MG	1	
2	15/05/2019	Mallard	MA		
2	15/05/2019	Mistle Thrush	M.		1
2	15/05/2019	Pheasant	PH		1
2	15/05/2019	Robin	R.	1	
2	15/05/2019	Rook	R.		
2	15/05/2019	Skylark	S.	1	
2	15/05/2019	Starling	SG	2	1
2	15/05/2019	Swallow	SL	1	2
2	15/05/2019	Willow Warbler	WW		1
2	15/05/2019	Woodpigeon	WP	1	2
2	15/05/2019	Wren	WR	4	
3	15/05/2019	Blackbird	B.	1	2
3	15/05/2019	Blue Tit	BT	1	
3	15/05/2019	Chaffinch	CH	1	
3	15/05/2019	Chiffchaff	CC	1	1
3	15/05/2019	Coal Tit	CT		1
3	15/05/2019	Magpie	MG		1
3	15/05/2019	Mistle Thrush	M.	1	

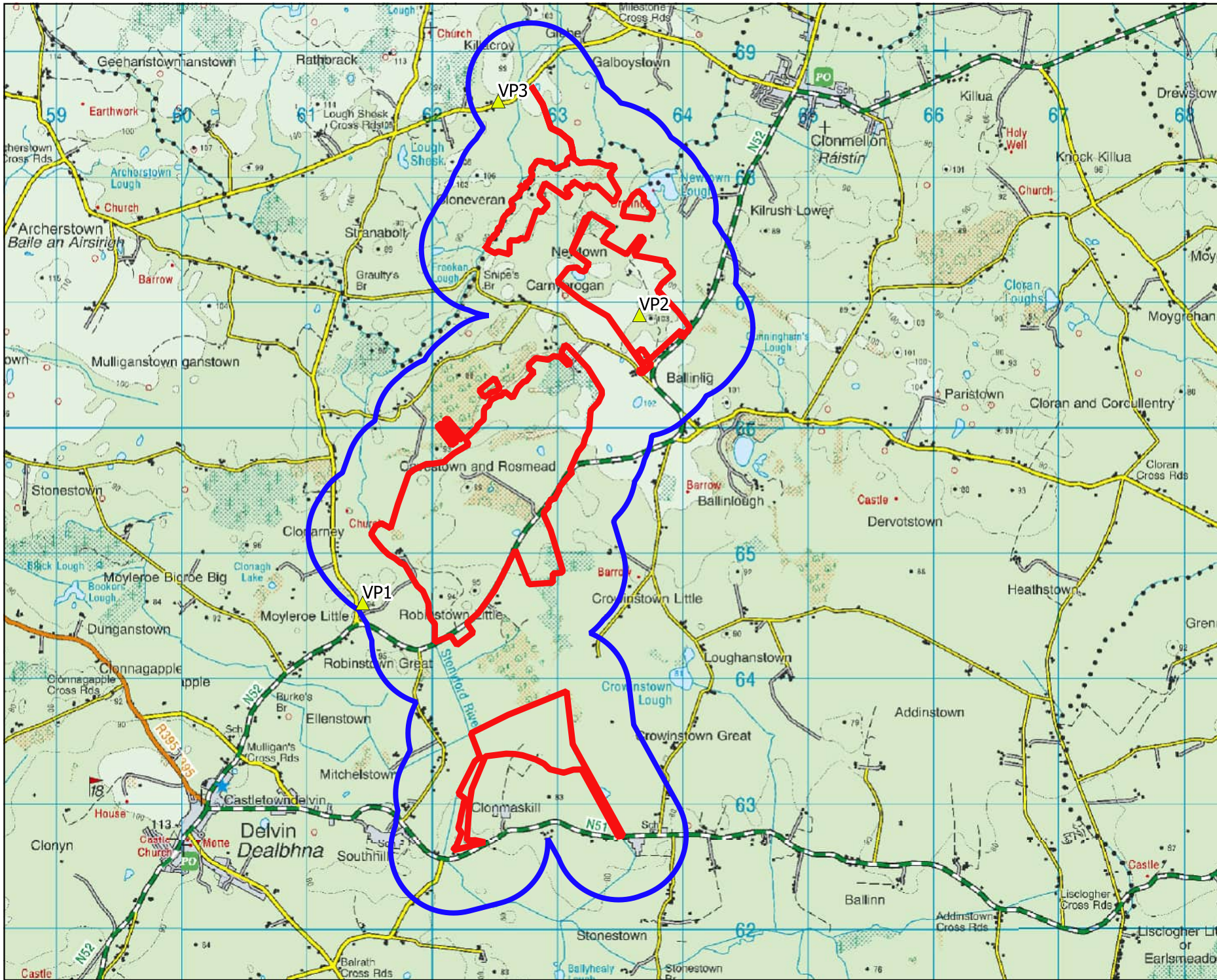
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3	15/05/2019	Pheasant	PH		1
3	15/05/2019	Willow Warbler	WW		1
3	15/05/2019	Woodpigeon	WP	1	2
3	15/05/2019	Wren	WR	2	2
3	15/05/2019	Blackcap	BC	1	
3	15/05/2019	Whitethroat	WH		2
3	15/05/2019	Goldcrest	GC	1	
3	15/05/2019	Treecreeper	TC	1	1
3	15/05/2019	Song Thrush	ST	1	1
3	15/05/2019	Garden Warbler	GW	1	
4	15/05/2019	Blackbird	B.	6	7
4	15/05/2019	Blackcap	BC	1	1
4	15/05/2019	Blue Tit	BT	3	
4	15/05/2019	Bullfinch	BF	2	
4	15/05/2019	Buzzard	BZ		
4	15/05/2019	Chaffinch	CH	5	2
4	15/05/2019	Chiffchaff	CC	1	3
4	15/05/2019	Dunnock	D.		1
4	15/05/2019	Great Tit	GT	2	
4	15/05/2019	Hooded Crow	HC		
4	15/05/2019	Magpie	MG	1	
4	15/05/2019	Mallard	MA		1
4	15/05/2019	Mistle Thrush	M.	1	
4	15/05/2019	Pheasant	PH		
4	15/05/2019	Pied Wagtail	PW	1	
4	15/05/2019	Robin	R.	2	2

Transect number	Date	Species	BTO code	0-25m	25-100m
4	15/05/2019	Rook	RO		1
4	15/05/2019	Song Thrush	ST		1
4	15/05/2019	Swallow	SL		1
4	15/05/2019	Treecreeper	TC	3	
4	15/05/2019	Willow Warbler	WW	3	3
4	15/05/2019	Woodpigeon	WP		4
4	15/05/2019	Wren	WR	1	2
4	15/05/2019	Yellowhammer	Y	1	
5	14/05/2019	Blackbird	B.		2
5	14/05/2019	Chaffinch	CH	2	1
5	14/05/2019	Chiffchaff	CC		1
5	14/05/2019	Coal Tit	CT		1
5	14/05/2019	Dunnock	D.	1	
5	14/05/2019	Goldcrest	GO	1	
5	14/05/2019	Great Tit	GT	2	
5	14/05/2019	Jay	J.	1	
5	14/05/2019	Lesser Redpoll	LR		1
5	14/05/2019	Robin	R.	3	
5	14/05/2019	Song Thrush	ST	3	
5	14/05/2019	Spotted Flycatcher	SF	1	
5	14/05/2019	Swallow	SL		1
5	14/05/2019	Treecreeper	TC	2	
5	14/05/2019	Willow Warbler	WW	1	1
5	14/05/2019	Woodpigeon	WP	1	
5	14/05/2019	Wren	WR	3	1



APPENDIX 2

FIGURES



Map Legend

- Site Boundary
- 500m Buffer of Site Boundary
- ▲ VP Locations




Map Title

Vantage Point Locations

Project Title

Crowinstown, Co. Westmeath

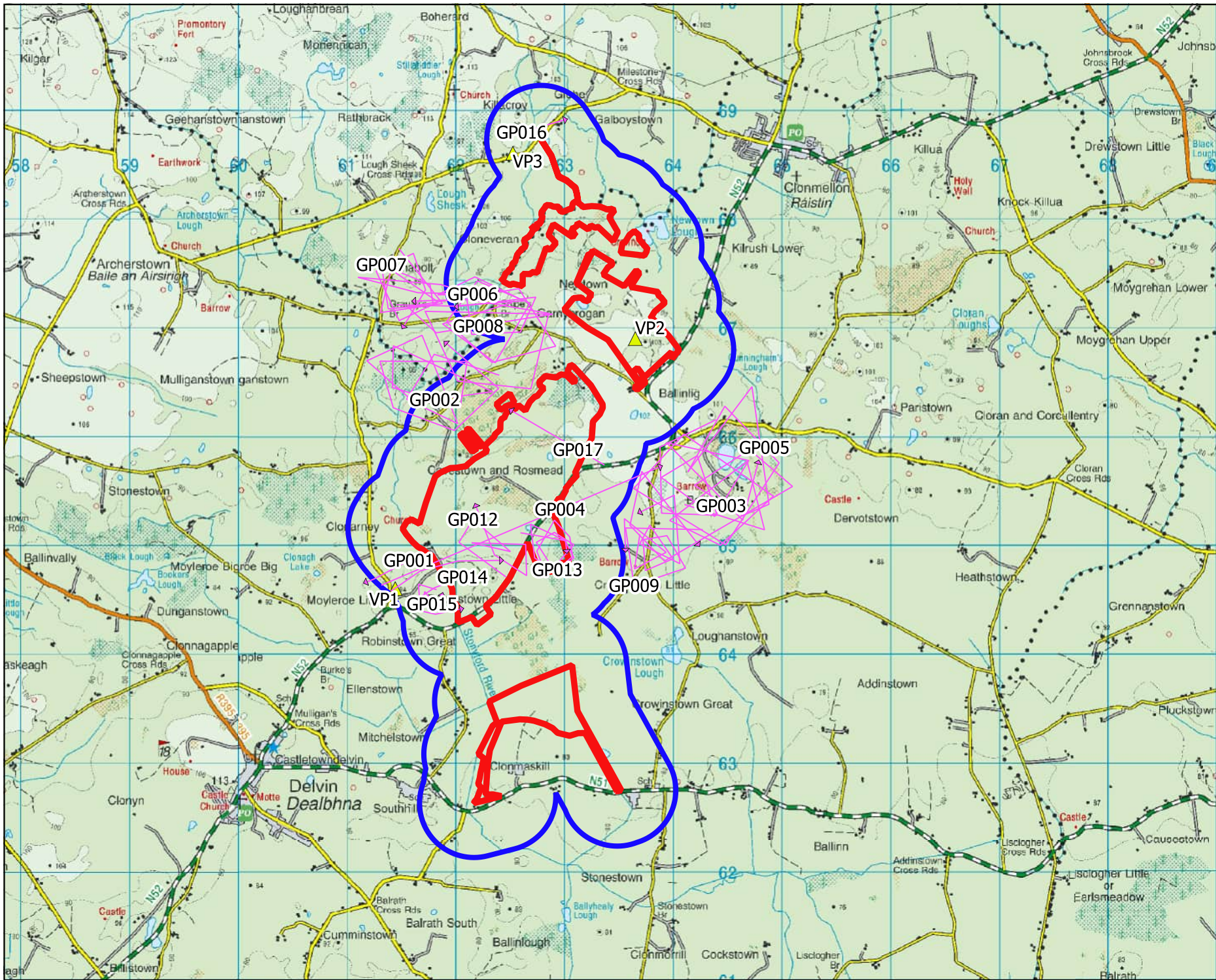
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
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Map Legend

-  Site Boundary
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-  VP Locations
-  Golden Plover Flightlines



Map Title

Golden Plover VP Flightlines

Project Title

Crowinstown, Co. Westmeath

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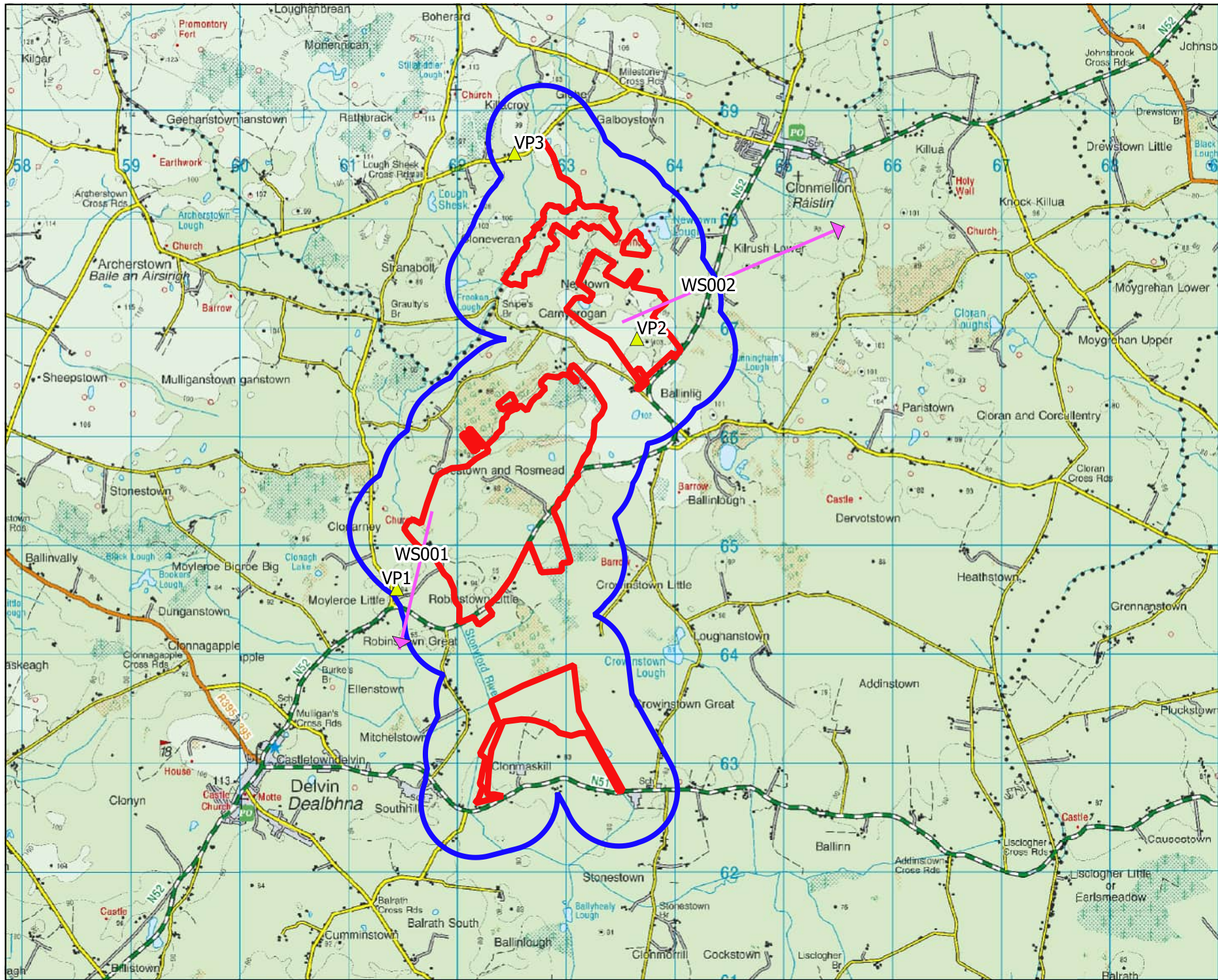
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 - ▲ VP Locations
 - ↗ Whooper Swan Flightlines




Map Title

Whooper Swan VP Flightlines

Project Title

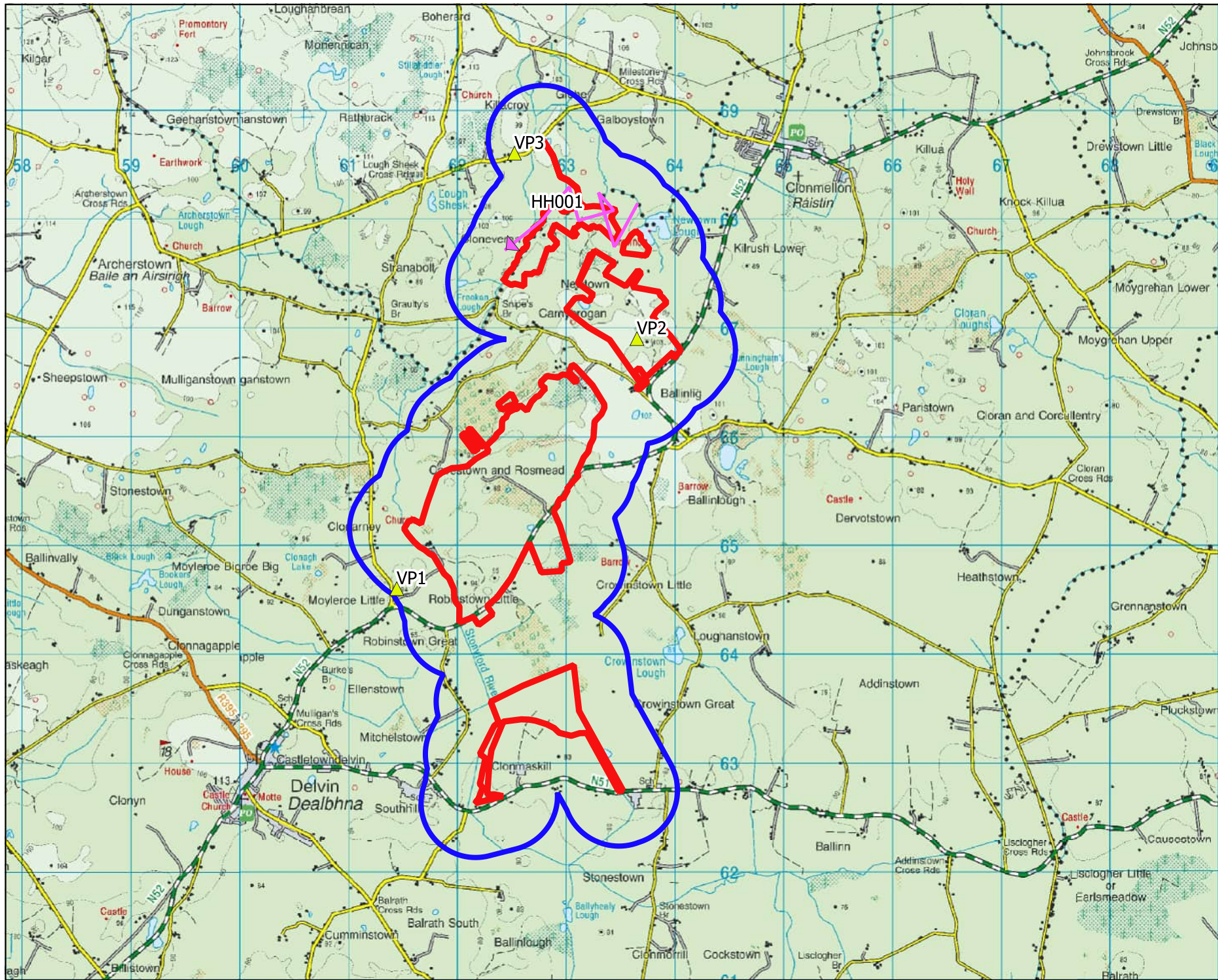
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 - ▲ VP Locations
 - ↗ Hen Harrier Flightlines




Map Title

Hen Harrier VP Flightlines

Project Title

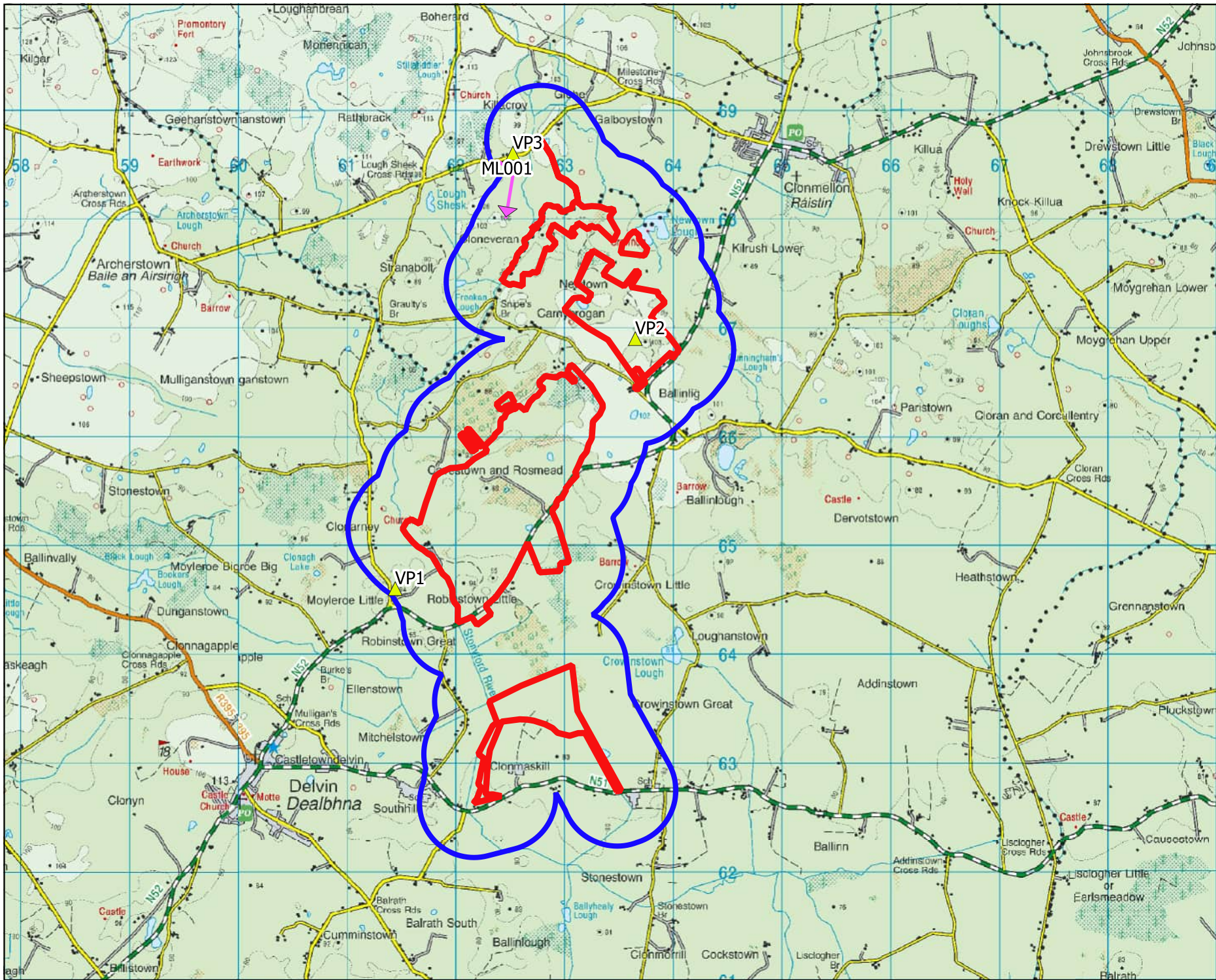
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 - 500m Buffer of Site Boundary
 - ▲ VP Locations
 - ↗ Merlin Flightlines




Map Title

Merlin VP Flightlines

Project Title

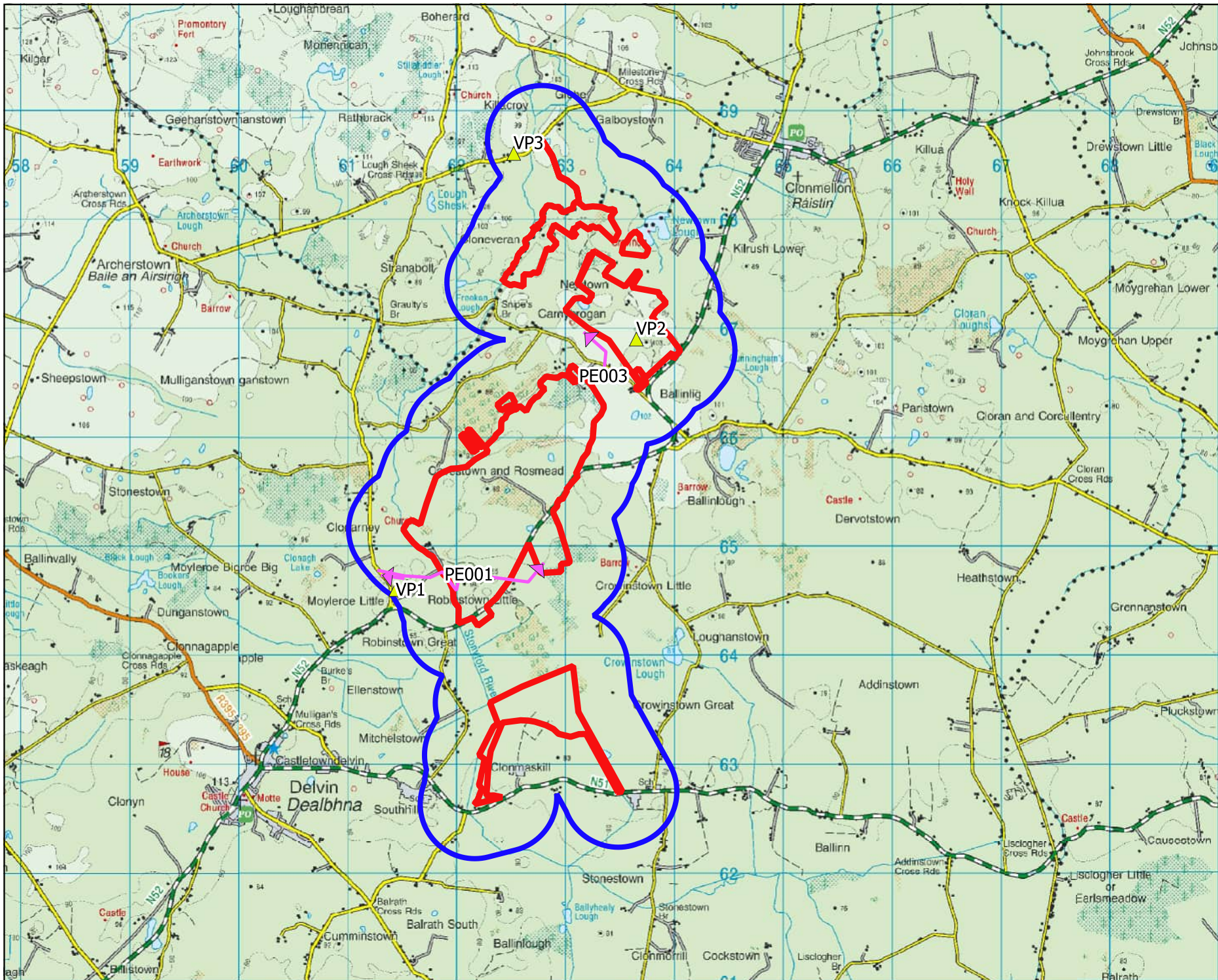
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 - ▲ VP Locations
 - ↗ Peregrine Flightlines




Map Title

Peregrine VP Flightlines

Project Title

Crowinstown, Co. Westmeath

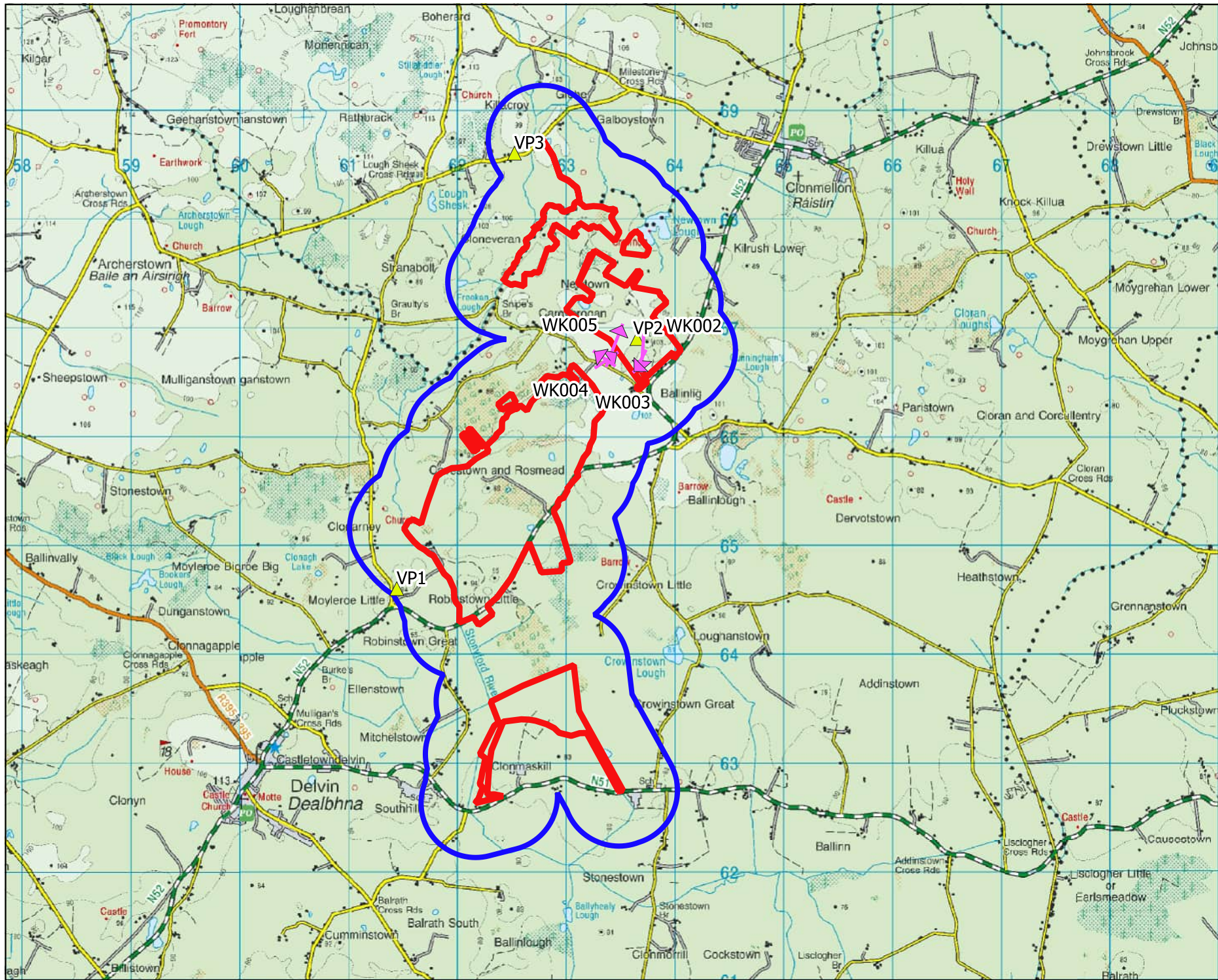
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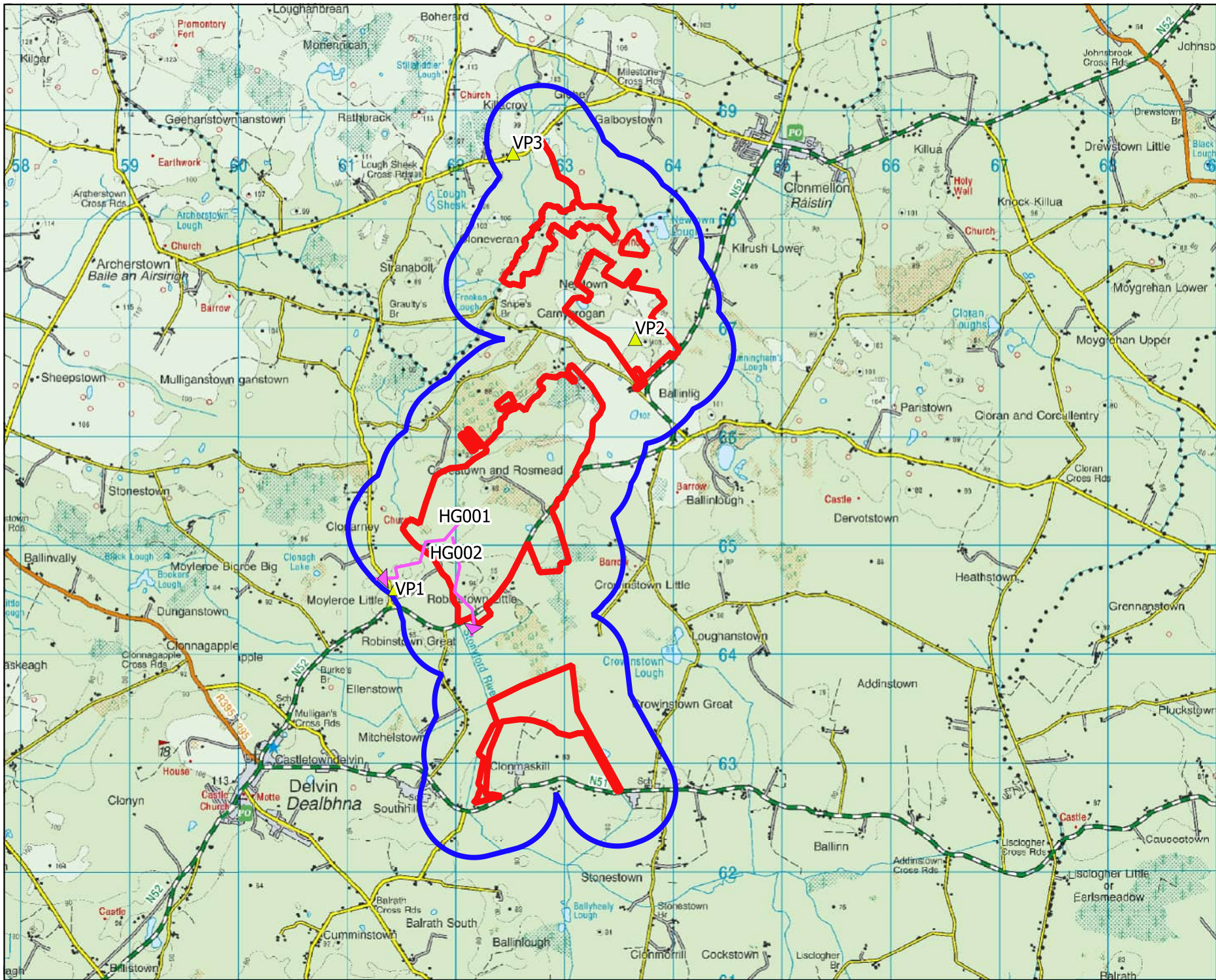
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 - 500m Buffer of Site Boundary
 - ▲ VP Locations
 - ↗ Woodcock Flightlines




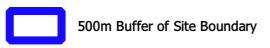


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Woodcock VP Flightlines	
Project Title	
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Drawn By	Checked By
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Scale	Date
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Map Legend

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-  VP Locations
-  Herring Gull Flightlines



Map Title

Herring Gull VP Flightlines


Project Title

Crowinstown, Co. Westmeath

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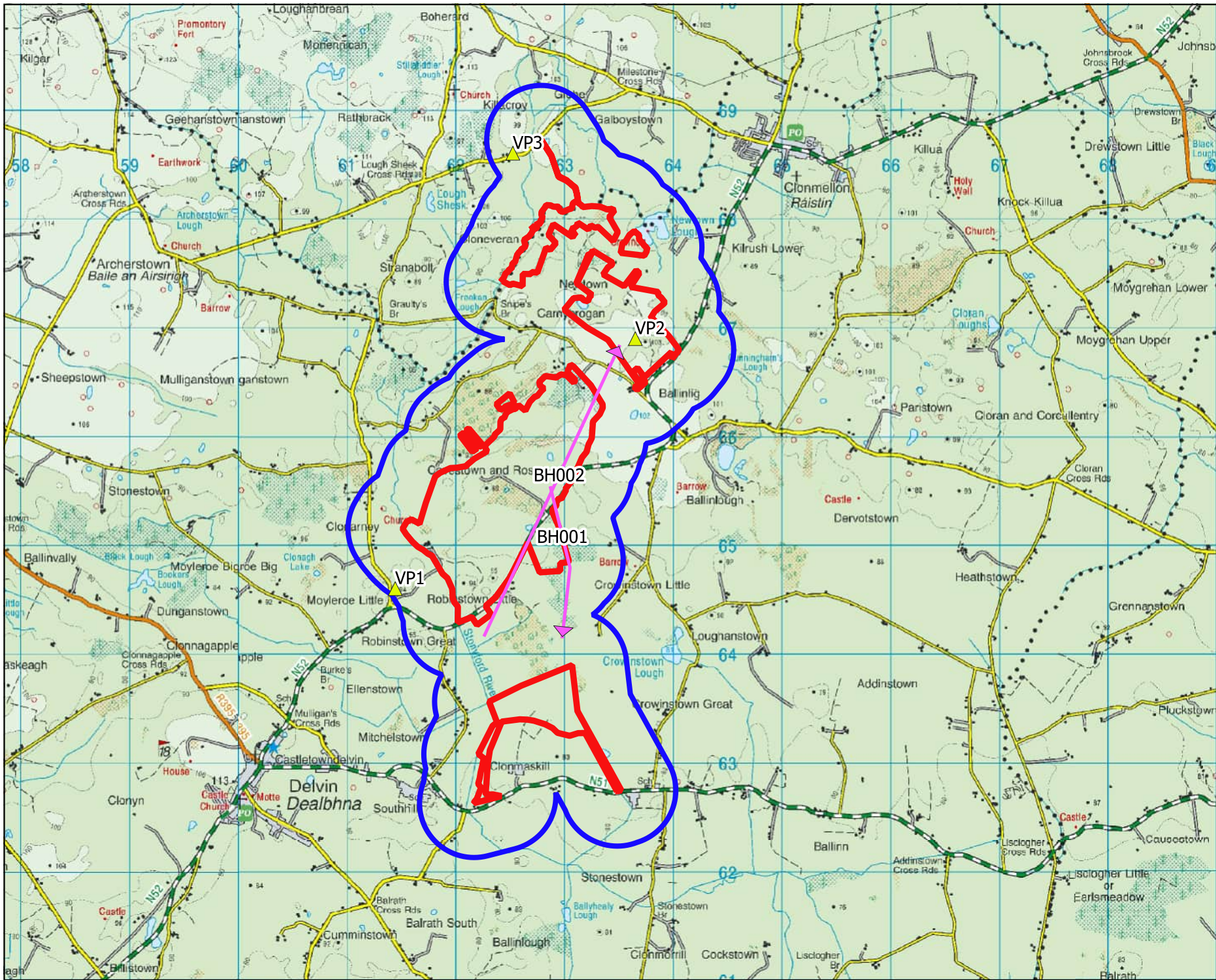
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- Site Boundary
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 - ↔ BH Gull Flightlines

Map Title

BH Gull VP Flightlines

Project Title

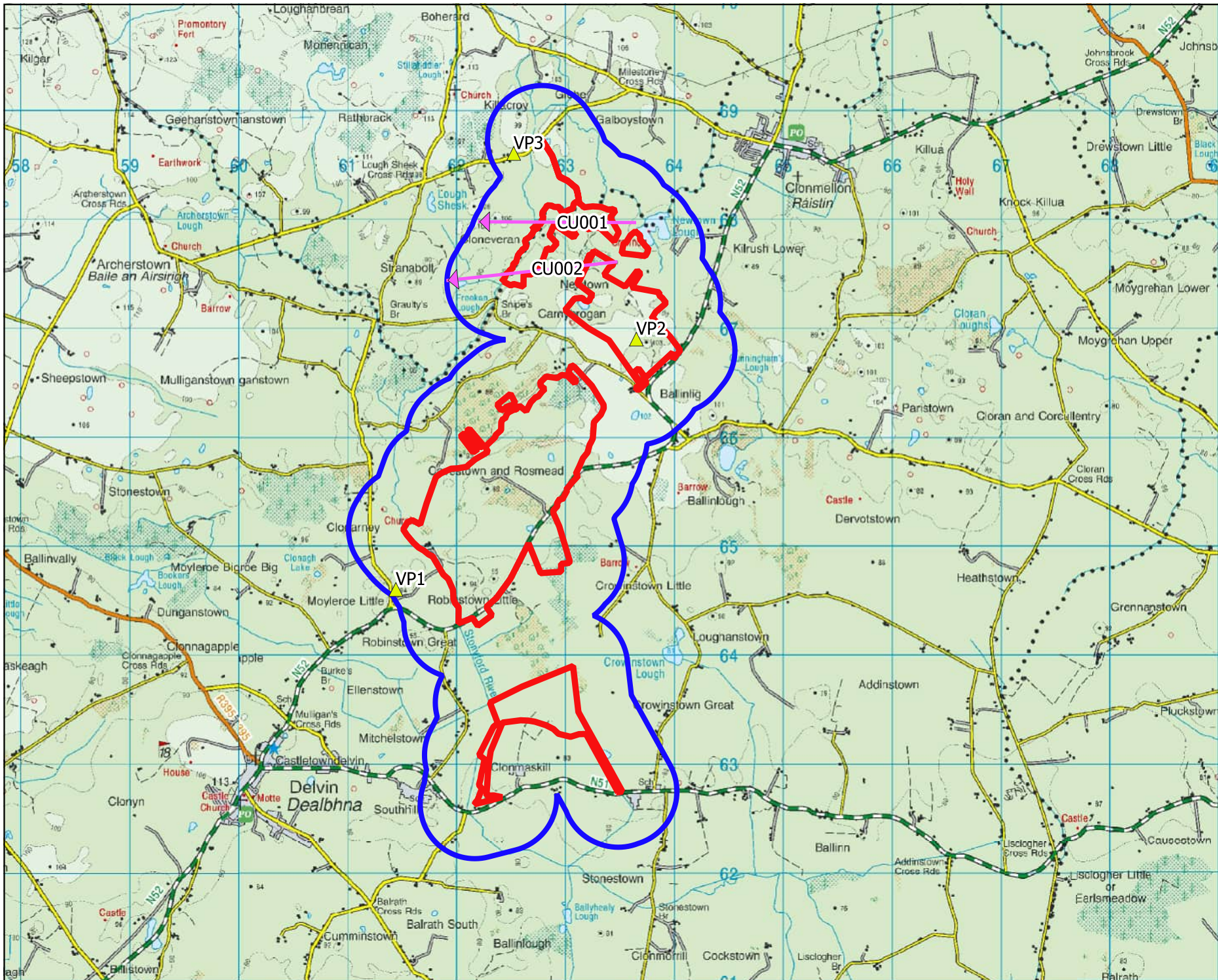
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 - ▲ VP Locations
 - ↔ Curlew Flightlines




Map Title

Curlew VP Flightlines

Project Title

Crowinstown, Co. Westmeath

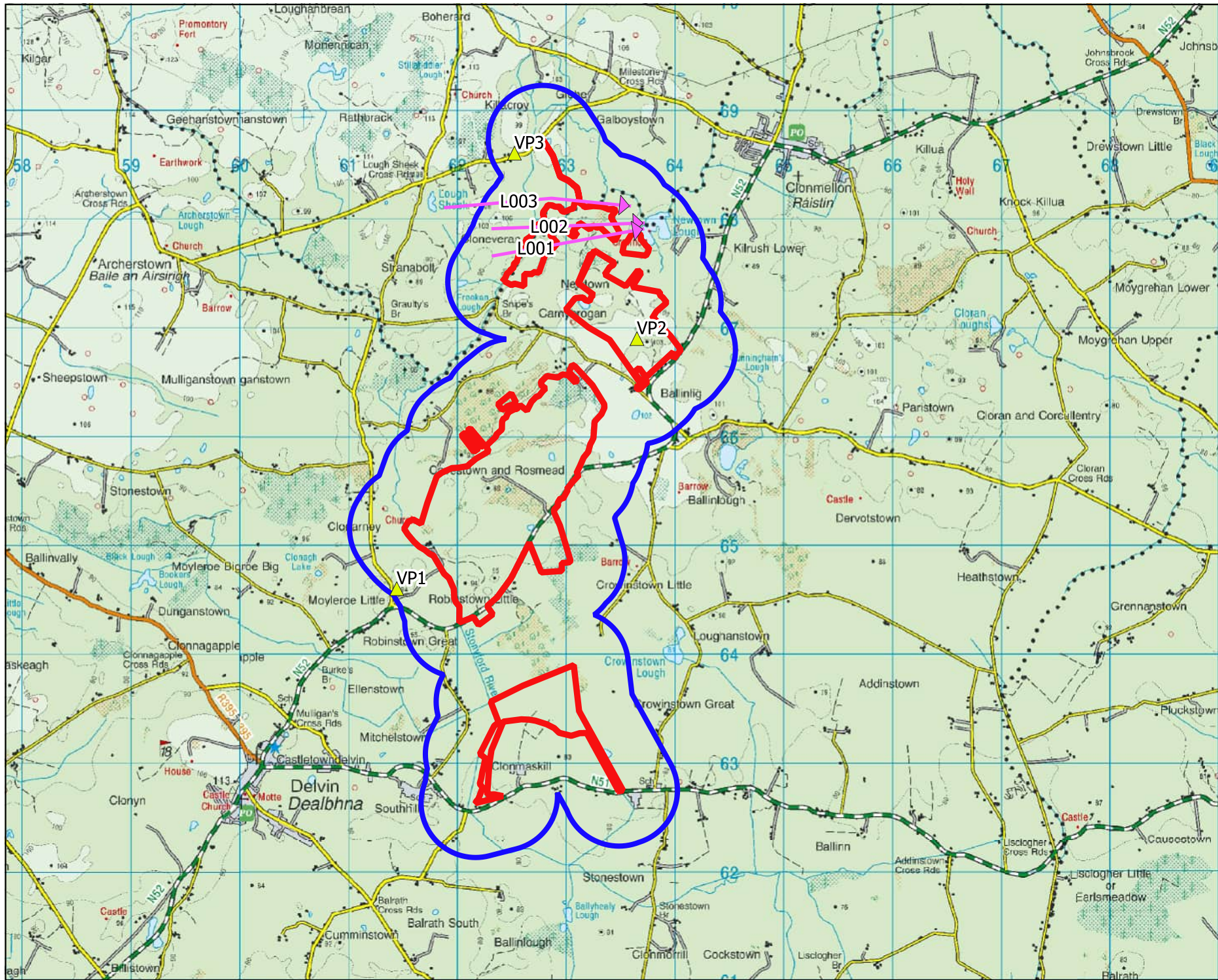
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 - ▲ VP Locations
 - Lapwing Flightlines



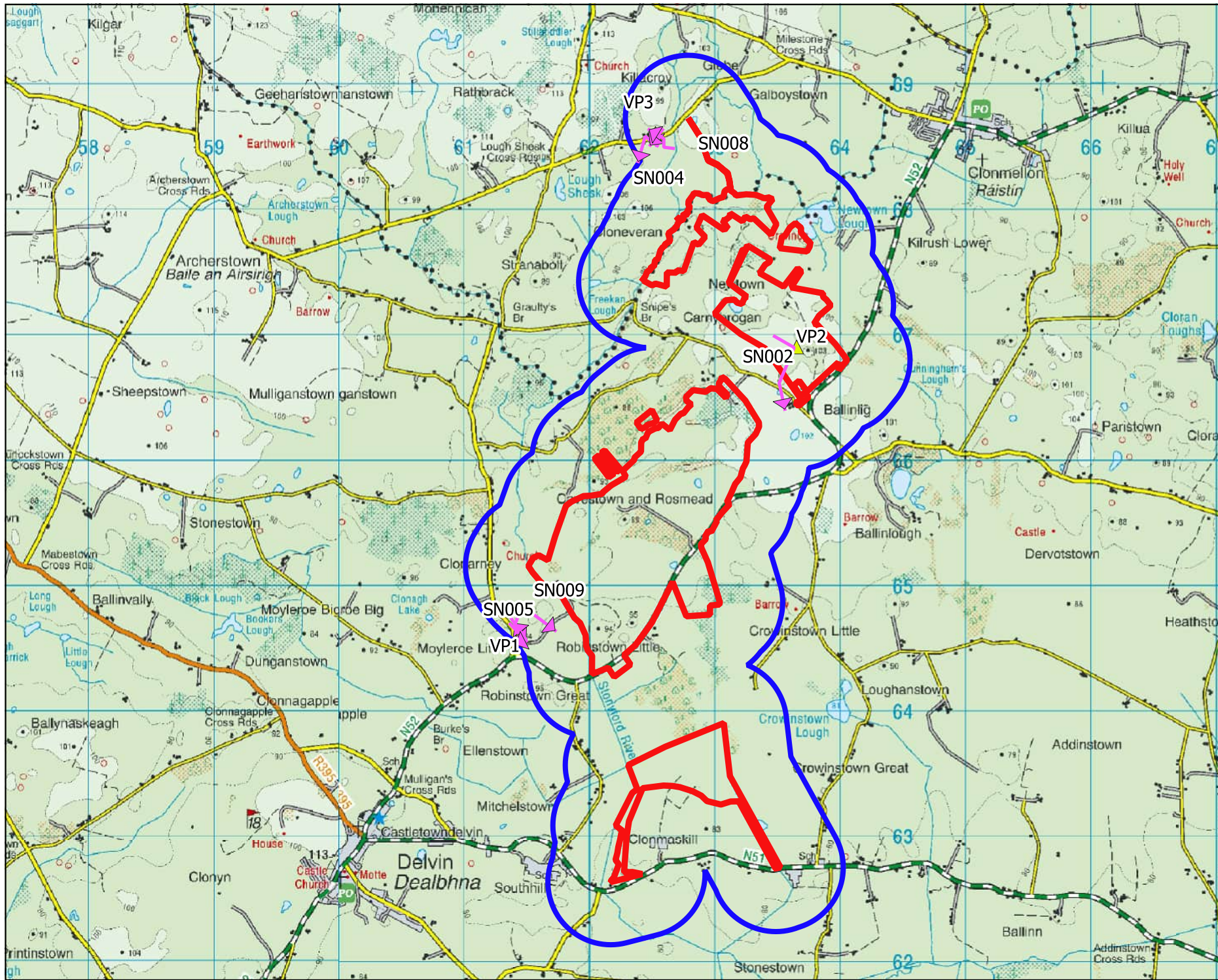
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Lapwing VP Flightlines	
Project Title	
Crowinstown, Co. Westmeath	
Drawn By	Checked By
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Project No.	Map No.
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Scale	Date
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- Site Boundary
 - 500m Buffer of Site Boundary
 - ▲ VP Locations
 - ↗ Snipe Flightlines




Map Title

Snipe VP Flightlines

Project Title

Crowinstown, Co. Westmeath

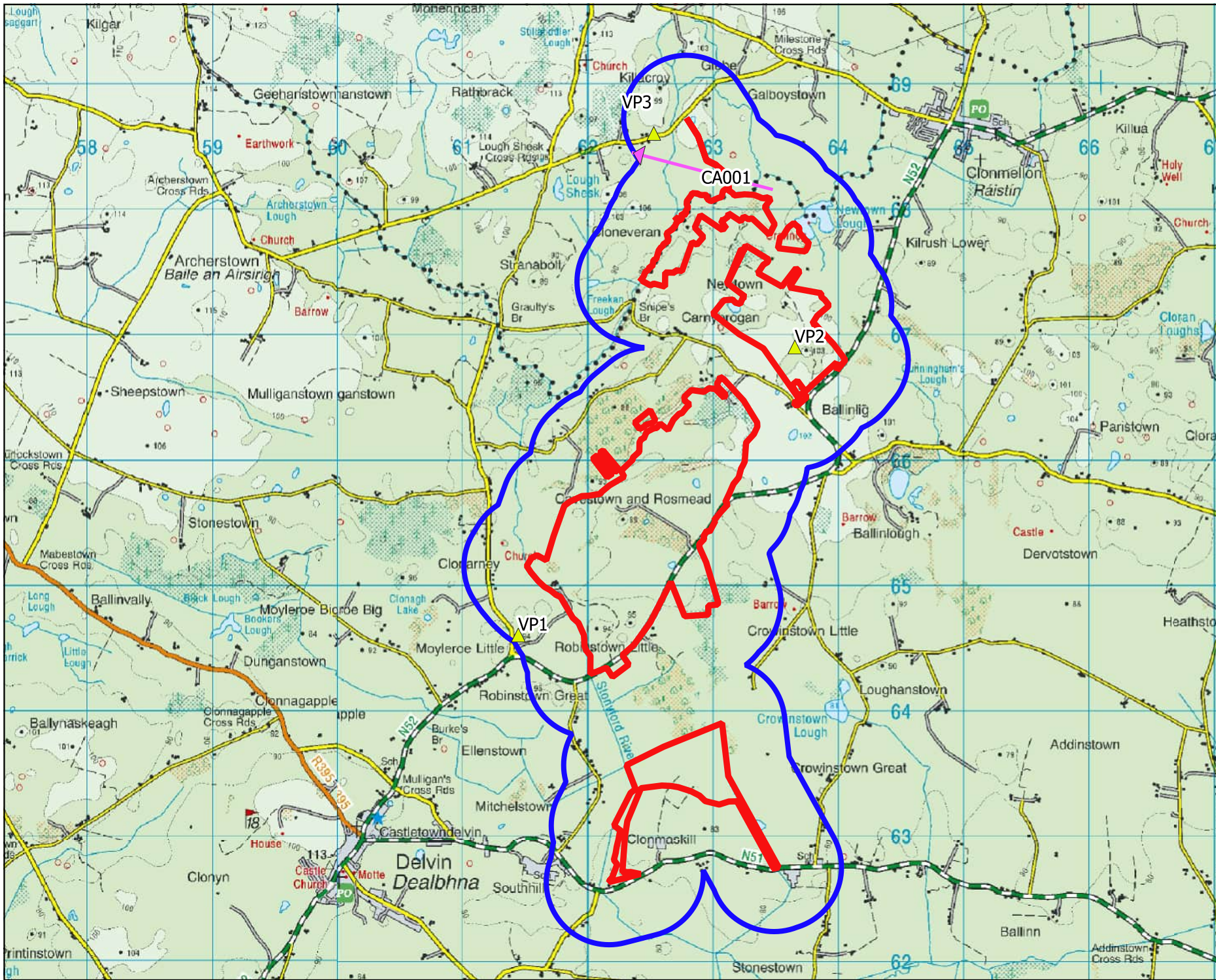
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IH	DOD
Project No.	Map No.
190531	Fig 1-1-11
Scale	Date
1:39486	01.07.2020



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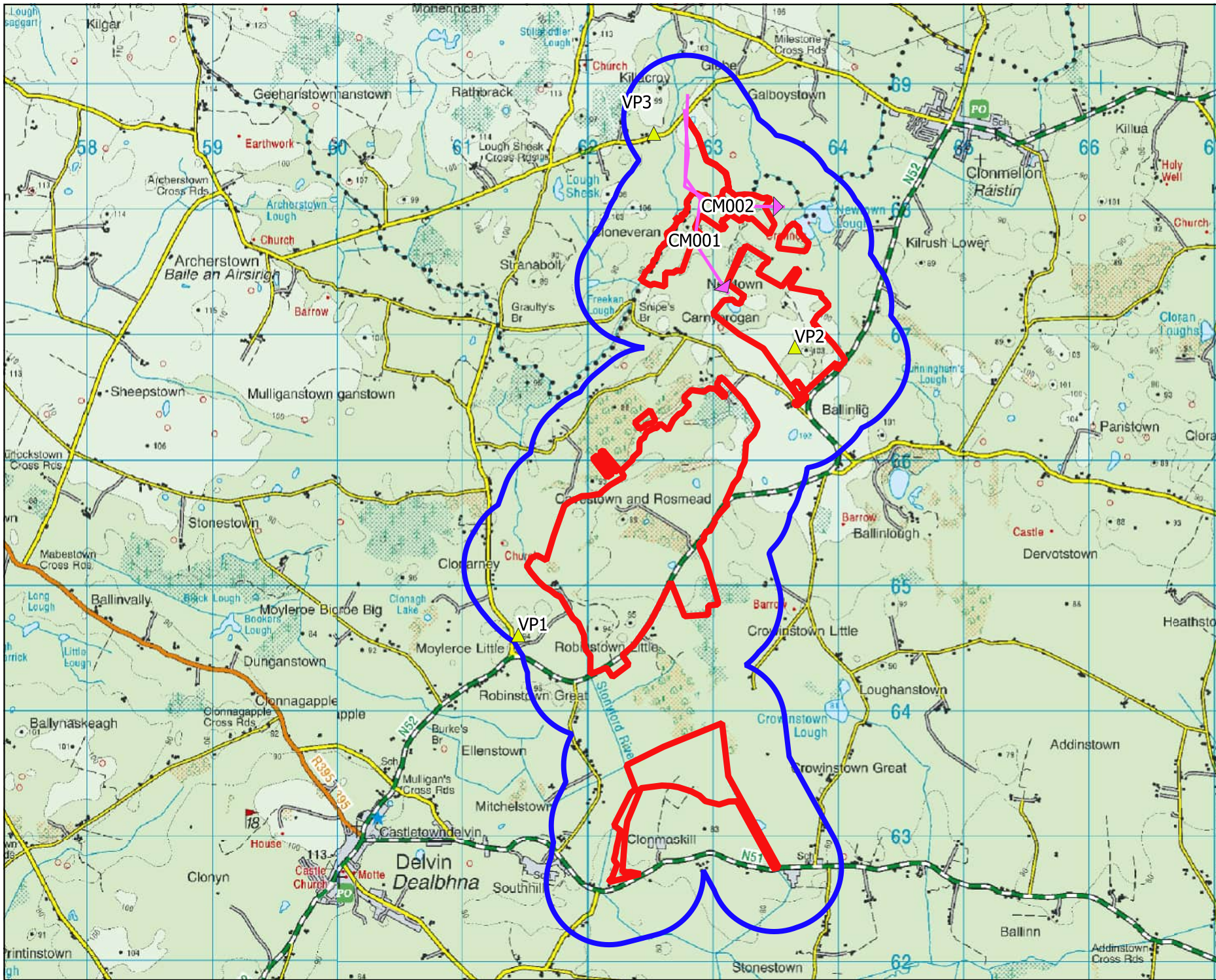


- ### Map Legend
- Site Boundary
 - 500m Buffer of Site Boundary
 - ▲ VP Locations
 - Cormorant Flightlines



Map Title	
Cormorant VP Flightlines	
Project Title	
Crowinstown, Co. Westmeath	
Drawn By	Checked By
IH	DOD
Project No.	Map No.
190531	Fig 1-1-12
Scale	Date
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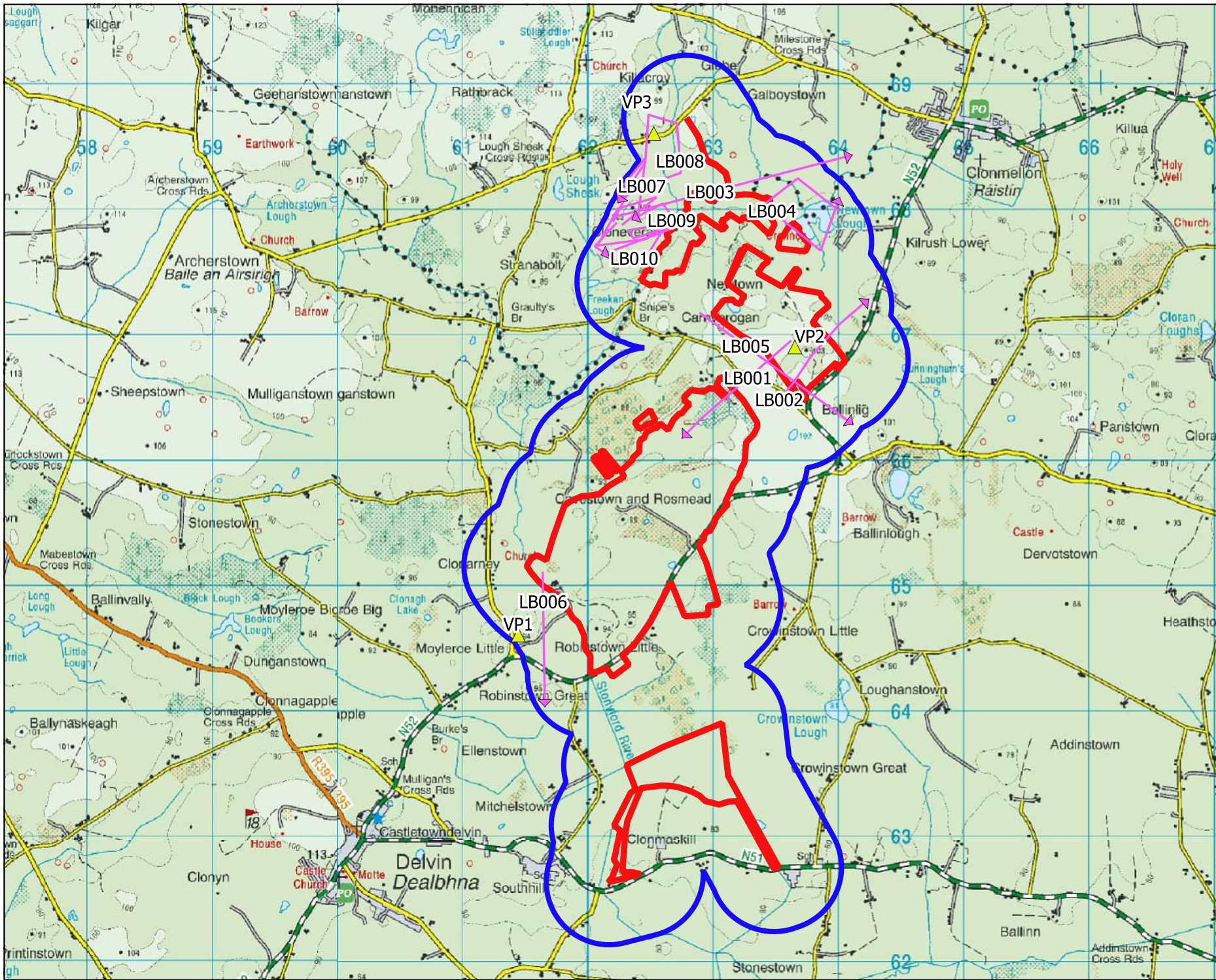
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- Site Boundary
 - 500m Buffer of Site Boundary
 - ▲ VP Locations
 - ▶ Common Gull Flightlines



Map Title	
Common Gull VP Flightlines	
Project Title	
Crowinstown, Co. Westmeath	
Drawn By	Checked By
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Project No.	Map No.
190531	Fig 1-1-13
Scale	Date
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Map Legend

- Site Boundary
- 500m Buffer of Site Boundary
- ▲ VP Locations
- ↗ LB Gull Flightlines




Map Title

LB Gull VP Flightlines

Project Title

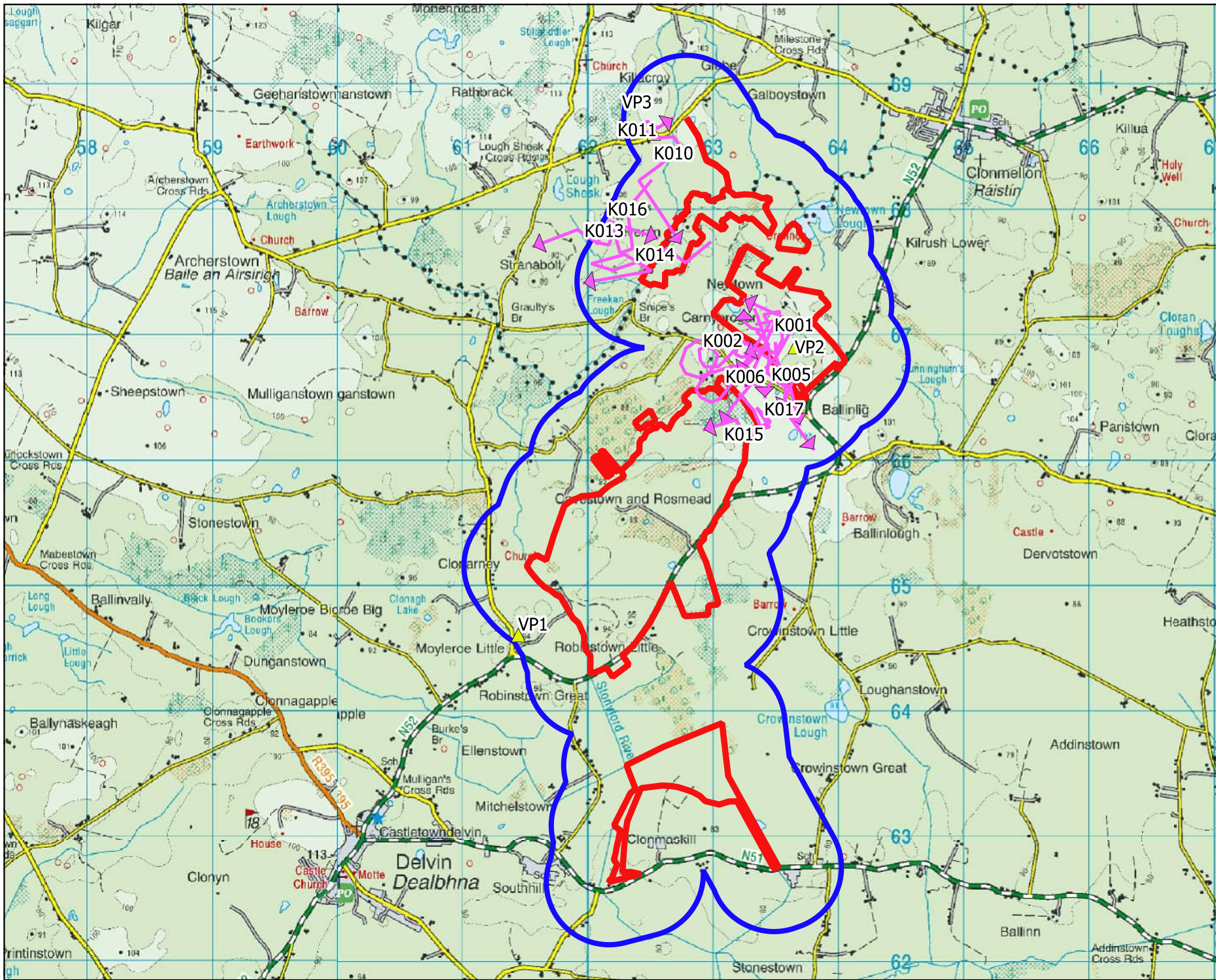
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Project No.	Map No.
190531	Fig 1-1-14
Scale	Date
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- ### Map Legend
- Site Boundary
 - 500m Buffer of Site Boundary
 - ▲ VP Locations
 - ↗ Kestrel Flightlines




Map Title

Kestrel VP Flightlines

Project Title

Crowinstown, Co. Westmeath

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IH	DOD
Project No.	Map No.
190531	Fig 1-1-15
Scale	Date
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Map Legend

-  Site Boundary
-  500m Buffer of Site Boundary
-  Kestrel Confirmed Breeding Observation



Map Title

VP Survey kestrel Confirmed Breeding Observation

Project Title

Crowinstown, Co. Westmeath

Drawn By

IH

Checked By

DOD

Project No.

190531

Map No.

Fig 1-1-15-1

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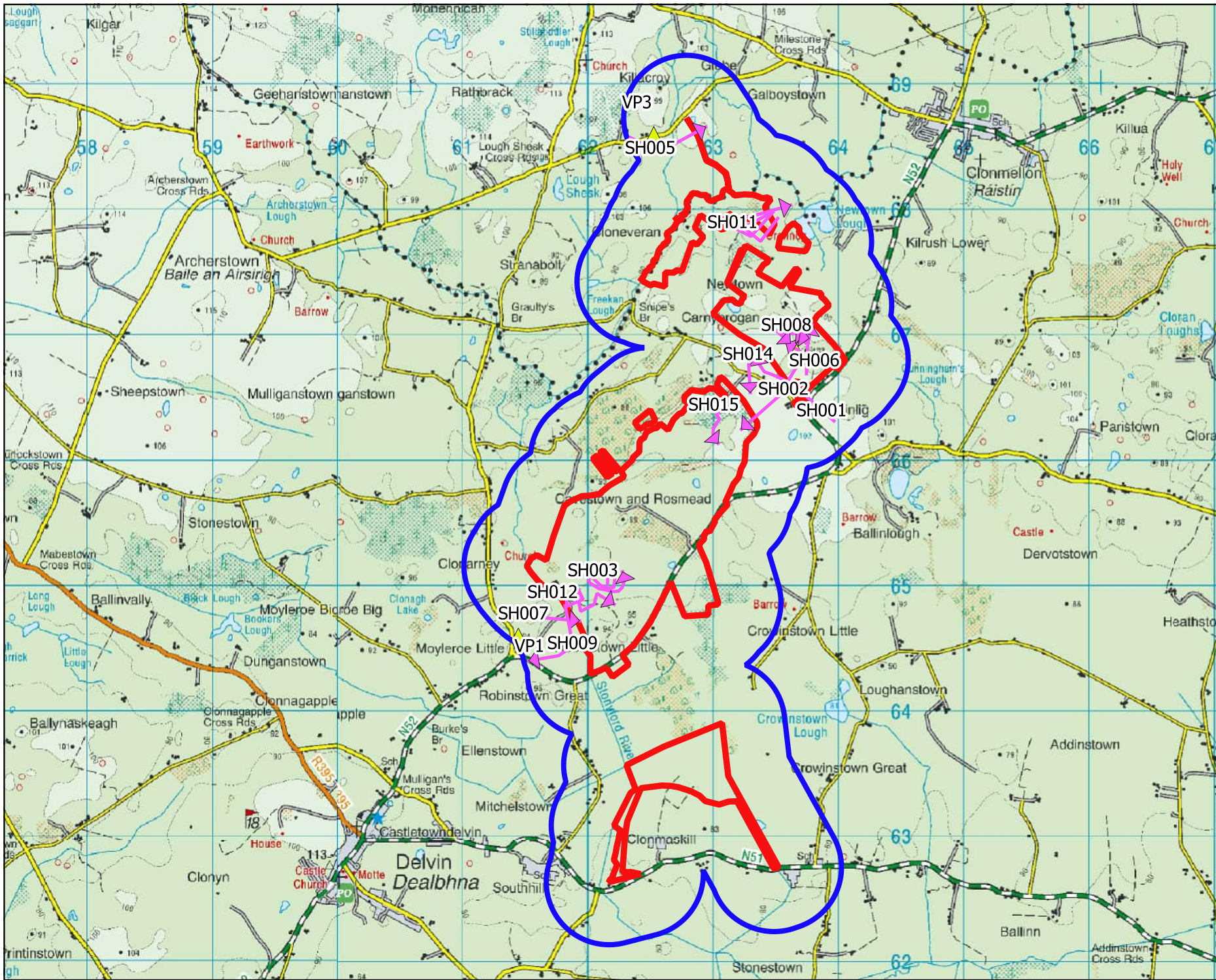
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Date

07.07.2020



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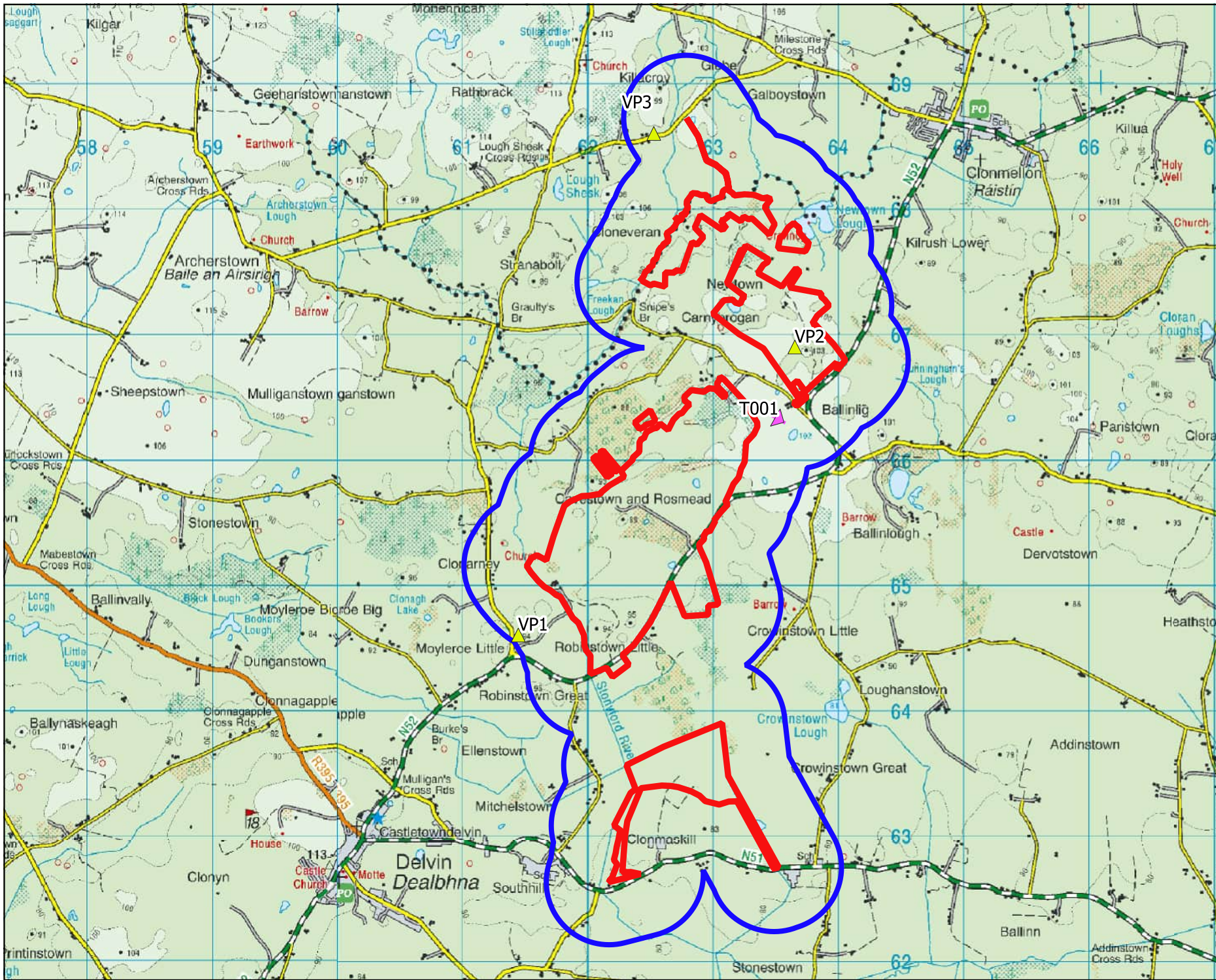


- ### Map Legend
- Site Boundary
 - 500m Buffer of Site Boundary
 - ▲ VP Locations
 - ▶ Sparrowhawk Flightlines



Map Title	
Sparrowhawk VP Flightlines	
Project Title	
Crowinstown, Co. Westmeath	
Drawn By	Checked By
IH	DOD
Project No.	Map No.
190531	Fig 1-1-16
Scale	Date
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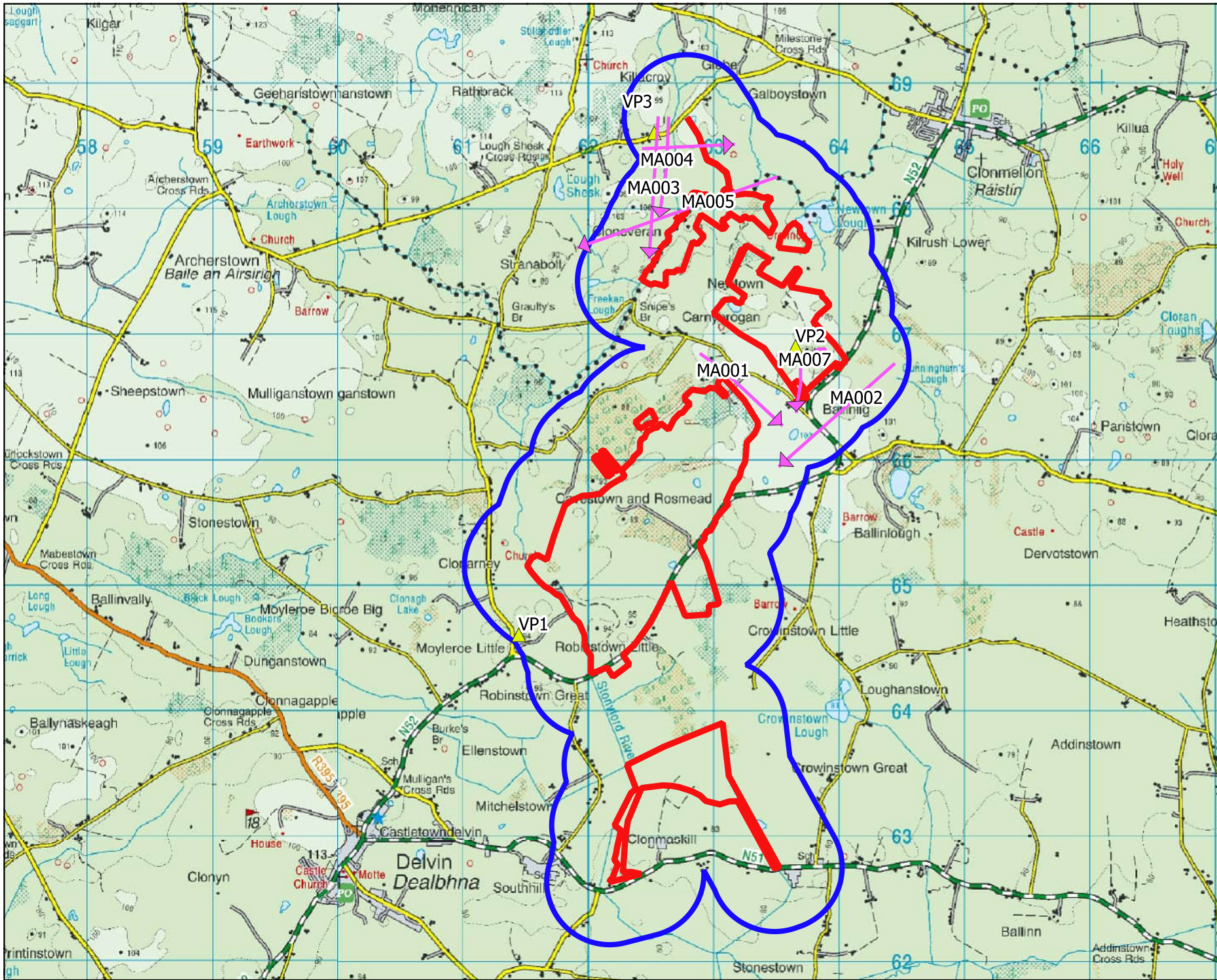


- ### Map Legend
- Site Boundary
 - 500m Buffer of Site Boundary
 - ▲ VP Locations
 - ▶ Teal Flightlines



Map Title	
Teal VP Flightlines	
Project Title	
Crowinstown, Co. Westmeath	
Drawn By	Checked By
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Project No.	Map No.
190531	Fig 1-1-17
Scale	Date
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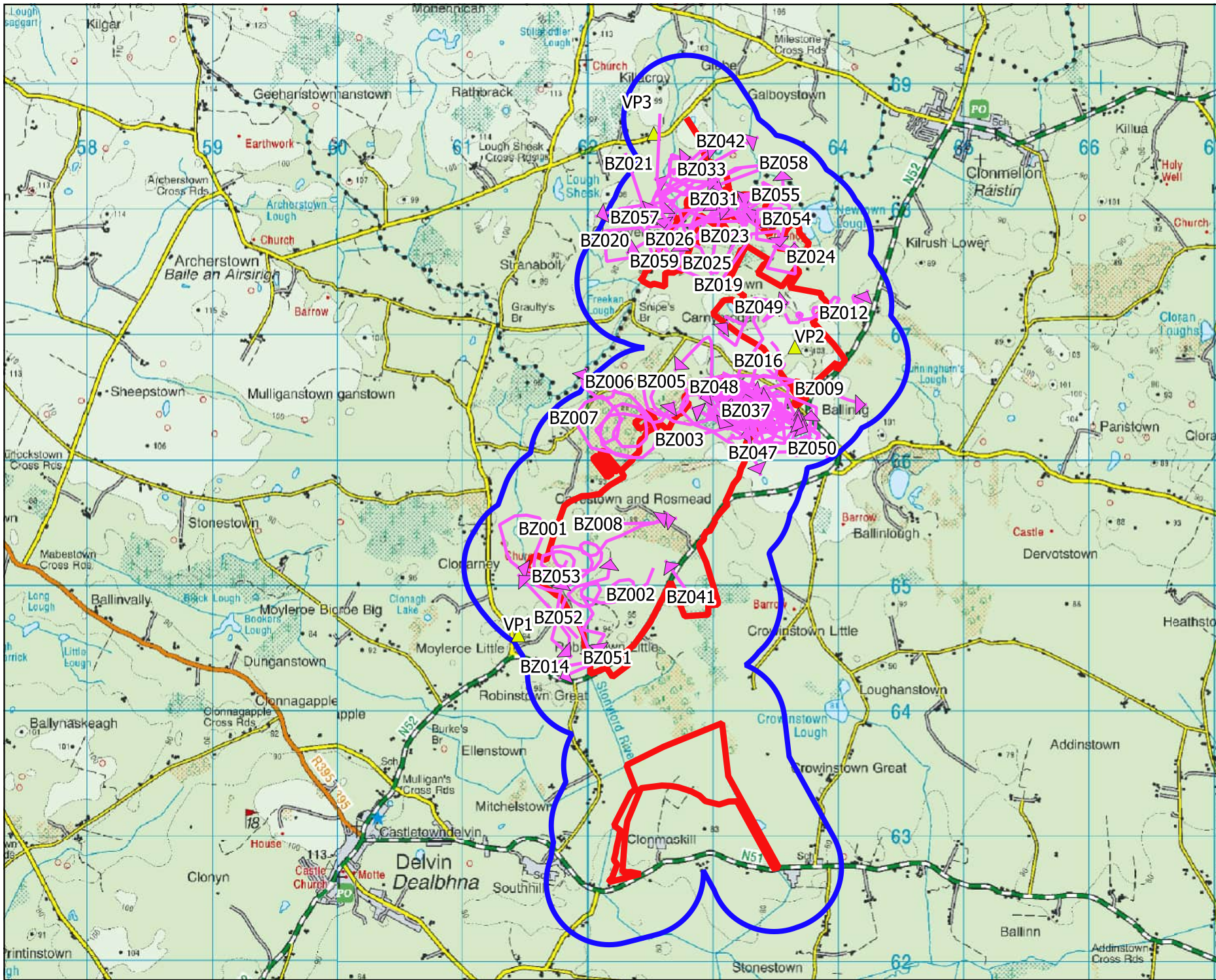


- ### Map Legend
- Site Boundary
 - 500m Buffer of Site Boundary
 - ▲ VP Locations
 - Mallard Flightlines




Map Title	
Mallard VP Flightlines	
Project Title	
Crowinstown, Co. Westmeath	
Drawn By	Checked By
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Project No.	Map No.
190531	Fig 1-1-18
Scale	Date
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Map Legend

- Site Boundary
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- ▲ VP Locations
- ▶ Buzzard Flightlines




Map Title

Buzzard VP Flightlines

Project Title

Crowinstown, Co. Westmeath

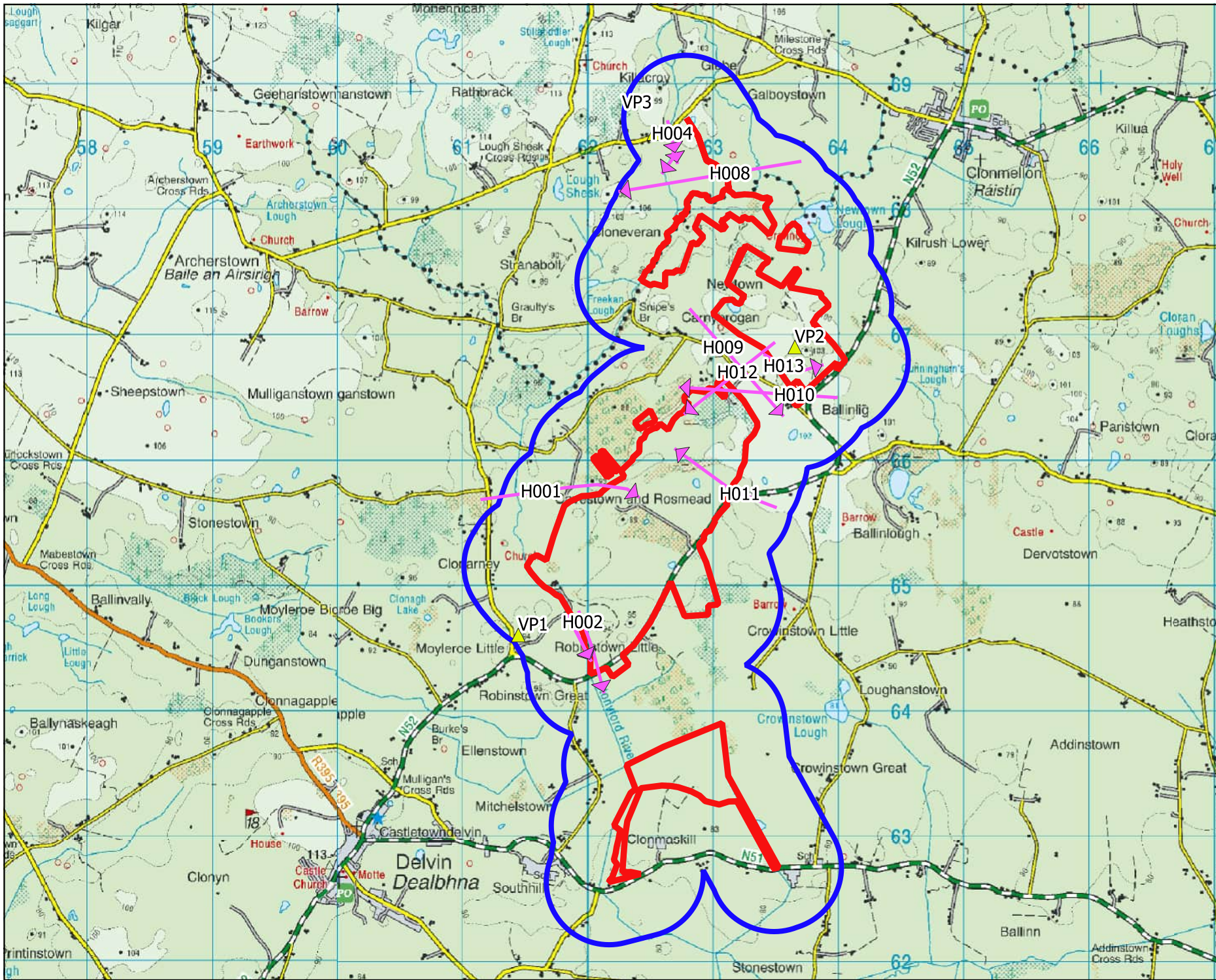
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IH	DOD
Project No.	Map No.
190531	Fig 1-1-19
Scale	Date
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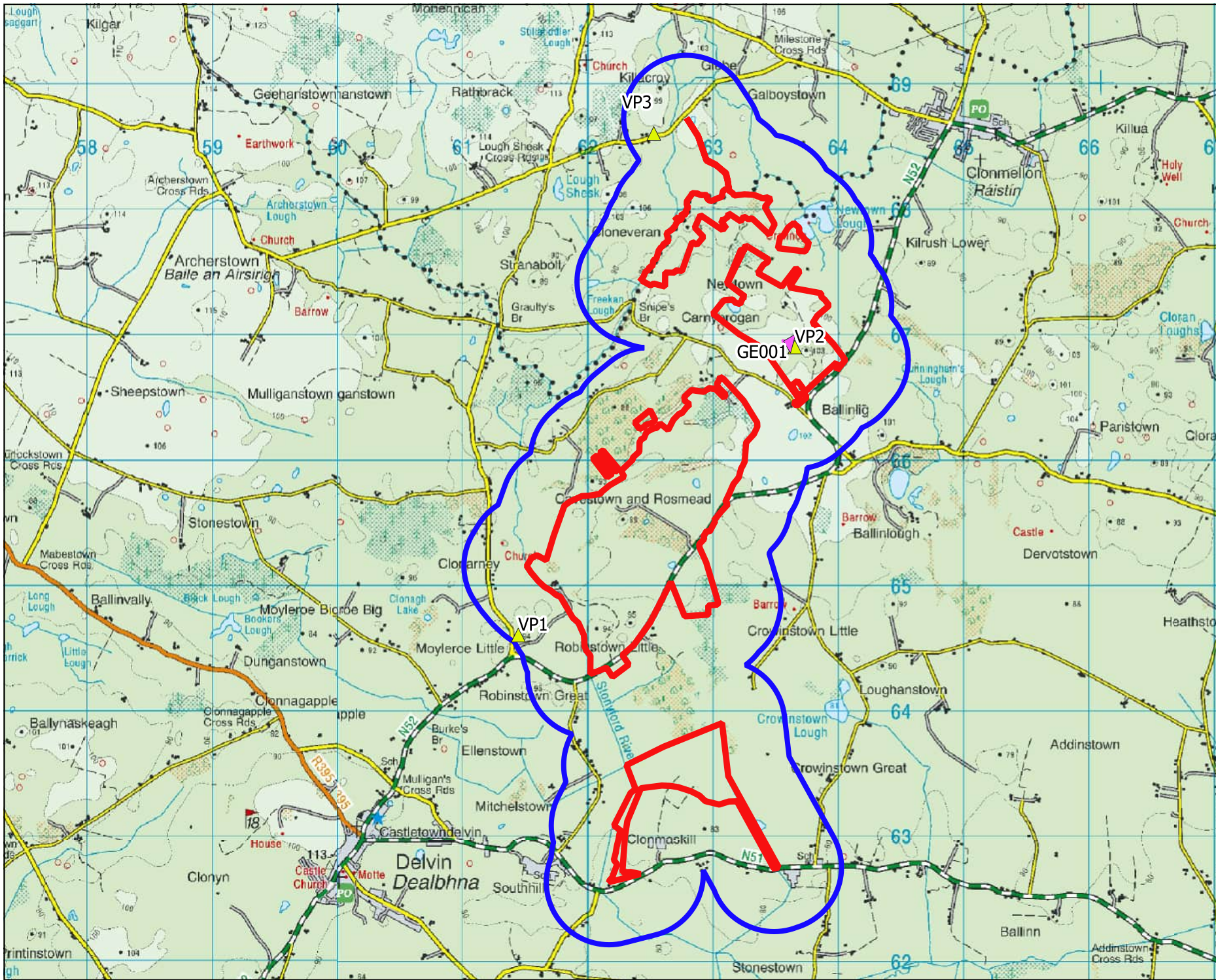


- ### Map Legend
- Site Boundary
 - 500m Buffer of Site Boundary
 - ▲ VP Locations
 - ↗ Heron Flightlines



Map Title	
Heron VP Flightlines	
Project Title	
Crowinstown, Co. Westmeath	
Drawn By	Checked By
IH	DOD
Project No.	Map No.
190531	Fig 1-1-20
Scale	Date
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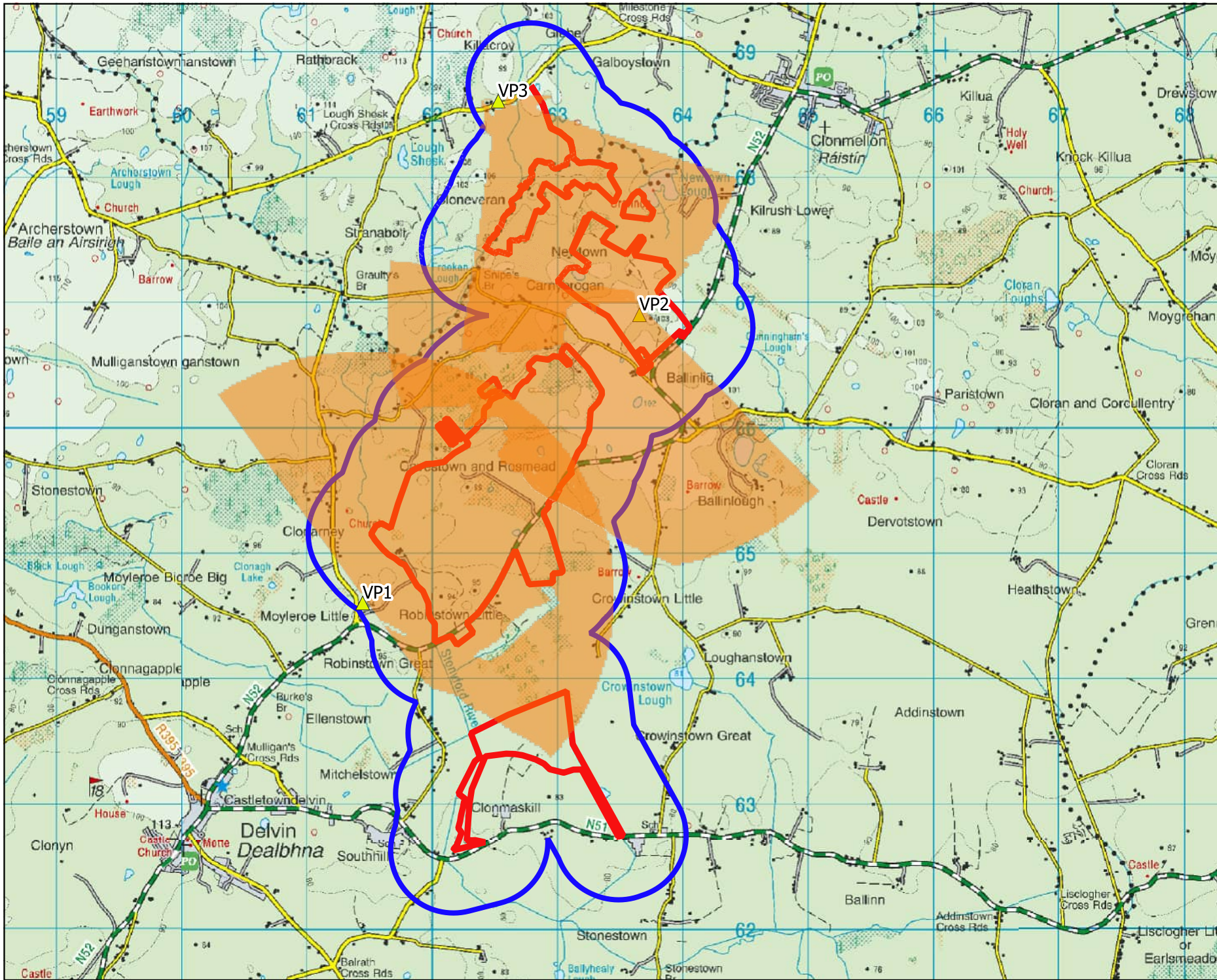
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- Site Boundary
 - 500m Buffer of Site Boundary
 - ▲ VP Locations
 - ▶ Green Sandpiper Flightlines



Map Title	
Green Sandpiper VP Flightlines	
Project Title	
Crowinstown, Co. Westmeath	
Drawn By	Checked By
IH	DOD
Project No.	Map No.
190531	Fig 1-1-21
Scale	Date
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Map Legend

- Site Boundary
- 500m Buffer of Site Boundary
- ▲ VP Locations




Map Title

Viewshed Analysis (3 VPs)

Project Title

Crowinstown, Co. Westmeath

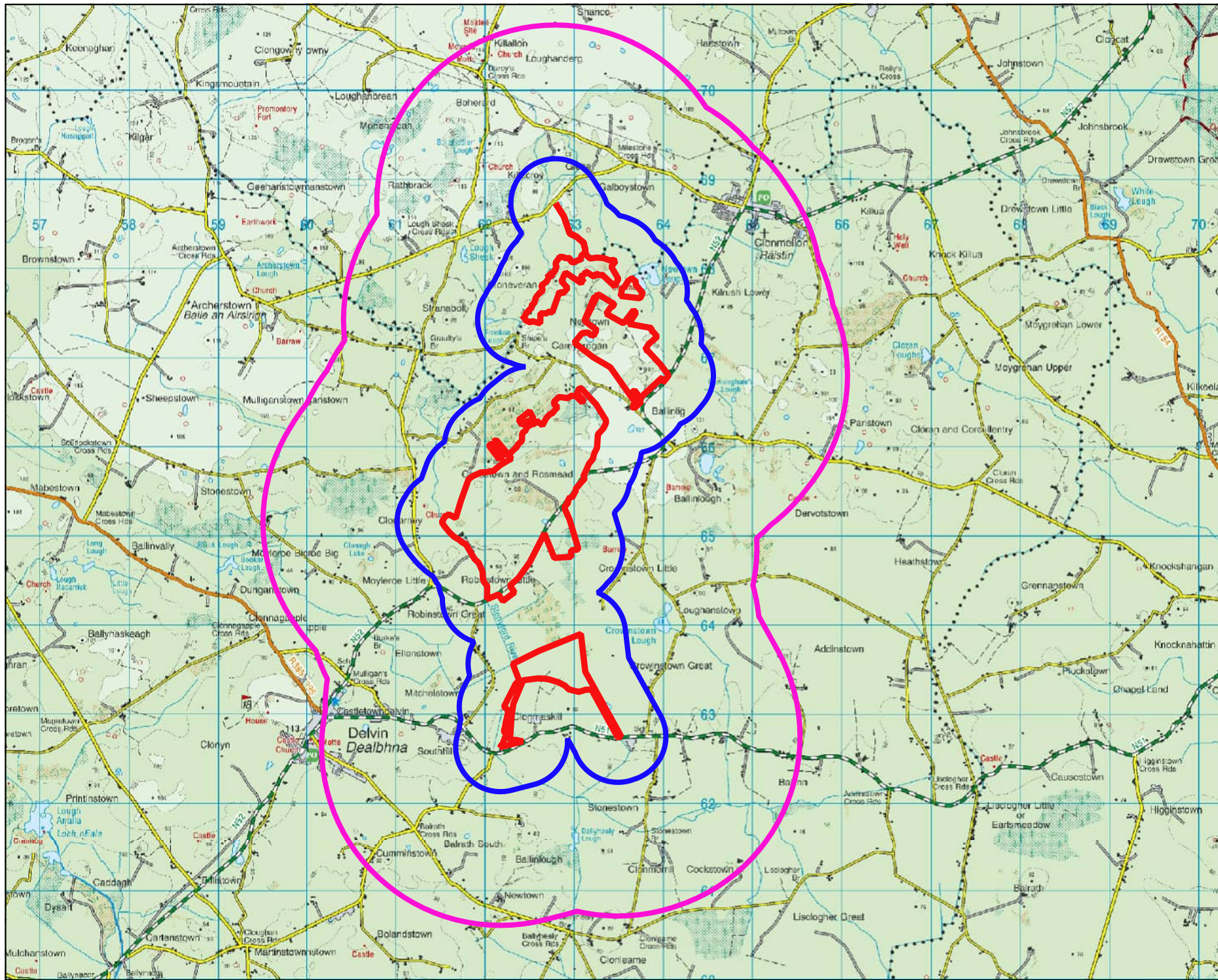
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Project No.	Map No.
190531	Fig 1-1
Scale	Date
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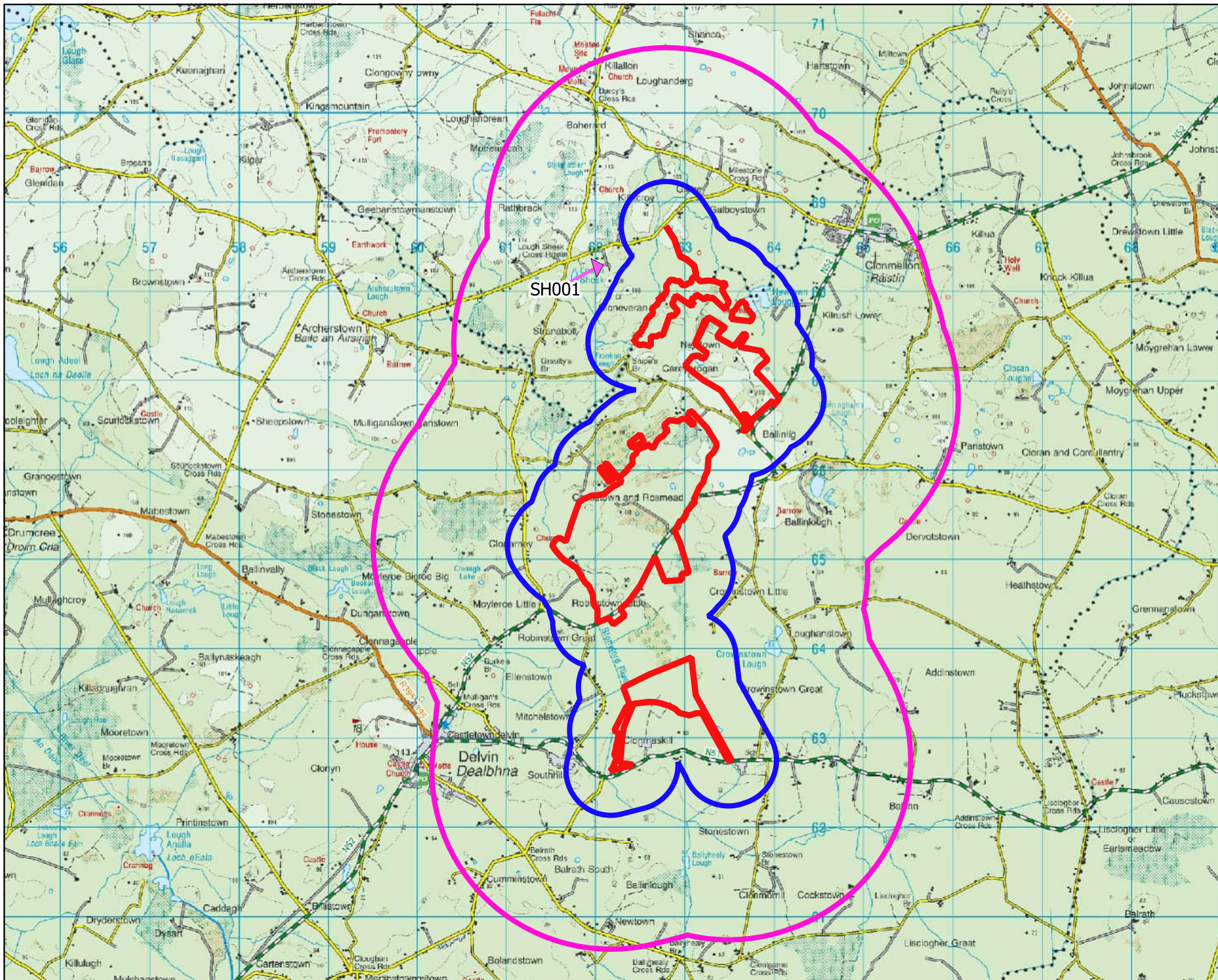
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
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Breeding Raptor Survey Area	
Project Title	
Crowinstown, Co. Westmeath	
Drawn By	Checked By
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Project No.	Map No.
190531	Fig 1-3
Scale	Date
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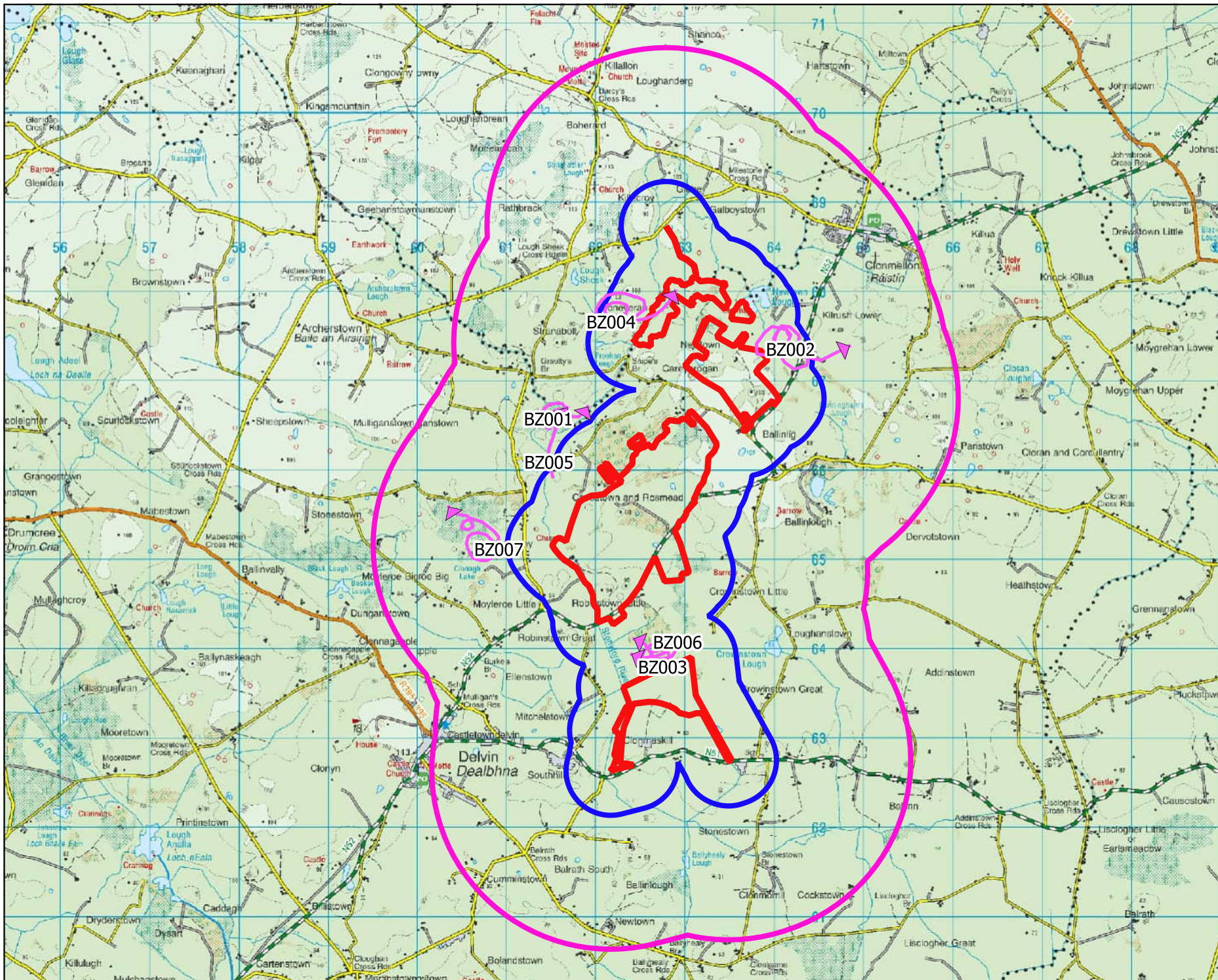
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-  Breeding Raptor Survey Area
-  Sparrowhawk Flightlines







Map Title	
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Project Title	
Crowinstown, Co. Westmeath	
Drawn By	Checked By
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Project No.	Map No.
190531	Fig 1-3-1
Scale	Date
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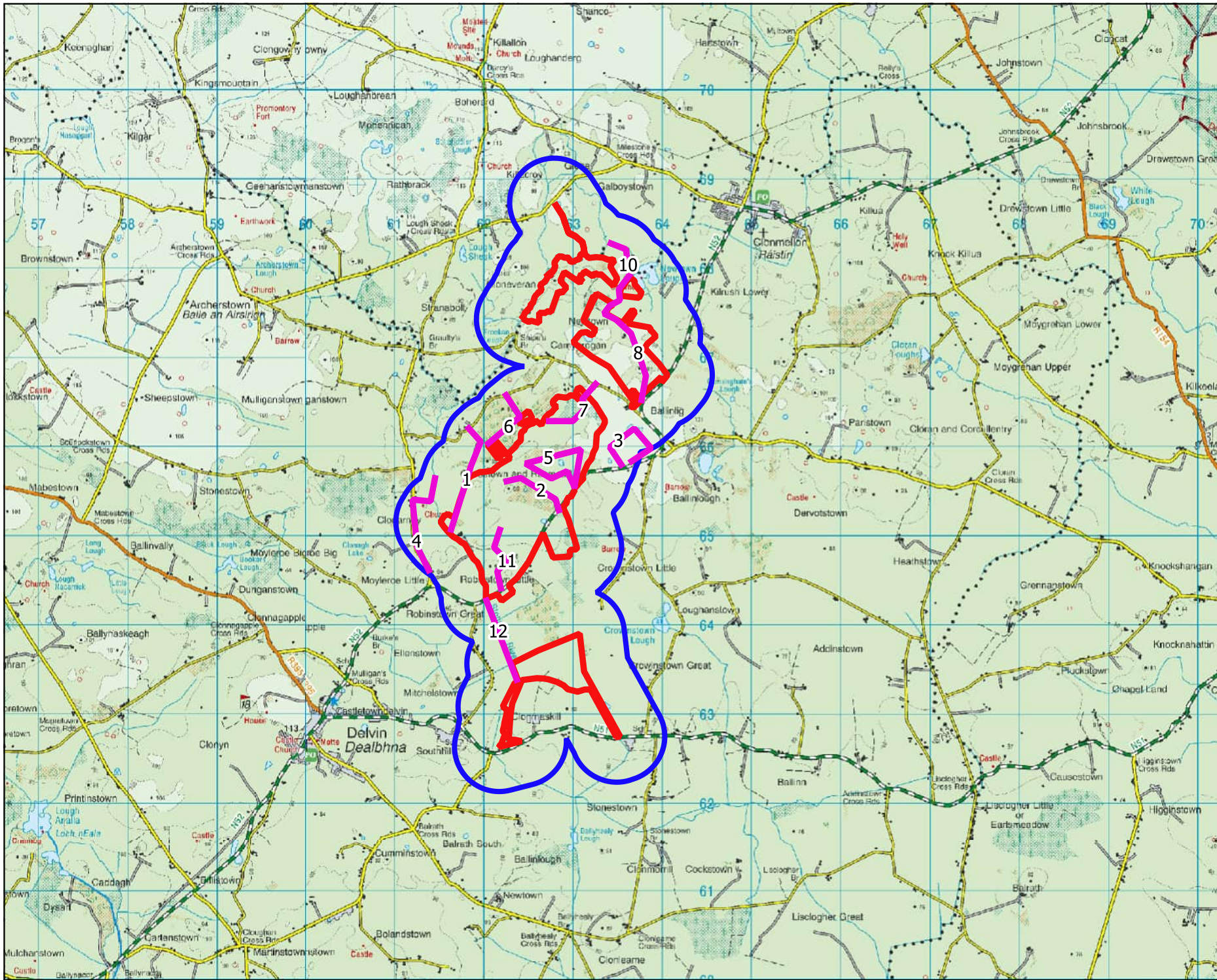
-  Site Boundary
-  500m Buffer of Site Boundary
-  Breeding Raptor Survey Area
-  Buzzard Flightlines



Map Title	
Breeding Raptor Survey Buzzard Flightlines	
Project Title	
Crowinstown, Co. Westmeath	
Drawn By	Checked By
IH	DOD
Project No.	Map No.
190531	Fig 1-3-2
Scale	Date
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Map Legend

- Site Boundary
- 500m Buffer of Site Boundary
- Walkover Transects




Map Title

Breeding Walkover Survey Area

Project Title

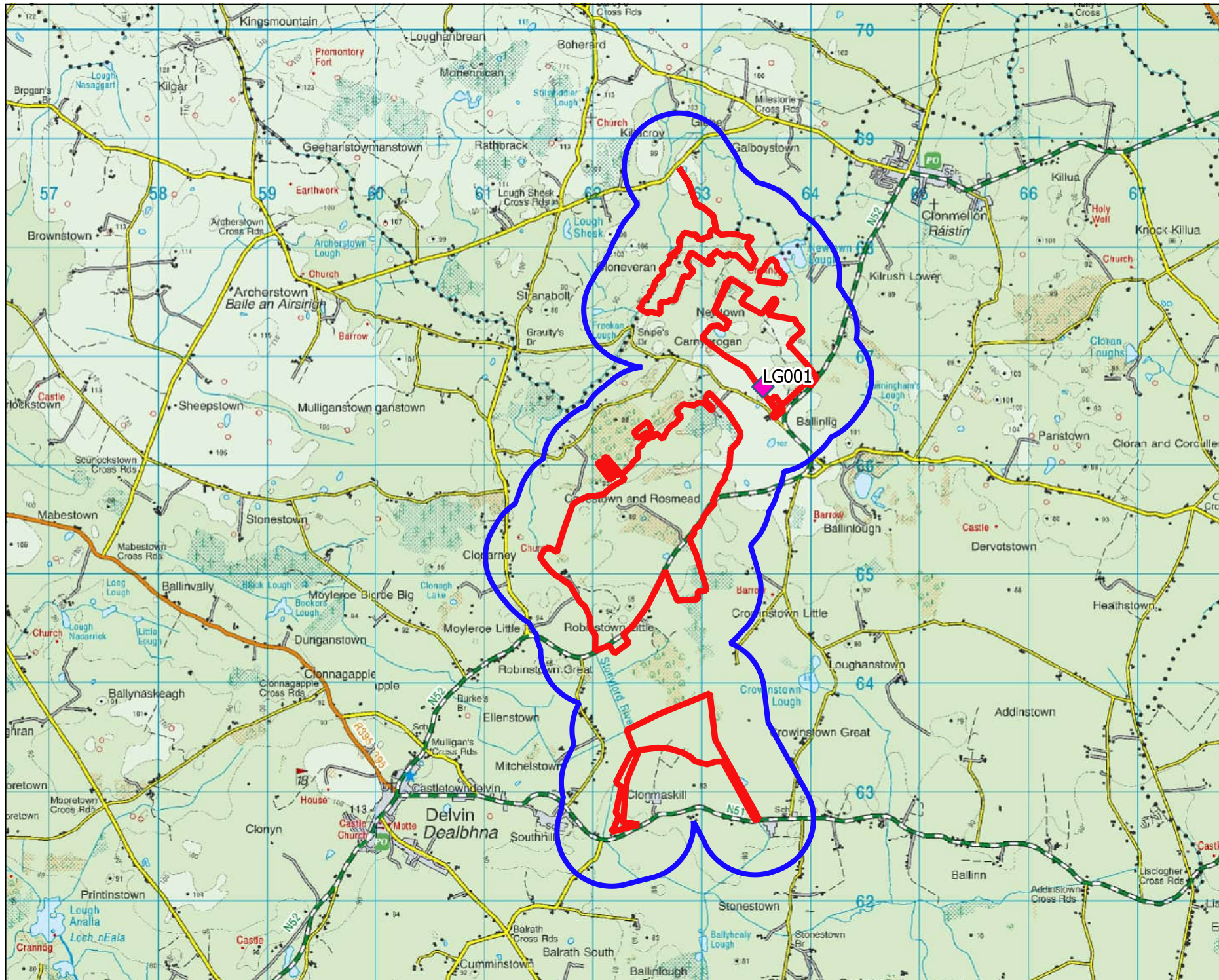
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Project No.	Map No.
190531	Fig 1-4
Scale	Date
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- Site Boundary
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- ◆ Little Grebe Observations



Map Title

Breeding Walkover Survey Little Grebe Flightlines

Project Title

Crowinstown, Co. Westmeath

Drawn By

IH

Checked By

DOD

Project No.

190531

Map No.

Fig 1-4-1

Scale

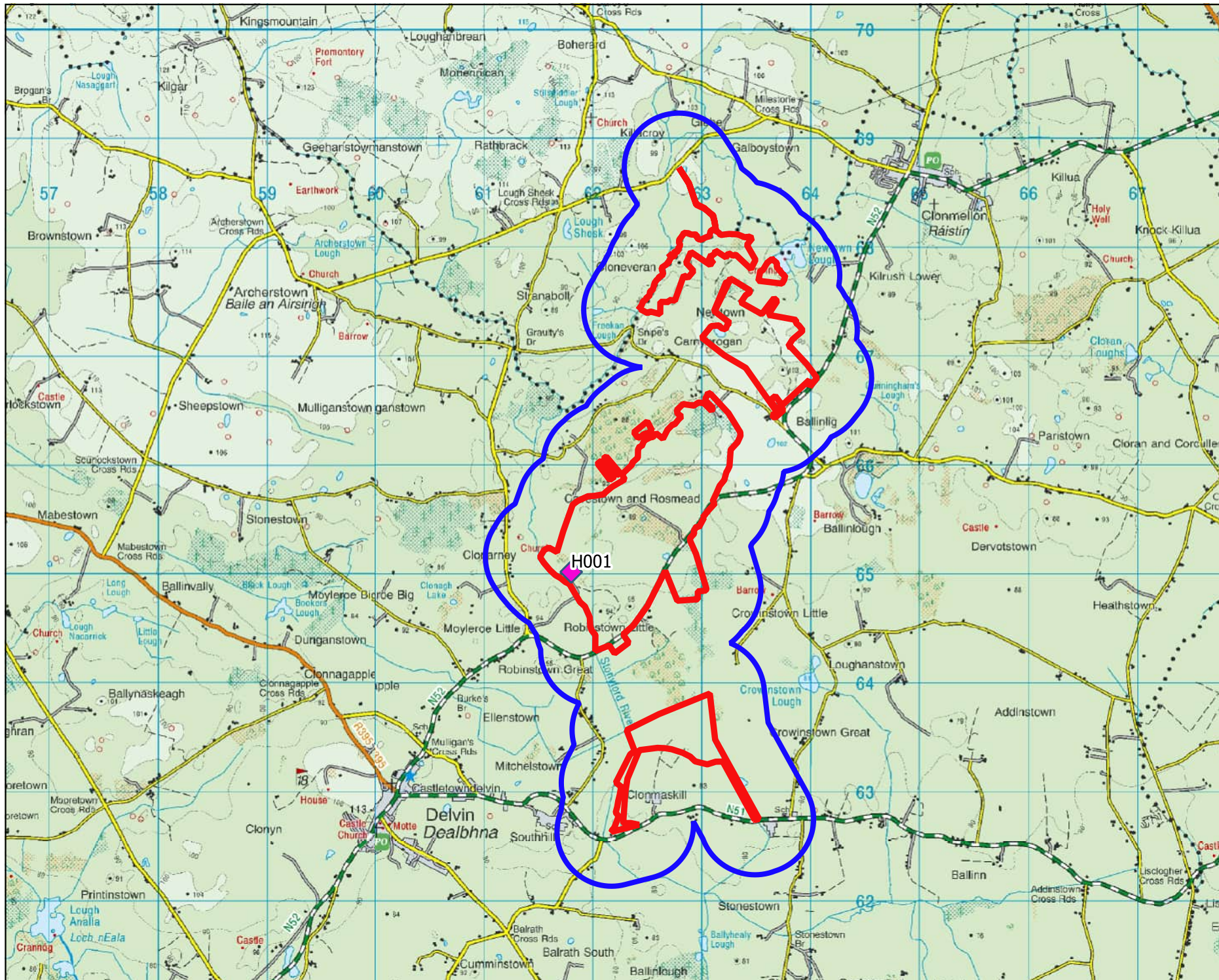
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Map Legend

- Site Boundary
- 500m Buffer of Site Boundary
- ◆ Heron Observations



Map Title

Breeding Walkover Survey Heron Observations

Project Title

Crowinstown, Co. Westmeath

Drawn By

IH

Checked By

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Project No.

190531

Map No.

Fig 1-4-2

Scale

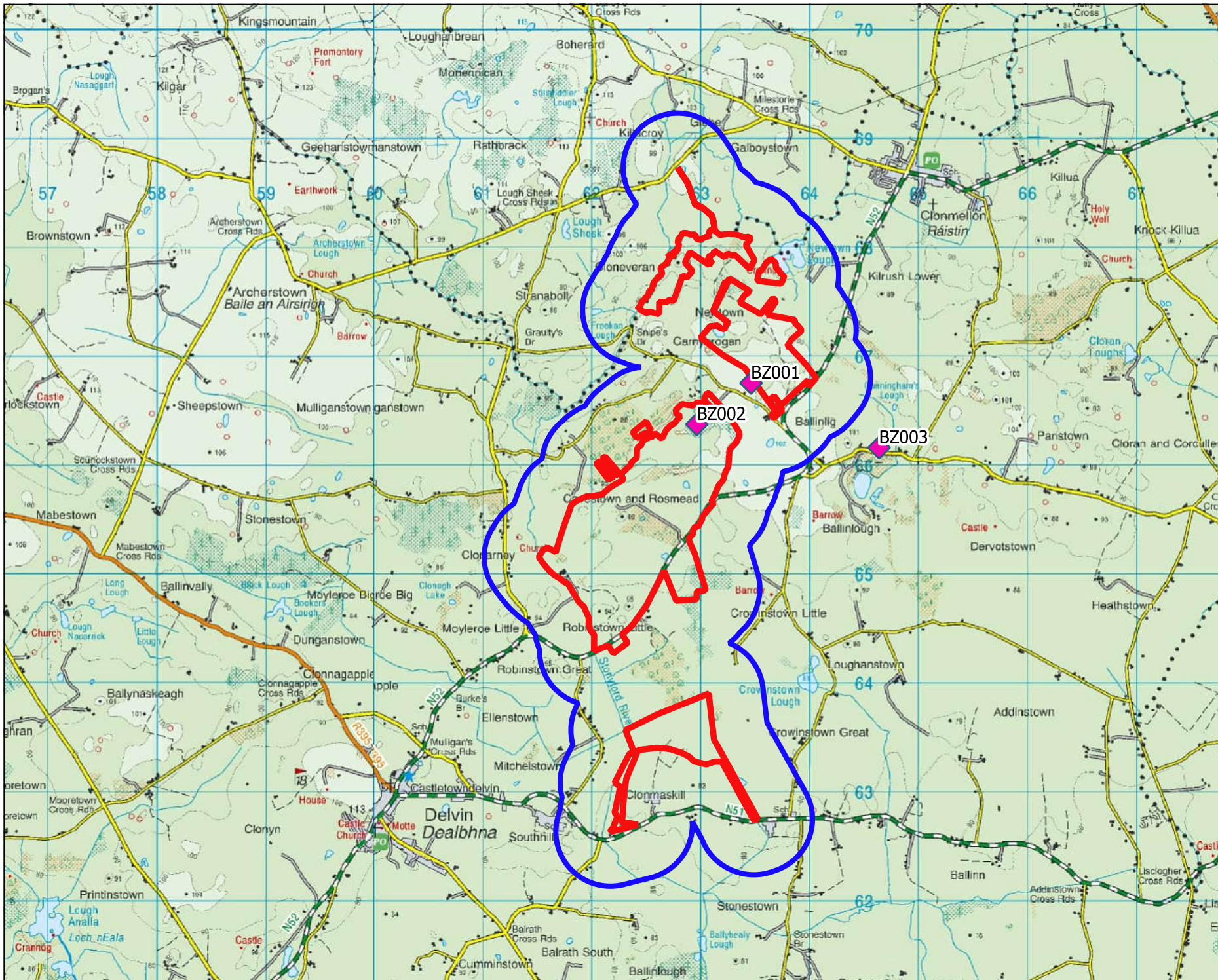
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Map Legend

- Site Boundary
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- ◆ Buzzard Observations



Map Title

Breeding Walkover Survey Buzzard Observations

Project Title

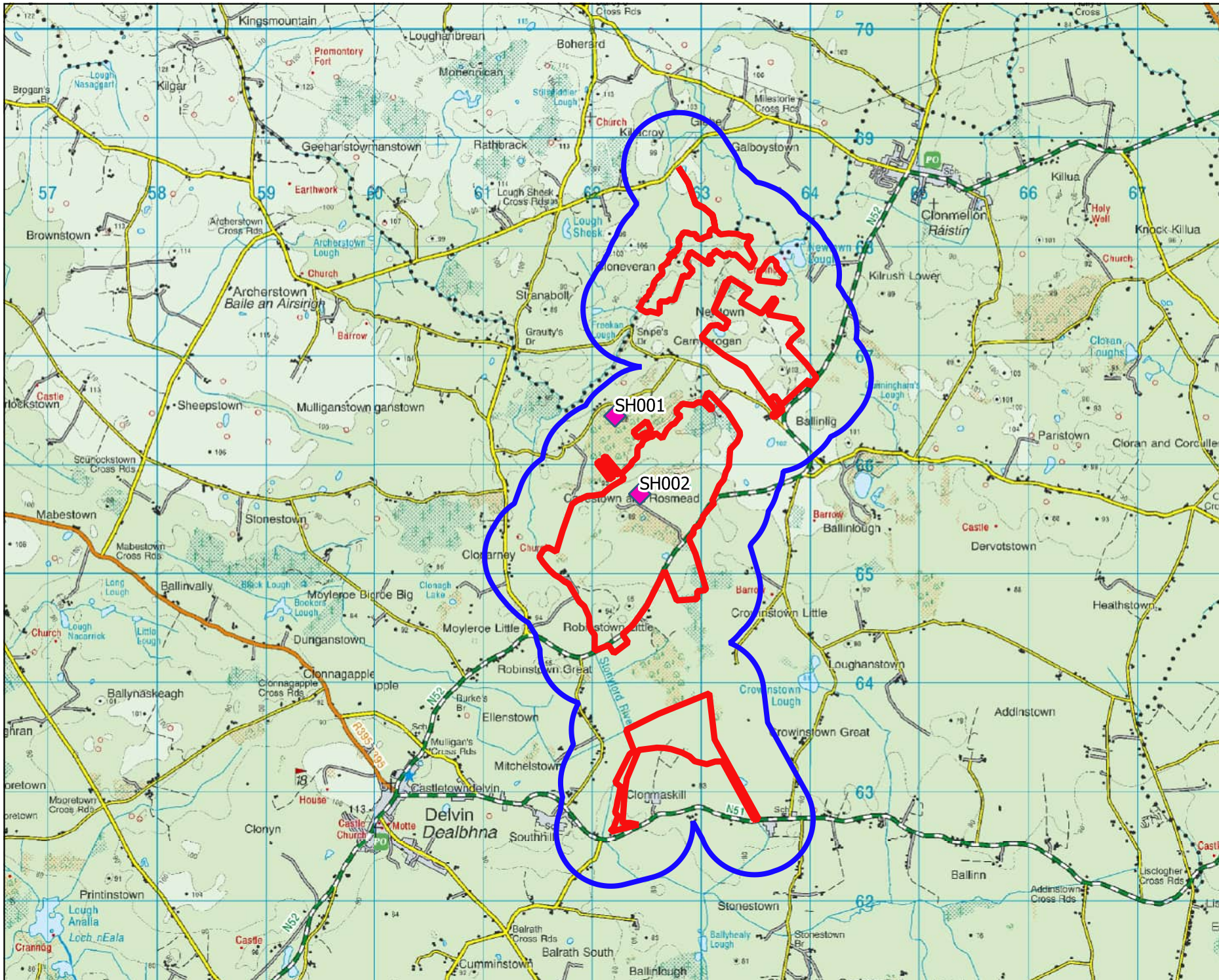
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Project No: **190531** Map No: **Fig 1-4-3**

Scale: **1:45486** Date: **07.07.2020**

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Map Legend

- Site Boundary
- 500m Buffer of Site Boundary
- ◆ Sparrowhawk Observations



Map Title

**Breeding Walkover Survey
Sparrowhawk Observations**

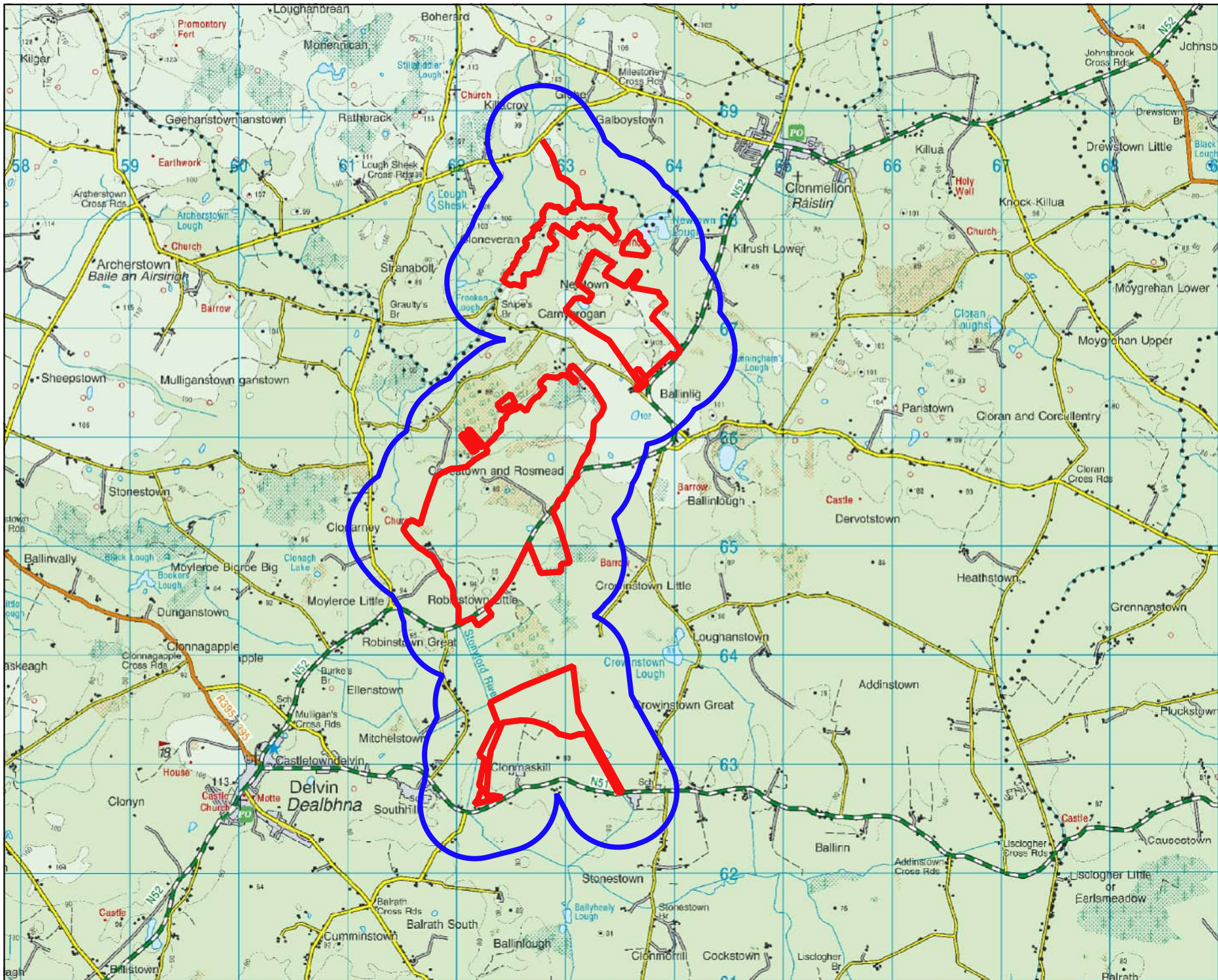
Project Title
Crowinstown, Co. Westmeath

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Project No. 190531	Map No. Fig 1-4-4
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Map Legend

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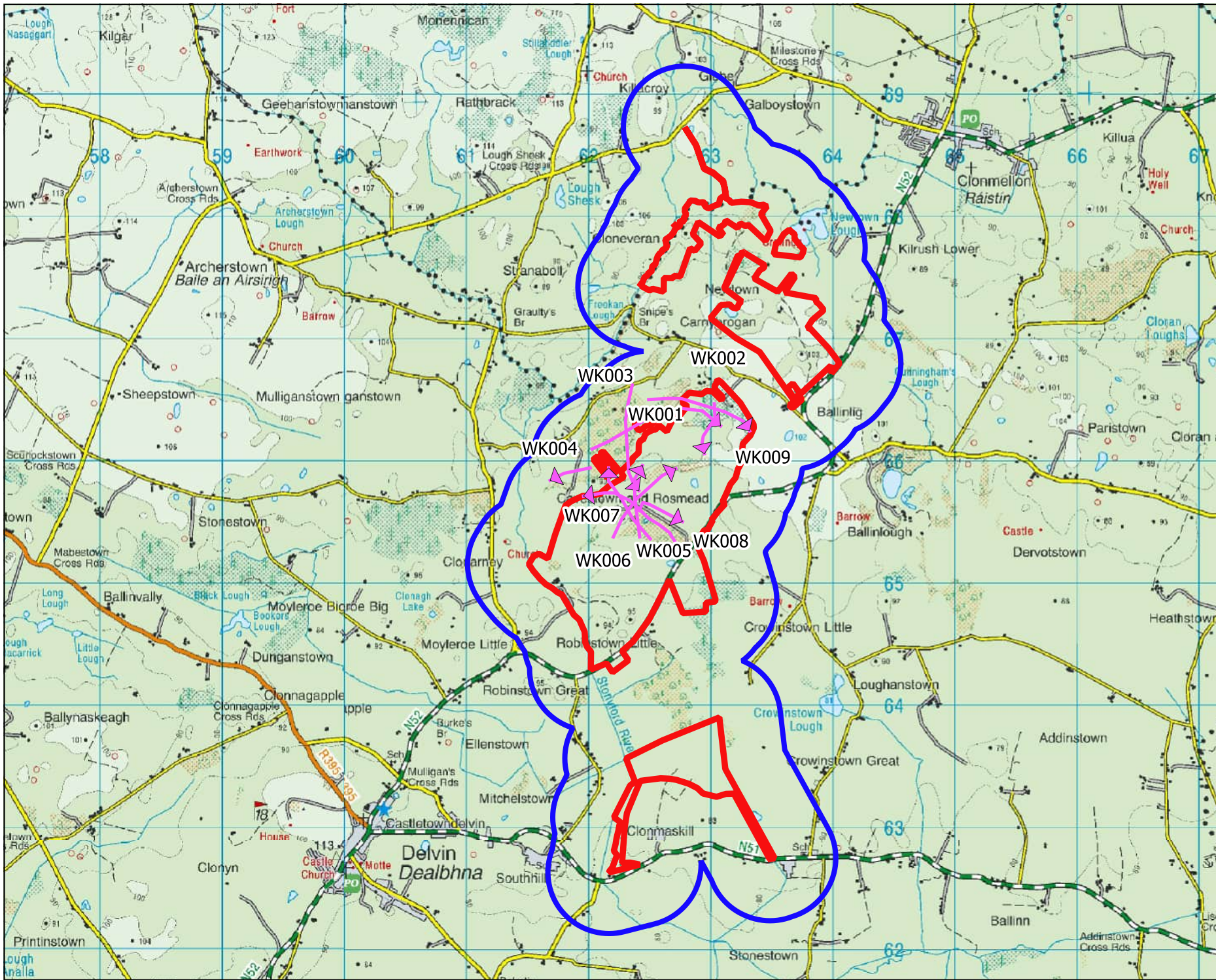


Map Title	
Breeding Woodcock Survey Area	
Project Title	
Crowinstown, Co. Westmeath	
Drawn By	Checked By
IH	DOD
Project No.	Map No.
190531	Fig 1-5
Scale	Date
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Map Legend

- Site Boundary
- 500m Buffer of Site Boundary
- ↗ Woodcock Flightlines



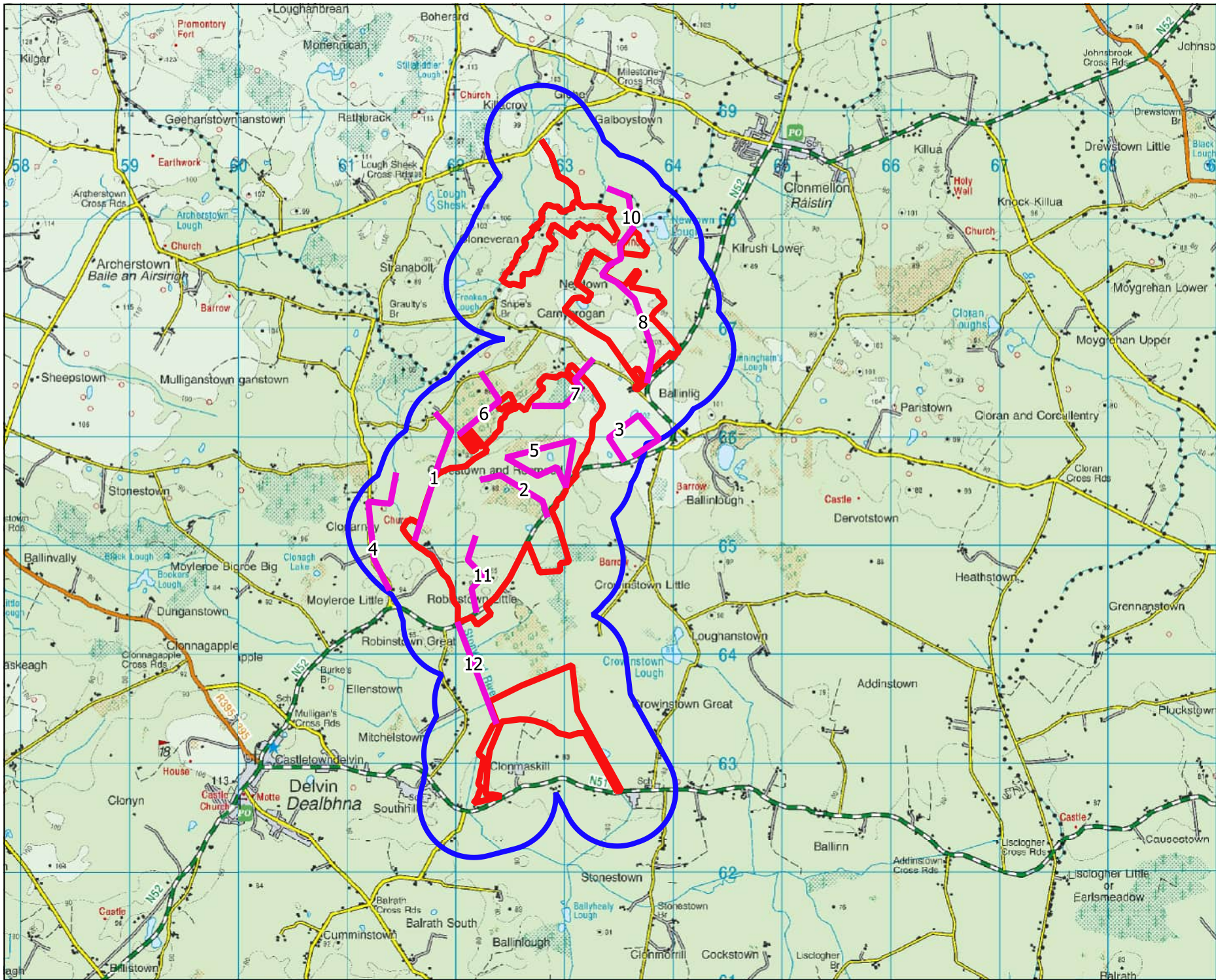
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Project Title
Crowinstown, Co. Westmeath

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Project No. 190531	Map No. Fig 1-5-1
Scale 1:40486	Date 07.07.2020

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Map Legend

- Site Boundary
- 500m Buffer of Site Boundary
- Walkover Transects



Map Title
Winter Walkover Survey Area

Project Title
Crowinstown, Co. Westmeath

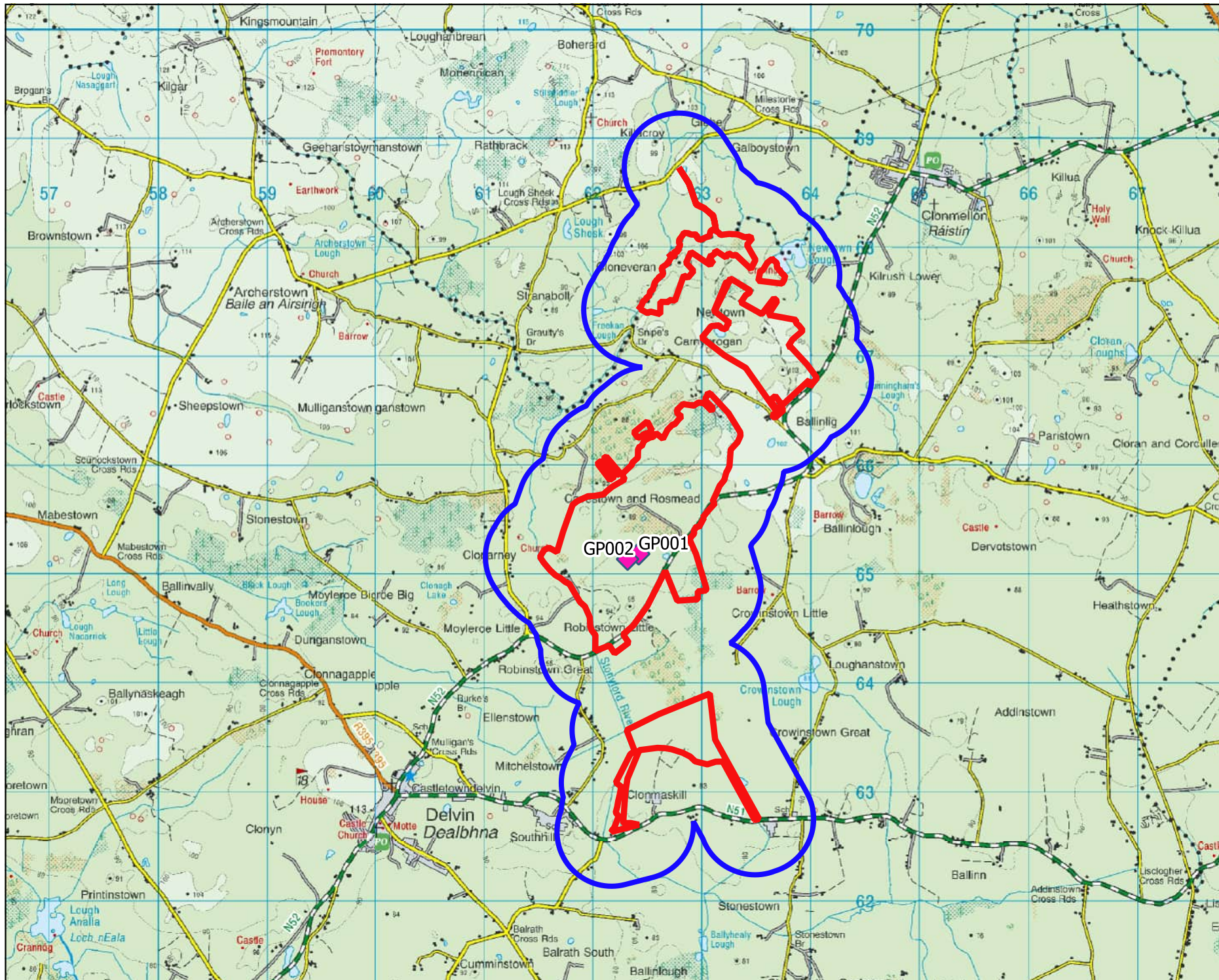
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Project No. 190531	Map No. Fig 1-6
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Map Legend

- Site Boundary
- 500m Buffer of Site Boundary
- Golden Plover Observations



Map Title

Winter Walkover Survey Golden Plover Observations

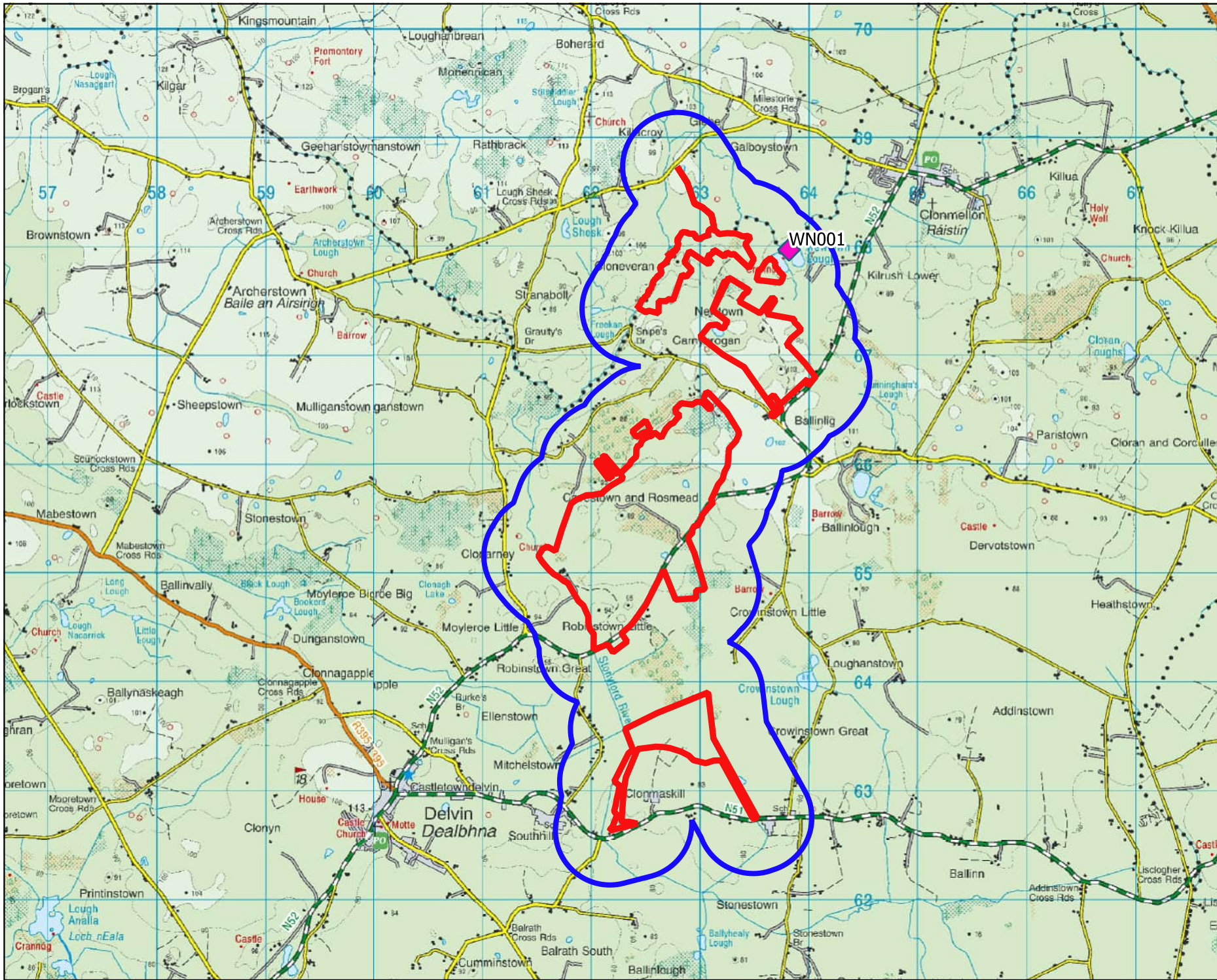
Project Title

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Drawn By	Checked By
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Project No.	Map No.
190531	Fig 1-6-1
Scale	Date
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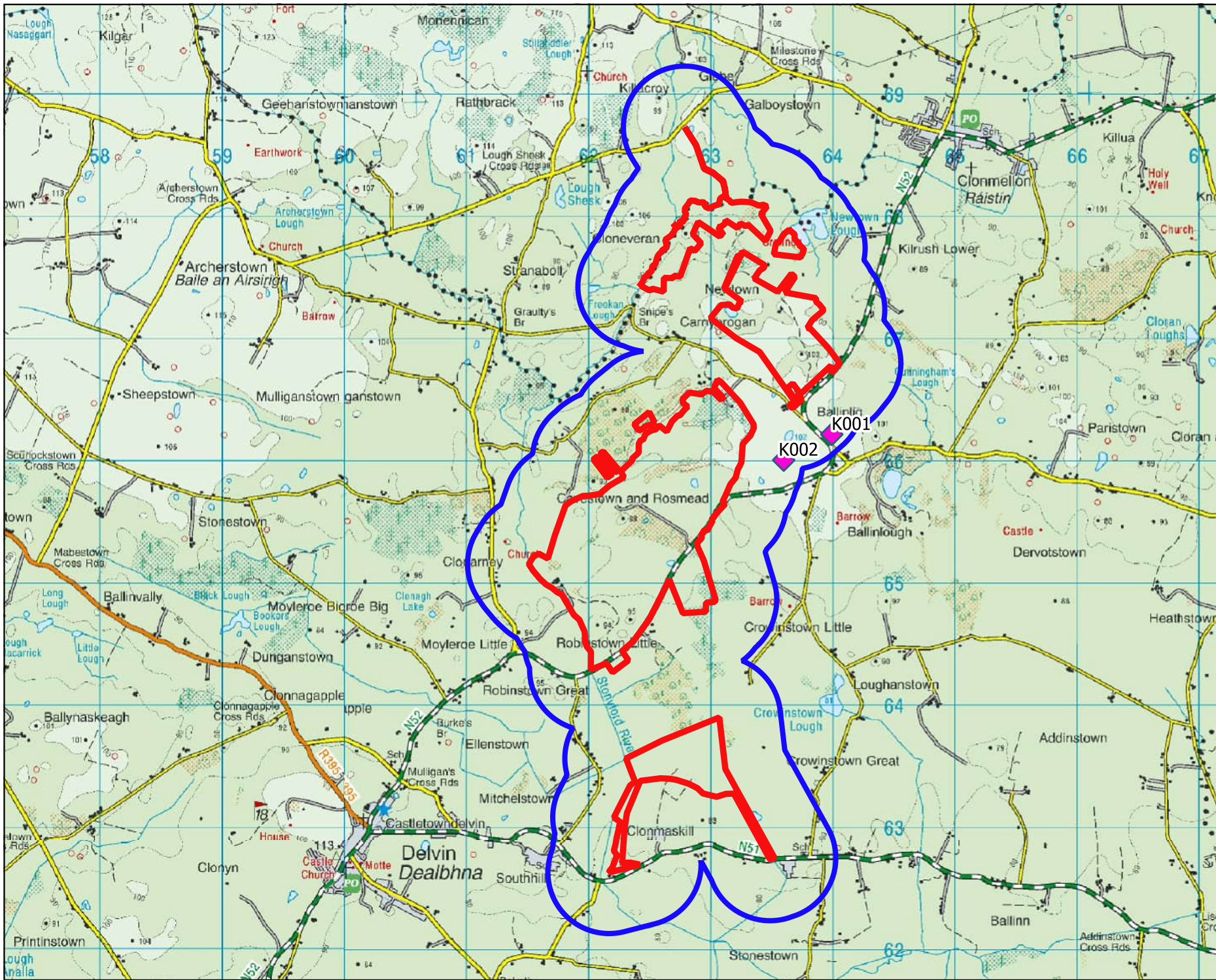
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- Site Boundary
- 500m Buffer of Site Boundary
- ◆ Wigeon Observations



Map Title	
Winter Walkover Survey Wigeon Observations	
Project Title	
Crowinstown, Co. Westmeath	
Drawn By	Checked By
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Project No.	Map No.
190531	Fig 1-6-2
Scale	Date
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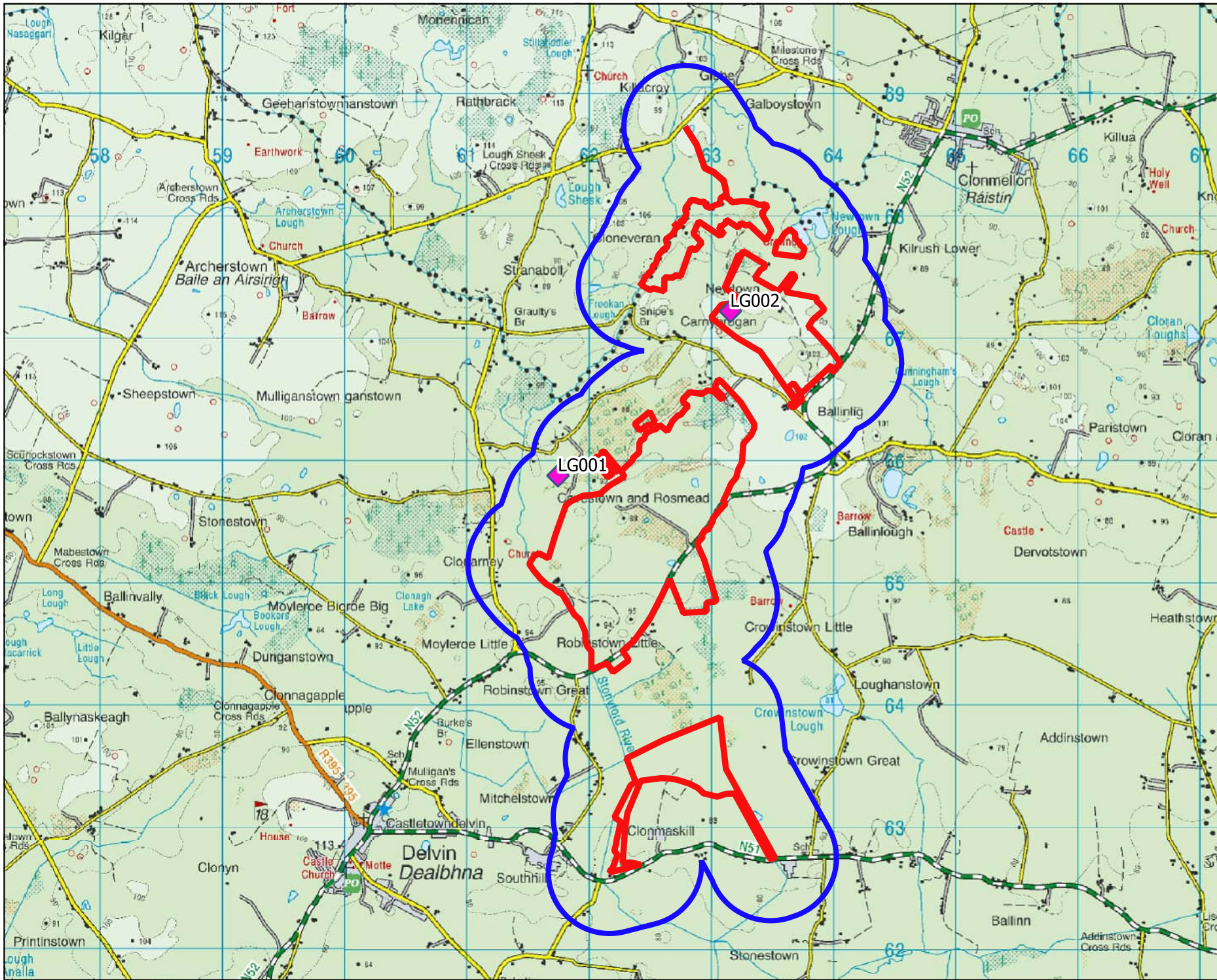
Map Legend

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- 500m Buffer of Site Boundary
- ◆ Kestrel Observations



Map Title	
Winter Walkover Survey Kestrel Observations	
Project Title	
Crowinstown, Co. Westmeath	
Drawn By	Checked By
IH	DOD
Project No.	Map No.
190531	Fig 1-6-3
Scale	Date
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Map Legend

- Site Boundary
- 500m Buffer of Site Boundary
- ◆ Little Grebe Observations



Map Title

Winter Walkover Survey Little Grebe Observations

Project Title

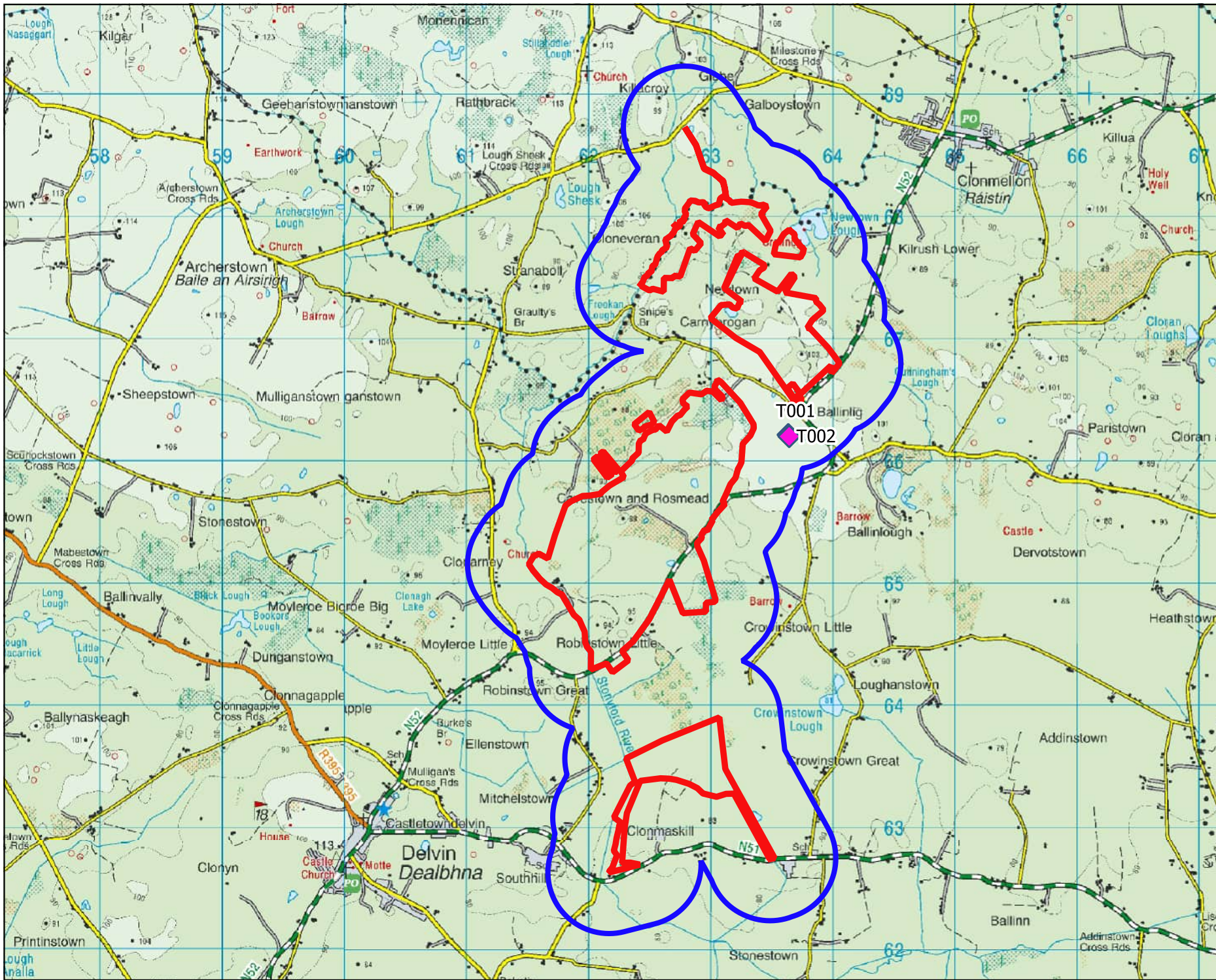
Crowinstown, Co. Westmeath

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Project No: **190531** Map No: **Fig 1-6-4**

Scale: **1:40486** Date: **07.07.2020**

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Map Legend

- Site Boundary
- 500m Buffer of Site Boundary
- ◆ Teal Observations



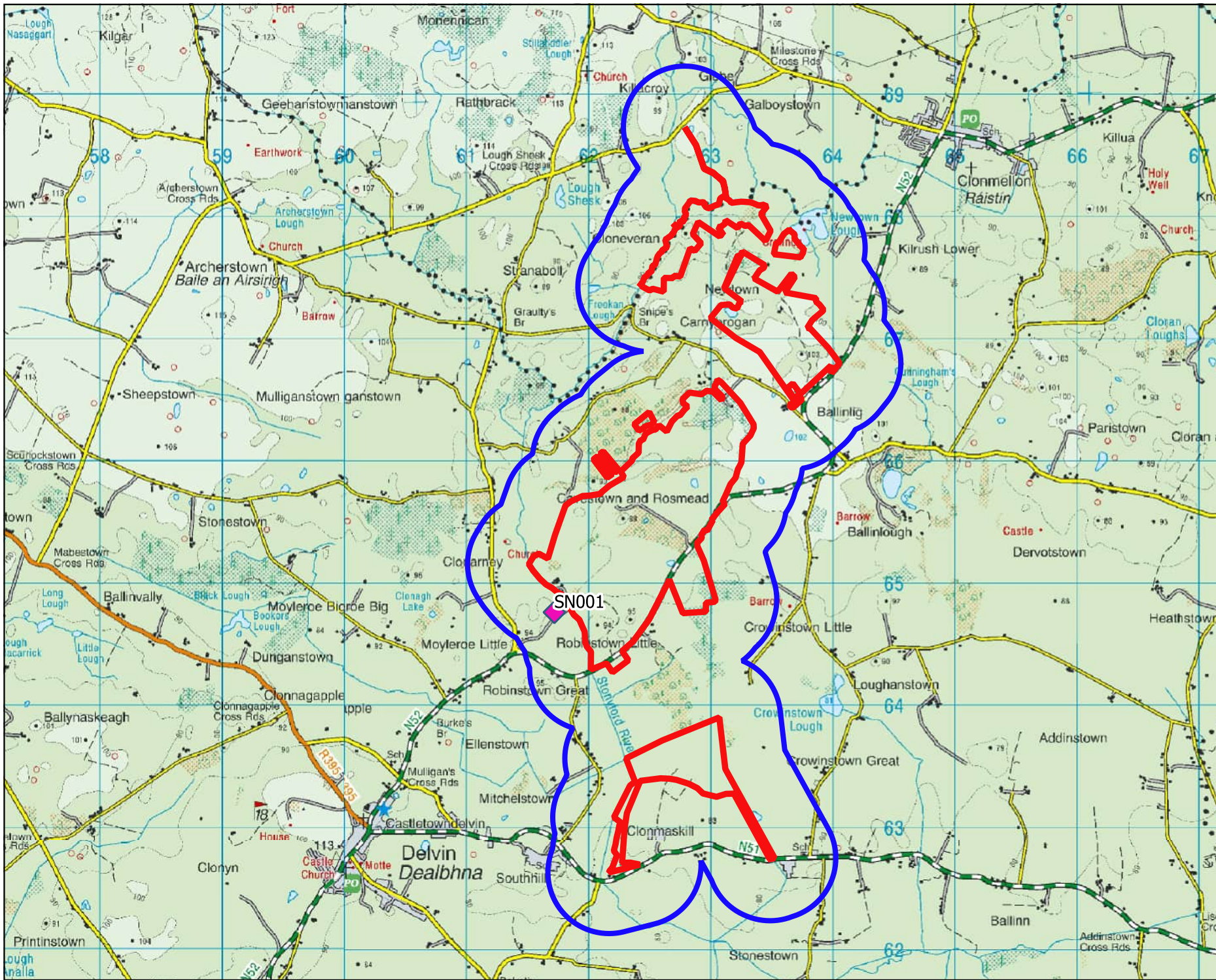
Map Title
Winter Walkover Survey Teal Observations

Project Title
Crowinstown, Co. Westmeath

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Project No. 190531	Map No. Fig 1-6-5
Scale 1:40486	Date 07.07.2020

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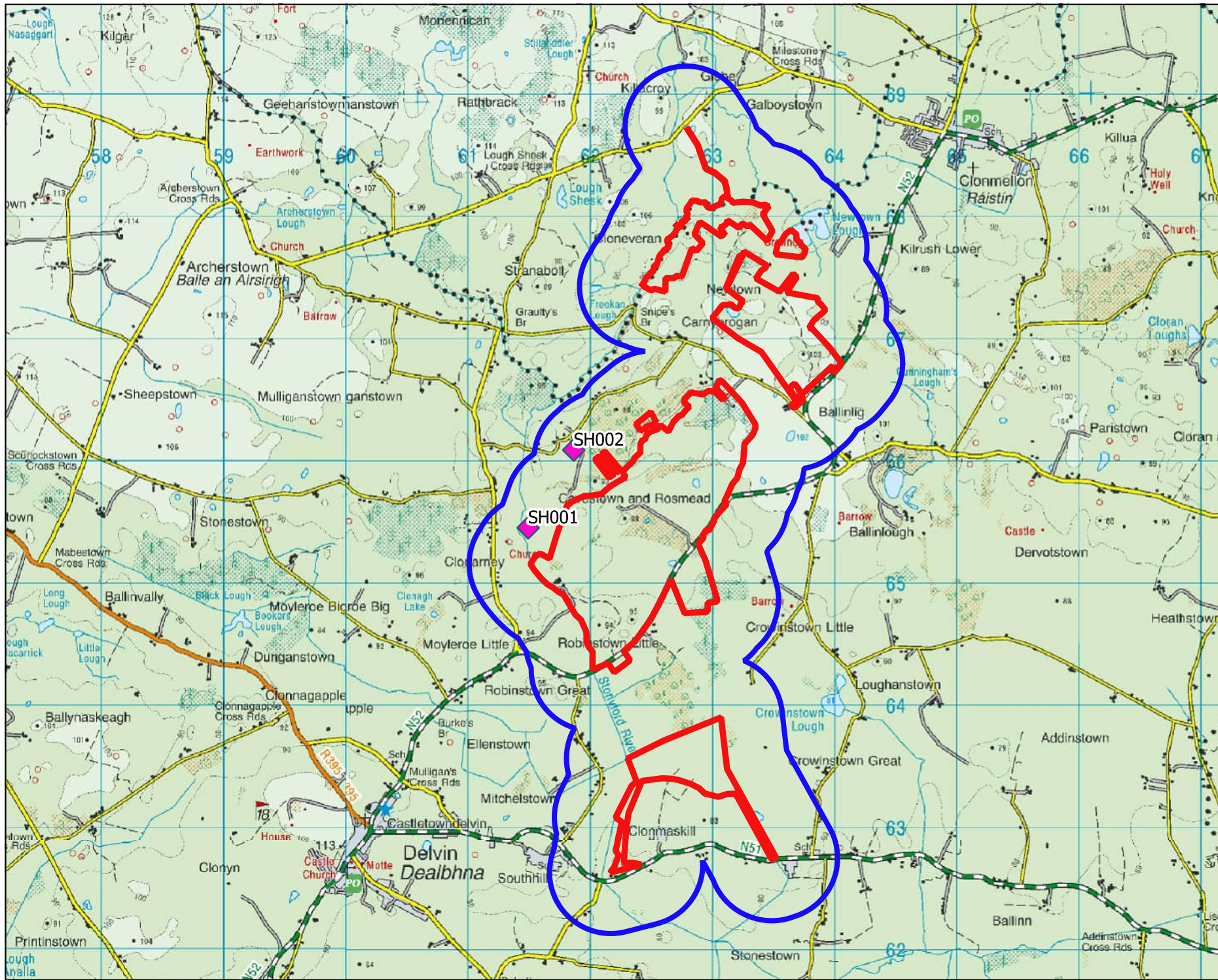
Map Legend

- Site Boundary
- 500m Buffer of Site Boundary
- ◆ Snipe Observations



Map Title	
Winter Walkover Survey Snipe Observations	
Project Title	
Crowinstown, Co. Westmeath	
Drawn By	Checked By
IH	DOD
Project No.	Map No.
190531	Fig 1-6-6
Scale	Date
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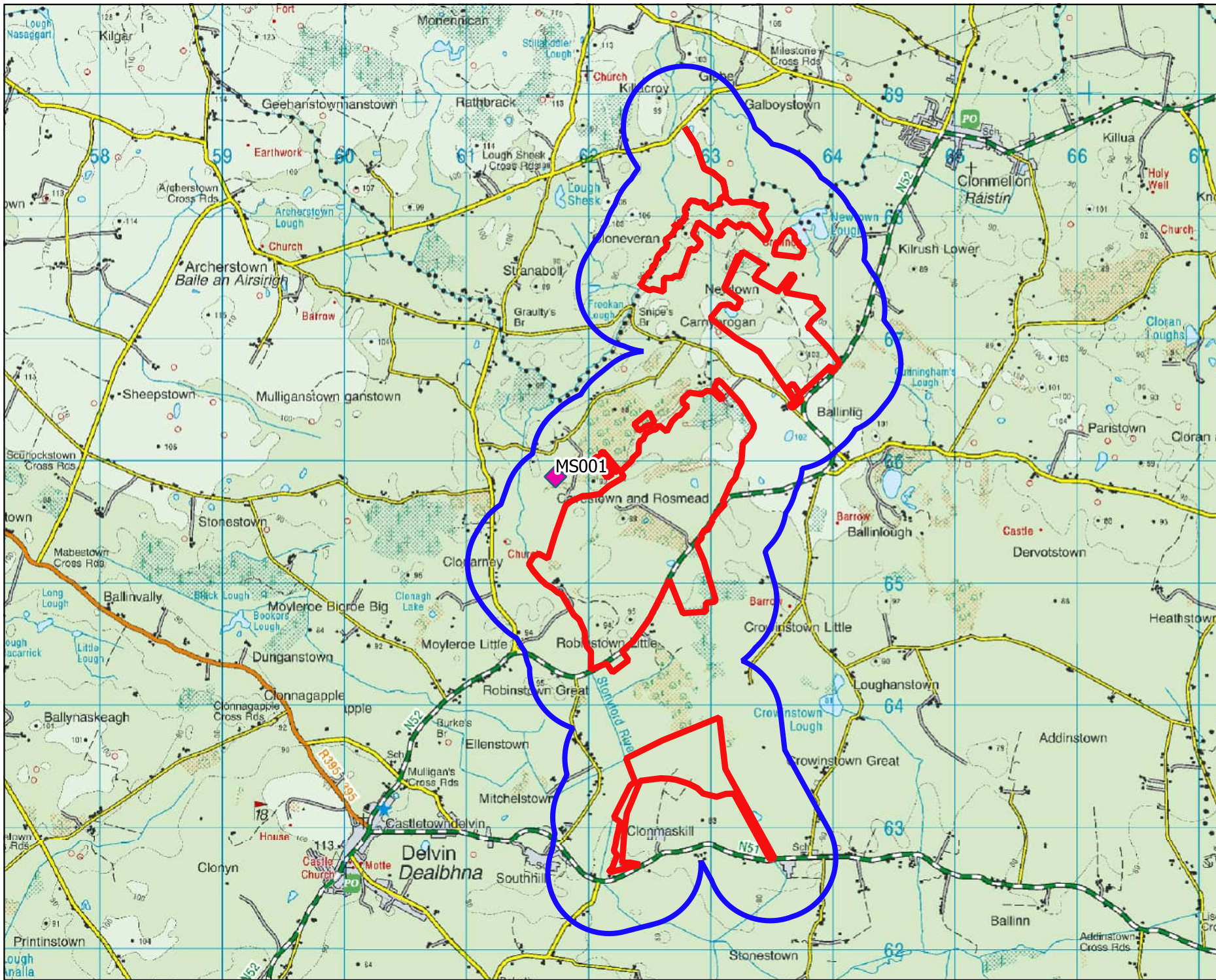
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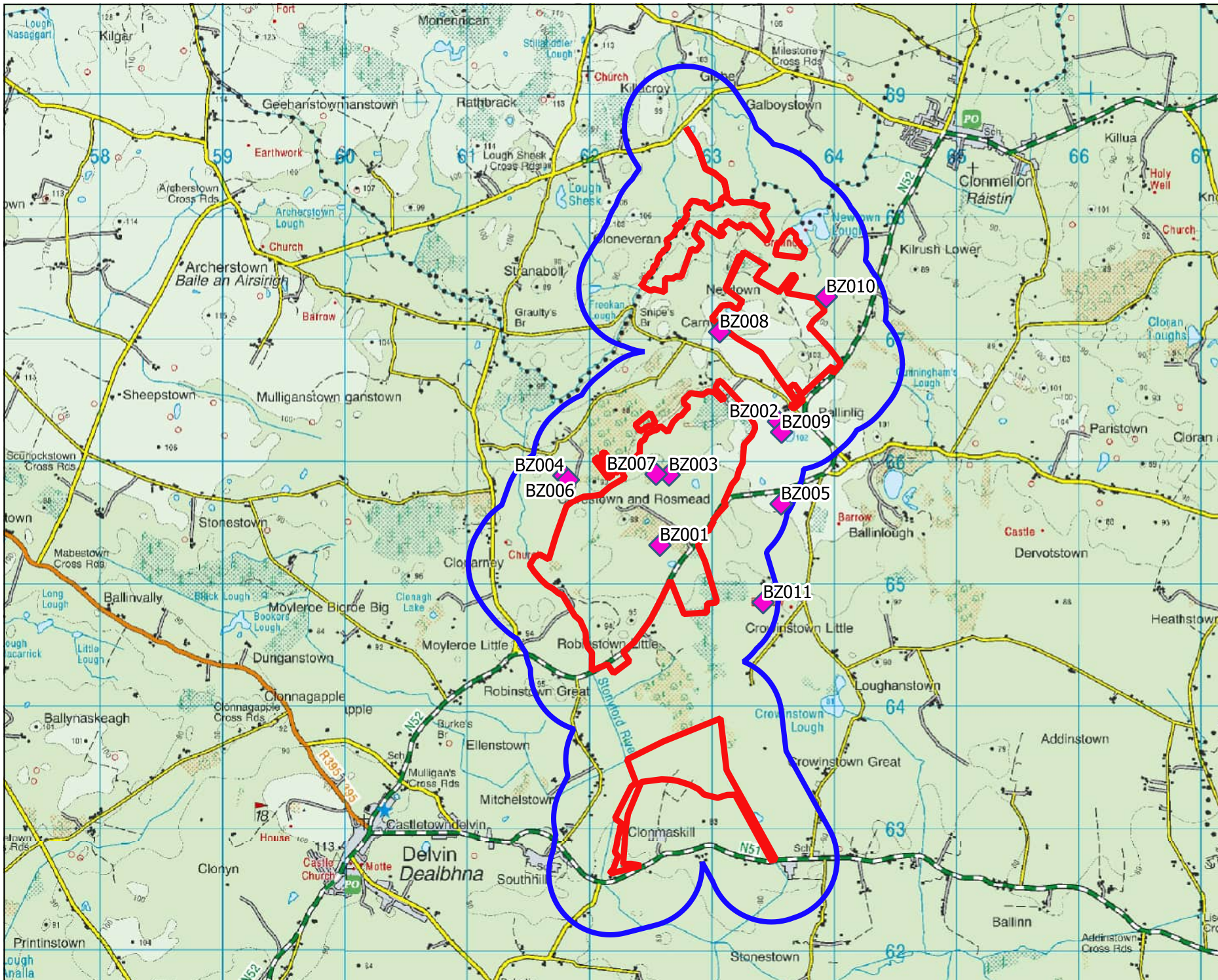
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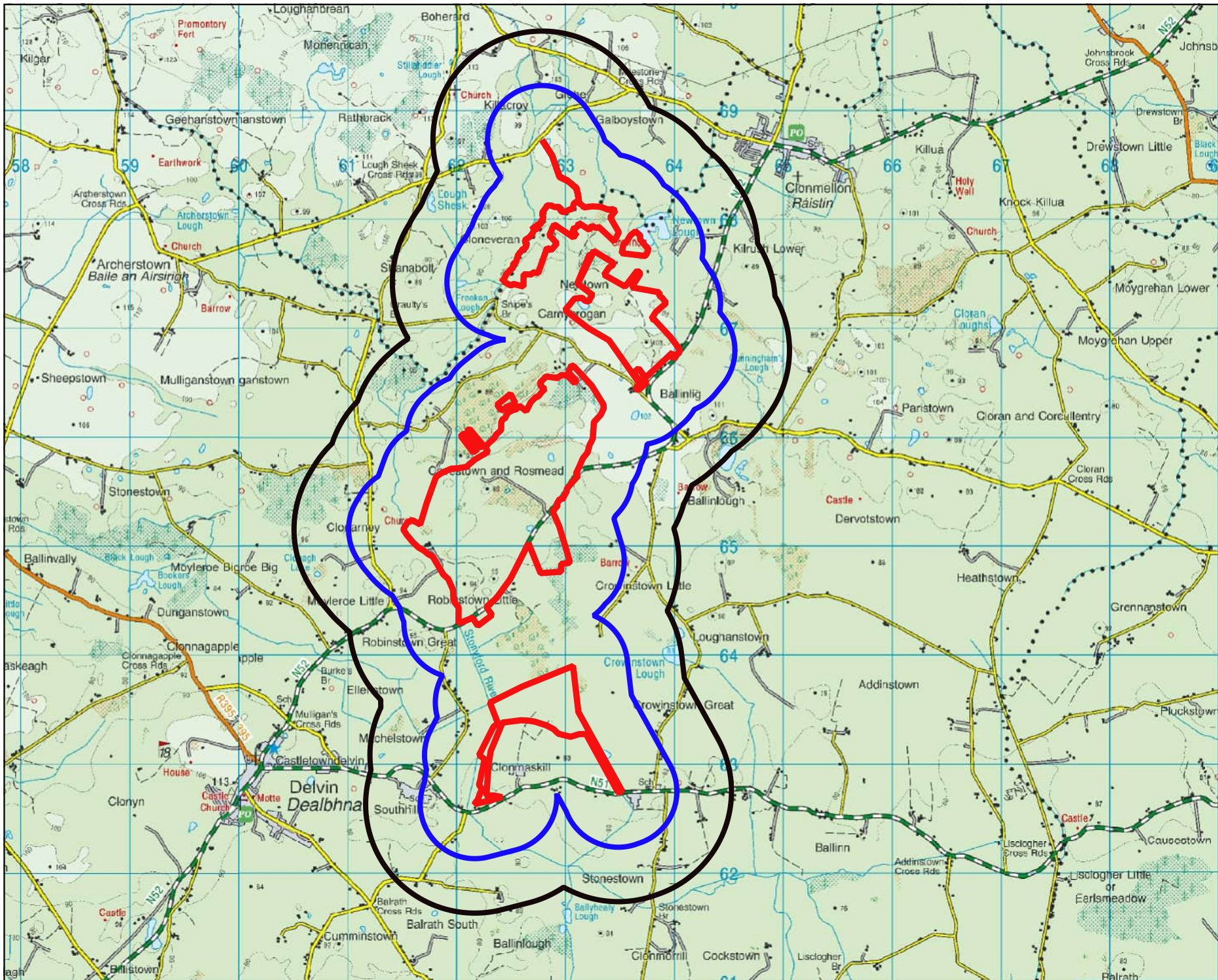
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Map Title

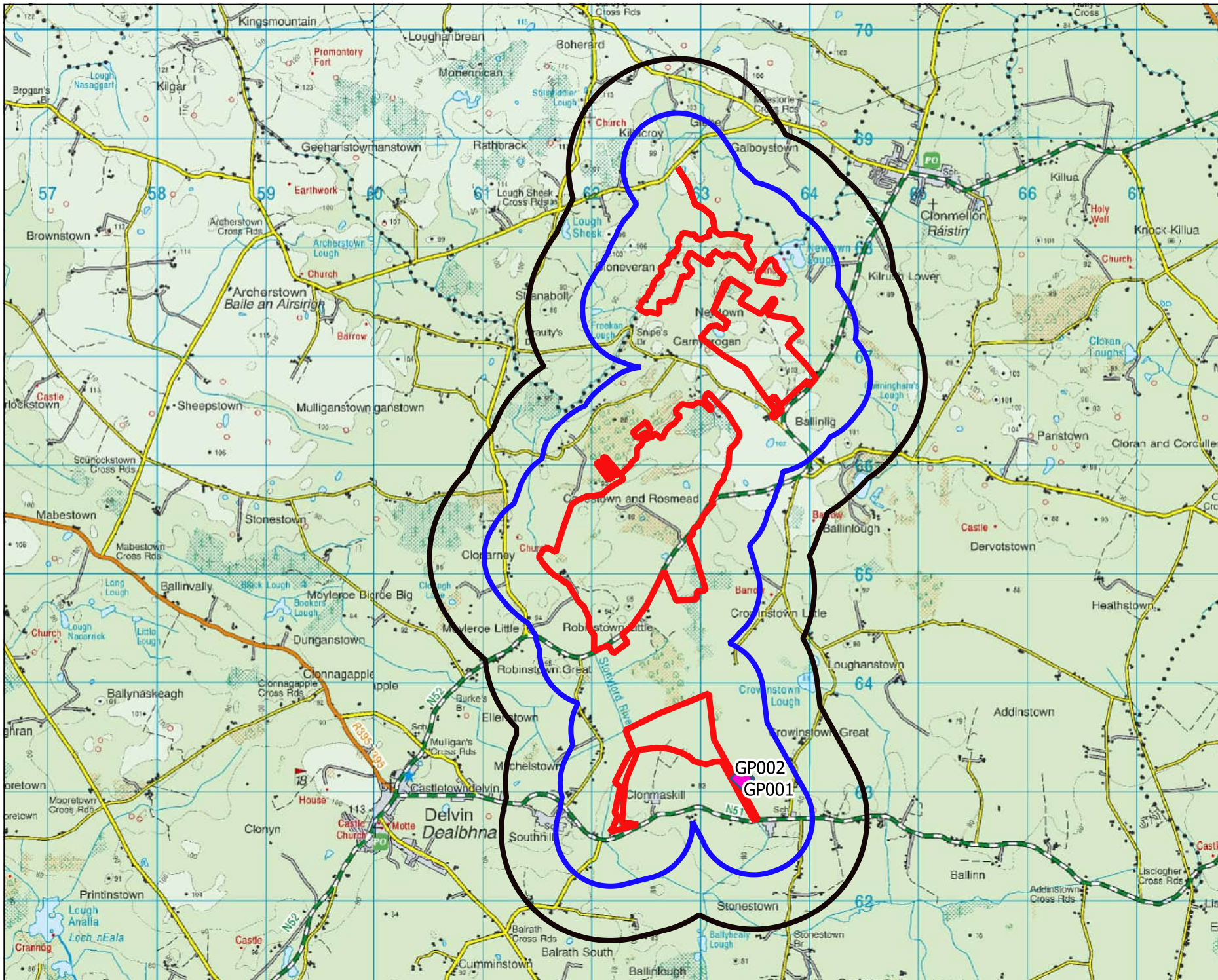
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Project Title

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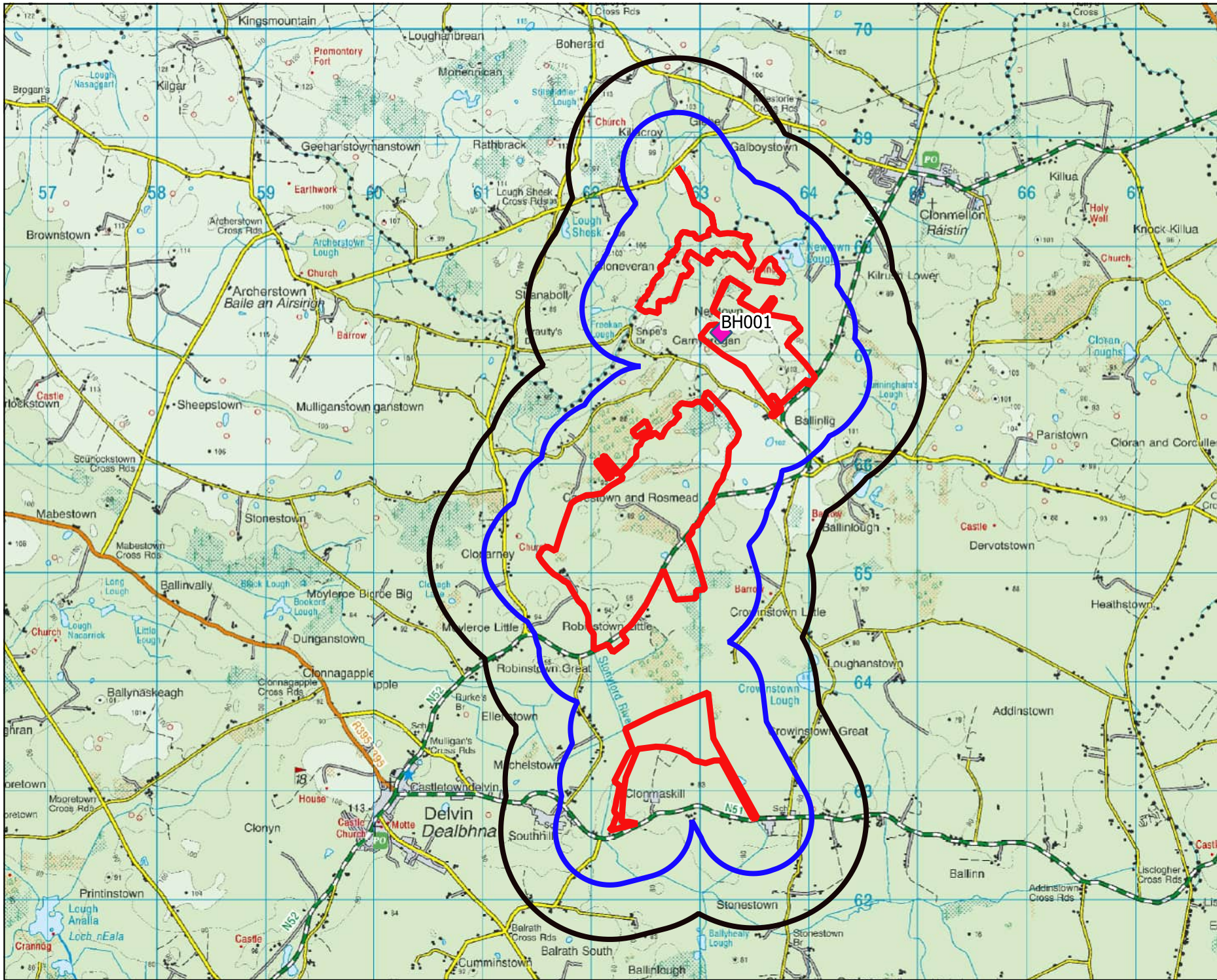


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Map Legend

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Map Title

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Project Title

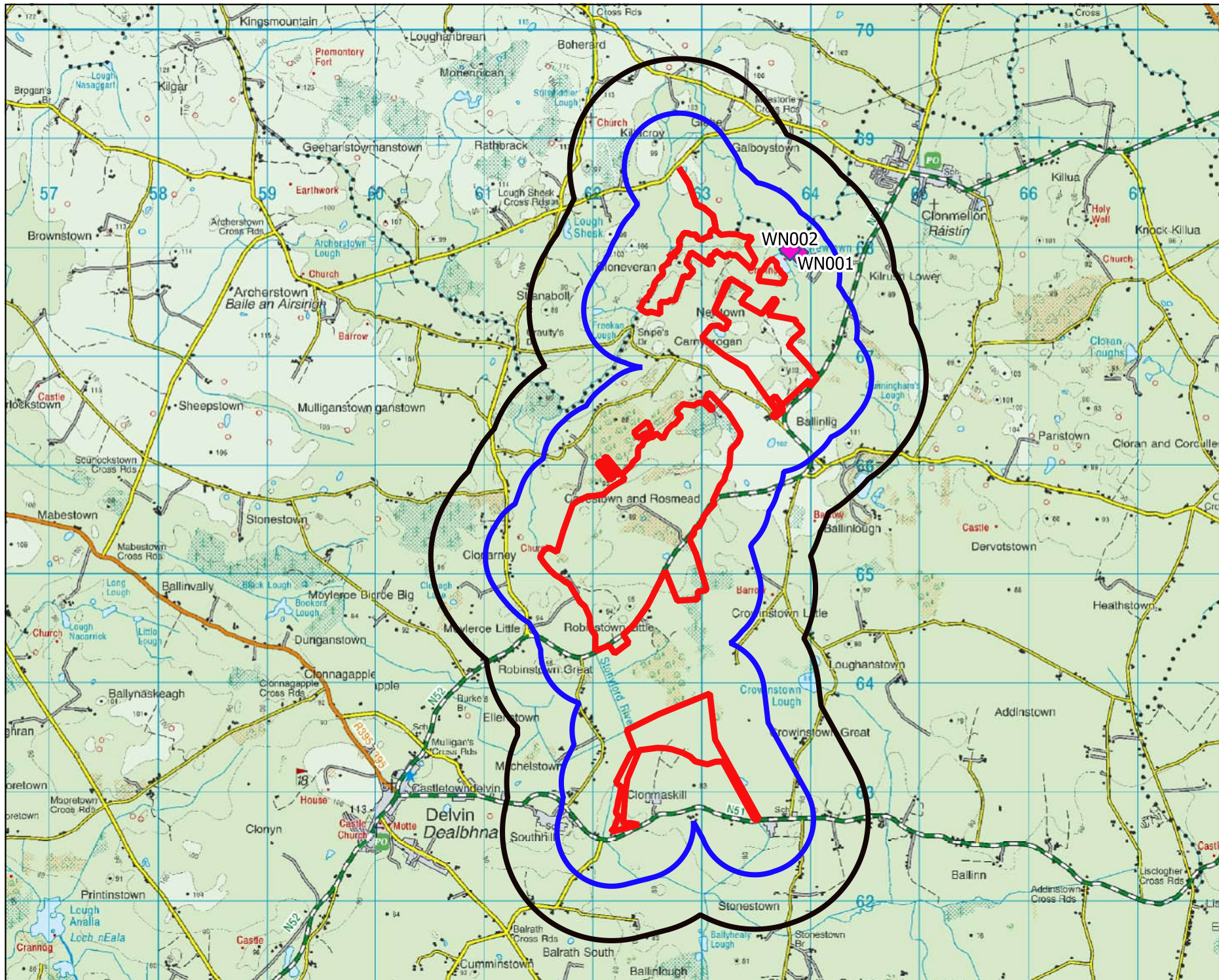
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-  1km Wildfowl Survey Buffer
-  Wigeon Observations



Map Title

Wildfowl Survey Wigeon Observations

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Fig 1-7-3

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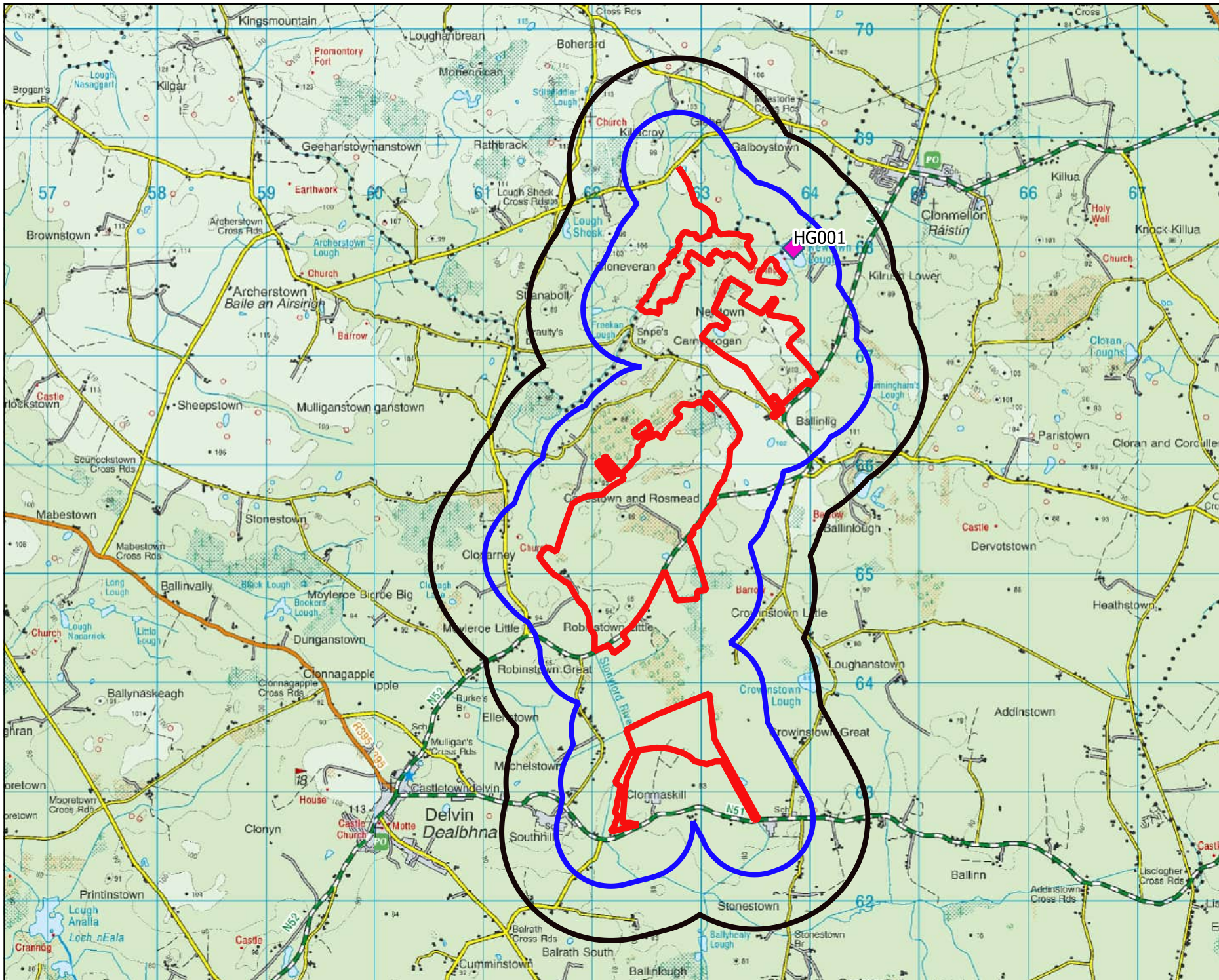
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Map Title

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Project Title

Crowinstown, Co. Westmeath

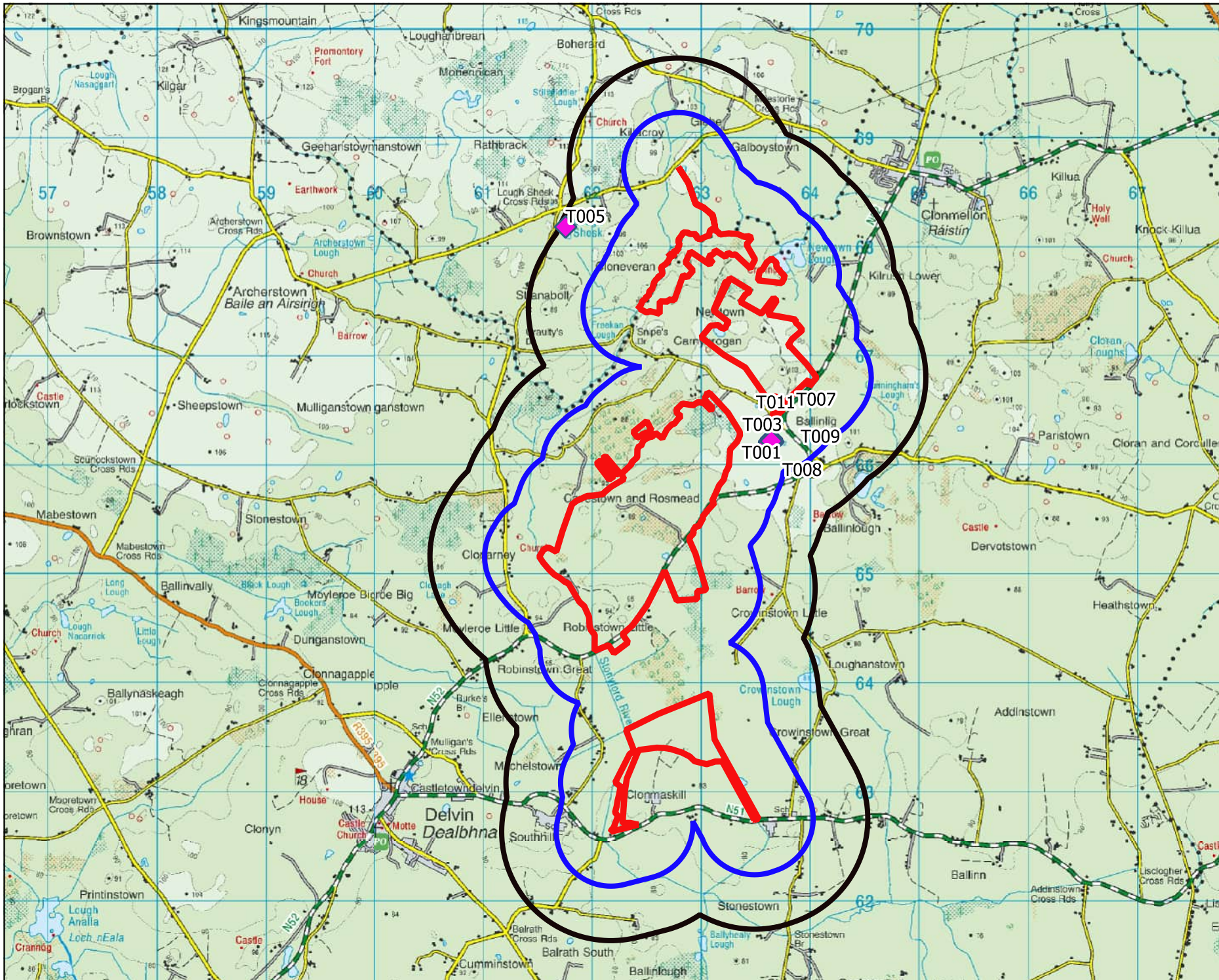
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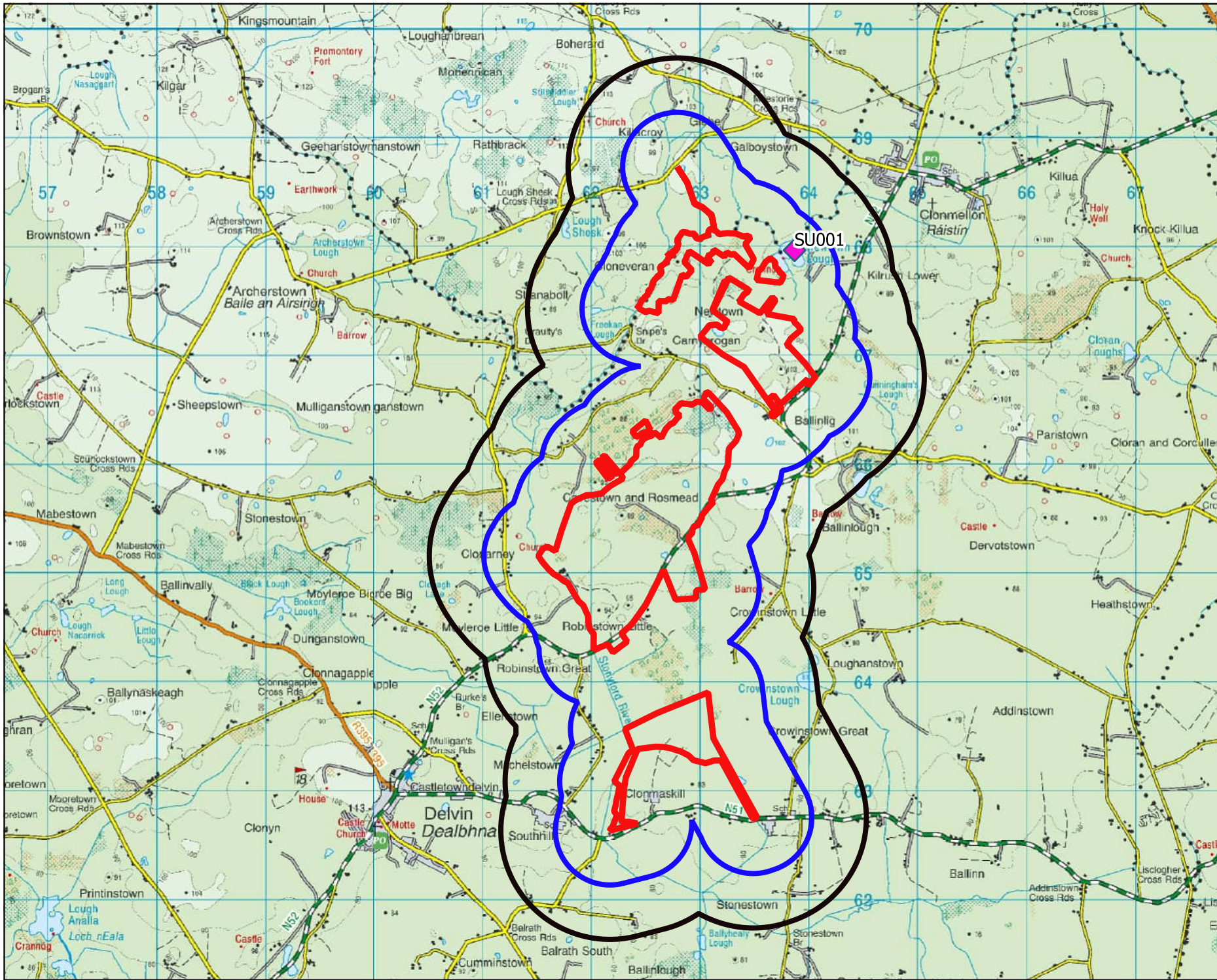
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Map Legend

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Map Title

Wildfowl Survey Shelduck Observations

Project Title

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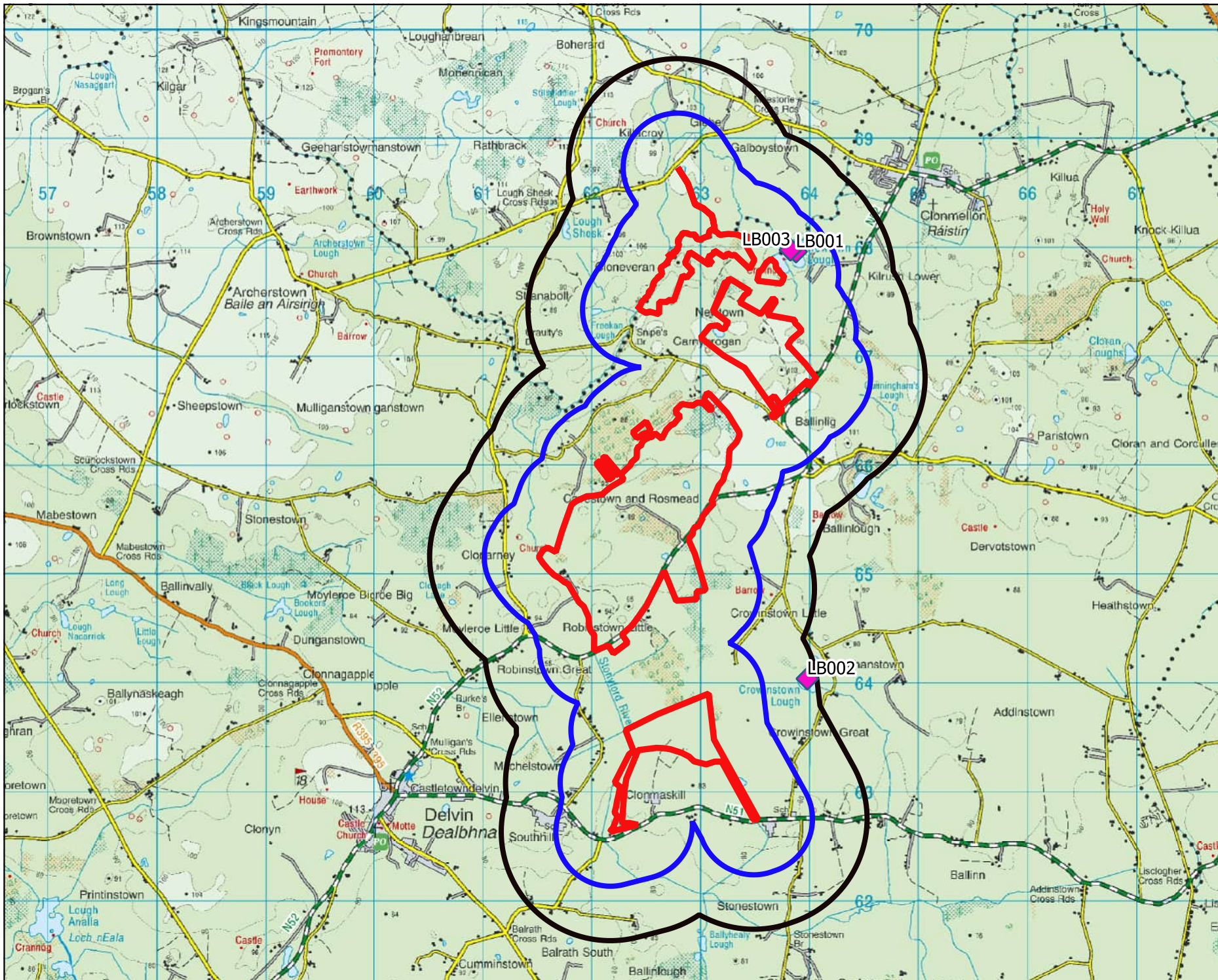
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Wildfowl Survey LB Gull Observations

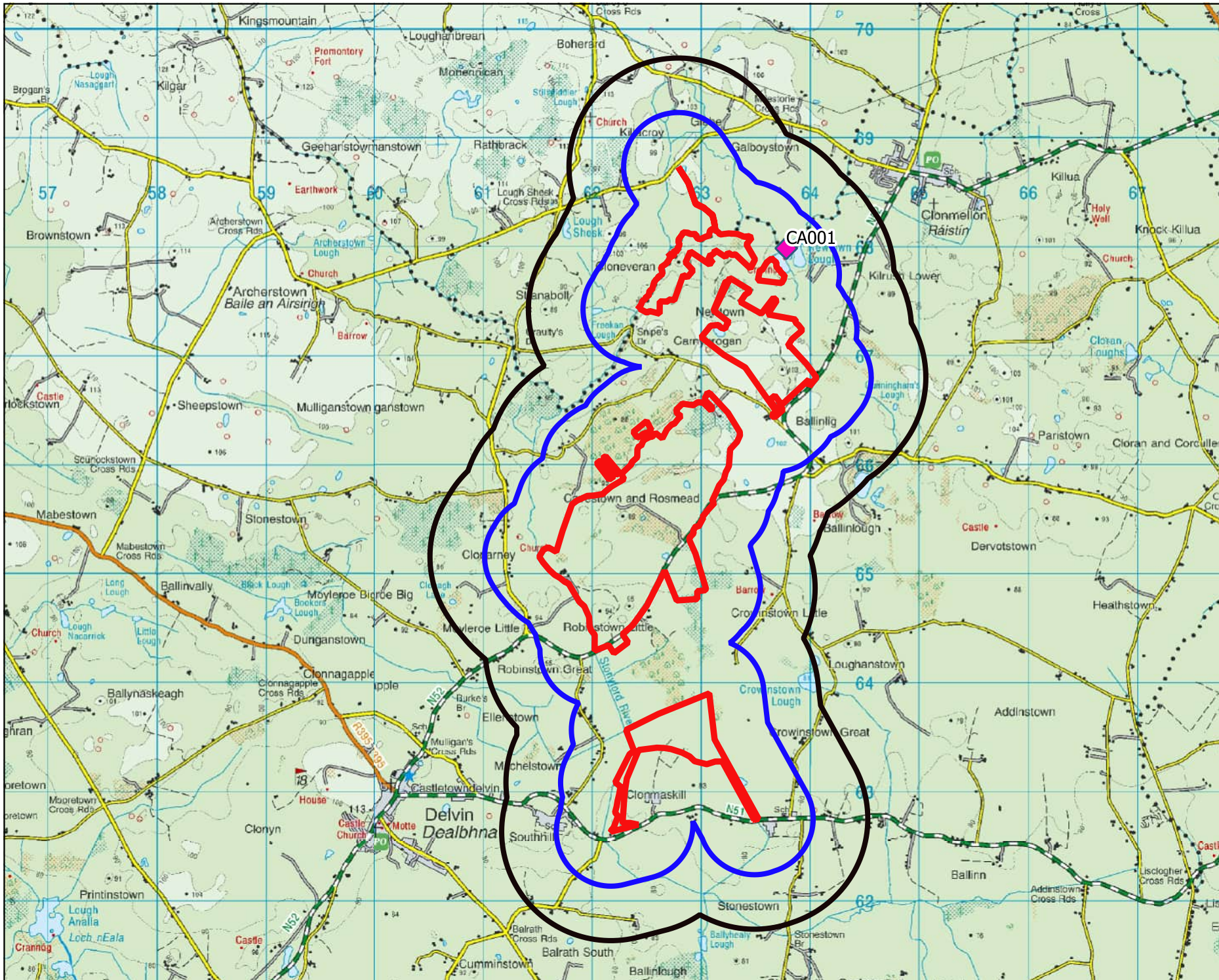
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- Site Boundary
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 - 1km Wildfowl Survey Buffer
 - ◆ Cormorant Observations




Map Title

Wildfowl Survey Cormorant Observations

Project Title

Crowinstown, Co. Westmeath

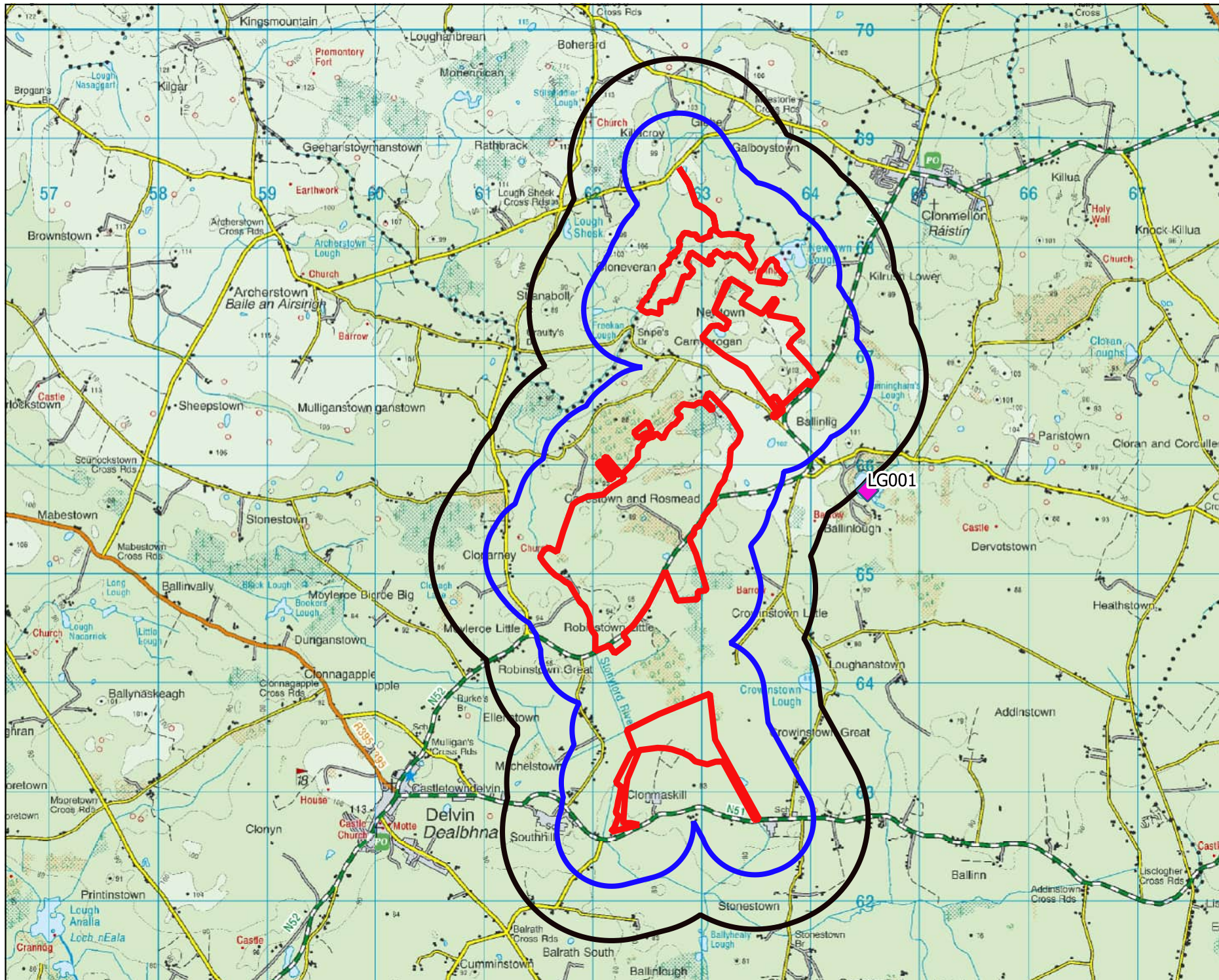
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- 1km Wildfowl Survey Buffer
- Little Grebe Observations



Map Title

Wildfowl Survey Little Grebe Observations

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Map No.

Fig 1-7-9

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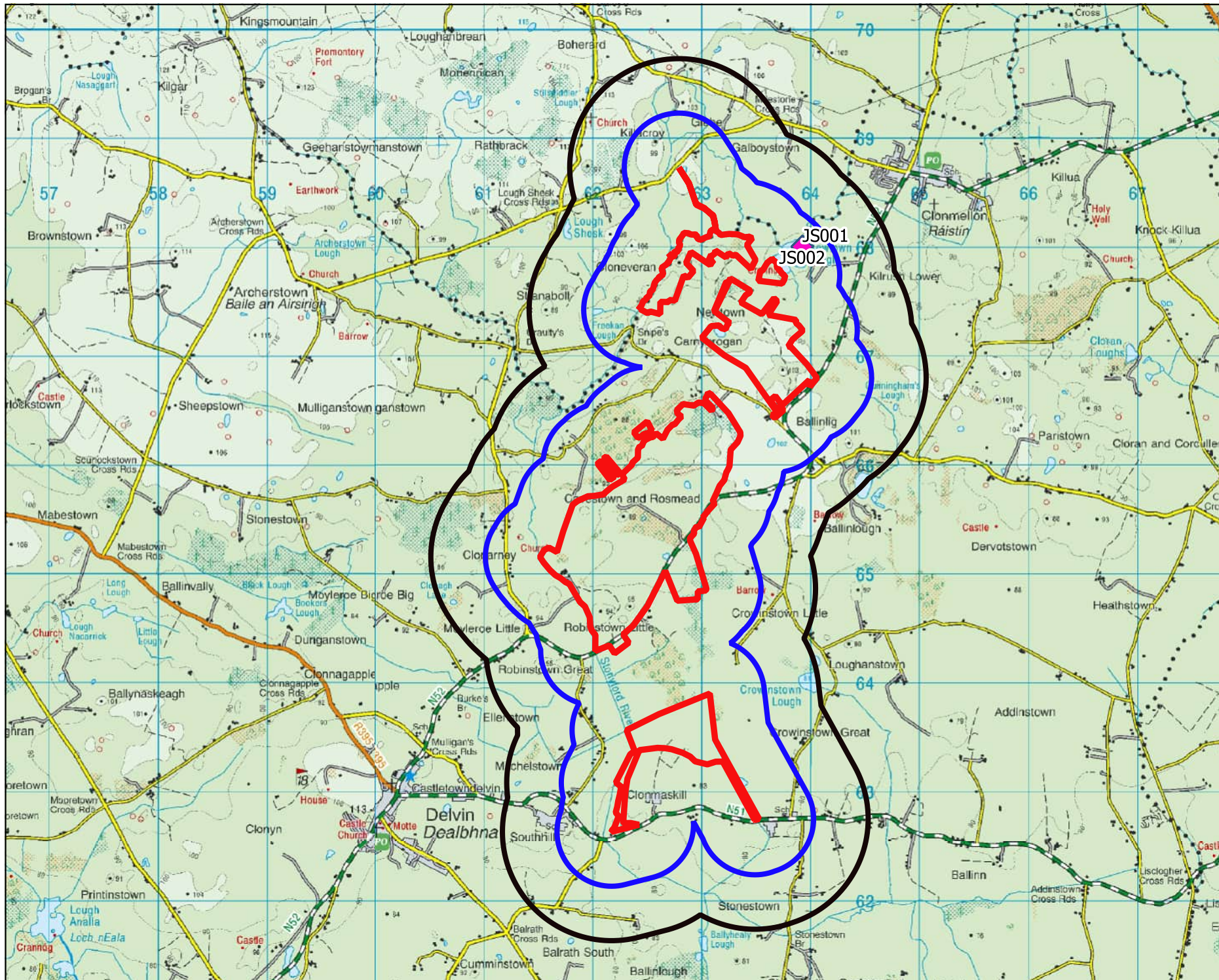
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Map Legend

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-  1km Wildfowl Survey Buffer
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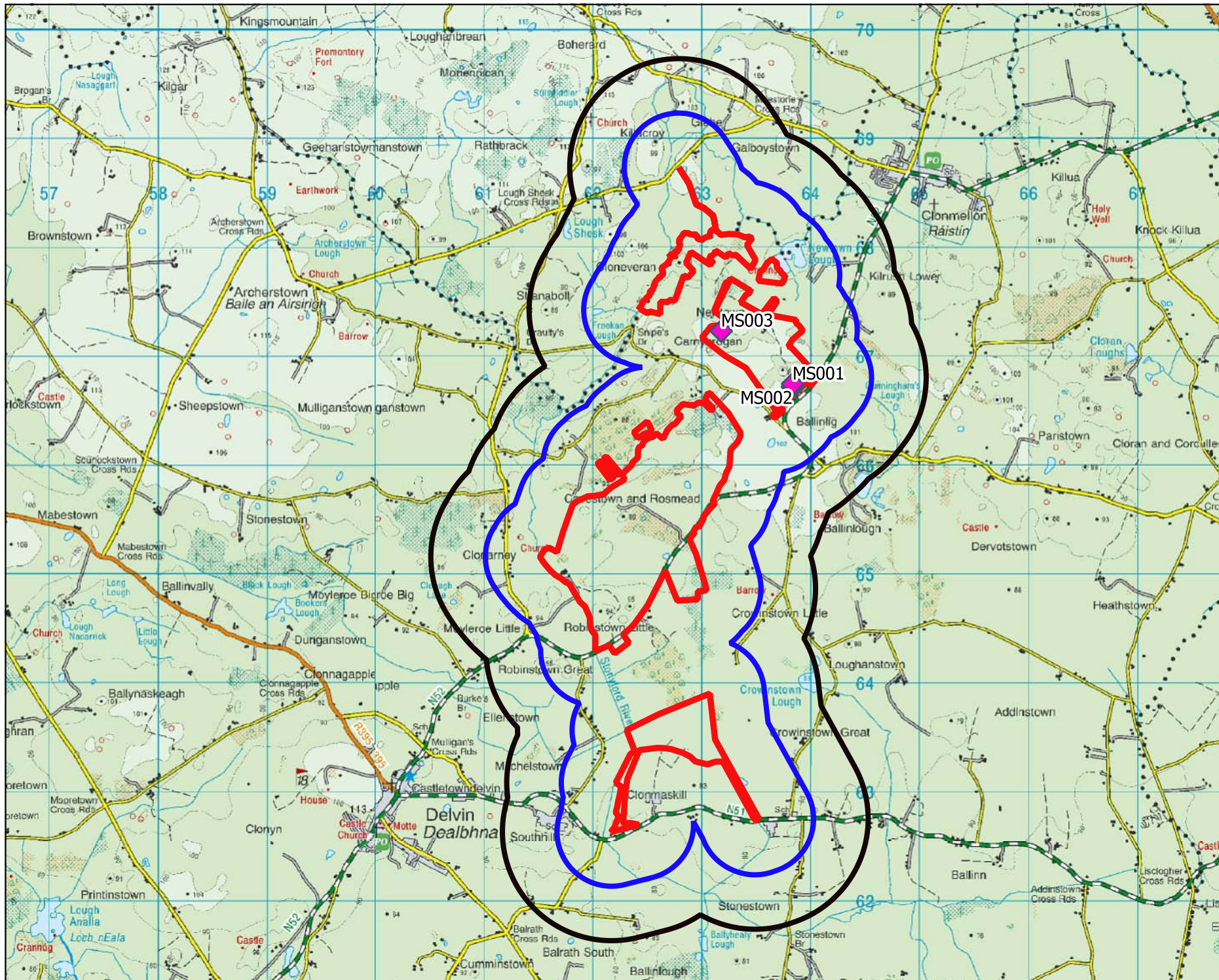


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- ◆ Mute Swan Observations



Map Title

Wildfowl Survey Mute Swan Observations

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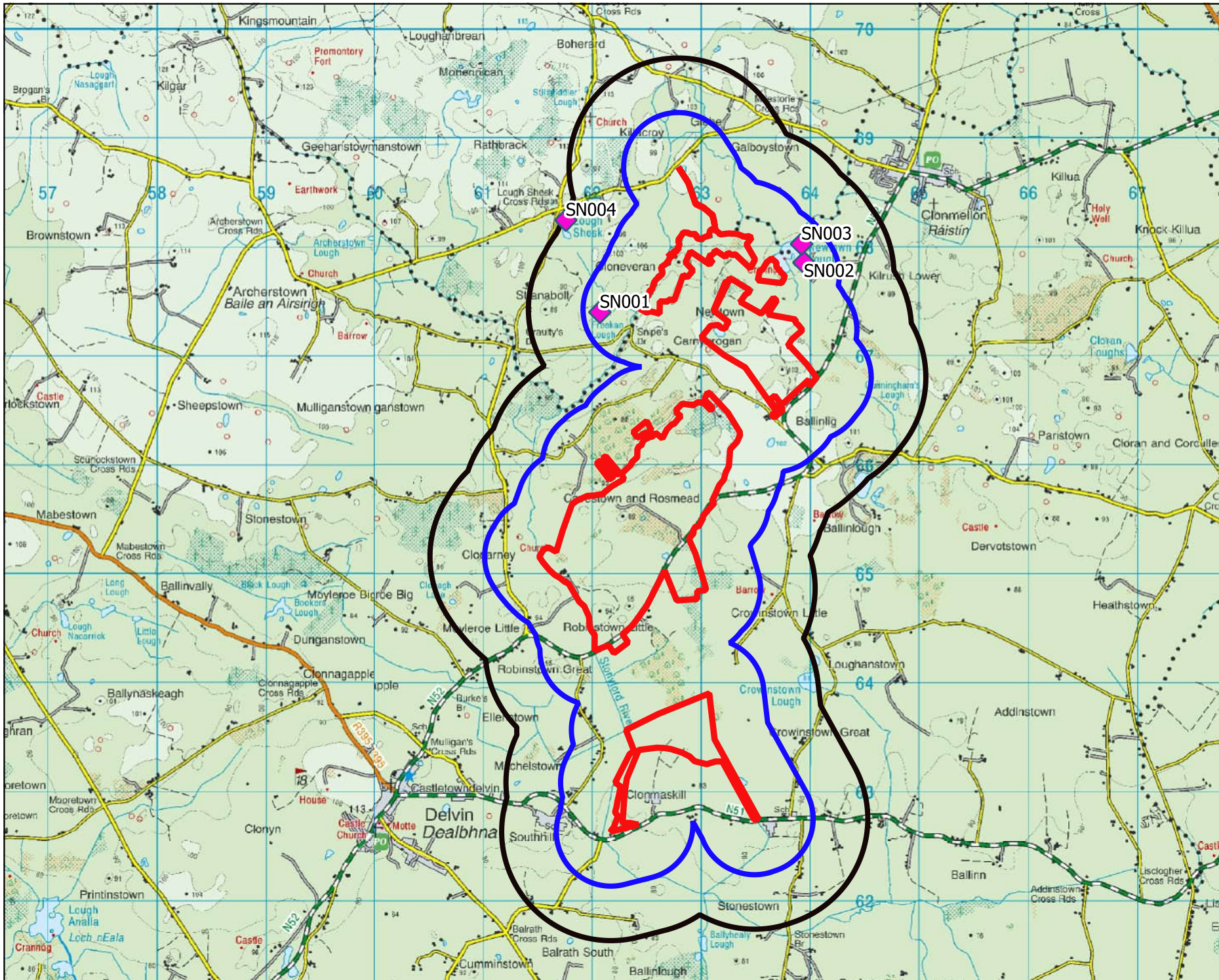
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Map Legend

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Map Title

Wildfowl Survey Snipe Observations

Project Title

Crowinstown, Co. Westmeath

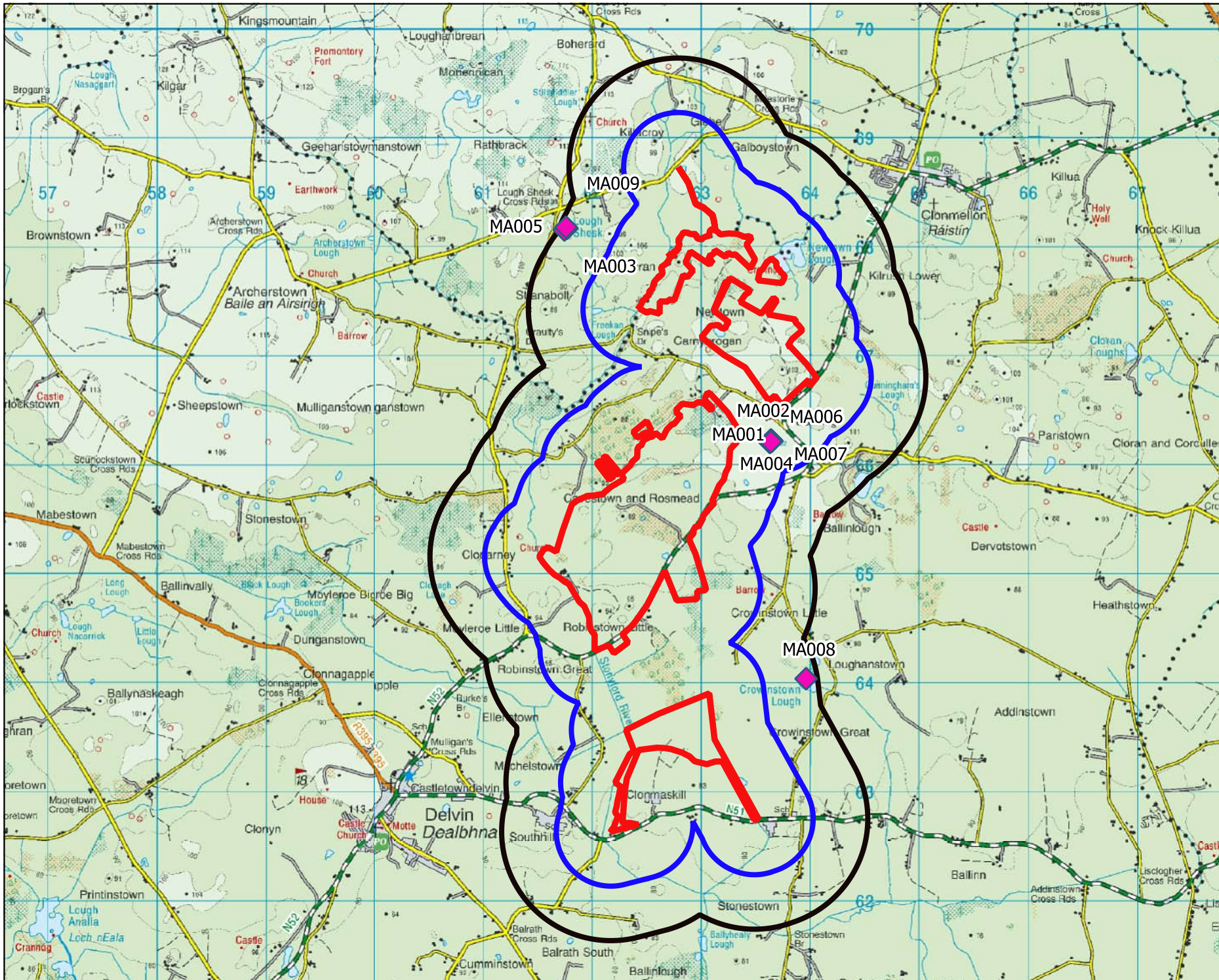
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-  1km Wildfowl Survey Buffer
-  Mallard Observations

Map Title

Wildfowl Survey Mallard Observations

Project Title

Crowinstown, Co. Westmeath

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Project No: **190531** Map No: **Fig 1-7-13**

Scale: **1:45486** Date: **07.07.2020**

Map Title

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Project Title

Crowinstown, Co. Westmeath

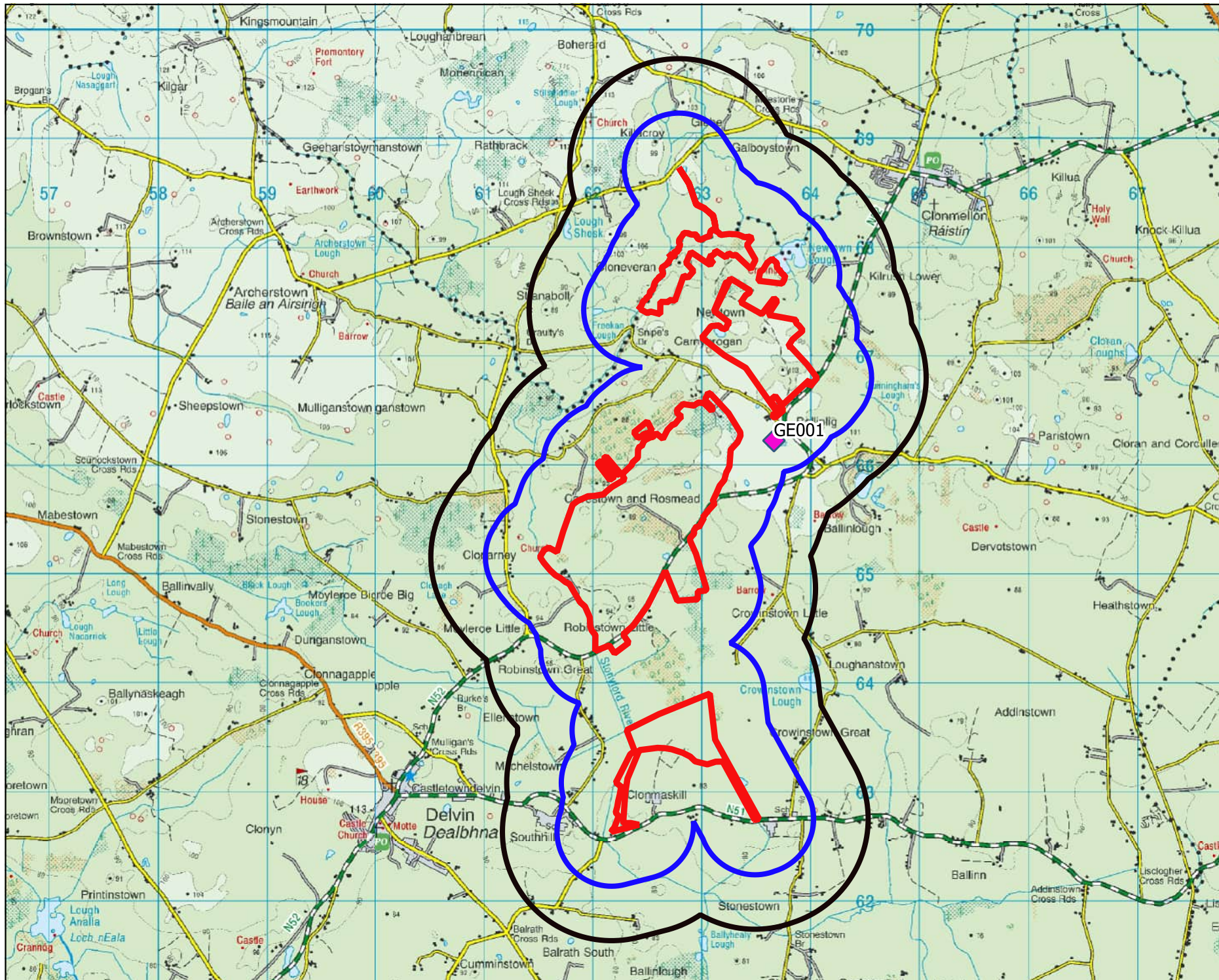
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Map Title

Wildfowl Survey Green Snadpiper Observations

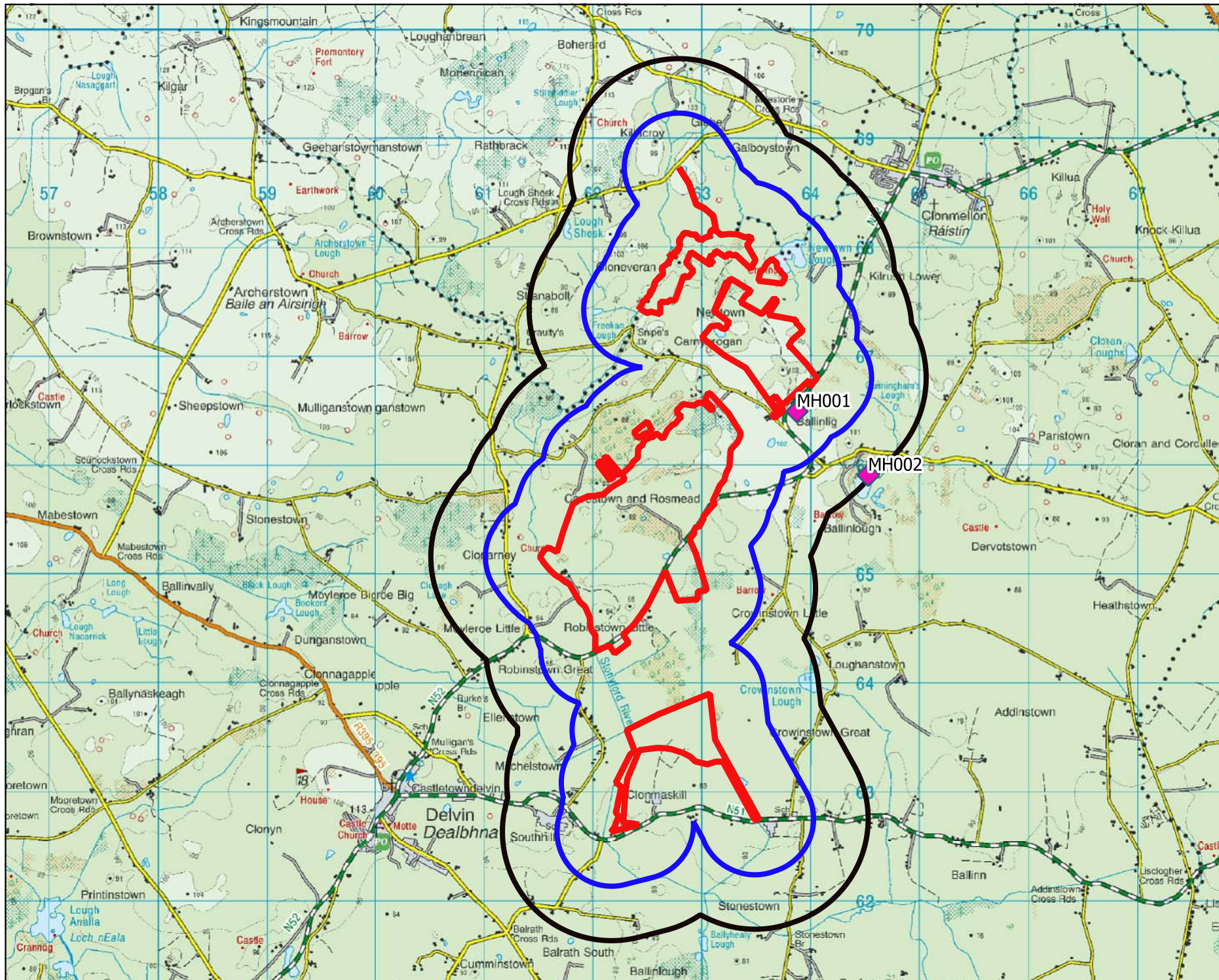
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-  1km Wildfowl Survey Buffer
-  Moorhen Observations



Map Title

Wildfowl Survey Moorhen Observations

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Fig 1-7-15

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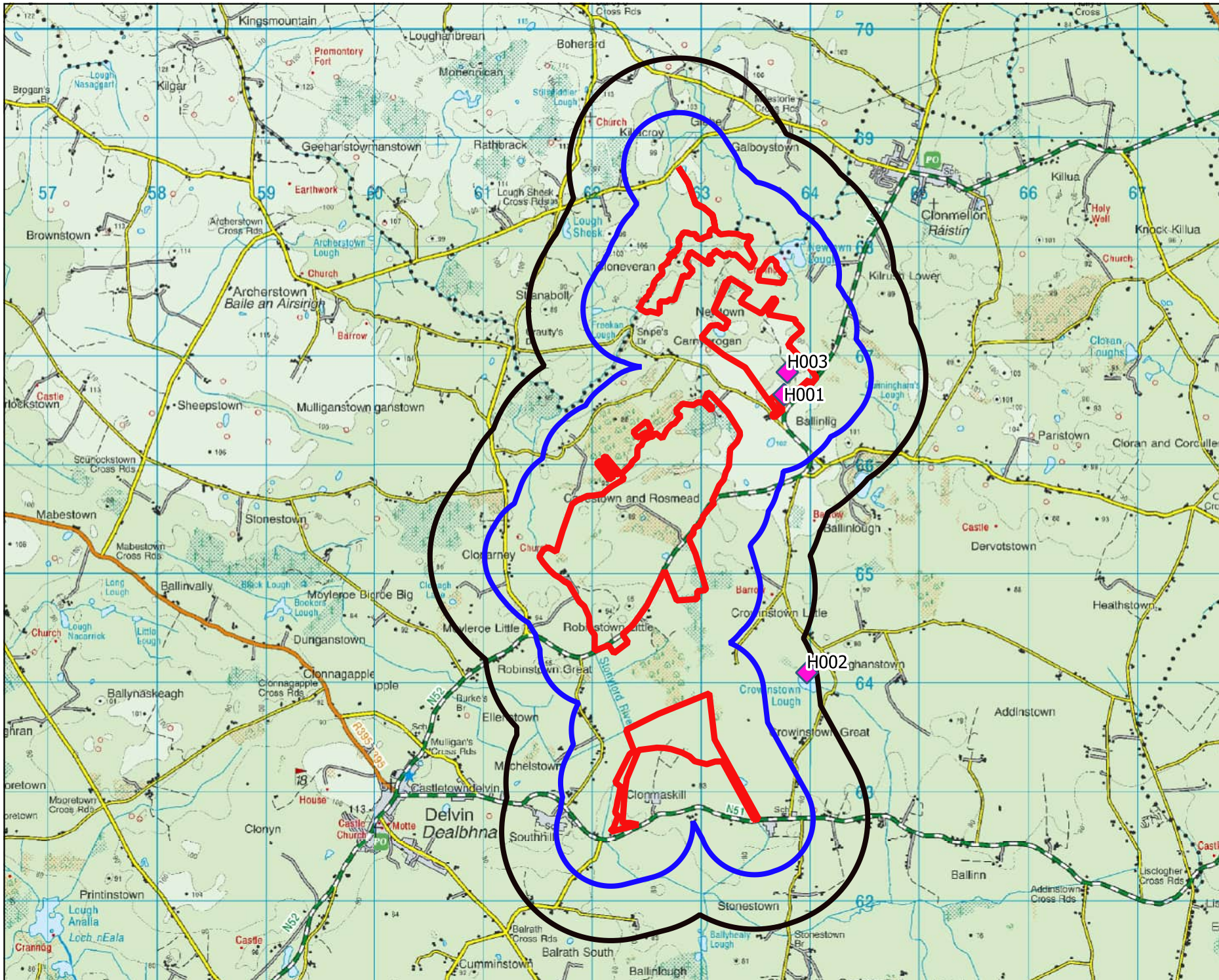
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 - ◆ Heron Observations



Map Title

Wildfowl Survey Heron Observations

Project Title

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**Year 2 Bird Survey Report
– Breeding Season 2020
– Winter Season 2020/21**

Crowinstown Wind Farm,
Co. Westmeath





DOCUMENT DETAILS

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1. INTRODUCTION

McCarthy Keville O’Sullivan (MKO) was appointed to carry out bird survey works at Crowinstown in County Westmeath during the period from April 2020 to March 2021 inclusive. The site is located east of Delvin and west of Athboy in County Westmeath (Grid Ref: N 622 265). The dominant habitat onsite is wet grassland and improved agricultural grassland with accompanying smaller areas of conifer plantation and a sand quarry. The wider surroundings are predominantly improved agricultural grassland. The total area of the wind farm site is approximately 330ha.

This report describes the ornithological survey methods employed and survey data collected at Crowinstown for the period from April 2020 to March 2021 inclusive. This report also contains information compiled during desktop studies. Particular attention has been paid to species of conservation importance and identified target species.

The report is supported by Technical Appendix 1 which contains the raw data from the bird surveys undertaken from April 2020 to March 2021. This includes detail on survey times, weather conditions, surveyors, survey results and other additional information. Flight line figures from surveys are included in Appendix 2.

The report is structured as follows:

- An introduction describing the background and statement of authority regarding ornithological works.
- A description of the desktop study and consultation that was carried out with regards to the site.
- A comprehensive description of the ornithological surveys carried out.
- A full description of results for all ornithological surveys carried out.
- A discussion of the potential impacts of the wind farm site.

The following defines terms used in this report

- “Zones of Influence” (ZOI) for potential ornithological receptors refers to the zone within which potential effects are anticipated. ZOIs were assigned following the best available guidance (SNH 2016 and McGuinness et.al 2015).

1.1 Statement of Authority

This report has been prepared by Patrick Manley (B.Sc.) a Project Ornithologist with MKO. The field surveys were undertaken by Athena Michaelides, Andrew O’Donoghue, Declan Manley, Kristina O’Connor, Niall McHugh, Peter Capsey and Paul Troake, all of whom are competent experts in bird surveying.

2. DESK STUDY & CONSULTATION

2.1 Desk Study Methods

A comprehensive desk study was undertaken before surveys in summer 2020 to search for any relevant information on species of conservation concern that may potentially make use of the study area. The assessment included a thorough review of the available ornithological data including:

- Review of online web-mappers: National Parks and Wildlife Service (NPWS), National Biodiversity Data Centre (NBDC), Irish Wetland Bird Survey I-WeBS.
- Review of Bird Atlases: (Sharrock, 1976; Lack, 1986; Gibbons et al., 1993; Balmer et al., 2013).
- Review of Birds of Conservation Concern (BoCCI) in Ireland 2020-2026 (Gilbert et al., 2021)
- Review of specially requested records from the NPWS Rare and Protected Species Database.

2.2 Desk Study Results

2.2.1 Identification of Designated Sites within the Likely Zone of Influence

Using GIS software, sites designated for nature conservation within the potential ZOI of the proposed wind farm site were identified. The ZOI was derived utilising a precautionary approach. Sites within a 15-kilometre radius of the proposed works were identified.

In addition, and in the absence of any specific European or Irish guidance, the Scottish Natural Heritage (SNH) Guidance, ‘Assessing Connectivity with Special Protection Areas (SPA)’ (2016) was consulted. This document provides guidance in relation to the identification of connectivity between proposed development proposals and Special Protection Areas. The guidance takes into consideration the distances some species may travel beyond the boundary of their SPAs and outlines information on dispersal and foraging ranges of bird species which are frequently encountered when considering plans and projects.

Designated sites (SPAs) located within the Likely Zone of Influence are listed below in Table 2-1.

Table 2-1 Special Protection Areas within 15 kilometres of site

Designated site and code	Species of qualifying interests	Distance from wind farm site (km)
River Boyne and River Blackwater SPA	Kingfisher	1.0
Lough Derravaragh SPA (004043)	Whooper Swan Pochard Tufted Duck Coot	14.65

2.2.2 Bird Atlas Records

Bird Atlas 2007-11: The breeding and wintering birds of Britain and Ireland (Balmer et al., 2013) is the most recent comprehensive work on wintering and breeding birds in Ireland.

The study area lies within hectad N66. Table 2-2 below presents a list of species of ornithological interest recorded within the hectad.

Table 2-2 Breeding bird atlas data for relevant hectad (N66)

Species Name	Breeding Status	Conservation Status
Peregrine	Possible	BD
Kestrel	Possible	RL
Snipe	Probable	RL
Buzzard	Probable	-
Sparrowhawk	Probable	-
Meadow Pipit	Probable	RL
Yellowhammer	Possible	RL

BD=Birds Directive; RL = BoCCI Red List; Seen = recorded; Breed = breeding; Non-B = non-breeding; Possible = possible breeding; Probable = probable breeding; Confirmed = confirmed breeding.

Table 2-2 above, lists seven species recorded in the relevant hectad during the most recent breeding bird atlas (2007-2011) studies that are also protected under the EU Birds Directive or mentioned on the Birds of Conservation Concern in Ireland (BoCCI) red list (2020-2026) or listed on the fourth schedule of the Wildlife Act 1976.

Table 2-4 shows those species recorded in the relevant hectads (C42 and C43) in the wintering birds’ atlases that are also protected under the EU Birds Directive or mentioned on the Birds of Conservation Concern in Ireland (BoCCI) red list (2020-2026) or listed on the fourth schedule of the Wildlife Act 1976.

Table 2-3 Winter bird atlas data for relevant hectad (N66)

Species Name	Conservation Status
Kestrel	RL
Snipe	RL
Buzzard	-
Meadow Pipit	RL

BD=Birds Directive; RL = BoCCI Red List.

2.2.3 Method of Identification of Target Species

Following a comprehensive desk study by MKO, initial site visit and consultation, a list of “Target species” likely to occur at the site was compiled. The survey work carried out at the wind farm site was specifically designed to survey for these identified target species in accordance with SNH guidance (2017). The target species list was drawn from:

- Annex I of the Birds Directive
- Red listed birds of Conservation
- Special Conservation Interests (SCI) of Special Protection Areas (SPA) within the zone of likely significant effects
- Species protected under the fourth schedule of the Wildlife Acts 1976-2012.

2.3 Consultation

MKO undertook a consultation exercise during the preparation of this report. Table 2-4 below provides a list of the organisations consulted and notes where responses have been received.

Table 2-4 Scoping Response Summary

No.	Consultee	Response to Consultation
1	National Parks & Wildlife Service	Response received 31/12/2019 - No bird data held by NPWS for the 5km radius of site boundary.

2.3.1 NPWS Rare and Protected Species Dataset

An information request was sent to the NPWS in August 2019 requesting records from the Rare and Protected Species Database. A response was received on the 31st of December 2019 informing MKO that the NPWS holds no bird data for 5km around the provided site boundary.

3. FIELD SURVEYS

3.1 Field Survey Methods

This section of the report describes the various field survey methods employed. Field surveys were undertaken from April 2020 – March 2021 inclusive. The data provided in this report is robust and allows clear, precise and definitive conclusions to be made with regard to the likely significant effects on avian receptors identified within the subject site. Field survey methodologies have been devised to survey for the bird species composition and assemblages that occur within the study area.

3.1.1 Initial Site Assessment

Based on the results of the desk study and reconnaissance site visits, the likely importance of the study area for bird species was determined. Based on the collated information available from the above preliminary assessment and adopting a precautionary approach, a site-specific scope for the ornithological surveys was developed.

3.1.2 Vantage Point Surveys

Vantage point (VP) surveys were undertaken in accordance with SNH guidance (SNH, 2017) from three vantage point locations from April 2020 to March 2021.

Data on bird observations and flight activity was collected from a scanning arc of 180° and a two-kilometre radius by an observer at each fixed location for six hours per month. Surveys were orientated to provide a spread over the full daylight period including at dawn and dusk to coincide with the highest points of bird activity.

Details on vantage point watch survey effort are presented in Appendix 1 to this report. This appendix includes full details of dates, times, survey locations, survey duration and weather conditions for each survey. Appendix 2, Figure 1 shows the locations of vantage points and technical data is provided in Appendix 1.

Flight activity was assigned to distinct height bands. The flight bands were chosen with reference to the dimensions of likely turbine models for the site and the resulting potential collision height. Bands are split into 0-15m, 15-25m, 25-200m and 200m+. As the turbine dimensions were not known at the time of writing this report, flights between 25-200m were considered to be at potential collision height (PCH) for the purposes of this report.

3.1.2.1 Viewshed Analysis

Viewshed analysis was carried out to inform coverage of the study area from fixed vantage point locations (VP1, VP2, VP3) prior to the commencement of surveys in April 2020. Viewsheds were calculated using Resoft Wind Farm ZTV (Zone of Theoretical Visibility) software in combination with Mapinfo Professional (Version 10.0) using a notional and precautionary layer suspended at 25m, which represents the lowest swept height of the turbine blades. While the relevance of being able to view as much of the site to ground level is acknowledged, the SNH guidance emphasises the importance of visibility of the ‘collision risk volume’ when the data is to be used to estimate the risk of collision with turbines by birds.

The viewshed analysis involved testing each VP location for its visibility coverage by creating a view shed point two metres in height (to represent the height of observer) on a map using 10 metre contours terrain data. Using the ZTV software, a viewshed of 360 degrees was produced calculating an area 10 metres from ground level up to a two-kilometre radius. The resulting viewshed image was then cropped to 180 degrees to give the viewshed from each VP location in line with SNH (2017). A 500m buffer was applied

to the likely maximum viable area of the site for a wind energy development in line with SNH's recommendation to conduct surveys to 500m from the outermost turbines of a proposed wind farm site (2017). The viewshed analysis offers maximum views of the study area with adequate coverage of the proposed turbine layout. As described above, the predicted collision risk height band that was used in the current assessment (>25m) is considered to be precautionary and in line with previously recommended height bands advocated in SNH (2005) guidance documents. Appendix 2, Figure 9. shows the calculated viewshed analysis.

3.1.3 Breeding Walkover Surveys

Breeding walkover surveys were undertaken to determine the presence of bird species of high conservation concern and identify areas of possible, probable, or confirmed breeding territories for bird species observed within the study area. The survey methodology followed the O'Brien & Smith method for lowland sites as outlined in Gilbert et al. (1998). The study area for these surveys was the wind farm site and a 500m survey radius of the wind farm site.

Transect routes were devised to ensure coverage of different habitat complexes between vantage point locations within the study area. Transects were selected in order to survey all areas of suitable breeding/foraging habitat to within 100m, where access allowed. Target species included waders, raptors, waterbirds, gulls and other birds of conservation concern. Along with target species, all additional species observed were recorded to inform the evaluation of supporting habitat.

Walkover surveys were carried out during daylight hours, during the core breeding season months of May, June and July (2020), with the wind farm site being visited on two days per month on each occasion. Following all survey visits, the field maps were analysed to determine the number and location of breeding territories. All non-breeding individuals and species encountered were also recorded.

Survey effort, including details of survey duration and weather condition, is presented in Appendix 1. Figure 2 in Appendix 2 shows the survey area.

3.1.4 Breeding Raptor Surveys

Breeding raptor surveys (*i.e.*, birds of prey and owls) were undertaken within the study area and its immediate surroundings. These surveys aimed to identify occupied territories and ascertain whether breeding was successful. The methodology followed Hardey et al. (2013). Raptor surveys were undertaken onsite and to a 2km radius from the wind farm site on a monthly basis during the core breeding season period (May to July 2020).

Survey effort details are provided in Appendix 1. Figure 3 in Appendix 2 shows the study area extending 2km from the wind farm site.

3.1.5 Winter Walkover Surveys

Winter transect surveys were conducted to determine the presence of bird species of high conservation concern within areas of potentially suitable habitat in the survey area. The study area for these surveys was the wind farm site and a 500m survey radius of the wind farm site.

Transect routes were devised to ensure coverage of different habitat complexes between vantage point locations within the study area, during the winter months. The methodology was based on methods described in Bibby et al. (2000). Target species were raptors, waterbirds, gulls and ground birds of conservation interest. Along with target species, all additional species observed were recorded to inform the evaluation of supporting habitat.

Survey effort details are provided in Appendix 1. Figure 4 in Appendix 2 shows the study area.

3.1.6 Wildfowl Distribution Surveys

Significant wetland sites within 1km of the study area were surveyed for wildfowl populations (i.e. waders, waterfowl, gulls, grebes and rails). The survey area follows the recommended survey radius of 500m for foraging wildfowl and one kilometre for roosting wildfowl surveys as stipulated by SNH (SNH, 2017). These surveys aimed to provide contextual information on the distribution and abundance of waterfowl species within the wider surroundings of the wind farm site. The count methodology was in line with survey methodology guidelines issued by SNH (2017) and BirdWatch Ireland (2015). Counts were undertaken during daylight hours (after dawn and before dusk).

The Survey effort for all wildfowl distribution and abundance surveys is presented in Appendix 1. Figure 5 in Appendix 2 shows the wetland site survey locations.

3.1.7 Woodcock Surveys

Breeding season surveys for this species were undertaken in accordance with Gilbert et.al (1998). The survey area extended 500m beyond the wind farm site. All surveys were undertaken in areas of suitable breeding habitat during May and June 2020. Surveys commenced one hour before sunset and continue for an hour after sunset or until it was too dark to see. The survey aimed to record the presence of roding (displaying) male woodcock and thereby establish the distribution and abundance of the species in the study area. This survey method also allowed the observer to survey for owls, i.e., barn owls and long-eared owls. The survey effort undertaken for transect surveys is presented in Appendix 1, including details of survey duration and weather conditions. Figure 6 in Appendix 2 shows the survey area.

3.1.8 Survey Justification

A comprehensive suite of bird surveys was undertaken at the site between April 2020 and March 2021, as detailed in this report.

Results from the 2020 breeding season and the 2020/21 winter season are derived from a continuous twelve months of surveying undertaken in accordance with SNH Guidance. Surveys were not conducted in April 2020 due to the Covid-19 lockdowns. There is a limitation in the survey effort due to this, given that early breeding activity may have been missed. However, territories that established in April and persisted into may are likely to have been identified.

The surveys undertaken provide the information necessary to allow a complete, comprehensive and robust assessment of the potential impacts of the wind farm site on avian receptors. The survey duration and scope are considered entirely satisfactory.

3.2 Field Survey Results

3.2.1 Introduction

A comprehensive list of all target bird species recorded within the study area is provided in Appendix 1, Table 1. This list also provides the conservation status of each species. Appendix 1, Table 2 provides a comprehensive list of all non-target species recorded within the study area.

The following target species were recorded during the survey period, April 2020 to March 2021 and observations are described in detail in subsequent sections below. The list is ordered in accordance with conservation significance: Annex I species, SCIs of designated sites, Red listed species and raptors:

- > Golden Plover (Annex I species)
- > Kingfisher (Annex I species; SCI of nearby SPA)
- > Merlin (Annex I species; Schedule IV of the Wildlife Act; 1976)
- > Peregrine Falcon (Annex I species; Schedule IV of the Wildlife Act; 1976)
- > Whooper Swan (Annex I species; SCI of nearby SPA)
- > Wood Sandpiper (Annex I species)
- > Curlew (BoCCI Red Listed)
- > Kestrel (BoCCI Red Listed)
- > Lapwing (BoCCI Red Listed)
- > Snipe (BoCCI Red Listed)
- > Woodcock (BoCCI Red Listed)
- > Buzzard (Raptor, Schedule IV of the Wildlife Act; 1976)
- > Long-eared Owl (Owl, Schedule IV of the Wildlife Act; 1976)
- > Sparrowhawk (Raptor, Schedule IV of the Wildlife Act; 1976)
- > Red Listed Passerines (Meadow Pipit, Yellowhammer)

The following sections describe the observations of each target species under the individual survey headings. Raw data and maps are provided in Appendix 1 and Appendix 2, respectively.

3.2.2 Vantage Point Survey Results

Vantage point surveys were undertaken at the site between April 2020 and March 2021 inclusive. Summary results from vantage point surveys are presented below in Table 3-1 and discussed in further detail in Section 4 of this report.

Table 3-1 Vantage Point Survey Results

Conservation Status	Species	Total number of observations	Total Number of flights at PCH	Number of observations on site/within 500m	Activity of note	Figure
Annex I	Golden Plover	26	12	26	Flocks of between 1 and 240 birds were observed. The majority of observations were of birds commuting or circling over improved agricultural grassland. There were four observations of birds landing/foraging on grassland habitats. Observations were concentrated over an area of improved agricultural grassland to the southwest of the wind farm site.	Appendix 2, Figure 1.1
Annex I	Merlin	1	00	1	There was one observation of a bird commuting.	Appendix 2, Figure 1.2
Annex I	Peregrine	5	4	5	There were five observations of individuals commuting, circling, hunting or perched in a tree.	Appendix 2, Figure 1.3
Annex I	Whooper Swan	5	5	5	Observations ranged from two to eleven birds. All observations were of birds commuting over the wind farm site at PCH.	Appendix 2, Figure 1.4
BoCCI Red List (Breeding Only)	Curlew	1	1	1	There was one observation of an individual commuting over the wind farm site at PCH during winter months.	Appendix 2, Figure 1.5
BoCCI Red List	Kestrel	43	28	41	The majority of observations were of individuals hunting or commuting. There was one confirmed and one possible breeding territory identified during the 2020 breeding season. At the north of	Appendix 2, Figure 1.6/1.6.1

Conservation Status	Species	Total number of observations	Total Number of flights at PCH	Number of observations on site/within 500m	Activity of note	Figure
					the wind farm site a kestrel was observed mobbing a buzzard and carrying prey on two dates. To the south of the site, a possible breeding territory was identified when two kestrels were observed mating.	
BoCCI Red List	Lapwing	3	2	2 (one flight not mapped)	Observations ranged from 1 to 40 birds and were all of birds commuting.	Appendix 2, Figure 1.7
BoCCI Red List	Snipe	3	1	3	Flocks ranged from an individual to three birds. All observations were of birds travelling or being flushed.	Appendix 2, Figure 1.8
BoCCI Green List	Buzzard	252	175	233	The majority of flights were of birds commuting, hunting or soaring. There were 13 flights related to breeding activity. There were 12 display flights and one observation of begging chicks. There was a total of three probable territories and one confirmed territory.	Appendix 2, Figure 1.9/1.9.1
BoCCI Green List	Sparrowhawk	39	20	36	The majority of observations were of birds commuting or circling. There were nine observations related to territorial behaviour, including displaying and one observation of a bird carrying prey to a nest site. There was one confirmed and three possible breeding territories.	Appendix 2, Figure 1.10/1.10.1

3.2.3 Breeding Walkover Survey Results

Breeding walkover surveys were carried out during the 2020 breeding season: May to July. Summary results from breeding walkover surveys are presented below in Table 3-2 and discussed in more detail in Section 4 of this report.

Table 3-2 Breeding Walkover Survey Results

Conservation Status	Species	Total number of observations recorded	Number of observations on site/ within 500m	Activity of note	Breeding Status	Figure
BoCCI Red List	Kestrel	6	4	The majority of observations were of birds hunting or travelling. There was one observation of a bird carrying prey, confirming breeding nearby.	Confirmed (One Territory)	Appendix 2, Figure 2.1/2.1.1
BoCCI Red List	Lapwing	1	1	One observation of an adult with a fledged chick feeding at a small pond, confirming breeding locally.	Confirmed (One Territory)	Appendix 2, Figure 2.2/2.2.1
BoCCI Red List	Snipe	1	1	One observation of a bird drumming, indicating a probable breeding territory	Probable (One Territory)	Appendix 2, Figure 2.3/2.3.1
BoCCI Green List	Buzzard	35	33	All observations were of birds commuting or circling. No breeding evidence was observed	-	Appendix 2, Figure 2.4
BoCCI Amber List	Sparrowhawk	2	2	Two observations of birds travelling	-	Appendix 2, Figure 2.5

3.2.4 Breeding Raptor Survey Results

Breeding raptor surveys were carried out during the 2020 breeding season: May to July. Summary results from breeding raptor surveys are presented in Table 3-3 below and discussed in more detail in Section 4 of this report.

Table 3-3 Breeding Raptor Survey Results

Conservation Status	Species	Total number of observations recorded	Number of observations on site/within 500m	Activity of note	Breeding Status	Figure
BoCCI Red List	Kestrel	12	1	The majority of observations were of birds hunting, commuting or perched.	-	Appendix 2, Figure 3.1
BoCCI Green List	Buzzard	90	8	The majority of observations were of birds hunting, commuting or soaring. There were two observations of birds displaying and two observations of fledglings begging or perched.	Confirmed (Two Territories) Probable (One Territory)	Appendix 2, Figure 3.2/3.2.1
BoCCI Green List	Sparrowhawk	14	4	The majority of observations were of birds commuting or circling. There were two observations of sparrowhawk mobbing other raptors and one observation of a pair displaying.	Probable (Three Territories)	Appendix 2, Figure 3.3/3.3.1

3.2.5 Winter Walkover Survey Results

Winter walkover surveys were carried out during the 2020/2021 winter season: October 2020, January and February 2021. Summary results from winter walkover surveys are presented below in Table 3-4Table 3-2 and discussed in more detail in Section 4 of this report.

Table 3-4 Winter Walkover Survey Results

Conservation Status	Species	Total number of observations recorded	Total number of individuals recorded	Number of observations on site/ within 500m	Activity of note	Figure
Annex I	Golden Plover	2	135	2	Both observations were of flocks commuting.	Appendix 2, Figure 4.1
Annex I	Peregrine	1	1	1	Flying before perching in sand quarry.	Appendix 2, Figure 4.2
Annex I; SCI nearby SPA	Whooper Swan	2	12	2	One observation of birds commuting and one observation of birds feeding in a small lake, adjacent to the wind farm site.	Appendix 2, Figure 4.3
Annex I	Wood Sandpiper	1	1	1	One bird was observed feeding in a flooded field.	Appendix 2, Figure 4.4
BoCCI Red List	Kestrel	3	3	3	All observations were of birds hunting.	Appendix 2, Figure 4.5
BoCCI Red List	Lapwing	1	55	1	One observation of a flock commuting over the wind farm site.	Appendix 2, Figure 4.6
BoCCI Red List	Snipe	2	2	2	Two observations of birds commuting.	Appendix 2, Figure 4.7
BoCCI Green List	Buzzard	20	31	20	The majority of observations were of birds commuting or hunting.	Appendix 2, Figure 4.8
BoCCI Amber List	Sparrowhawk	3	3	3	Three observations of birds commuting or circling.	Appendix 2, Figure 4.9

3.2.6 Wildfowl Distribution Survey Results

Wildfowl distribution surveys were carried out in May 2020 and August 2020 to February 2021. Summary results from wildfowl distribution surveys are presented below in Table 3-5 and discussed in more detail in Section 4 of this report.

Table 3-5 Wildfowl Distribution Survey Results

Conservation Status	Species	Observations recorded during surveys	Number of birds recorded	Activity of note	Figure
Annex I	Golden Plover	2	110	Observed feeding and roosting in flooded fields	Appendix 2, Figure 5.1
Annex I; SCI of nearby SPA	Kingfisher	1	1	Commuting along river	Appendix 2, Figure 5.2
Annex I	Whooper Swan	3	11	Observed feeding, roosting and commuting	Appendix 2, Figure 5.3
BoCCI Red List	Snipe	9	23	Majority of observations were of birds being flushed by observer. There was one observation of a bird drumming in May 2020.	Appendix 2, Figure 5.4/5.4.1

3.2.7 Breeding Woodcock Survey Results

Breeding woodcock surveys were carried out in May and June 2020. All observations are detailed in Table 3-6 below and discussed in further detail in Section 4 of this report.

Table 3-6 Breeding Woodcock Observations

Conservation Status	Species	Observations recorded during surveys	Number of birds within 500m of site	Activity of note	Breeding Status	Figure
BoCCI Red List (Breeding populations only)	Woodcock	8	8	Seven observations were of birds roding.	One confirmed breeding area, unknown number of pairs (min. one pair)	Appendix 2, Figure 6.1/6.1.1

3.2.8 Incidentals

Several incidental observations of target species were recorded during the survey period. The most significant of these observations are detailed in Table 3-7 below and discussed in further detail in Section 4 of this report.

Table 3-7 Incidental Observations

Conservation Status	Species	Survey Type	Observations recorded during surveys	Activity of note	Figure
BoCCI Red List	Kestrel	Breeding Woodcock & Wildfowl Distribution	7	The majority of observations were of birds hunting. There was one observation of a juvenile near the quarry.	Appendix 2, Figure 7.1
BoCCI Red List	Lapwing	Breeding Raptor	1	One observation of two birds commuting.	Appendix 2, Figure 7.2
BoCCI Green List	Long-eared Owl	Breeding Woodcock	1	Hunting in woodland.	Appendix 2, Figure 7.3
BoCCI Green List	Buzzard	Breeding Woodcock, Vantage Point & Wildfowl Distribution	37	The majority of observations were of birds commuting or hunting. There was one observation of begging chicks, confirming breeding locally.	Appendix 2, Figure 7.4/7.4.1
BoCCI Amber List	Sparrowhawk	Breeding Woodcock & Wildfowl Distribution	4	All observations were of birds hunting or commuting.	Appendix 2, Figure 7.5

3.2.9 Target Species Breeding Status Summary

While breeding status is assigned according to the evidence obtained during individual breeding bird survey types in Tables 3-1 to 3-7 above, Table 3-8 below provides the breeding status of target species observed during the 2020 breeding season surveys at Crowinstown.

Table 3-8 Target Species Breeding Status Summary

Target Species Breeding Status Summary		
Species	Overall Breeding Status	Figure
Kestrel	Confirmed breeding – two territories (one partially within the wind farm site) Possible breeding – one territory (partially within the wind farm site)	Appendix 2, Figure 8.1
Lapwing	Confirmed breeding – one territory (adjacent to the wind farm site)	Appendix 2, Figure 8.2
Snipe	Probable breeding – one territory (adjacent to the wind farm site)	Appendix 2, Figure 8.3
Woodcock	Probable breeding – one breeding area (min. one pair) (partially within the wind farm site)	Appendix 2, Figure 8.4
Buzzard	Confirmed breeding – four territories (one partially within the wind farm site) Probable breeding – four territories (two partially within the wind farm site)	Appendix 2, Figure 8.5
Sparrowhawk	Confirmed breeding – one territory (partially within the wind farm site) Probable breeding – five territories (two partially within the wind farm site)	Appendix 2, Figure 8.6

4. DISCUSSION

The following provides a synopsis of the findings of the surveys undertaken during the 2020 breeding season and the 2020/21 winter season (April 2020 – March 2021) for each of the target species recorded.

4.1 Golden Plover

Golden plover were recorded on 26 occasions during vantage point surveys. Observations ranged from an individual to a flock of 240 birds. There were four observations of golden plover landing on grassland habitats adjacent to the wind farm site. The majority of activity for this species was concentrated in improved agricultural grassland to the south-west of the wind farm site.

There were two observations of flocks commuting over the wind farm site during breeding walkover surveys. These flocks were of 50 and 85 birds.

Additionally, there were two observations of flocks of golden plover during wildfowl distribution surveys. Both observations were of flocks feeding or roosting, greater than 500m from the wind farm site.

There were no further observations of this species during surveys between April 2020 and March 2021.

4.2 Kingfisher

Kingfisher was recorded on one occasion during a wildfowl distribution survey at the wind farm site. On the 8th of October, a kingfisher was observed commuting along a river approximately 600m to the west of the wind farm site.

There were no further observations of this species during surveys between April 2020 and March 2021.

4.3 Merlin

Merlin was recorded on only one occasion during vantage point surveys at the wind farm site. On the 10th of November, an individual was observed commuting. This observation was recorded within 500m of the wind farm site and was recorded below the potential collision height (PCH).

There were no further observations of this species during surveys between April 2020 and March 2021.

4.4 Peregrine Falcon

This species was recorded on five occasions during the vantage point surveys at the wind farm site. There were three observations of birds travelling, one of a bird hunting and one observation of a bird circling high. Four of these observations were partially within the wind farm site, and the remaining observations were within 500m of the wind farm site. There were four observations at PCH. No breeding evidence was observed during these surveys.

Peregrine was recorded on one occasion during winter walkover surveys. On the 15th of February, a peregrine was observed commuting near the sand quarry¹, within wind farm site.

There were no further observations of this species during surveys between April 2020 and March 2021. This species was not observed to be breeding on, or within 2km of, the wind farm site.

¹ The quarry within the wind farm site is for sand extraction and therefore has no suitable cliff faces for breeding peregrine.

4.5 Whooper Swan

Whooper swan were recorded on five occasions during vantage point surveys at the wind farm site. Observations ranged from a pair to eleven birds. All observations were of birds commuting over the wind farm site and all observations were at PCH.

This species was recorded on only two occasions during the winter walkover surveys. On the 30th of October, six birds were seen feeding on a small lake, approximately 200m from the wind farm site. Later the same day, a flock of six (presumably the same birds) were observed commuting, travelling away from the small lake. No further observations of this species were recorded during this survey type.

Whooper swan were observed on three occasions during the wildfowl distribution surveys in January and February 2021. There was one observation of birds roosting, feeding and commuting. There was one observation within 500m of the wind farm site.

There were no further observations of this species during surveys between April 2020 and March 2021.

4.6 Wood Sandpiper

Wood sandpiper were recorded on only one occasion during a winter walkover survey at the wind farm site. On the 30th of October, a bird was observed feeding within a flooded grass field

There were no further observations of this species during surveys between April 2020 and March 2021.

4.7 Curlew

Curlew was recorded on only one occasion during vantage point surveys at the wind farm site. On the 19th of March, an individual was observed commuting over the wind farm site. This observation was recorded at PCH.

There were no further observations of this species during surveys between April 2020 and March 2021.

4.8 Kestrel

Kestrel were observed on 43 occasions during vantage point surveys. Forty-one observations were recorded within, or partially within, 500m of the wind farm site. Twenty-six of the flights were recorded at PCH. The majority of flight activity involved birds hunting or commuting. There was one confirmed and one possible breeding territory identified during the 2020 breeding season. An adult kestrel was observed circling with prey over suitable breeding habitat, confirming breeding locally. A pair of kestrel were observed mating to the south of the wind farm site, suggesting a possible breeding territory at this location. No further evidence of breeding at this location was observed.

This species was recorded on six occasions during breeding walkover surveys. All observations were of birds hunting or commuting. There were four observations within 500m of the wind farm site. There was one observation of a bird carrying prey, confirming breeding locally, to the northwest of the wind farm site.

This species was recorded on twelve occasions during breeding raptor surveys. One of these observations were recorded partially within 500m of the wind farm site. All observations were of birds hunting or commuting.

During winter walkover surveys kestrel were observed on three occasions. An individual was observed hunting on three occasions, once in October 2020 and twice in January 2021. Two of these observations were within the wind farm site, with the third being within 500m of the wind farm site.

Additionally, kestrel was recorded on seven occasions as an incidental observation during surveys. The majority of observations were of birds hunting or commuting. There was one observation of a juvenile bird within the wind farm site, close to the quarry. The exact location of this bird was not mapped.

There were no further observations of this species during surveys between April 2020 and March 2021. surveys between April 2020 and March 2021. There were two confirmed and one possible territory identified in the 2020 breeding season. There was one confirmed and one possible breeding territories located within, or partially within, the wind farm site. See Appendix 2, Figure 8.1 for the location of all breeding territories from the 2020 breeding season.

4.9 Lapwing

Lapwing were recorded on three occasions during the vantage point surveys. Observations ranged from an individual to a flock of 40 birds. All observations were of birds commuting. There were two observations recorded at PCH.

This species was recorded on only one occasion during the breeding walkover surveys. An adult was observed with a fledged juvenile feeding at the edge of a small pond. This confirms breeding at this location, approximately 50m east of the wind farm site. Lapwing were also recorded on one occasion during the winter walkover surveys. A flock of 55 birds were observed commuting over the wind farm site on the 21st of January 2021.

Additionally, a pair of lapwing were observed commuting, to the south of the wind farm site, as an incidental observation during a breeding raptor survey.

There were no further observations of this species during surveys between April 2020 and March 2021. There was one confirmed breeding territory within 500m of the wind farm site in the 2020 breeding season. See Appendix 2, Figure 8.2 for the location of breeding territory.

4.10 Snipe

Snipe were observed on only three occasions during vantage point surveys. All observations were recorded within 500m of the wind farm site. There was one observation of snipe within PCH. There were two observations of birds commuting and one of a bird being flushed.

During breeding walkover surveys snipe were observed on only one occasion. This observation was of a bird drumming adjacent to the wind farm site. Additionally, snipe were observed on two occasions during winter walkover surveys. Both observations were of birds commuting and were partially within the wind farm site.

Snipe were recorded on nine occasions during the wildfowl distribution surveys, up to one kilometre from the wind farm site. Three of these observations were of birds within the wind farm site. The majority of observations were of birds being flushed or commuting. There was one observation of a snipe drumming approximately one kilometre from the wind farm site.

There were no further observations of this species during breeding season surveys. In total, there were two breeding territories identified in the 2021 breeding season, one of which was adjacent to the wind farm site, with the remaining territory located approximately one kilometre from the wind farm site. See Appendix 2, Figure 8.3 for the location of all breeding territories from the 2020 breeding season.

4.11 Woodcock

Woodcock were observed on eight occasions during the dedicated breeding woodcock surveys. There were seven observations of birds roding and one observation of a bird commuting. All observations were located in the same area, to the west of the wind farm site. There was a minimum of one breeding pair located at this breeding area.

There were no further observations of this species during breeding season surveys. There was one breeding area located partially within the wind farm site in the 2020 breeding season, with a minimum of one pair being recorded. See Appendix 2, Figure 8.4 for the location of all breeding territories from the 2020 breeding season.

4.12 Buzzard

Buzzard were observed on 252 occasions during vantage point surveys. Two hundred and thirty observations were recorded within, or partially within, 500m of the wind farm site. One hundred and seventy-five of the flights were recorded at PCH. The majority of flight activity was birds travelling, hunting or soaring. There were twelve observations related to breeding behaviours, including displaying and observations of recently fledged chicks begging. These observations were all related to one confirmed breeding territory and four probable breeding territories. Three of these territories were within, or partially within, the wind farm site. The confirmed territory was adjacent to the wind farm site to the north-west.

During breeding walkover surveys buzzard were observed on 35 occasions. All observations were of between one or three birds. All observations were within, or partially within, 500m of the wind farm site. All observations were of birds hunting, commuting or soaring. There was no observations relating to breeding behaviour during these surveys.

This species was recorded on 90 occasions during breeding raptor surveys. Eight of these observations were recorded within 500m of the wind farm site. There were five observations relating to breeding behaviour. There were three observations of birds displaying, one of a bird carrying food to a nest site and two observations of recently fledged chicks begging. In total, there were two confirmed and one probable breeding territories located during these surveys. All of which were greater than one kilometre from the wind farm site.

Buzzard were recorded on twenty occasions during the winter walkover surveys. All of these observations were within 500m of the wind farm site, and consisted of birds hunting, commuting or circling.

Additionally, buzzard were observed on 37 occasion as incidental records. The majority of observations were of birds commuting, hunting or perched. There was one observation of two begging chicks being fed by an adult, confirming breeding at this location.

In summary, there were three confirmed and four probable breeding territories identified in the 2020 breeding season. There were two probable breeding territories located within, or partially within, the wind farm site. It is noted that the probable breeding territories were identified primarily on displaying birds in these areas, using this method to identify territories can be misleading as birds may display over multiple areas of suitable habitat before establishing a nesting territory with a mate. As such, the number of probable breeding territories is likely to be overestimated. While there were several hundred observations of buzzard during surveys, these observations are likely to be repeat observations of resident birds at the wind farm site. See Appendix 2, Figure 8.5 for the location of all breeding territories from the 2020 breeding season.

4.13 Long-eared Owl

Long-eared owl was recorded on only one occasion as an incidental observation during a breeding woodcock survey. On the 11th of June, an individual was observed hunting in woodland, within 500m of the wind farm site.

There were no further observations of this species during surveys between April 2020 and March 2021.

4.14 Sparrowhawk

Sparrowhawk were recorded on 39 occasions during VP surveys. Thirty-six of these flights were recorded within 500m of the wind farm site. Twenty of these flights were recorded at PCH. The majority of observations were of birds travelling or circling. There were nine observations relating to breeding behaviour, eight of which were displaying birds. There was one observation of a bird carrying food to a nest, confirming breeding in the area. During these surveys there was one confirmed and three probably breeding territories identified. There was one confirmed and two probable territories observed within, or partially within, the wind farm site.

This species was recorded on only two occasions during breeding walkover surveys. On both occasions a bird was observed travelling within 500m of the wind farm site. No breeding activity was observed during these surveys.

Sparrowhawk was recorded on fourteen occasions during breeding raptor surveys. The majority of observations were of birds commuting or circling. There were three observations related to breeding activity. There was one observation of a bird displaying in May and an observation of a sparrowhawk mobbing a kestrel and another of a sparrowhawk mobbing a buzzard. In total there were three probable breeding territories identified during this survey type.

Sparrowhawk were recorded on only three occasions during winter walkover surveys. All observations were of birds commuting or circling and were within 500m of the wind farm site.

Additionally, there were four incidental observations of sparrowhawk during wildfowl distribution and breeding woodcock surveys. All observations were of individuals hunting or commuting.

In summary, there were one confirmed and five probable breeding territories identified in the 2020 breeding season. There was one confirmed and two probable breeding territories located within, or partially within, the wind farm site. It is noted that the probable breeding territories were identified primarily on displaying birds in these areas, using this method to identify territories can be misleading as birds may display over multiple areas of suitable habitat before establishing a nesting territory with a mate. As such, the number of probable breeding territories is likely to be overestimated. See Appendix 2, Figure 8.6 for the location of all breeding territories from the 2020 breeding season.

4.15 Red listed passerines (Meadow pipit, Redwing)

Meadow pipit were recorded on seventeen occasions at the wind farm site. This species is red-listed, due to a decline in its breeding population in recent years. There were only three observations of meadow pipit during the breeding season. Additionally, there was one observation of a meadow pipit displaying in March.

Redwing were observed on thirteen occasions, throughout the winter season. This species is red-listed, due to a decline in its wintering population in recent years.

As per SNH guidance, it is generally considered that passerine species are not significantly impacted by wind farms. Therefore, no significant impacts are anticipated on this breeding population from the wind farm site.

5.

CONCLUSION

Key impacts likely to result from a proposed wind farm on local avian receptors could include habitat loss, disturbance, displacement (including barrier effect) and collision risk. Collision risk should be a key consideration at the assessment stage for many of the target species recorded at Crowinstown and in particular kestrel and buzzard. However, until the collision risk analysis is undertaken, this impact cannot be considered in any detail. All findings should be considered in the context of two full years of surveys, i.e. two breeding seasons and two non-breeding seasons. Two years of flight activity data is required to inform a robust collision risk analysis. The potential for impacts such as habitat loss and disturbance displacement to result are discussed below.

Kestrel were observed regularly at the wind farm site. They were recorded utilizing the wind farm site for commuting, foraging and breeding. There were two confirmed and one probable breeding territory identified during the 2020 breeding season. There was one confirmed and one probable breeding territory located partially within the wind farm site. The wind farm site could result in habitat loss and disturbance/displacement from these breeding territories.

A lapwing territory was identified during the 2020 breeding season, within 50m of the wind farm site. The wind farm site could result in the direct (physical) or indirect (disturbance/displacement) loss of habitat for this species. This potential impact should be considered in greater detail at the assessment stage.

An occupied breeding woodcock area was recorded to the west of the wind farm site, with a minimum of one breeding pair present. The wind farm site could result in the direct or indirect (disturbance/displacement) loss of habitat for this species. These potential impacts should be considered in greater detail at the assessment stage. Woodcock were not recorded outside of the dedicated breeding woodcock surveys. Additionally, there was two probable breeding territories for snipe, One within 500m of the wind farm site. This species was only recorded infrequently during the survey period. There is the potential for habitat loss and disturbance/displacement, particularly around the breeding territories identified.

Buzzard were confirmed to have nested at two locations, one of which was partially within 500m the wind farm site, during the 2020 breeding season. There were four probable breeding territories also identified, two of which were partially within the wind farm site. Buzzards were also recorded frequently during all survey types in both the breeding and winter seasons. There was one confirmed sparrowhawk breeding territory and five probable breeding territories identified in the 2020 breeding season. There was one confirmed and two probable breeding territories located partially within the wind farm site. Sparrowhawk were recorded occasionally throughout the survey period, April 2020 to March 2021.

For the species listed above, the wind farm site could result in the direct or indirect (disturbance/displacement) loss of habitat for these species. These potential impacts should be considered in greater detail at the assessment stage, when two years of data carried out to SNH (2017) are available. If significant effects are identified during the impact assessment, likely impacts could be mitigated against particularly in relation to specific breeding territories. For example, avoiding any breeding areas during the construction phase and only undertaking vegetation clearance outside of the breeding season would reduce some of the risk associated with these impacts in relation to species breeding within, or adjacent to, the wind farm site during the construction phase. Another potential mitigation measure could include suitable disturbance buffers can also be implemented around breeding territories to reduce the impact of the wind farm site.

Given the frequency of observations of some species at the wind farm site, collision risk is likely to be a key consideration for some species (e.g. buzzard/kestrel), however the magnitude of this impact will only be fully understood following collision risk analysis of the full two-year dataset.

Kingfisher, merlin, peregrine, whooper swan, wood sandpiper, curlew and long-eared owl were also recorded during surveys. These species were all recorded infrequently and in low numbers at the wind farm site, with no breeding evidence observed, and are therefore unlikely to be adversely affected by the wind farm site.

A full two years of bird survey data will provide more details and further context on the overall use of the site by all species discussed above and allow for a more robust identification and assessment of likely impacts than is possible based on the data collected during one year of surveys alone.

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APPENDIX 1

BIRDS TECHNICAL



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Table 1 Target Species List

Species	Latin Name	Rationale
Golden Plover	<i>Pluvialis apricaria</i>	Annex I EU Birds Directive
Kingfisher	<i>Alcedo atthis</i>	Annex I EU Birds Directive; SCI of River Boyne and River Blackwater SPA
Merlin	<i>Falco columbarius</i>	Annex I EU Birds Directive
Peregrine Falcon	<i>Falco peregrinus</i>	Annex I EU Birds Directive
Whooper Swan	<i>Cygnus cygnus</i>	Annex I EU Birds Directive
Wood Sandpiper	<i>Tringa glareola</i>	Annex I EU Birds Directive
Curlew	<i>Numenius arquata</i>	BoCCI Red Listed
Kestrel	<i>Falco tinnunculus</i>	BoCCI Red Listed
Lapwing	<i>Vanellus vanellus</i>	BoCCI Red Listed
Snipe	<i>Gallinago gallinago</i>	BoCCI Red Listed
Woodcock	<i>Scolopax rusticola</i>	BoCCI Red Listed
Buzzard	<i>Buteo buteo</i>	Schedule IV of the Wildlife Act; 1976 (Raptor Species)
Sparrowhawk	<i>Accipiter nisus</i>	Schedule IV of the Wildlife Act; 1976 (Raptor Species)
Meadow Pipit	<i>Anthus pratensis</i>	BoCCI Red Listed
Redwing	<i>Turdus iliacus</i>	BoCCI Red Listed
Yellowhammer	<i>Emberiza citrinella</i>	BoCCI Red Listed

Table 2 Non-target species list

Species	Latin Name
Blackbird	<i>Turdus merula</i>
Blackcap	<i>Sylvia atricapilla</i>
Black-headed Gull	<i>Chroicocephalus ridibundus</i>
Blue Tit	<i>Cyanistes caeruleus</i>
Bullfinch	<i>Pyrrhula pyrrhula</i>
Chaffinch	<i>Fringilla coelebs</i>
Chiffchaff	<i>Phylloscopus collybita</i>
Coal Tit	<i>Parus ater</i>
Collared Dove	<i>Streptopelia decaocto</i>
Cormorant	<i>Phalacrocorax aristotelis</i>
Cuckoo	<i>Cuculus canorus</i>
Dipper	<i>Cinclus cinclus</i>
Dunnock	<i>Prunella modularis</i>
Feral Pigeon	<i>Columba livia f. domestica</i>
Fieldfare	<i>Turdus pilaris</i>
Garden Warbler	<i>Sylvia borin</i>
Goldcrest	<i>Regulus regulus</i>
Goldfinch	<i>Carduelis carduelis</i>
Great Black-backed Gull	<i>Larus marinus</i>
Great Tit	<i>Parus major</i>
Green Sandpiper	<i>Tringa ochropus</i>
Greenfinch	<i>Chloris chloris</i>
Grey Heron	<i>Ardea cinerea</i>
Grey Wagtail	<i>Motacilla cinerea</i>
Herring Gull	<i>Larus argentatus</i>
Hooded Crow	<i>Corvus cornix</i>
House Martin	<i>Delichon urbicum</i>
House Sparrow	<i>Passer domesticus</i>
Jackdaw	<i>Coloeus monedula</i>
Jay	<i>Garrulus glandarius</i>
Lesser Black-backed Gull	<i>Larus fuscus</i>
Lesser Redpoll	<i>Acanthis flammea</i>
Linnet	<i>Carduelis cannabina</i>
Little Grebe	<i>Tachybaptus ruficollis</i>
Long-tailed Tit	<i>Aegithalos caudatus</i>
Magpie	<i>Pica pica</i>
Mallard	<i>Anas platyrhynchos</i>
Mistle Thrush	<i>Turdus viscivorus</i>
Moorhen	<i>Gallinula chloropus</i>
Mute Swan	<i>Cygnus olor</i>
Pheasant	<i>Phasianus colchicus</i>
Pied Wagtail	<i>Motacilla alba yarrellii</i>
Raven	<i>Corvus corax</i>
Redwing	<i>Turdus iliacus</i>
Reed Bunting	<i>Emberiza schoeniclus</i>

Species	Latin Name
Robin	<i>Erithacus rubecula</i>
Rook	<i>Corvus frugilegus</i>
Sand Martin	<i>Riparia riparia</i>
Sedge Warbler	<i>Acrocephalus schoenobaenus</i>
Siskin	<i>Carduelis spinus</i>
Skylark	<i>Alauda arvensis</i>
Song Thrush	<i>Turdus philomelos</i>
Starling	<i>Sturnus vulgaris</i>
Stonechat	<i>Saxicola torquata</i>
Swallow	<i>Hirundo rustica</i>
Swift	<i>Apus apus</i>
Teal	<i>Anas crecca</i>
Water Rail	<i>Rallus aquaticus</i>
Willow Warbler	<i>Phylloscopus trochilus</i>
Woodpigeon	<i>Columba palumbus</i>
Wren	<i>Troglodytes troglodytes</i>

Table 3 Survey Effort

Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
09/05/2020	Vantage Point Survey	VP2	1:00 starting at 09:05	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
09/05/2020	Vantage Point Survey	VP2	1:00 starting at 10:05	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
09/05/2020	Vantage Point Survey	VP2	1:00 starting at 11:05	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
09/05/2020	Vantage Point Survey	VP2	1:00 starting at 12:35	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
09/05/2020	Vantage Point Survey	VP2	1:00 starting at 13:35	Visibility: good; Wind speed and direction: light breeze SE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
09/05/2020	Vantage Point Survey	VP2	1:00 starting at 14:35	Visibility: good; Wind speed and direction: light breeze SE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
13/05/2020	Vantage Point Survey	VP3	1:00 starting at 09:10	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none	few drops	KOC
13/05/2020	Vantage Point Survey	VP3	1:00 starting at 10:10	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none	short shower	KOC
13/05/2020	Vantage Point Survey	VP3	1:00 starting at 11:10	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
13/05/2020	Vantage Point Survey	VP3	1:00 starting at 12:40	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
13/05/2020	Vantage Point Survey	VP3	1:00 starting at 13:40	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
13/05/2020	Vantage Point Survey	VP3	1:00 starting at 14:40	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
21/05/2020	Vantage Point Survey	VP1	1:00 starting at 09:20	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
21/05/2020	Vantage Point Survey	VP1	1:00 starting at 10:20	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
21/05/2020	Vantage Point Survey	VP1	1:00 starting at 11:20	Visibility: good; Wind speed and direction: light breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
21/05/2020	Vantage Point Survey	VP1	1:00 starting at 12:50	Visibility: good; Wind speed and direction: light breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC



Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
21/05/2020	Vantage Point Survey	VP1	1:00 starting at 13:50	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
21/05/2020	Vantage Point Survey	VP1	1:00 starting at 14:50	Visibility: good; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none	wind picked up	KOC
18/05/2020	Breeding Raptor Survey	RVP1	1:00 starting at 08:30	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
18/05/2020	Breeding Raptor Survey	RVP1	1:00 starting at 09:30	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
18/05/2020	Breeding Raptor Survey	RVP1	1:00 starting at 10:30	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none	Short walkover surveying in the last 30 min. No target sp observed.	KOC
18/05/2020	Breeding Raptor Survey	RVP2	1:00 starting at 12:00	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
18/05/2020	Breeding Raptor Survey	RVP2	1:00 starting at 13:00	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
18/05/2020	Breeding Raptor Survey	RVP2	1:00 starting at 14:00	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
26/05/2020	Breeding Raptor Survey	RVP3	1:00 starting at 10:20	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
26/05/2020	Breeding Raptor Survey	RVP3	1:00 starting at 11:20	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
26/05/2020	Breeding Raptor Survey	RVP3	1:00 starting at 12:20	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	Short walkover surveying in the last 30 min. 2x BZ observed	KOC
26/05/2020	Breeding Raptor Survey	RVP4	1:00 starting at 13:50	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
26/05/2020	Breeding Raptor Survey	RVP4	1:00 starting at 14:50	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
26/05/2020	Breeding Raptor Survey	RVP4	1:00 starting at 15:50	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	Short walkover surveying in the last 30 min. No target sp observed.	KOC
27/05/2020	Breeding Raptor Survey	RVP5	1:00 starting at 10:00	Visibility: good; Wind speed and direction: light breeze E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC

Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
27/05/2020	Breeding Raptor Survey	RVP5	1:00 starting at 11:00	Visibility: good; Wind speed and direction: light breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
27/05/2020	Breeding Raptor Survey	RVP5	1:00 starting at 12:00	Visibility: good; Wind speed and direction: light breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	Short walkover surveying in the last 20 min. No target sp observed.	KOC
27/05/2020	Breeding Raptor Survey	RVP6	0:30 starting at 13:30	Visibility: good; Wind speed and direction: light breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
27/05/2020	Breeding Raptor Survey	RVP6	0:30 starting at 14:30	Visibility: good; Wind speed and direction: light breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
27/05/2020	Breeding Raptor Survey	RVP6	0:30 starting at 15:30	Visibility: good; Wind speed and direction: light breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	walkover surveying in the last 30 min. BZ seen flying low, crossing the road into the Ballinlough forest/park.	KOC
12/05/2020	Breeding Walkover Survey	Map 1	1:00 starting at 09:30	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
12/05/2020	Breeding Walkover Survey	Map 1	1:00 starting at 10:30	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
12/05/2020	Breeding Walkover Survey	Map 1	1:00 starting at 11:30	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
12/05/2020	Breeding Walkover Survey	Maps 1/2	1:00 starting at 13:00	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
12/05/2020	Breeding Walkover Survey	Maps 1/2	1:00 starting at 14:00	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
12/05/2020	Breeding Walkover Survey	Maps 1/2	1:00 starting at 15:00	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
15/05/2020	Breeding Walkover Survey	Map 3	1:00 starting at 09:30	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC

Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
15/05/2020	Breeding Walkover Survey	Map 3	1:00 starting at 10:30	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
15/05/2020	Breeding Walkover Survey	Map 3	1:00 starting at 11:30	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
15/05/2020	Breeding Walkover Survey	Maps 2/3	1:00 starting at 13:00	Visibility: good; Wind speed and direction: gentle breeze N; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
15/05/2020	Breeding Walkover Survey	Maps 2/3	1:00 starting at 14:00	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
15/05/2020	Breeding Walkover Survey	Maps 2/3	1:00 starting at 15:00	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
15/05/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 16:00	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		DM
15/05/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 17:00	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		DM
15/05/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 18:00	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		DM
15/05/2020	Breeding Woodcock Survey	T1	2:30 starting at 20:00	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		DM
28/05/2020	Wildfowl Distribution Survey	1km Survey Radius	3:00 starting at 16:30	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		DM
28/05/2020	Breeding Woodcock Survey	T2	2:30 starting at 20:10	Visibility: good; Wind speed and direction: light breeze SE; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		DM



Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
10/06/2020	Breeding Woodcock Survey	T1	2:30 starting at 20:30	Visibility: good; Wind speed and direction: gentle breeze N; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		DM
11/06/2020	Breeding Woodcock Survey	T3	2:30 starting at 20:30	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		DM
24/06/2020	Breeding Woodcock Survey	T1	2:30 starting at 20:30	Visibility: good; Wind speed and direction: light breeze NE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		DM
26/06/2020	Breeding Woodcock Survey	T3	1:00 starting at 20:30	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		DM
26/06/2020	Breeding Woodcock Survey	T3	1:30 starting at 21:30	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		DM
02/06/2020	Vantage Point Survey	VP3	1:00 starting at 10:30	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
02/06/2020	Vantage Point Survey	VP3	1:00 starting at 11:30	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
02/06/2020	Vantage Point Survey	VP3	1:00 starting at 12:30	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
02/06/2020	Vantage Point Survey	VP3	1:00 starting at 14:00	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
02/06/2020	Vantage Point Survey	VP3	1:00 starting at 15:00	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
02/06/2020	Vantage Point Survey	VP3	1:00 starting at 16:00	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
08/06/2020	Vantage Point Survey	VP1	1:00 starting at 10:30	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
08/06/2020	Vantage Point Survey	VP1	1:00 starting at 11:30	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
08/06/2020	Vantage Point Survey	VP1	1:00 starting at 12:30	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC

Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
08/06/2020	Vantage Point Survey	VP1	1:00 starting at 14:00	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
08/06/2020	Vantage Point Survey	VP1	1:00 starting at 15:00	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
08/06/2020	Vantage Point Survey	VP1	1:00 starting at 16:00	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
09/06/2020	Vantage Point Survey	VP2	1:00 starting at 10:45	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		KOC
09/06/2020	Vantage Point Survey	VP2	1:00 starting at 11:45	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
09/06/2020	Vantage Point Survey	VP2	1:00 starting at 12:45	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
09/06/2020	Vantage Point Survey	VP2	1:00 starting at 14:15	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
09/06/2020	Vantage Point Survey	VP2	1:00 starting at 15:15	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
09/06/2020	Vantage Point Survey	VP2	1:00 starting at 16:15	Visibility: good; Wind speed and direction: light breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		KOC
04/06/2020	Breeding Walkover Survey	Map1	3:00 starting at 11:45	Visibility: moderate; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		KOC
16/06/2020	Breeding Walkover Survey	Map1/Map2	3:00 starting at 11:15	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		KOC
16/06/2020	Breeding Walkover Survey	Map1/Map2	3:00 starting at 14:45	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
25/06/2020	Breeding Walkover Survey	Map2/3/4	3:00 starting at 14:00	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
04/06/2020	Breeding Raptor Survey	RVP1	3:00 starting at 15:15	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
18/06/2020	Breeding Raptor Survey	RVP2	3:00 starting at 10:00	Visibility: good; Wind speed and direction: light breeze N; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC



Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
18/06/2020	Breeding Raptor Survey	RVP3	3:00 starting at 13:30	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
25/06/2020	Breeding Raptor Survey	RVP4	3:00 starting at 10:30	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
29/06/2020	Breeding Raptor Survey	RVP5	3:00 starting at 10:30	Visibility: good; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		KOC
29/06/2020	Breeding Raptor Survey	RVP6	3:00 starting at 14:00	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		KOC
01/07/2020	Vantage Point Survey	VP3	1:00 starting at 11:25	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
01/07/2020	Vantage Point Survey	VP3	1:00 starting at 12:25	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
01/07/2020	Vantage Point Survey	VP3	1:00 starting at 13:25	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
01/07/2020	Vantage Point Survey	VP3	1:00 starting at 14:55	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		KOC
01/07/2020	Vantage Point Survey	VP3	1:00 starting at 15:55	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		KOC
01/07/2020	Vantage Point Survey	VP3	1:00 starting at 16:55	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		KOC
21/07/2020	Vantage Point Survey	VP2	1:00 starting at 11:15	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
21/07/2020	Vantage Point Survey	VP2	1:00 starting at 12:15	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
21/07/2020	Vantage Point Survey	VP2	1:00 starting at 13:15	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
21/07/2020	Vantage Point Survey	VP2	1:00 starting at 14:45	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
21/07/2020	Vantage Point Survey	VP2	1:00 starting at 15:45	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
21/07/2020	Vantage Point Survey	VP2	1:00 starting at 16:45	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
30/07/2020	Vantage Point Survey	VP1	1:00 starting at 11:05	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC



Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
30/07/2020	Vantage Point Survey	VP1	1:00 starting at 12:05	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
30/07/2020	Vantage Point Survey	VP1	1:00 starting at 13:05	Visibility: good; Wind speed and direction: moderate breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
30/07/2020	Vantage Point Survey	VP1	1:00 starting at 14:35	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
30/07/2020	Vantage Point Survey	VP1	1:00 starting at 15:35	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
30/07/2020	Vantage Point Survey	VP1	1:00 starting at 16:35	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
03/07/2020	Breeding Raptor Survey	RVP1	1:00 starting at 10:40	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
03/07/2020	Breeding Raptor Survey	RVP1	1:00 starting at 11:40	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
03/07/2020	Breeding Raptor Survey	RVP1	1:00 starting at 12:40	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none	Light drizzle	KOC
03/07/2020	Breeding Raptor Survey	RVP2	1:00 starting at 14:10	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
03/07/2020	Breeding Raptor Survey	RVP2	1:00 starting at 15:10	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
03/07/2020	Breeding Raptor Survey	RVP2	1:00 starting at 16:10	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none	Light drizzle	KOC
23/07/2020	Breeding Raptor Survey	RVP3	1:00 starting at 11:30	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		KOC
23/07/2020	Breeding Raptor Survey	RVP3	1:00 starting at 12:30	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none	Short shower	KOC
23/07/2020	Breeding Raptor Survey	RVP3	1:00 starting at 13:30	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
23/07/2020	Breeding Raptor Survey	RVP4	1:00 starting at 15:00	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
23/07/2020	Breeding Raptor Survey	RVP4	1:00 starting at 16:00	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC



Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
23/07/2020	Breeding Raptor Survey	RVP4	1:00 starting at 17:00	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
27/07/2020	Breeding Raptor Survey	RVP5	1:00 starting at 11:15	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
27/07/2020	Breeding Raptor Survey	RVP5	1:00 starting at 12:15	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
27/07/2020	Breeding Raptor Survey	RVP5	1:00 starting at 13:15	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
27/07/2020	Breeding Raptor Survey	RVP6	1:00 starting at 14:45	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
27/07/2020	Breeding Raptor Survey	RVP6	1:00 starting at 15:45	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
27/07/2020	Breeding Raptor Survey	RVP6	1:00 starting at 16:45	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
06/07/2020	Breeding Walkover Survey	map 1	1:00 starting at 10:20	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
06/07/2020	Breeding Walkover Survey	map 1	1:00 starting at 11:20	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
06/07/2020	Breeding Walkover Survey	map 1	1:00 starting at 12:20	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
06/07/2020	Breeding Walkover Survey	map 1	1:00 starting at 13:50	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
06/07/2020	Breeding Walkover Survey	map 1	1:00 starting at 14:50	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
06/07/2020	Breeding Walkover Survey	map 2	1:00 starting at 15:50	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC

Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
08/07/2020	Breeding Walkover Survey	map 2	1:00 starting at 09:50	Visibility: good; Wind speed and direction: light breeze E; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
08/07/2020	Breeding Walkover Survey	map 2	1:00 starting at 10:50	Visibility: good; Wind speed and direction: light breeze E; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
08/07/2020	Breeding Walkover Survey	map 2	1:00 starting at 11:50	Visibility: good; Wind speed and direction: light breeze E; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
08/07/2020	Breeding Walkover Survey	map 2	1:00 starting at 13:20	Visibility: good; Wind speed and direction: light breeze E; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		KOC
08/07/2020	Breeding Walkover Survey	map 2	1:00 starting at 14:20	Visibility: good; Wind speed and direction: light breeze E; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		KOC
08/07/2020	Breeding Walkover Survey	map 2	1:00 starting at 15:20	Visibility: moderate; Wind speed and direction: light breeze E; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		KOC
04/07/2020	Vantage Point Survey	VP1	6:00 starting at 09:00	Visibility: moderate; Wind speed and direction: light breeze NE; Cloud cover and height: 66-101% <150m; Rain: none; Frost: none; Snow: none	MAY SURVEY Mix of light drizzle/dry periods/heavier rain	AM
18/07/2020	Vantage Point Survey	VP2	6:00 starting at 09:00	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 66-102% 150-500m; Rain: none; Frost: none; Snow: none	MAY SURVEY	AM
19/07/2020	Vantage Point Survey	VP3	6:00 starting at 09:00	Visibility: good; Wind speed and direction: light breeze SE; Cloud cover and height: 66-103% <150m; Rain: none; Frost: none; Snow: none	MAY SURVEY	AM
06/08/2020	Vantage Point Survey	VP2	1:00 starting at 15:45	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
06/08/2020	Vantage Point Survey	VP2	1:00 starting at 16:45	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
06/08/2020	Vantage Point Survey	VP2	1:00 starting at 17:45	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
06/08/2020	Vantage Point Survey	VP2	1:00 starting at 19:15	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
06/08/2020	Vantage Point Survey	VP2	1:00 starting at 20:15	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC

Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
06/08/2020	Vantage Point Survey	VP2	1:00 starting at 21:15	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
11/08/2020	Vantage Point Survey	VP1	1:00 starting at 15:40	Visibility: good; Wind speed and direction: light air N/A; Cloud cover and height: 100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
11/08/2020	Vantage Point Survey	VP1	1:00 starting at 16:40	Visibility: good; Wind speed and direction: light air N/A; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
11/08/2020	Vantage Point Survey	VP1	1:00 starting at 17:40	Visibility: good; Wind speed and direction: light air N/A; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
11/08/2020	Vantage Point Survey	VP1	1:00 starting at 19:10	Visibility: good; Wind speed and direction: light air N/A; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
11/08/2020	Vantage Point Survey	VP1	1:00 starting at 20:10	Visibility: good; Wind speed and direction: light air N/A; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
11/08/2020	Vantage Point Survey	VP1	1:00 starting at 21:10	Visibility: good; Wind speed and direction: light air N/A; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
13/08/2020	Vantage Point Survey	VP3	1:00 starting at 15:30	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
13/08/2020	Vantage Point Survey	VP3	1:00 starting at 16:30	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
13/08/2020	Vantage Point Survey	VP3	1:00 starting at 17:30	Visibility: good; Wind speed and direction: light breeze NE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
13/08/2020	Vantage Point Survey	VP3	1:00 starting at 19:00	Visibility: good; Wind speed and direction: light breeze NE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
13/08/2020	Vantage Point Survey	VP3	1:00 starting at 20:00	Visibility: good; Wind speed and direction: light breeze NE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
13/08/2020	Vantage Point Survey	VP3	1:00 starting at 21:00	Visibility: good; Wind speed and direction: light breeze NE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
04/08/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 13:00	Visibility: good; Wind speed and direction: strong breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
04/08/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 14:00	Visibility: good; Wind speed and direction: strong breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD

Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
04/08/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 15:00	Visibility: good; Wind speed and direction: strong breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
27/08/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 12:55	Visibility: poor; Wind speed and direction: light air W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
27/08/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 13:55	Visibility: moderate; Wind speed and direction: light air W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
27/08/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 14:55	Visibility: good; Wind speed and direction: light air W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
21/09/2020	Vantage Point Survey	VP1	3:00 starting at 06:40			PC
21/09/2020	Vantage Point Survey	VP1	3:00 starting at 10:10	Visibility: moderate; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		PC
22/09/2020	Vantage Point Survey	VP3	3:00 starting at 06:30	Visibility: moderate; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		PC
22/09/2020	Vantage Point Survey	VP3	3:00 starting at 10:00	Visibility: good; Wind speed and direction: near gale W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		PC
25/09/2020	Vantage Point Survey	VP2	3:00 starting at 06:45	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		PC
25/09/2020	Vantage Point Survey	VP2	3:00 starting at 09:45	Visibility: good; Wind speed and direction: near gale NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		PC
29/09/2020	Wildfowl Distribution Survey	Ballinlough	0:30 starting at 07:00		Patchy fog in the area. Ballinlough lake not visible from road, seems to be on private property.	PC
29/09/2020	Wildfowl Distribution Survey	Crowinstown Lough	0:30 starting at 07:40		Patchy fog in the area. Crowinstown Lough not visible from road, seems to be on private property.	PC

Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
06/10/2020	Vantage Point Survey	VP3	1:00 starting at 13:20	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KOC
06/10/2020	Vantage Point Survey	VP3	1:00 starting at 14:20	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 33-66% 150-500m; Rain: light showers; Frost: none; Snow: none	Short shower	KOC
06/10/2020	Vantage Point Survey	VP3	1:00 starting at 15:20	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KOC
06/10/2020	Vantage Point Survey	VP3	1:00 starting at 16:50	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KOC
06/10/2020	Vantage Point Survey	VP3	1:00 starting at 17:50	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 0-33% 150-500m; Rain: none; Frost: none; Snow: none		KOC
06/10/2020	Vantage Point Survey	VP3	1:00 starting at 18:50	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
08/10/2020	Winter Walkover Survey	Map 1	1:00 starting at 11:00	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KOC
08/10/2020	Winter Walkover Survey	Map 1	1:00 starting at 12:00	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 0-33% 150-500m; Rain: light showers; Frost: none; Snow: none	Short shower	KOC
08/10/2020	Winter Walkover Survey	Map 1	1:00 starting at 13:00	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KOC
08/10/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 14:30	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KOC
08/10/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 15:30	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
08/10/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 16:30	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
13/10/2020	Vantage Point Survey	1km Survey Radius	1:00 starting at 13:05	Visibility: good; Wind speed and direction: moderate breeze NE; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KOC

Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
13/10/2020	Vantage Point Survey	1km Survey Radius	1:00 starting at 14:05	Visibility: good; Wind speed and direction: fresh breeze NE; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		KOC
13/10/2020	Vantage Point Survey	1km Survey Radius	1:00 starting at 15:05	Visibility: good; Wind speed and direction: fresh breeze NE; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KOC
13/10/2020	Vantage Point Survey	1km Survey Radius	1:00 starting at 16:35	Visibility: good; Wind speed and direction: moderate breeze NE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
13/10/2020	Vantage Point Survey	1km Survey Radius	1:00 starting at 17:35	Visibility: good; Wind speed and direction: moderate breeze NE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
13/10/2020	Vantage Point Survey	1km Survey Radius	1:00 starting at 18:35	Visibility: good; Wind speed and direction: moderate breeze NE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
26/10/2020	Vantage Point Survey	1km Survey Radius	1:00 starting at 11:35	Visibility: good; Wind speed and direction: fresh breeze NW; Cloud cover and height: 33-66% 150-500m; Rain: light showers; Frost: none; Snow: none		KOC
26/10/2020	Vantage Point Survey	VP2	1:00 starting at 12:35	Visibility: good; Wind speed and direction: fresh breeze NW; Cloud cover and height: 0-33% 150-500m; Rain: none; Frost: none; Snow: none		KOC
26/10/2020	Vantage Point Survey	VP2	1:00 starting at 13:35	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KOC
26/10/2020	Vantage Point Survey	VP2	1:00 starting at 15:05	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 33-66% 150-500m; Rain: light showers; Frost: none; Snow: none		KOC
26/10/2020	Vantage Point Survey	VP2	1:00 starting at 16:05	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 33-66% 150-500m; Rain: light showers; Frost: none; Snow: none		KOC
26/10/2020	Vantage Point Survey	VP2	1:00 starting at 17:05	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 0-33% 150-500m; Rain: none; Frost: none; Snow: none		KOC
30/10/2020	Winter Walkover Survey	Map 2	1:00 starting at 10:00	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
30/10/2020	Winter Walkover Survey	Map 2	1:00 starting at 11:00	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
30/10/2020	Winter Walkover Survey	Map 2	1:00 starting at 12:00	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC

Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
30/10/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 13:30	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
30/10/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 14:30	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
30/10/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 15:30	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
10/11/2020	Vantage Point Survey	VP3	1:00 starting at 06:45		Mist	KOC
10/11/2020	Vantage Point Survey	VP3	1:00 starting at 07:45	Visibility: moderate; Wind speed and direction: light breeze SW; Cloud cover and height: 100% <150m; Rain: none; Frost: none; Snow: none		KOC
10/11/2020	Vantage Point Survey	VP3	1:00 starting at 08:45	Visibility: moderate; Wind speed and direction: light breeze SW; Cloud cover and height: 100% <150m; Rain: none; Frost: none; Snow: none		KOC
10/11/2020	Vantage Point Survey	VP3	1:00 starting at 10:15	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 100% <150m; Rain: drizzle; Frost: none; Snow: none	Drizzle	KOC
10/11/2020	Vantage Point Survey	VP3	1:00 starting at 11:15	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
10/11/2020	Vantage Point Survey	VP3	1:00 starting at 12:15	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
17/11/2020	Vantage Point Survey	VP2	1:00 starting at 07:00	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KOC
17/11/2020	Vantage Point Survey	VP2	1:00 starting at 08:00	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
17/11/2020	Vantage Point Survey	VP2	1:00 starting at 09:00	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
17/11/2020	Vantage Point Survey	VP2	1:00 starting at 10:30	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
17/11/2020	Vantage Point Survey	VP2	1:00 starting at 11:30	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
17/11/2020	Vantage Point Survey	VP2	1:00 starting at 12:30	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC

Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
23/11/2020	Vantage Point Survey	VP1	1:00 starting at 07:10	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: light; Snow: none		KOC
23/11/2020	Vantage Point Survey	VP1	1:00 starting at 08:10	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: light; Snow: none		KOC
23/11/2020	Vantage Point Survey	VP1	1:00 starting at 09:10	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
23/11/2020	Vantage Point Survey	VP1	1:00 starting at 10:40	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 100% 150-500m; Rain: light showers; Frost: none; Snow: none		KOC
23/11/2020	Vantage Point Survey	VP1	1:00 starting at 11:40	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		KOC
23/11/2020	Vantage Point Survey	VP1	1:00 starting at 12:40	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
13/11/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 11:10	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 0-33% 150-500m; Rain: light showers; Frost: none; Snow: none	Short shower	KOC
13/11/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 12:10	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KOC
13/11/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 13:10	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
26/11/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 10:25	Visibility: good; Wind speed and direction: light air 0; Cloud cover and height: 100% >500m; Rain: none; Frost: none; Snow: none		KOC
26/11/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 11:25	Visibility: good; Wind speed and direction: light air 0; Cloud cover and height: 100% >500m; Rain: none; Frost: none; Snow: none		KOC
26/11/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 12:25	Visibility: good; Wind speed and direction: light air 0; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
11/12/2020	Vantage Point Survey	VP1	1:00 starting at 10:40	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 100% <150m; Rain: none; Frost: none; Snow: none	Mist	KOC

Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
11/12/2020	Vantage Point Survey	VP1	1:00 starting at 11:40	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 100% <150m; Rain: none; Frost: none; Snow: none		KOC
11/12/2020	Vantage Point Survey	VP1	1:00 starting at 12:40	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		KOC
11/12/2020	Vantage Point Survey	VP1	1:00 starting at 14:10	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
11/12/2020	Vantage Point Survey	VP1	1:00 starting at 15:10	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 33-66% 150-500m; Rain: drizzle; Frost: none; Snow: none	Some drizzle	KOC
11/12/2020	Vantage Point Survey	VP1	1:00 starting at 16:10	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		KOC
15/12/2020	Vantage Point Survey	VP2	1:00 starting at 10:40	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
15/12/2020	Vantage Point Survey	VP2	1:00 starting at 11:40	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
15/12/2020	Vantage Point Survey	VP2	1:00 starting at 12:40	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
15/12/2020	Vantage Point Survey	VP2	1:00 starting at 14:10	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
15/12/2020	Vantage Point Survey	VP2	1:00 starting at 15:10	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
15/12/2020	Vantage Point Survey	VP2	1:00 starting at 16:10	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
21/12/2020	Vantage Point Survey	VP3	1:00 starting at 10:40	Visibility: moderate; Wind speed and direction: light breeze NE; Cloud cover and height: 100% 150-500m; Rain: drizzle; Frost: none; Snow: none	Light drizzle	KOC
21/12/2020	Vantage Point Survey	VP3	1:00 starting at 11:40	Visibility: moderate; Wind speed and direction: light breeze N; Cloud cover and height: 100% 150-500m; Rain: drizzle; Frost: none; Snow: none	Light drizzle	KOC
21/12/2020	Vantage Point Survey	VP3	1:00 starting at 12:40	Visibility: moderate; Wind speed and direction: light breeze NW; Cloud cover and height: 100% 150-500m; Rain: drizzle; Frost: none; Snow: none	Light drizzle	KOC
21/12/2020	Vantage Point Survey	VP3	1:00 starting at 14:10	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 100% 150-500m; Rain: drizzle; Frost: none; Snow: none	Light drizzle	KOC
21/12/2020	Vantage Point Survey	VP3	1:00 starting at 15:10	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none	short shower	KOC
21/12/2020	Vantage Point Survey	VP3	1:00 starting at 16:10	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC

Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
07/12/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 12:00	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: light; Snow: none		KOC
07/12/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 13:00	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: heavy; Snow: none		KOC
07/12/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 14:00	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: heavy; Snow: none		KOC
29/12/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 11:15	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 0-33% 150-500m; Rain: none; Frost: light; Snow: none		KOC
29/12/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 12:15	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
29/12/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 13:15	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 33-66% >500m; Rain: light showers; Frost: none; Snow: none	short shower	KOC
11/12/2020	Vantage Point Survey	VP1	1:00 starting at 10:40	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 100% <150m; Rain: none; Frost: none; Snow: none	Mist	KOC
11/12/2020	Vantage Point Survey	VP1	1:00 starting at 11:40	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 100% <150m; Rain: none; Frost: none; Snow: none		KOC
11/12/2020	Vantage Point Survey	VP1	1:00 starting at 12:40	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		KOC
11/12/2020	Vantage Point Survey	VP1	1:00 starting at 14:10	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
11/12/2020	Vantage Point Survey	VP1	1:00 starting at 15:10	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 33-66% 150-500m; Rain: drizzle; Frost: none; Snow: none	Some drizzle	KOC
11/12/2020	Vantage Point Survey	VP1	1:00 starting at 16:10	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		KOC
15/12/2020	Vantage Point Survey	VP2	1:00 starting at 10:40	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
15/12/2020	Vantage Point Survey	VP2	1:00 starting at 11:40	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC

Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
15/12/2020	Vantage Point Survey	VP2	1:00 starting at 12:40	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
15/12/2020	Vantage Point Survey	VP2	1:00 starting at 14:10	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
15/12/2020	Vantage Point Survey	VP2	1:00 starting at 15:10	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
15/12/2020	Vantage Point Survey	VP2	1:00 starting at 16:10	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
21/12/2020	Vantage Point Survey	VP3	1:00 starting at 10:40	Visibility: moderate; Wind speed and direction: light breeze NE; Cloud cover and height: 100% 150-500m; Rain: drizzle; Frost: none; Snow: none	Light drizzle	KOC
21/12/2020	Vantage Point Survey	VP3	1:00 starting at 11:40	Visibility: moderate; Wind speed and direction: light breeze N; Cloud cover and height: 100% 150-500m; Rain: drizzle; Frost: none; Snow: none	Light drizzle	KOC
21/12/2020	Vantage Point Survey	VP3	1:00 starting at 12:40	Visibility: moderate; Wind speed and direction: light breeze NW; Cloud cover and height: 100% 150-500m; Rain: drizzle; Frost: none; Snow: none	Light drizzle	KOC
21/12/2020	Vantage Point Survey	VP3	1:00 starting at 14:10	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 100% 150-500m; Rain: drizzle; Frost: none; Snow: none	Light drizzle	KOC
21/12/2020	Vantage Point Survey	VP3	1:00 starting at 15:10	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none	short shower	KOC
21/12/2020	Vantage Point Survey	VP3	1:00 starting at 16:10	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KOC
07/12/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 12:00	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: light; Snow: none		KOC
07/12/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 13:00	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: heavy; Snow: none		KOC
07/12/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 14:00	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: heavy; Snow: none		KOC
29/12/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 11:15	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 0-33% 150-500m; Rain: none; Frost: light; Snow: none		KOC

Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
29/12/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 12:15	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
29/12/2020	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 13:15	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 33-66% >500m; Rain: light showers; Frost: none; Snow: none	short shower	KOC
10/01/2021	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 12:20	Visibility: moderate; Wind speed and direction: light breeze SW; Cloud cover and height: 66-100% <150m; Rain: none; Frost; Snow:		KOC
10/01/2021	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 13:20	Visibility: moderate; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost; Snow:	Mist	KOC
10/01/2021	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 14:20	Visibility: moderate; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost; Snow:		KOC
26/01/2021	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 11:45	Visibility: moderate; Wind speed and direction: gentle breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost; Snow:	Mist	KOC
26/01/2021	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 12:45	Visibility: moderate; Wind speed and direction: gentle breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost; Snow:		KOC
26/01/2021	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 13:45	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost; Snow:		KOC
21/01/2021	Winter Walkover Survey		1:00 starting at 09:30	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		DM
21/01/2021	Winter Walkover Survey		1:00 starting at 10:30	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		DM
21/01/2021	Winter Walkover Survey		1:00 starting at 11:30	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		DM

Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
21/01/2021	Winter Walkover Survey		3:30 starting at 12:30	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		DM
21/01/2021	Vantage Point Survey	VP3	3:00 starting at 08:10	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none	VP3 (I)	NM
21/01/2021	Vantage Point Survey	VP3	3:00 starting at 11:45	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	VP3 (II)	NM
13/01/2021	Vantage Point Survey	VP1	3:00 starting at 08:00	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 100% 150-500m; Rain: drizzle; Frost: none; Snow: none	light drizzle spells	PT
13/01/2021	Vantage Point Survey	VP1	3:00 starting at 11:30	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 100% 150-500m; Rain: light showers; Frost: none; Snow: none	rain during last hour only	PT
14/01/2021	Vantage Point Survey	VP2	3:00 starting at 08:01	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 70 → <1; Rain: none; Frost: none; Snow: none	early cloud soon clearing	PT
14/01/2021	Vantage Point Survey	VP2	3:00 starting at 11:31	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: <1-95; Rain: light showers; Frost: none; Snow: none	mostly sunny/clear apart from cloudy/showery spell in last hour	PT
09/02/2021	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 11:20	Visibility: good; Wind speed and direction: moderate breeze E; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: on ground	Snow on the ground	KOC
09/02/2021	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 12:20	Visibility: good; Wind speed and direction: moderate breeze E; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: falling	snow showers	KOC
09/02/2021	Wildfowl Distribution Survey	1km Survey Radius	1:30 starting at 13:20	Visibility: good; Wind speed and direction: moderate breeze E; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: on ground		KOC
22/02/2021	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 10:00	Visibility: good; Wind speed and direction: light breeze SW; Cloud cover and height: 0-33; Rain: none; Frost: light; Snow: none	frost on the morning	KOC
22/02/2021	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 11:00	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC

Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
22/02/2021	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 12:00	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KOC
15/02/2021	Winter Walkover Survey	Crowinstown site	1:00 starting at 10:10	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
15/02/2021	Winter Walkover Survey	Crowinstown site	1:00 starting at 11:10	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
15/02/2021	Winter Walkover Survey	Crowinstown site	1:00 starting at 12:10	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
15/02/2021	Winter Walkover Survey	Crowinstown site	1:00 starting at 13:40	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KOC
15/02/2021	Winter Walkover Survey	Crowinstown site	1:00 starting at 14:40	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
15/02/2021	Winter Walkover Survey	Crowinstown site	1:00 starting at 15:40	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KOC
16/02/2021	Vantage Point Survey	VP2	3:00 starting at 12:05	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 2-85; Rain: none; Frost: none; Snow: none		PT
16/02/2021	Vantage Point Survey	VP2	3:00 starting at 15:25	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 2-15; Rain: none; Frost: none; Snow: none		PT
17/02/2021	Vantage Point Survey	VP1	3:00 starting at 11:55	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 5-100; Rain: none; Frost: none; Snow: none		PT
17/02/2021	Vantage Point Survey	VP1	3:00 starting at 15:25	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 90-100; Rain: light showers; Frost: none; Snow: none		PT
25/02/2021	Vantage Point Survey	VP3	3:00 starting at 12:15	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 10-85; Rain: none; Frost: none; Snow: none		PT
25/02/2021	Vantage Point Survey	VP3	3:00 starting at 15:45	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 1-90; Rain: none; Frost: none; Snow: none	shower at 1620, otherwise dry	PT



Date	Survey	Survey Location	Duration (h)	Weather Conditions	Comments	Surveyor
19/03/2021	Vantage Point Survey	VP2	3:00 starting at 05:45	Visibility: good; Wind speed and direction: gentle breeze N; Cloud cover and height: 30-100% 150-500m; Rain: none; Frost: none; Snow: none		PT
19/03/2021	Vantage Point Survey	VP2	3:00 starting at 09:15	Visibility: good; Wind speed and direction: gentle breeze N; Cloud cover and height: 99-100% 150-500m; Rain: none; Frost: none; Snow: none		PT
22/03/2021	Vantage Point Survey	VP3	3:00 starting at 05:40	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 100% 150-500m; Rain: drizzle; Frost: none; Snow: none	intermittent light drizzle	PT
22/03/2021	Vantage Point Survey	VP3	3:00 starting at 09:10	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 100% 150-500m; Rain: drizzle; Frost: none; Snow: none	intermittent light drizzle	PT
26/03/2021	Vantage Point Survey	VP1	3:00 starting at 05:35	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 15 → 1; Rain: none; Frost: none; Snow: none		PT
26/03/2021	Vantage Point Survey	VP1	3:00 starting at 09:05	Visibility: good; Wind speed and direction: moderate breeze WSW; Cloud cover and height: 5-99; Rain: light showers; Frost: none; Snow: none	mostly dry, couple of wintry showers	PT

Table 4 Vantage Point Survey Observations

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
	VP2	09/05/2020	09:32	Grey Heron	1	62	0	47	15	0	improved agricultural grassland; commuting through site	KOC
BZ001	VP2	09/05/2020	09:34	Buzzard	1	1800	0	0	0	0	hedgerows; perching for 30min	KOC
BZ002	VP2	09/05/2020	10:35	Buzzard	1	75		0	75	0	improved agricultural grassland and mixed broadleaved/conifer woodland; flying	KOC
BZ003	VP2	09/05/2020	10:36	Buzzard	1	138		10	128	0	mixed broadleaved/conifer woodland and improved agricultural grassland; 2nd BZ circling, gliding away	KOC
BZ004	VP2	09/05/2020	10:38	Buzzard	1	416	0	0	416	0	improved agricultural grassland and conifer plantation; circling	KOC
BZ005	VP2	09/05/2020	10:59	Buzzard	1	108	0	73	35	0	conifer plantation; circling, gliding	KOC
BZ006	VP2	09/05/2020	11:45	Buzzard	1	67	0	30	37	0	conifer plantation; circling, rising then down	KOC
BZ007	VP2	09/05/2020	11:54	Buzzard	1	633	0	55	248	330	conifer plantation and improved agricultural grassland; circling low, rising	KOC
BZ008	VP2	09/05/2020	11:55	Buzzard	1	506	0	32	444	330	improved agricultural grassland; joins first bz, circle together	KOC
BZ009	VP2	09/05/2020	11:58	Buzzard	1	480	0	0	140	40	improved agricultural grassland; joins other 2 bz, circles, then goes away	KOC
K001	VP2	09/05/2020	12:46	Kestrel	1	50	0	38	12	0	improved agricultural grassland and treelines; flying, hunting	KOC
BZ010	VP2	09/05/2020	13:02	Buzzard	1	32	0	0	32	0	mixed broadleaved/conifer woodland; gliding	KOC
BZ011	VP2	09/05/2020	13:08	Buzzard	1	53	0	0	53	0	mixed broadleaved/conifer woodland; gliding	KOC
BZ012	VP2	09/05/2020	13:11	Buzzard	1	226	0	0	226	0	improved agricultural grassland and mixed broadleaved/conifer woodland; gliding, displaying	KOC
SH001	VP2	09/05/2020	13:33	Sparrowhawk	1	173	0	0	173	0	conifer plantation and improved agricultural grassland; circling, gliding, diving down	KOC
BZ013	VP2	09/05/2020	13:33	Buzzard	1	142	0	0	142	0	conifer plantation and improved agricultural grassland; circling next to sh	KOC
BZ014	VP2	09/05/2020	14:23	Buzzard	4	740	0	150	590	0	mixed broadleaved/conifer woodland, improved agricultural grassland and conifer plantation;	KOC

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
											circling together in one area then come to site then back out and disappear	
BZ015	VP2	09/05/2020	14:48	Buzzard	2	288	0	0	0	288	conifer plantation and improved agricultural grassland; circling together high	KOC
BZ016	VP2	09/05/2020	15:11	Buzzard	1	19	0	9	10	0	conifer plantation; gliding, descending	KOC
K002	VP2	09/05/2020	15:30	Kestrel	1	486	0	15	471	0	improved agricultural grassland; circling, mobbes bz then circle together, bz leaves k glides circle back, hunts, dives down	KOC
BZ017	VP2	09/05/2020	15:32	Buzzard	1	122	0	0	122	0	improved agricultural grassland; circling, mobbes bz then circle together, bz leaves k glides circle back, hunts, dives down	KOC
BZ018	VP3	13/05/2020	09:12	Buzzard	1	62	0	42	20	0	improved agricultural grassland and wet willow-alder-ash woodland; flying through site	KOC
BZ019	VP3	13/05/2020	09:15	Buzzard	2	494	0	0	494	0	improved agricultural grassland; circling together then separately, desceding	KOC
BZ020	VP3	13/05/2020	10:10	Buzzard	1	16	0	5	11	0	mixed broadleaved woodland; flying, descending	KOC
BZ021	VP3	13/05/2020	10:16	Buzzard	1	210	0	0	210	0	improved agricultural grassland; circling, then diving down	KOC
	VP3	13/05/2020	10:47	Grey Heron	1	89	0	76	13	0	improved agricultural grassland; flying, commuting	KOC
BZ022	VP3	13/05/2020	10:53	Buzzard	1	61	8	53	0	0	improved agricultural grassland; flying, circling	KOC
	VP3	13/05/2020	10:57	Black-headed Gull	1	53	0	43	10	0	improved agricultural grassland; flying, commuting	KOC
BZ023	VP3	13/05/2020	11:06	Buzzard	1	28	0	3	25	0	improved agricultural grassland and conifer plantation; gliding, descending	KOC
BZ024	VP3	13/05/2020	11:59	Buzzard	1	298	0	115	183	0	improved agricultural grassland; circling, rising, gliding towards forestry	KOC
BZ025	VP3	13/05/2020	12:07	Buzzard	1	116	0	30	86	0	improved agricultural grassland and wet willow-alder-ash woodland; gliding, descending	KOC
BZ026	VP3	13/05/2020	13:09	Buzzard	1	528	0	0	478	50	improved agricultural grassland and wet willow-alder-ash woodland; circling, gliding	KOC

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
BZ027	VP3	13/05/2020	13:25	Buzzard	1	219	0	28	191	0	improved agricultural grassland; circling, gliding, descending	KOC
BZ028	VP3	13/05/2020	13:36	Buzzard	1	23	0	5	18	0	improved agricultural grassland; flying, mobbed by hc	KOC
BZ029	VP3	13/05/2020	13:58	Buzzard	1	355	0	20	335	0	improved agricultural grassland and conifer plantation; gliding, descending to forestry then lifts off again, joins other 2 bz, circle together, then get back to forestry	KOC
BZ030	VP3	13/05/2020	14:00	Buzzard	2	840	0	0	440	400	improved agricultural grassland and conifer plantation; 2 bz join first bz, circle together laso first bz leaves, then 2 circle high, then separate and one glides and descends towards forestry.	KOC
BZ031	VP3	13/05/2020	14:29	Buzzard	1	102	0	82	20	0	conifer plantation and improved agricultural grassland; flying, gliding	KOC
BZ032	VP3	13/05/2020	14:36	Buzzard	1	129	0	30	99	0	improved agricultural grassland; circling, gliding, descending	KOC
BZ033	VP3	13/05/2020	14:57	Buzzard	2	227	0	0	50	177	improved agricultural grassland; circling together high, then separate	KOC
BZ034	VP1	21/05/2020	09:39	Buzzard	1	215	0	0	215	0	mixed broadleaved woodland and improved agricultural grassland; circling, gliding	KOC
BZ035	VP1	21/05/2020	09:42	Buzzard	1	594	0	0	304	290	conifer plantation and improved agricultural grassland; circling, rising high, then descend and dive down	KOC
	VP1	21/05/2020	10:35	Lesser Black-backed Gull	21	260	0	40	220	0	improved agricultural grassland; circling large gulls (lb)	KOC
BZ036	VP1	21/05/2020	10:36	Buzzard	1	237	0	0	237	0	improved agricultural grassland and mixed broadleaved woodland; circling, gliding, descending	KOC
BZ037	VP1	21/05/2020	10:56	Buzzard	1	58	0	7	51	0	improved agricultural grassland; circling, gliding	KOC
BZ038	VP1	21/05/2020	11:00	Buzzard	1	122	0	0	122	0	conifer plantation and improved agricultural grassland; flying, mobbed by hc	KOC
BZ039	VP1	21/05/2020	11:12	Buzzard	1	174	0	0	174	0	conifer plantation and improved agricultural grassland; circling mobbed by jd	KOC

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
BZ040	VP1	21/05/2020	11:23	Buzzard	1	327	0	0	327	0	conifer plantation and improved agricultural grassland; circling, gliding	KOC
	VP1	21/05/2020	11:37	Grey Heron	1	32	22	10	0	0	improved agricultural grassland; flying, gliding	KOC
BZ041	VP1	21/05/2020	11:51	Buzzard	1	33	0	15	18	0	improved agricultural grassland; flying circling	KOC
	VP1	21/05/2020	11:53	Mallard	1	35	15	20	0	0	improved agricultural grassland; flying	KOC
BZ042	VP1	21/05/2020	12:17	Buzzard	1	109	0	15	94	0	improved agricultural grassland; circling rising, then gliding descending	KOC
BZ043	VP1	21/05/2020	13:22	Buzzard	1	225	0	0	225	0	improved agricultural grassland and conifer plantation; circling, gliding	KOC
BZ044	VP1	21/05/2020	13:52	Buzzard	1	263	0	0	263	0	improved agricultural grassland and mixed broadleaved woodland; circling	KOC
BZ045	VP1	21/05/2020	14:09	Buzzard	1	63	0	0	63	0	conifer plantation; circling	KOC
BZ046	VP1	21/05/2020	14:09	Buzzard	1	68	0	10	58	0	improved agricultural grassland; circling	KOC
	VP1	21/05/2020	14:29	Lesser Black-backed Gull	27	510	0	0	510	0	improved agricultural grassland and conifer plantation; circling mostly lb gulls	KOC
BZ047	VP1	21/05/2020	14:45	Buzzard	1	115	0	20	95	0	improved agricultural grassland; circling, descending	KOC
BZ048	VP1	21/05/2020	14:49	Buzzard	1	54	0	54	0	0	improved agricultural grassland; circling, gliding	KOC
BZ049	VP1	21/05/2020	14:54	Buzzard	1	31	0	0	31	0	improved agricultural grassland; circling, descending	KOC
BZ020	VP1	21/05/2020	15:07	Buzzard	2	860	0	0	735	125	conifer plantation, improved agricultural grassland and mixed broadleaved woodland; circle, glide, joined by 2nd bz circle together then one leaves other circles high	KOC
BZ051	VP1	21/05/2020	15:16	Buzzard	1	532	0	0	122	410	improved agricultural grassland; circling and not from another bz	KOC
BZ052	VP3	02/06/2020	10:44	Buzzard	1	58	0	48	10	0	improved agricultural grassland; flying, gliding	KOC
BZ053	VP3	02/06/2020	10:45	Buzzard	1	570	0	130	440	0	conifer plantation; gliding, circling, 6 bz circling at the same time	KOC
BZ054	VP3	02/06/2020	10:46	Buzzard	3	435	0	0	435	0	improved agricultural grassland; circling together, 6 bz circling at the same time	KOC

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
BZ055	VP3	02/06/2020	10:46	Buzzard	2	587	0	0	587	0	improved agricultural grassland and bog woodland; circling, gliding, 6 bz circling at the same time	KOC
BZ056	VP3	02/06/2020	11:03	Buzzard	1	246	0	30	216	0	improved agricultural grassland; circling, gliding	KOC
BZ057	VP3	02/06/2020	11:03	Buzzard	1	263	0	0	263	0	improved agricultural grassland and conifer plantation; circling	KOC
BZ058	VP3	02/06/2020	11:24	Buzzard	1	178	0	158	20	0	improved agricultural grassland; gliding, flying	KOC
BZ059	VP3	02/06/2020	11:33	Buzzard	1	42	0	12	30	0	improved agricultural grassland; gliding up and down, displaying	KOC
SH002	VP3	02/06/2020	11:41	Sparrowhawk	1	13	0	13	0	0	improved agricultural grassland; gliding	KOC
	VP3	02/06/2020	11:43	Black-headed Gull	2	112	82	30	0	0	improved agricultural grassland; flying, gliding	KOC
BZ060	VP3	02/06/2020	11:51	Buzzard	1	24	5	19	0	0	improved agricultural grassland; gliding, land in a tree	KOC
BZ061	VP3	02/06/2020	12:00	Buzzard	1	284	0	0	284	0	improved agricultural grassland and mixed broadleaved woodland; gliding	KOC
SH003	VP3	02/06/2020	12:03	Sparrowhawk	1	230	0	0	230	0	improved agricultural grassland; circling, gliding high	KOC
BZ062	VP3	02/06/2020	12:06	Buzzard	1	724	0	0	724	0	improved agricultural grassland and conifer plantation; circling, gliding, displaying	KOC
BZ063	VP3	02/06/2020	12:30	Buzzard	1	535	0	0	535	0	improved agricultural grassland and conifer plantation; gliding, circling, diving down	KOC
BZ064	VP3	02/06/2020	13:04	Buzzard	1	279	0	20	259	0	improved agricultural grassland and conifer plantation; circling, gliding	KOC
BZ065	VP3	02/06/2020	13:06	Buzzard	1	72	30	42	0	0	improved agricultural grassland; flying, gliding	KOC
BZ066	VP3	02/06/2020	13:24	Buzzard	1	334	0	0	334	0	improved agricultural grassland and conifer plantation; gliding slowly	KOC
BZ067	VP3	02/06/2020	14:18	Buzzard	1	148	0	0	148	0	improved agricultural grassland and conifer plantation; circling, dive down	KOC
BZ068	VP3	02/06/2020	14:26	Buzzard	1	259	0	0	259	0	improved agricultural grassland, conifer plantation and bog woodland; circling, displaying, gliding	KOC

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
BZ069	VP3	02/06/2020	14:39	Buzzard	1	227	0	90	137	0	improved agricultural grassland and conifer plantation; flying, hunting, gliding	KOC
BZ070	VP3	02/06/2020	14:46	Buzzard	1	17	0	17		0	improved agricultural grassland; flying	KOC
BZ071	VP3	02/06/2020	15:01	Buzzard	2	458	0	40	418	0	improved agricultural grassland and conifer plantation; circling together, then separate	KOC
BZ072	VP3	02/06/2020	15:02	Buzzard	2	342	0	65	277	0	conifer plantation and improved agricultural grassland; circling together	KOC
BZ073	VP3	02/06/2020	15:22	Buzzard	1	104	0	104		0	improved agricultural grassland; gliding	KOC
BZ074	VP3	02/06/2020	15:30	Buzzard	1	478	0	30	448	0	improved agricultural grassland, mixed broadleaved woodland and conifer plantation; gliding, circling	KOC
BZ075	VP3	02/06/2020	16:08	Buzzard	1	744	0	65	679	0	improved agricultural grassland, mixed broadleaved woodland and conifer plantation; gliding, hunting, circling	KOC
BZ076	VP3	02/06/2020	16:41	Buzzard	1	61	0	41	20	0	improved agricultural grassland and conifer plantation; gliding, circling	KOC
BZ077	VP3	02/06/2020	16:42	Buzzard	1	58	0	10	48	0	improved agricultural grassland and conifer plantation; gliding, circling	KOC
BZ078	VP3	02/06/2020	16:46	Buzzard	1	43	0	43	0	0	improved agricultural grassland; gliding, flying	KOC
BZ079	VP3	02/06/2020	16:53	Buzzard	1	22	0	5	17	0	improved agricultural grassland; hunting, hovering	KOC
BZ080	VP1	08/06/2020	10:38	Buzzard	1	91	0	5	86	0	improved agricultural grassland; gliding, descending, land on a pole.	KOC
BZ081	VP1	08/06/2020	10:49	Buzzard	1	142	0	127	15	0	mixed broadleaved woodland; gliding, circling above small patch of woodland	KOC
BZ082	VP1	08/06/2020	10:58	Buzzard	1	257	0	130	27	0	improved agricultural grassland; circling, rising higher, descending then gliding	KOC
BZ083	VP1	08/06/2020	11:04	Buzzard	1	78	0	68	10	0	improved agricultural grassland and mixed broadleaved woodland; circling, gliding, descending	KOC

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
K003	VP1	08/06/2020	11:13	Kestrel	1	343	0	0	343	0	conifer plantation and improved agricultural grassland; circling, rising, gliding then descending a bit and mating.	KOC
BZ084	VP1	08/06/2020	11:24	Buzzard	2	620	0	30	590	0	improved agricultural grassland and conifer plantation; flying, gliding together, then separately	KOC
BZ085	VP1	08/06/2020	11:34	Buzzard	2	116	0	0	116	0	conifer plantation and improved agricultural grassland; circling together then separate, glide to opposite directions.	KOC
	VP1	08/06/2020	11:47	Lesser Black-backed Gull	2	130	0	35	95	0	conifer plantation and improved agricultural grassland; flying, gliding one after another.	KOC
BZ086	VP1	08/06/2020	11:50	Buzzard	2	119	0	0	119	0	improved agricultural grassland and conifer plantation; circling together, glide	KOC
BZ087	VP1	08/06/2020	11:58	Buzzard	1	34	0	34	0	0	improved agricultural grassland; circling, gliding	KOC
BZ088	VP1	08/06/2020	12:20	Buzzard	2	627	0	0	627	0	improved agricultural grassland; one bz, circles, glides, then fast move towards another bz. they chase one another, circle together, then separate again.	KOC
BZ089	VP1	08/06/2020	12:47	Buzzard	1	154	0	0	154	0	improved agricultural grassland and conifer plantation; circling, then gliding up and down, displaying.	KOC
BZ090	VP1	08/06/2020	12:53	Buzzard	1	55	0	0	55	0	improved agricultural grassland; circling, gliding	KOC
BZ091	VP1	08/06/2020	13:03	Buzzard	1	180	0	20	160	0	improved agricultural grassland; circling then gliding, landing on a pole.	KOC
BZ092	VP1	08/06/2020	13:18	Buzzard	1	610	0	0	610	0	improved agricultural grassland and mixed broadleaved woodland; circling, displaying, gliding in one area.	KOC
	VP1	08/06/2020	14:20	Grey Heron	1	58	10	48	0	0	improved agricultural grassland; flying along the river.	KOC
BZ093	VP1	08/06/2020	14:35	Buzzard	1	99	0	0	99	0	improved agricultural grassland and conifer plantation; circling, gliding	KOC
SH004	VP1	08/06/2020	14:46	Sparrowhawk	1	217	0	0	167	50	conifer plantation and improved agricultural grassland; gliding, soaring, circling	KOC

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
BZ094	VP1	08/06/2020	14:56	Buzzard	1	41	0	41	0	0	improved agricultural grassland; gliding, hunting	KOC
BZ095	VP1	08/06/2020	15:02	Buzzard	1	116	0	0	116	0	improved agricultural grassland and mixed broadleaved woodland; gliding, circling, displaying	KOC
SH005	VP1	08/06/2020	15:28	Sparrowhawk	1	31	0	5	26	0	conifer plantation; circling, diving down	KOC
BZ096	VP1	08/06/2020	15:32	Buzzard	2	117	0	85	32	0	improved agricultural grassland and mixed broadleaved woodland; circling together, gliding	KOC
BZ097	VP1	08/06/2020	15:38	Buzzard	1	730	0	50	480	200	improved agricultural grassland; flying, gliding then circling, rising, joins another 3 bz.	KOC
BZ098	VP1	08/06/2020	15:40	Buzzard	3	600	0	0	300	300	improved agricultural grassland; circle together, joined by first bz; 4 of them circle and rise.	KOC
BZ099	VP1	08/06/2020	15:57	Buzzard	2	304	0	0	304	0	improved agricultural grassland and conifer plantation; circling together, then separate.	KOC
BZ100	VP1	08/06/2020	16:14	Buzzard	1	137	0	20	117	0	improved agricultural grassland; circling, gliding, descending	KOC
BZ101	VP1	08/06/2020	16:26	Buzzard	3	232	0	0	232	0	improved agricultural grassland; 2 bz circling together, another just below them, then disappear.	KOC
	VP1	08/06/2020	16:35	Grey Heron	1	77	11	66	0	0	improved agricultural grassland; flying along the river.	KOC
BZ102	VP1	08/06/2020	16:46	Buzzard	1	38	18	20	0	0	improved agricultural grassland; hunting in a grassland, landing on a pole.	KOC
BZ103	VP1	08/06/2020	16:54	Buzzard	1	27	0	27	0	0	improved agricultural grassland; gliding	KOC
BZ104	VP2	09/06/2020	11:04	Buzzard	1	3	3	0	0	0	conifer plantation; perching on a pole, then flying down into young forestry plantation.	KOC
BZ105	VP2	09/06/2020	11:56	Buzzard	1	185	0	0	185	0	mixed broadleaved woodland and improved agricultural grassland; circling, gliding	KOC
BZ106	VP2	09/06/2020	12:14	Buzzard	1	8	5	3	0	0	improved agricultural grassland and conifer plantation; gliding, descending	KOC
K004	VP2	09/06/2020	12:15	Kestrel	1	28	0	28	0	0	improved agricultural grassland; hunting, diving down	KOC

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
K005	VP2	09/06/2020	12:21	Kestrel	1	146	0	30	116	0	improved agricultural grassland; circling, with prey in talons, then gliding away.	KOC
K006	VP2	09/06/2020	12:57	Kestrel	1	172	0	34	138	0	improved agricultural grassland and conifer plantation; hunting, flying	KOC
K007	VP2	09/06/2020	13:08	Kestrel	1	202	0	70	132	0	conifer plantation; flying, hunting over young forestry.	KOC
K008	VP2	09/06/2020	13:41	Kestrel	1	34	14	20	0	0	conifer plantation and improved agricultural grassland; hunting, gliding	KOC
K009	VP2	09/06/2020	14:24	Kestrel	1	328	5	120	203	0	conifer plantation and improved agricultural grassland; hunting	KOC
BZ107	VP2	09/06/2020	14:49	Buzzard	3	225	0	0	225	0	improved agricultural grassland; circling together, calling, later separate.	KOC
	VP2	09/06/2020	15:38	Lesser Black-backed Gull	2	62	0	30	32	0	conifer plantation and improved agricultural grassland; flying, commuting through site.	KOC
BZ108	VP2	09/06/2020	16:46	Buzzard	1	5	5	0	0	0	improved agricultural grassland; flying, perching on a tree.	KOC
	VP2	09/06/2020	17:08	Black-headed Gull	1	56	56	0	0	0	improved agricultural grassland; flying in circles, land in pond.	KOC
BZ109	VP3	01/07/2020	11:41	Buzzard	1	7	0	2	5	0	improved agricultural grassland and conifer plantation; gliding, descending over forestry	KOC
BZ110	VP3	01/07/2020	13:06	Buzzard	1	21	16	0	0	0	improved agricultural grassland; calling, perching, flying, calling, landing on a tree top then flying down and back on a tree. perching again, then fly away	KOC
BZ111	VP3	01/07/2020	13:06	Buzzard	1	3	3	0	0	0	improved agricultural grassland; perching, flying, perching on a tree top close to other bz, then flying away out of view	KOC
BZ112	VP3	01/07/2020	14:22	Buzzard	1	69	0	26	43	0	improved agricultural grassland and mixed broadleaved woodland; flying, gliding	KOC
BZ113	VP3	01/07/2020	15:24	Buzzard	1	124	0	32	92	0	improved agricultural grassland; gliding, descending	KOC
	VP3	01/07/2020	15:58	Lesser Black-backed Gull	1	19	0	7	12	0	improved agricultural grassland; flying towards the lake	KOC

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
BZ114	VP3	01/07/2020	16:04	Buzzard	1	35	0	35	0	0	conifer plantation and improved agricultural grassland; flying, gliding	KOC
	VP2	07/07/2020	10:18	Grey Heron	1	15	0	0	15	0	improved agricultural grassland and treelines; grey heron flying over site	AM
	VP2	07/07/2020	11:40	Grey Heron	1	10	0	0	10	0	improved agricultural grassland and treelines; grey heron flying over site	AM
L001	VP2	18/07/2020	10:40am	Lapwing	1	10	0	10	0	0	improved agricultural grassland and lakes and ponds; lapwing heard and then seen. flying over habitats.	AM
BZ115	VP2	21/07/2020	11:27	Buzzard	1	86	0	10	76	0	improved agricultural grassland and conifer plantation; gliding, calling, later joins other 2 bz	KOC
SH006	VP2	21/07/2020	11:27	Sparrowhawk	1	72	0	0	72	0	improved agricultural grassland; gliding, circling	KOC
BZ116	VP2	21/07/2020	11:28	Buzzard	2	13	0	13	0	0	conifer plantation; gliding, calling over forestry	KOC
BZ117	VP2	21/07/2020	12:16	Buzzard	2	162	0	10	152	0	improved agricultural grassland and conifer plantation; circling, displaying, gliding, circling, displaying together then glides back towards forestry	KOC
BZ118	VP2	21/07/2020	12:16	Buzzard	2	395	0	0	395	0	improved agricultural grassland and conifer plantation; circling, displaying, gliding, circling, displaying together then circles, glides, higher on its own for a while	KOC
BZ119	VP2	21/07/2020	12:35	Buzzard	1	164	0	2	162	0	conifer plantation and improved agricultural grassland; circling, displaying, sky-diving, descending	KOC
BZ120	VP2	21/07/2020	13:01	Buzzard	2	117	0	0	117	0	improved agricultural grassland and conifer plantation; circling together then separate, but both glide back towards forestry	KOC
BZ121	VP2	21/07/2020	13:09	Buzzard	1	148	0	0	148	0	scattered tress and parkland and scrub; gliding, hunting, displaying	KOC
BZ122	VP2	21/07/2020	13:25	Buzzard	1	279	0	0	279	0	improved agricultural grassland; circling, gliding	KOC
BZ123	VP2	21/07/2020	13:52	Buzzard	1	35	10	25	0	0	improved agricultural grassland and conifer plantation; gliding, flying	KOC

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
SH007	VP2	21/07/2020	14:46	Sparrowhawk	1	61	25	36	0	0	improved agricultural grassland; flying, perching, lands in a pond, then flies and perches, dries the wings. later flies away	KOC
BZ124	VP2	21/07/2020	15:19	Buzzard	1	290	0	0	290	0	improved agricultural grassland, scrub and scattered tress and parkland; flying, gliding	KOC
SH008	VP2	21/07/2020	15:35	Sparrowhawk	1	458	0	0	458	0	scrub and improved agricultural grassland; circling high, then gliding and descending rapidly	KOC
BZ125	VP2	21/07/2020	16:11	Buzzard	1	210	0	0	210	0	scrub and improved agricultural grassland; circling close to other bz then stay behind	KOC
BZ126	VP2	21/07/2020	16:11	Buzzard	1	352	0	0	342	0	scrub, improved agricultural grassland and scattered tress and parkland; circling next to other bz then glide away	KOC
L002	VP2	21/07/2020	17:32	Lapwing	2	109	0	49	60	0	improved agricultural grassland; flying, calling, circling, flying together, calling. fly a circle and go back descend.	KOC
BZ127	VP1	30/07/2020	11:05	Buzzard	2	93	0	20	73	0	improved agricultural grassland and mixed broadleaved/conifer woodland; circling, gliding together	KOC
BZ128	VP1	30/07/2020	11:23	Buzzard	2	212	0	0	212	0	improved agricultural grassland; gliding together, later separate	KOC
BZ129	VP1	30/07/2020	11:30	Buzzard	4	159	0	30	129	0	improved agricultural grassland and mixed broadleaved/conifer woodland; gliding together, the separate	KOC
SH009	VP1	30/07/2020	11:32	Sparrowhawk	1	24	0	14	10	0	improved agricultural grassland and mixed broadleaved/conifer woodland; circling, gliding	KOC
BZ130	VP1	30/07/2020	11:40	Buzzard	3	180	0	35	145	0	improved agricultural grassland; flying, gliding, flying, gliding one after another, the last one turns back, other two circling, moving forward	KOC
SH010	VP1	30/07/2020	11:49	Sparrowhawk	1	32	0	0	32	0	improved agricultural grassland; gliding circling, flying away	KOC
BZ131	VP1	30/07/2020	12:03	Buzzard	1	94	0	0	94	0	improved agricultural grassland; gliding, circling	KOC
BZ132	VP1	30/07/2020	12:20	Buzzard	1	118	0	42	76	0	improved agricultural grassland; gliding, flying	KOC

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	VP1	30/07/2020	12:56	Lesser Black-backed Gull	1	124	0	0	124	0	improved agricultural grassland; flying, gliding	KOC
BZ133	VP1	30/07/2020	13:17	Buzzard	1	119	0	51	68	0	improved agricultural grassland; flying, gliding, descending	KOC
BZ134	VP1	30/07/2020	13:41	Buzzard	1	126	0	0	126	0	improved agricultural grassland; gliding, descending	KOC
BZ135	VP1	30/07/2020	13:55	Buzzard	1	59	24	35	0	0	improved agricultural grassland; flying, hunting	KOC
BZ136	VP1	30/07/2020	14:39	Buzzard	1	166	0	0	166	0	improved agricultural grassland and mixed broadleaved/conifer woodland; gliding, circling	KOC
BZ137	VP1	30/07/2020	15:10	Buzzard	1	27	0	27	0	0	improved agricultural grassland; gliding, hunting	KOC
BZ138	VP1	30/07/2020	15:27	Buzzard	1	71	0	56	15	0	improved agricultural grassland and mixed broadleaved/conifer woodland; gliding	KOC
BZ139	VP1	30/07/2020	16:01	Buzzard	1	52	0	46	6	0	improved agricultural grassland and conifer plantation; gliding, flying	KOC
BZ140	VP1	30/07/2020	16:55	Buzzard	1	126	0	0	126	0	improved agricultural grassland and mixed broadleaved/conifer woodland; gliding	KOC
BZ141	VP1	30/07/2020	17:18	Buzzard	2	130	0	0	130	0	improved agricultural grassland; gliding, circling close to one another	KOC
BZ142	VP2	06/08/2020	15:49	Buzzard	1	32	10	5	17	0	improved agricultural grassland; gliding, calling, perching, answering to juv calls	KOC
K010	VP2	06/08/2020	16:38	Kestrel	2	552	46	183	323	0	improved agricultural grassland and immature woodland; circling, gliding	KOC
BZ143	VP2	06/08/2020	16:59	Buzzard	2	34	0	0	34	0	conifer plantation; circling together	KOC
BZ144	VP2	06/08/2020	17:05	Buzzard	2	183	0	0	183	0	conifer plantation and immature woodland; circling, gliding	KOC
K011	VP2	06/08/2020	17:44	Kestrel	1	3	3	0	0	0	immature woodland; perching, flying, perching on a pole, flying away	KOC
BZ145	VP2	06/08/2020	17:49	Buzzard	1	4	4	0	0	0	immature woodland; perching, flying, perching on a pole, flying away	KOC
BZ146	VP2	06/08/2020	17:52	Buzzard	1	81	0	25	56	0	improved agricultural grassland; gliding, calling, circling	KOC
K012	VP2	06/08/2020	18:08	Kestrel	1	63	17	26	20	0	improved agricultural grassland; gliding, flying	KOC

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	VP2	06/08/2020	18:24	Grey Heron	1	23	13	10	0	0	improved agricultural grassland and active quarries and mines; flying gliding	KOC
BZ147	VP2	06/08/2020	18:28	Buzzard	1	98	0	0	98	0	improved agricultural grassland and scrub; circling, gliding, perching	KOC
BZ148	VP2	06/08/2020	18:35	Buzzard	2	22	0	0	22	0	scattered tress and parkland and improved agricultural grassland; circling, diving down	KOC
BZ149	VP2	06/08/2020	18:42	Buzzard	2	64	0	28	36	0	improved agricultural grassland; flying together, calling	KOC
K013	VP2	06/08/2020	18:42	Kestrel	1	141	5	23	113	0	improved agricultural grassland; gliding, landing, gliding near bz, then away and land	KOC
	VP2	06/08/2020	19:18	Mallard	7	8	4	4	0	0	improved agricultural grassland and eutrophic lakes; flying, landing, swimming	KOC
BZ150	VP2	06/08/2020	19:57	Buzzard	1	166	0	0	166	0	conifer plantation; circling, gliding over forestry	KOC
	VP2	06/08/2020	20:18	Mallard	10	53	21	32	0	0	improved agricultural grassland; flying, landing in a pond	KOC
	VP2	06/08/2020	20:27	Mallard	7	59	9	28	22	0	improved agricultural grassland; flying, scared of cattle fly away to other pond	KOC
K014	VP2	06/08/2020	20:34	Kestrel	1	31	0	31	0	0	improved agricultural grassland and active quarries and mines; flying, gliding, landing, land on the edge of a quarry, close to sm collony	KOC
K015	VP2	06/08/2020	21:16	Kestrel	1	12	12	0	0	0	improved agricultural grassland; flying, flying above the edge of the quarry	KOC
	VP2	06/08/2020	21:39	Mallard	10	78	15	63	0	0	improved agricultural grassland; flying, calling	KOC
K016	VP1	11/08/2020	16:22	Kestrel	1	107	87	20	0	0	improved agricultural grassland; flying, gliding	KOC
BZ151	VP1	11/08/2020	18:07	Buzzard	1	12	12	0	0	0	improved agricultural grassland and treelines; flying	KOC
K017	VP1	11/08/2020	18:24	Kestrel	1	54	41	13	0	0	improved agricultural grassland; flying	KOC
	VP1	11/08/2020	20:13	Mallard	2	14	9	0	0	0	improved agricultural grassland and depositing/lowland rivers; flying over river	KOC
	VP3	13/08/2020	16:33	Mallard	7	8	0	3	5	0	improved agricultural grassland; flying, descending	KOC

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BZ152	VP3	13/08/2020	17:01	Buzzard	1	0	0	0	0	0	improved agricultural grassland; perching, begging calls	KOC
	VP3	13/08/2020	17:12	Grey Heron	1	47	4	23	20	0	improved agricultural grassland; flying, perching	KOC
BZ153	VP3	13/08/2020	17:15	Buzzard	1	168	40	128	0	0	improved agricultural grassland; begging calls, flying, gliding, chasing h. another begging call can be heard nearby	KOC
	VP3	13/08/2020	17:17	Grey Heron	1	83	31	52	0	0	improved agricultural grassland; flying, chased by bz lands on a bush next to other h	KOC
	VP3	13/08/2020	17:18	Grey Heron	1	34	15	19	0	0	improved agricultural grassland; flying, landing	KOC
	VP3	13/08/2020	17:21	Grey Heron	2	56	30	26	0	0	improved agricultural grassland; flying, together fly scared by bz	KOC
BZ154	VP3	13/08/2020	17:21	Buzzard	1	52	37	15	0	0	improved agricultural grassland; flying, chases 2 h, then fly away	KOC
	VP3	13/08/2020	17:59	Grey Heron	1	79	0	64	15	0	improved agricultural grassland; flying	KOC
SH011	VP3	13/08/2020	18:05	Sparrowhawk	1	19	0	19	0	0	improved agricultural grassland; flying, perching	KOC
	VP3	13/08/2020	19:17	Grey Heron	1	61	0	0	61	0	improved agricultural grassland; flying, calling	KOC
BZ155	VP3	13/08/2020	19:41	Buzzard	1	26	26	0	0	0	improved agricultural grassland; flying low, perching	KOC
SH012	VP3	13/08/2020	20:06	Sparrowhawk	1	2	2	0	0	0	hedgerows; perching, gliding, landing, perching on a pole, gliding crossing the road, landing in a bush	KOC
BZ156	VP3	13/08/2020	20:42	Buzzard	1	15	15	0	0	0	improved agricultural grassland; feeding, flying, perching	KOC
BZ157	VP3	13/08/2020	20:54	Buzzard	1	7	7	0	0	0	improved agricultural grassland; feeding, running on grass, calling, flying, feeding, running on grass for over 30min, begging calling, then flies away, lands in nearby bushes, keeps calling.	KOC
	VP1	21/09/2020	06:55	Pied Wagtail	1	11	11	0	0	0	improved agricultural grassland; travelled over vp and off over n52.	PC
	VP1	21/09/2020	07:26	Pied Wagtail	1	5	5	0	0	0	improved agricultural grassland; travelled over vp from directly in front and off behind the vp.	PC

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BZ158	VP1	21/09/2020	12:24	Buzzard	1	143	0	143	0	0	improved agricultural grassland; bz003 and bz004 appeared together before bz003 headed off on its own in south easterly direction, leaving bz004 circling on its own.	PC
BZ159	VP1	21/09/2020	12:24	Buzzard	1	197	0	197	0	0	improved agricultural grassland; carried on circling over viewshed then followed bz003 in a more easterly direction.	PC
BZ160	VP3	22/09/2020	07:35	Buzzard	1		0	0	0	0	improved agricultural grassland and mixed broadleaved woodland; bird heard calling in distance but not seen. location marked on map is best estimated position.	PC
BZ161	VP3	22/09/2020	08:05	Buzzard	1	11	11	0	0	0	improved agricultural grassland; brief view of bird flying over road from behind vp, lost behind trees to right of vp.	PC
	VP3	22/09/2020	08:37	Grey Heron	1	33	33	0	0	0	improved agricultural grassland; flew up out of field to left of vp, travelled low in northerly direction then lost behind hummocks below vp.	PC
BZ162	VP3	22/09/2020	09:05	Buzzard	1	12	12	0	0	0	improved agricultural grassland; flushed up from field below vp by 3 ravens. looked like it had been on the ground. lost behind hummocks.	PC
	VP3	22/09/2020	09:17	Pied Wagtail	1	8	8	0	0	0	improved agricultural grassland; flew from behind vp into viewshed heading east. lost behind trees.	PC
SH013	VP3	22/09/2020	09:20	Sparrowhawk	1	14	14	0	0	0	improved agricultural grassland; male came up from west of vp mobbed by 4 rooks and a meadow pipit. headed east, lost behind trees. didn't see exactly where it came from as i was noting pw005	PC
	VP3	22/09/2020	10:20	Lesser Black-backed Gull	1	58	0	58	0	0	improved agricultural grassland; travelled across viewshed west to east, occasionally circling and soaring.	PC
	VP3	22/09/2020	10:20	Pied Wagtail	1		0	0	0	0	cultivated and built land; feeding around houses and gardens to west of vp	PC

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	VP3	22/09/2020	10:50	Grey Heron	1	32	32	0	0	0	improved agricultural grassland and mixed broadleaved woodland; flew up from in front of vp and headed in northerly direction. probably same bird as h003.	PC
	VP2	25/09/2020	07:40	Pied Wagtail	3		0	0	0	0	improved agricultural grassland; one adult, two juveniles feeding around pool of water near vp. occasional flitting.	PC
BZ163	VP2	25/09/2020	07:45	Buzzard	1	17	17	0	0	0	improved agricultural grassland; flew up from in front of vp, being mobbed by rook. lost behind treeline.	PC
	VP2	25/09/2020	07:50	Pied Wagtail	2	22	22	0	0	0	improved agricultural grassland; pair flew past vp, lost in trees to right of vp.	PC
	VP2	25/09/2020	08:15	Pied Wagtail	2	25	25	0	0	0	improved agricultural grassland; flew across in front of vp heading west. lost in trees., pied wagtails flitting around vp all morning.	PC
SH014	VP2	25/09/2020	08:47	Sparrowhawk	1	47	38	9	0	0	improved agricultural grassland; female travelled over viewshed heading in northerly direction.	PC
K018	VP2	25/09/2020	09:02	Kestrel	1	35	35	0	0	0	improved agricultural grassland; female or juvenile mobbed by 5 rooks as it travelled west over viewshed.	PC
	VP2	25/09/2020	09:20	Little Grebe	1		0	0	0	0	improved agricultural grassland and lakes and ponds; one on pool in field surrounded by water lilies when stretching my legs. not sure if it flew in or was there all along., still on pool when i left vp2. not sure if the pool is permanent.	PC
BZ164	VP2	25/09/2020	09:30	Buzzard	1	87	62	25	0	0	improved agricultural grassland; travelling over viewshed, circling to gain height. lost against clouds	PC
SH015	VP2	25/09/2020	09:30	Sparrowhawk	1	12	12	0	0	0	improved agricultural grassland; spotted whilst watching bz008 so timing is estimated. travelled north, didn't see where as i was still watching bz008.	PC

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
SN001	VP2	25/09/2020	09:32	Snipe	2	37	26	11	0	0	improved agricultural grassland; came up out of field in front of vp, calling. travelled west over viewshed, lost against clouds.	PC
K019	VP2	25/09/2020	10:34	Kestrel	1	15	15	0	0	0	improved agricultural grassland; came up from behind hillock in front of vp. hovered a couple of times then dropped back down., looked like female or juvenile - same bird as k006?	PC
K020	VP2	25/09/2020	11:50	Kestrel	1	53	53	0	0	0	improved agricultural grassland; came from same spot as k011. hovered a couple of times, dropped down then came back up. no prey visible. headed north, lost below treeline., looked like female or juvenile - same bird as k006?	PC
BZ165	VP3	06/10/2020	13:24	Buzzard	1	0					improved agricultural grassland; perching	KOC
K021	VP3	06/10/2020	13:34	Kestrel	1	363	27	124	212		improved agricultural grassland; hunting, flying, hunting, then flying chased by rn, later hunting again	KOC
BZ166	VP3	06/10/2020	14:09	Buzzard	1	159			159		improved agricultural grassland; circling, descending, gliding	KOC
BZ167	VP3	06/10/2020	14:17	Buzzard	1	51		28	23		improved agricultural grassland; gliding	KOC
BZ168	VP3	06/10/2020	14:30	Buzzard	1	58			58		improved agricultural grassland; circling, gliding, fast descending	KOC
BZ169	VP3	06/10/2020	14:51	Buzzard	1	112			112		improved agricultural grassland; circling	KOC
BZ170	VP3	06/10/2020	15:15	Buzzard	3	304		45	259		improved agricultural grassland; flying, gliding, circling , circling together, one goes away, other 2 continue	KOC
K022	VP3	06/10/2020	15:17	Kestrel	1	29			29		improved agricultural grassland; flying, chased by rn	KOC
BZ171	VP3	06/10/2020	15:42	Buzzard	1	18		8	10		improved agricultural grassland; flying, gliding	KOC
K023	VP3	06/10/2020	16:57	Kestrel	1	29	10	19			improved agricultural grassland; hunting, mobbed by mg	KOC
BZ172	VP3	06/10/2020	17:36	Buzzard	2	180		65	115		improved agricultural grassland; circling together, flying, gliding, descending	KOC

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
BZ173	VP3	06/10/2020	18:19	Buzzard	1	26	6	8	12		improved agricultural grassland; circling, gliding, descending	KOC
K024	VP1	13/10/2020	13:27	Kestrel	1	172		15	157		improved agricultural grassland; gliding, hovering, hunting	KOC
K025	VP1	13/10/2020	13:46	Kestrel	1	80			80		improved agricultural grassland; hunting	KOC
GP001	VP1	13/10/2020	13:55	Golden Plover	108	503			503		conifer plantation and improved agricultural grassland; flying , flying in circles over forestry	KOC
BZ174	VP1	13/10/2020	14:33	Buzzard	1	241		8	233		conifer plantation and improved agricultural grassland; gliding, hovering, hunting	KOC
GP002	VP1	13/10/2020	14:43	Golden Plover	76	542	50	110	382		improved agricultural grassland; flying, circling, gliding	KOC
BZ175	VP1	13/10/2020	14:55	Buzzard	1	18	3	10	5		improved agricultural grassland; gliding, descending	KOC
GP003	VP1	13/10/2020	15:10	Golden Plover	90	385		45	340		improved agricultural grassland; flying there and back in one area	KOC
SH016	VP1	13/10/2020	15:33	Sparrowhawk	1	7	7				improved agricultural grassland; gliding flying low	KOC
BZ176	VP1	13/10/2020	15:36	Buzzard	1	53		18	35		improved agricultural grassland; gliding, circling	KOC
BZ177	VP1	13/10/2020	15:44	Buzzard	2	125	4	23	98		improved agricultural grassland; circle near one another	KOC
K026	VP1	13/10/2020	15:51	Kestrel	1	154		38	116		improved agricultural grassland and conifer plantation; flying circling, hunting, diving down	KOC
GP004	VP1	13/10/2020	16:50	Golden Plover	40	183	32	25	126		improved agricultural grassland; flying, flying in circles, up and down, then land in grassland	KOC
K027	VP1	13/10/2020	17:16	Kestrel	1	18		10	8		improved agricultural grassland; gliding, hunting	KOC
BZ178	VP2	26/10/2020	12:08	Buzzard	1	52			52		conifer plantation and improved agricultural grassland; circling, gliding away	KOC
K028	VP2	26/10/2020	12:13	Kestrel	1	154		91	63		improved agricultural grassland; flying, hunting	KOC
K029	VP2	26/10/2020	12:54	Kestrel	1	83	32	51			improved agricultural grassland and immature woodland; flying, hunting	KOC

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
BZ179	VP2	26/10/2020	13:03	Buzzard	1	339			339		conifer plantation, improved agricultural grassland and immature woodland; circling, then gliding very slow back	KOC
	VP2	26/10/2020	13:06	Grey Heron	1	17	4	13			improved agricultural grassland; flying landing	KOC
GP005	VP2	26/10/2020	13:08	Golden Plover	240	289			289		improved agricultural grassland and conifer plantation; flying, gliding, flying, gliding very spread apart but within one large territory	KOC
K030	VP2	26/10/2020	13:47	Kestrel	1	116	116				improved agricultural grassland; flying, hunting	KOC
BZ180	VP2	26/10/2020	14:18	Buzzard	1	18	15	3			immature woodland; flying, gliding low	KOC
BZ181	VP2	26/10/2020	14:24	Buzzard	1	29			29		conifer plantation; flying, gliding	KOC
	VP2	26/10/2020	15:38	Teal	16	29	14	15			improved agricultural grassland; flying together, descending	KOC
GP006	VP2	26/10/2020	16:12	Golden Plover	120	182			182		conifer plantation and improved agricultural grassland; flying together	KOC
	VP2	26/10/2020	16:45	Grey Heron	1	95			95		improved agricultural grassland; flying, commuting	KOC
GP007	VP2	26/10/2020	16:53	Golden Plover	40	349			349		conifer plantation, improved agricultural grassland and mixed broadleaved/conifer woodland; flying together	KOC
BZ182	VP2	26/10/2020	17:31	Buzzard	1	13		13			scrub and conifer plantation; flying, landing	KOC
	VP3	10/11/2020	09:43	Cormorant	1	91		4	87		improved agricultural grassland and eutrophic lakes; flying (commuting) then descending to lake	KOC
	VP3	10/11/2020	10:41	Cormorant	2	54			54		improved agricultural grassland; flying (commuting) together	KOC
ML001	VP3	10/11/2020	10:50	Merlin	1	12	8	4			improved agricultural grassland; flying low	KOC
BZ183	VP3	10/11/2020	10:55	Buzzard	1	27	22	5			improved agricultural grassland; flying, landing on a tree	KOC
SH017	VP3	10/11/2020	11:14	Sparrowhawk	1	16	16				improved agricultural grassland; flying, mobbed by hc	KOC
GP008	VP3	10/11/2020	11:52	Golden Plover	24	101			101		improved agricultural grassland and active quarries and mines; flying together	KOC

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
GP009	VP3	10/11/2020	12:01	Golden Plover	70	114			114		improved agricultural grassland; flying	KOC
SH018	VP3	10/11/2020	12:28	Sparrowhawk	1	129			129		improved agricultural grassland; circling, gliding, mobbed by 2 hc	KOC
BZ184	VP3	10/11/2020	12:35	Buzzard	1	28		28			improved agricultural grassland, bog woodland and scrub; flying	KOC
BZ185	VP3	10/11/2020	12:48	Buzzard	1	34		16	18		improved agricultural grassland; circling, gliding	KOC
K031	VP3	10/11/2020	13:01	Kestrel	1	62	4	58			improved agricultural grassland; hovering, hunting	KOC
K032	VP3	10/11/2020	13:05	Kestrel	1	203	15	70	118		improved agricultural grassland and scrub; hunting, flying	KOC
K033	VP3	10/11/2020	13:11	Kestrel	1	124		87	37		improved agricultural grassland and scrub; hunting, flying	KOC
	VP2	17/11/2020	07:34	Teal	6	5	5				improved agricultural grassland; flying, flaying away from a pond	KOC
BZ186	VP2	17/11/2020	08:23	Buzzard	1	106			106		conifer plantation and immature woodland; gliding, circling, flying	KOC
	VP2	17/11/2020	08:47	Teal	7						improved agricultural grassland; swimming, feeding	KOC
	VP2	17/11/2020	08:58	Mute Swan	1	34			34		improved agricultural grassland and active quarries and mines; flying	KOC
	VP2	17/11/2020	09:25	Grey Heron	1	157		141	16		improved agricultural grassland; flying, descending	KOC
	VP2	17/11/2020	09:28	Mute Swan	1	107		67	40		improved agricultural grassland and active quarries and mines; flying, flying, checking few small lakes, ponds	KOC
K034	VP2	17/11/2020	10:42	Kestrel	1	151			151		immature woodland; circling, hovering, hunting	KOC
	VP2	17/11/2020	11:27	Grey Heron	1	6	6				improved agricultural grassland; flying	KOC
K035	VP2	17/11/2020	11:32	Kestrel	1	83			83		conifer plantation; circling, gliding	KOC
	VP2	17/11/2020	12:14	Grey Heron	1	56		32	24		improved agricultural grassland; flying	KOC
GP010	VP1	23/11/2020	08:31	Golden Plover	75	53	32	21			improved agricultural grassland; flying, landing, perching in grassland, feeding	KOC

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
GP011	VP1	23/11/2020	09:08	Golden Plover	75	337			337		improved agricultural grassland; flying in one area	KOC
GP012	VP1	23/11/2020	09:20	Golden Plover	57	1217	117	800	300		improved agricultural grassland; flying up&down in one small area of grassland	KOC
BZ187	VP1	23/11/2020	09:53	Buzzard	1	98	6	5	87		improved agricultural grassland; circling, landing, foraging in grass	KOC
	VP1	23/11/2020	11:02	Grey Heron	2	299	60	139	10		improved agricultural grassland; flying , h(a) flying along the river, 20s later joined by other h(b), both flying back, landing in river	KOC
K036	VP1	23/11/2020	11:10	Kestrel	1	103	13	75	15		improved agricultural grassland; flying, hunting	KOC
WS001	VP1	23/11/2020	11:21	Whooper Swan	11	380			380		conifer plantation and improved agricultural grassland; flying together, flying slow against the wind	KOC
GP013	VP1	23/11/2020	11:34	Golden Plover	2	113	10	10	93		improved agricultural grassland; flying up&down together	KOC
	VP1	23/11/2020	12:22	Grey Heron	1	64		64			improved agricultural grassland; flying along the river	KOC
BZ188	VP1	23/11/2020	12:36	Buzzard	1	39			39		improved agricultural grassland and conifer plantation; circling, mobbed by hc	KOC
BZ189	VP1	23/11/2020	12:42	Buzzard	1	97			97		improved agricultural grassland and mixed broadleaved/conifer woodland; circling high	KOC
BZ190	VP1	23/11/2020	12:50	Buzzard	3	213			213		improved agricultural grassland and mixed broadleaved/conifer woodland; circling together, then separate	KOC
GP014	VP1	23/11/2020	13:01	Golden Plover	100	224			224		improved agricultural grassland and conifer plantation; flying, separating in small groups	KOC
	VP1	11/12/2020	10:54	Mute Swan	1	182			182		improved agricultural grassland and conifer plantation; flying, commuting	KOC
	VP1	11/12/2020	10:54	Mute Swan	1	182			182		improved agricultural grassland and conifer plantation; flying, commuting	KOC
BZ191	VP1	11/12/2020	11:10	Buzzard	1						improved agricultural grassland; perching on a tree branch	KOC

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BZ192	VP1	11/12/2020	11:38	Buzzard	2	27	19	8			improved agricultural grassland; perching, feeding flying, both perching, foraging in grass, then one flies and lands on the tree top	KOC
BZ193	VP1	11/12/2020	11:58	Buzzard	1	25	11	14			improved agricultural grassland; feeding, flying, landing, feeding on worms, then flying and landing again	KOC
BZ194	VP1	11/12/2020	12:09	Buzzard	1	42		42			improved agricultural grassland; flying, landing	KOC
BZ195	VP1	11/12/2020	12:26	Buzzard	1	24		24			improved agricultural grassland; flying	KOC
PE001	VP1	11/12/2020	16:08	Peregrine Falcon	1	25		25			improved agricultural grassland; flying, perching on a dead tree	KOC
PE002	VP1	11/12/2020	16:19	Peregrine Falcon	1	278		34	244		improved agricultural grassland and conifer plantation; flying, flying, trying to catch jd, flying away	KOC
GP015	VP2	15/12/2020	11:48	Golden Plover	200	234			234		improved agricultural grassland, mixed broadleaved/conifer woodland and conifer plantation; flying together	KOC
K037	VP2	15/12/2020	11:59	Kestrel	1	28			28		conifer plantation and improved agricultural grassland; flying, hunting	KOC
K038	VP2	15/12/2020	12:03	Kestrel	1	25	3	12	10		conifer plantation and improved agricultural grassland; flying, descending	KOC
K039	VP2	15/12/2020	12:19	Kestrel	1	73		73			improved agricultural grassland; hunting	KOC
K040	VP2	15/12/2020	13:06	Kestrel	1	61			61		improved agricultural grassland; circling	KOC
K041	VP2	15/12/2020	13:17	Kestrel	1	9			9		immature woodland; gliding	KOC
K042	VP2	15/12/2020	13:29	Kestrel	1	24		24			improved agricultural grassland and conifer plantation; gliding fast	KOC
BZ196	VP2	15/12/2020	15:36	Buzzard	1						improved agricultural grassland; perching on a pole	KOC
WS002	VP2	15/12/2020	16:57	Whooper Swan	5	29			29		improved agricultural grassland; flying, flying together to the direction of a lake	KOC
	VP3	21/12/2020	13:09	Grey Heron	1	33	16	17			improved agricultural grassland; flying, landing	KOC
	VP3	21/12/2020	13:09	Grey Heron	1	33	16	17			improved agricultural grassland; flying, landing	KOC

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
	VP3	21/12/2020	13:11	Grey Heron	1	15	15				improved agricultural grassland;	KOC
	VP3	21/12/2020	13:11	Grey Heron	1	15	15				improved agricultural grassland;	KOC
SH019	VP3	21/12/2020	15:37	Sparrowhawk	2	89		21	68		improved agricultural grassland; flying, gliding, landing	KOC
SH020	VP3	21/12/2020	15:50	Sparrowhawk	2	183	5	72	106		improved agricultural grassland; flying, gliding, chasing one another, both mobbed by hc	KOC
	VP3	21/12/2020	16:26	Teal	5	18		18			improved agricultural grassland; flying, gliding, continue chasing one another, mobbed by hc again	KOC
	VP3	21/12/2020	16:26	Teal	5	18		18			improved agricultural grassland; flying, gliding, continue chasing one another, mobbed by hc again	KOC
BZ197	VP3	21/12/2020	16:44	Buzzard	1	31	21	10			improved agricultural grassland; gliding, flying, landing on a small tree	KOC
BZ198	VP1	13/01/2021	08:43	Buzzard	1	120	10	110			improved agricultural grassland and scattered trees and parkland; initially calling; lost height at end of flight	PT
BZ199	VP1	13/01/2021	09:11	Buzzard	1	29	29				improved agricultural grassland; direct low flight	PT
GP016	VP1	13/01/2021	10:21	Golden Plover	1	50			30		improved agricultural grassland; calling; height c.70m	PT
GP017	VP1	13/01/2021	10:30	Golden Plover	2	70			50		improved agricultural grassland; flying at c.50 metres	PT
GP018	VP1	13/01/2021	10:44	Golden Plover	4	50			30		improved agricultural grassland; flying; height c.100m	PT
	VP1	13/01/2021	11:36	Grey Heron	1	20	20				improved agricultural grassland and depositing/lowland rivers; direct flight, probably dropped to river	PT
BZ200	VP1	13/01/2021	11:36	Buzzard	1	255		25	230		improved agricultural grassland and woodland and scrub; initially circling, 40-50 metres, lost height over forestry	PT
GP019	VP1	13/01/2021	11:57	Golden Plover	3	35	15	5			improved agricultural grassland; flying, height 3m → 30m	PT

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SN002	VP1	13/01/2021	11:58	Snipe	3	120			115		improved agricultural grassland and conifer plantation; flying, height 40m → 150m	PT
SH021	VP1	13/01/2021	12:21	Sparrowhawk	1	55		5	35		improved agricultural grassland and woodland and scrub; direct flight, carrying small prey item, height 40-60m, reducing height at end of flight	PT
SH022	VP2	14/01/2021	08:44	Sparrowhawk	1	200					improved agricultural grassland and scrub; display flight/ sky dancing, 60-100 metres, moved e/ne, descended to c.35 metres	PT
SH023	VP2	14/01/2021	08:57	Sparrowhawk	1	350		30	320		conifer plantation; display flight/ sky dancing, 60-100 metres, descended to c.15 metres	PT
	VP2	14/01/2021	08:59	Lesser Black-backed Gull	9	140			140		improved agricultural grassland and conifer plantation; direct flight, 30-60 metres	PT
SH024	VP2	14/01/2021	09:06	Sparrowhawk	1	50	50				conifer plantation; flying at 5-10 metres	PT
SH025	VP2	14/01/2021	09:55	Sparrowhawk	1	375			375		woodland and scrub and improved agricultural grassland; display flight/ sky dancing, height 40-80m descending to 25m	PT
SH026	VP2	14/01/2021	11:01	Sparrowhawk	1	27	27				improved agricultural grassland, scrub and hedgerows; flying close to ground, hunting, landed in tree	PT
SH027	VP2	14/01/2021	12:16	Sparrowhawk	1	50	25	25			improved agricultural grassland, active quarries and mines and treelines; flying, height 20m descending to 7m	PT
	VP2	14/01/2021	12:30	Mallard	4	5					lakes and ponds; flying, dropped towards lake	PT
	VP2	14/01/2021	12:30	Mallard	4	25					lakes and ponds; circling, dropped towards lake, additional to flight no.8 birds	PT
BZ201	VP2	14/01/2021	12:34	Buzzard	1	495	30	80	90		improved agricultural grassland and woodland and scrub; flying at 10-25m then circled up, drifting se with wind, to height of 150m before drifting down lower at end of flight.	PT
BZ202	VP2	14/01/2021	12:45	Buzzard	1	25					improved agricultural grassland and woodland and scrub; flying at 20-25 metres	PT
PE003	VP2	14/01/2021	12:58	Peregrine Falcon	1	50		25	25		conifer plantation; circling, 20-30 metres up	PT

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PE004	VP2	14/01/2021	13:02	Peregrine Falcon	1	55	10	15	30		conifer plantation, improved agricultural grassland and hedgerows; fast dashing hunting flight, height 30m descending to 3m., male	PT
BZ203	VP2	14/01/2021	13:15	Buzzard	1	160		20	140		woodland and scrub; drifting around, height 25-30m, then dropped.	PT
SH028	VP3	21/01/2021	09:58	Sparrowhawk	1	140	4	110	0	0	wet grassland; soaring and flying over pastoral grassland and scrub, harried and harrassed by jd until off site	NM
BZ204	VP3	21/01/2021	11:45	Buzzard	1	75	0	60	10	5	improved agricultural grassland; soaring and calling over agri grassland and treelines	NM
	VP3	21/01/2021	12:42	Lesser Black-backed Gull	6	90	0	70	20	0	improved agricultural grassland; flying w across n of site	NM
WS003	VP3	21/01/2021	13:03	Whooper Swan	4	45	0	20	25	0	marsh; flying in group over lake area, visible flying n but disappeared from view	NM
SH029	VP3	21/01/2021	14:02	Sparrowhawk	1	40	20	20	0	0	improved agricultural grassland; flying low along road and roadside verges before perching in trees to the sw of vp	NM
BZ205	VP3	21/01/2021	14:05	Buzzard	1	70	0	0	0	70	improved agricultural grassland; soaring high above fields and scrub	NM
BZ206	VP2	16/02/2021	13:03	Buzzard	1	20	15	5			grassland and marsh and treelines; flying, height 4-12m	PT
BZ207	VP2	16/02/2021	13:30	Buzzard	1	9	9				grassland and marsh and treelines; eating on ground then flew to tree, height up to 4m	PT
BZ208	VP2	16/02/2021	13:48	Buzzard	1	250		15	235		grassland and marsh and conifer plantation; circled up to 120m, hunting, dropped low	PT
BZ209	VP2	16/02/2021	14:19	Buzzard	1	40	40				grassland and marsh and treelines; landed in tree, initially two together (5 seconds)	PT
BZ210	VP2	16/02/2021	14:30	Buzzard	1	55	55				grassland and marsh and woodland and scrub; circling, calling, flew to large ash tree	PT
BZ211	VP2	16/02/2021	14:45	Buzzard	1	33	25	8			active quarries and mines, grassland and marsh and woodland and scrub; flying, height 20m dropping to 8m	PT

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
PE005	VP2	16/02/2021	14:59	Peregrine Falcon	1	135		30	105		active quarries and mines, grassland and marsh and woodland and scrub; flying, height 10-50m	PT
BZ212	VP2	16/02/2021	16:04	Buzzard	1	8	8				grassland and marsh and treelines; flying, flight line as map ref 2	PT
BZ213	VP2	16/02/2021	16:26	Buzzard	1	15	15				grassland and marsh and treelines; on ground with frog prey before flying to trees	PT
BZ214	VP2	16/02/2021	16:26	Buzzard	1	3	3				grassland and marsh; saw off previous bird (9), stole its frog, ate it on ground	PT
L003	VP2	16/02/2021	16:55	Lapwing	40	45			20		grassland and marsh; flying, lost height at end of flight, number of birds approximate; height 25-30m	PT
	VP2	16/02/2021	17:47	Grey Heron	2	70			70		grassland and marsh; flying, height 40-60m	PT
WS004	VP2	16/02/2021	17:58	Whooper Swan	2	50			50		grassland and marsh; direct commuting flight, height 25-30m	PT
BZ215	VP1	17/02/2021	12:14	Buzzard	1	55		55			conifer plantation and grassland and marsh; flying	PT
BZ216	VP1	17/02/2021	12:28	Buzzard	1	120		20	100		grassland and marsh and woodland and scrub; circling then glided down to wood, height up to 90m	PT
BZ217	VP1	17/02/2021	12:42	Buzzard	1	195	30	70	95		grassland and marsh and conifer plantation; direct flight then hovering, height 3m rising to 35m	PT
BZ218	VP1	17/02/2021	12:42	Buzzard	1	250	20	45	185		grassland and marsh and conifer plantation; seeing off previous bird (3) from territory; returned to perch on branch of large tree next to another buzzard, height up to 80m	PT
BZ219	VP1	17/02/2021	12:48	Buzzard	1	32	32				grassland and marsh and woodland and scrub; direct flight from large tree	PT
SH030	VP1	17/02/2021	13:15	Sparrowhawk	2	50		15			grassland and marsh and woodland and scrub; flying	PT
BZ220	VP1	17/02/2021	13:26	Buzzard	1	40			40		grassland and marsh and conifer plantation; circling, height 40-75m	PT

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
BZ221	VP1	17/02/2021	13:26	Buzzard	3	110		20	90		grassland and marsh and conifer plantation; circling, height 10-90m; same birds as flights 7 & 9	PT
BZ222	VP1	17/02/2021	13:28	Buzzard	2	60		25	35		grassland and marsh and conifer plantation; circling, height 10-50m	PT
SH031	VP1	17/02/2021	14:02	Sparrowhawk	1	300			120		grassland and marsh and conifer plantation; circling; brief sky dancing display; c.5km distance when last seen, height 40m rising to 150m	PT
BZ223	VP1	17/02/2021	14:08	Buzzard	1	355	5	15	335		grassland and marsh and woodland and scrub; circling/ drifting, height 50m rising to 150m before drifting down low	PT
BZ224	VP1	17/02/2021	14:15	Buzzard	1	20		20			conifer plantation and mixed broadleaved woodland; flying	PT
BZ225	VP1	17/02/2021	14:22	Buzzard	1	10	10				grassland and marsh and linear woodland/scrub; 2 brief flights, landed in trees	PT
BZ226	VP1	17/02/2021	14:36	Buzzard	1	110		110			grassland and marsh and linear woodland/scrub; initially circling	PT
	VP1	17/02/2021	14:42	Grey Heron	4	15					highly modified/non-native woodland and grassland and marsh; landed in conifers, presumed heronry	PT
	VP1	17/02/2021	14:44	Grey Heron	1	23					highly modified/non-native woodland; rose up, dropped back to conifers	PT
BZ227	VP1	17/02/2021	15:26	Buzzard	2	135		15	120		conifer plantation; circling, dropped down low, height up to 50m	PT
BZ228	VP1	17/02/2021	16:21	Buzzard	1	135		40	20		grassland and marsh; flying, height 20-40m	PT
	VP1	17/02/2021	17:07	Grey Heron	1	125		85			grassland and marsh and highly modified/non-native woodland; dropped to heronry	PT
	VP1	17/02/2021	17:51	Grey Heron	1	65					grassland and marsh and conifer plantation; direct flight from direction of heronry	PT
BZ229	VP3	25/02/2021	12:46	Buzzard	1	420			240	150	grassland and marsh and treelines; circling initially, height 70m rising to c.200m	PT
BZ230	VP3	25/02/2021	12:46	Buzzard	1	215			215		grassland and marsh and treelines; circling , height 40-65m, dropping to 25m	PT

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
	VP3	25/02/2021	13:07	Black-headed Gull	3	140			130		grassland and marsh; direct flight, height 50m rising to 125m	PT
BZ231	VP3	25/02/2021	13:58	Buzzard	1	40		30	10		linear woodland/scrub; initially circling, then drifted down, height 20-30m	PT
SH032	VP3	25/02/2021	14:30	Sparrowhawk	1	55		30	25		woodland and scrub and grassland and marsh; sky dancing, height 15-30m	PT
BZ232	VP3	25/02/2021	14:35	Buzzard	1	17		17			grassland and marsh and treelines; calling, height 10-20m	PT
	VP3	25/02/2021	15:52	Herring Gull	1	20		20			grassland and marsh; direct flight	PT
	VP3	25/02/2021	17:20	Mallard	2	10		10			active quarries and mines; dropped down	PT
	VP3	25/02/2021	17:29	Grey Heron	1	105		105			grassland and marsh; heading for heronry?, height 15m	PT
	VP3	25/02/2021	18:30	Grey Heron	2	65			65		grassland and marsh; direct flight	PT
BZ233	VP2	19/03/2021	06:30	Buzzard	1	8	4	4			grassland and marsh and woodland and scrub; flew down from conifer	PT
BZ234	VP2	19/03/2021	06:56	Buzzard	1	3	2	1			woodland and scrub; dropped down from spruce, where perched since 0649	PT
	VP2	19/03/2021	07:15	Mallard	3	30			30		grassland and marsh; flying, height 30-40m	PT
	VP2	19/03/2021	07:16	Mallard	2	30	5	10	15		grassland and marsh; flying, pair, height 35m initially, separated towards end of flight, male dropped down	PT
	VP2	19/03/2021	07:16	Mallard	1	10			10		grassland and marsh; flying, male, height 30m	PT
WS005	VP2	19/03/2021	07:29	Whooper Swan	4	85			85		grassland and marsh; migrating?, height 70m	PT
	VP2	19/03/2021	07:45	Cormorant	1	150			80		grassland and marsh; direct flight, immature; height 125m dropping to 100m	PT
	VP2	19/03/2021	08:37	Mallard	1	80	10	10	60		grassland and marsh and conifer plantation; flying, male; height 5m rising to 40m	PT
CU001	VP2	19/03/2021	09:16	Curlew	1	125			115		grassland and marsh; migrating?, height 50m dropping to 30m	PT
SH033	VP2	19/03/2021	09:26	Sparrowhawk	2	100					woodland and scrub and grassland and marsh; display flight, sky dancing, height 20-30m	PT

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
	VP2	19/03/2021	10:10	Great Black-backed Gull	2	180	25	45	80		grassland and marsh; circling low before heading away, height 5-60m; adults	PT
	VP2	19/03/2021	10:16	Mallard	1	85			85		grassland and marsh and woodland and scrub; flying, male; height 30-50m	PT
	VP2	19/03/2021	10:32	Mallard	2	180			150		active quarries and mines, grassland and marsh and conifer plantation; flying, males; height 70m rising to 90m	PT
	VP2	19/03/2021	10:42	Great Black-backed Gull	2	600		30	450	90	grassland and marsh; circled up to 250m at southernmost point of flightline, drifted nw, dropped below 175 metres off site, adults; height 20m initially	PT
SH034	VP2	19/03/2021	10:59	Sparrowhawk	2	25		25			woodland and scrub; display flight, sky dancing, soaring, height 15-25m	PT
	VP2	19/03/2021	11:05	Mute Swan	3	55			55		grassland and marsh; direct flight, height 30m; 2 adults, 1 juvenile	PT
BZ235	VP2	19/03/2021	11:43	Buzzard	1	420			210		grassland and marsh; circling, height 60m rising to 200m off site	PT
BZ236	VP2	19/03/2021	11:51	Buzzard	1	305			140		grassland and marsh; circling, height 80m rising to 175m	PT
	VP3	22/03/2021	05:49	Mallard	2	20		20			grassland and marsh; flying	PT
BZ237	VP3	22/03/2021	06:19	Buzzard	1	65	25	40			grassland and marsh; flying	PT
BZ238	VP3	22/03/2021	06:33	Buzzard	1	35	35				grassland and marsh and linear woodland/scrub; flying, height 8-10m	PT
SH035	VP3	22/03/2021	07:54	Sparrowhawk	1	140	30	110			woodland and scrub and grassland and marsh; display flight, sky dancing, height 8-20m	PT
SH036	VP3	22/03/2021	07:54	Sparrowhawk	1	80			80		grassland and marsh; flying, height 25-40m	PT
SH037	VP3	22/03/2021	07:55	Sparrowhawk	1	45		20	25		grassland and marsh; flying, height 20-30m	PT
	VP3	22/03/2021	08:13	Mallard	1	120	40	80			grassland and marsh; flying, male; height 8m rising to 20m, dropping to 5m	PT
	VP3	22/03/2021	08:25	Great Black-backed Gull	2	22	22				grassland and marsh; dropped down to feed at sheep carcass, adults	PT

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
	VP3	22/03/2021	08:28	Great Black-backed Gull	2	25	25				grassland and marsh; saw off two other gbs, dropped down to sheep carcass, adults	PT
	VP3	22/03/2021	08:28	Great Black-backed Gull	2	105		105			grassland and marsh; flying away from sheep carcass, adults	PT
	VP3	22/03/2021	08:36	Grey Heron	1	245		245			grassland and marsh; direct flight	PT
	VP3	22/03/2021	09:12	Great Black-backed Gull	1	160	50	40			grassland and marsh; flying away from sheep carcass, adult	PT
	VP3	22/03/2021	09:37	Grey Heron	1	150	70	80			grassland and marsh and depositing/lowland rivers; landed by stream near vp, adult	PT
	VP3	22/03/2021	09:45	Grey Heron	2	135	15	120			grassland and marsh; flying, adults	PT
	VP3	22/03/2021	10:07	Grey Heron	1	130	30	100			grassland and marsh and depositing/lowland rivers; dropped out of view, probably to stream, immature	PT
BZ239	VP3	22/03/2021	10:09	Buzzard	1	40	40				grassland and marsh and linear woodland/scrub; flying	PT
BZ240	VP3	22/03/2021	10:27	Buzzard	1	150		120	30		woodland and scrub; chasing ravens, height 5-30m	PT
BZ241	VP3	22/03/2021	10:29	Buzzard	1	355			355		woodland and scrub and grassland and marsh; circling, hovered briefly, gliding at end of flight, height 70-100m	PT
BZ242	VP3	22/03/2021	10:38	Buzzard	1	235			235		grassland and marsh, scrub and linear woodland/scrub; circling , height 70m descending to 30m	PT
	VP3	22/03/2021	11:06	Great Black-backed Gull	2	17	17				grassland and marsh; dropped to sheep carcass	PT
	VP3	22/03/2021	11:28	Mallard	1	25		5	20		grassland and marsh; direct flight, height 50m dropping to 20m	PT
BZ243	VP3	22/03/2021	11:34	Buzzard	2	155		20	135		woodland and scrub and grassland and marsh; circling then drifted down, height 80m dropping to 10m	PT
	VP1	26/03/2021	06:25	Mute Swan	2	125		30			grassland and marsh and depositing/lowland rivers; flying, height 15-25m	PT

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
GP020	VP1	26/03/2021	06:52	Golden Plover	10	85	10	10	65		grassland and marsh; circling	PT
GP021	VP1	26/03/2021	06:53	Golden Plover	17	100	20	20	60		grassland and marsh; circling prior to landing in field (x on map), height up to 45m	PT
GP022	VP1	26/03/2021	07:04	Golden Plover	1	60	5	5	35		grassland and marsh; flying, height 1-60m	PT
BZ244	VP1	26/03/2021	07:36	Buzzard	1	135	25	110			grassland and marsh and linear woodland/scrub; direct flight, height 5-25m	PT
	VP1	26/03/2021	07:47	Grey Heron	1	40					grassland and marsh; direct flight to presumed heronry, height 50m dropping to 15m	PT
	VP1	26/03/2021	07:51	Lesser Black-backed Gull	1	300			300		woodland and scrub; meandering flight, height 25-60m; adult/sub-adult	PT
SH038	VP1	26/03/2021	08:19	Sparrowhawk	1	70			70		woodland and scrub and grassland and marsh; circling, height 25-35m	PT
BZ245	VP1	26/03/2021	08:25	Buzzard	1	390		175	75		woodland and scrub and grassland and marsh; flying, height 20m rising to 50m	PT
	VP1	26/03/2021	09:11	Lesser Black-backed Gull	2	75		75			grassland and marsh; flying, adults; height 20-25m	PT
	VP1	26/03/2021	09:21	Mute Swan	3	125		110			grassland and marsh and depositing/lowland rivers; circling, dropped down, height 10-25m; 2 adults, 1 juvenile	PT
BZ246	VP1	26/03/2021	09:22	Buzzard	1	7					conifer plantation; flying, height 15m	PT
BZ247	VP1	26/03/2021	09:38	Buzzard	1	65		35			conifer plantation, grassland and marsh and linear woodland/scrub; flying	PT
	VP1	26/03/2021	09:45	Mute Swan	3	75		60	15		grassland and marsh and conifer plantation; flying, 2 adults, 1 juvenile; height 10-30m	PT
BZ248	VP1	26/03/2021	09:49	Buzzard	1	455			455		woodland and scrub and grassland and marsh; circling, high sky dancing, rose to 175m	PT
BZ249	VP1	26/03/2021	09:50	Buzzard	1	175			175		grassland and marsh; flying, height 25-50m	PT
BZ250	VP1	26/03/2021	10:16	Buzzard	1	27	17	10			grassland and marsh and woodland and scrub; calling, height 15-20m	PT
BZ251	VP1	26/03/2021	10:18	Buzzard	1	110		40	70		grassland and marsh and conifer plantation; flying, height 20m rising to 75m	PT

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
BZ252	VP1	26/03/2021	10:50	Buzzard	1	420		10	410		grassland and marsh and linear woodland/scrub; flying; dropped low at end of flight, rose up to 175 metres	PT
SH039	VP1	26/03/2021	11:04	Sparrowhawk	1	300	10	30	260		grassland and marsh and linear woodland/scrub; circling; descended very low at end of flight, height while circling 110m rising to 175m	PT
GP023	VP1	26/03/2021	11:46	Golden Plover	35	210	40	90	80		grassland and marsh; circling, quantity approximate; height 1-60m	PT
	VP1	26/03/2021	11:47	Grey Heron	1	75	10	65			grassland and marsh and depositing/lowland rivers; dropped low towards river	PT
GP024	VP1	26/03/2021	11:49	Golden Plover	17	15			15		grassland and marsh; direct flight, joined up with circling group, quantity approximate; height 75m dropping to 50m	PT
GP025	VP1	26/03/2021	11:49	Golden Plover	50	90	30	30	30		grassland and marsh; circling; landed in field (x on map), quantity approximate	PT

Table 5 Vantage Point Survey Non-Flight Observations

Map Ref.	VP	Date	Time	Species	Number	Habitat and activity	Surveyor
	VP2	18/07/2020	10:45	Little Grebe	4	lakes and ponds; seen throughout entire survey after 10:45 when passing this small lake, sitting in lake (10:45am) male and female and 2 chicks	AM
	VP2	18/07/2020		Moorhen	3		AM
	VP2	18/07/2020		Water Rail	2		AM
	VP3	21/01/2021	09:45	Grey Heron	1	marsh; wading and foraging in wet corner of field, calling	NM
	VP2	19/03/2021	07:40	Moorhen	1	lakes and ponds and swamps; calling, not seen	PT
	VP2	19/03/2021	08:49	Teal	3	lakes and ponds; swimming, on pond; 2 males, 1 female	PT
SN003	VP2	19/03/2021	08:50	Snipe	1	grassland and marsh; flushed from field	PT
K043	VP2	19/03/2021	09:13	Kestrel	1	woodland and scrub; perched on bush until 0928	PT
BZ253	VP3	22/03/2021	07:17	Buzzard	3	grassland and marsh; on ground in field	PT
GP026	VP1	26/03/2021	06:55	Golden Plover	85	grassland and marsh; roosting, included birds from flight 3; remained for an hour or so	PT

Table 6 Breeding Walkover Survey Observations

Map Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ001	12/05/2020	09:50	Buzzard	1	improved agricultural grassland; flying, gliding	KOC
	12/05/2020	10:45	Moorhen	1	improved agricultural grassland; swimming, feeding in a small pond	KOC
	12/05/2020	10:55	Mallard	5	improved agricultural grassland; swimming in a small pond, flying away	KOC
	12/05/2020	10:58	Grey Heron	1	improved agricultural grassland; standing, hunting	KOC
SN001	12/05/2020	13:14	Snipe	1	improved agricultural grassland; drumming male not seen just heard	KOC
BZ002	12/05/2020	13:19	Buzzard	1	improved agricultural grassland; circling, gliding	KOC
BZ003	12/05/2020	13:21	Buzzard	1	improved agricultural grassland; circling	KOC
BZ004	12/05/2020	13:32	Buzzard	1	improved agricultural grassland; circling high	KOC
BZ005	12/05/2020	15:21	Buzzard	2	conifer plantation; circling, dive down	KOC
	15/05/2020		Mallard	2	depositing/lowland rivers; swimming	KOC
BZ006	15/05/2020	10:11	Buzzard	1	improved agricultural grassland; flying	KOC
BZ007	15/05/2020	11:58	Buzzard	1	conifer plantation; flying over forestry	KOC
K001	15/05/2020	13:56	Kestrel	1	improved agricultural grassland and conifer plantation; flying, hunting	KOC
BZ008	15/05/2020	15:32	Buzzard	1	conifer plantation; flying low between trees in forestry	KOC
BZ009	15/05/2020	15:34	Buzzard	1	conifer plantation; circling above forestry, calling, watching me	KOC
	15/05/2020		Mallard	4	depositing/lowland rivers; swimming	KOC
	04/06/2020		Yellowhammer	2+	improved agricultural grassland and hedgerows; calling	KOC
BZ010	04/06/2020	12:27	Buzzard	1	improved agricultural grassland; circling	KOC
BZ011	04/06/2020	12:33	Buzzard	1	improved agricultural grassland; circling	KOC
K002	04/06/2020	12:41	Kestrel	1	arable crops; flying, hunting	KOC
	04/06/2020	12:44	Lesser Black-backed Gull	1	improved agricultural grassland; circling, gliding	KOC
BZ012	04/06/2020	14:15	Buzzard	1	scattered tress and parkland; circling, gliding	KOC
BZ013	04/06/2020	14:18	Buzzard	1	conifer plantation and improved agricultural grassland; circling, flying, gliding	KOC
BZ014	04/06/2020	15:22	Buzzard	1	scattered tress and parkland; circling	KOC
BZ015	04/06/2020	15:28	Buzzard	1	improved agricultural grassland and conifer plantation; flying, gliding, then circling	KOC

Map Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
	16/06/2020		Yellowhammer	2+	improved agricultural grassland and hedgerows; calling in a couple of locations	KOC
BZ016	16/06/2020		Buzzard	1	improved agricultural grassland; perching in a bush	KOC
	16/06/2020		Lesser Black-backed Gull	2	improved agricultural grassland; flying together	KOC
BZ017	16/06/2020		Buzzard	1	improved agricultural grassland and conifer plantation; flying over gal then in to the forestry	KOC
	16/06/2020		Meadow Pipit	1	improved agricultural grassland; landing in grass	KOC
	16/06/2020		Little Grebe	2	eutrophic lakes; one on the nest in the lake another swimming, diving	KOC
	16/06/2020		Mallard	6	eutrophic lakes; swimming	KOC
	16/06/2020		Moorhen	1	eutrophic lakes; swimming	KOC
	16/06/2020		Moorhen	1	eutrophic lakes; calling	KOC
SH001	16/06/2020		Sparrowhawk	1	improved agricultural grassland; gliding	KOC
BZ018	25/06/2020		Buzzard	1	improved agricultural grassland and mixed broadleaved woodland; circling	KOC
BZ019	25/06/2020		Buzzard	1	improved agricultural grassland and scrub; circling, gliding	KOC
BZ020	25/06/2020		Buzzard	1	improved agricultural grassland and eutrophic lakes; circling, gliding close to lake	KOC
	25/06/2020		Meadow Pipit	1	improved agricultural grassland; flying	KOC
	25/06/2020		Meadow Pipit	2+	improved agricultural grassland; calling flying landing in grass	KOC
K003	25/06/2020		Kestrel	1	improved agricultural grassland; flying, gliding, male	KOC
K004	25/06/2020		Kestrel	1	improved agricultural grassland; gliding with prey in talons	KOC
BZ021	25/06/2020		Buzzard	1	improved agricultural grassland; gliding	KOC
BZ022	25/06/2020		Buzzard	1	improved agricultural grassland and scrub; flying, calling	KOC
	25/06/2020		Little Grebe	2	eutrophic lakes; swimming in a small pond, lake another bird on a nest., ad	KOC
	25/06/2020		Moorhen	1	eutrophic lakes; swimming, ad	KOC
BZ023	25/06/2020		Buzzard	1	improved agricultural grassland; flying	KOC
	06/07/2020	10:31	Yellowhammer	1	hedgerows; calling in hedge	KOC
	06/07/2020	10:38	Yellowhammer	1	hedgerows; flying, land, male	KOC
	06/07/2020	10:51	Yellowhammer	1	hedgerows; calling in hedge	KOC

Map Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
	06/07/2020	10:58	Lesser Black-backed Gull	1	improved agricultural grassland; flying, juv.	KOC
BZ024	06/07/2020	11:08	Buzzard	1	improved agricultural grassland; gliding fast	KOC
	06/07/2020	11:18:00	Meadow Pipit	1	improved agricultural grassland; perching on wires, landing in grass	KOC
	06/07/2020	11:29	Lesser Black-backed Gull	5	improved agricultural grassland; flying through site	KOC
SH002	06/07/2020	11:51	Sparrowhawk	1	hedgerows; gliding fast, juv.	KOC
BZ025	06/07/2020	12:39	Buzzard	2	improved agricultural grassland; circling gliding together, then separate	KOC
BZ026	06/07/2020	12:43	Buzzard	2	improved agricultural grassland; gliding one about another	KOC
BZ027	06/07/2020	12:57	Buzzard	1	improved agricultural grassland; gliding	KOC
BZ028	06/07/2020	13:13	Buzzard	1	improved agricultural grassland; flying	KOC
	06/07/2020	13:20	Meadow Pipit	1	improved agricultural grassland; calling	KOC
BZ029	06/07/2020	13:21	Buzzard	1	improved agricultural grassland and mixed broadleaved woodland; calling, gliding	KOC
BZ030	06/07/2020	13:51	Buzzard	3	conifer plantation and improved agricultural grassland; circling, calling together then separate	KOC
BZ031	06/07/2020	14:53	Buzzard	1	conifer plantation and mixed broadleaved woodland; flying, gliding, calling	KOC
BZ032	06/07/2020	15:18	Buzzard	1	conifer plantation; gliding	KOC
BZ033	06/07/2020	15:21	Buzzard	1	conifer plantation and lowland blanket bog; circling together	KOC
	06/07/2020	15:51	Meadow Pipit	3	immature woodland; flying, calling over very young plantation	KOC
	06/07/2020	16:05	Moorhen	1	eutrophic lakes; feeding in reeds	KOC
	06/07/2020	16:05	Little Grebe	2	eutrophic lakes; dive down under water, alarm call in reeds	KOC
K005	06/07/2020	16:11	Kestrel	1	improved agricultural grassland; hunting	KOC
L001	06/07/2020	16:31:00	Lapwing	2	improved agricultural grassland; feeding in mud of small pond, one adult and one fledged juvenile	KOC
	06/07/2020	16:31	Moorhen	1	improved agricultural grassland; feeding in rushes of small pond	KOC
BZ034	08/07/2020	10:02	Buzzard	1	improved agricultural grassland; flying, gliding, hunting	KOC
	08/07/2020	10:58	Mallard	1	improved agricultural grassland; swimming in a small wetland	KOC
BZ035	08/07/2020	11:32	Buzzard	2	conifer plantation; flying over me just above forestry, both calling	KOC

Map Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
K006	08/07/2020	13:40	Kestrel	1	improved agricultural grassland; flying over road and grassland	KOC
	08/07/2020	13:46	Meadow Pipit	2	improved agricultural grassland; singing in flight	KOC
	08/07/2020	14:33	Grey Heron	1	improved agricultural grassland; flying	KOC
	08/07/2020	15:45	Moorhen	1	eutrophic lakes; feeding in a small lake, juvenile	KOC
	08/07/2020	15:45	Little Grebe	2	eutrophic lakes; one on the nest another swimming nearby	KOC
	08/07/2020	15:51	Little Grebe	2	eutrophic lakes; one on the nest another swimming nearby, but both dive down under water after seeing me	KOC
	08/07/2020	16:01	Meadow Pipit	2	improved agricultural grassland; flying, perching	KOC
	08/07/2020	16:10	Moorhen	1	other artificial lakes and ponds; feeding in a small pond	KOC

Table 7 Breeding Raptor Survey Observations

Map Ref.	RVP	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ001	RVP1	18/05/2020	08:41	Buzzard	1	improved agricultural grassland, flying with prey, perching on a pole, flying away out of sight	KOC
BZ002	RVP1	18/05/2020	09:38	Buzzard	1	improved agricultural grassland, flying, land on a tree for 8min then fly away	KOC
BZ003	RVP1	18/05/2020	09:50	Buzzard	1	scattered tress and parkland and mixed broadleaved woodland, perching on a treetop for 40min, then disappear	KOC
BZ004	RVP1	18/05/2020	10:32	Buzzard	1	improved agricultural grassland, gliding, hunting, flying low	KOC
BZ005	RVP2	18/05/2020	13:02	Buzzard	1	improved agricultural grassland and mixed broadleaved/conifer woodland, flying low with prey, then go above forestry (ash plantation) and descend in the middle of it	KOC
SH001	RVP2	18/05/2020	14:07	Sparrowhawk	1	improved agricultural grassland, flying low, land in a tree line	KOC
BZ006	RVP3	26/05/2020	12:37	Buzzard	1	conifer plantation, circling, then gliding away	KOC
BZ007	RVP3	26/05/2020	12:54	Buzzard	1	conifer plantation, circling, gliding	KOC
BZ008	RVP3	26/05/2020	12:58	Buzzard	1	conifer plantation, gliding above forestry, seen during walkover	KOC
BZ009	RVP3	26/05/2020	13:14	Buzzard	2	conifer plantation and improved agricultural grassland, circling together, rising. seen during walkover	KOC
BZ010	RVP4	26/05/2020	14:06	Buzzard	1	conifer plantation and improved agricultural grassland, circling, gliding, hunting	KOC
BZ011	RVP4	26/05/2020	14:21	Buzzard	1	conifer plantation and improved agricultural grassland, circling, rising, mobbed by HC	KOC
SH002	RVP4	26/05/2020	14:36	Sparrowhawk	1	conifer plantation and improved agricultural grassland, circling, rising, later dive down	KOC
BZ012	RVP4	26/05/2020	15:02	Buzzard	1	conifer plantation and improved agricultural grassland, gliding, circling	KOC
BZ013	RVP4	26/05/2020	15:09	Buzzard	2	scattered tress and parkland and amenity grassland (improved), one BZa rises from forestry, circling, joins other BZb, circle together	KOC
BZ014	RVP4	26/05/2020	15:22	Buzzard	1	improved agricultural grassland, circling gliding away	KOC
BZ015	RVP4	26/05/2020	15:30	Buzzard	1	improved agricultural grassland and conifer plantation, circling	KOC
BZ016	RVP4	26/05/2020	15:53	Buzzard	1	conifer plantation, circling	KOC
BZ017	RVP4	26/05/2020	16:04	Buzzard	1	conifer plantation, circling, diving down	KOC
BZ018	RVP5	27/05/2020	10:13	Buzzard	1	mixed broadleaved woodland and improved agricultural grassland, circling over forestry gliding away	KOC
BZ019	RVP5	27/05/2020	10:36	Buzzard	1	conifer plantation, circling, displaying, skydiving	KOC
SH003	RVP5	27/05/2020	10:40	Sparrowhawk	1	improved agricultural grassland and conifer plantation, circling, mobbing BZ then rises higher	KOC
BZ020	RVP5	27/05/2020	10:43	Buzzard	2	conifer plantation, circling close to BZ no 3	KOC
BZ021	RVP5	27/05/2020	10:43	Buzzard	1	conifer plantation and improved agricultural grassland, joins other 3 BZ then glides away	KOC

Map Ref.	RVP	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ022	RVP5	27/05/2020	10:58	Buzzard	1	improved agricultural grassland, gliding descending	KOC
BZ023	RVP5	27/05/2020	11:26	Buzzard	1	improved agricultural grassland, circling, gliding away	KOC
BZ024	RVP5	27/05/2020	11:40	Buzzard	1	conifer plantation, gliding, descending	KOC
BZ025	RVP5	27/05/2020	11:48	Buzzard	1	conifer plantation, circling low above young plantation	KOC
BZ026	RVP5	27/05/2020	11:53	Buzzard	1	conifer plantation and improved agricultural grassland, gliding descending hunting	KOC
BZ027	RVP5	27/05/2020	12:04	Buzzard	1	mixed broadleaved woodland and improved agricultural grassland, circling, gliding away	KOC
SH004	RVP5	27/05/2020	12:05	Sparrowhawk	1	mixed broadleaved woodland and improved agricultural grassland, circling close to BZ, glide away	KOC
BZ028	RVP6	27/05/2020	14:36	Buzzard	1	arable crops and conifer plantation, circling, rising, then gliding towards forestry descending	KOC
SH005	RVP6	27/05/2020	14:56	Sparrowhawk	1	improved agricultural grassland, circling, displaying, skydiving, doing deep dives	KOC
SH006	RVP6	27/05/2020	14:59	Sparrowhawk	1	improved agricultural grassland, circling close to other SH	KOC
BZ029	RVP6	27/05/2020	15:21	Buzzard	2	improved agricultural grassland and scattered tress and parkland, circling together	KOC
SH007	RVP6	27/05/2020	15:48	Sparrowhawk	1	mixed broadleaved woodland, circling, diving down	KOC
BZ030	RVP6	27/05/2020	16:15	Buzzard	1	mixed broadleaved woodland, flying at 5m, crossing the road and into forest (Ballinlough parkland)	KOC
BZ031	RVP1	04/06/2020	16:09	Buzzard	2	mixed broadleaved/conifer woodland and improved agricultural grassland, flying out of forest together, then separate and fly opposite directions.	KOC
BZ032	RVP1	04/06/2020	16:18	Buzzard	1	mixed broadleaved/conifer woodland and scattered tress and parkland, gliding, circling 30m - 40m.	KOC
BZ033	RVP1	04/06/2020	16:18	Buzzard	1	mixed broadleaved/conifer woodland and improved agricultural grassland, gliding next to another BZ, then circling at 30m - 50m.	KOC
BZ034	RVP1	04/06/2020	16:21	Buzzard	1	improved agricultural grassland and scrub, circling, rising 10m - 50m.	KOC
BZ035	RVP1	04/06/2020	16:45	Buzzard	1	scattered tress and parkland, gliding, flying close to forest park, then away 10m - 30m.	KOC
BZ036	RVP1	04/06/2020	16:56	Buzzard	2	improved agricultural grassland and scrub, flying, circling together, then separate 10m - 30m.	KOC
BZ037	RVP1	04/06/2020	16:56	Buzzard	3	improved agricultural grassland, circling together on site 50-80 m.	KOC
BZ038	RVP1	04/06/2020	17:06	Buzzard	2	scrub and improved agricultural grassland, circling together, flying then separate. 8a flies away, 8b hunting, circling.	KOC
BZ039	RVP1	04/06/2020	17:18	Buzzard	1	scattered tress and parkland, improved agricultural grassland and mixed broadleaved/conifer woodland, circling, gliding in one area at 30-60 m.	KOC
BZ040	RVP1	04/06/2020	17:32	Buzzard	1	scattered tress and parkland, circling, hovering at 50m - 60m.	KOC
BZ041	RVP1	04/06/2020	17:51	Buzzard	1	scattered tress and parkland, circling at 40m - 50m., observed during walkover	KOC

Map Ref.	RVP	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ042	RVP1	04/06/2020	17:56	Buzzard	1	scattered tress and parkland, perching on a tree branch, then circling above road and trees., observed during walkover	KOC
BZ043	RVP2	18/06/2020	11:03	Buzzard	1	mixed broadleaved/conifer woodland and improved agricultural grassland, circling near another BZ, glides away descending.	KOC
BZ044	RVP2	18/06/2020	11:03	Buzzard	1	mixed broadleaved woodland and arable crops, circling, rising, mobbed by JD	KOC
BZ045	RVP2	18/06/2020	11:16	Buzzard	1		KOC
BZ046	RVP2	18/06/2020	12:17	Buzzard	1	conifer plantation and improved agricultural grassland, circling, rising, then gliding, descending.	KOC
BZ047	RVP2	18/06/2020	12:51	Buzzard	1	arable crops, circling then descending. seen during walkover., observed during walkover	KOC
BZ048	RVP3	18/06/2020	13:43	Buzzard	1	conifer plantation and improved agricultural grassland, circling, rising.	KOC
K001	RVP3	18/06/2020	15:32	Kestrel	1	improved agricultural grassland and arable crops, flying, perching on the tree top, then flying gliding over cereal field, hunting for a while, flying away. no target species observed during walkover.	KOC
BZ049	RVP4	25/06/2020	10:54	Buzzard	1	conifer plantation, gliding	KOC
BZ050	RVP4	25/06/2020	11:02	Buzzard	1	improved agricultural grassland, flying low, landing in a tree.	KOC
BZ051	RVP4	25/06/2020	11:26	Buzzard	1	improved agricultural grassland and conifer plantation, circling above grassland, then glide away into forestry.	KOC
BZ052	RVP4	25/06/2020	11:37	Buzzard	2	improved agricultural grassland, circling together	KOC
SH008	RVP4	25/06/2020	11:49	Sparrowhawk	1	conifer plantation, circling high above forestry.	KOC
BZ053	RVP4	25/06/2020	12:01	Buzzard	1	conifer plantation and mixed broadleaved woodland, circling above forestry.	KOC
BZ054	RVP4	25/06/2020	12:13	Buzzard	1	improved agricultural grassland, circling, rising in one small area, then gliding away.	KOC
BZ055	RVP4	25/06/2020	12:28	Buzzard	2	improved agricultural grassland, conifer plantation and mixed broadleaved woodland, perching, then circling together, then separately.	KOC
BZ056	RVP4	25/06/2020	12:42	Buzzard	1	improved agricultural grassland and mixed broadleaved woodland, gliding, displaying above forestry.	KOC
BZ057	RVP4	25/06/2020	13:14	Buzzard	2	improved agricultural grassland, gliding, circling, calling. observed during walkover.	KOC
BZ058	RVP5	29/06/2020	10:44	Buzzard	1	mixed broadleaved/conifer woodland and scattered tress and parkland, gliding, circling	KOC
BZ059	RVP5	29/06/2020	11:02	Buzzard	1	mixed broadleaved/conifer woodland and scattered tress and parkland, gliding, hovering	KOC
BZ060	RVP5	29/06/2020	11:20	Buzzard	1	improved agricultural grassland and mixed broadleaved/conifer woodland, gliding, hovering, hunting	KOC
BZ061	RVP5	29/06/2020	11:28	Buzzard	1	improved agricultural grassland, gliding, hovering, hunting	KOC
BZ062	RVP5	29/06/2020	11:53	Buzzard	1	improved agricultural grassland and mixed broadleaved/conifer woodland, gliding	KOC

Map Ref.	RVP	Date	Time	Species	Number	Habitat and activity	Surveyor
K002	RVP5	29/06/2020	12:31	Kestrel	1	improved agricultural grassland, gliding, catching a prey, flying inside a farm shed, land there, later fly away, still with prey.	KOC
K003	RVP5	29/06/2020	12:44	Kestrel	1	improved agricultural grassland and mixed broadleaved/conifer woodland, flying, gliding	KOC
BZ063	RVP5	29/06/2020	12:44	Buzzard	1		KOC
K004	RVP5	29/06/2020	13:04	Kestrel	1	improved agricultural grassland, gliding, hunting	KOC
BZ064	RVP6	29/06/2020	14:32	Buzzard	1	improved agricultural grassland, gliding over grassland.	KOC
K005	RVP6	29/06/2020	14:47	Kestrel	1	conifer plantation and improved agricultural grassland, gliding, hunting	KOC
K006	RVP6	29/06/2020	15:56	Kestrel	1	conifer plantation and improved agricultural grassland, gliding, flying male.	KOC
SH009	RVP1	03/07/2020	11:46	Sparrowhawk	1	conifer plantation, circling above forestry	KOC
BZ065	RVP1	03/07/2020	12:29	Buzzard	1	conifer plantation and improved agricultural grassland, gliding, flying gliding together just above young forestry, then separate glides near forestry and descends	KOC
BZ066	RVP1	03/07/2020	12:29	Buzzard	1	conifer plantation, improved agricultural grassland and mixed broadleaved woodland, gliding, flying, hunting, flying gliding together just above young forestry, then separate glides near forestry and descends: flies away through fields, hunting.	KOC
BZ067	RVP2	03/07/2020	14:40	Buzzard	1	mixed broadleaved/conifer woodland and improved agricultural grassland, gliding over woodland, descending into it	KOC
BZ068	RVP2	03/07/2020	15:58	Buzzard	2	mixed broadleaved/conifer woodland and improved agricultural grassland, gliding together	KOC
BZ069	RVP2	03/07/2020	16:13	Buzzard	1	improved agricultural grassland and mixed broadleaved/conifer woodland, calling, flying, gliding	KOC
BZ070	RVP2	03/07/2020	16:32	Buzzard	1	improved agricultural grassland, circling, gliding	KOC
BZ071	RVP2	03/07/2020	16:44	Buzzard	1	improved agricultural grassland, circling, gliding	KOC
BZ072	RVP2	03/07/2020	17:04	Buzzard	1	improved agricultural grassland, circling, gliding	KOC
BZ073	RVP3	23/07/2020	12:24	Buzzard	1	scattered tress and parkland, perching on a tree top	KOC
BZ074	RVP3	23/07/2020	12:36	Buzzard	1	improved agricultural grassland, gliding circling	KOC
BZ075	RVP3	23/07/2020	13:21	Buzzard	1	mixed broadleaved/conifer woodland and improved agricultural grassland, gliding, flying, landing	KOC
BZ076	RVP3	23/07/2020	13:46	Buzzard	1	improved agricultural grassland, flying, gliding, perch	KOC
BZ077	RVP3	23/07/2020	13:55	Buzzard	2	improved agricultural grassland, perching, calling, juv. perching calling in ga1, could hear 2nd bird calling not far away	KOC
BZ078	RVP3	23/07/2020	14:06	Buzzard	1	treelines, perching, flying, juv. perching on a branch over road, flying away.	KOC
K007	RVP4	23/07/2020	15:11	Kestrel	1	improved agricultural grassland, flying, perching, juv. female	KOC

Map Ref.	RVP	Date	Time	Species	Number	Habitat and activity	Surveyor
K008	RVP4	23/07/2020	15:14	Kestrel	1	improved agricultural grassland, flying, hunting, diving down, juv. female	KOC
SH010	RVP4	23/07/2020	15:31	Sparrowhawk	1		KOC
BZ079	RVP4	23/07/2020	15:56	Buzzard	2	conifer plantation and improved agricultural grassland, circling together, then separate but not far from each other	KOC
BZ080	RVP4	23/07/2020	16:17	Buzzard	1	conifer plantation, gliding	KOC
BZ081	RVP4	23/07/2020	16:21	Buzzard	1	improved agricultural grassland and conifer plantation, flying, circling over wd4, calling, juv	KOC
K009	RVP4	23/07/2020	16:27	Kestrel	1	improved agricultural grassland, hunting, flying, juv. female	KOC
K010	RVP4	23/07/2020	16:35	Kestrel	1	improved agricultural grassland, hunting, flying, juv. female	KOC
K011	RVP4	23/07/2020	17:07	Kestrel	1	improved agricultural grassland, flying , mobbed by HC then by juv SH	KOC
SH011	RVP4	23/07/2020	17:08	Sparrowhawk	1	improved agricultural grassland, flying, gliding, mobbed k	KOC
BZ082	RVP5	27/07/2020	11:54	Buzzard	1	improved agricultural grassland, gliding, circling, descending	KOC
BZ083	RVP5	27/07/2020	12:17	Buzzard	1	improved agricultural grassland, hunting, hovering	KOC
BZ084	RVP5	27/07/2020	12:42	Buzzard	1	improved agricultural grassland, gliding, circling	KOC
K012	RVP5	27/07/2020	12:56	Kestrel	1	hedgerows, gliding	KOC
BZ085	RVP5	27/07/2020	13:22	Buzzard	1	improved agricultural grassland and mixed broadleaved/conifer woodland, gliding up&down	KOC
BZ086	RVP5	27/07/2020	13:48	Buzzard	1	improved agricultural grassland, gliding, hunting	KOC
BZ087	RVP5	27/07/2020	13:58	Buzzard	2	improved agricultural grassland, gliding, circling together, displaying touching wingtips	KOC
SH012	RVP5	27/07/2020	14:11	Sparrowhawk	2	mixed broadleaved/conifer woodland, circling, gliding together then dive down, male & female	KOC
BZ088	RVP6	27/07/2020	15:36	Buzzard	1	immature woodland, gliding	KOC
BZ089	RVP6	27/07/2020	16:05	Buzzard	1	immature woodland, gliding	KOC
SH013	RVP6	27/07/2020	16:28	Sparrowhawk	1	immature woodland, gliding	KOC
SH014	RVP6	27/07/2020	16:51	Sparrowhawk	1	immature woodland, gliding	KOC
BZ090	RVP6	27/07/2020	16:58	Buzzard	1	improved agricultural grassland, flying, flying around large tree, juvenile begging calls can be heard	KOC

Table 8 Winter Walkover Survey Observations

Map Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ001	08/10/2020	11:04	Buzzard	1	arable crops; circling	KOC
BZ002	08/10/2020	11:23	Buzzard	2	mixed broadleaved/conifer woodland; flying together, chasing one another above forestry	KOC
BZ003	08/10/2020	11:26	Buzzard	5	improved agricultural grassland, mixed broadleaved/conifer woodland and conifer plantation; circling gliding together then separate	KOC
BZ004	08/10/2020	11:30	Buzzard	2	improved agricultural grassland; circling calling	KOC
BZ005	08/10/2020	11:42	Buzzard	3	improved agricultural grassland; circling, gliding together	KOC
BZ006	08/10/2020	12:19	Buzzard	3	improved agricultural grassland and mixed broadleaved/conifer woodland; circling together	KOC
	08/10/2020	12:49	Lesser Black-backed Gull	2	conifer plantation and mixed broadleaved/conifer woodland; flying gliding one after another	KOC
BZ007	08/10/2020	12:52	Buzzard	1	conifer plantation; circling	KOC
SH001	08/10/2020	12:54	Sparrowhawk	1	conifer plantation; flying, perching, female	KOC
	08/10/2020	12:56	Cormorant	1	conifer plantation, lowland blanket bog and mixed broadleaved/conifer woodland; flying in a circle then away	KOC
SH002	08/10/2020	12:59	Sparrowhawk	1	improved agricultural grassland and treelines; flying gliding, female	KOC
GP001	08/10/2020	13:50	Golden Plover	50	improved agricultural grassland and conifer plantation; flying flock towards NW	KOC
BZ008	08/10/2020	13:56	Buzzard	1	conifer plantation and lowland blanket bog; circling, mobbed by RO	KOC
BZ009	30/10/2020	10:03	Buzzard	1	treelines; perching on a tree, calling	KOC
BZ010	30/10/2020	10:04	Buzzard	1	conifer plantation and treelines; flying, lands on the same tree	KOC
WS001	30/10/2020	10:24	Whooper Swan	6	eutrophic lakes; swimming, feeding in a small lake	KOC
	30/10/2020	10:25	Teal	35	eutrophic lakes; swimming, feeding in a small lake	KOC
	30/10/2020	10:26	Mallard	4	eutrophic lakes; swimming	KOC
SN001	30/10/2020	11:27	Snipe	1	improved agricultural grassland; calling, flying	KOC
WS002	30/10/2020	11:32	Whooper Swan	6	improved agricultural grassland, active quarries and mines and eutrophic lakes; calling, flying, descending	KOC
	30/10/2020	11:34	Moorhen	1	eutrophic lakes; swimming, feeding in a small lake	KOC
OD001	30/10/2020	11:35	Wood Sandpiper	1	improved agricultural grassland; feeding in flooded grass, flying away, seen from far away, looked like od but not 100% sure	KOC
	30/10/2020	12:02	Little Grebe	1	improved agricultural grassland; swimming diving	KOC

Map Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
	30/10/2020	12:05	Moorhen	1	depositing/lowland rivers and improved agricultural grassland; swimming	KOC
K001	30/10/2020	12:38	Kestrel	1	improved agricultural grassland; circling, then hunting	KOC
	30/10/2020	12:50	Grey Heron	1	depositing/lowland rivers and improved agricultural grassland; taking off, flying away	KOC
BZ011	21/01/2021		Buzzard	1	improved agricultural grassland and mixed broadleaved/conifer woodland; hunting	DM
BZ012	21/01/2021		Buzzard	1	improved agricultural grassland and mixed broadleaved/conifer woodland; hunting	DM
BZ013	21/01/2021		Buzzard	1	improved agricultural grassland and mixed broadleaved/conifer woodland; hunting	DM
BZ014	21/01/2021		Buzzard	1	improved agricultural grassland and mixed broadleaved/conifer woodland; hunting	DM
BZ015	21/01/2021		Buzzard	1	improved agricultural grassland and mixed broadleaved/conifer woodland; hunting	DM
BZ016	21/01/2021		Buzzard	2	improved agricultural grassland and mixed broadleaved/conifer woodland; hunting	DM
BZ017	21/01/2021		Buzzard	1	improved agricultural grassland and mixed broadleaved/conifer woodland; hunting	DM
K002	21/01/2021		Kestrel	1	improved agricultural grassland and mixed broadleaved/conifer woodland; hunting	DM
K003	21/01/2021		Kestrel	1	improved agricultural grassland and mixed broadleaved/conifer woodland; hunting	DM
	21/01/2021		Teal	18	lakes and ponds; feeding, flock flushed from a small lake	DM
L001	21/01/2021		Lapwing	55	improved agricultural grassland; travelling, flock flying over	DM
	21/01/2021		Grey Heron	1	lakes and ponds; feeding	DM
	21/01/2021		Mallard	1	lakes and ponds; feeding	DM
	15/02/2021	10:48	Mute Swan	2	improved agricultural grassland; preening, resting	KOC
BZ018	15/02/2021	11:18	Buzzard	1	improved agricultural grassland; flying	KOC
SH003	15/02/2021	11:57	Sparrowhawk	1	cutover bog and conifer plantation; circling, f	KOC
GP002	15/02/2021	12:31	Golden Plover	85	improved agricultural grassland; flying, flying together at 70-100m high	KOC
	15/02/2021	12:37	Herring Gull	1	conifer plantation and improved agricultural grassland; flying	KOC
BZ019	15/02/2021	12:46	Buzzard	1	mixed broadleaved/conifer woodland and improved agricultural grassland; flying	KOC
SN002	15/02/2021	14:01	Snipe	1	improved agricultural grassland; flying, circling	KOC
	15/02/2021	14:14	Green Sandpiper	2	improved agricultural grassland and eutrophic lakes; foraging, foraging on the edge of a pond	KOC
PE001	15/02/2021	14:23	Peregrine Falcon	1	improved agricultural grassland; flying near the quarry, perching	KOC
	15/02/2021	14:31	Mallard	4	eutrophic lakes; swimming, perching	KOC

Map Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
	15/02/2021	14:31	Teal	2	eutrophic lakes; swimming,	KOC
BZ020	15/02/2021	15:01	Buzzard	1	wet willow-alder-ash woodland and improved agricultural grassland; flying	KOC
	15/02/2021	16:03	Grey Heron	1	wet grassland; perching	KOC
	15/02/2021	16:25	Moorhen	1	eutrophic lakes; swimming, foraging	KOC

Map Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
	Newtown Lough	15/05/2020		Moorhen	1		DM
	Lough Shesik	15/05/2020		Lesser Black-backed Gull	10	improved agricultural grassland; flying over farmland	DM
	Freeekan Lough	15/05/2020		White-throated Dipper	1		DM
SN001	Freeekan Lough	28/05/2020		Snipe	2		DM
	Freeekan Lough	28/05/2020		Mallard	7		DM
	Freeekan Lough	28/05/2020		Moorhen	1		DM
		04/08/2020	14:33	Little Grebe	4	lakes and ponds; f, 2a 2juv	AOD
		04/08/2020	14:45	Moorhen	3	lakes and ponds; f	AOD
		04/08/2020	15:11	Mallard	16	lakes and ponds; r	AOD
		04/08/2020	15:13	Moorhen	4	lakes and ponds; f	AOD
		04/08/2020	15:30	Mallard	6	lakes and ponds; f	AOD
		27/08/2020	13:15	Little Grebe	3	lakes and ponds; f	AOD
		27/08/2020	14:40	Mallard	4	lakes and ponds; f	AOD
		27/08/2020	15:00	Little Grebe	1	lakes and ponds; call	AOD
		27/08/2020	15:22	Moorhen	2	lakes and ponds; f	AOD
		27/08/2020	15:22	Mallard	2	lakes and ponds; f	AOD
		27/08/2020	15:32	Grey Heron	1	lakes and ponds; f	AOD
		27/08/2020	15:44	Mallard	20	lakes and ponds; r	AOD
		27/08/2020	15:45	Moorhen	2	lakes and ponds; f	AOD
		27/08/2020	15:50	Herring Gull	6	improved agricultural grassland; f, feeding in field	AOD
KF001	1	08/10/2020		Kingfisher	1	depositing/lowland rivers; above water, flying over river	KOC
	4	08/10/2020		Little Grebe	1	eutrophic lakes; on water, swimming, diving in a small lake	KOC
	5	08/10/2020		Teal	9	eutrophic lakes; on water, swimming in a small lake	KOC
	5	30/10/2020		Moorhen	1	eutrophic lakes; on water, swimming, feeding	KOC
	6	30/10/2020		Teal	36	eutrophic lakes; on water, roosting, swimming	KOC

Map Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
	6	30/10/2020		Mallard	2	eutrophic lakes; on water, swimming	KOC
	4	13/11/2020		Teal	37	eutrophic lakes; on water, swimming	KOC
	5	13/11/2020		Moorhen	1	eutrophic lakes; on water, calling, hiding in water plants	KOC
	6	13/11/2020		Teal	9	improved agricultural grassland; on water, swimming, feeding	KOC
	9	13/11/2020		Grey Heron	1	depositing/lowland rivers; terrestrial, perching, fishing in river flying away	KOC
	10	13/11/2020		Grey Heron	1	improved agricultural grassland; terrestrial, perching, hunting in wetland in gal	KOC
	12	13/11/2020		White-throated Dipper	1	eutrophic lakes; above water, perching, dipping, feeding	KOC
	3	26/11/2020		Teal	48	eutrophic lakes and immature woodland; on water, swimming, flying	KOC
	4	26/11/2020		Grey Heron	1	eutrophic lakes and immature woodland; terrestrial, flying	KOC
	6	26/11/2020		Grey Heron	1	eutrophic lakes; on water, hunting in water	KOC
SN002	7	26/11/2020		Snipe	1	improved agricultural grassland; terrestrial, flushed while walking	KOC
	9	26/11/2020		Moorhen	1	eutrophic lakes; on water, swimming	KOC
	10	26/11/2020		Grey Heron	1	improved agricultural grassland; on water, in water, small pond then flying away	KOC
GP001	1	13/12/2020		Golden Plover	89	arable crops; terrestrial, feeding in a large field	KOC
	2	13/12/2020		Mallard	3	eutrophic lakes; on water, resting on the edge of a lake	KOC
	3	13/12/2020		Grey Heron	1	eutrophic lakes; terrestrial, calling from reeds, not seen	KOC
	7	13/12/2020		Mallard	7	eutrophic lakes; on water, swimming feeding	KOC
	8	13/12/2020		Teal	6+	eutrophic lakes; on water, swimming, some resting in reeds	KOC
	9	13/12/2020		Moorhen	2	eutrophic lakes; on water, in reeds perching	KOC
	2	29/12/2020		Teal	34	eutrophic lakes; on water, swimming, roosting in a lake	KOC
	4	29/12/2020		Teal	15+	eutrophic lakes; on water, swimming in a tiny pond/lake	KOC
	5	29/12/2020		Moorhen	1	eutrophic lakes; on water, swimming in a lake	KOC
	6	29/12/2020		Mallard	4	eutrophic lakes; on water, swimming in a lake	KOC
	8	29/12/2020		Grey Heron	1	depositing/lowland rivers; above water, flying away over river	KOC

Map Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
GP002	9	29/12/2020		Golden Plover	21	arable crops; terrestrial, perching, roosting in a field, just outside of the 1km boundary	KOC
SN003	Crowinstown Lough	10/01/2021	12:31	Snipe	1	improved agricultural grassland; flushed flew away	KOC
	Crowinstown Lough	10/01/2021	12:31	Mallard	2	eutrophic lakes; swimming, flying, landing	KOC
	Crowinstown Lough	10/01/2021	12:33	Teal	21	eutrophic lakes; swimming	KOC
SN004	Crowinstown Lough	10/01/2021	12:34	Snipe	2	improved agricultural grassland; flushed flew away	KOC
	Crowinstown Lough	10/01/2021	12:45	Mallard	2	eutrophic lakes; swimming	KOC
WS001	Newtown Lough	10/01/2021	13:25	Whooper Swan	2	eutrophic lakes; roosting, one in water one resting on ice	KOC
SN005	Farmland of Matt Carr, (NE of the site)	10/01/2021	13:51	Snipe	2	improved agricultural grassland; flushed flew away	KOC
SN006	Farmland of Matt Carr, (NE)	10/01/2021	14:01	Snipe	3	improved agricultural grassland; flushed flew away	KOC
WS002	Arable fields near Crowinstown Great (SE)	26/01/2021	11:51	Whooper Swan	7	arable crops; swimming, feeding, perching, swimming, feeding, perching on frozen flooded field	KOC
	Crowinstown Lough	26/01/2021	12:02	Mallard	2	eutrophic lakes; perching,	KOC
	Crowinstown Lough	26/01/2021	12:09	Mallard	2	eutrophic lakes; swimming	KOC
	Farmland of Matt Carr, NE of Site	26/01/2021	12:48	Teal	2	eutrophic lakes; resting, one in water, one perching on ice, could have been more than 2	KOC
	Lough Shesk	26/01/2021	13:39	Mallard	2	eutrophic lakes; swimming, feeding	KOC
	Stonyford River (SW)	26/01/2021	14:27	White-throated Dipper	1	depositing/lowland rivers; feeding, perching, flying away	KOC
	Crowinstown Lough	09/02/2021	11:39	Moorhen	1	eutrophic lakes; calling	KOC
SN007	small lake near Ballinlig and N52	09/02/2021	11:58	Snipe	1	eutrophic lakes; flying, flushed, landed on the other side of the lake	KOC
	pond on M.Carr's farmland	09/02/2021	12:25	Teal	2	eutrophic lakes; flushed, flew away	KOC
	Small lake next to the quarry	09/02/2021	12:29	Moorhen	1	eutrophic lakes; swimming	KOC
	Stonyford River, close to Killacroy	09/02/2021	13:29	Grey Heron	2	depositing/lowland rivers; perching, perching on the river edge	KOC
	Lough Shesk	09/02/2021	13:45	Mallard	2	eutrophic lakes; swimming	KOC
	Lough Shesk	09/02/2021	13:47	Teal	1	eutrophic lakes; calling, calling from reeds	KOC

Map Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS003	Close to Close to Crowinstown Great	09/02/2021	14:44	Whooper Swan	2	improved agricultural grassland; flying	KOC
	Crowinstown Lough	22/02/2021	10:08	Little Grebe	2	eutrophic lakes; flushed, flushed, flew further away into the lake	KOC
SN008	lake near Ballinlig	22/02/2021	10:33	Snipe	6	eutrophic lakes; flushed, flew away	KOC
SN009	lake near Ballinlig	22/02/2021	10:35	Snipe	5	eutrophic lakes; flushed, flew away	KOC
	Farmland of M.Carr	22/02/2021	10:58	Green Sandpiper	1	wet grassland; flushed, flew away	KOC
	Farmland of M.Carr	22/02/2021	11:02	Teal	8	eutrophic lakes and improved agricultural grassland; swimming, flying away	KOC
	flooded field near Killacroy	22/02/2021	12:15	Green Sandpiper	1	wet grassland; foraging, foraging on the edge of flooded grassland	KOC
	Freekan lough	22/02/2021	12:28	Mute Swan	2	eutrophic lakes; swimming together	KOC

Table 9 Breeding Woodcock Survey Observations

Map Ref.	Transect	Date	Time	Species	Number	Habitat and activity	Surveyor
WK001	T1	15/05/2020	21:45	Woodcock	1	mixed broadleaved/conifer woodland and improved agricultural grassland, roding	DM
WK002	T1	15/05/2020	21:47	Woodcock	1	mixed broadleaved/conifer woodland and improved agricultural grassland, left woodland to feed	DM
WK003	T1	15/05/2020	21:50	Woodcock	1	mixed broadleaved/conifer woodland and improved agricultural grassland, roding	DM
WK004	T1	15/05/2020	22:05	Woodcock	1	mixed broadleaved/conifer woodland and improved agricultural grassland, roding	DM
WK005	T1	10/06/2020	22:14	Woodcock	1	mixed broadleaved/conifer woodland and improved agricultural grassland, roding, heard only	DM
WK006	T1	10/06/2020	22:16	Woodcock	1	mixed broadleaved/conifer woodland and improved agricultural grassland, roding, heard only	DM
WK007	T1	24/06/2020	22:43	Woodcock	1	mixed broadleaved/conifer woodland and improved agricultural grassland, roding, heard only	DM
WK008	T1	24/06/2020	22:45	Woodcock	1	mixed broadleaved/conifer woodland and improved agricultural grassland, roding, adult male	DM

Table 10 Incidental Observations

Map Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
K001	Breeding Woodcock Survey, t1	15/05/2020		Kestrel	1	mixed broadleaved/conifer woodland and improved agricultural grassland; hunting	DM
SH001	Breeding Woodcock Survey, t1	15/05/2020		Sparrowhawk	1	mixed broadleaved/conifer woodland and improved agricultural grassland; hunting	DM
	Breeding Raptor Survey, rvp4	26/05/2020		Grey Heron		improved agricultural grassland and conifer plantation; small heronry with few nests, herons coming in and out occasionally	KOC
L001	Breeding Raptor Survey, rvp5	27/05/2020	10:07	Lapwing	2	arable crops; flying together	KOC
K002	Breeding Woodcock Survey, t2	28/05/2020	21:10	Kestrel	1	mixed broadleaved/conifer woodland and improved agricultural grassland; hunting, male	DM
K003	Breeding Woodcock Survey, t2	28/05/2020	21:50	Kestrel	1	mixed broadleaved/conifer woodland and improved agricultural grassland; hunting, male	DM
	Breeding Woodcock Survey, t2	28/05/2020	22:00	Mallard	1		DM
	Breeding Woodcock Survey, t2	28/05/2020	22:00	Moorhen	1		DM
	Breeding Woodcock Survey, t2	28/05/2020	22:00	Little Grebe	1		DM
BZ001	Wildfowl Distribution Survey, Newtown Lough	28/05/2020		Buzzard	2	improved agricultural grassland; circling	DM
BZ002	Wildfowl Distribution Survey, Lough Shesik	28/05/2020		Buzzard	1	improved agricultural grassland; hunting over farmland	DM
BZ003	Wildfowl Distribution Survey, Freekan Lough	28/05/2020		Buzzard	2	improved agricultural grassland; flying over farmland	DM
	Breeding Woodcock Survey, t1	10/06/2020		Cuckoo	1		DM
K004	Breeding Woodcock Survey, t3	11/06/2020		Kestrel	1		DM
BZ004	Breeding Woodcock Survey, t3	11/06/2020		Buzzard	1		DM
	Breeding Woodcock Survey, t3	11/06/2020		Cuckoo	1		DM
	Breeding Woodcock Survey, t3	11/06/2020		Hare	1		DM
LE001	Breeding Woodcock Survey, t3	11/06/2020		Long-Eared Owl	1		DM
	Breeding Walkover Survey, map1, marked by *	16/06/2020		Peacock Butterfly	few hundred		DM
	Breeding Raptor Survey, rvp2	18/06/2020	10:24	Black-Headed Gull	1	improved agricultural grassland; flying low	KOC

Map Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
	Breeding Raptor Survey, rvp2	18/06/2020	10:53	Lesser Black-Backed Gull	1	conifer plantation and mixed broadleaved woodland; flying in circles, gliding, flying away.	KOC
	Breeding Raptor Survey, rvp3	18/06/2020	15:25	Grey Heron	1	improved agricultural grassland and conifer plantation; flying	KOC
	Breeding Woodcock Survey, t3	26/06/2020		Pine Martin	1		DM
	Breeding Raptor Survey, rvp5	29/06/2020	11:13	Lesser Black-Backed Gull	11	improved agricultural grassland, mixed broadleaved/conifer woodland and scattered tress and parkland; flying, gliding, commuting through.	KOC
	Breeding Raptor Survey, rvp6	29/06/2020		Grey Heron	?	conifer plantation and improved agricultural grassland; few juvenile herons in nests. adults coming in and out occasionally.	KOC
	Breeding Raptor Survey,	07/07/2020		Lesser Black-Backed Gull	36	improved agricultural grassland; feeding in a fresh cut pasture	KOC
	Vantage Point Survey, near vp2, inc 1	21/07/2020		Little Grebe	2		KOC
	Vantage Point Survey, near vp2, inc 1	21/07/2020		Moorhen	2		KOC
	Vantage Point Survey, near vp2, inc 2	21/07/2020		Little Grebe	2		KOC
	Vantage Point Survey, near vp2, inc 2	21/07/2020		Mallard	6		KOC
	Vantage Point Survey, in a pond/lake close to vp2	06/08/2020		Little Grebe	3		KOC
	Vantage Point Survey, in a pond/lake close to vp2	06/08/2020		Moorhen	1		KOC
BZ005	Wildfowl Distribution Survey,	27/08/2020	15:20	Buzzard	3	mixed broadleaved/conifer woodland; begging chicks, 2juv fed by adult	AOD
BZ006	Wildfowl Distribution Survey, Carnybrogan	27/08/2020		Buzzard	1		AOD
K005	Wildfowl Distribution Survey, Carnybrogan	27/08/2020		Kestrel	1		AOD
	Vantage Point Survey, vp1	21/09/2020		Rook/Jackdaw	500+		PC
	Vantage Point Survey, vp1	21/09/2020		Pied Wagtail	?		PC
	Vantage Point Survey, east of VP	22/09/2020		Collared Dove	2		PC
	vantage point survey, road west of VP	22/09/2020		Red Fox	1		PC

Map Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
	Vantage Point Survey, road west of VP	22/09/2020		Hedgehog	1		PC
SH002	Wildfowl Distribution Survey, Ballinlough	29/09/2020		Sparrowhawk	1		PC
BZ007	Wildfowl Distribution Survey, 2	08/10/2020		Buzzard	2	improved agricultural grassland; terrestrial, circling, flying together	KOC
BZ008	Wildfowl Distribution Survey, 3	08/10/2020		Buzzard	1	improved agricultural grassland; terrestrial, perching on a pole	KOC
BZ009	Wildfowl Distribution Survey, 6	08/10/2020		Buzzard	3	improved agricultural grassland; terrestrial, circling together	KOC
BZ010	Wildfowl Distribution Survey, 7	08/10/2020		Buzzard	1	improved agricultural grassland; terrestrial, perching on a pole	KOC
BZ011	Wildfowl Distribution Survey, 1	30/10/2020		Buzzard	1	improved agricultural grassland; terrestrial, perching, flying	KOC
SH003	Wildfowl Distribution Survey, 2	30/10/2020		Sparrowhawk	1	arable crops; terrestrial, perching in a field, flying away	KOC
BZ012	Wildfowl Distribution Survey, 3	30/10/2020		Buzzard	1	immature woodland; terrestrial, flying	KOC
BZ013	Vantage Point Survey, vp3	10/11/2020		Buzzard	2		KOC
BZ014	Wildfowl Distribution Survey, 1	13/11/2020		Buzzard	1	improved agricultural grassland; terrestrial, flying low	KOC
K006	Wildfowl Distribution Survey, 3	13/11/2020		Kestrel	1	mixed broadleaved/conifer woodland and improved agricultural grassland; terrestrial, circling, gliding	KOC
BZ015	Wildfowl Distribution Survey, 7	13/11/2020		Buzzard	1	improved agricultural grassland; terrestrial, flying	KOC
BZ016	Wildfowl Distribution Survey, 8	13/11/2020		Buzzard	1	improved agricultural grassland; terrestrial, flying	KOC
BZ017	Wildfowl Distribution Survey, 11	13/11/2020		Buzzard	1	improved agricultural grassland; terrestrial, perching	KOC
BZ018	Wildfowl Distribution Survey, 1	26/11/2020		Buzzard	1	arable crops; terrestrial, perching on tree	KOC
BZ019	Wildfowl Distribution Survey, 2	26/11/2020		Buzzard	1	immature woodland; terrestrial, flying	KOC
BZ020	Wildfowl Distribution Survey, 8	26/11/2020		Buzzard	1	improved agricultural grassland and active quarries and mines; terrestrial, flying	KOC
BZ021	Wildfowl Distribution Survey, 11	26/11/2020		Buzzard	1	improved agricultural grassland; terrestrial, flying	KOC
BZ022	Wildfowl Distribution Survey, 12	26/11/2020		Buzzard	1	depositing/lowland rivers and improved agricultural grassland; terrestrial, flying, gliding	KOC
BZ023	Wildfowl Distribution Survey, 13	26/11/2020		Buzzard	1	improved agricultural grassland; terrestrial, flying	KOC
BZ024	Wildfowl Distribution Survey, 4	13/12/2020		Buzzard	1	immature woodland; terrestrial, flying, perching	KOC
BZ025	Wildfowl Distribution Survey, 5	13/12/2020		Buzzard	1	improved agricultural grassland; terrestrial, perching on a pole	KOC
BZ026	Wildfowl Distribution Survey, 6	13/12/2020		Buzzard	1	improved agricultural grassland; terrestrial, perching on a tree	KOC

Map Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ027	Wildfowl Distribution Survey, 10	13/12/2020		Buzzard	1	improved agricultural grassland; terrestrial, flying, perching	KOC
BZ028	Wildfowl Distribution Survey, 1	29/12/2020		Buzzard	1	arable crops; terrestrial, flying over arable crop field	KOC
BZ029	Wildfowl Distribution Survey, 3	29/12/2020		Buzzard	1	immature woodland; terrestrial, perching	KOC
BZ030	Wildfowl Distribution Survey, 7	29/12/2020		Buzzard	1	improved agricultural grassland; terrestrial, foraging in grass picking worms	KOC
BZ031	Wildfowl Distribution Survey, fields near freekan lough	10/01/2021	14:22	Buzzard	1	improved agricultural grassland; perching, flying	KOC
BZ032	Wildfowl Distribution Survey, near stonestown (se)	26/01/2021	14:38	Buzzard	1	improved agricultural grassland; perching	KOC
BZ033	Wildfowl Distribution Survey, Crowinstown Great	09/02/2021	11:26	Buzzard	1	improved agricultural grassland; flying, gliding	KOC
K007	Wildfowl Distribution Survey, M.Carr's farmland	09/02/2021	12:45	Kestrel	1	improved agricultural grassland; flying	KOC
BZ034	Wildfowl Distribution Survey, M.Carr's farmland	09/02/2021	12:45	Buzzard	1	improved agricultural grassland; flying, chasing k, then flying away	KOC
	Wildfowl Distribution Survey, Newtown Lough	09/02/2021	13:10	Otter	1	eutrophic lakes; swimming, swimming in the lake	KOC
BZ035	Wildfowl Distribution Survey, farmland near Clonveran	09/02/2021	13:36	Buzzard	1	improved agricultural grassland; flying fast	KOC
BZ036	Wildfowl Distribution Survey, new plantation near Ballinlig	22/02/2021	10:31	Buzzard	1	immature woodland; flying	KOC
BZ037	Wildfowl Distribution Survey, small lake near the quarry	22/02/2021	11:31	Buzzard	1	eutrophic lakes and improved agricultural grassland; hunting, hunting, grabbed a small prey any flew off	KOC
	Wildfowl Distribution Survey, flying over n51	22/02/2021	12:51	Sparrowhawk	1	improved agricultural grassland; flying	KOC
PE001	Wildfowl Distribution Survey, 4	30/10/2020		Peregrine	1	improved agricultural grassland; terrestrial, flying	KOC
PE002	Wildfowl Distribution Survey, 2	13/11/2020		Peregrine	1	arable crops; terrestrial, circling over crop field	KOC
PE003	Wildfowl Distribution Survey, 5	26/11/2020		Peregrine	1	immature woodland; terrestrial, flying close to and around the lake	KOC

Table 11 Non-target Species Observations

Date	Survey	Species	Notes	Surveyor
09/05/2020	Vantage Point Survey, VP2	Sand Martin	flying, collecting mud	KOC
09/05/2020	Vantage Point Survey, VP2	Wood Pigeon	flying, perching	KOC
09/05/2020	Vantage Point Survey, VP2	Hooded Crow	flying	KOC
09/05/2020	Vantage Point Survey, VP2	Rook	flying	KOC
09/05/2020	Vantage Point Survey, VP2	Hooded Crow	flying, calling	KOC
09/05/2020	Vantage Point Survey, VP2	Starling	flying	KOC
09/05/2020	Vantage Point Survey, VP2	Mistle Thrush	flying	KOC
09/05/2020	Vantage Point Survey, VP2	Blackbird	perching, flying	KOC
09/05/2020	Vantage Point Survey, VP2	Wood Pigeon	flying	KOC
09/05/2020	Vantage Point Survey, VP2	Jackdaw	gliding	KOC
09/05/2020	Vantage Point Survey, VP2	Hooded Crow	flying	KOC
09/05/2020	Vantage Point Survey, VP2	Raven	flying, calling	KOC
09/05/2020	Vantage Point Survey, VP2	Barn Swallow	flying, calling	KOC
09/05/2020	Vantage Point Survey, VP2	Hooded Crow	flying	KOC
09/05/2020	Vantage Point Survey, VP2	Jackdaw	flying	KOC
09/05/2020	Vantage Point Survey, VP2	Hooded Crow	flying	KOC
09/05/2020	Vantage Point Survey, VP2	Jay	flying	KOC
09/05/2020	Vantage Point Survey, VP2	Jackdaw	flying	KOC
09/05/2020	Vantage Point Survey, VP2	Wood Pigeon	flying	KOC
09/05/2020	Vantage Point Survey, VP2	Jackdaw	flying, perching	KOC
09/05/2020	Vantage Point Survey, VP2	Wood Pigeon	flying, feeding on the grassland	KOC
09/05/2020	Vantage Point Survey, VP2	Jackdaw	flying	KOC
09/05/2020	Vantage Point Survey, VP2	Hooded Crow	flying	KOC
09/05/2020	Vantage Point Survey, VP2	Jackdaw	flying	KOC
09/05/2020	Vantage Point Survey, VP2	Wood Pigeon	flying	KOC
13/05/2020	Vantage Point Survey, VP2	Skylark	singing in flight	KOC

Date	Survey	Species	Notes	Surveyor
13/05/2020	Vantage Point Survey, VP3	Barn Swallow	flying low	KOC
13/05/2020	Vantage Point Survey, VP3	Jackdaw	flying	KOC
13/05/2020	Vantage Point Survey, VP3	Hooded Crow	flying	KOC
13/05/2020	Vantage Point Survey, VP3	Wood Pigeon	flying	KOC
13/05/2020	Vantage Point Survey, VP3	Jackdaw	flying,mobbed bz	KOC
13/05/2020	Vantage Point Survey, VP3	Barn Swallow	flying low	KOC
13/05/2020	Vantage Point Survey, VP3	Hooded Crow	flying	KOC
13/05/2020	Vantage Point Survey, VP3	Hooded Crow	flying	KOC
13/05/2020	Vantage Point Survey, VP3	Wood Pigeon	flying	KOC
13/05/2020	Vantage Point Survey, VP3	Hooded Crow	flying	KOC
13/05/2020	Vantage Point Survey, VP3	Wood Pigeon	flying	KOC
13/05/2020	Vantage Point Survey, VP3	Jackdaw	flying	KOC
13/05/2020	Vantage Point Survey, VP3	Barn Swallow	flying, calling	KOC
13/05/2020	Vantage Point Survey, VP3	Wood Pigeon	flying	KOC
13/05/2020	Vantage Point Survey, VP3	Jackdaw	flying	KOC
13/05/2020	Vantage Point Survey, VP3	Hooded Crow	flying, landing	KOC
13/05/2020	Vantage Point Survey, VP3	Barn Swallow	flying	KOC
13/05/2020	Vantage Point Survey, VP3	Wood Pigeon	flying	KOC
13/05/2020	Vantage Point Survey, VP3	Hooded Crow	flying	KOC
13/05/2020	Vantage Point Survey, VP3	Hooded Crow	flying	KOC
13/05/2020	Vantage Point Survey, VP3	Sand Martin	flying	KOC
13/05/2020	Vantage Point Survey, VP3	Magpie	flying, perching	KOC
13/05/2020	Vantage Point Survey, VP3	Greenfinch	flying, perching, calling	KOC
21/05/2020	Vantage Point Survey, VP1	Wood Pigeon	flying	KOC
21/05/2020	Vantage Point Survey, VP1	Jackdaw	flying	KOC
21/05/2020	Vantage Point Survey, VP1	Raven	circling	KOC



Date	Survey	Species	Notes	Surveyor
21/05/2020	Vantage Point Survey, VP1	Magpie	flying, perching	KOC
21/05/2020	Vantage Point Survey, VP1	Jackdaw	flying	KOC
21/05/2020	Vantage Point Survey, VP1	Rook	flying	KOC
21/05/2020	Vantage Point Survey, VP1	Jackdaw	flying	KOC
21/05/2020	Vantage Point Survey, VP1	Hooded Crow	mobbing bz	KOC
21/05/2020	Vantage Point Survey, VP1	Jackdaw	flying	KOC
21/05/2020	Vantage Point Survey, VP1	Rook	flying	KOC
21/05/2020	Vantage Point Survey, VP1	Jackdaw	gliding	KOC
21/05/2020	Vantage Point Survey, VP1	Rook	gliding, flying	KOC
21/05/2020	Vantage Point Survey, VP1	Jackdaw	gliding, circling	KOC
21/05/2020	Vantage Point Survey, VP1	Hooded Crow	flying	KOC
21/05/2020	Vantage Point Survey, VP1	Jackdaw	flying	KOC
21/05/2020	Vantage Point Survey, VP1	Wood Pigeon	flying	KOC
21/05/2020	Vantage Point Survey, VP1	Raven	gliding	KOC
21/05/2020	Vantage Point Survey, VP1	Hooded Crow	flying, perching	KOC
21/05/2020	Vantage Point Survey, VP1	Raven	circling	KOC
02/06/2020	Vantage Point Survey, VP3	Blackbird		KOC
02/06/2020	Vantage Point Survey, VP3	Hooded Crow		KOC
02/06/2020	Vantage Point Survey, VP3	Wood Pigeon		KOC
02/06/2020	Vantage Point Survey, VP3	Skylark		KOC
02/06/2020	Vantage Point Survey, VP3	Chaffinch		KOC
02/06/2020	Vantage Point Survey, VP3	Jackdaw		KOC
02/06/2020	Vantage Point Survey, VP3	Raven		KOC
02/06/2020	Vantage Point Survey, VP3	Song Thrush		KOC
02/06/2020	Vantage Point Survey, VP3	Barn Swallow		KOC
02/06/2020	Vantage Point Survey, VP3	Robin		KOC



Date	Survey	Species	Notes	Surveyor
02/06/2020	Vantage Point Survey, VP3	Wren		KOC
02/06/2020	Vantage Point Survey, VP3	Willow Warbler		KOC
02/06/2020	Vantage Point Survey, VP3	Meadow Pipit		KOC
02/06/2020	Vantage Point Survey, VP3	Swift		KOC
02/06/2020	Vantage Point Survey, VP3	Bullfinch		KOC
02/06/2020	Vantage Point Survey, VP3	Goldfinch		KOC
02/06/2020	Vantage Point Survey, VP3	Linnet		KOC
02/06/2020	Vantage Point Survey, VP3	Sand Martin		KOC
02/06/2020	Vantage Point Survey, VP3	Greenfinch		KOC
02/06/2020	Vantage Point Survey, VP3	House Martin		KOC
02/06/2020	Vantage Point Survey, VP3	Rook		KOC
08/06/2020	Vantage Point Survey, VP1	Jackdaw		KOC
08/06/2020	Vantage Point Survey, VP1	Hooded Crow		KOC
08/06/2020	Vantage Point Survey, VP1	Wood Pigeon		KOC
08/06/2020	Vantage Point Survey, VP1	Robin		KOC
08/06/2020	Vantage Point Survey, VP1	Barn Swallow		KOC
08/06/2020	Vantage Point Survey, VP1	Magpie		KOC
08/06/2020	Vantage Point Survey, VP1	Meadow Pipit		KOC
08/06/2020	Vantage Point Survey, VP1	Bullfinch		KOC
08/06/2020	Vantage Point Survey, VP1	Blackbird		KOC
08/06/2020	Vantage Point Survey, VP1	Wren		KOC
08/06/2020	Vantage Point Survey, VP1	Chiffchaff		KOC
08/06/2020	Vantage Point Survey, VP1	Raven		KOC
08/06/2020	Vantage Point Survey, VP1	House Martin		KOC
08/06/2020	Vantage Point Survey, VP1	Goldcrest		KOC
08/06/2020	Vantage Point Survey, VP1	Dunnock		KOC



Date	Survey	Species	Notes	Surveyor
08/06/2020	Vantage Point Survey, VP1	Song Thrush		KOC
09/06/2020	Vantage Point Survey, VP2	Sand Martin		KOC
09/06/2020	Vantage Point Survey, VP2	Barn Swallow		KOC
09/06/2020	Vantage Point Survey, VP2	Blackbird		KOC
09/06/2020	Vantage Point Survey, VP2	Wood Pigeon		KOC
09/06/2020	Vantage Point Survey, VP2	Jackdaw		KOC
09/06/2020	Vantage Point Survey, VP2	Chaffinch		KOC
09/06/2020	Vantage Point Survey, VP2	Robin		KOC
09/06/2020	Vantage Point Survey, VP2	Wren		KOC
09/06/2020	Vantage Point Survey, VP2	Goldcrest		KOC
09/06/2020	Vantage Point Survey, VP2	Song Thrush		KOC
09/06/2020	Vantage Point Survey, VP2	Rook		KOC
09/06/2020	Vantage Point Survey, VP2	Dunnock		KOC
09/06/2020	Vantage Point Survey, VP2	Swift		KOC
09/06/2020	Vantage Point Survey, VP2	Raven		KOC
09/06/2020	Vantage Point Survey, VP2	Hooded Crow		KOC
09/06/2020	Vantage Point Survey, VP2	Starling		KOC
09/06/2020	Vantage Point Survey, VP2	Mistle Thrush		KOC
09/06/2020	Vantage Point Survey, VP2	Linnet		KOC
09/06/2020	Vantage Point Survey, VP2	Chiffchaff		KOC
09/06/2020	Vantage Point Survey, VP2	Pied Wagtail		KOC
16/06/2020	Breeding Walkover Survey, 500m Survey Radius	Cuckoo	calling	KOC
25/06/2020	Breeding Walkover Survey, 500m Survey Radius	Sand Martin	flying, calling. breeding coloney in quarry	KOC
01/07/2020	Vantage Point Survey, VP3	Raven		KOC
01/07/2020	Vantage Point Survey, VP3	Skylark		KOC
01/07/2020	Vantage Point Survey, VP3	Goldfinch		KOC



Date	Survey	Species	Notes	Surveyor
01/07/2020	Vantage Point Survey, VP3	Hooded Crow		KOC
01/07/2020	Vantage Point Survey, VP3	Wren		KOC
01/07/2020	Vantage Point Survey, VP3	Robin		KOC
01/07/2020	Vantage Point Survey, VP3	Sedge Warbler		KOC
01/07/2020	Vantage Point Survey, VP3	Wood Pigeon		KOC
01/07/2020	Vantage Point Survey, VP3	Blackbird		KOC
01/07/2020	Vantage Point Survey, VP3	Starling		KOC
01/07/2020	Vantage Point Survey, VP3	House Martin		KOC
01/07/2020	Vantage Point Survey, VP3	Barn Swallow		KOC
01/07/2020	Vantage Point Survey, VP3	Song Thrush		KOC
01/07/2020	Vantage Point Survey, VP3	Jackdaw		KOC
01/07/2020	Vantage Point Survey, VP3	Duncock		KOC
01/07/2020	Vantage Point Survey, VP3	Linnet		KOC
01/07/2020	Vantage Point Survey, VP3	Meadow Pipit		KOC
01/07/2020	Vantage Point Survey, VP3	Rook		KOC
21/07/2020	Vantage Point Survey, VP2	Sand Martin		KOC
21/07/2020	Vantage Point Survey, VP2	Goldfinch		KOC
21/07/2020	Vantage Point Survey, VP2	Wren		KOC
21/07/2020	Vantage Point Survey, VP2	Rook		KOC
21/07/2020	Vantage Point Survey, VP2	Wood Pigeon		KOC
21/07/2020	Vantage Point Survey, VP2	Chaffinch		KOC
21/07/2020	Vantage Point Survey, VP2	Bullfinch		KOC
21/07/2020	Vantage Point Survey, VP2	Jackdaw		KOC
21/07/2020	Vantage Point Survey, VP2	Magpie		KOC
21/07/2020	Vantage Point Survey, VP2	Song Thrush		KOC
21/07/2020	Vantage Point Survey, VP2	Linnet		KOC



Date	Survey	Species	Notes	Surveyor
21/07/2020	Vantage Point Survey, VP2	Mistle Thrush		KOC
21/07/2020	Vantage Point Survey, VP2	Hooded Crow		KOC
21/07/2020	Vantage Point Survey, VP2	Blackbird		KOC
21/07/2020	Vantage Point Survey, VP2	Barn Swallow		KOC
21/07/2020	Vantage Point Survey, VP2	Raven		KOC
21/07/2020	Vantage Point Survey, VP2	Dunnock		KOC
21/07/2020	Vantage Point Survey, VP2	Starling		KOC
30/07/2020	Vantage Point Survey, VP1	House Martin		KOC
30/07/2020	Vantage Point Survey, VP1	Jackdaw		KOC
30/07/2020	Vantage Point Survey, VP1	Wood Pigeon		KOC
30/07/2020	Vantage Point Survey, VP1	Willow Warbler		KOC
30/07/2020	Vantage Point Survey, VP1	Goldfinch		KOC
30/07/2020	Vantage Point Survey, VP1	Wren		KOC
30/07/2020	Vantage Point Survey, VP1	Raven		KOC
30/07/2020	Vantage Point Survey, VP1	Sand Martin		KOC
30/07/2020	Vantage Point Survey, VP1	Barn Swallow		KOC
30/07/2020	Vantage Point Survey, VP1	Hooded Crow		KOC
30/07/2020	Vantage Point Survey, VP1	Swift		KOC
30/07/2020	Vantage Point Survey, VP1	Mistle Thrush		KOC
30/07/2020	Vantage Point Survey, VP1	Robin		KOC
30/07/2020	Vantage Point Survey, VP1	Blackbird		KOC
30/07/2020	Vantage Point Survey, VP1	Linnet		KOC
30/07/2020	Vantage Point Survey, VP1	Dunnock		KOC
04/07/2020	Vantage Point Survey, VP1	Hooded Crow	seen throughout the survey	AM
04/07/2020	Vantage Point Survey, VP1	Wood Pigeon	seen throughout the survey.	AM
04/07/2020	Vantage Point Survey, VP1	Starling	seen in one group. approx. number	AM

Date	Survey	Species	Notes	Surveyor
04/07/2020	Vantage Point Survey, VP1	Robin	seen throughout the survey.	AM
04/07/2020	Vantage Point Survey, VP1	Pied Wagtail		AM
04/07/2020	Vantage Point Survey, VP1	House Sparrow	seen throughout the survey	AM
04/07/2020	Vantage Point Survey, VP1	Greenfinch		AM
04/07/2020	Vantage Point Survey, VP1	Jackdaw		AM
04/07/2020	Vantage Point Survey, VP1	Barn Swallow		AM
04/07/2020	Vantage Point Survey, VP1	House Martin	seen throughout the survey.	AM
04/07/2020	Vantage Point Survey, VP1	Rook	seen throughout the survey.	AM
04/07/2020	Vantage Point Survey, VP1	Feral Pigeon		AM
04/07/2020	Vantage Point Survey, VP1	Chaffinch	2 male 2 female.	AM
04/07/2020	Vantage Point Survey, VP1	Bullfinch	male and female sitting on fence.	AM
04/07/2020	Vantage Point Survey, VP1	Blackbird		AM
18/07/2020	Vantage Point Survey, VP2	Rook	seen in one group flying over site.	AM
18/07/2020	Vantage Point Survey, VP2	Blackbird	female and male blackbird.	AM
18/07/2020	Vantage Point Survey, VP2	Wood Pigeon	seen throughout the survey.	AM
18/07/2020	Vantage Point Survey, VP2	Starling		AM
18/07/2020	Vantage Point Survey, VP2	House Martin		AM
18/07/2020	Vantage Point Survey, VP2	Wren		AM
19/07/2020	Vantage Point Survey, VP3	Rook	seen throughout the survey.	AM
19/07/2020	Vantage Point Survey, VP3	Wood Pigeon		AM
19/07/2020	Vantage Point Survey, VP3	Blackbird	seen throughout the survey.	AM
19/07/2020	Vantage Point Survey, VP3	Starling	seen throughout the survey.	AM
19/07/2020	Vantage Point Survey, VP3	House Martin	seen throughout the survey.	AM
06/08/2020	Vantage Point Survey, VP2	House Martin		KOC
06/08/2020	Vantage Point Survey, VP2	Sand Martin		KOC
06/08/2020	Vantage Point Survey, VP2	Barn Swallow		KOC



Date	Survey	Species	Notes	Surveyor
06/08/2020	Vantage Point Survey, VP2	Hooded Crow		KOC
06/08/2020	Vantage Point Survey, VP2	Bullfinch		KOC
06/08/2020	Vantage Point Survey, VP2	Linnet		KOC
06/08/2020	Vantage Point Survey, VP2	Chaffinch		KOC
06/08/2020	Vantage Point Survey, VP2	Jackdaw		KOC
06/08/2020	Vantage Point Survey, VP2	Wood Pigeon		KOC
06/08/2020	Vantage Point Survey, VP2	Rook		KOC
06/08/2020	Vantage Point Survey, VP2	Song Thrush		KOC
06/08/2020	Vantage Point Survey, VP2	Mistle Thrush		KOC
06/08/2020	Vantage Point Survey, VP2	Raven		KOC
06/08/2020	Vantage Point Survey, VP2	Starling		KOC
11/08/2020	Vantage Point Survey, VP1	Wood Pigeon		KOC
11/08/2020	Vantage Point Survey, VP1	Rook		KOC
11/08/2020	Vantage Point Survey, VP1	Jackdaw		KOC
11/08/2020	Vantage Point Survey, VP1	Goldfinch		KOC
11/08/2020	Vantage Point Survey, VP1	Chaffinch		KOC
11/08/2020	Vantage Point Survey, VP1	Robin		KOC
11/08/2020	Vantage Point Survey, VP1	Starling		KOC
11/08/2020	Vantage Point Survey, VP1	Barn Swallow		KOC
11/08/2020	Vantage Point Survey, VP1	Raven		KOC
11/08/2020	Vantage Point Survey, VP1	Hooded Crow		KOC
11/08/2020	Vantage Point Survey, VP1	Great Tit		KOC
11/08/2020	Vantage Point Survey, VP1	Wren		KOC
11/08/2020	Vantage Point Survey, VP1	Linnet		KOC
11/08/2020	Vantage Point Survey, VP1	Bullfinch		KOC
11/08/2020	Vantage Point Survey, VP1	Song Thrush		KOC

Date	Survey	Species	Notes	Surveyor
11/08/2020	Vantage Point Survey, VP1	House Martin		KOC
11/08/2020	Vantage Point Survey, VP1	Sand Martin		KOC
11/08/2020	Vantage Point Survey, VP1	Bullfinch		KOC
13/08/2020	Vantage Point Survey, VP3	Starling		KOC
13/08/2020	Vantage Point Survey, VP3	Barn Swallow		KOC
13/08/2020	Vantage Point Survey, VP3	Sand Martin		KOC
13/08/2020	Vantage Point Survey, VP3	Raven		KOC
13/08/2020	Vantage Point Survey, VP3	Goldfinch		KOC
13/08/2020	Vantage Point Survey, VP3	Wood Pigeon		KOC
13/08/2020	Vantage Point Survey, VP3	Robin		KOC
13/08/2020	Vantage Point Survey, VP3	Jackdaw		KOC
13/08/2020	Vantage Point Survey, VP3	Hooded Crow		KOC
13/08/2020	Vantage Point Survey, VP3	Stonechat		KOC
13/08/2020	Vantage Point Survey, VP3	Rook	c. 245 ro commuting through site to roost	KOC
13/08/2020	Vantage Point Survey, VP3	Bullfinch		KOC
13/08/2020	Vantage Point Survey, VP3	Linnet	over 300 feeding, flying together	KOC
13/08/2020	Vantage Point Survey, VP3	Wren		KOC
13/08/2020	Vantage Point Survey, VP3	Goldcrest		KOC
13/08/2020	Vantage Point Survey, VP3	Chaffinch		KOC
21/09/2020	Vantage Point Survey, VP1	Robin		PC
21/09/2020	Vantage Point Survey, VP1	Wren		PC
21/09/2020	Vantage Point Survey, VP1	Goldfinch		PC
21/09/2020	Vantage Point Survey, VP1	Chaffinch		PC
21/09/2020	Vantage Point Survey, VP1	Greenfinch		PC
21/09/2020	Vantage Point Survey, VP1	Starling		PC
21/09/2020	Vantage Point Survey, VP1	Barn Swallow		PC



Date	Survey	Species	Notes	Surveyor
21/09/2020	Vantage Point Survey, VP1	Meadow Pipit		PC
21/09/2020	Vantage Point Survey, VP1	Dunnock		PC
21/09/2020	Vantage Point Survey, VP1	Blue Tit		PC
21/09/2020	Vantage Point Survey, VP1	Linnet		PC
21/09/2020	Vantage Point Survey, VP1	Skylark		PC
21/09/2020	Vantage Point Survey, VP1	Magpie		PC
21/09/2020	Vantage Point Survey, VP1	Long-tailed Tit		PC
21/09/2020	Vantage Point Survey, VP1	Hooded Crow		PC
21/09/2020	Vantage Point Survey, VP1	Jackdaw		PC
21/09/2020	Vantage Point Survey, VP1	Blackbird		PC
21/09/2020	Vantage Point Survey, VP1	Wood Pigeon		PC
22/09/2020	Vantage Point Survey, VP3	Raven		PC
22/09/2020	Vantage Point Survey, VP3	Robin		PC
22/09/2020	Vantage Point Survey, VP3	Meadow Pipit		PC
22/09/2020	Vantage Point Survey, VP3	Rook		PC
22/09/2020	Vantage Point Survey, VP3	Wood Pigeon		PC
22/09/2020	Vantage Point Survey, VP3	Jackdaw		PC
22/09/2020	Vantage Point Survey, VP3	Blue Tit		PC
22/09/2020	Vantage Point Survey, VP3	Hooded Crow		PC
22/09/2020	Vantage Point Survey, VP3	Goldfinch		PC
22/09/2020	Vantage Point Survey, VP3	Chaffinch		PC
22/09/2020	Vantage Point Survey, VP3	Mistle Thrush		PC
22/09/2020	Vantage Point Survey, VP3	Linnet		PC
22/09/2020	Vantage Point Survey, VP3	Starling		PC
22/09/2020	Vantage Point Survey, VP3	Great Tit		PC
22/09/2020	Vantage Point Survey, VP3	Magpie		PC



Date	Survey	Species	Notes	Surveyor
22/09/2020	Vantage Point Survey, VP3	Barn Swallow		PC
22/09/2020	Vantage Point Survey, VP3	House Martin		PC
25/09/2020	Vantage Point Survey, VP2	Raven		PC
25/09/2020	Vantage Point Survey, VP2	Rook		PC
25/09/2020	Vantage Point Survey, VP2	Chaffinch		PC
25/09/2020	Vantage Point Survey, VP2	Long-tailed Tit		PC
25/09/2020	Vantage Point Survey, VP2	Robin		PC
25/09/2020	Vantage Point Survey, VP2	Reed Bunting		PC
25/09/2020	Vantage Point Survey, VP2	Chiffchaff		PC
25/09/2020	Vantage Point Survey, VP2	Barn Swallow		PC
25/09/2020	Vantage Point Survey, VP2	Blackbird		PC
25/09/2020	Vantage Point Survey, VP2	Blue Tit		PC
25/09/2020	Vantage Point Survey, VP2	Meadow Pipit		PC
25/09/2020	Vantage Point Survey, VP2	Mistle Thrush		PC
25/09/2020	Vantage Point Survey, VP2	Wren		PC
25/09/2020	Vantage Point Survey, VP2	#N/A		PC
25/09/2020	Vantage Point Survey, VP2	Skylark		PC
25/09/2020	Vantage Point Survey, VP2	Starling		PC
25/09/2020	Vantage Point Survey, VP2	Wood Pigeon		PC
25/09/2020	Vantage Point Survey, VP2	House Martin		PC
25/09/2020	Vantage Point Survey, VP2	Goldfinch		PC
25/09/2020	Vantage Point Survey, VP2	Hooded Crow		PC
25/09/2020	Vantage Point Survey, VP2	Jay		PC
25/09/2020	Vantage Point Survey, VP2	Linnet		PC
06/10/2020	Vantage Point Survey, VP3	Raven	1+	KOC
06/10/2020	Vantage Point Survey, VP3	Skylark	1+	KOC



Date	Survey	Species	Notes	Surveyor
06/10/2020	Vantage Point Survey, VP3	Rook	1+	KOC
06/10/2020	Vantage Point Survey, VP3	Song Thrush	1+	KOC
06/10/2020	Vantage Point Survey, VP3	Barn Swallow	1+	KOC
06/10/2020	Vantage Point Survey, VP3	Linnet	1+	KOC
06/10/2020	Vantage Point Survey, VP3	Starling	1+	KOC
06/10/2020	Vantage Point Survey, VP3	Magpie	1+	KOC
06/10/2020	Vantage Point Survey, VP3	Hooded Crow	1+	KOC
06/10/2020	Vantage Point Survey, VP3	Great Tit	1+	KOC
06/10/2020	Vantage Point Survey, VP3	Bullfinch	1+	KOC
06/10/2020	Vantage Point Survey, VP3	Dunnock	1+	KOC
06/10/2020	Vantage Point Survey, VP3	Goldfinch	1+	KOC
06/10/2020	Vantage Point Survey, VP3	Wren	1+	KOC
06/10/2020	Vantage Point Survey, VP3	Magpie	1+	KOC
06/10/2020	Vantage Point Survey, VP3	Blackbird	1+	KOC
06/10/2020	Vantage Point Survey, VP3	Collared Dove	1+	KOC
06/10/2020	Vantage Point Survey, VP3	Jackdaw	1+	KOC
06/10/2020	Vantage Point Survey, VP3	Wood Pigeon	1+	KOC
13/10/2020	Vantage Point Survey, VP1	Jackdaw	1+	KOC
13/10/2020	Vantage Point Survey, VP1	Hooded Crow	1+	KOC
13/10/2020	Vantage Point Survey, VP1	Starling	1+	KOC
13/10/2020	Vantage Point Survey, VP1	Linnet	1+	KOC
13/10/2020	Vantage Point Survey, VP1	Goldfinch	1+	KOC
13/10/2020	Vantage Point Survey, VP1	Rook	1+	KOC
13/10/2020	Vantage Point Survey, VP1	Wren	1+	KOC
13/10/2020	Vantage Point Survey, VP1	Wood Pigeon	1+	KOC
13/10/2020	Vantage Point Survey, VP1	Blackbird	1+	KOC



Date	Survey	Species	Notes	Surveyor
13/10/2020	Vantage Point Survey, VP1	Magpie	1+	KOC
13/10/2020	Vantage Point Survey, VP1	Pied Wagtail	1+	KOC
26/10/2020	Vantage Point Survey, VP2	Wood Pigeon	1+	KOC
26/10/2020	Vantage Point Survey, VP2	Blackbird	1+	KOC
26/10/2020	Vantage Point Survey, VP2	Chaffinch	1+	KOC
26/10/2020	Vantage Point Survey, VP2	Starling	1+	KOC
26/10/2020	Vantage Point Survey, VP2	Jackdaw	1+	KOC
26/10/2020	Vantage Point Survey, VP2	Hooded Crow	1+	KOC
26/10/2020	Vantage Point Survey, VP2	Redwing	1+	KOC
26/10/2020	Vantage Point Survey, VP2	Fieldfare	1+	KOC
26/10/2020	Vantage Point Survey, VP2	Pied Wagtail	1+	KOC
26/10/2020	Vantage Point Survey, VP2	Jay	1+	KOC
26/10/2020	Vantage Point Survey, VP2	Mistle Thrush	1+	KOC
26/10/2020	Vantage Point Survey, VP2	Rook	1+	KOC
26/10/2020	Vantage Point Survey, VP2	Song Thrush	1+	KOC
26/10/2020	Vantage Point Survey, VP2	Raven	1+	KOC
26/10/2020	Vantage Point Survey, VP2	Linnet	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Blackbird	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Robin	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Wren	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Chaffinch	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Magpie	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Song Thrush	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Mistle Thrush	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Hooded Crow	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Bullfinch	1+	KOC



Date	Survey	Species	Notes	Surveyor
10/11/2020	Vantage Point Survey, VP3	Wood Pigeon	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Starling	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Jackdaw	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Pied Wagtail	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Linnet	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Raven	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Fieldfare	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Skylark	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Blue Tit	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Redwing	1+	KOC
10/11/2020	Vantage Point Survey, VP3	Rook	1+	KOC
17/11/2020	Vantage Point Survey, VP2	Wren	1+	KOC
17/11/2020	Vantage Point Survey, VP2	Robin	1+	KOC
17/11/2020	Vantage Point Survey, VP2	Blackbird	1+	KOC
17/11/2020	Vantage Point Survey, VP2	Jackdaw	1+	KOC
17/11/2020	Vantage Point Survey, VP2	Wood Pigeon	1+	KOC
17/11/2020	Vantage Point Survey, VP2	Hooded Crow	1+	KOC
17/11/2020	Vantage Point Survey, VP2	Song Thrush	1+	KOC
17/11/2020	Vantage Point Survey, VP2	Rook	1+	KOC
17/11/2020	Vantage Point Survey, VP2	Starling	1+	KOC
17/11/2020	Vantage Point Survey, VP2	Raven	1+	KOC
17/11/2020	Vantage Point Survey, VP2	Chaffinch	1+	KOC
17/11/2020	Vantage Point Survey, VP2	Linnet	1+	KOC
17/11/2020	Vantage Point Survey, VP2	Bullfinch	1+	KOC
17/11/2020	Vantage Point Survey, VP2	Pied Wagtail	1+	KOC
17/11/2020	Vantage Point Survey, VP2	Jay	1+	KOC

Date	Survey	Species	Notes	Surveyor
17/11/2020	Vantage Point Survey, VP2	Long-tailed Tit	1+	KOC
17/11/2020	Vantage Point Survey, VP2	Magpie	1+	KOC
17/11/2020	Vantage Point Survey, VP2	Skylark	1+	KOC
23/11/2020	Vantage Point Survey, VP1	Robin	1+	KOC
23/11/2020	Vantage Point Survey, VP1	Blackbird	1+	KOC
23/11/2020	Vantage Point Survey, VP1	Wren	1+	KOC
23/11/2020	Vantage Point Survey, VP1	Hooded Crow	1+	KOC
23/11/2020	Vantage Point Survey, VP1	Bullfinch	1+	KOC
23/11/2020	Vantage Point Survey, VP1	Jackdaw	1+	KOC
23/11/2020	Vantage Point Survey, VP1	Rook	1+	KOC
23/11/2020	Vantage Point Survey, VP1	Starling	1+	KOC
23/11/2020	Vantage Point Survey, VP1	Pied Wagtail	1+	KOC
23/11/2020	Vantage Point Survey, VP1	Wood Pigeon	1+	KOC
23/11/2020	Vantage Point Survey, VP1	Raven	1+	KOC
23/11/2020	Vantage Point Survey, VP1	Linnet	1+	KOC
23/11/2020	Vantage Point Survey, VP1	Mistle Thrush	1+	KOC
23/11/2020	Vantage Point Survey, VP1	Great Tit	1+	KOC
23/11/2020	Vantage Point Survey, VP1	Song Thrush	1+	KOC
23/11/2020	Vantage Point Survey, VP1	Goldfinch	1+	KOC
23/11/2020	Vantage Point Survey, VP1	Skylark	1+	KOC
23/11/2020	Vantage Point Survey, VP1	Meadow Pipit	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Jackdaw	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Starling	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Blackbird	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Robin	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Linnet	1+	KOC



Date	Survey	Species	Notes	Surveyor
11/12/2020	Vantage Point Survey, VP1	Rook	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Song Thrush	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Wood Pigeon	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Pied Wagtail	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Magpie	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Goldfinch	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Raven	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Dunnock	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Meadow Pipit	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Wren	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Hooded Crow	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Mistle Thrush	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Rook	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Wood Pigeon	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Blackbird	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Jackdaw	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Starling	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Jay	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Song Thrush	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Magpie	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Skylark	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Great Tit	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Raven	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Redwing	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Fieldfare	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Chaffinch	1+	KOC

Date	Survey	Species	Notes	Surveyor
15/12/2020	Vantage Point Survey, VP2	Siskin	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Rook	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Grey Wagtail	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Starling	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Hooded Crow	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Collared Dove	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Chaffinch	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Pied Wagtail	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Magpie	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Linnet	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Fieldfare	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Raven	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Bullfinch	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Goldfinch	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Wood Pigeon	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Wren	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Robin	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Blackbird	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Jackdaw	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Starling	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Blackbird	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Robin	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Linnet	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Rook	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Song Thrush	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Wood Pigeon	1+	KOC

Date	Survey	Species	Notes	Surveyor
11/12/2020	Vantage Point Survey, VP1	Pied Wagtail	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Magpie	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Goldfinch	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Raven	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Dunnoek	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Meadow Pipit	1+	KOC
11/12/2020	Vantage Point Survey, VP1	Wren	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Hooded Crow	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Mistle Thrush	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Rook	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Wood Pigeon	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Blackbird	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Jackdaw	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Starling	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Jay	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Song Thrush	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Magpie	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Skylark	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Great Tit	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Raven	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Redwing	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Fieldfare	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Chaffinch	1+	KOC
15/12/2020	Vantage Point Survey, VP2	Siskin	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Rook	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Grey Wagtail	1+	KOC

Date	Survey	Species	Notes	Surveyor
21/12/2020	Vantage Point Survey, VP3	Starling	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Hooded Crow	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Collared Dove	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Chaffinch	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Pied Wagtail	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Magpie	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Linnet	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Fieldfare	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Raven	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Bullfinch	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Goldfinch	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Wood Pigeon	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Wren	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Robin	1+	KOC
21/12/2020	Vantage Point Survey, VP3	Blackbird	1+	KOC
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Blackbird		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Jackdaw		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Rook		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Robin		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Chaffinch		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Blue Tit		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Great Tit		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Coal Tit		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Goldcrest		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Wood Pigeon		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Hooded Crow		DM

Date	Survey	Species	Notes	Surveyor
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Goldfinch		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Reed Bunting		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Fieldfare		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Redwing		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Pied Wagtail		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Pheasant		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Song Thrush		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Starling		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Wren		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Dunnoek		DM
21/01/2021	Winter Walkover Survey, 500m Survey Radius	Raven		DM
21/01/2021	Vantage Point Survey, VP3	Rook		NM
21/01/2021	Vantage Point Survey, VP3	Long-tailed Tit		NM
21/01/2021	Vantage Point Survey, VP3	Blackbird		NM
21/01/2021	Vantage Point Survey, VP3	Great Tit		NM
21/01/2021	Vantage Point Survey, VP3	Hooded Crow		NM
21/01/2021	Vantage Point Survey, VP3	Rook		NM
21/01/2021	Vantage Point Survey, VP3	Jackdaw		NM
21/01/2021	Vantage Point Survey, VP3	Rook		NM
21/01/2021	Vantage Point Survey, VP3	Robin		NM
21/01/2021	Vantage Point Survey, VP3	Wren		NM
21/01/2021	Vantage Point Survey, VP3	Chiffchaff		NM
21/01/2021	Vantage Point Survey, VP3	Chaffinch		NM
21/01/2021	Vantage Point Survey, VP3	Blackbird		NM
21/01/2021	Vantage Point Survey, VP3	Wood Pigeon		NM
21/01/2021	Vantage Point Survey, VP3	Magpie		NM



Date	Survey	Species	Notes	Surveyor
21/01/2021	Vantage Point Survey, VP3	Chaffinch		NM
21/01/2021	Vantage Point Survey, VP3	Goldcrest		NM
21/01/2021	Vantage Point Survey, VP3	Song Thrush		NM
21/01/2021	Vantage Point Survey, VP3	Wood Pigeon		NM
21/01/2021	Vantage Point Survey, VP3	Wren		NM
21/01/2021	Vantage Point Survey, VP3	Magpie		NM
21/01/2021	Vantage Point Survey, VP3	Rook		NM
21/01/2021	Vantage Point Survey, VP3	Blue Tit		NM
21/01/2021	Vantage Point Survey, VP3	Goldfinch		NM
21/01/2021	Vantage Point Survey, VP3	Jackdaw		NM
21/01/2021	Vantage Point Survey, VP3	Hooded Crow		NM
21/01/2021	Vantage Point Survey, VP3	Magpie		NM
21/01/2021	Vantage Point Survey, VP3	Robin		NM
21/01/2021	Vantage Point Survey, VP3	Dunnock		NM
21/01/2021	Vantage Point Survey, VP3	Blue Tit		NM
21/01/2021	Vantage Point Survey, VP3	Chaffinch		NM
21/01/2021	Vantage Point Survey, VP3	Magpie		NM
21/01/2021	Vantage Point Survey, VP3	Mistle Thrush		NM
21/01/2021	Vantage Point Survey, VP3	Song Thrush		NM
21/01/2021	Vantage Point Survey, VP3	Starling		NM
21/01/2021	Vantage Point Survey, VP3	Rook		NM
21/01/2021	Vantage Point Survey, VP3	Jackdaw		NM
21/01/2021	Vantage Point Survey, VP3	Rook		NM
21/01/2021	Vantage Point Survey, VP3	Robin		NM
21/01/2021	Vantage Point Survey, VP3	Blue Tit		NM
21/01/2021	Vantage Point Survey, VP3	Song Thrush		NM

Date	Survey	Species	Notes	Surveyor
21/01/2021	Vantage Point Survey, VP3	Wren		NM
21/01/2021	Vantage Point Survey, VP3	Magpie		NM
21/01/2021	Vantage Point Survey, VP3	Jackdaw		NM
21/01/2021	Vantage Point Survey, VP3	Collared Dove		NM
21/01/2021	Vantage Point Survey, VP3	Magpie		NM
21/01/2021	Vantage Point Survey, VP3	Rook		NM
21/01/2021	Vantage Point Survey, VP3	Robin		NM
21/01/2021	Vantage Point Survey, VP3	Blackbird		NM
21/01/2021	Vantage Point Survey, VP3	Magpie		NM
21/01/2021	Vantage Point Survey, VP3	Jackdaw		NM
21/01/2021	Vantage Point Survey, VP3	Starling		NM
21/01/2021	Vantage Point Survey, VP3	Raven		NM
21/01/2021	Vantage Point Survey, VP3	Redwing		NM
13/01/2021	Vantage Point Survey, VP1	Jackdaw		PT
13/01/2021	Vantage Point Survey, VP1	Rook		PT
13/01/2021	Vantage Point Survey, VP1	Wren		PT
13/01/2021	Vantage Point Survey, VP1	Pied Wagtail		PT
13/01/2021	Vantage Point Survey, VP1	Magpie		PT
13/01/2021	Vantage Point Survey, VP1	Blackbird		PT
13/01/2021	Vantage Point Survey, VP1	Robin		PT
13/01/2021	Vantage Point Survey, VP1	Starling		PT
13/01/2021	Vantage Point Survey, VP1	Raven		PT
13/01/2021	Vantage Point Survey, VP1	Dunnoek		PT
13/01/2021	Vantage Point Survey, VP1	Hooded Crow		PT
13/01/2021	Vantage Point Survey, VP1	Chaffinch		PT
13/01/2021	Vantage Point Survey, VP1	Blue Tit		PT

Date	Survey	Species	Notes	Surveyor
13/01/2021	Vantage Point Survey, VP1	Meadow Pipit		PT
13/01/2021	Vantage Point Survey, VP1	Mistle Thrush		PT
13/01/2021	Vantage Point Survey, VP1	Skylark		PT
13/01/2021	Vantage Point Survey, VP1	Wood Pigeon		PT
13/01/2021	Vantage Point Survey, VP1	Redwing		PT
13/01/2021	Vantage Point Survey, VP1	Goldcrest		PT
14/01/2021	Vantage Point Survey, VP2	Jackdaw		PT
14/01/2021	Vantage Point Survey, VP2	Wood Pigeon		PT
14/01/2021	Vantage Point Survey, VP2	Raven		PT
14/01/2021	Vantage Point Survey, VP2	Starling		PT
14/01/2021	Vantage Point Survey, VP2	Redwing		PT
14/01/2021	Vantage Point Survey, VP2	Bullfinch		PT
14/01/2021	Vantage Point Survey, VP2	Rook		PT
14/01/2021	Vantage Point Survey, VP2	Hooded Crow		PT
14/01/2021	Vantage Point Survey, VP2	Chaffinch		PT
14/01/2021	Vantage Point Survey, VP2	Mistle Thrush		PT
14/01/2021	Vantage Point Survey, VP2	Pied Wagtail		PT
14/01/2021	Vantage Point Survey, VP2	Coal Tit		PT
14/01/2021	Vantage Point Survey, VP2	Blackbird		PT
14/01/2021	Vantage Point Survey, VP2	Blue Tit		PT
14/01/2021	Vantage Point Survey, VP2	Robin		PT
14/01/2021	Vantage Point Survey, VP2	Great Tit		PT
14/01/2021	Vantage Point Survey, VP2	Jay		PT
14/01/2021	Vantage Point Survey, VP2	Skylark		PT
14/01/2021	Vantage Point Survey, VP2	Song Thrush		PT
14/01/2021	Vantage Point Survey, VP2	Meadow Pipit		PT

Date	Survey	Species	Notes	Surveyor
14/01/2021	Vantage Point Survey, VP2	Lesser Redpoll		PT
14/01/2021	Vantage Point Survey, VP2	Magpie		PT
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Starling	dominating species, flocks everywhere	KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Jackdaw		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Chaffinch		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Robin		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Redwing		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Fieldfare		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Rook		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	House Sparrow		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Great Tit		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Magpie		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Collared Dove		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Mistle Thrush		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Dunnock		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Wren		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Blackbird		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Blue Tit		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Long-tailed Tit		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Linnet		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Wood Pigeon		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Coal Tit		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Hooded Crow		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Song Thrush		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Goldcrest		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Garden Warbler		KOC

Date	Survey	Species	Notes	Surveyor
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Bullfinch		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Jay		KOC
15/02/2021	Winter Walkover Survey, 500m Survey Radius	Meadow Pipit		KOC
16/02/2021	Vantage Point Survey, VP2	Rook		PT
16/02/2021	Vantage Point Survey, VP2	Wood Pigeon		PT
16/02/2021	Vantage Point Survey, VP2	Chaffinch		PT
16/02/2021	Vantage Point Survey, VP2	Starling		PT
16/02/2021	Vantage Point Survey, VP2	Great Tit		PT
16/02/2021	Vantage Point Survey, VP2	Long-tailed Tit		PT
16/02/2021	Vantage Point Survey, VP2	Hooded Crow		PT
16/02/2021	Vantage Point Survey, VP2	Robin		PT
16/02/2021	Vantage Point Survey, VP2	Jackdaw		PT
16/02/2021	Vantage Point Survey, VP2	Blackbird		PT
16/02/2021	Vantage Point Survey, VP2	Mistle Thrush		PT
16/02/2021	Vantage Point Survey, VP2	Song Thrush		PT
16/02/2021	Vantage Point Survey, VP2	Redwing		PT
16/02/2021	Vantage Point Survey, VP2	Jay		PT
16/02/2021	Vantage Point Survey, VP2	Pied Wagtail		PT
17/02/2021	Vantage Point Survey, VP1	Jackdaw		PT
17/02/2021	Vantage Point Survey, VP1	Starling		PT
17/02/2021	Vantage Point Survey, VP1	Raven		PT
17/02/2021	Vantage Point Survey, VP1	Goldfinch		PT
17/02/2021	Vantage Point Survey, VP1	Wren		PT
17/02/2021	Vantage Point Survey, VP1	Wood Pigeon		PT
17/02/2021	Vantage Point Survey, VP1	Magpie		PT
17/02/2021	Vantage Point Survey, VP1	Pied Wagtail		PT

Date	Survey	Species	Notes	Surveyor
17/02/2021	Vantage Point Survey, VP1	Meadow Pipit		PT
17/02/2021	Vantage Point Survey, VP1	Mistle Thrush		PT
17/02/2021	Vantage Point Survey, VP1	Hooded Crow		PT
17/02/2021	Vantage Point Survey, VP1	Robin		PT
17/02/2021	Vantage Point Survey, VP1	Dunnock		PT
17/02/2021	Vantage Point Survey, VP1	Blackbird		PT
17/02/2021	Vantage Point Survey, VP1	Rook		PT
17/02/2021	Vantage Point Survey, VP1	Song Thrush		PT
25/02/2021	Vantage Point Survey, VP3	Starling		PT
25/02/2021	Vantage Point Survey, VP3	Hooded Crow		PT
25/02/2021	Vantage Point Survey, VP3	Song Thrush		PT
25/02/2021	Vantage Point Survey, VP3	#N/A		PT
25/02/2021	Vantage Point Survey, VP3	Robin		PT
25/02/2021	Vantage Point Survey, VP3	Magpie		PT
25/02/2021	Vantage Point Survey, VP3	Raven		PT
25/02/2021	Vantage Point Survey, VP3	Great Tit		PT
25/02/2021	Vantage Point Survey, VP3	Grey Wagtail	low over vp	PT
25/02/2021	Vantage Point Survey, VP3	Wood Pigeon		PT
25/02/2021	Vantage Point Survey, VP3	Chaffinch		PT
25/02/2021	Vantage Point Survey, VP3	Pied Wagtail		PT
25/02/2021	Vantage Point Survey, VP3	Jackdaw		PT
25/02/2021	Vantage Point Survey, VP3	Fieldfare		PT
25/02/2021	Vantage Point Survey, VP3	Meadow Pipit		PT
25/02/2021	Vantage Point Survey, VP3	Wren		PT
25/02/2021	Vantage Point Survey, VP3	Blackbird		PT
25/02/2021	Vantage Point Survey, VP3	Rook		PT

Date	Survey	Species	Notes	Surveyor
19/03/2021	Vantage Point Survey, VP2	Song Thrush		PT
19/03/2021	Vantage Point Survey, VP2	Blackbird		PT
19/03/2021	Vantage Point Survey, VP2	Wren		PT
19/03/2021	Vantage Point Survey, VP2	Dunnock		PT
19/03/2021	Vantage Point Survey, VP2	Robin		PT
19/03/2021	Vantage Point Survey, VP2	Hooded Crow		PT
19/03/2021	Vantage Point Survey, VP2	Wood Pigeon		PT
19/03/2021	Vantage Point Survey, VP2	Redwing		PT
19/03/2021	Vantage Point Survey, VP2	Jackdaw		PT
19/03/2021	Vantage Point Survey, VP2	Chaffinch		PT
19/03/2021	Vantage Point Survey, VP2	Starling		PT
19/03/2021	Vantage Point Survey, VP2	Rook		PT
19/03/2021	Vantage Point Survey, VP2	Meadow Pipit	display flight in quarry	PT
19/03/2021	Vantage Point Survey, VP2	Magpie		PT
19/03/2021	Vantage Point Survey, VP2	Greenfinch		PT
19/03/2021	Vantage Point Survey, VP2	Goldfinch		PT
19/03/2021	Vantage Point Survey, VP2	Raven		PT
19/03/2021	Vantage Point Survey, VP2	Fieldfare		PT
19/03/2021	Vantage Point Survey, VP2	Mistle Thrush		PT
19/03/2021	Vantage Point Survey, VP2	Pied Wagtail		PT
19/03/2021	Vantage Point Survey, VP2	Collared Dove		PT
19/03/2021	Vantage Point Survey, VP2	Sand Martin	2 sightings of single bird(s)	PT
19/03/2021	Vantage Point Survey, VP2	Goldcrest		PT
19/03/2021	Vantage Point Survey, VP2	Jay		PT
19/03/2021	Vantage Point Survey, VP2	Coal Tit		PT
19/03/2021	Vantage Point Survey, VP2	Great Tit		PT

Date	Survey	Species	Notes	Surveyor
19/03/2021	Vantage Point Survey, VP2	Blue Tit		PT
22/03/2021	Vantage Point Survey, VP3	Wren		PT
22/03/2021	Vantage Point Survey, VP3	Robin		PT
22/03/2021	Vantage Point Survey, VP3	Blackbird		PT
22/03/2021	Vantage Point Survey, VP3	Hooded Crow		PT
22/03/2021	Vantage Point Survey, VP3	Chaffinch		PT
22/03/2021	Vantage Point Survey, VP3	Wood Pigeon		PT
22/03/2021	Vantage Point Survey, VP3	Duncock		PT
22/03/2021	Vantage Point Survey, VP3	Jackdaw		PT
22/03/2021	Vantage Point Survey, VP3	Pied Wagtail		PT
22/03/2021	Vantage Point Survey, VP3	Song Thrush		PT
22/03/2021	Vantage Point Survey, VP3	Rook		PT
22/03/2021	Vantage Point Survey, VP3	Skylark		PT
22/03/2021	Vantage Point Survey, VP3	Meadow Pipit		PT
22/03/2021	Vantage Point Survey, VP3	Redwing		PT
22/03/2021	Vantage Point Survey, VP3	Great Tit		PT
22/03/2021	Vantage Point Survey, VP3	Mistle Thrush		PT
22/03/2021	Vantage Point Survey, VP3	Grey Wagtail	2 at vp	PT
22/03/2021	Vantage Point Survey, VP3	Raven		PT
22/03/2021	Vantage Point Survey, VP3	Magpie		PT
22/03/2021	Vantage Point Survey, VP3	Starling		PT
22/03/2021	Vantage Point Survey, VP3	Goldfinch		PT
26/03/2021	Vantage Point Survey, VP1	Jackdaw		PT
26/03/2021	Vantage Point Survey, VP1	Wren		PT
26/03/2021	Vantage Point Survey, VP1	Robin		PT
26/03/2021	Vantage Point Survey, VP1	Blackbird		PT



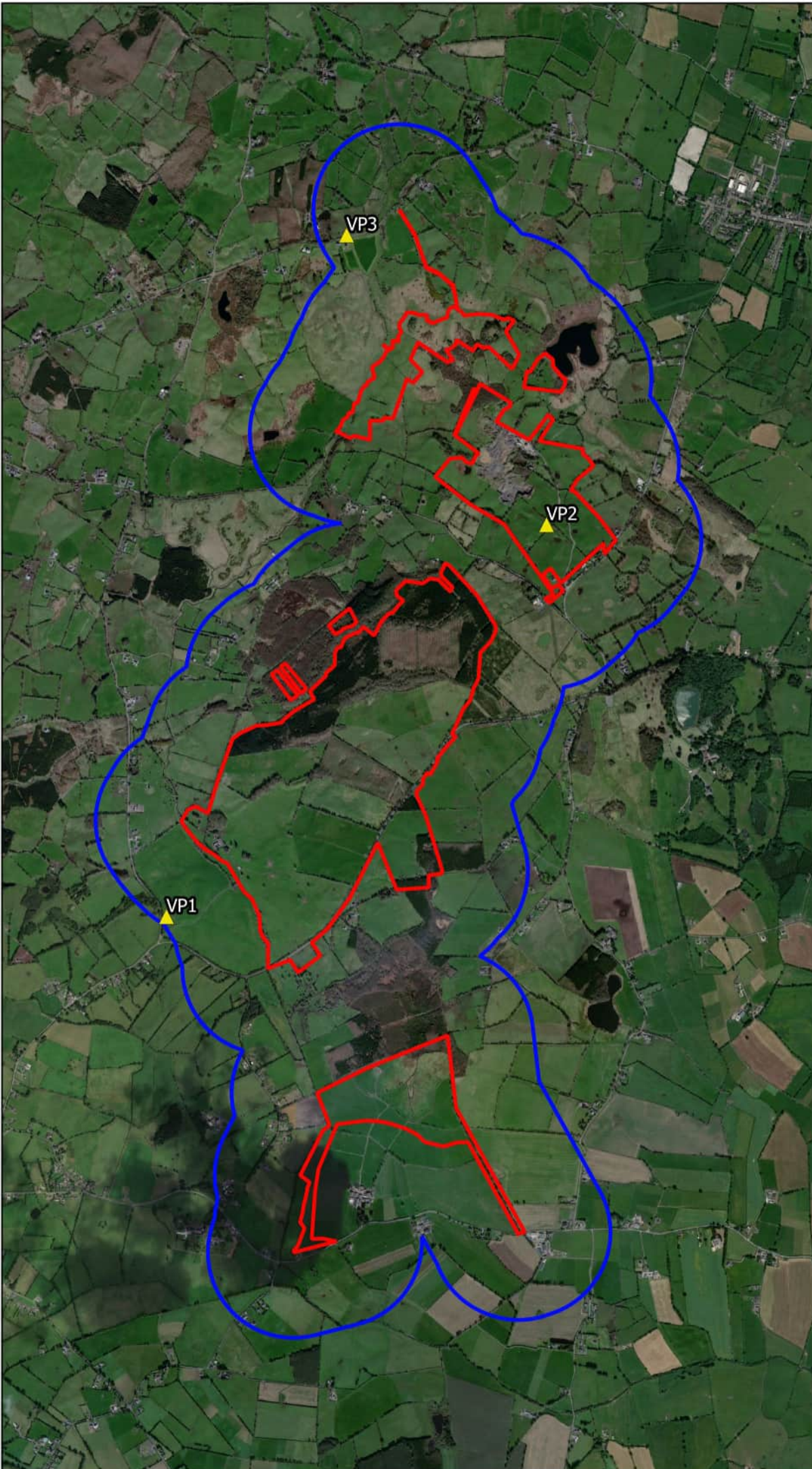
Date	Survey	Species	Notes	Surveyor
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26/03/2021	Vantage Point Survey, VP1	Dunnoch		PT
26/03/2021	Vantage Point Survey, VP1	Wood Pigeon		PT
26/03/2021	Vantage Point Survey, VP1	Fieldfare		PT
26/03/2021	Vantage Point Survey, VP1	Hooded Crow		PT
26/03/2021	Vantage Point Survey, VP1	Raven		PT
26/03/2021	Vantage Point Survey, VP1	Song Thrush		PT
26/03/2021	Vantage Point Survey, VP1	Great Tit		PT
26/03/2021	Vantage Point Survey, VP1	Mistle Thrush		PT
26/03/2021	Vantage Point Survey, VP1	Chiffchaff		PT
26/03/2021	Vantage Point Survey, VP1	Bullfinch		PT
26/03/2021	Vantage Point Survey, VP1	Chaffinch		PT
26/03/2021	Vantage Point Survey, VP1	Starling		PT
26/03/2021	Vantage Point Survey, VP1	Goldfinch		PT
26/03/2021	Vantage Point Survey, VP1	Meadow Pipit		PT
26/03/2021	Vantage Point Survey, VP1	Magpie		PT
26/03/2021	Vantage Point Survey, VP1	Pied Wagtail		PT
26/03/2021	Vantage Point Survey, VP1	Blue Tit		PT
26/03/2021	Vantage Point Survey, VP1	Blackcap		PT
26/03/2021	Vantage Point Survey, VP1	Rook		PT
26/03/2021	Vantage Point Survey, VP1	Collared Dove		PT

v



APPENDIX 2

FIGURES



Map Legend

- Wind Farm Site
- 500m Survey Radius
- ▲ Vantage Point Locations



Drawing Title
Vantage Point Locations

Project Title
Crowinstown

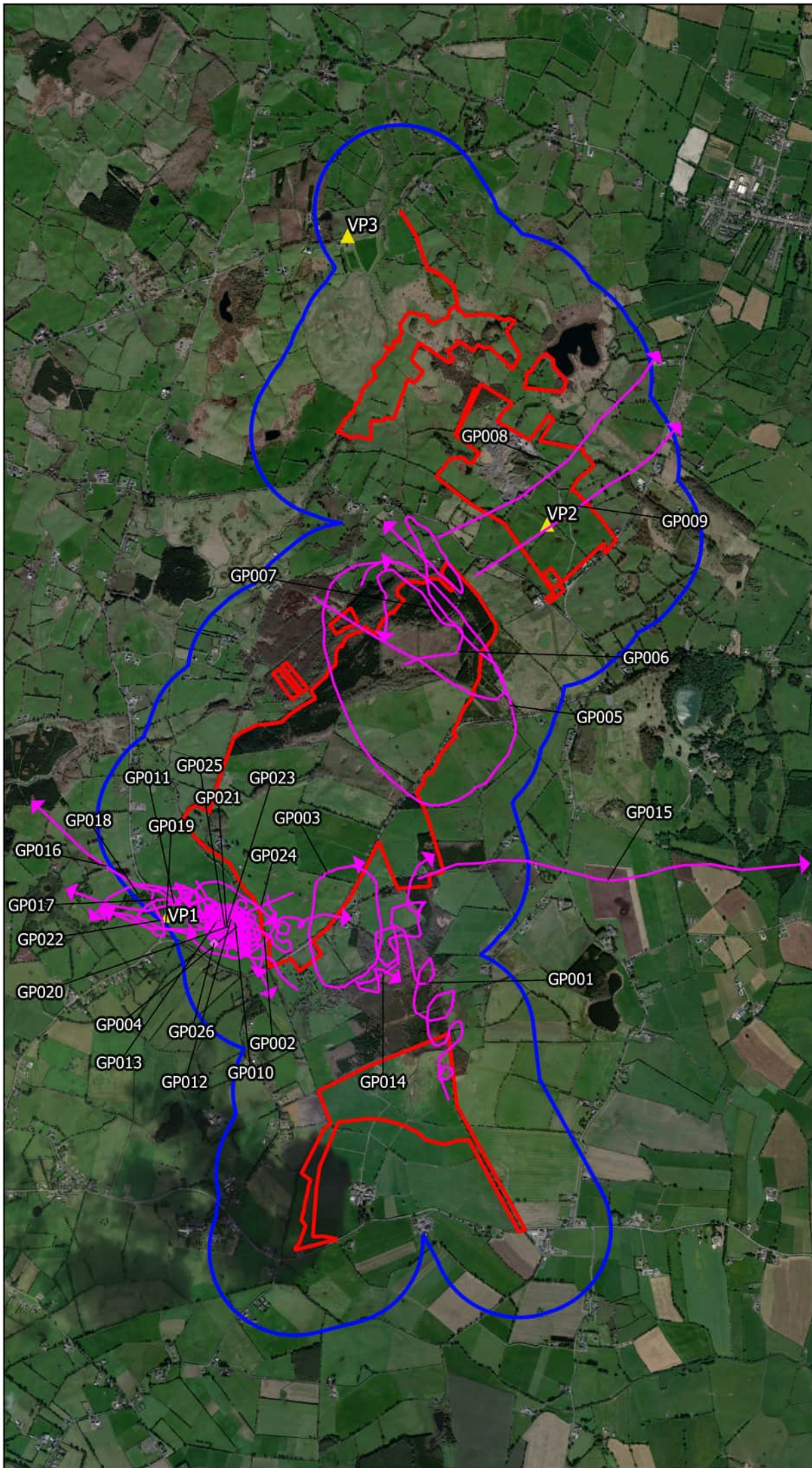
Drawn By P. Manley	Checked By P. Cregg
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Project No. 190531	Drawing No. Fig. 1
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Scale 1:30000	Date 15/06/2021
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Map Legend

- Wind Farm Site
- 500m Survey Radius
- ▲ Vantage Point Locations
- Flightline
- ◆ Observation



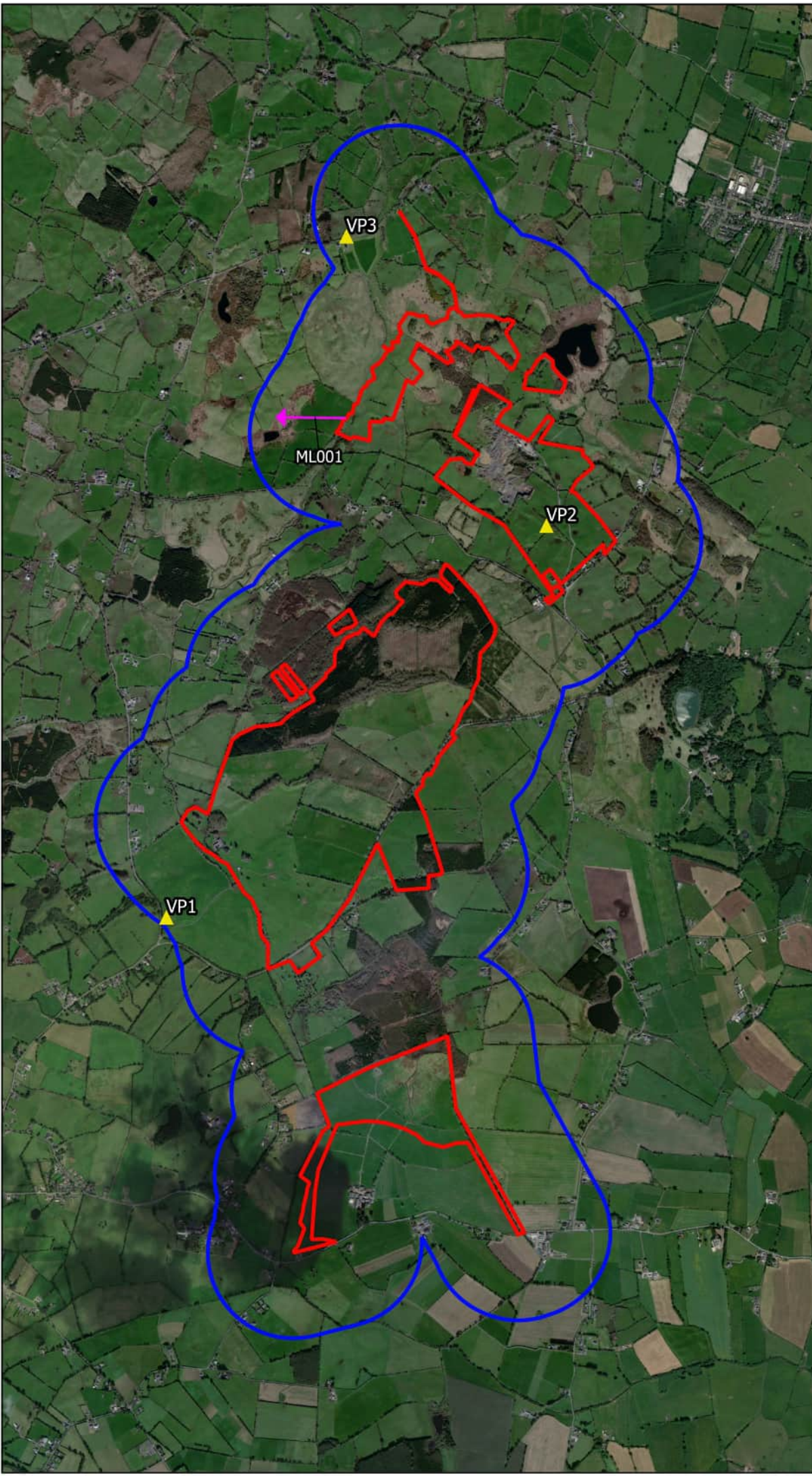
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Project Title	
Crowinstown	
Drawn By	Checked By
P. Manley	P. Cregg
Project No.	Drawing No.
190531	Fig. 1.1
Scale	Date
1:30000	15/06/2021

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Map Legend

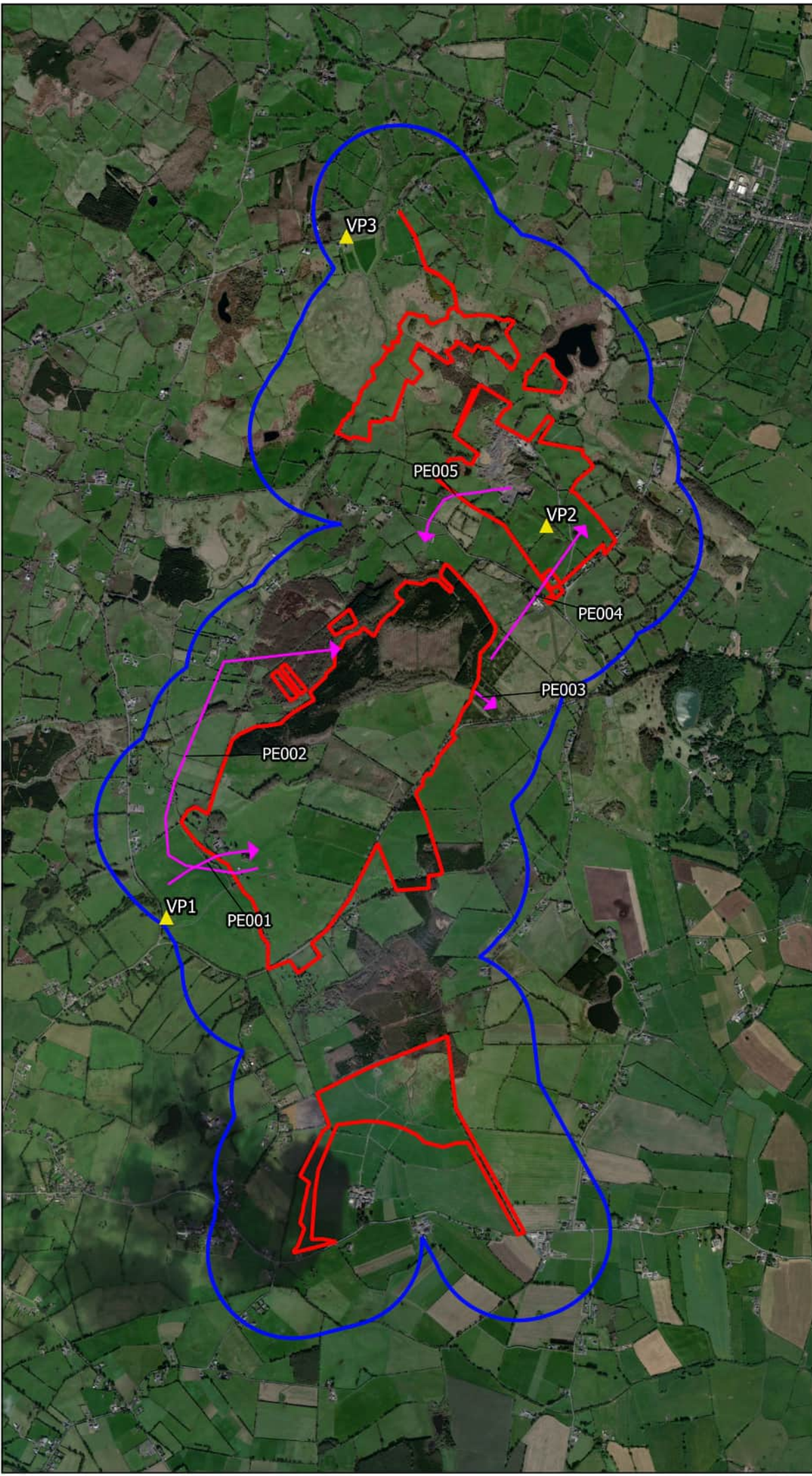
- Wind Farm Site
- 500m Survey Radius
- ▲ Vantage Point Locations
- ➔ Flightline



Drawing Title	
Merlin Observations Vantage Point Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
P. Manley	P. Cregg
Project No.	Drawing No.
190531	Fig. 1.2
Scale	Date
1:30000	15/06/2021

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Map Legend

- Wind Farm Site
- 500m Survey Radius
- ▲ Vantage Point Locations
- ➔ Flightline



Drawing Title
**Peregrine Observations
 Vantage Point Surveys**

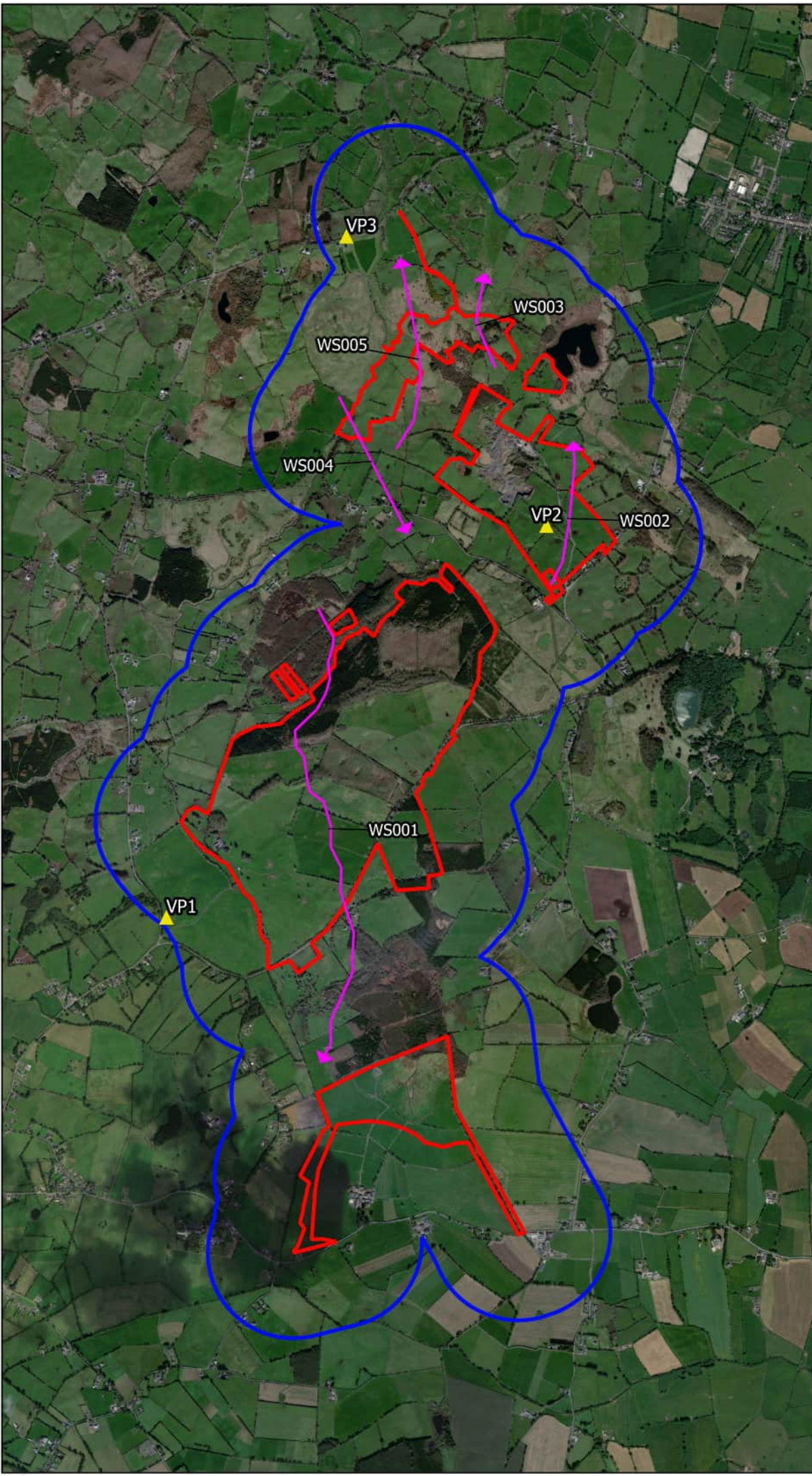
Project Title
Crowinstown

Drawn By P. Manley	Checked By P. Cregg
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Project No. 190531	Drawing No. Fig. 1.3
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Scale 1:30000	Date 15/06/2021
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Map Legend

- Wind Farm Site
- 500m Survey Radius
- ▲ Vantage Point Locations
- Flightline



Drawing Title
Whooper Swan Observations
Vantage Point Surveys

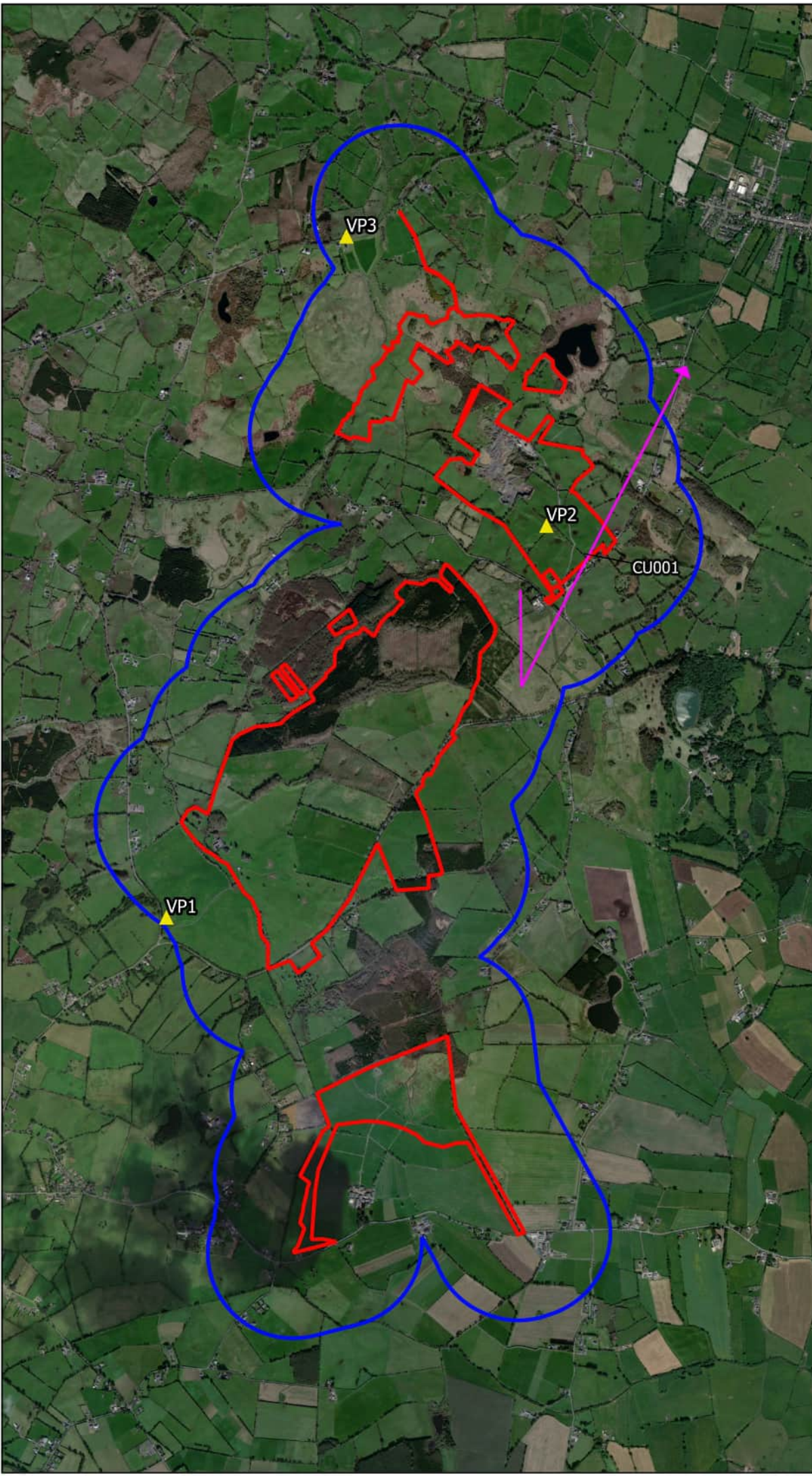
Project Title
Crowinstown

Drawn By P. Manley	Checked By P. Cregg
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Project No. 190531	Drawing No. Fig. 1.4
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Scale 1:30000	Date 15/06/2021
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Map Legend

- Wind Farm Site
- 500m Survey Radius
- ▲ Vantage Point Locations
- Flightline

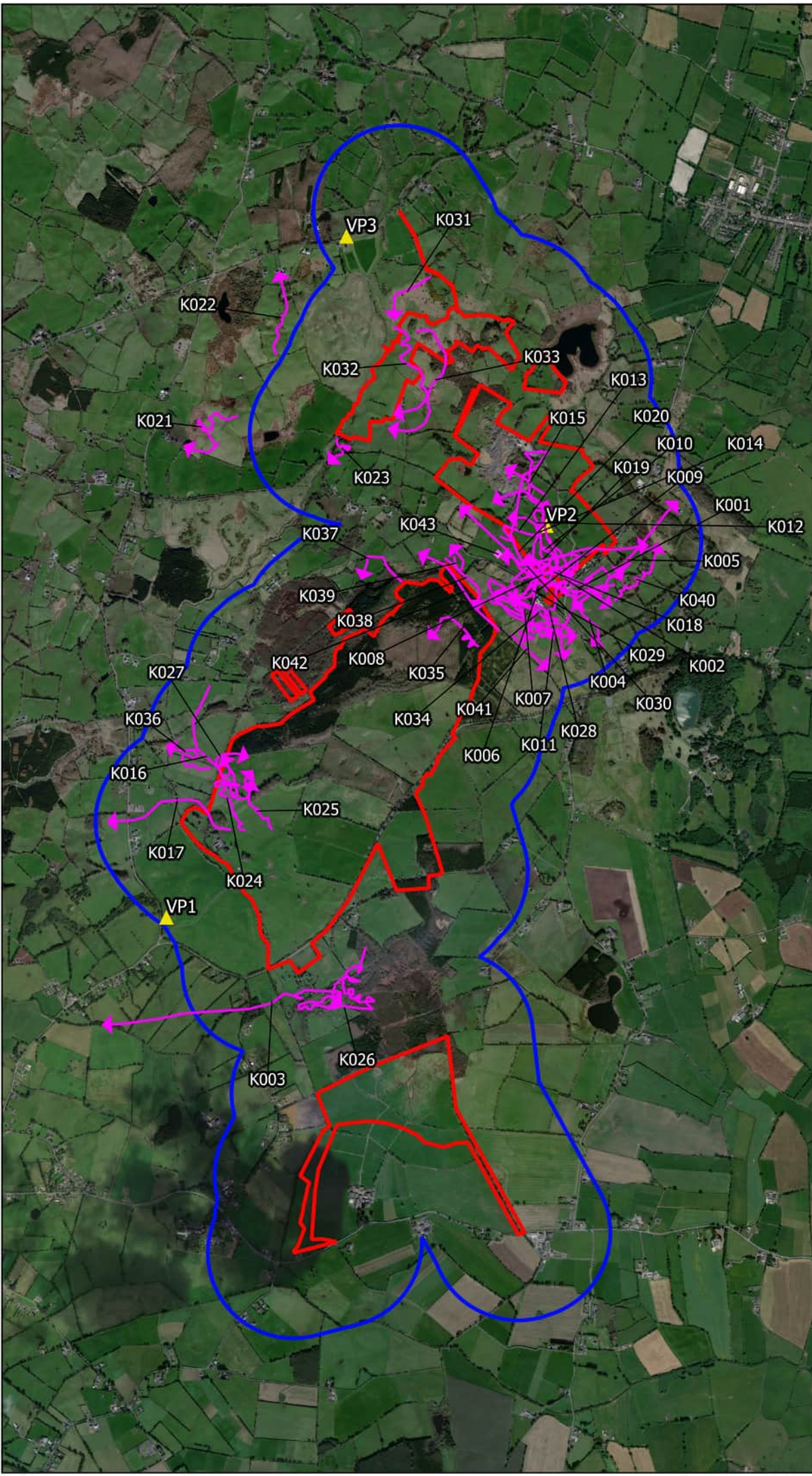


Drawing Title Curlew Observations Vantage Point Surveys	
Project Title Crowinstown	
Drawn By P. Manley	Checked By P. Cregg
Project No. 190531	Drawing No. Fig. 1.5
Scale 1:30000	Date 15/06/2021

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Map Legend

- Wind Farm Site
- 500m Survey Radius
- ▲ Vantage Point Locations
- Flightline
- ◆ Observation



Drawing Title
**Kestrel Observations
 Vantage Point Surveys**

Project Title
Crowinstown

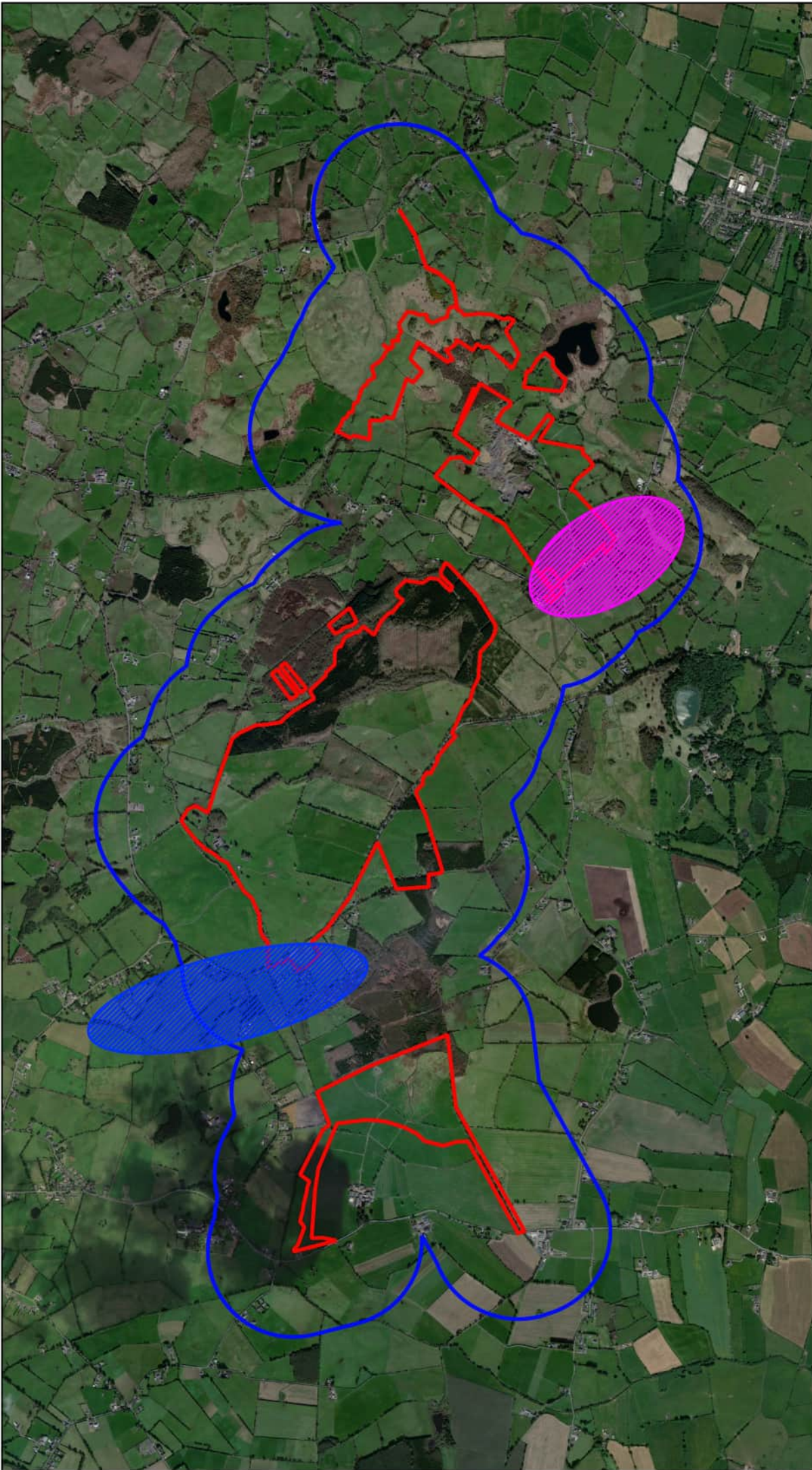
Drawn By P. Manley	Checked By P. Cregg
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Project No. 190531	Drawing No. Fig. 1.6
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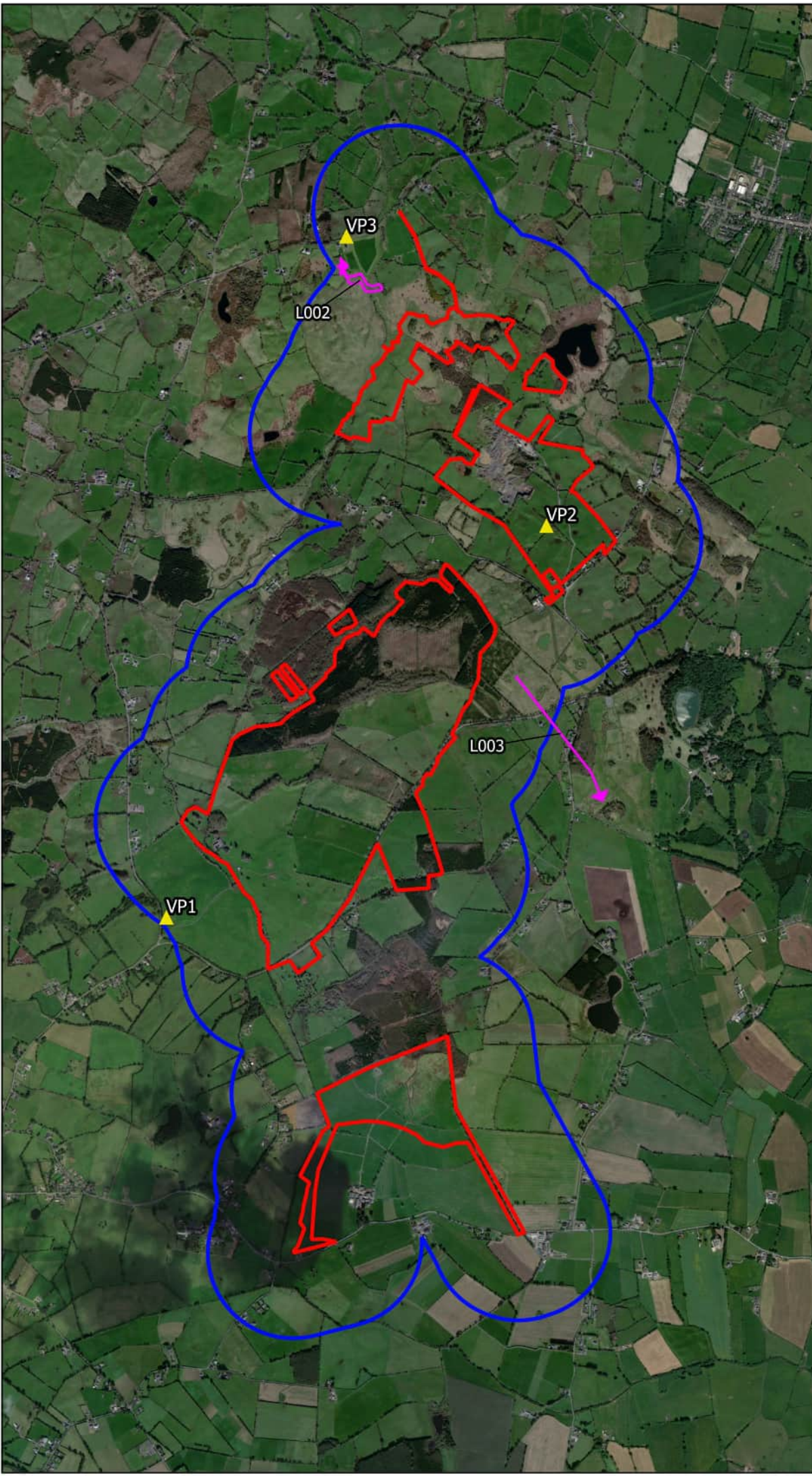
- Wind Farm Site
- 500m Survey Radius
- Confirmed Territory
- Possible Territory







Drawing Title	
Kestrel Territories Vantage Point Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 16.1
Scale	Date
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Map Legend

-  Wind Farm Site
-  500m Survey Radius
-  Vantage Point Locations
-  Flightline



Drawing Title
Lapwing Observations
Vantage Point Surveys

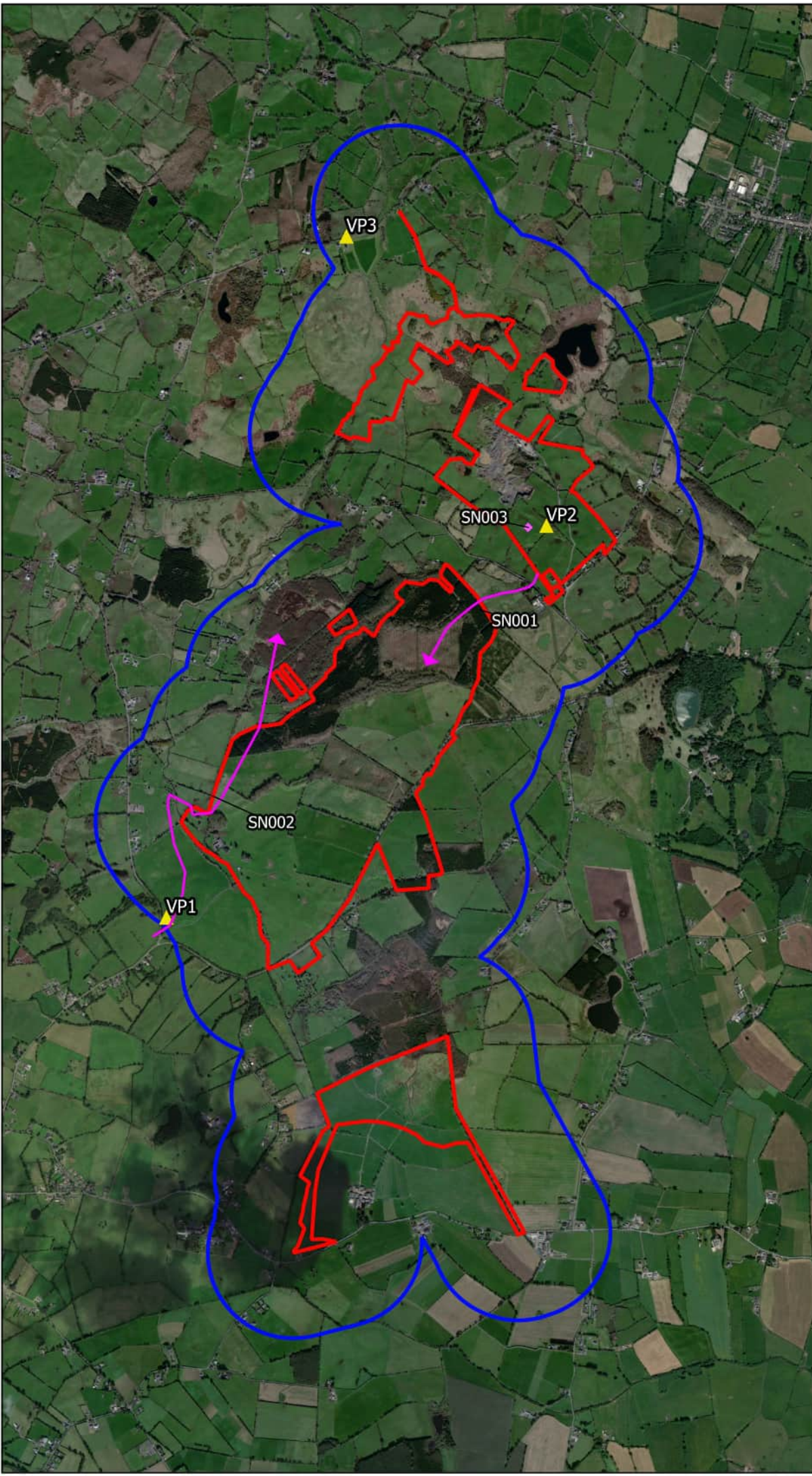
Project Title
Crowinstown

Drawn By P. Manley	Checked By P. Cregg
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Project No. 190531	Drawing No. Fig. 17
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Scale 1:30000	Date 15/06/2021
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Map Legend

- Wind Farm Site
- 500m Survey Radius
- ▲ Vantage Point Locations
- ➔ Flightline
- ◆ Observation



Drawing Title
**Snipe Observations
 Vantage Point Surveys**

Project Title
Crowinstown

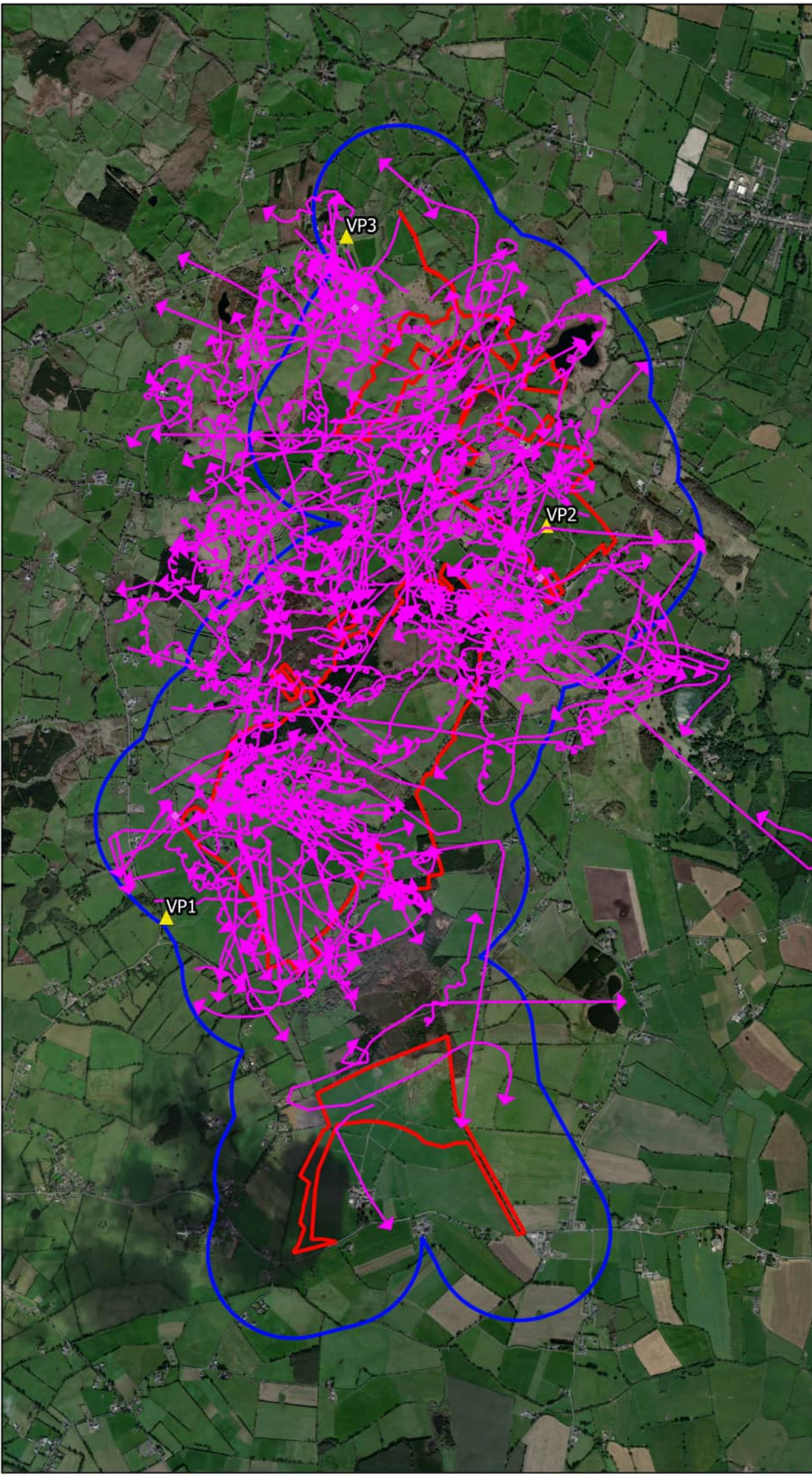
Drawn By P. Manley	Checked By P. Cregg
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Project No. 190531	Drawing No. Fig. 1.8
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Scale 1:30000	Date 15/06/2021
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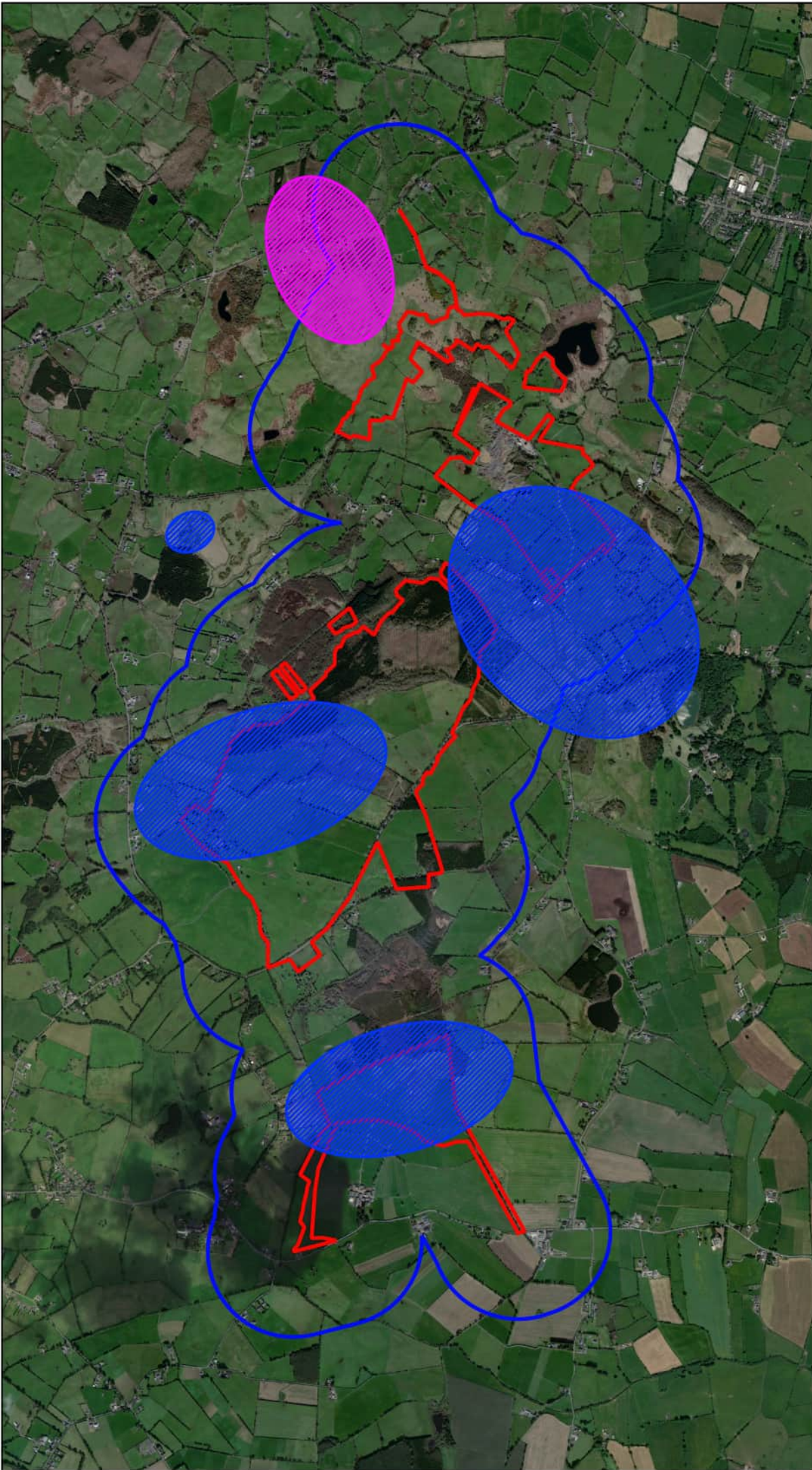
Map Legend

- Wind Farm Site
- 500m Survey Radius
- ▲ Vantage Point Locations
- Flightline
- ◆ Observation



Drawing Title	
Buzzard Observations Vantage Point Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 1.9
Scale	Date
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Map Legend

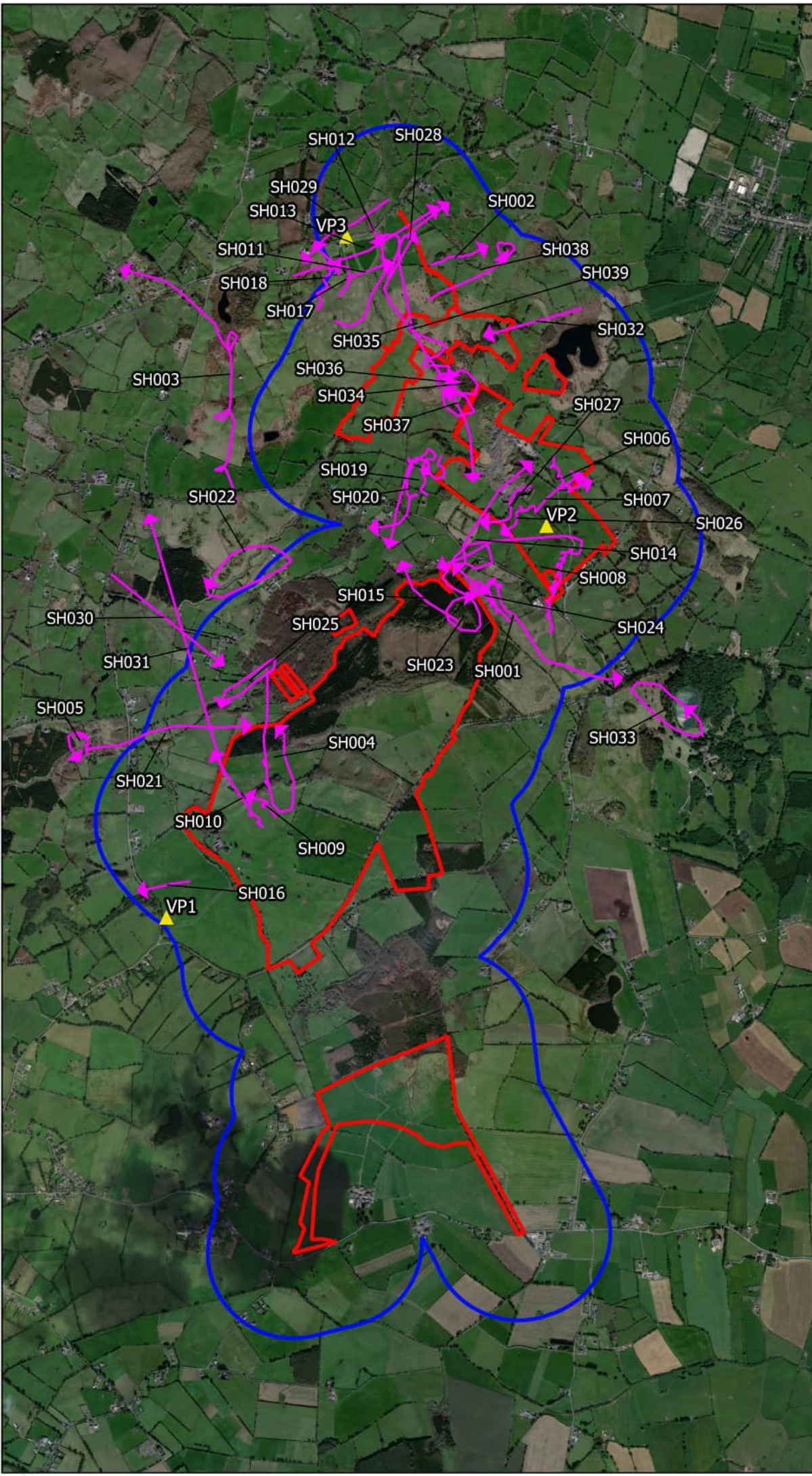
- Wind Farm Site
- 500m Survey Radius
- Confirmed Territory
- Probable Territory



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Drawing Title Buzzard Territories Vantage Point Surveys	
Project Title Crowinstown	
Drawn By P. Manley	Checked By P. Cregg
Project No. 190531	Drawing No. Fig. 19.1
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Map Legend

- Wind Farm Site
- 500m Survey Radius
- ▲ Vantage Point Locations
- Flightline

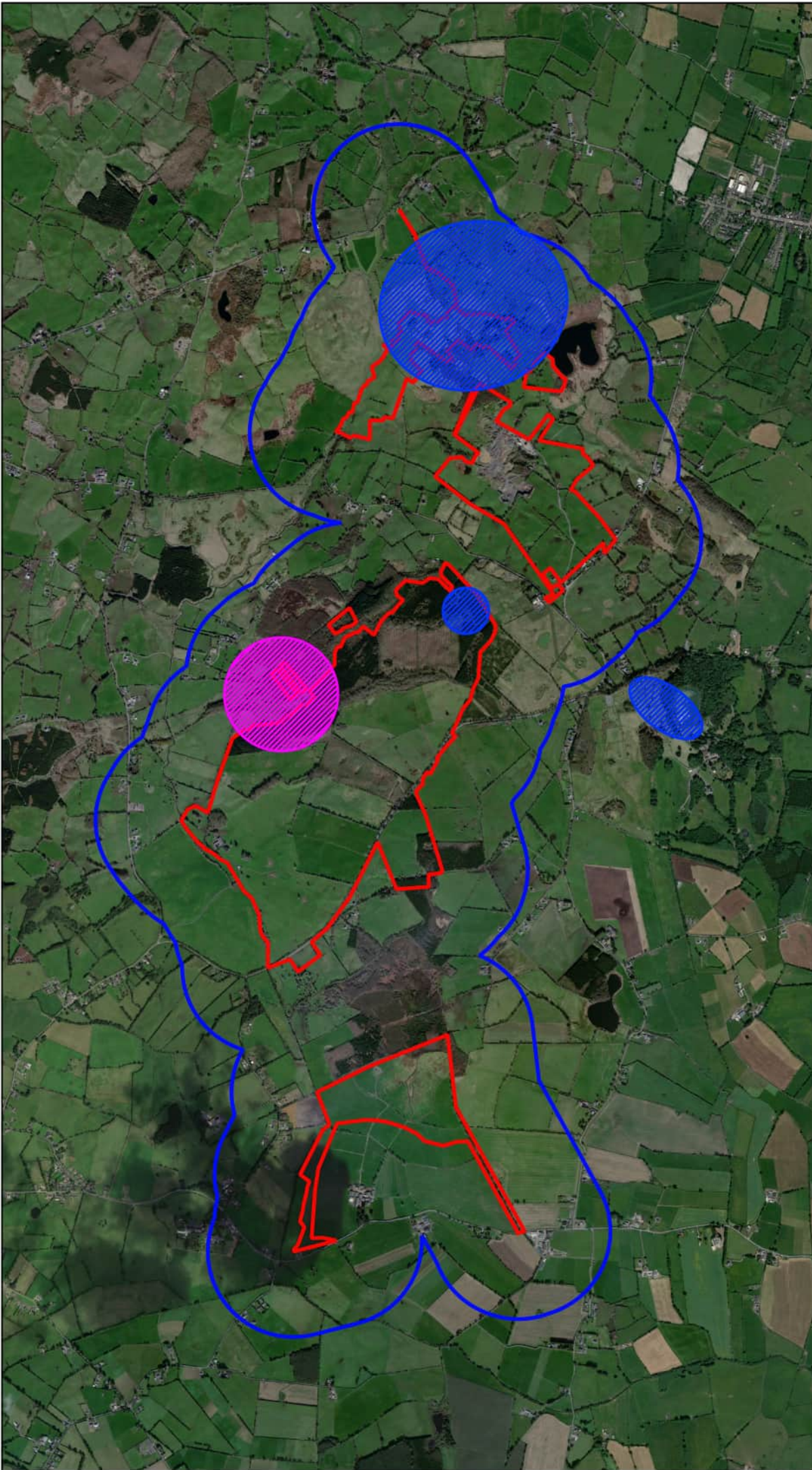


Drawing Title	
Sparrowhawk Observations Vantage Point Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 1.10
Scale	Date
1:30000	15/06/2021

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Map Legend

-  Wind Farm Site
-  500m Survey Radius
-  Confirmed Territory
-  Porbable Territory



Drawing Title
**Sparrowhawk Territories
 Vantage Point Surveys**

Project Title
Crowinstown

Drawn By P. Manley	Checked By P. Cregg
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Project No. 190531	Drawing No. Fig.1.10.1
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Scale 1:30000	Date 15/06/2021
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Map Legend

- Wind Farm Site
- 500m Survey Radius



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Drawing Title	
Breeding Walkover Survey Area	
Project Title	
Crowinstown	
Drawn By	Checked By
P. Manley	P. Cregg
Project No.	Drawing No.
190531	Fig. 2
Scale	Date
1:30000	15/06/2021

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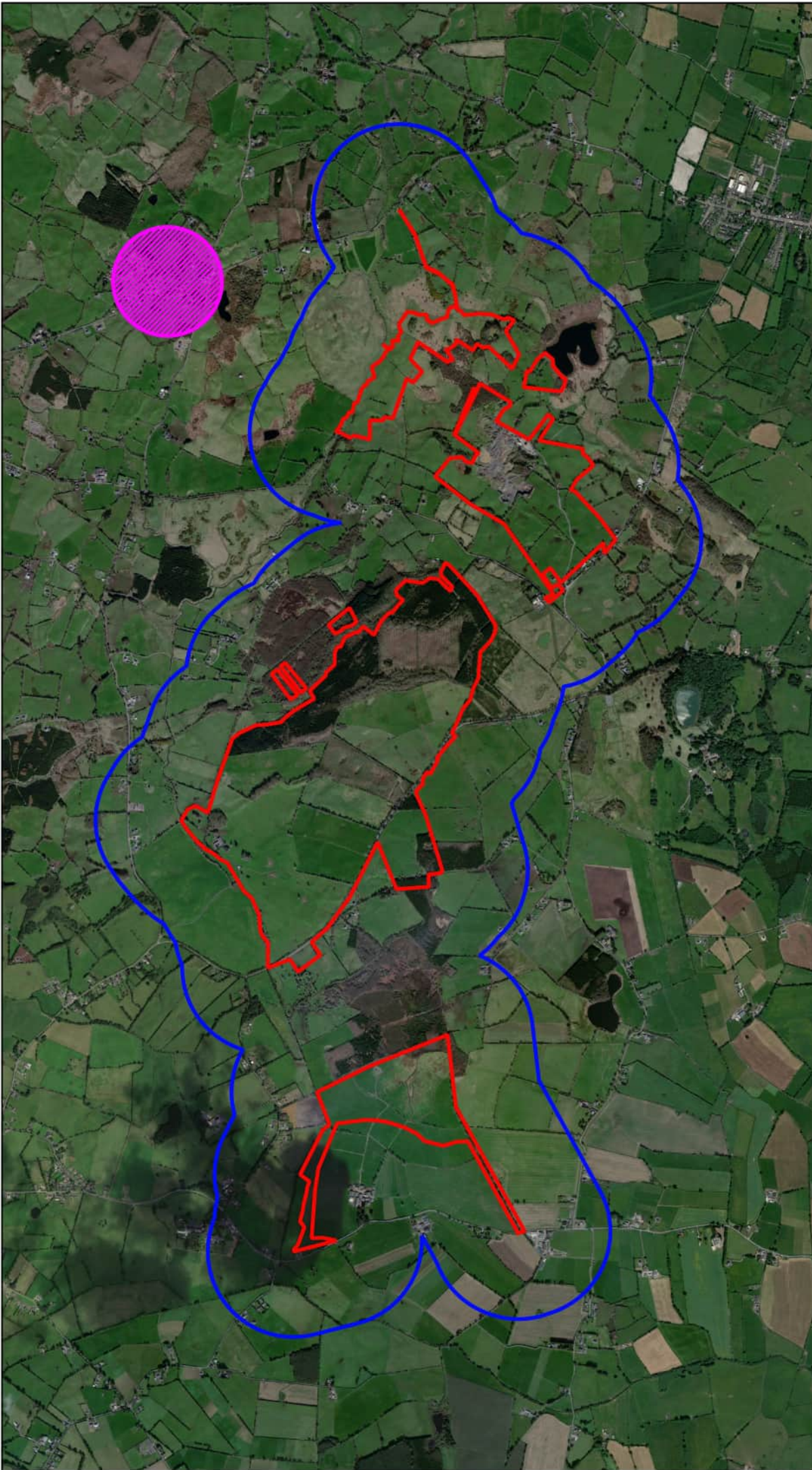
Map Legend

- Wind Farm Site
- 500m Survey Radius
- Flightline



Drawing Title	
Kestrel Observations Breeding Walkover Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
P. Manley	P. Cregg
Project No.	Drawing No.
190531	Fig. 2.1
Scale	Date
1:30000	15/06/2021

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Map Legend

-  Wind Farm Site
-  500m Survey Radius
-  Confirmed Territory



Drawing Title	
Kestrel Territories Breeding Walkover Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 2.11
Scale	Date
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Map Legend

-  Wind Farm Site
-  500m Survey Radius
-  Flightline



Drawing Title	
Lapwing Observations Breeding Walkover Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 2.2
Scale	Date
1:30000	15/06/2021



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Map Legend

-  Wind Farm Site
-  500m Survey Radius
-  Confirmed Territory






Drawing Title	
Lapwing Territories Breeding Walkover Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 2.21
Scale	Date
1:30000	15/06/2021


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Map Legend

-  Wind Farm Site
-  500m Survey Radius
-  Flightline






Drawing Title	
Snipe Observations Breeding Walkover Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 2.3
Scale	Date
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Map Legend

-  Wind Farm Site
-  500m Survey Radius
-  Probable Territory

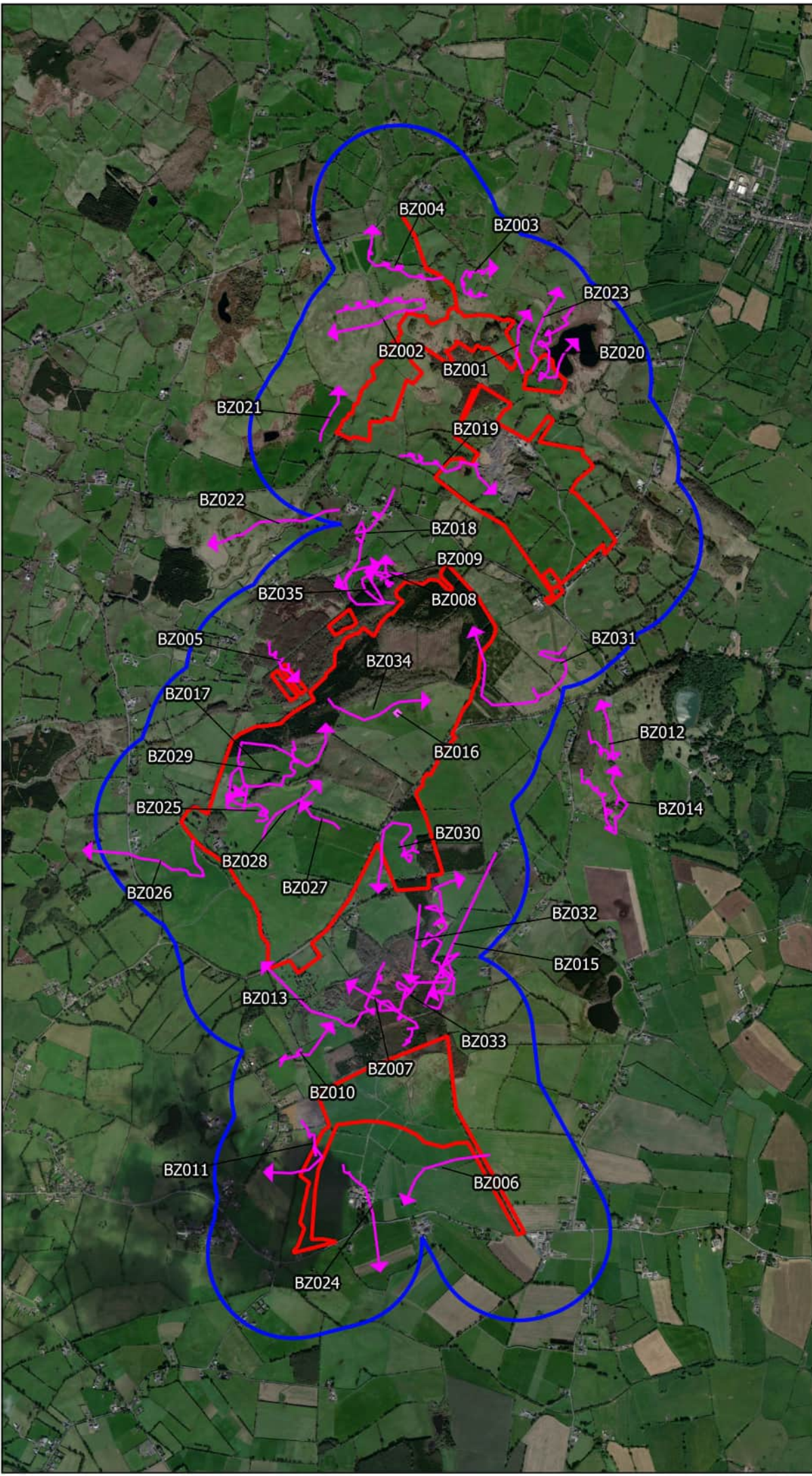


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Drawing Title	
Snipe Territories Breeding Walkover Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
P. Manley	P. Cregg
Project No.	Drawing No.
190531	Fig. 2.3.1
Scale	Date
1:30000	15/06/2021



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Map Legend

- Wind Farm Site
- 500m Survey Radius
- Flightline
- ◆ Observation

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Drawing Title	
Buzzard Observations Breeding Walkover Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 2.4
Scale	Date
1:30000	15/06/2021

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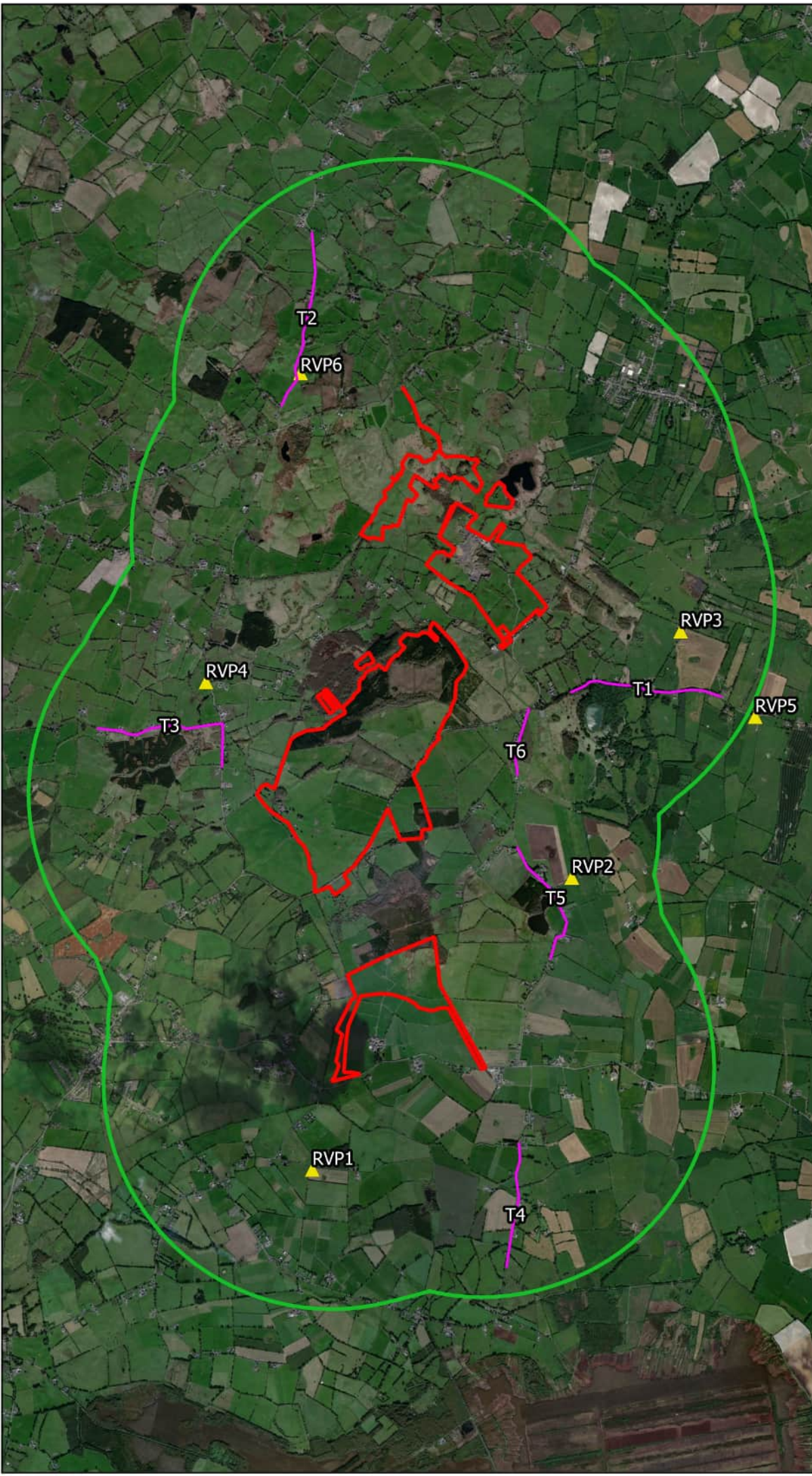
Map Legend

- Wind Farm Site
- 500m Survey Radius
- Flightline



Drawing Title	
Sparrowhawk Observations Breeding Walkover Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
P. Manley	P. Cregg
Project No.	Drawing No.
190531	Fig. 2.5
Scale	Date
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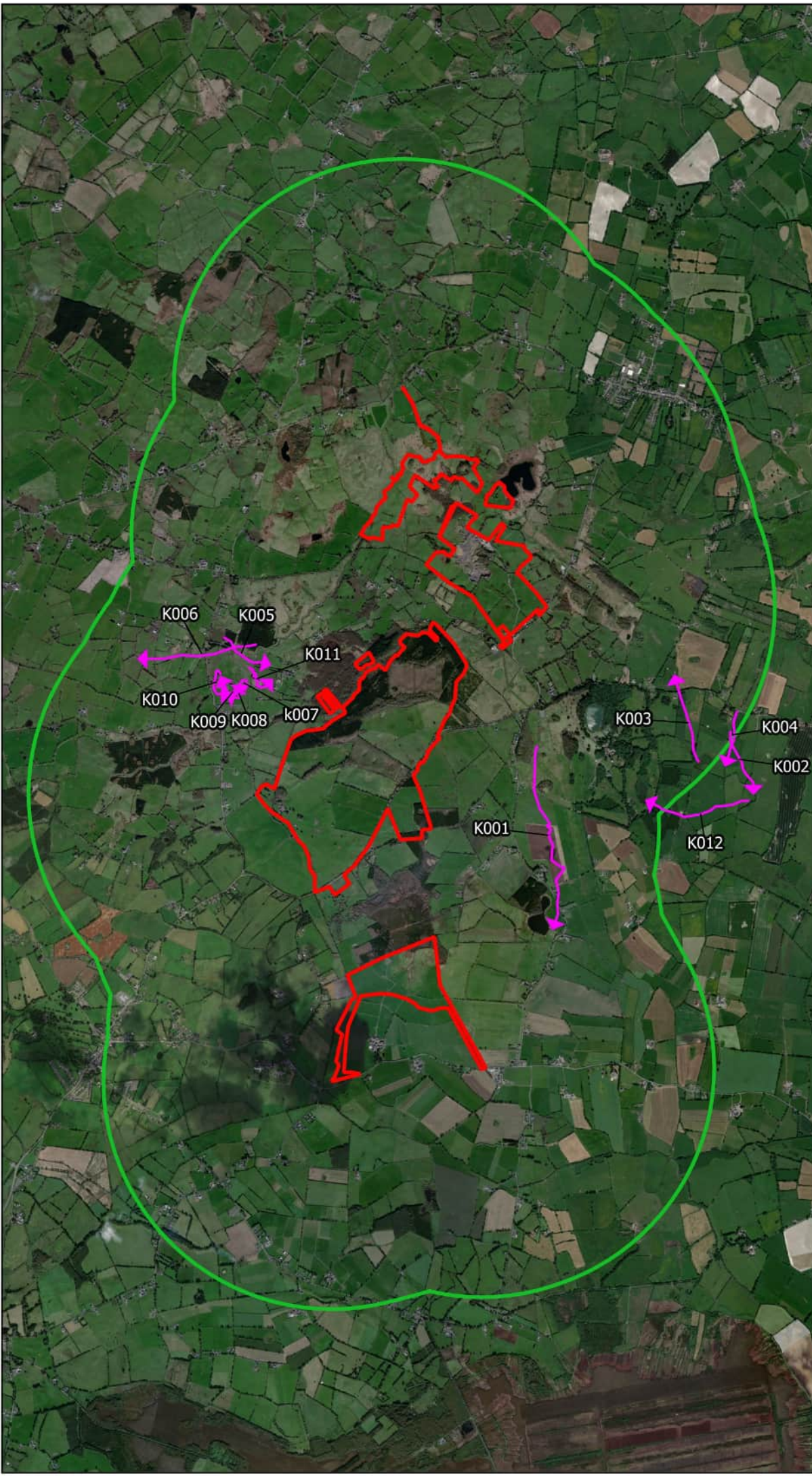
- ### Map Legend
- Wind Farm Site
 - 2km Survey Radius
 - ▲ Breeding Raptor Vantage Point Locations
 - Breeding Raptor Transects



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Drawing Title	
Breeding Raptor Survey Area	
Project Title	
Crowinstown	
Drawn By	Checked By
P. Manley	P. Cregg
Project No.	Drawing No.
190531	Fig. 3
Scale	Date
1:45000	15/06/2021

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Map Legend

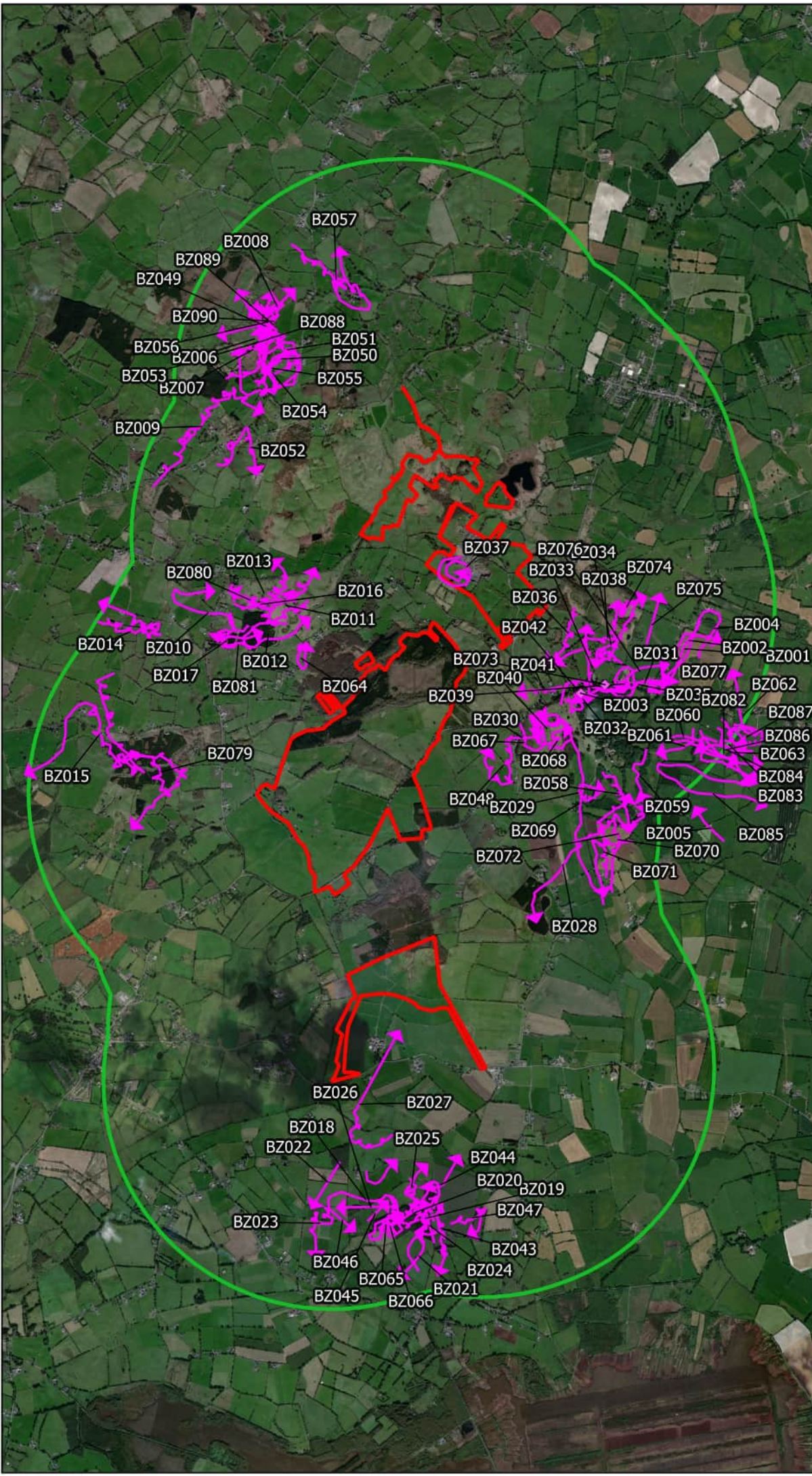
- Wind Farm Site
- 2km Survey Radius
- Flightline



Drawing Title	
Kestrel Observations Breeding Raptor Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
P. Manley	P. Cregg
Project No.	Drawing No.
190531	Fig. 3.1
Scale	Date
1:45000	15/06/2021

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Map Legend

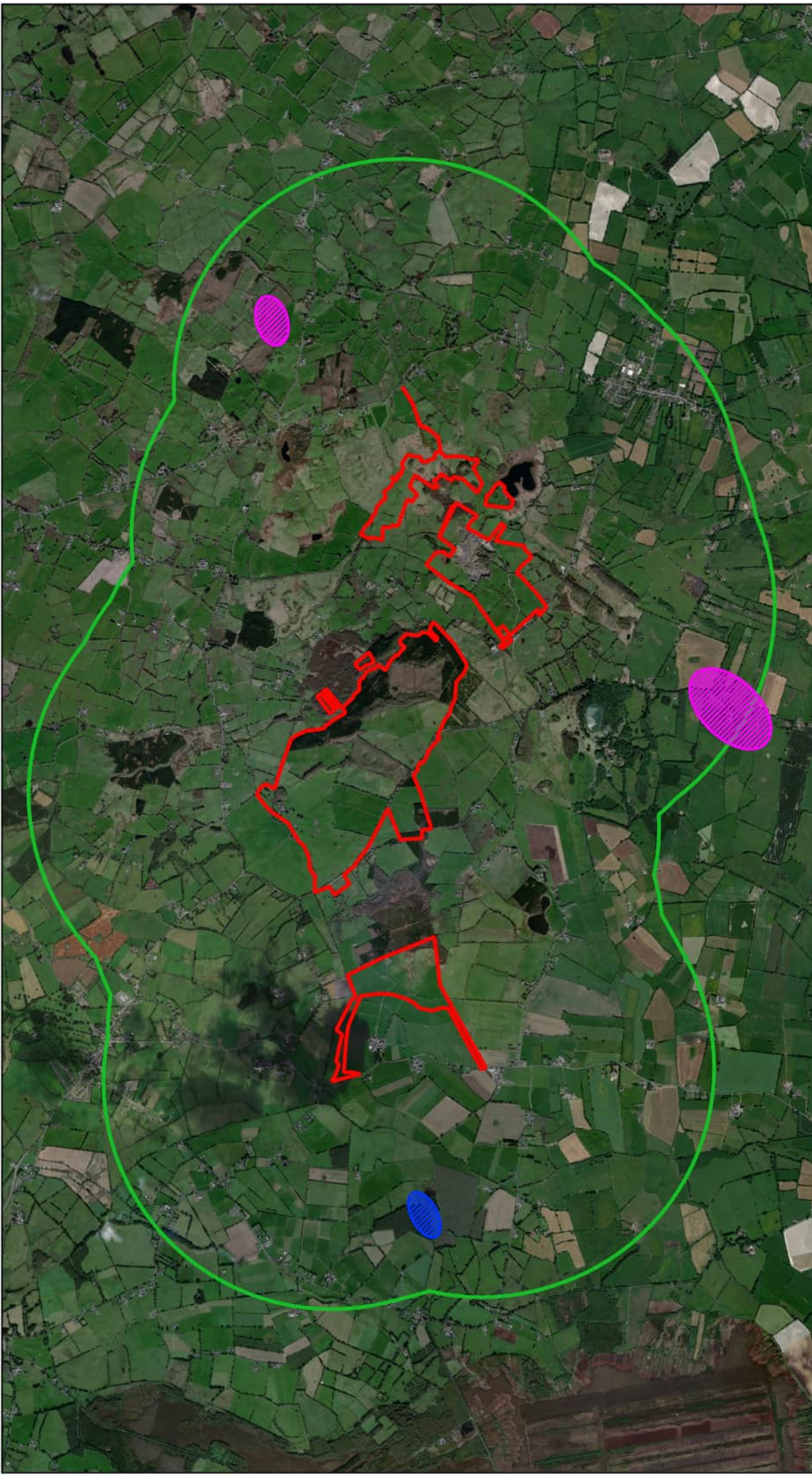
- Wind Farm Site
- 2km Survey Radius
- Flightline
- ◆ Observation

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Drawing Title	
Buzzard Observations Breeding Raptor Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
P. Manley	P. Cregg
Project No.	Drawing No.
190531	Fig. 3.2
Scale	Date
1:45000	15/06/2021

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Map Legend

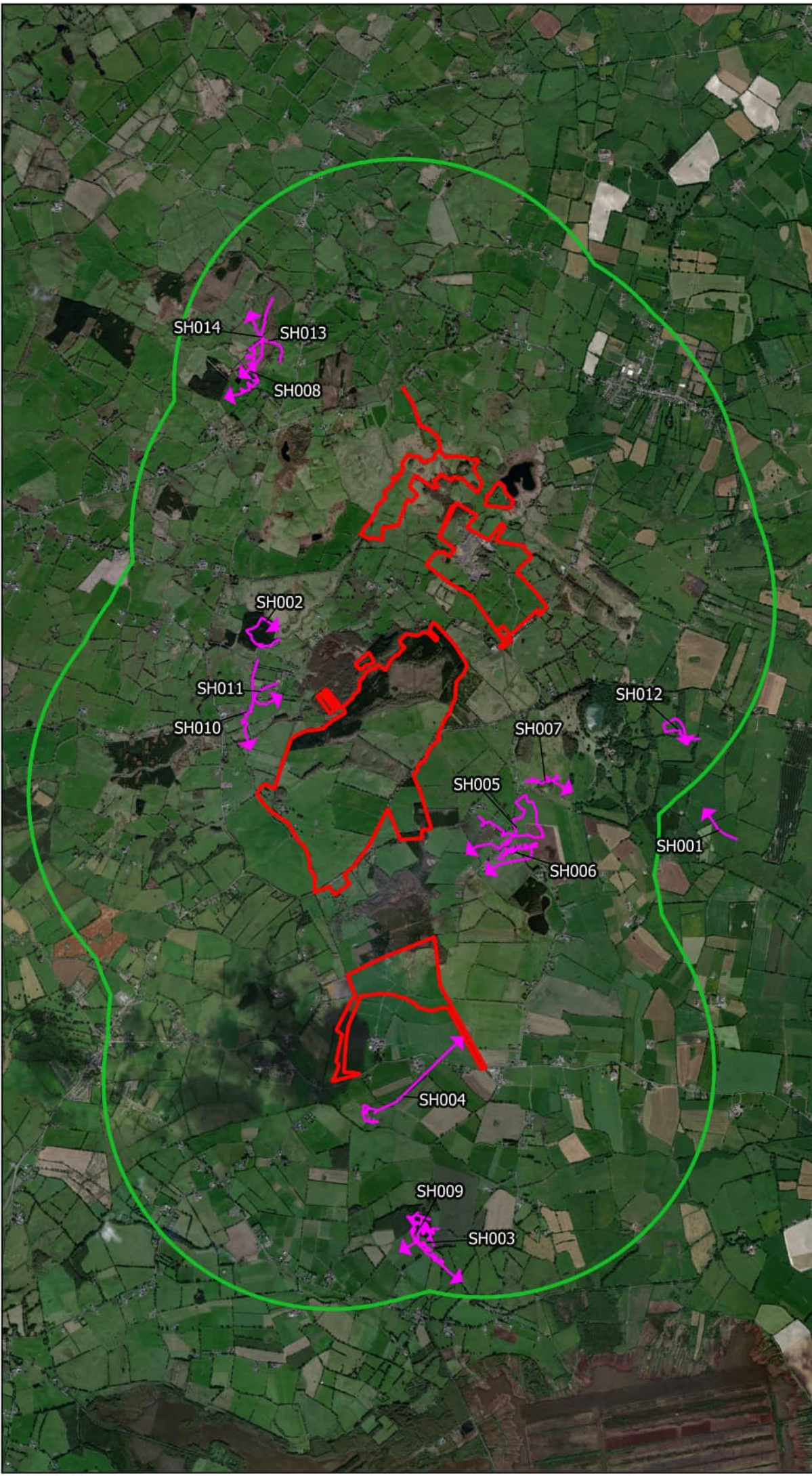
- Wind Farm Site
- 2km Survey Radius
- Confirmed Territory
- Probable Territory



Drawing Title	
Buzzard Territories Breeding Raptor Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
P. Manley	P. Cregg
Project No.	Drawing No.
190531	Fig. 3.2.1
Scale	Date
1:45000	15/06/2021

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Map Legend

- Wind Farm Site
- 2km Survey Radius
- Flightline

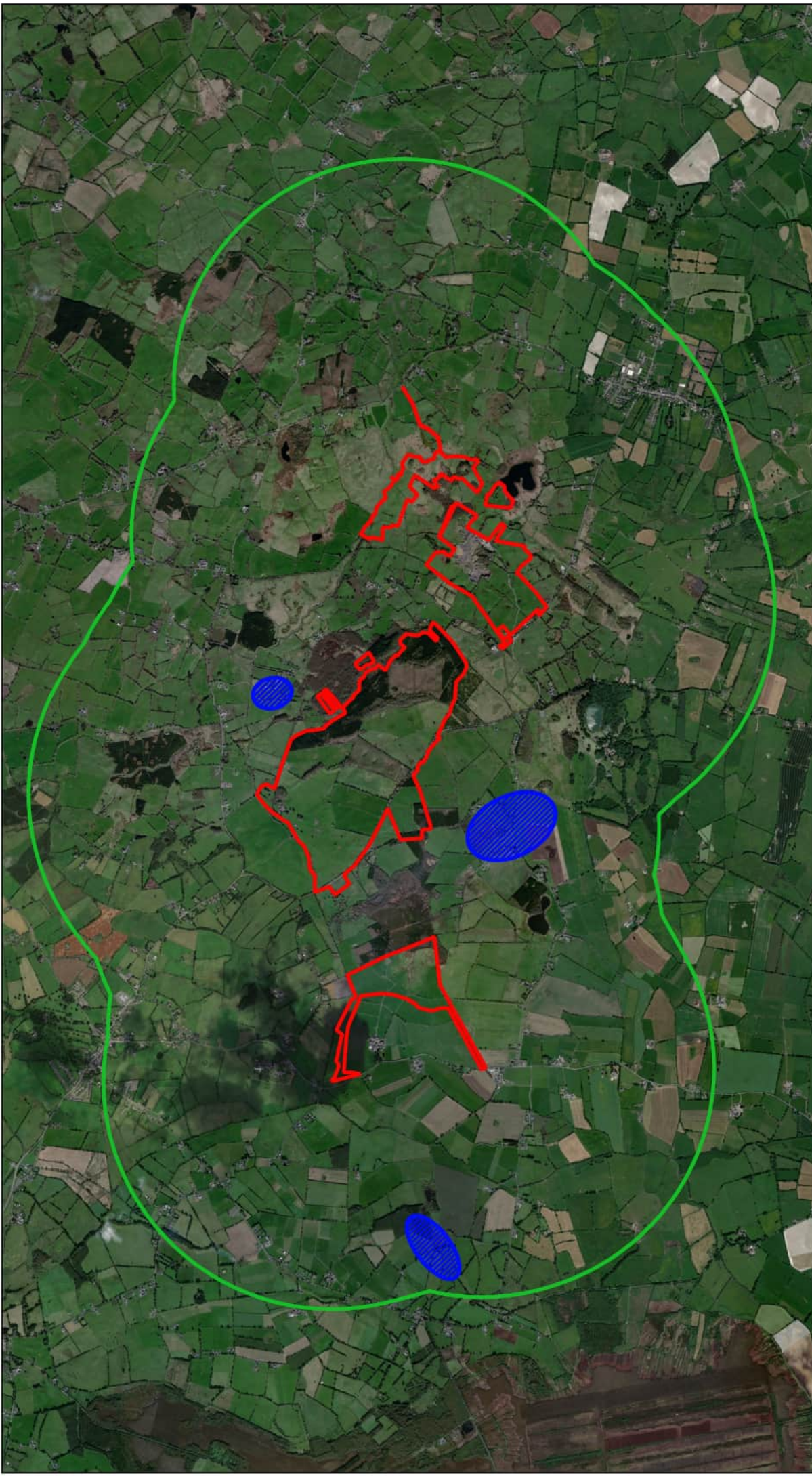


Drawing Title	
Sparrowhawk Observations Breeding Raptor Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
P. Manley	P. Cregg
Project No.	Drawing No.
190531	Fig. 3.3
Scale	Date
1:45000	15/06/2021

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Map Legend

- Wind Farm Site
- 2km Survey Radius
- Probable Territory



Drawing Title
**Sparrowhawk Territories
 Breeding Raptor Surveys**

Project Title
Crowinstown

Drawn By P. Manley	Checked By P. Cregg
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Project No. 190531	Drawing No. Fig. 3.3.1
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Scale 1:45000	Date 15/06/2021
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Map Legend

- Wind Farm Site
- 500m Survey Radius



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Drawing Title	
Winter Walkover Survey Area	
Project Title	
Crowinstown	
Drawn By	Checked By
P. Manley	P. Cregg
Project No.	Drawing No.
190531	Fig. 4
Scale	Date
1:30000	15/06/2021

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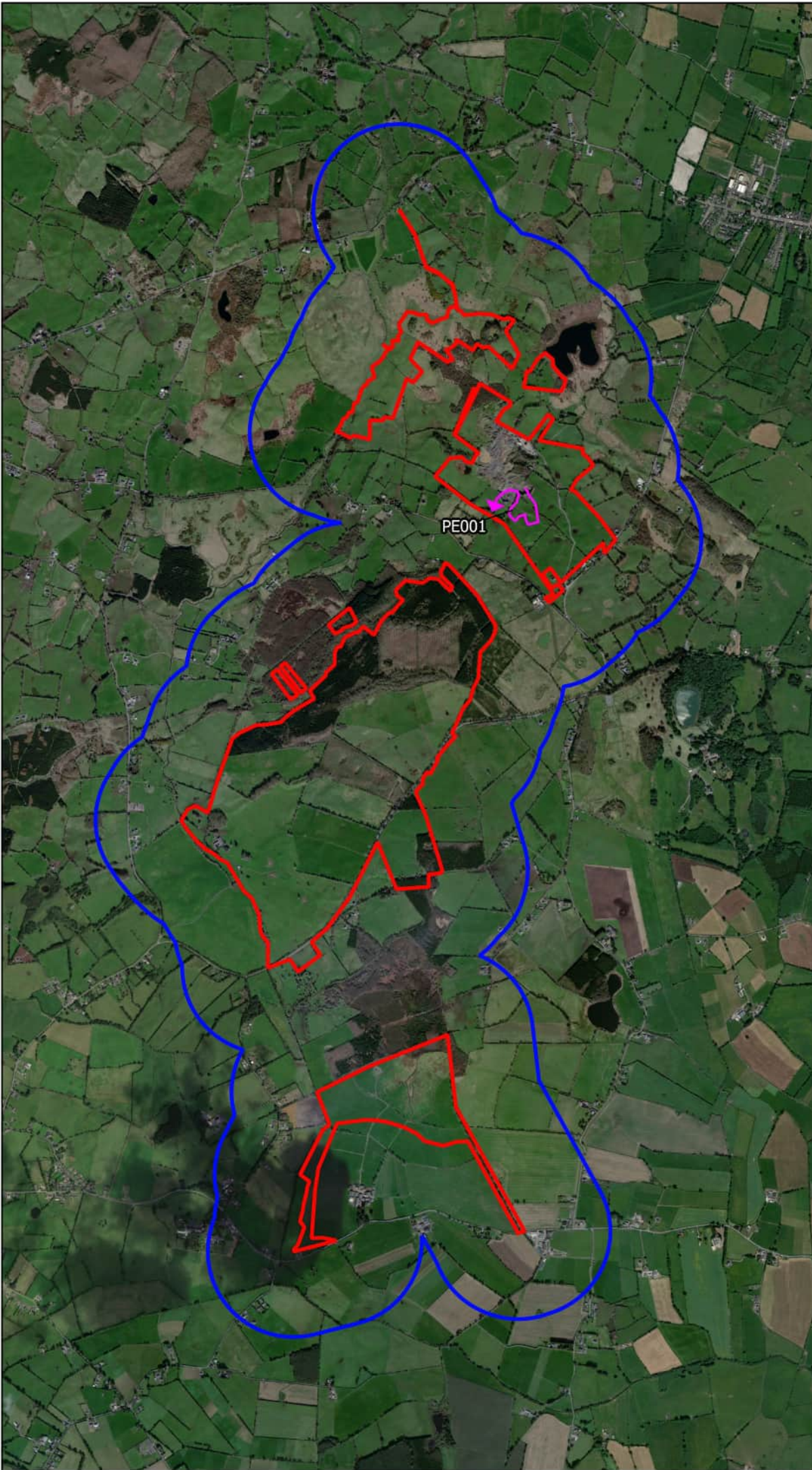
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- Wind Farm Site
- 500m Survey Radius
- ➔ Flightline






Drawing Title	
Golden Plover Observations Winter Walkover Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
P. Manley	P. Cregg
Project No.	Drawing No.
190531	Fig. 4.1
Scale	Date
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Map Legend

-  Wind Farm Site
-  500m Survey Radius
-  Flightline

PE001



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Drawing Title	
Peregrine Observations Winter Walkover Surveys	
Project Title	
Crowinstown	
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190531	Fig. 4.2
Scale	Date
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Map Legend

- Wind Farm Site
- 500m Survey Radius
- Flightline
- ◆ Observation



Drawing Title	
Whooper Swan Observations Winter Walkover Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
P. Manley	P. Cregg
Project No.	Drawing No.
190531	Fig. 4.3
Scale	Date
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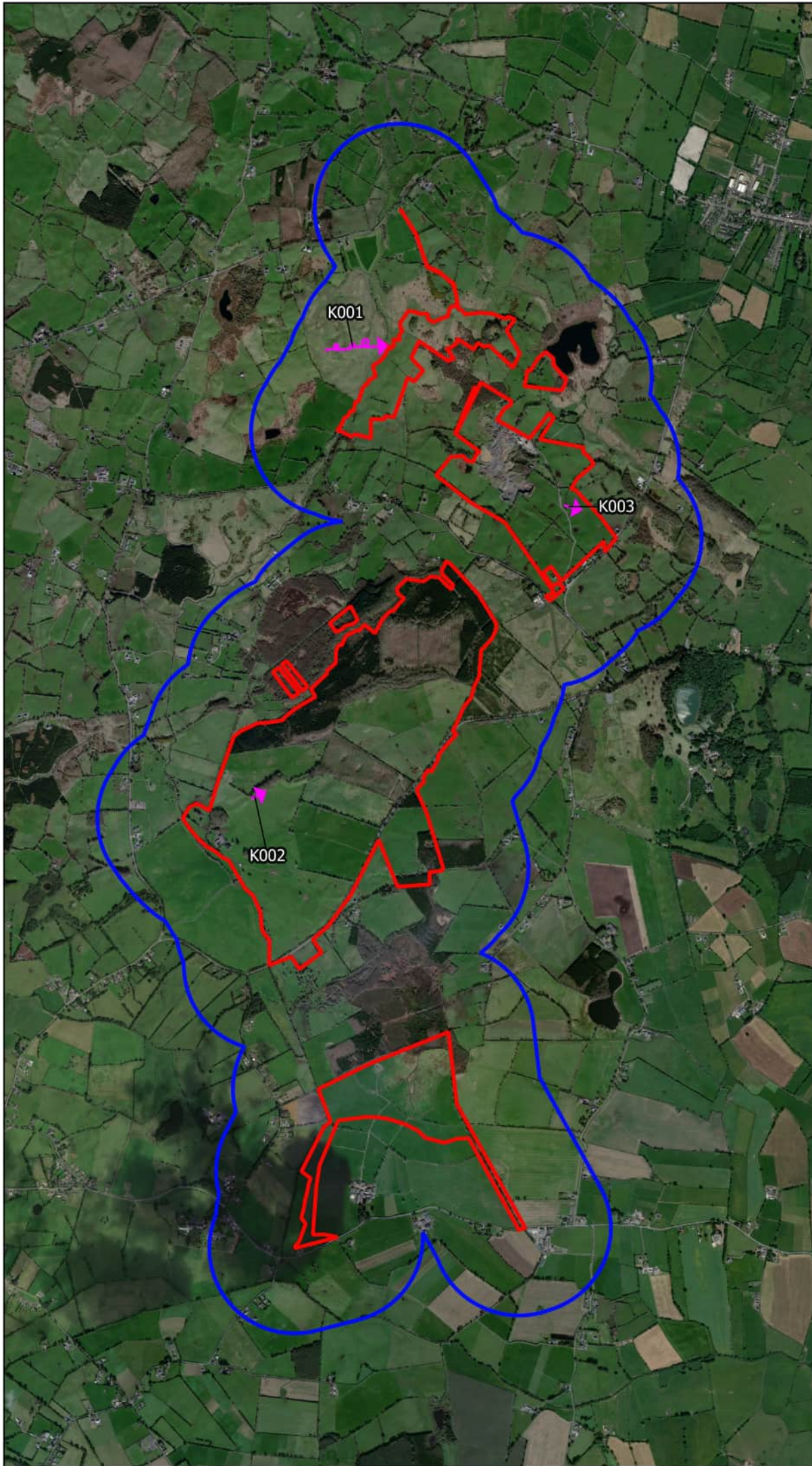
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- 500m Survey Radius
- ◆ Observation

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Drawing Title	
Wood Sandpiper Observations Winter Walkover Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 4.4
Scale	Date
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Map Legend

-  Wind Farm Site
-  500m Survey Radius
-  Flightline






Drawing Title	
Kestrel Observations Winter Walkover Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 4.5
Scale	Date
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Map Legend

-  Wind Farm Site
-  500m Survey Radius
-  Flightline






Drawing Title	
Lapwing Observations Winter Walkover Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 4.6
Scale	Date
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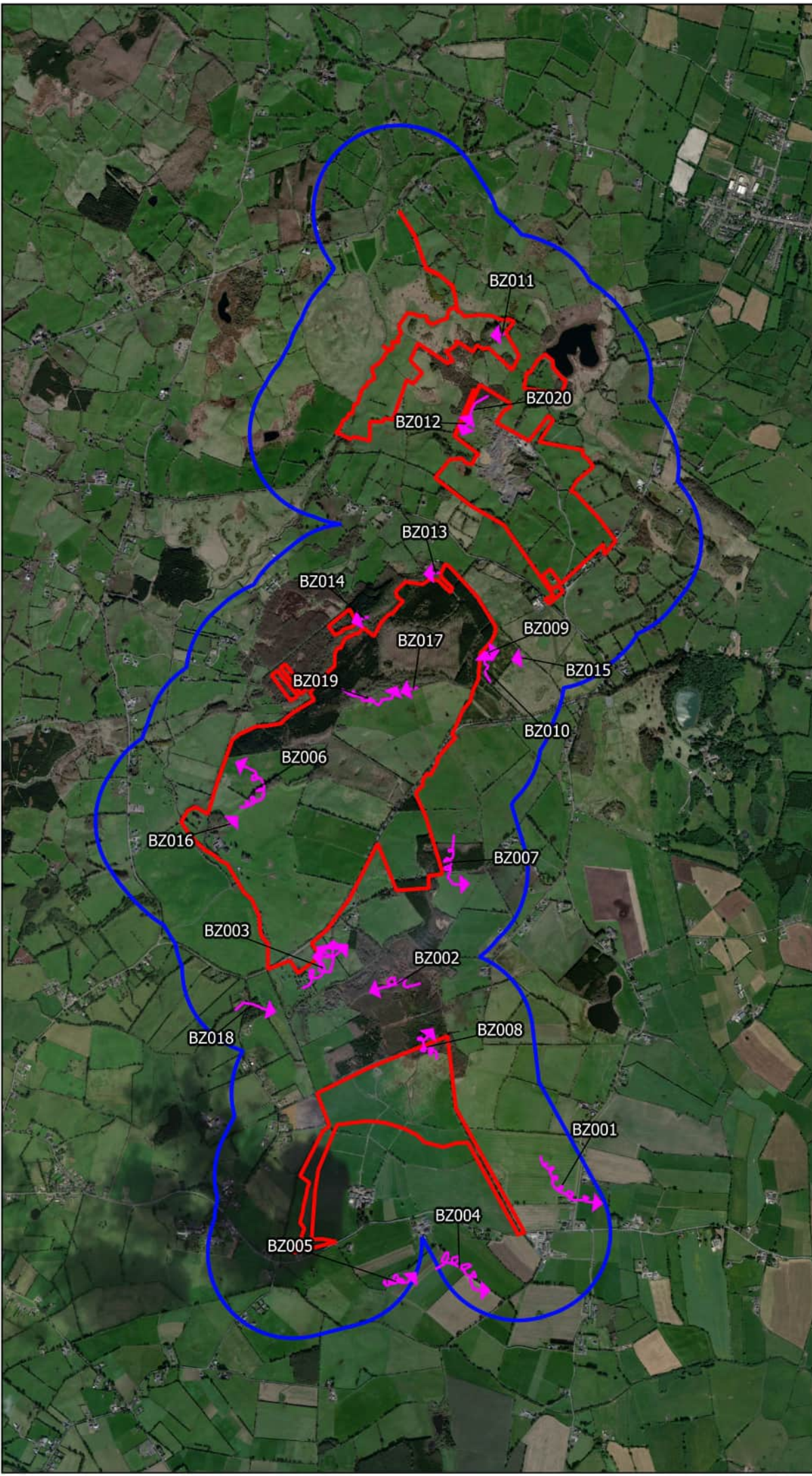
-  Wind Farm Site
-  500m Survey Radius
-  Flightline



Drawing Title	
Snipe Observations Winter Walkover Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
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190531	Fig. 4.7
Scale	Date
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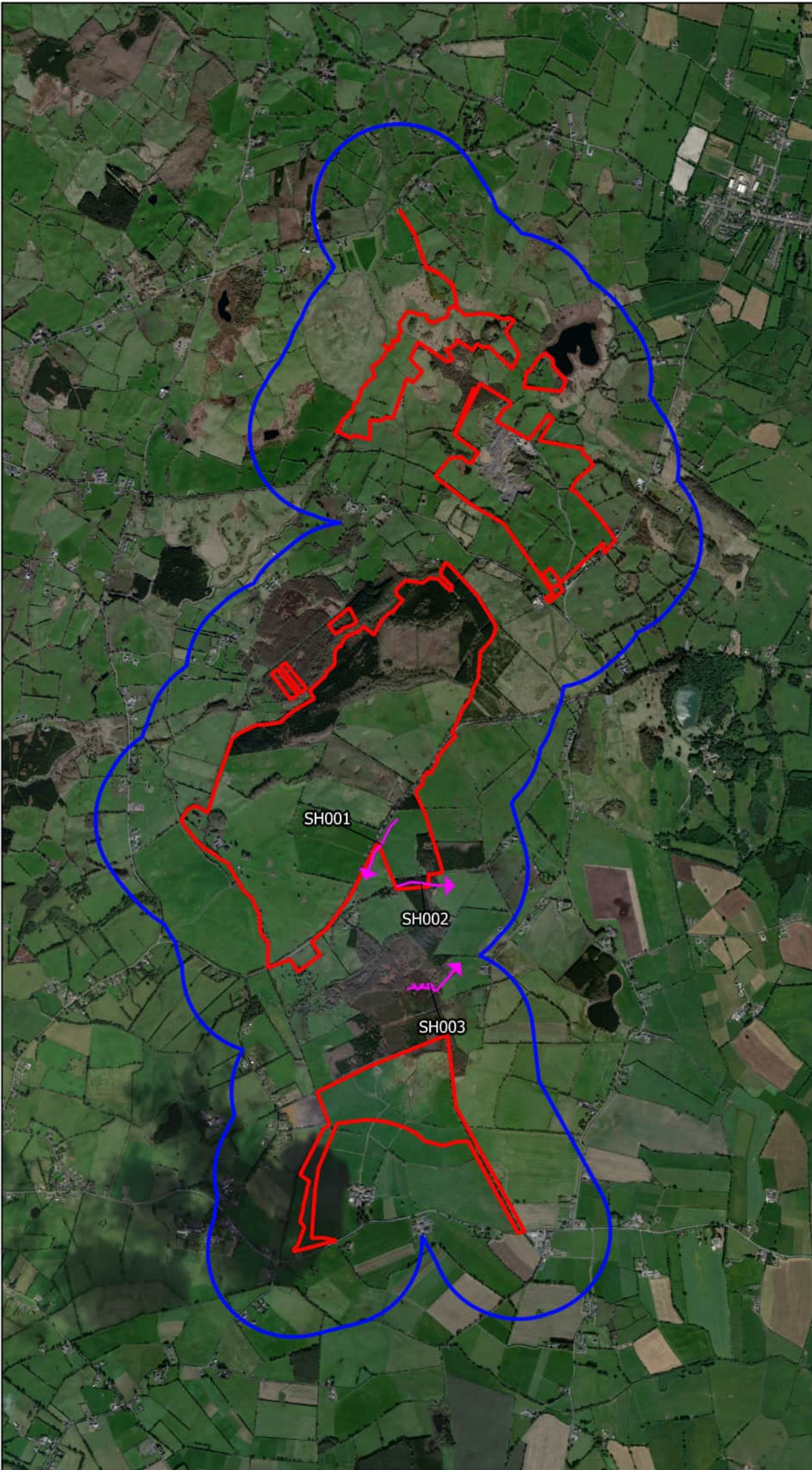
Map Legend

- Wind Farm Site
- 500m Survey Radius
- Flightline



Drawing Title	
Buzzard Observations Winter Walkover Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 4.8
Scale	Date
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Map Legend

- Wind Farm Site
- 500m Survey Radius
- ➔ Flightline



Drawing Title	
Sparrowhawk Observations Winter Walkover Surveys	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 4.9
Scale	Date
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Map Legend

- Wind Farm Site
- 500m Survey Radius
- 1km Survey Radius



Drawing Title	
Wildfowl Distribution Survey Area	
Project Title	
Crowinstown	
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Project No.	Drawing No.
190531	Fig. 5
Scale	Date
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Map Legend

- Wind Farm Site
- 500m Survey Radius
- 1km Survey Radius
- ◆ Observation



Drawing Title	
Golden Plover Observations Wildfowl Distribution Survey	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 5.1
Scale	Date
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Map Legend

- Wind Farm Site
- 500m Survey Radius
- 1km Survey Radius
- ◆ Observation

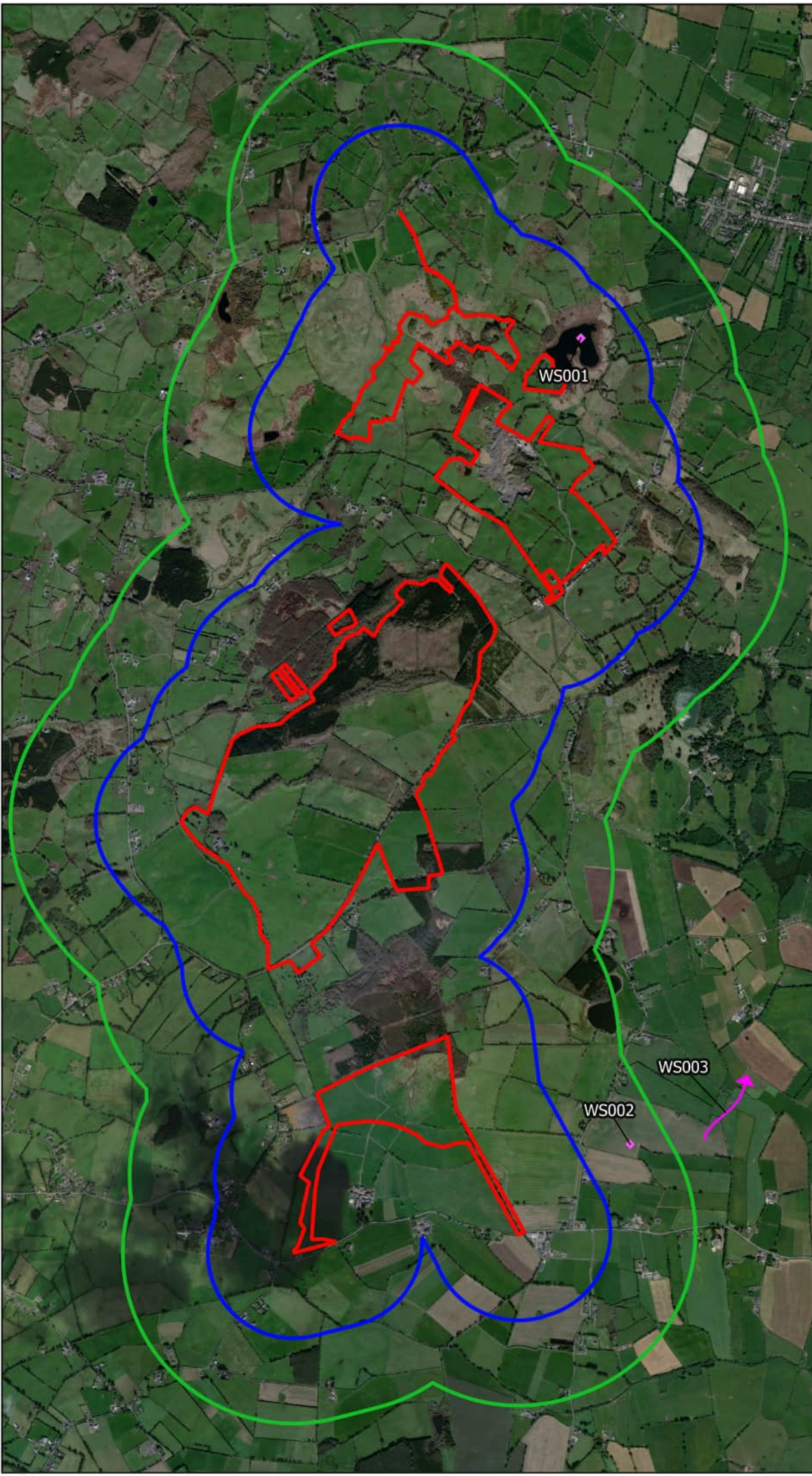
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Kingfisher Observations Wildfowl Distribution Survey	
Project Title	
Crowinstown	
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190531	Fig. 5.2
Scale	Date
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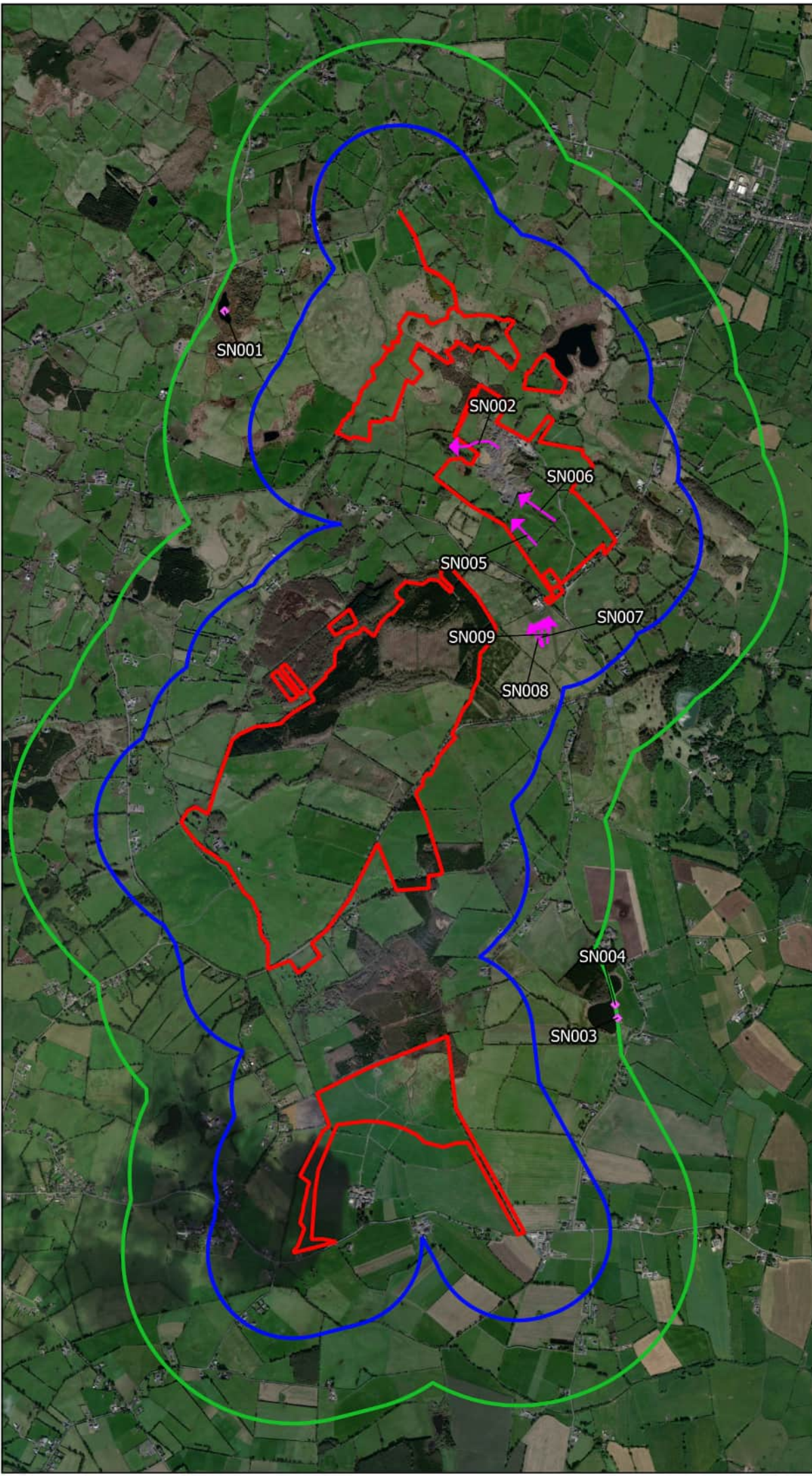


Map Legend

- Wind Farm Site
- 500m Survey Radius
- 1km Survey Radius
- Flightline
- ◆ Observation



Drawing 119e	
Whooper Swan Observations Wildfowl Distribution Survey	
Project Title	
Crowinstown	
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Map Legend

- ▭ Wind Farm Site
- ▭ 500m Survey Radius
- ▭ 1km Survey Radius
- Flightline
- ◆ Observation



Drawing Title	
Snipe Observations Wildfowl Distribution Survey	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 5.4
Scale	Date
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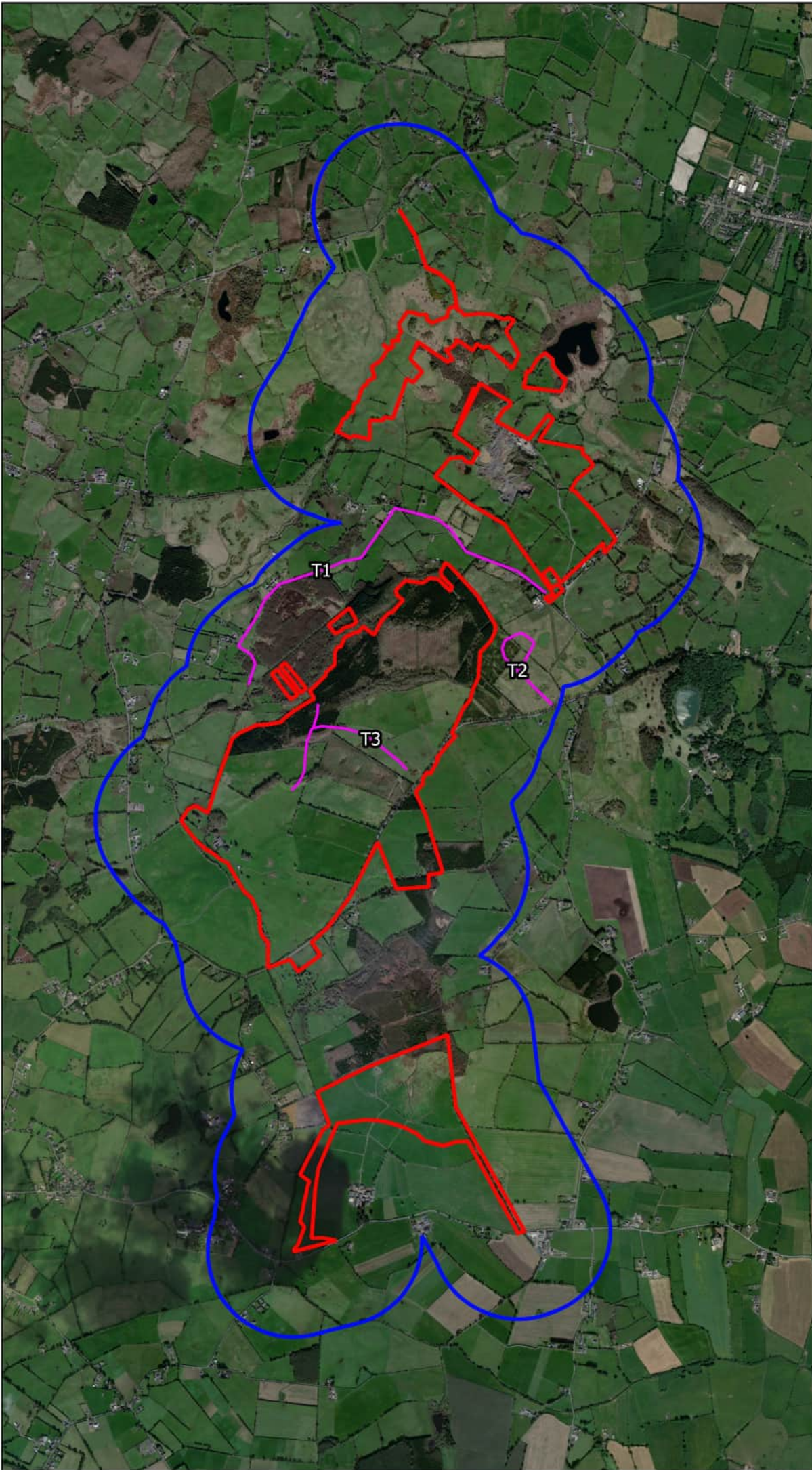
- Wind Farm Site
- 500m Survey Radius
- 1km Survey Radius
- Probable Territory



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Drawing Title	
Snipe Territories Wildfowl Distribution Survey	
Project Title	
Crowinstown	
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Project No.	Drawing No.
190531	Fig. 5.4.1
Scale	Date
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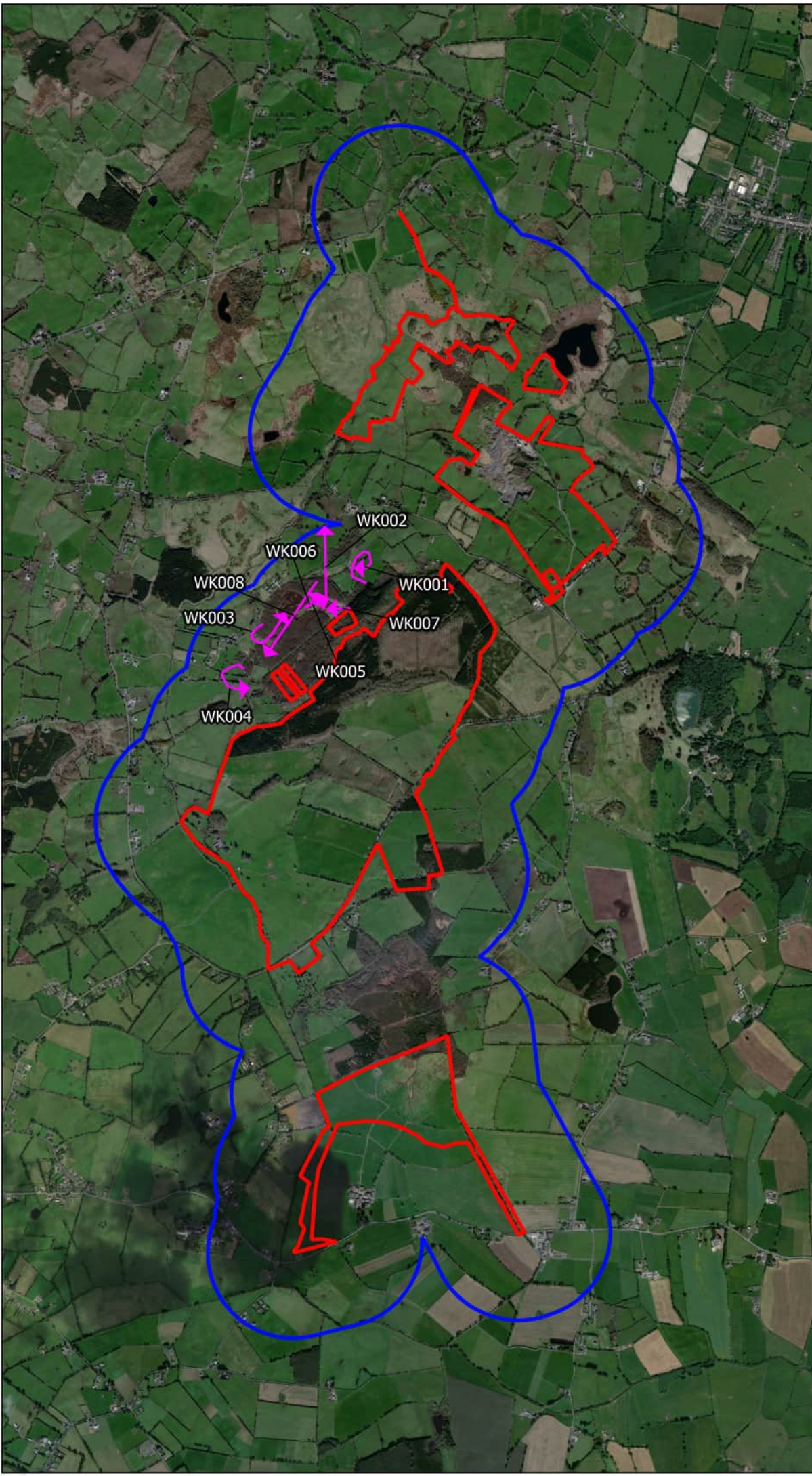
Map Legend

- Wind Farm Site
- 500m Survey Radius
- Woodcock Survey Transects



Drawing Title	
Breeding Woodcock Survey Transects	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 6
Scale	Date
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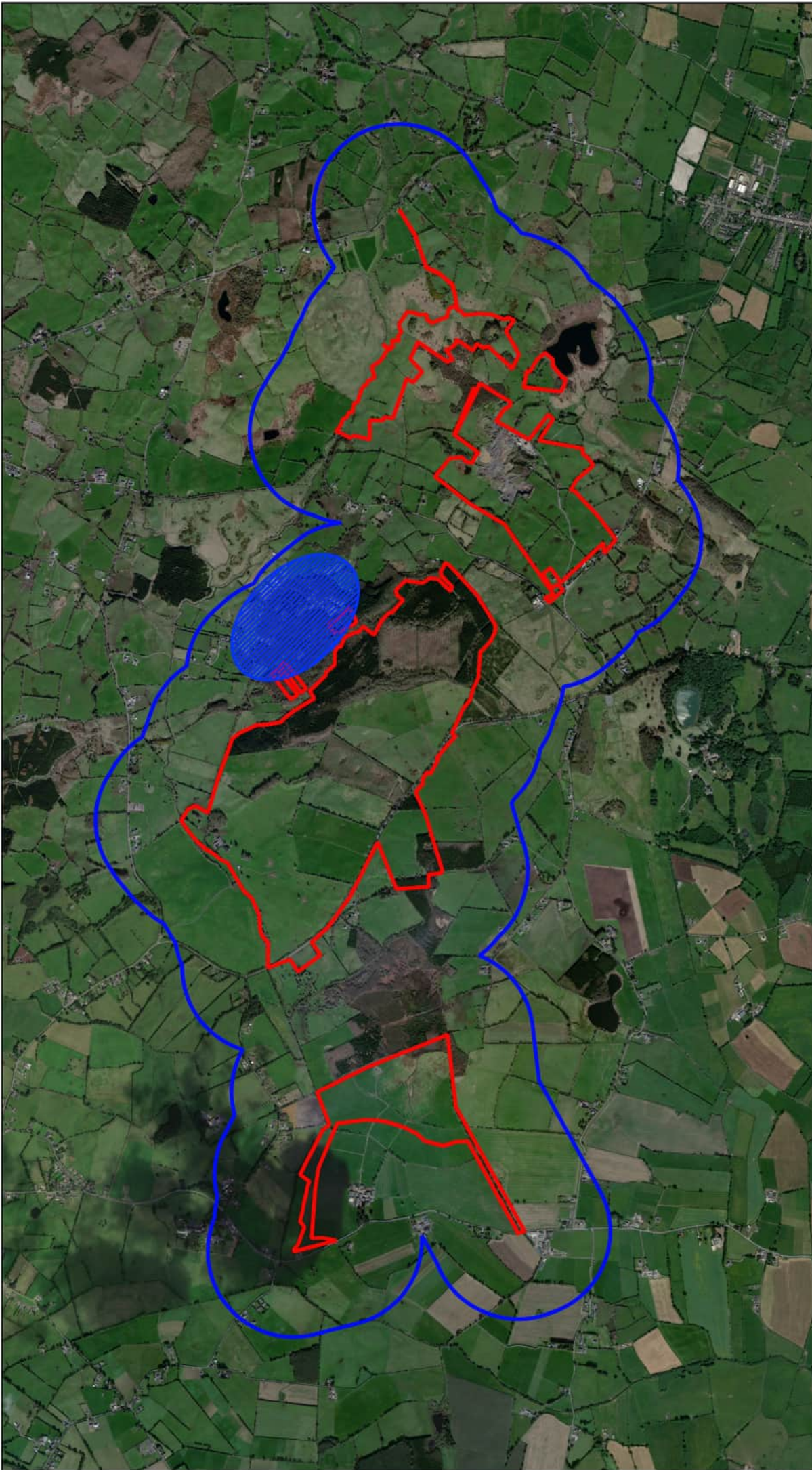
Map Legend

- Wind Farm Site
- 500m Survey Radius
- Flightline



Drawing Title	
Breeding Woodcock Survey Observations	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 6.1
Scale	Date
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Map Legend

- Wind Farm Site
- 500m Survey Radius
- Probable Breeding Area



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Drawing Title	
Breeding Woodcock Area	
Project Title	
Crowinstown	
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Scale	Date
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Map Legend

- Wind Farm Site
- 500m Survey Radius
- Flightline
- ◆ Observation



Drawing Title	
Kestrel Incidental Observations	
Project Title	
Crowinstown	
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190531	Fig. 7.1
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Map Legend

- Wind Farm Site
- 500m Survey Radius
- ➔ Flightline



Drawing Title	
Lapwing Incidental Observations	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 7.2
Scale	Date
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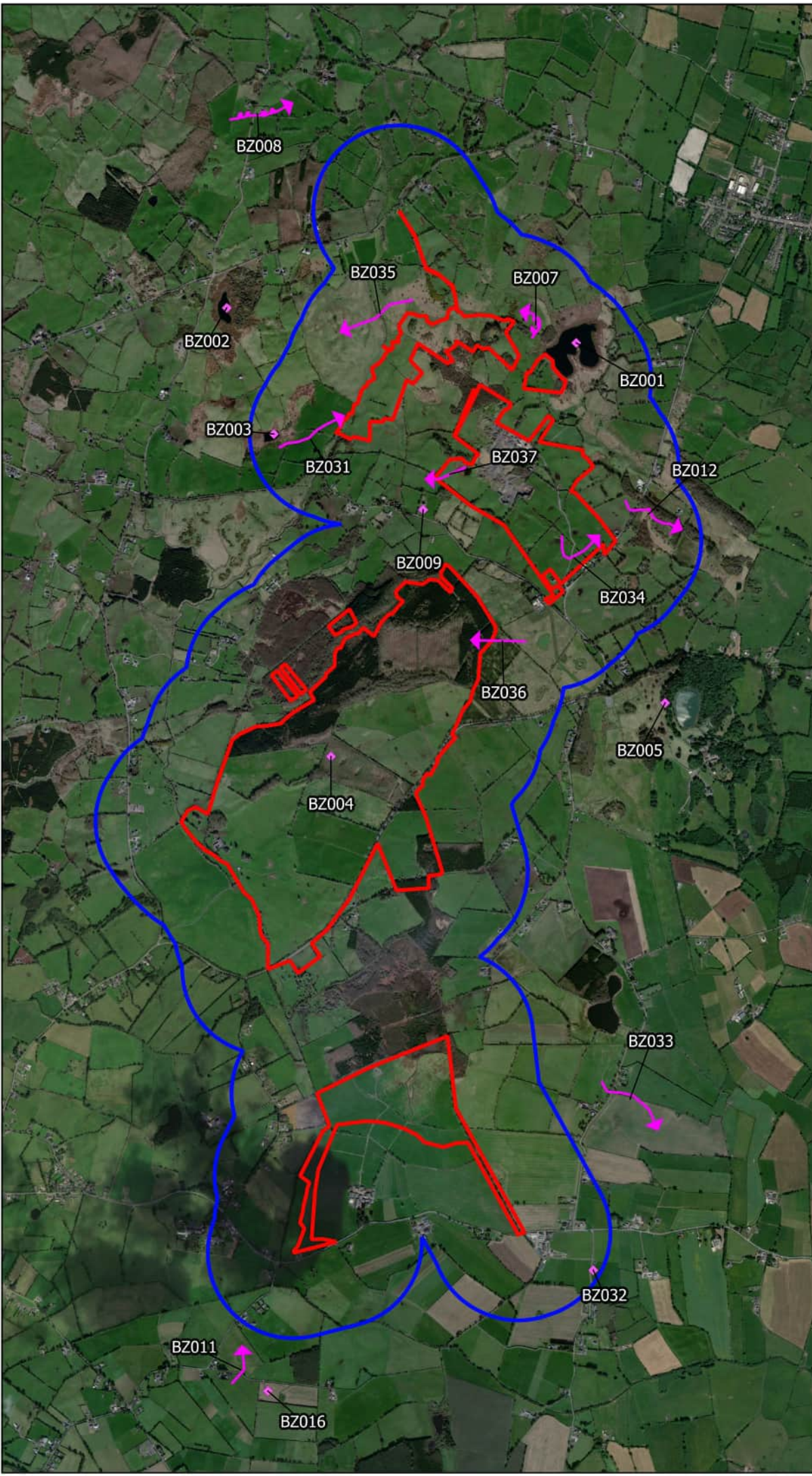
- Wind Farm Site
- 500m Survey Radius
- ◆ Observation



Drawing Title	
Long-eared Owl Incidental Observations	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 7.3
Scale	Date
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Map Legend

- Wind Farm Site
- 500m Survey Radius
- Flightline
- ◆ Observation



Drawing Title	
Buzzard Incidental Observations	
Project Title	
Crowinstown	
Drawn By	Checked By
P. Manley	P. Cregg
Project No.	Drawing No.
190531	Fig. 7.4
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Map Legend

-  Wind Farm Site
-  500m Survey Radius
-  Confirmed Territory



Drawing Title	
Buzzard Territories Incidental Observations	
Project Title	
Crowinstown	
Drawn By	Checked By
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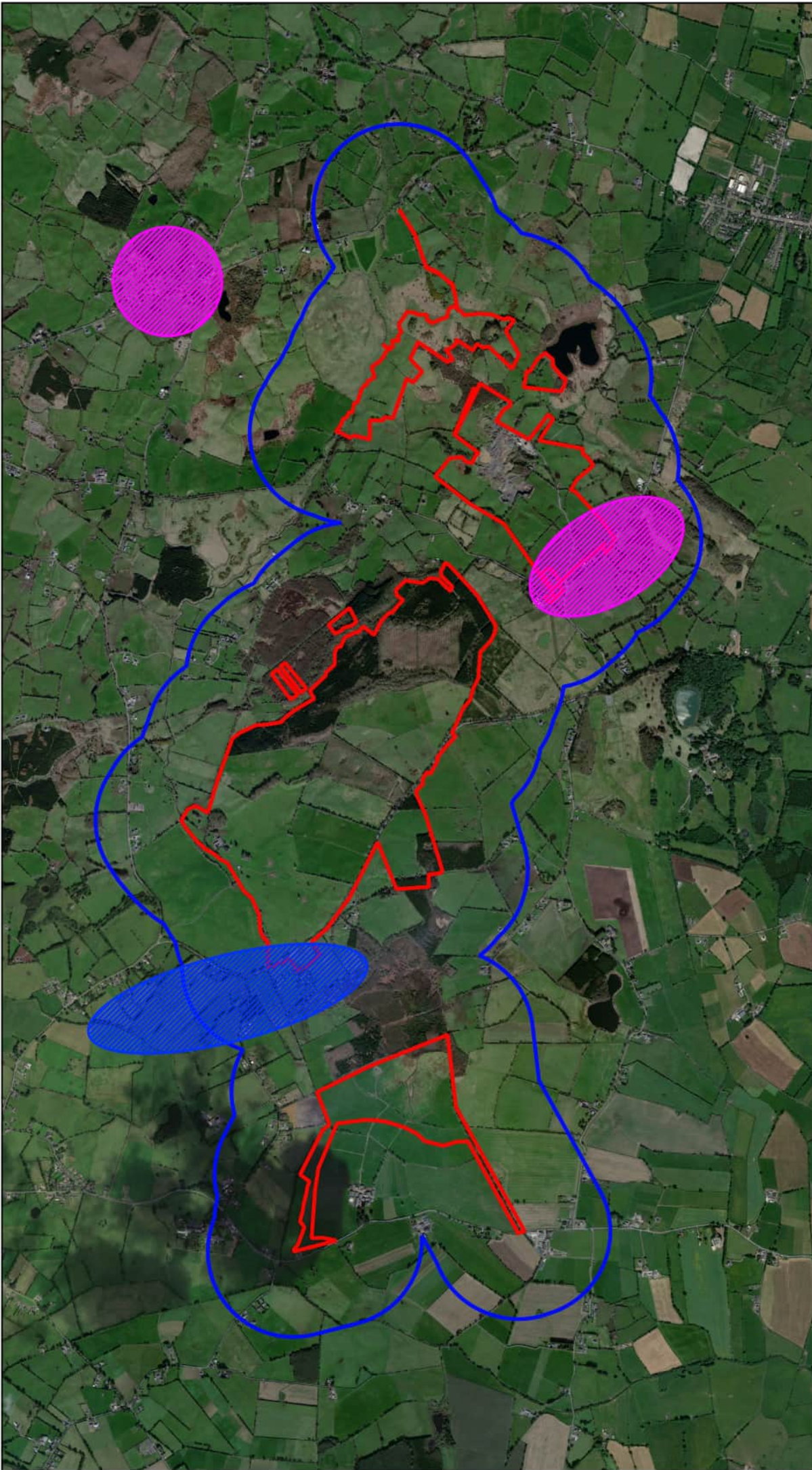
Map Legend

- Wind Farm Site
- 500m Survey Radius
- Flightline



Drawing Title	
Sparrowhawk Incidental Observations	
Project Title	
Crowinstown	
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Map Legend

-  Wind Farm Site
-  500m Survey Radius
-  Confirmed Territory
-  Possible Territory



Drawing Title
Kestrel Territories

Project Title
Crowinstown

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Project No. 190531	Drawing No. Fig. 8.1
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Map Legend

-  Wind Farm Site
-  500m Survey Radius
-  Confirmed Territory






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Drawing Title	
Lapwing Territories	
Project Title	
Crowinstown	
Drawn By	Checked By
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Project No.	Drawing No.
190531	Fig. 8.2
Scale	Date
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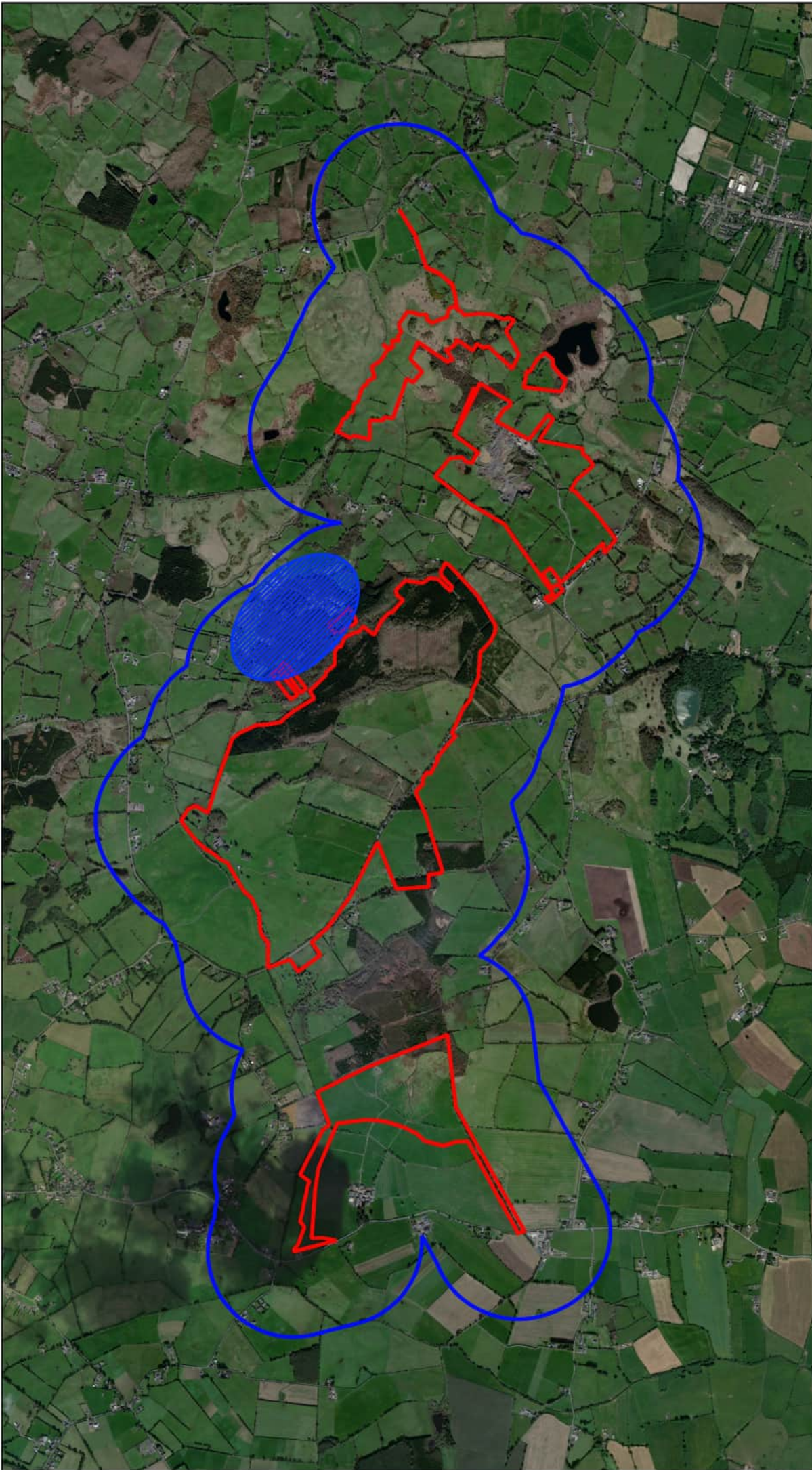


Map Legend

-  Wind Farm Site
-  500m Survey Radius
-  Probable Territory



Drawing Title		Snipe Territories	
Project Title			
Crowinstown			
Drawn By	Checked By		
P. Manley	P. Cregg		
Project No.	Drawing No.		
190531	Fig. 8.3		
Scale	Date		
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Map Legend

-  Wind Farm Site
-  500m Survey Radius
-  Probable Breeding Area

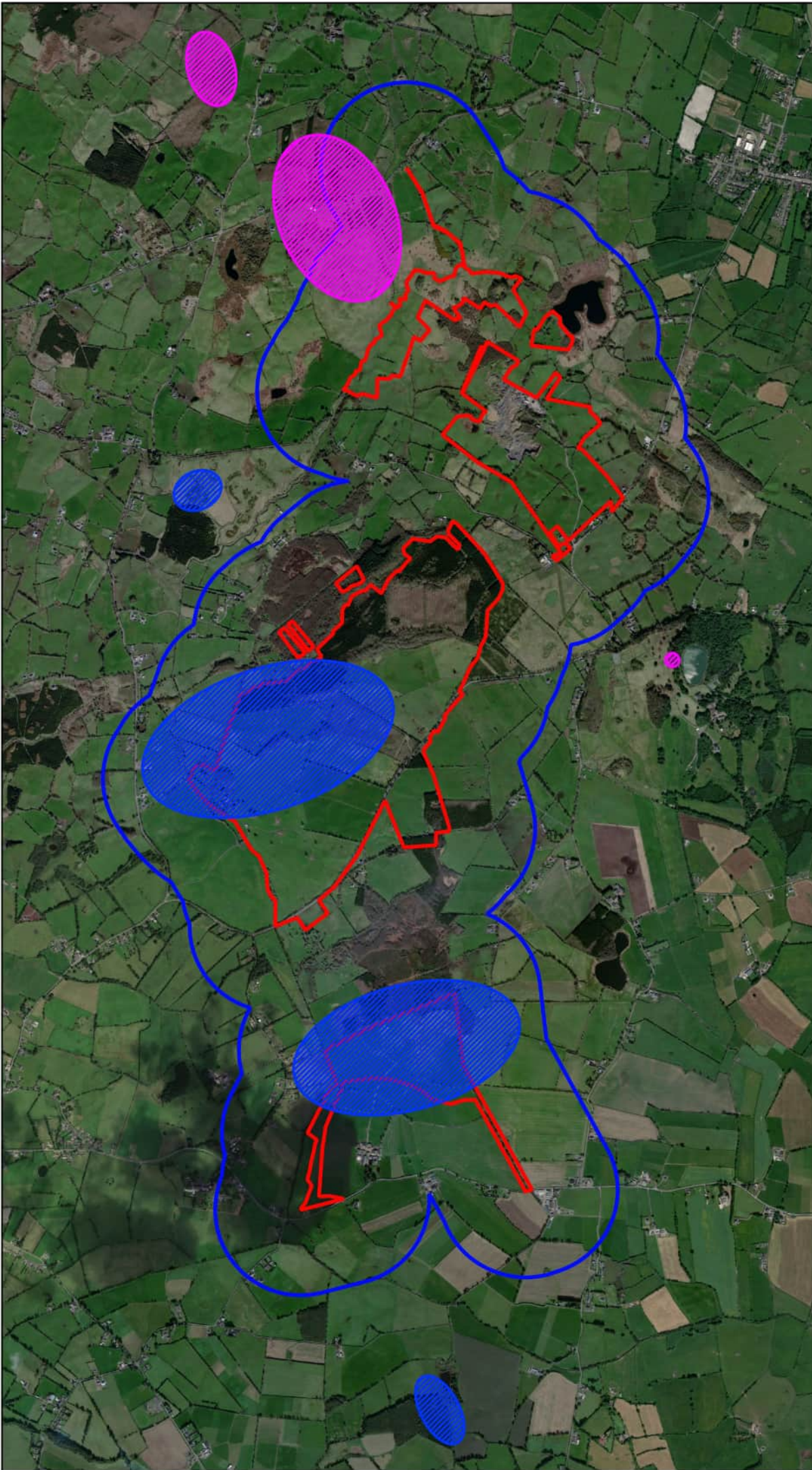


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Woodcock Breeding Area	
Project Title	
Crowinstown	
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190531	Fig. 8.4
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Map Legend

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-  500m Survey Radius
-  Confirmed Territory
-  Probable Territory



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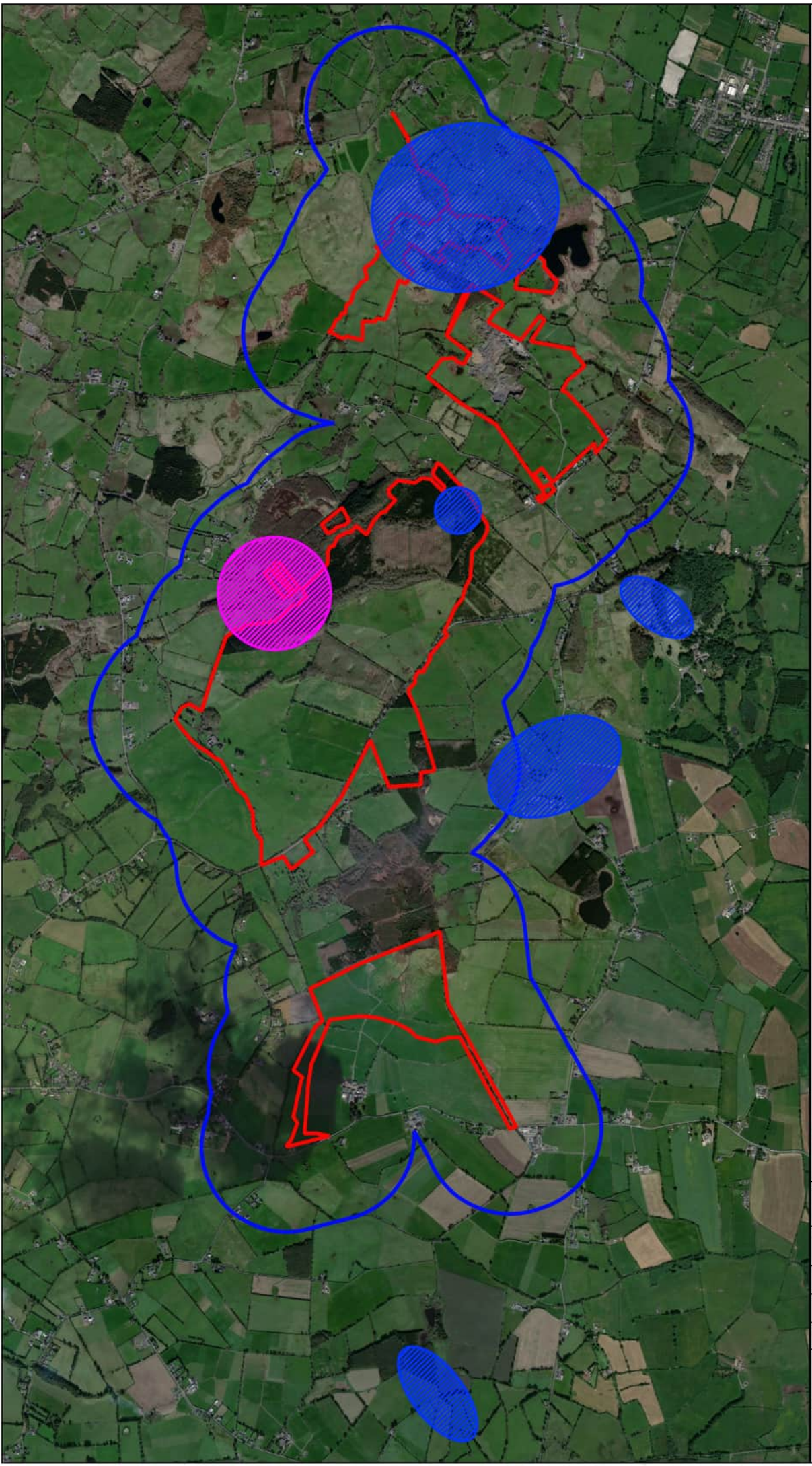
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Buzzard Territories

Project Title
Crowinstown

Drawn By P. Manley	Checked By P. Cregg
Project No. 190531	Drawing No. Fig. 8.5
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Map Legend

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Drawing Title
Sparrowhawk Territories

Project Title
Crowinstown

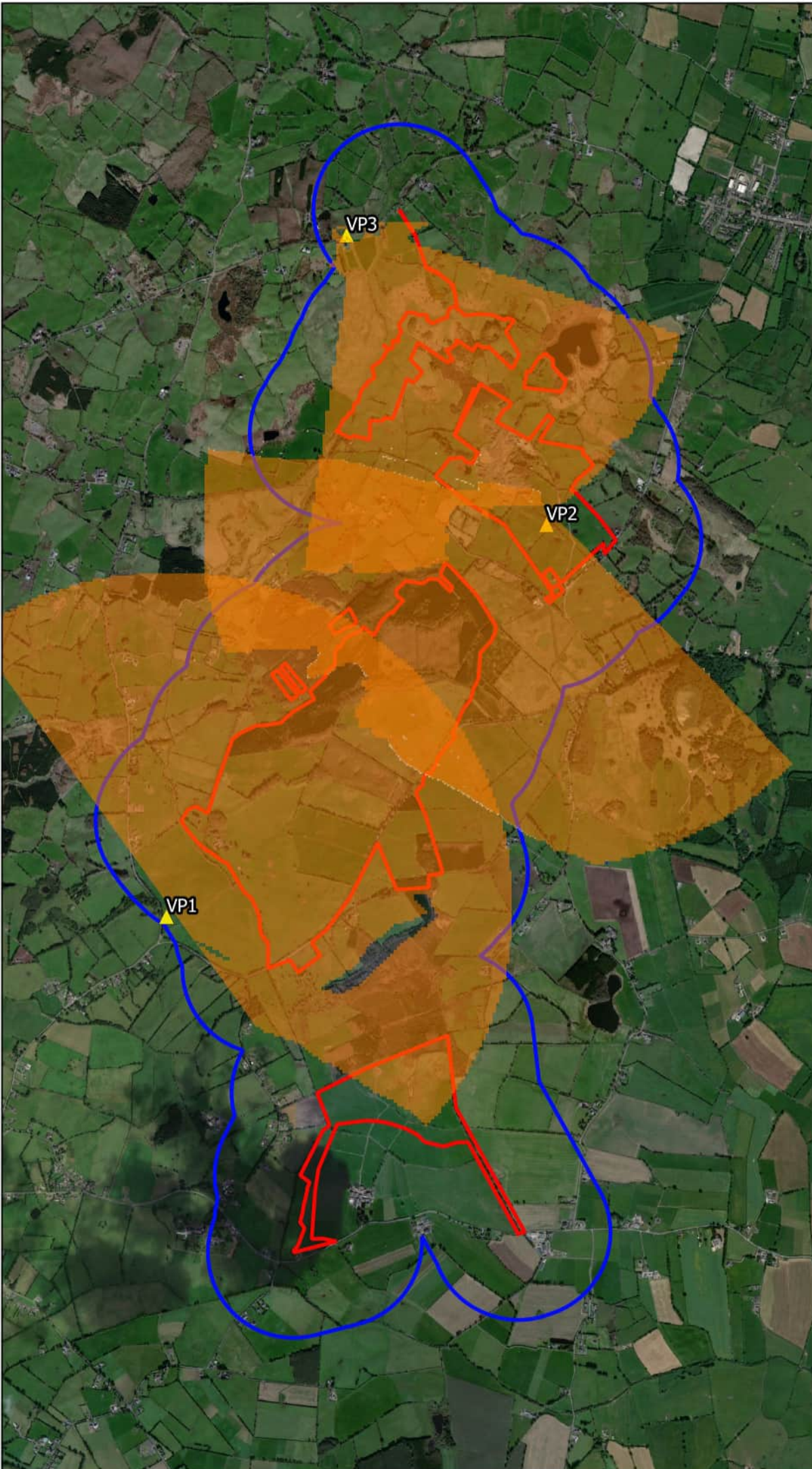
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Project No. 190531	Drawing No. Fig. 8.6
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Map Legend

- Wind Farm Site
- 500m Survey Radius
- ▲ Vantage Point Locations
- Viewshed



Drawing Title
Viewshed Analysis

Project Title
Crowinstown

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Project No. 190531	Drawing No. Fig. 9
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Year 3 Bird Survey Report – Breeding Season 2021

Crowinstown Wind Farm,
Co. Westmeath





DOCUMENT DETAILS

Client: **Statkraft**

Project Title: **Crowinstown Wind Farm, Co. Westmeath**

Project Number: **190531-b**

Document Title: **Year 3 Bird Survey Report Apr21 – Sep21**

Document File Name: **190531-b Crowinstown Breeding Season 2021 Report - F**

Prepared By: **MKO
Tuam Road
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Ireland
H91 VW84**



Rev	Status	Date	Author(s)	Approved By
01	Draft	09/11/2021	DW	PC
02	Final	26/11/2021	DW/PM	PC

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1. INTRODUCTION

McCarthy Keville O’Sullivan (MKO) were appointed to carry out bird survey works at Crowinstown during the period from April 2021 to September 2021 inclusive. The site is located east of Delvin and west of Athboy in County Westmeath (Grid Ref: N 622 265). The dominant habitat onsite is wet grassland and improved agricultural grassland with accompanying smaller areas of conifer plantation and a quarry. The wider surroundings are predominantly improved agricultural grassland. The total area of the wind farm site is approximately 330ha.

This report describes the ornithological survey methods employed and survey data collected at Crowinstown for the period from April 2021 to September 2021 inclusive. This report also contains information compiled during desktop studies. Particular attention has been paid to species of conservation importance and identified target species.

The report is supported by Technical Appendix 1 which contains the raw data from the bird surveys undertaken from April 2021 to September 2021. This includes detail on survey times, weather conditions, surveyors, survey results and other additional information. Flightline figures from surveys are included in Appendix 2.

The report is structured as follows:

- An introduction describing the background and statement of authority regarding ornithological works.
- A description of the desktop study and consultation carried out with regards to the site.
- A comprehensive description of the ornithological surveys carried out.
- A full description of results for all ornithological surveys carried out.
- Conclusions.

The following defines terms used in this report

- “Zones of Influence” (ZOI) for potential ornithological receptors refers to the zone within which potential effects are anticipated. ZOIs were assigned following best available guidance (SNH 2016 and McGuinness et.al 2015).

1.1 Statement of Authority

This report has been prepared by Donnacha Woods (B.Sc., M.Sc.) a Project Ornithologist with MKO. The field surveys were undertaken by Kate Bismilla, Declan Manley, Tom Rea, Niall McHugh, Ian Hynes and Laura Hynes, all of whom are competent experts in bird surveying.

2. DESK STUDY & CONSULTATION

2.1 Desk Study Methods

A comprehensive desk study was undertaken prior to surveys in summer 2021 to search for any relevant information on species of conservation concern that may potentially make use of the study area. The assessment included a thorough review of the available ornithological data including:

- Review of online web-mappers: National Parks and Wildlife Service (NPWS), National Biodiversity Data Centre (NBDC), Irish Wetland Bird Survey I-WeBS.
- Review of Bird Atlases: (Sharrock, 1976; Lack, 1986; Gibbons et al., 1993; Balmer et al., 2013).
- Review of Birds of Conservation Concern (BoCCI) in Ireland 2020-2026 (Gilbert et al., 2021)
- Review of specially requested records from the NPWS Rare and Protected Species Database.

2.2 Desk Study Results

2.2.1 Identification of Designated Sites within the Likely Zone of Influence

Using GIS software, sites designated for nature conservation within the potential ZOI of the proposed wind farm site were identified. The ZOI was derived utilising a precautionary approach. Sites within a 15-kilometre radius of the proposed works were identified.

In addition, and in the absence of any specific Irish guidance, the Scottish Natural Heritage (SNH) Guidance, ‘Assessing Connectivity with Special Protection Areas (SPA)’ (2016) was consulted. This document provides guidance in relation to the identification of connectivity between proposed development proposals and Special Protection Areas. The guidance takes into consideration the distances some species may travel beyond the boundary of their SPAs and outlines information on dispersal and foraging ranges of bird species which are frequently encountered when considering plans and projects.

Designated sites (SPAs) located within the Likely Zone of Influence are listed below in Table 2-1.

Table 2-1 Special Protection Areas within 15 kilometres of site boundary

Designated site and code	Species of qualifying interests	Distance from wind farm site (km)
River Boyne and River Blackwater SPA (004232)	Kingfisher	1.0
Lough Derravaragh SPA (004043)	Whooper Swan Pochard Tufted Duck Coot	14.65

2.2.2 Breeding Bird Atlas Records

Bird Atlas 2007-11: The breeding and wintering birds of Britain and Ireland (Balmer et al., 2013) is the most recent comprehensive work on wintering and breeding birds in Ireland.

The study area lies within hectad N66. Table 2-2 below presents a list of species of ornithological interest recorded within the hectad.

Table 2-2 Breeding bird atlas data for relevant hectad (N66)

Species Name	Breeding Status	Conservation Status
Peregrine	Possible	BD
Kestrel	Possible	RL
Snipe	Probable	RL
Buzzard	Probable	-
Sparrowhawk	Probable	-
Meadow Pipit	Probable	RL
Yellowhammer	Possible	RL

BD=Birds Directive; RL = BoCCI Red List; Seen = recorded; Breed = breeding; Non-B = non-breeding; Possible = possible breeding; Probable = probable breeding; Confirmed = confirmed breeding.

Table 2-2 above, lists seven species recorded in the relevant hectad during the most recent breeding bird atlas (2007-2011) studies that are also protected under the EU Birds Directive or mentioned on the Birds of Conservation Concern in Ireland (BoCCI) red list (2020-2026).

2.2.3 Method of Identification of Target Species

Following a comprehensive desk study by MKO, initial site visit and consultation, a list of “Target species” likely to occur at the site was compiled. The survey work carried out at the wind farm site was specifically designed to survey for these identified target species in accordance with SNH guidance (2017). The target species list was drawn from:

- Annex I of the Birds Directive
- Red listed birds of Conservation
- Special Conservation Interests (SCI) of Special Protection Areas (SPA) within the zone of likely significant effects
- Species protected under the fourth schedule of the Wildlife Acts 1976-2012.

2.3 Consultation

MKO undertook a consultation exercise during the preparation of this report. Table 2-3 below provides a list of the organisations consulted and notes where responses have been received.

Table 2-3 Scoping Response Summary

No.	Consultee	Response to Consultation
1	National Parks & Wildlife Service	Response received 31/12/2019
2	National Parks & Wildlife Service	Response received 09/04/2020

2.3.1 NPWS Rare and Protected Species Dataset

An information request was sent to the NPWS in March 2021 requesting records from the Rare and Protected Species Database. The reply from NPWS indicated no records regarding rare and protected bird species from the Hectad in which the study area was contained, confirming the previous replies from NPWS in 2019 and 2020.

3. FIELD SURVEYS

3.1 Methodology

This section of the report describes the various field survey methods employed. Field surveys were undertaken from April 2021 – September 2021 inclusive. The data provided in this report is robust and allows clear, precise and definitive conclusions to be made with regard to the likely significant effects on avian receptors identified within the subject site. Field survey methodologies have been devised to survey for the bird species composition and assemblages that occur within the study area.

3.1.1 Initial Site Assessment

Based on the results of the desk study and previous surveys dating back to 2019, the likely importance of the study area for bird species was determined. Based on the collated information available from the above preliminary assessment and adopting a precautionary approach, a site-specific scope for the ornithological surveys was developed.

3.1.2 Vantage Point Surveys

Vantage point (VP) surveys were undertaken in accordance with SNH guidance (SNH, 2017) from three vantage point locations from April 2021 to September 2021.

Data on bird observations and flight activity was collected from a scanning arc of 180° and a two-kilometre radius by an observer at each fixed location for six hours per month. Surveys were orientated to provide a spread over the full daylight period including at dawn and dusk to coincide with the highest points of bird activity.

Details on vantage point watch survey effort are presented in Appendix 1 to this report. This appendix includes full details of dates, times, survey locations, survey duration and weather conditions for each survey. Appendix 2, Figure 1 shows the locations of vantage points and technical data is provided in Appendix 1.

Flight activity was assigned to distinct height bands. The flight bands were chosen with reference to the dimensions of likely turbine models for the site and the resulting potential collision height. Bands are split into 0-15m, 15-25m, 25m-200m and 200m+. Taking a precautionary approach 25-200m is considered potential collision height (PCH), for the purposes of reporting the results of this report.

3.1.2.1 Viewshed Analysis

Viewshed analysis was carried out to inform coverage of the study area from fixed vantage point locations (VP1, VP2, VP3) prior to the commencement of surveys in April 2021. Viewsheds were calculated using Resoft Wind Farm ZTV (Zone of Theoretical Visibility) software in combination with Mapinfo Professional (Version 10.0) using a notional and precautionary layer suspended at 25m, which represents the lowest swept height of the turbine blades. While the relevance of being able to view as much of the site to ground level is acknowledged, the SNH guidance emphasises the importance of visibility of the ‘collision risk volume’ when the data is to be used to estimate the risk of collision with turbines by birds.

The viewshed analysis involved testing each VP location for its visibility coverage by creating a view shed point two metres in height (to represent the height of observer) on a map using 10 metre contours terrain data. Using the ZTV software, a viewshed of 360 degrees was produced calculating an area 10 metres from ground level up to a two-kilometre radius. The resulting viewshed image was then cropped to 180 degrees to give the viewshed from each VP location in line with SNH (2017). A 500m buffer was applied to the likely maximum viable area of the site for a wind energy development in line with SNH’s

recommendation to conduct surveys to 500m from the outermost turbines of a proposed wind farm site (2017). The viewshed analysis offers maximum views of the study area with adequate coverage of the proposed turbine layout. As described above, the predicted collision risk height band that was used in the current assessment (>25m) is considered to be precautionary and in line with previously recommended height bands advocated in SNH (2005) guidance documents. Appendix 2, Figure 9. shows the calculated viewshed analysis.

3.1.3 Breeding Walkover Surveys

Breeding walkover surveys were undertaken to determine the presence of bird species of high conservation concern and identify areas of possible, probable, or confirmed breeding territories for bird species observed within the study area. The survey methodology followed the O'Brien & Smith method for lowland sites as outlined in Gilbert et al. (1998). The study area for these surveys was the wind farm site and a 500m survey radius of the wind farm site.

Transect routes were devised to ensure coverage of different habitat complexes between vantage point locations within the study area. Transects were selected in order to survey all areas of suitable breeding/foraging habitat to within 100m, where access allowed. Target species included waders, raptors, waterbirds, gulls and other birds of conservation concern. Along with target species, all additional species observed were recorded to inform the evaluation of supporting habitat.

Walkover surveys were carried out during daylight hours, during the core breeding season months of April, May, June and July (2021), with the wind farm site being visited on two days per month on each occasion. Following all survey visits, the field maps were analysed to determine the number and location of breeding territories. All non-breeding individuals and species encountered were also recorded.

Survey effort, including details of survey duration and weather condition, is presented in Appendix 1. Figure 2 in Appendix 2 shows the survey area.

3.1.4 Breeding Raptor Surveys

Breeding raptor surveys (*i.e.*, birds of prey and owls) were undertaken within the study area and its immediate surroundings. These surveys aimed to identify occupied territories and ascertain whether breeding was successful. The methodology followed Hardey *et al.* (2013). Raptor surveys were undertaken onsite and to a 2km radius from the wind farm site monthly during the core breeding season period (April to July 2021).

Survey effort details are provided in Appendix 1. Figure 3 in Appendix 2 shows the study area extending 2km from the wind farm site.

3.1.5 Breeding Woodcock Surveys

Breeding season surveys for this species were undertaken in accordance with Gilbert et.al (1998). The survey area extended 500m beyond the wind farm site. All surveys were undertaken in areas of suitable breeding habitat during May and June 2021. Surveys commenced one hour before sunset and continue for an hour after sunset or until it was too dark to see. The survey aimed to record the presence of roding (displaying) male woodcock and thereby establish the distribution and abundance of the species in the study area. This survey method also allowed the observer to survey for owls, *i.e.*, barn owls and long-eared owls. The survey effort is presented in Appendix 1, including details of survey duration and weather conditions. Figure 4 in Appendix 2 shows survey area.

3.1.6 Wildfowl Distribution Surveys

Wildfowl distribution and abundance surveys were focused on the immediate surroundings of the wind farm site. In compliance with SNH (2017) these surveys extended to a 500m radius of the wind farm site for foraging wildfowl and one kilometre of the site for roosting wildfowl. These surveys aimed to provide contextual information on the distribution and abundance of waterfowl species within the wider surroundings of the wind farm site. The count methodology was in line with survey methodology guidelines issued by SNH (2017) and BirdWatch Ireland (2015). Counts were undertaken during daylight hours (from dawn or before dusk).

The survey effort for all wildfowl distribution surveys is presented in Appendix 1. Figure 5 in Appendix 2 shows the wetland site survey locations.

3.1.7 Survey Justification

A comprehensive suite of bird surveys was undertaken at the site between April 2021 and September 2021, as detailed in this report.

Results from the 2021 breeding season are derived from a continuous six months of surveying undertaken in accordance with SNH Guidance.

The surveys undertaken provide the information necessary to allow a complete, comprehensive and robust assessment of the potential impacts of the wind farm site on avian receptors. The survey duration and scope are considered entirely satisfactory.

3.2 Results

3.2.1 Introduction

A comprehensive list of all target bird species recorded within the study area is provided in Appendix 1, Table 1. This list also provides the conservation status of each species. Appendix 1, Table 2 provides a comprehensive list of all non-target species recorded within the study area.

The following target species were recorded during the survey period, April 2021 to September 2021 and observations are described in detail in subsequent sections below. The list is ordered in accordance with conservation significance: Annex I species, SCIs of designated sites, Red listed species and raptors:

- > Peregrine Falcon (Annex I species; Schedule IV of the Wildlife Act; 1976)
- > Hen Harrier (Annex I species; Schedule IV of the Wildlife Act; 1976)
- > Coot (SCI of Lough Derravarragh SPA)
- > Kestrel (BoCCI Red Listed)
- > Lapwing (BoCCI Red Listed)
- > Snipe (BoCCI Red Listed)
- > Woodcock (BoCCI Red Listed)
- > Buzzard (Raptor, Schedule IV of the Wildlife Act; 1976)
- > Sparrowhawk (Raptor, Schedule IV of the Wildlife Act; 1976)
- > Red Listed Passerines (Meadow Pipit, Yellowhammer, Swift)

The following sections describe the observations of each target species under the individual survey headings. Raw data and maps are provided in Appendix 1 and Appendix 2, respectively.

3.2.2 Vantage Point Survey Results

Vantage point surveys were undertaken at the site between April 2021 and September 2021 inclusive. Summary results from vantage point surveys are presented below in Table 3-1 and discussed in further detail in Section 4 of this report.

Table 3-1 Vantage Point Survey Results

Conservation Status	Species	Total number of observations	Total Number of flights at PCH	Number of observations on site/within 500m	Activity of note	Figure
Annex I - BoCCI Green List	Peregrine Falcon	1	1	1	One observation of a bird soaring over farmland and remaining around sand quarry for a period ¹ .	Appendix 2, Figure 1.1
Annex I BoCCI Amber List	Hen Harrier	1	0	1	One brief observation in September 2021 of a bird travelling.	Appendix 2, Figure 1.2
BoCCI Red Listed	Kestrel	8	0	8	There was a total of eight observations, all relating to birds hunting and travelling.	Appendix 2, Figure 1.3
BoCCI Red Listed	Lapwing	1	0	1	One observation of birds taking off from beside a pond in a field behind VP2, indicating possible breeding. This is the same area that breeding lapwing were identified in during the 2020 breeding season surveys.	Appendix 2, Figure 1.4/1.4.1
BoCCI Red Listed	Snipe	3	0	3	Observations comprised of birds travelling, with one observation of alarm calling indicating breeding.	Appendix 2, Figure 1.5/1.5.1
BoCCI Green List	Buzzard	55	29	55	The majority of flights were of birds commuting, hunting or soaring. There were nine flights related to breeding activity, eight comprising visits to the confirmed nest site and another observation of bird emerging from woodland. There was a total of one probable territory and one confirmed territory.	Appendix 2, Figure 1.6/1.6.1

¹ The quarry located within the wind farm site is used for extracting sand, and therefore does not have suitable stone cliff-faces for breeding peregrine.

Conservation Status	Species	Total number of observations	Total Number of flights at PCH	Number of observations on site/within 500m	Activity of note	Figure
BoCCI Green List	Sparrowhawk	3	1	3	All observations were of birds soaring and/or hunting.	Appendix 2, Figure 1.7

3.2.3 Breeding Walkover Survey Results

Breeding walkover surveys were carried out during the 2021 breeding season: May to July. Summary results from breeding walkover surveys are presented below in Table 3-2 and discussed in more detail in Section 4 of this report.

Table 3-2 Breeding Walkover Survey Results

Conservation Status	Species	Total number of observations recorded	Number of observations on site/ within 500m	Activity of note	Breeding Status	Figure
BoCCI Amber List	Coot	1	1	One observation of an adult calling with chick begging calls also recorded, confirming breeding locally.	Confirmed (One Territory)	Appendix 2, Figure 2.1/2.1.1
BoCCI Red List	Kestrel	2	2	There was one observation of a bird carrying prey, indicating breeding nearby outside 500m survey radius. The other observation was of a bird foraging within the wind farm site.	Probable (One Territory)	Appendix 2, Figure 2.2/2.2.1
BoCCI Green List	Buzzard	32	32	The majority of observations were of birds soaring or travelling. There were also several observations of birds carrying prey, confirming breeding nearby.	Probable (Two Territories)	Appendix 2, Figure 2.3/2.3.1
BoCCI Green List	Sparrowhawk	5	5	Most observations were of birds hunting and travelling. Two observations of chick begging calls were recorded, confirming breeding.	Confirmed (One Territory)	Appendix 2, Figure 2.4/2.4.1

3.2.4 Breeding Raptor Survey Results

Breeding raptor surveys were carried out during the 2021 breeding season: May to July. Summary results from breeding raptor surveys are presented in Table 3-3 below and discussed in more detail in Section 4 of this report.

Table 3-3 Breeding Raptor Survey Results

Conservation Status	Species	Total number of observations recorded	Number of observations on site/within 500m	Activity of note	Breeding Status	Figure
BoCCI Red List	Kestrel	3	0	Observations were of birds hunting and travelling. No breeding behaviour was recorded.	-	Appendix 2, Figure 3.1
BoCCI Green List	Buzzard	49	5	The majority of observations were of birds soaring and travelling. Display behaviour was recorded on a number of occasions. There was one observation of a bird carrying prey, confirming breeding locally. There was an observation of a bird existing area of forestry suggesting possible breeding.	Confirmed (One Territory) Possible (One Territory)	Appendix 2, Figure 3.2/3.2.1
BoCCI Green List	Sparrowhawk	2	0	There was one observation of a bird travelling with prey, indicating breeding in the locality. The other observation was of a bird soaring.	Probable (One Territory)	Appendix 2, Figure 3.3/3.3.1

3.2.5 Breeding Woodcock Survey Results

Breeding woodcock surveys were carried out in May and June 2021. All observations are detailed in Table 3-4 below and discussed in further detail in Section 4 of this report.

Table 3-4 Breeding Woodcock Observations

Conservation Status	Species	Observations recorded during surveys	Number of birds within 500m of site	Activity of note	Breeding Status	Figure
BoCCI Red List (Breeding populations only)	Woodcock	12	12	All twelve observations were of birds roding.	Two confirmed breeding areas, unknown number of pairs (min. two pairs)	Appendix 2, Figure 4.1/4.1.1

3.2.6 Wildfowl Distribution Survey Results

Wildfowl distribution surveys were carried out in April and May 2021. Summary results from wildfowl distribution surveys are presented below in Table 3-5 and discussed in more detail in Section 4 of this report.

Table 3-5 Wildfowl Distribution Survey Results

Conservation Status	Species	Observations recorded during surveys	Number of birds recorded	Activity of note	Figure
BoCCI Red List	Snipe	1	4	Birds were observed roosting at the edge of Freekan Lake.	Appendix 2, Figure 5.1

3.2.7 Incidentals

A number of incidental observations of target species were recorded during the survey period. The most significant of these observations are detailed in Table 3-6 below and discussed in further detail in Section 4 of this report.

Table 3-6 Incidental Observations

Conservation Status	Species	Survey Type	Observations recorded during surveys	Activity of note	Figure
BoCCI Green List	Peregrine Falcon	Wildfowl Distribution Survey	1	Observation of bird hunting near Newtown Lough.	Appendix 2, Figure 6.1
BoCCI Green List	Buzzard	Wildfowl Distribution Survey; Breeding Raptor Survey	6	Observations were of birds hunting and travelling.	Appendix 2, Figure 6.2
BoCCI Green List	Sparrowhawk	Breeding Woodcock Survey	1	Bird recorded foraging and being mobbed by mistle thrush pair.	Appendix 2, Figure 6.3

3.2.8 Target Species Breeding Status Summary

While breeding status is assigned according to the evidence obtained during individual breeding bird survey types in Tables 3-1 to 3-7 above, Table 3-7 below provides a breeding status summary of target species observed during the 2021 breeding season surveys at Crowinstown.

Table 3-7 Target Species Breeding Status Summary

Target Species Breeding Status Summary		
Species	Overall Breeding Status	Figure
Coot	Confirmed breeding – one territory	Appendix 2, Figure 2.1.1
Kestrel	Probable breeding – one territory	Appendix 2, Figure 7.1
Lapwing	Probable breeding – one territory	Appendix 2, Figure 7.2
Snipe	Probable breeding – one territory	Appendix 2, Figure 7.3
Woodcock	Probable breeding – two breeding areas (min. two pairs)	Appendix 2, Figure 7.4
Buzzard	Confirmed breeding – two territories (one within the wind farm site) Probable breeding – three territories (two partially within the wind farm site) Possible breeding – one territory	Appendix 2, Figure 7.5
Sparrowhawk	Confirmed breeding – one territory (partially within the wind farm site) Probable breeding – one territory	Appendix 2, Figure 7.6

4.

CONCLUSION

Key impacts likely to result from a proposed wind farm on local avian receptors could include habitat loss, disturbance, displacement (including barrier effect) and collision risk. Collision risk should be a key consideration at the assessment stage for many of the target species recorded at Crowinstown and in particular kestrel and buzzard due to the amount of flight activity recorded. However, until the collision risk analysis is undertaken, this impact cannot be considered in any detail. All findings should be considered in the context of a minimum of two full years of surveys, i.e. two breeding seasons and two non-breeding seasons. Two years of flight activity data is required to inform a robust collision risk analysis. The potential for impacts such as habitat loss and disturbance displacement to result are discussed below.

A confirmed coot territory was identified during the 2021 breeding season, at Newtown Lough, adjacent to the wind farm site. The wind farm site could result in the direct (physical) or indirect (disturbance/displacement) loss of habitat for this species. This potential impact should be considered in greater detail at the assessment stage.

Kestrel were observed regularly at the wind farm site. They were recorded utilizing the wind farm site for commuting and foraging. There was one probable breeding territory identified during the 2021 breeding season, approximately 500m from the wind farm site. The wind farm site could result in habitat loss and disturbance/displacement to birds associated with this breeding territory.

A lapwing territory was identified during the 2021 breeding season, partially within wind farm site. The wind farm site could result in the direct (physical) or indirect (disturbance/displacement) loss of habitat for this species. This potential impact should be considered in greater detail at the assessment stage.

There were two occupied breeding woodcock areas identified within, or partially within, the wind farm site, with a minimum of two breeding pairs present. The wind farm site could result in the direct or indirect (disturbance/displacement) loss of habitat for this species. These potential impacts should be considered in greater detail at the assessment stage. Woodcock were not recorded outside of the dedicated breeding woodcock surveys. Additionally, there was one probable breeding territory of snipe identified within the wind farm site. This species was only recorded infrequently during the survey period. There is the potential for habitat loss and disturbance/displacement, particularly around the breeding territory identified.

Buzzards were recorded frequently during all survey types. Buzzard were confirmed to have nested at two locations, one of which was within the wind farm site, during the 2021 breeding season. There were three probable breeding territories also identified, two of which were partially within the wind farm site. There was one confirmed sparrowhawk breeding territory and one probable breeding territory identified in the 2021 breeding season. The confirmed breeding territory was partially within the wind farm site. Sparrowhawk were recorded occasionally throughout the survey period, April to September 2021.

For the species listed above, the wind farm site could result in the direct or indirect (disturbance/displacement) loss of habitat for these species. These potential impacts should be considered in greater detail at the assessment stage when a minimum of two years of data (carried out to SNH (2017)) is consolidated to undertake the analysis. If significant effects are identified during the impact assessment, it is likely suitable mitigation can be devised to offset the effects. Such mitigation for breeding birds could include if relevant:

- undertaking vegetation clearance outside of the breeding season during the construction phase.
- If nest sites are identified suitable buffers could be maintained between sources of disturbance and the nest while the nest was active/ in use.

Given the frequency of observations of some species at the wind farm site, collision risk is likely to be a key consideration for some species (e.g. buzzard/kestrel), however, the magnitude of this impact will only be fully understood following collision risk analysis of the full two-year dataset.

Hen harrier and peregrine were also recorded during surveys. These species were recorded infrequently and in low numbers at the wind farm site, with no breeding evidence observed, this therefore limits the potential for these species to be significantly impacted by the wind farm site.

A full two years of bird survey data will provide more details and further context on the overall use of the site by all species discussed above and allow for a more robust identification and assessment of likely impacts than is possible based on the data collected over six months of surveys alone.

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www.nbdc.ie – Bird distribution data (10km hectad squares)

www.npws.ie – Distribution maps and associated information for sites designated for nature conservation by NPWS (i.e. SPAs, SACs, NHAs, pNHAs)



APPENDIX 1

BIRDS TECHNICAL



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Table 1 Target Species List

Species	Latin Name	Rationale
Peregrine Falcon	<i>Falco peregrinus</i>	Annex I EU Birds Directive
Hen harrier	<i>Circus cyaneus</i>	Annex I EU Birds Directive
Coot	<i>Fulica atra</i>	SCI of Lough Derravarragh SPA
Kestrel	<i>Falco tinnunculus</i>	BoCCI Red Listed
Lapwing	<i>Vanellus vanellus</i>	BoCCI Red Listed (Breeding & Wintering Populations)
Snipe	<i>Gallinago gallinago</i>	BoCCI Red Listed
Woodcock	<i>Scolopax rusticola</i>	BoCCI Red Listed
Buzzard	<i>Buteo buteo</i>	Schedule IV of the Wildlife Act, 1976 (Raptor Species)
Sparrowhawk	<i>Accipiter nisus</i>	Schedule IV of the Wildlife Act, 1976 (Raptor Species)
Meadow Pipit	<i>Anthus pratensis</i>	BoCCI Red Listed (Breeding Populations)
Yellowhammer	<i>Emberiza citrinella</i>	BoCCI Red Listed (Breeding Populations)
Swift	<i>Apus apus</i>	BoCCI Red Listed (Breeding Populations)

Table 2 Non-target species list

Species	Latin Name
Blackbird	<i>Turdus merula</i>
Blackcap	<i>Sylvia atricapilla</i>
Black-headed Gull	<i>Chroicocephalus ridibundus</i>
Blue Tit	<i>Cyanistes caeruleus</i>
Bullfinch	<i>Pyrrhula pyrrhula</i>
Chaffinch	<i>Fringilla coelebs</i>
Chiffchaff	<i>Phylloscopus collybita</i>
Coal Tit	<i>Periparus ater</i>
Collared Dove	<i>Streptopelia decaocto</i>
Cormorant	<i>Phalacrocorax aristotelis</i>
Dunnock	<i>Prunella modularis</i>
Goldcrest	<i>Regulus regulus</i>
Golden Pheasant	<i>Chrysolophus pictus</i>
Goldfinch	<i>Carduelis carduelis</i>
Great Tit	<i>Parus major</i>
Greenfinch	<i>Chloris chloris</i>
Grey Heron	<i>Ardea cinerea</i>
Grey Wagtail	<i>Motacilla cinerea</i>
Herring Gull	<i>Larus argentatus</i>
Hooded Crow	<i>Corvus cornix</i>
House Martin	<i>Delichon urbicum</i>
House Sparrow	<i>Passer domesticus</i>
Jackdaw	<i>Coloeus monedula</i>
Jay	<i>Garrulus glandarius</i>
Lesser Black-backed Gull	<i>Larus fuscus</i>
Linnet	<i>Carduelis cannabina</i>
Little Grebe	<i>Tachybaptus ruficollis</i>
Long-tailed Tit	<i>Aegithalos caudatus</i>
Magpie	<i>Pica pica</i>
Mallard	<i>Anas platyrhynchos</i>
Mistle Thrush	<i>Turdus viscivorus</i>
Moorhen	<i>Gallinula chloropus</i>
Pheasant	<i>Phasianus colchicus</i>
Pied Wagtail	<i>Motacilla alba yarrellii</i>
Raven	<i>Corvus corax</i>
Reed Bunting	<i>Emberiza schoeniclus</i>
Robin	<i>Erithacus rubecula</i>
Rook	<i>Corvus frugilegus</i>
Sand Martin	<i>Riparia riparia</i>
Sedge Warbler	<i>Acrocephalus schoenobaenus</i>
Siskin	<i>Carduelis spinus</i>
Skylark	<i>Alauda arvensis</i>
Song Thrush	<i>Turdus philomelos</i>
Starling	<i>Sturnus vulgaris</i>
Stock Dove	<i>Columba gorm</i>

Species	Latin Name
Stonechat	<i>Saxicola torquata</i>
Swallow	<i>Hirundo rustica</i>
Teal	<i>Anas crecca</i>
Wheatear	<i>Oenanthe oenanthe</i>
Whitethroat	<i>Sylvia communis</i>
Willow Warbler	<i>Phylloscopus trochilus</i>
Woodpigeon	<i>Columba palumbus</i>
Wren	<i>Troglodytes troglodytes</i>

Table 3 Survey Effort

Date	Survey		Duration (h)	Weather Conditions	Comments	Surveyor
19/04/2021	Wildfowl Distribution Survey	1km Survey Radius	3:00 starting at 11:00	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		DM
22/04/2021	Vantage Point Survey	VP3	3:00 starting at 18:41	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KB
26/04/2021	Breeding Walkover Survey	500m	6:00 starting at 06:15	Visibility: good; Wind speed and direction: light air NE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		DM
27/04/2021	Breeding Raptor Survey	BRVP1 + transect	3:00 starting at 12:00	Visibility: good; Wind speed and direction: gentle breeze N; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KB
27/04/2021	Breeding Raptor Survey	BRVP2 + transect	3:00 starting at 15:30	Visibility: good; Wind speed and direction: gentle breeze N; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KB
27/04/2021	Vantage Point Survey	VP1	3:00 starting at 18:50	Visibility: good; Wind speed and direction: moderate breeze N; Cloud cover and height: 33-66% 150-500m; Rain: light showers; Frost: none; Snow: none		KB
27/04/2021	Breeding Walkover Survey	500m	4:00 starting at 06:00	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		DM
27/04/2021	Breeding Walkover Survey	500m	2:00 starting at 10:00	Visibility: good; Wind speed and direction: gentle breeze N; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		DM
28/04/2021	Breeding Raptor Survey	BRVP3 + transect	3:00 starting at 12:00	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KB
28/04/2021	Breeding Raptor Survey	BRVP5 + transect	3:00 starting at 15:30	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KB
29/04/2021	Vantage Point Survey	VP2	3:00 starting at 10:50	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		KB



Date	Survey		Duration (h)	Weather Conditions	Comments	Surveyor
29/04/2021	Breeding Raptor Survey	BRVP6 + transect	3:00 starting at 14:00	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KB
29/04/2021	Breeding Raptor Survey	BRVP4 + transect	3:00 starting at 17:30	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KB
30/04/2021	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 10:00	Visibility: good; Wind speed and direction: light breeze N; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		DM
30/04/2021	Wildfowl Distribution Survey	1km Survey Radius	2:00 starting at 11:00	Visibility: good; Wind speed and direction: light breeze NE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		DM
18/05/2021	Breeding Woodcock Survey	WKT1	1:00 starting at 20:30	Visibility: moderate; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none	No WK	LH
18/05/2021	Breeding Woodcock Survey	WKT1	0:40 starting at 21:30	Visibility: poor; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none	No WK	LH
18/05/2021	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 11:20		No wildfowl recorded	LH
18/05/2021	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 12:20		No wildfowl recorded	LH
18/05/2021	Wildfowl Distribution Survey	1km Survey Radius	1:00 starting at 13:20		No wildfowl recorded	LH
18/05/2021	Wildfowl Distribution Survey	1km Survey Radius	1:10 starting at 14:20	Visibility: moderate; Wind speed and direction: light air W; Cloud cover and height: 33-66% >500m; Rain: drizzle; Frost: none; Snow: none	No wildfowl recorded	LH
24/05/2021	Vantage Point Survey	VP3	3:00 starting at 04:14	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KB



Date	Survey		Duration (h)	Weather Conditions	Comments	Surveyor
24/05/2021	Vantage Point Survey	VP3	3:00 starting at 07:44	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 0-33% 150-500m; Rain: none; Frost: none; Snow: none		KB
26/05/2021	Breeding Walkover Survey	South	3:00 starting at 10:30	Visibility: good; Wind speed and direction: light breeze NE; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KB
27/05/2021	Vantage Point Survey	VP1	3:00 starting at 04:10	Visibility: good; Wind speed and direction: light breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KB
27/05/2021	Vantage Point Survey	VP2	3:00 starting at 07:35	Visibility: good; Wind speed and direction: light breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	hazy	KB
31/05/2021	Breeding Walkover Survey	Centre	3:00 starting at 11:30	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KB
31/05/2021	Breeding Walkover Survey	Centre	3:00 starting at 15:00	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KB
01/06/2021	Breeding Walkover Survey	North	3:00 starting at 12:00	Visibility: good; Wind speed and direction: light breeze E; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KB
01/06/2021	Breeding Walkover Survey	North	3:00 starting at 15:30	Visibility: good; Wind speed and direction: light breeze E; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KB
03/06/2021	Breeding Raptor Survey	BRVP4 + transect	3:00 starting at 17:30	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none		KB
03/06/2021	Breeding Woodcock Survey	WKT1	2:00 starting at 20:48	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		KB
04/06/2021	Breeding Raptor Survey	BRVP1 + transect	3:00 starting at 17:20	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KB



Date	Survey		Duration (h)	Weather Conditions	Comments	Surveyor
04/06/2021	Breeding Woodcock Survey	WKT3	2:00 starting at 20:50	Visibility: good; Wind speed and direction: light breeze SW; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KB
09/06/2021	Breeding Raptor Survey	BRVP6 + transect	3:00 starting at 09:00	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		KB
09/06/2021	Breeding Raptor Survey	BRVP 3 + transect + BRVP 3B	3:00 starting at 12:30	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		KB
10/06/2021	Breeding Raptor Survey	BRVP2 + transect	3:00 starting at 09:45	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KB
10/06/2021	Vantage Point Survey	VP3	3:00 starting at 13:15	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none		KB
15/06/2021	Vantage Point Survey	VP3	3:00 starting at 10:20	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KB
15/06/2021	Breeding Raptor Survey	BRVP5 + transect	3:00 starting at 13:50	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KB
23/06/2021	Vantage Point Survey	VP2	3:00 starting at 12:30	Visibility: moderate; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		KB
23/06/2021	Vantage Point Survey	VP2	3:00 starting at 16:00	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		KB
24/06/2021	Vantage Point Survey	VP1	3:00 starting at 12:00	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		KB

Date	Survey		Duration (h)	Weather Conditions	Comments	Surveyor
24/06/2021	Vantage Point Survey	VP1	3:00 starting at 15:30	Visibility: moderate; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none		KB
25/06/2021	Breeding Walkover Survey	South	3:00 starting at 12:20	Visibility: good; Wind speed and direction: gentle breeze N; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KB
26/06/2021	Breeding Walkover Survey	South	3:00 starting at 14:00	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KB
26/06/2021	Breeding Raptor Survey	BRVP5	3:00 starting at 09:00	Visibility: good; Wind speed and direction: fresh breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none	No target species observed	TR
26/06/2021	Breeding Raptor Survey	BRVP3	3:00 starting at 12:30	Visibility: good; Wind speed and direction: fresh breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		TR
27/06/2021	Breeding Raptor Survey	BRVP1	3:00 starting at 09:00	Visibility: moderate; Wind speed and direction: light breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none	No target species observed	TR
27/06/2021	Breeding Raptor Survey	BRVP2	3:00 starting at 12:30	Visibility: poor; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% >500m; Rain: heavy showers; Frost: none; Snow: none	No target species observed	TR
28/06/2021	Breeding Walkover Survey	South + Centre	3:00 starting at 13:00	Visibility: good; Wind speed and direction: light breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KB
28/06/2021	Breeding Walkover Survey	South + Centre	3:00 starting at 16:30	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KB
28/06/2021	Breeding Raptor Survey	BRVP4	3:00 starting at 09:00			TR
28/06/2021	Breeding Raptor Survey	BRVP6	3:00 starting at 12:30			TR
29/06/2021	Breeding Walkover Survey	Centre	4:30 starting at 15:45	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KB

Date	Survey		Duration (h)	Weather Conditions	Comments	Surveyor
29/06/2021	Breeding Woodcock Survey	WKT4	2:00 starting at 20:57	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KB
30/06/2021	Breeding Walkover Survey	North + Centre	4:30 starting at 15:45	Visibility: good; Wind speed and direction: light air NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KB
30/06/2021	Breeding Woodcock Survey	WKT5	2:00 starting at 21:00	Visibility: good; Wind speed and direction: light air NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KB
05/07/2021	Breeding Raptor Survey	BRVP 5	1:00 starting at 09:00	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		TR
05/07/2021	Breeding Raptor Survey	BRVP 5	1:00 starting at 10:00	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		TR
05/07/2021	Breeding Raptor Survey	BRVP 5	1:00 starting at 11:00	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none		TR
05/07/2021	Breeding Raptor Survey	BRVP 3	1:00 starting at 12:30	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		TR
05/07/2021	Breeding Raptor Survey	BRVP 3	1:00 starting at 13:30	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		TR
05/07/2021	Breeding Raptor Survey	BRVP 3	1:00 starting at 14:30	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% >500m; Rain: persistent; Frost: none; Snow: none		TR
06/07/2021	Breeding Raptor Survey	BRVP 1	1:00 starting at 10:30	Visibility: poor; Wind speed and direction: light breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: persistent; Frost: none; Snow: none	No target species recorded	TR
06/07/2021	Breeding Raptor Survey	BRVP 1	1:00 starting at 11:30	Visibility: moderate; Wind speed and direction: light breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: heavy showers; Frost: none; Snow: none	No target species recorded	TR



Date	Survey		Duration (h)	Weather Conditions	Comments	Surveyor
06/07/2021	Breeding Raptor Survey	BRVP 1	1:00 starting at 12:30	Visibility: poor; Wind speed and direction: light breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: persistent; Frost: none; Snow: none	No target species recorded	TR
06/07/2021	Breeding Raptor Survey	BRVP 2	1:00 starting at 14:00	Visibility: moderate; Wind speed and direction: light breeze SW; Cloud cover and height: 66-100% >500m; Rain: heavy showers; Frost: none; Snow: none		TR
06/07/2021	Breeding Raptor Survey	BRVP 2	1:00 starting at 15:00	Visibility: moderate; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: heavy showers; Frost: none; Snow: none		TR
06/07/2021	Breeding Raptor Survey	BRVP 2	1:00 starting at 16:00	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		TR
07/07/2021	Breeding Raptor Survey	BRVP 4	1:00 starting at 09:00	Visibility: good; Wind speed and direction: light breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	No target species recorded	TR
07/07/2021	Breeding Raptor Survey	BRVP 4	1:00 starting at 10:00	Visibility: good; Wind speed and direction: light breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		TR
07/07/2021	Breeding Raptor Survey	BRVP 4	1:00 starting at 11:00	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		TR
07/07/2021	Breeding Raptor Survey	BRVP 6	1:00 starting at 12:30	Visibility: good; Wind speed and direction: light breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	No target species recorded	TR
07/07/2021	Breeding Raptor Survey	BRVP 6	1:00 starting at 13:30	Visibility: good; Wind speed and direction: light breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		TR
07/07/2021	Breeding Raptor Survey	BRVP 6	1:00 starting at 14:30	Visibility: good; Wind speed and direction: light breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		TR
16/07/2021	Vantage Point Survey	VP3	3:00 starting at 12:00	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KB

Date	Survey		Duration (h)	Weather Conditions	Comments	Surveyor
16/07/2021	Breeding Walkover Survey	Centre	3:00 starting at 15:30	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KB
19/07/2021	Vantage Point Survey	VP2	3:00 starting at 10:00	Visibility: good; Wind speed and direction: light breeze SE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KB
19/07/2021	Vantage Point Survey	VP2	3:00 starting at 13:30	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KB
20/07/2021	Vantage Point Survey	VP3	3:00 starting at 08:30	Visibility: good; Wind speed and direction: light breeze E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KB
20/07/2021	Vantage Point Survey	VP1	3:00 starting at 12:00	Visibility: good; Wind speed and direction: light air E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KB
20/07/2021	Vantage Point Survey	VP1	3:00 starting at 15:30	Visibility: good; Wind speed and direction: light breeze E; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		KB
26/07/2021	Breeding Walkover Survey	South	3:00 starting at 12:00	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KB
26/07/2021	Breeding Walkover Survey	South	3:00 starting at 16:00	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KB
26/07/2021	Vantage Point Survey	VP2	3:00 starting at 19:34	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KB
27/07/2021	Breeding Walkover Survey	North + Centre	3:00 starting at 12:30	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		KB
27/07/2021	Vantage Point Survey	VP1	3:00 starting at 16:04	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		KB

Date	Survey		Duration (h)	Weather Conditions	Comments	Surveyor
27/07/2021	Vantage Point Survey	VP1	3:00 starting at 19:34	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none		KB
28/07/2021	Breeding Walkover Survey	North + Centre	3:00 starting at 16:00	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none		KB
28/07/2021	Vantage Point Survey	VP3	3:00 starting at 19:30	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		KB
30/07/2021	Vantage Point Survey	VP2	3:00 starting at 04:40	Visibility: good; Wind speed and direction: light air W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KB
30/07/2021	Breeding Walkover Survey	Centre + South	3:00 starting at 08:10	Visibility: poor; Wind speed and direction: light breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KB
16/08/2021	Vantage Point Survey	VP1	6:35 starting at 10:45	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		NM
17/08/2021	Vantage Point Survey	VP3	6:45 starting at 08:00	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none	Grey and overcast day but relatively bright at times with some very occasional thinning of clouds and brighter spells. Quite warm and humid with heavy clouds owing to this (13 - 16°C). Gentle W breeze throughout with some stronger gusts.	NM
18/08/2021	Vantage Point Survey	VP2	6:30 starting at 06:30	Visibility: moderate; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		NM
13/09/2021	Vantage Point Survey	VP3	4:10 starting at 14:20	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		TR



Date	Survey		Duration (h)	Weather Conditions	Comments	Surveyor
13/09/2021	Vantage Point Survey	VP3	1:00 starting at 18:30	Visibility: moderate; Wind speed and direction: gentle breeze E; Cloud cover and height: 66-100% >500m; Rain: persistent; Frost: none; Snow: none		TR
13/09/2021	Vantage Point Survey	VP3	1:20 starting at 19:30	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none		TR
14/09/2021	Vantage Point Survey	VP1	6:30 starting at 14:20	Visibility: good; Wind speed and direction: light breeze E; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none		TR
22/09/2021	Vantage Point Survey	VP2	5:00 starting at 14:30	Visibility: good; Wind speed and direction: near gale E; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		TR
22/09/2021	Vantage Point Survey	VP2	1:00 starting at 19:30	Visibility: good; Wind speed and direction: near gale E; Cloud cover and height: 66-101% 150-500m; Rain: drizzle; Frost: none; Snow: none		TR

Table 4 Vantage Point Survey Observations

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
BZ001	VP3	22/04/2021	19:44	Buzzard	1	7	7	0	0	0	improved agricultural grassland and hedgerows; travelling and foraging	KB
	VP3	22/04/2021	20:04	Mallard	2	10	10	0	0	0	improved agricultural grassland; travelling	KB
BZ002	VP3	22/04/2021	20:23	Buzzard	1	6	6	0	0	0	improved agricultural grassland and hedgerows; travelling and foraging - landed in tree to perch	KB
-	VP3	22/04/2021	20:30	Buzzard	1	4	4	0	0	0	hedgerows, scrub and improved agricultural grassland; dropped down from tree behind scrub, not mapped	KB
	VP1	27/04/2021	20:55	Mallard	2	20	20	0	0	0	improved agricultural grassland; travelling	KB
BZ003	VP2	29/04/2021	11:21	Buzzard	2	30	0	5	25	0	hedgerows and improved agricultural grassland; first bird soaring - landed in nest, second bird observed on the nest, active nest found	KB
-	VP2	29/04/2021	12:04	Buzzard	2	10	0	10	0	0	hedgerows and improved agricultural grassland; brought food to second bird on the nest, not mapped	KB
-	VP2	29/04/2021	12:32	Buzzard	2	4	0	4	0	0	hedgerows; brought food to second bird on the nest, not mapped	KB
-	VP2	29/04/2021	12:54	Buzzard	2	7	0	7	0	0	hedgerows; brought food to second bird on the nest, not mapped	KB
	VP3	24/05/2021	06:33	Lesser Black-backed Gull	3	12	0	12	0	0	improved agricultural grassland; travelling	KB
	VP3	24/05/2021	06:46	Lesser Black-backed Gull	2	18	18	0	0	0	improved agricultural grassland; travelling	KB
	VP3	24/05/2021	06:46	Lesser Black-backed Gull	1	14	14	0	0	0	improved agricultural grassland; travelling - landed on ground	KB
	VP3	24/05/2021	06:49	Lesser Black-backed Gull	12	30	10	20	0	0	improved agricultural grassland; circling/flocking, travelling	KB
SH001	VP2	27/05/2021	07:55	Sparrowhawk	1	35	0	0	35	0	improved agricultural grassland and hedgerows; soaring	KB

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
BZ004	VP2	27/05/2021	08:14	Buzzard	1	4	0	4	0	0	hedgerows and improved agricultural grassland; bringing food to nest	KB
BZ005	VP2	27/05/2021	08:15	Buzzard	1	5	0	5	0	0	hedgerows and improved agricultural grassland; left nest	KB
	VP3	10/06/2021	13:16	Cormorant	1	30	0	0	30	0	improved agricultural grassland; travelling	KB
BZ006	VP3	10/06/2021	13:34	Buzzard	1	12	7	5	0	0	improved agricultural grassland and hedgerows; soaring - dropped down into hedge	KB
BZ007	VP3	10/06/2021	13:54	Buzzard	1	300	60	60	180	0	mixed broadleaved woodland, improved agricultural grassland and hedgerows; rose up from woodland soaring	KB
	VP3	10/06/2021	14:00	Mallard	1	10	0	10	0	0	improved agricultural grassland; travelling	KB
BZ008	VP3	10/06/2021	14:12	Buzzard	1	240	0	40	200	0	mixed broadleaved woodland; emerged from woodland soaring	KB
BZ009	VP3	10/06/2021	14:40	Buzzard	1	180	5	75	100	0	improved agricultural grassland and hedgerows; soaring	KB
BZ010	VP3	10/06/2021	15:02	Buzzard	1	280	5	10	265	0	conifer plantation; soaring	KB
BZ011	VP3	10/06/2021	15:13	Buzzard	1	120	5	35	80	0	mixed broadleaved woodland; soaring	KB
BZ012	VP3	10/06/2021	15:31	Buzzard	1	200	0	0	60	140	improved agricultural grassland and hedgerows; soaring	KB
BZ013	VP3	15/06/2021	11:12	Buzzard	1	10	2	8	0	0	mixed broadleaved woodland; soaring	KB
BZ014	VP3	15/06/2021	11:14	Buzzard	1	420	0	5	415	0	mixed broadleaved woodland; soaring	KB
K001	VP3	15/06/2021	11:26	Kestrel	2	20	0	20	0	0	improved agricultural grassland, hedgerows and conifer plantation; travelling	KB
BZ015	VP3	15/06/2021	13:05	Buzzard	1	180	0	180	0	0	mixed broadleaved woodland; soaring	KB
	VP3	15/06/2021	13:18	Black-headed Gull	2	15	0	15	0	0	improved agricultural grassland; travelling	KB

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
BZ016	VP3	15/06/2021	13:20	Buzzard	1	18	0	18	0	0	improved agricultural grassland; soaring	KB
K002	VP2	23/06/2021	15:11	Kestrel	1	10	10	0	0	0	improved agricultural grassland and hedgerows; foraging/travelling, adult male	KB
BZ017	VP2	23/06/2021	15:11	Buzzard	1	5	5	0	0	0	improved agricultural grassland and hedgerows; foraging/travelling	KB
	VP2	23/06/2021	16:22	Lesser Black-backed Gull	1	30	10	20	0	0	improved agricultural grassland; travelling	KB
BZ018	VP2	23/06/2021	16:49	Buzzard	1	5	5	0	0	0	hedgerows and improved agricultural grassland; flew from nest to perch on tree	KB
BZ019	VP2	23/06/2021	16:55	Buzzard	1	9	9	0	0	0	hedgerows and improved agricultural grassland; caught prey and brought back to nest	KB
BZ020	VP1	24/06/2021	12:47	Buzzard	2	5	5	0	0	0	hedgerows and improved agricultural grassland; flew over from behind hedgerow and landed to perch in tree	KB
BZ021	VP1	24/06/2021	12:50	Buzzard	2	4	4	0	0	0	hedgerows and improved agricultural grassland; travelling/foraging - took up from perch	KB
	VP1	24/06/2021	14:29	Lesser Black-backed Gull	2	40	5	35	0	0	improved agricultural grassland; travelling, adult and juvenile	KB
BZ022	VP3	16/07/2021	12:38	Buzzard	1	380			300	80	mixed broadleaved woodland, improved agricultural grassland and conifer plantation; soaring	KB
BZ023	VP3	16/07/2021	14:43	Buzzard	2	240			20	220	improved agricultural grassland; soaring	KB
BZ024	VP3	16/07/2021	14:49	Buzzard	1	60		10	50		mixed broadleaved woodland; soaring	KB
BZ025	VP2	19/07/2021	10:42	Buzzard	1	20		20			hedgerows, improved agricultural grassland and active quarries and mines; adult flew out of nest - foraging, chicks begging in nest	KB

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
BZ026	VP2	19/07/2021	11:34	Buzzard	1	180		80	100		improved agricultural grassland, hedgerows and active quarries and mines; soaring	KB
BZ027	VP2	19/07/2021	12:37	Buzzard	1	240			240		improved agricultural grassland and hedgerows; soaring	KB
BZ028	VP2	19/07/2021	13:30	Buzzard	1	120			120		improved agricultural grassland, hedgerows and active quarries and mines; soaring	KB
BZ029	VP2	19/07/2021	14:20	Buzzard	1	60		10	50		improved agricultural grassland, active quarries and mines and hedgerows; soaring	KB
BZ030	VP3	20/07/2021	10:11	Buzzard	1	120		40	80		mixed broadleaved woodland, conifer plantation and improved agricultural grassland; soaring	KB
BZ031	VP3	20/07/2021	10:45	Buzzard	1	360			360		improved agricultural grassland, hedgerows and mixed broadleaved woodland; soaring	KB
BZ032	VP1	20/07/2021	13:03	Buzzard	2	240			240		conifer plantation; soaring	KB
BZ033	VP1	20/07/2021	17:41	Buzzard	1	300		20	180	100	improved agricultural grassland and mixed broadleaved woodland; soaring	KB
BZ034	VP2	26/07/2021	21:52	Buzzard	1	15		15			improved agricultural grassland, hedgerows and active quarries and mines; foraging	KB
	VP2	26/07/2021	22:00	Mallard	1	12	12				lakes and ponds and improved agricultural grassland; travelling	KB
	VP2	26/07/2021	22:05	Mallard	6	18	18				lakes and ponds and improved agricultural grassland; travelling	KB
L001	VP2	26/07/2021	22:06	Lapwing	1	10	5	5			improved agricultural grassland, lakes and ponds and active quarries and mines; travelling, took up from field beside pond behind VP	KB
SN001	VP2	26/07/2021	22:14	Snipe	1	8		8			improved agricultural grassland; travelling	KB

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
SN002	VP2	26/07/2021	22:16	Snipe	3	6	6				lakes and ponds and improved agricultural grassland; travelling, took up from pond behind VP	KB
	VP1	27/07/2021	18:22	Grey Heron	1	50		50			hedgerows and improved agricultural grassland; travelling	KB
	VP1	27/07/2021	18:47	Grey Heron	1	30		30			hedgerows and improved agricultural grassland; travelling	KB
	VP1	27/07/2021	19:01	Black-headed Gull	1	45		45			improved agricultural grassland; travelling	KB
	VP1	27/07/2021	22:02	Mallard	1	15		15			improved agricultural grassland; travelling	KB
BZ035	VP3	28/07/2021	19:57	Buzzard	1	100		40	60		improved agricultural grassland, mixed broadleaved woodland and hedgerows; soaring	KB
	VP2	30/07/2021	04:40	Mallard	2	10	10				lakes and ponds and improved agricultural grassland; flushed by surveyor from pond beside VP	KB
	VP2	30/07/2021	05:23	Mallard	2	12	8	4			improved agricultural grassland; travelling	KB
	VP2	30/07/2021	05:48	Mallard	3	10	10				improved agricultural grassland and lakes and ponds; travelling, landed in pond	KB
	VP2	30/07/2021	06:01	Mallard	5	10	10				improved agricultural grassland and hedgerows; travelling	KB
K003	VP2	30/07/2021	06:25	Kestrel	1	6	6				improved agricultural grassland and hedgerows; perched on wire - took up, foraging	KB
	VP2	30/07/2021	06:33	Mallard	2	7	7				improved agricultural grassland and hedgerows; travelling	KB
	VP2	30/07/2021	06:40	Lesser Black-backed Gull	1	50		5	45		conifer plantation and improved agricultural grassland; travelling	KB
	VP2	30/07/2021	06:44	Mallard	3	20	10	10			improved agricultural grassland and conifer plantation; travelling	KB

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
SH002	VP2	30/07/2021	06:48	Sparrowhawk	1	6	6				improved agricultural grassland and hedgerows; foraging	KB
SH003	VP2	30/07/2021	06:55	Sparrowhawk	1	6	6				improved agricultural grassland and hedgerows; foraging	KB
	VP2	30/07/2021	07:12	Mallard	2	8	8				lakes and ponds, improved agricultural grassland and active quarries and mines; travelling	KB
	VP2	30/07/2021	07:14	Mallard	1	14		14			improved agricultural grassland and active quarries and mines; travelling	KB
	VP2	30/07/2021	07:18	Mallard	8	8	8				improved agricultural grassland and lakes and ponds; travelling, landed in pond beside VP	KB
BZ036	VP2	30/07/2021	07:35	Buzzard	1	10		10			hedgerows and improved agricultural grassland; adult flew out of nest - foraging, chicks begging in nest	KB
BZ037	VP1	16/08/2021	11:03	Buzzard	1	55	0	55	0	0	improved agricultural grassland and hedgerows; circling low over farmland and hedgerows	NM
	VP1	16/08/2021	11:20	Lesser Black-backed Gull	2	80	0	0	80	0	improved agricultural grassland, hedgerows and mixed conifer woodland; flying SW	NM
BZ038	VP1	16/08/2021	11:29	Buzzard	1	140	10	40	90	0	improved agricultural grassland, hedgerows and mixed conifer woodland; flying erratically, harried and chased by HC, descending into area of forestry	NM
BZ039	VP1	16/08/2021	11:43	Buzzard	1	30	30	0	0	0	improved agricultural grassland and hedgerows; juvenile flying low across field before landing and perching in ash tree along main road, perched in tree for long period - 20mins	NM
BZ040	VP1	16/08/2021	13:50	Buzzard	1	240	0	0	0	240	mixed conifer woodland, improved agricultural grassland and hedgerows;	NM

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
											soaring high above forestry and farmland	
	VP1	16/08/2021	15:27	Lesser Black-backed Gull	2	90	0	50	40	0	improved agricultural grassland and treelines; flying roughly ne across farmland, circled over and checked out old manor house before continuing on, juveniles	NM
K004	VP1	16/08/2021	15:46	Kestrel	1	80	65	15	0	0	hedgerows and improved agricultural grassland; hunting and hovering along hedgerows within farmland	NM
	VP1	16/08/2021	16:00	Lesser Black-backed Gull	1	135	0	0	100	35	mixed conifer woodland, improved agricultural grassland and hedgerows; flying SW	NM
	VP1	16/08/2021	16:10	Lesser Black-backed Gull	1	70	0	70	0	0	improved agricultural grassland and hedgerows; flying roughly s across farmland, juvenile	NM
	VP3	17/08/2021	08:19	Grey Heron	1	110	0	0	20	90	improved agricultural grassland, mesotrophic lakes and reed and large sedge swamps; soaring high above farmland and area surrounding Newtown Lough	NM
K005	VP3	17/08/2021	08:45	Kestrel	1	175	60	115	0	0	improved agricultural grassland and scrub; hunting and hovering along boundaries of scrub, hedgerows and farmland	NM
	VP3	17/08/2021	09:24	Lesser Black-backed Gull	3	80	0	0	80	0	improved agricultural grassland and hedgerows; flying SW across n fringes of site	NM
	VP3	17/08/2021	09:34	Mallard	5	55	0	55	0	0	improved agricultural grassland and hedgerows; flying se across farmland	NM
	VP3	17/08/2021	10:05	Grey Heron	1	160	0	160	0	0	improved agricultural grassland and hedgerows; flying s and w across site	NM
BZ041	VP3	17/08/2021	10:37	Buzzard	2	220	0	0	190	30	improved agricultural grassland, hedgerows and mixed broadleaved	NM

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
											woodland; soaring and circling high above farmland and narrow wooded areas	
	VP3	17/08/2021	10:51	Swift	7	90	80	10	0	0	improved agricultural grassland and hedgerows; swooping and foraging low to ground and along hedgerows near to VP location	NM
BZ042	VP3	17/08/2021	12:27	Buzzard	1	135	0	100	35	0	improved agricultural grassland, mixed broadleaved woodland and hedgerows; gliding over treetops and farmland, exact habitat difficult to see due to distance	NM
	VP3	17/08/2021	12:47	Lesser Black-backed Gull	1	310	0	75	220	15	improved agricultural grassland, hedgerows and scrub; flying high across site, no definite direction, appeared to be scavenging or foraging	NM
	VP3	17/08/2021	13:05	Swift	5	70	0	0	70	0	improved agricultural grassland; swooping and foraging high overhead	NM
	VP2	18/08/2021	06:49	Mallard	7	45	0	0	45	0	improved agricultural grassland and hedgerows; flying s across farmland	NM
BZ043	VP2	18/08/2021	07:32	Buzzard	1	180	0	20	150	10	mixed conifer woodland and improved agricultural grassland; soaring and swooping high over coniferous woodland, swooped lower briefly several times	NM
	VP2	18/08/2021	09:36	Lesser Black-backed Gull	2	125	0	100	25	0	improved agricultural grassland, hedgerows and active quarries and mines; flying and foraging aerially, hanging around quarry area briefly before continuing	NM
BZ044	VP2	18/08/2021	10:17	Buzzard	1	240	0	190	50	0	improved agricultural grassland, mixed broadleaved woodland and hedgerows; soaring over farmland and	NM

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
											over woodland / lake area to se of VP, soon left viewsshed	
SN003	VP2	18/08/2021	10:30	Snipe	1	30	10	20	0	0	improved agricultural grassland; flying in frantic loop and alarm calling over grassland, disturbed flushed by passing quarry lorry	NM
PE001	VP2	18/08/2021	11:00	Peregrine Falcon	1	180	0	10	150	20	improved agricultural grassland and active quarries and mines; soaring over farmland, remained around quarry for a period which may indicate use. disappeared and was not seen again, use of quarry for breeding possible but activity not apparent this occasion.	NM
	VP2	18/08/2021	11:36	Lesser Black-backed Gull	1	100	0	100	0	0	improved agricultural grassland and hedgerows; flying n across farmland	NM
	VP2	18/08/2021	12:12	Grey Heron	1	95	0	0	95	0	improved agricultural grassland and hedgerows; flying se	NM
BZ045	VP3	13/09/2021	15:11	Buzzard	2	617	12	178	427	0	improved agricultural grassland and oak-ash-hazel woodland; soaring, calling, travelling, mobbed by corvids while soaring	TR
BZ046	VP3	13/09/2021	15:15	Buzzard	1	392	24	368	0	0	improved agricultural grassland and oak-ash-hazel woodland; travelling, travelling, perched on tree for <60 sec.	TR
BZ047	VP3	13/09/2021	16:24	Buzzard	1	23	23	0	0	0	improved agricultural grassland and semi-natural woodland; travelling, gliding over ridge and behind treeline	TR
	VP3	13/09/2021	17:03	Cormorant	1	416	0	0	416	0	improved agricultural grassland and semi-natural woodland; travelling	TR
	VP3	13/09/2021	18:14	Grey Heron	1	7	7	0	0	0	watercourses and oak-ash-hazel woodland; travelling, landed in sTRm	TR
BZ048	VP3	13/09/2021	18:34	Buzzard	2	262	0	0	262	0	semi-natural woodland and improved agricultural grassland; soaring, travelling, mobbed by corvids	TR

Map Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	PCH (25-175m)	Band 4 (>175m)	Habitat and activity	Surveyor
	VP1	14/09/2021	15:20	Lesser Black-backed Gull	41	489	0	268	221	0	improved agricultural grassland and treelines; flying, circling with rooks	TR
	VP1	14/09/2021	17:58	Lesser Black-backed Gull	3	277	0	0	277	0	improved agricultural grassland and treelines; travelling	TR
	VP1	14/09/2021	18:16	Lesser Black-backed Gull	21	523	0	0	523	0	improved agricultural grassland and highly modified/non-native woodland; travelling	TR
	VP1	14/09/2021	22:53	Lesser Black-backed Gull	11	375	0	0	375	0	improved agricultural grassland and highly modified/non-native woodland; travelling	TR
HH001	VP2	22/09/2021	14:00	Hen Harrier	1	5	5	0	0	0	improved agricultural grassland and linear woodland/scrub; traveling	TR
K006	VP2	22/09/2021	15:23	Kestrel	1	176	63	113	0	0	improved agricultural grassland, exposed sand, gravel or till and treelines; hunting, hunting in quarry throughout survey <25m	TR
BZ049	VP2	22/09/2021	15:38	Buzzard	1	162	0	0	162	0	improved agricultural grassland and highly modified/non-native woodland; soaring, travelling	TR
K007	VP2	22/09/2021	15:54	Kestrel	1	73	2	71	0	0	improved agricultural grassland and highly modified/non-native woodland; hunting	TR
BZ050	VP2	22/09/2021	15:58	Buzzard	1	26	6	20	0	0	improved agricultural grassland and highly modified/non-native woodland; soaring, soaring, descended into trees	TR
K008	VP2	22/09/2021	16:16	Kestrel	1	24	0	24	0	0	improved agricultural grassland and highly modified/non-native woodland; traveling	TR
BZ051	VP2	22/09/2021	17:54	Buzzard	2	322	0	205	117	0	improved agricultural grassland and treelines; flying	TR

Table 5 Vantage Point Survey Non-Flight Observations

Map Ref.	VP	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ052	VP3	24/05/2021	07:24	Buzzard	1	hedgerows and improved agricultural grassland; perched in tree	KB
BZ053	VP1	27/05/2021	07:35	Buzzard	1	hedgerows; on nest	KB
BZ054	VP3	15/06/2021	11:32	Buzzard	1	conifer plantation; begging calls heard from conifer stand	KB
BZ055	VP3	15/06/2021	11:40	Buzzard	1	conifer plantation; calling heard	KB
BZ056	VP3	15/06/2021	12:00	Buzzard	1	conifer plantation; calling heard	KB
BZ057	VP3	15/06/2021	13:13	Buzzard	1	conifer plantation; begging calls heard	KB
	VP3	15/06/2021	13:15	Swift	1	improved agricultural grassland; flying over/ foraging	KB
BZ058	VP3	16/07/2021	13:23	Buzzard	1	improved agricultural grassland and hedgerows; calling heard	KB
	VP3	20/07/2021	08:46	Meadow Pipit	1	improved agricultural grassland; singing	KB
	VP1	20/07/2021	14:10	Meadow Pipit	1	improved agricultural grassland; singing	KB
BZ059	VP2	26/07/2021	19:50	Buzzard		hedgerows; chicks begging in nest	KB
BZ060	VP1	27/07/2021	19:55	Buzzard		mixed broadleaved woodland and hedgerows; begging calls heard behind VP	KB
BZ061	VP1	16/08/2021	15:42	Buzzard	2	mixed broadleaved woodland and improved agricultural grassland; calling and screeching within small woodland area	NM
BZ062	VP2	18/08/2021	07:07	Buzzard	1	improved agricultural grassland and hedgerows; perched in large ash tree within hedgerow, remained there for ~ 25mins	NM
BZ063	VP3	13/09/2021	15:19	Buzzard	1	improved agricultural grassland; calling	TR
BZ064	VP2	22/09/2021	18:48	Buzzard	2	highly modified/non-native woodland; calling	TR
	VP1	16/08/2021	10:52	Sparrowhawk	1	mixed broadleaved woodland and improved agricultural grassland; calling with small area of woodland within farmland	NM
	VP1	16/08/2021	11:46	Sparrowhawk	1	mixed broadleaved woodland and treelines; calling within mature treeline, narrow area of woodland	NM
	VP1	16/08/2021	15:54	Sparrowhawk	1	improved agricultural grassland; calling within tree thicket	NM
	VP3	17/08/2021	11:06	Sparrowhawk	1	improved agricultural grassland and treelines; calling in treeline within farmland	NM
	VP2	18/08/2021	06:39	Snipe	2	improved agricultural grassland; chirping within wet patch of agri grassland	NM

Table 6 Breeding Walkover Survey Observations

Map Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ001	26/04/2021	07:05	Buzzard	1	mixed broadleaved/conifer woodland and improved agricultural grassland; circling, calling (agitated behaviour; probable breeding)	DM
	26/04/2021	07:52	Mallard	4	depositing/lowland rivers and improved agricultural grassland; flushed, males ()	DM
BZ002	26/04/2021	07:54	Buzzard	1	improved agricultural grassland and mixed broadleaved/conifer woodland; hunting, in field ()	DM
	26/04/2021	07:57	Grey Heron	1	improved agricultural grassland; travelling ()	DM
BZ003	26/04/2021	08:35	Buzzard	1	mixed broadleaved/conifer woodland; flushed, on tree ()	DM
BZ004	26/04/2021	10:25	Buzzard	2	mixed broadleaved/conifer woodland and improved agricultural grassland; flushed, in hedgerow trees (pair; probable breeding)	DM
	26/04/2021	10:40	Grey Heron	1	lakes and ponds; feeding, on small pond (summering; non-breeding)	DM
	26/04/2021	10:40	Teal	1	lakes and ponds; feeding, on small pond (suitable nesting habitat; possible breeder)	DM
	26/04/2021	10:40	Little Grebe	2	lakes and ponds; feeding, on small pond (nest with eggs; confirmed breeding)	DM
	26/04/2021		Meadow Pipit	2	improved agricultural grassland; pair (suitable nesting habitat; possible breeder)	DM
	26/04/2021		Grey Wagtail	1	depositing/lowland rivers; male, snipe's bridge (suitable nesting habitat; possible breeder)	DM
	27/04/2021	08:00	Mallard	2	depositing/lowland rivers and improved agricultural grassland; travelling (flyover; non-breeding)	DM
	27/04/2021	08:10	Mallard	1	depositing/lowland rivers and improved agricultural grassland; travelling (flyover; non-breeding)	DM
	27/04/2021	08:59	Mallard	2	depositing/lowland rivers and improved agricultural grassland; flushed, pair (suitable nesting habitat; possible breeder)	DM
	27/04/2021	09:30	Moorhen	1	lakes and ponds; calling, heard only (suitable nesting habitat; possible breeder)	DM
	27/04/2021	10:25	Black-headed Gull	2	lakes and ponds; roosting, on small pond ()	DM
	27/04/2021		Yellowhammer	2		DM
	27/04/2021		Meadow Pipit	4		DM
	27/04/2021		Grey Wagtail	1		DM
BZ005	26/05/2021	12:02	Buzzard	1	improved agricultural grassland and hedgerows; soaring (suitable nesting habitat; possible breeder)	KB
BZ006	26/05/2021	12:14	Buzzard	1	improved agricultural grassland and mixed broadleaved/conifer woodland; soaring (suitable nesting habitat; possible breeder)	KB
BZ007	26/05/2021	13:50	Buzzard	2	improved agricultural grassland and mixed broadleaved woodland; pair soaring - 1 bird display flight (courtship and display; probable breeding)	KB
BZ008	31/05/2021	11:34	Buzzard	1	improved agricultural grassland and hedgerows; soaring (suitable nesting habitat; possible breeder)	KB

Map Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ009	31/05/2021	12:00	Buzzard	1	improved agricultural grassland and mixed broadleaved woodland; soaring (suitable nesting habitat; possible breeder)	KB
BZ010	31/05/2021	14:08	Buzzard	1	hedgerows; adult on nest (occupied nest; confirmed breeding)	KB
	31/05/2021	14:58	Moorhen	2	lakes and ponds and improved agricultural grassland; pair foraging (pair; probable breeding)	KB
BZ011	01/05/2021	12:44	Buzzard	3	conifer plantation and mixed broadleaved woodland; soaring (suitable nesting habitat; possible breeder)	KB
BZ012	01/05/2021	13:22	Buzzard	1	improved agricultural grassland and hedgerows; soaring (suitable nesting habitat; possible breeder)	KB
	01/05/2021	13:22	Grey Wagtail	1	watercourses; foraging (suitable nesting habitat; possible breeder)	KB
	01/05/2021	15:57	Meadow Pipit	2	dry meadows and grassy verges; pair alarm calling (agitated behaviour; probable breeding)	KB
	01/05/2021	16:38	Grey Heron	2	lakes and ponds, improved agricultural grassland and mixed broadleaved woodland; pair travelling - took up from lake (pair; probable breeding)	KB
	25/06/2021	12:47	Lesser Black-backed Gull	1	conifer plantation, improved agricultural grassland and arable crops; travelling (flyover; non-breeding)	KB
BZ013	25/06/2021	12:58	Buzzard	1	conifer plantation; soaring (suitable nesting habitat; possible breeder)	KB
BZ014	25/06/2021	13:00	Buzzard	1	conifer plantation; soaring (suitable nesting habitat; possible breeder)	KB
	25/06/2021	13:00	Lesser Black-backed Gull	1	conifer plantation and arable crops; travelling (flyover; non-breeding)	KB
	25/06/2021	13:22	Lesser Black-backed Gull	3	conifer plantation and arable crops; travelling (flyover; non-breeding)	KB
BZ015	25/06/2021	13:35	Buzzard	1	conifer plantation; soaring (suitable nesting habitat; possible breeder)	KB
BZ016	25/06/2021	14:10	Buzzard	1	conifer plantation; soaring (suitable nesting habitat; possible breeder)	KB
BZ017	25/06/2021	14:15	Buzzard	1	improved agricultural grassland; soaring (suitable nesting habitat; possible breeder)	KB
BZ018	25/06/2021	14:15	Buzzard	1	improved agricultural grassland; soaring (suitable nesting habitat; possible breeder)	KB
SH001	25/06/2021	15:05	Sparrowhawk	1	improved agricultural grassland; foraging and traveling (suitable nesting habitat; possible breeder)	KB
	25/06/2021	15:07	Herring Gull	1	improved agricultural grassland and conifer plantation; travelling (flyover; non-breeding)	KB
BZ019	28/06/2021	13:13	Buzzard	1	mixed broadleaved woodland and improved agricultural grassland; soaring low (suitable nesting habitat; possible breeder)	KB
BZ020	28/06/2021	15:26	Buzzard	2	conifer plantation and improved agricultural grassland; soaring (suitable nesting habitat; possible breeder)	KB

Map Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ021	28/06/2021	15:42	Buzzard	1	conifer plantation; travelling with prey - descended into forestry (adult carrying food/faecal sac; confirmed breeding)	KB
BZ022	28/06/2021	17:38	Buzzard	1	improved agricultural grassland and mixed broadleaved woodland; perched on post - took up/ foraging (suitable nesting habitat; possible breeder)	KB
SH002	28/06/2021	17:46	Sparrowhawk	1	improved agricultural grassland and mixed broadleaved woodland; foraging (suitable nesting habitat; possible breeder)	KB
BZ023	28/06/2021	18:30	Buzzard	2	mixed broadleaved woodland; soaring (suitable nesting habitat; possible breeder)	KB
K001	29/06/2021	16:58	Kestrel	1	improved agricultural grassland and hedgerows; foraging - flew out of site, alarm calling heard a few minutes later (agitated behaviour; probable breeding)	KB
BZ024	29/06/2021	17:04	Buzzard	1	improved agricultural grassland and hedgerows; soaring (suitable nesting habitat; possible breeder)	KB
	29/06/2021	18:10	Little Grebe	2	lakes and ponds; foraging (pair; probable breeding)	KB
	29/06/2021	18:12	Mallard	7	lakes and ponds and improved agricultural grassland; travelling - landed in pond to forage (suitable nesting habitat; possible breeder)	KB
BZ025	29/06/2021	19:17	Buzzard	1	hedgerows and improved agricultural grassland; brought prey to nest (adult carrying food/faecal sac; confirmed breeding)	KB
	29/06/2021	19:42	Mallard	1	lakes and ponds; foraging (suitable nesting habitat; possible breeder)	KB
	29/06/2021	19:42	Moorhen	1	lakes and ponds; foraging (suitable nesting habitat; possible breeder)	KB
	29/06/2021	19:57	Meadow Pipit	4	recolonising bare ground and improved agricultural grassland; 2 adults with 2 fledglings (fledged young; confirmed breeding)	KB
	29/06/2021	19:58	Meadow Pipit	2	recolonising bare ground and improved agricultural grassland; pair alarm calling (agitated behaviour; probable breeding)	KB
BZ026	30/06/2021	18:07	Buzzard	1	improved agricultural grassland and hedgerows; foraging/soaring (suitable nesting habitat; possible breeder)	KB
CO001	30/06/2021	19:20	Coot		lakes and ponds; adult calling and chick begging calls heard (nest with young; confirmed breeding)	KB
BZ027	30/06/2021	19:34	Buzzard	1	improved agricultural grassland and conifer plantation; foraging on ground - took up to perch on tree (suitable nesting habitat; possible breeder)	KB
	30/06/2021	19:49	Mallard	6	lakes and ponds; flew in and landed on pond - foraging (suitable nesting habitat; possible breeder)	KB
BZ028	30/06/2021	19:55	Buzzard	1	improved agricultural grassland and conifer plantation; caught prey and travelled into forestry (adult carrying food/faecal sac; confirmed breeding)	KB
	30/06/2021	20:14	Black-headed Gull	2	improved agricultural grassland; foraging on ground (summering; non-breeding)	KB
SH003	16/07/2021	18:06	Sparrowhawk		mixed broadleaved woodland; chick begging calls heard in woodland (nest with young; confirmed breeding)	KB

Map Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ029	26/07/2021	12:28	Buzzard	1	conifer plantation; soaring (suitable nesting habitat; possible breeder)	KB
	26/07/2021	12:31	Swift	1	improved agricultural grassland; foraging (flyover; non-breeding)	KB
SH004	26/07/2021	13:40	Sparrowhawk		conifer plantation; chick begging calls heard (nest with young; confirmed breeding)	KB
BZ030	26/07/2021	18:30	Buzzard	1	improved agricultural grassland and hedgerows; on ground - took up/foraging (suitable nesting habitat; possible breeder)	KB
	27/07/2021	13:30	Swift	2	improved agricultural grassland; foraging (flyover; non-breeding)	KB
SH005	27/07/2021	13:52	Sparrowhawk	1	mixed broadleaved woodland and improved agricultural grassland; foraging (suitable nesting habitat; possible breeder)	KB
	27/07/2021	14:24	Grey Heron	1	lakes and ponds, improved agricultural grassland and mixed broadleaved woodland; travelling from lake (suitable nesting habitat; possible breeder)	KB
	27/07/2021	15:10	Mallard	1	lakes and ponds and improved agricultural grassland; traveling from pond (suitable nesting habitat; possible breeder)	KB
	27/07/2021	15:21	Mallard	2	improved agricultural grassland; travelling (suitable nesting habitat; possible breeder)	KB
BZ031	28/07/2021	17:03	Buzzard	1	improved agricultural grassland, mixed broadleaved woodland and hedgerows; foraging (suitable nesting habitat; possible breeder)	KB
BZ032	28/07/2021	18:57	Buzzard	1	improved agricultural grassland, hedgerows and mixed broadleaved woodland; soaring (suitable nesting habitat; possible breeder)	KB
K002	30/07/2021	09:55	Kestrel	1	hedgerows and improved agricultural grassland; travelling with prey (adult carrying food/faecal sac; confirmed breeding)	KB

Table 7 Breeding Raptor Survey Observations

Map Ref.	BRVP	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
BZ001	BRVP1 + transect	27/04/2021	14:27	Buzzard	1	improved agricultural grassland and hedgerows, foraging - landed on post	suitable nesting habitat; possible breeder	KB
BZ002	BRVP1 + transect	27/04/2021	14:35	Buzzard	1	hedgerows and improved agricultural grassland, second bird soaring	suitable nesting habitat; possible breeder	KB
BZ003	BRVP1 + transect	27/04/2021	14:41	Buzzard	2	improved agricultural grassland and hedgerows, 1st bird soaring 2nd bird display flight	courtship and display; probable breeding	KB
BZ004	BRVP1 + transect	27/04/2021	14:48	Buzzard	1	improved agricultural grassland and hedgerows, soaring	suitable nesting habitat; possible breeder	KB
BZ005	BRVP2 + transect	27/04/2021	17:43	Buzzard	1	conifer plantation, improved agricultural grassland and hedgerows, soaring	suitable nesting habitat; possible breeder	KB
BZ006	BRVP2 + transect	27/04/2021	17:55	Buzzard	1	improved agricultural grassland and hedgerows, display flight - landed on tree to perch	courtship and display; probable breeding	KB
BZ007	BRVP2 + transect	27/04/2021	18:12	Buzzard	1	mixed broadleaved woodland, perched in tree adjacent to a nest	suitable nesting habitat; possible breeder	KB
BZ008	BRVP3 + transects	28/04/2021	13:18	Buzzard	1	improved agricultural grassland and hedgerows, foraging	suitable nesting habitat; possible breeder	KB
BZ009	BRVP3 + transects	28/04/2021	13:37	Buzzard	1	mixed broadleaved woodland and improved agricultural grassland, display flight	courtship and display; probable breeding	KB
BZ010	BRVP3 + transects	28/04/2021	13:49	Buzzard	1	improved agricultural grassland, on ground	suitable nesting habitat; possible breeder	KB
BZ011	BRVP3 + transects	28/04/2021	13:51	Buzzard	2	improved agricultural grassland and mixed broadleaved woodland, pair soaring	suitable nesting habitat; possible breeder	KB

Map Ref.	BRVP	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
BZ012	BRVP3 + transects	28/04/2021	13:51	Buzzard	1	mixed broadleaved woodland and improved agricultural grassland, soaring and calling	suitable nesting habitat; possible breeder	KB
BZ013	BRVP3 + transects	28/04/2021	14:19	Buzzard	1	improved agricultural grassland, soaring	suitable nesting habitat; possible breeder	KB
BZ014	BRVP3 + transects	28/04/2021	15:34	Buzzard	1	conifer plantation, perched in tree - took up and began soaring	suitable nesting habitat; possible breeder	KB
K001	BRVP6 + transect	29/04/2021	14:12	Kestrel	1	conifer plantation, improved agricultural grassland and immature woodland, foraging adult female	suitable nesting habitat; possible breeder	KB
BZ015	BRVP6 + transect	29/04/2021	14:19	Buzzard	3	conifer plantation, immature woodland and improved agricultural grassland, soaring, 2 birds interacting in flight	suitable nesting habitat; possible breeder	KB
BZ016	BRVP6 + transect	29/04/2021	14:38	Buzzard	1	mixed broadleaved woodland and conifer plantation, soaring	suitable nesting habitat; possible breeder	KB
BZ017	BRVP6 + transect	29/04/2021	14:45	Buzzard	1	conifer plantation, improved agricultural grassland and mixed broadleaved woodland, soaring	suitable nesting habitat; possible breeder	KB
BZ018	BRVP6 + transect	29/04/2021	15:03	Buzzard	1	improved agricultural grassland and immature woodland, soaring	suitable nesting habitat; possible breeder	KB
BZ019	BRVP6 + transect	29/04/2021	15:12	Buzzard	3	conifer plantation, improved agricultural grassland and immature woodland, soaring	suitable nesting habitat; possible breeder	KB
BZ020	BRVP4 + transect	29/04/2021	17:38	Buzzard	2	conifer plantation, soaring together and interacting in flight	suitable nesting habitat; possible breeder	KB
BZ021	BRVP4 + transect	29/04/2021	17:38	Buzzard	1	improved agricultural grassland, 3rd bird joined 1st two birds - soaring	suitable nesting habitat; possible breeder	KB

Map Ref.	BRVP	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
BZ022	BRVP4 + transect	29/04/2021	17:38	Buzzard	1	improved agricultural grassland, 4th bird joined 3 soaring birds	suitable nesting habitat; possible breeder	KB
BZ023	BRVP1 + transect	04/06/2021	17:58	Buzzard	1	conifer plantation, emerged from plantation - soaring	suitable nesting habitat; possible breeder	KB
SH001	BRVP2 + transect	10/06/2021	11:20	Sparrowhawk	1	conifer plantation, improved agricultural grassland and arable crops, soaring	suitable nesting habitat; possible breeder	KB
BZ024	BRVP5 + transect	15/06/2021	15:13	Buzzard	1	improved agricultural grassland, soaring	suitable nesting habitat; possible breeder	KB
SH002	BRVP5 + transect	15/06/2021	15:26	Sparrowhawk	1	mixed broadleaved woodland, hedgerows and improved agricultural grassland, travelling with prey	adult carrying food/faecal sac; confirmed breeding	KB
BZ025	BRVP5 + transect	15/06/2021	16:28	Buzzard	1	improved agricultural grassland and hedgerows, soaring	suitable nesting habitat; possible breeder	KB
BZ026	BRVP5	05/07/2021	09:34	Buzzard	1	highly modified/non-native woodland, soaring	suitable nesting habitat; possible breeder	TR
BZ027	BRVP5	05/07/2021	09:55	Buzzard	1	highly modified/non-native woodland, travelling & soaring	suitable nesting habitat; possible breeder	TR
K002	BRVP5	05/07/2021	11:41	Kestrel	1	highly modified/non-native woodland, travelling	suitable nesting habitat; possible breeder	TR
BZ028	BRVP3	05/07/2021	12:42	Buzzard	1	cultivated land and semi-natural woodland, flying, soaring, calling	suitable nesting habitat; possible breeder	TR
BZ029	BRVP3	05/07/2021	12:50	Buzzard	1	cultivated land and semi-natural woodland, travelling, low flying, dipped below tree line	suitable nesting habitat; possible breeder	TR
BZ030	BRVP3	05/07/2021	13:14	Buzzard	1	semi-natural woodland, perched on tree	pair; probable breeding	TR
BZ031	BRVP3	05/07/2021	13:16	Buzzard	1	semi-natural woodland, soaring, travelling	pair; probable breeding	TR
BZ032	BRVP3	05/07/2021	13:35	Buzzard	1	semi-natural woodland and cultivated land, hunting	pair; probable breeding	TR
BZ033	BRVP3	05/07/2021	13:54	Buzzard	1	semi-natural woodland and cultivated land, flying, flew beneath ridge carrying food.	adult carrying food/faecal sac; confirmed breeding	TR

Map Ref.	BRVP	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
BZ034	BRVP3	05/07/2021	13:56	Buzzard	1	semi-natural woodland and cultivated land, hunting, reappeared without food. soared above wood before steep dive.	adult carrying food/faecal sac; confirmed breeding	TR
BZ035	BRVP3	05/07/2021	14:04	Buzzard	1	cultivated land, flying low around field	pair; probable breeding	TR
BZ036	BRVP3	05/07/2021	14:07	Buzzard	1	semi-natural woodland and cultivated land, hunting, flew above field and trees before sharp dive. didn't see reappear	pair; probable breeding	TR
BZ037	BRVP3	05/07/2021	14:27	Buzzard	1	semi-natural woodland and cultivated land, soaring	pair; probable breeding	TR
BZ038	BRVP3	05/07/2021	14:39	Buzzard	2	highly modified/non-native woodland and cultivated land, flying and soaring, flying around field and soaring over woodland	pair; probable breeding	TR
BZ039	BRVP3	05/07/2021	14:50	Buzzard	2	cultivated land and semi-natural woodland, display/territorial behaviour	pair; probable breeding	TR
BZ040	BRVP3	05/07/2021	14:50	Buzzard	1	semi-natural woodland and cultivated land, soaring, diving at pair	suitable nesting habitat; possible breeder	TR
BZ041	BRVP2	06/07/2021	14:15	Buzzard	1	cultivated land and highly modified/non-native woodland, travelling	pair; probable breeding	TR
BZ042	BRVP2	06/07/2021	15:15	Buzzard	1	highly modified/non-native woodland and cultivated land, hunting, 2 of 2, soaring, hovering, diving	pair; probable breeding	TR
BZ043	BRVP2	06/07/2021	16:02	Buzzard	1	highly modified/non-native woodland and cultivated land, hunting, soaring, hovering, diving	pair; probable breeding	TR
K003	BRVP2	06/07/2021	16:50	Kestrel	1	cultivated land and highly modified/non-native woodland, travelling, flew into field and perched on hay bale	suitable nesting habitat; possible breeder	TR
	BRVP4	07/07/2021	10:33	Raven	1	improved grassland and highly modified/non-native woodland, soaring, travelling	flyover; non-breeding	TR
BZ044	BRVP4	08/07/2021	11:48	Buzzard	1	improved grassland and highly modified/non-native woodland, flying, calling	pair; probable breeding	TR
	BRVP4	09/07/2021	13:21	Raven	2	improved agricultural grassland, travelling	pair; probable breeding	TR
	BRVP4	10/07/2021	14:13	Raven	2	buildings and artificial surfaces and treelines, roosting, flew in and perched on tree	pair; probable breeding	TR
BZ045	BRVP3	26/07/2021	13:57	Buzzard	1	improved grassland and treelines, begging call, begging call heard throughout survey. nest not observed.	nest with young; confirmed breeding	TR

Map Ref.	BRVP	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
BZ046	BRVP3	26/07/2021	14:41	Buzzard	1	improved grassland and treelines, soaring	suitable nesting habitat; possible breeder	TR
BZ047	BRVP3	26/07/2021	15:15	Buzzard	1	improved grassland and treelines, flying, flying low over field	suitable nesting habitat; possible breeder	TR
BZ048	BRVP1	27/07/2021	12:10	Buzzard	1	improved grassland and hedgerows, roosting, perched on pole, streaked juvenile plumage, not downy.	fledged young; confirmed breeding	TR
BZ049	BRVP6	28/07/2021	12:39	Buzzard	1	improved grassland, roosting, adult perched on pole	suitable nesting habitat; possible breeder	TR

Table 8 Wildfowl Distribution Survey Observations

Map Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
	Ballinleg pond	19/04/2021	11:20	Teal	4	lakes and ponds; feeding, 2 pairs	DM
	Newtown lake	19/04/2021	12:30	Mallard	3	lakes and ponds; feeding, pair+ drake	DM
	Newtown sand-pit	19/04/2021	13:15	Mallard	6	lakes and ponds; feeding	DM
	Newtown sand-pit	19/04/2021	13:15	Grey Heron	1	lakes and ponds; feeding	DM
	N52 Ballinlig	19/04/2021	13:30	Moorhen	1	lakes and ponds; feeding, on small pond	DM
	Freeekan lake	19/04/2021	13:40	Mallard	2	depositing/lowland rivers; feeding, Stoneford River	DM
SN001	Freeekan lake	19/04/2021	13:40	Snipe	4	lakes and ponds; roosting, edge of lake	DM
	Ballinleg pond	30/04/2021	10:00	Moorhen	1	lakes and ponds; feeding	DM
	Ballinleg pond	30/04/2021	10:00	Little Grebe	1	lakes and ponds; feeding	DM
	Ballinleg pond	30/04/2021	10:00	Mallard	2	lakes and ponds; feeding, 2 drakes	DM
	Crowinstown lake	30/04/2021	10:30	Moorhen	1	lakes and ponds; calling, heard only	DM
	Newtown lake	30/04/2021	11:30	Moorhen	2	lakes and ponds; feeding	DM
	Freeekan lake	30/04/2021	12:30	Mallard	2	lakes and ponds and depositing/lowland rivers; feeding, male on lake female on river	DM

Table 9 Breeding Woodcock Survey Observations

Map Ref.	Transect	Date	Time	Species	Number	Habitat and activity	Surveyor
WK001	WKT1	03/06/2021	22:01	Woodcock	1	semi-natural grassland, mixed broadleaved/conifer woodland and conifer plantation, roding	KB
WK002	WKT1	03/06/2021	22:05	Woodcock	1	semi-natural grassland and mixed broadleaved woodland, roding	KB
WK003	WKT1	03/06/2021	22:12	Woodcock	1	mixed broadleaved woodland, semi-natural grassland and improved agricultural grassland, roding	KB
WK004	WKT1	03/06/2021	22:16	Woodcock	1	mixed broadleaved woodland, roding	KB
WK005	WKT1	03/06/2021	22:18	Woodcock	1	mixed broadleaved woodland and improved agricultural grassland, roding	KB
WK006	WKT1	03/06/2021	22:22	Woodcock	1	mixed broadleaved woodland and improved agricultural grassland, roding	KB
WK007	WKT4	29/06/2021	22:18	Woodcock	1	mixed conifer woodland, roding	KB
WK008	WKT4	29/06/2021	22:18	Woodcock	1	mixed conifer woodland, roding	KB
WK009	WKT4	29/06/2021	22:25	Woodcock	1	mixed conifer woodland, roding	KB
WK010	WKT4	29/06/2021	22:27	Woodcock	1	mixed conifer woodland, roding	KB
WK011	WKT4	29/06/2021	22:29	Woodcock	2	hedgerows, roding	KB
WK012	WKT4	29/06/2021	22:30	Woodcock	1	mixed conifer woodland, roding	KB

Table 10 Incidental Observations

Map Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
	Breeding Walkover Survey;	26/04/2021	06:30	Hare	1	improved agricultural grassland;	DM
	Breeding Walkover Survey;	27/04/2021	06:40	Pine Martin	1	improved agricultural grassland and mixed broadleaved/conifer woodland; hunting	DM
	Breeding Walkover Survey;	27/04/2021	06:56	Hare	2	improved agricultural grassland;	DM
	Vantage Point Survey; sTRm up the road from VP	24/05/2021	07:20	Grey Wagtail	1	watercourses; foraging	KB
	Breeding Raptor Survey; BRVP2 + transect	10/06/2021	10:30	Yellowhammer	1	arable crops; singing	KB
BZ003	Wildfowl Distribution Survey; Crowinstown lake	30/04/2021	11:00	Buzzard	1	improved agricultural grassland; hunting	DM
BZ002	Breeding Raptor Survey; south of BRVP3	28/04/2021	12:00	Buzzard	1	improved agricultural grassland and hedgerows; calling	KB
BZ004	Wildfowl Distribution Survey; newtown sand-pit	30/04/2021	12:00	Buzzard	1	improved agricultural grassland; hunting	DM
	Breeding Raptor Survey; BRVP2 + transect	10/06/2021	12:05	Lesser Black-Backed Gull	1	arable crops and improved agricultural grassland; travelling, juvenile	KB
	Breeding Raptor Survey; BRVP2 + transect	10/06/2021	12:28	Lesser Black-Backed Gull	1	arable crops; travelling, dropped down into crop field	KB
	Breeding Raptor Survey; BRVP2 + transect	10/06/2021	12:29	Lesser Black-Backed Gull	1	arable crops; travelling, juvenile	KB
PE001	Wildfowl Distribution Survey; Newtown lake	19/04/2021	12:30	Peregrine Falcon	1	lakes and ponds and improved agricultural grassland; hunting	DM
	Wildfowl Distribution Survey; Freekan lake	30/04/2021	12:30	Grey Wagtail	1	depositing/lowland rivers; feeding, male at snipe's bridge	DM
	Wildfowl Distribution Survey; Snipes bridge - Stonyford River	18/05/2021	13:30	Grey Wagtail	2	eroding/upland rivers; pair feeding on stream, flew downstairs	LH
BZ001	Wildfowl Distribution Survey; Freekan lake	19/04/2021	13:40	Buzzard	1	improved agricultural grassland; travelling	DM
	Wildfowl Distribution Survey; Freekan lake	19/04/2021	13:40	Grey Wagtail	2	depositing/lowland rivers; feeding, pair at snipe's bridge	DM
	Wildfowl Distribution Survey; Freekan lake	19/04/2021	13:40	Meadow Pipit	1	lakes and ponds; feeding, edge of lake	DM

Map Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ006	Wildfowl Distribution Survey; Snipes bridge	18/05/2021	13:45	Buzzard	3	improved agricultural grassland and hedgerows; one flew east, calling/mewing, then 3 continued circling and sparing until one flew west.	LH
	Breeding Raptor Survey; BRVP5 + transect	15/06/2021	14:02	Yellowhammer	1	hedgerows and improved agricultural grassland; singing	KB
	Breeding Raptor Survey; BRVP3B	09/06/2021	14:52	Grey Heron	1	conifer plantation and lakes and ponds; travelling - dropped down to pond	KB
	Breeding Raptor Survey; BRVP3	06/07/2021	15:03	Lesser Black-Backed Gull	2	improved grassland; travelling	TR
	Breeding Raptor Survey; BRVP3B	09/06/2021	15:09	Grey Heron	1	conifer plantation; travelling - in the direction of known nest	KB
	Breeding Raptor Survey; BRVP4 + transect	03/06/2021	18:04	Black-Headed Gull	2	improved agricultural grassland; pair travelling	KB
	Breeding Raptor Survey; BRVP4 + transect	03/06/2021	18:15	Grey Heron	1	improved agricultural grassland and conifer plantation; travelling	KB
	Breeding Raptor Survey; BRVP4 + transect	03/06/2021	18:31	Grey Heron	7	mixed broadleaved/conifer woodland; 2 active nests in stand of trees - 5 fledgelings and 2 adults bringing food observed	KB
	Breeding Woodcock Survey; WKT5	30/06/2021	21:00	Yellowhammer	1	hedgerows, improved agricultural grassland and arable crops; singing	KB
	Breeding Woodcock Survey; WKT5	30/06/2021	21:05	Yellowhammer	2	hedgerows, improved agricultural grassland and arable crops; foraging, 2 males	KB
	Breeding Woodcock Survey; WKT1	03/06/2021	21:41	Little Grebe	4	drainage ditches; adult with 3 chicks foraging	KB
	Breeding Woodcock Survey; WKT4	29/06/2021	21:54	Sparrowhawk	1	improved agricultural grassland and hedgerows; foraging - mobbed by m. pair	KB
	Breeding Woodcock Survey; WKT1	03/06/2021	22:24	Mallard	1	mixed broadleaved woodland and improved agricultural grassland; travelling	KB
	Breeding Raptor Survey; BRVP1	27/07/2021	09:27	Lesser Black-Backed Gull	28	improved grassland and treelines; travelling	TR
	Breeding Raptor Survey; BRVP1	27/07/2021	09:40	Lesser Black-Backed Gull	22	improved grassland and treelines; travelling, individuals pass throughout survey.	TR
	Breeding Raptor Survey; BRVP4	28/07/2021	10:04	Grey Heron	1	improved grassland and treelines; roosting, roosting in tree	TR
	Breeding Raptor Survey; BRVP3	07/07/2021	10:16	Grey Heron	4	improved grassland; roosting, flying, 1 flew from tree where 2 juv. and 1 adult were roosting	TR

Map Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
	Breeding Raptor Survey; BRVP1	27/07/2021	10:34	Lesser Black-Backed Gull	32	improved grassland and mixed broadleaved/conifer woodland; travelling	TR
	Breeding Raptor Survey; BRVP1	06/07/2021	10:52	Lesser Black-Backed Gull	17	cultivated land; travelling	TR
	Breeding Raptor Survey; BRVP1	06/07/2021	10:55	Meadow Pipit	6	cultivated land; flying and parachute descent display	TR
	Breeding Raptor Survey; BRVP1	06/07/2021	11:20	Lesser Black-Backed Gull	21	cultivated land; travelling, 7 followed shortly by 14	TR
	Breeding Raptor Survey; BRVP4	07/07/2021	11:25	Lesser Black-Backed Gull	6	improved grassland and highly modified/non-native woodland; travelling	TR
	Breeding Raptor Survey; BRVP5	05/07/2021	11:49	Lesser Black-Backed Gull	7	cultivated land and woodland and scrub; travelling	TR
	Breeding Raptor Survey; BRVP2	27/07/2021	11:59	Yellowhammer	4	linear woodland/scrub; perched on wire	TR
	Breeding Raptor Survey; BRVP1	06/07/2021	13:05	Lesser Black-Backed Gull	3	cultivated land; travelling	TR
	Breeding Raptor Survey; BRVP2	27/07/2021	13:28	Yellowhammer	2	arable crops; roosting, pair perched on wire	TR
	Vantage Point Survey; VP2	22/09/2021	14:00	Little Grebe	31	improved agricultural grassland and lakes and ponds; roosting	TR
	Breeding Raptor Survey; BRVP2	06/07/2021	14:24	Yellowhammer	2	hedgerows; singing in hedgerow	TR
	Breeding Raptor Survey; BRVP3	26/07/2021	14:45	Grey Heron	1	improved grassland and treelines; travelling	TR
BZ005	Breeding Raptor Survey; BRVP1	06/07/2021	15:13	Buzzard	1	highly modified/non-native woodland and cultivated land; hunting, 1 of 2, soaring, hovering, diving.	TR
	Breeding Woodcock Survey; Crowinstown	18/05/2021	21:10	Grey Heron	1	improved agricultural grassland and treelines; in flight, river nearby	LH
	Breeding Woodcock Survey; Crowinstown	18/05/2021	21:39	Mallard	3	improved agricultural grassland and hedgerows; three drakes in flight going west	LH
	Breeding Woodcock Survey; Crowinstown	18/05/2021	21:39	Mallard	1	drainage ditches; female flushed from drain	LH

Table 11 Non-target Species Observations

Date	Survey	Species	Notes	Surveyor
22/04/2021	Vantage Point Survey, VP3	Song Thrush		KB
22/04/2021	Vantage Point Survey, VP3	Rook		KB
22/04/2021	Vantage Point Survey, VP3	Wren		KB
22/04/2021	Vantage Point Survey, VP3	Pied Wagtail		KB
22/04/2021	Vantage Point Survey, VP3	Woodpigeon		KB
22/04/2021	Vantage Point Survey, VP3	Blackbird		KB
22/04/2021	Vantage Point Survey, VP3	Robin		KB
22/04/2021	Vantage Point Survey, VP3	Hooded Crow		KB
22/04/2021	Vantage Point Survey, VP3	Chaffinch		KB
22/04/2021	Vantage Point Survey, VP3	Chiffchaff		KB
22/04/2021	Vantage Point Survey, VP3	Barn Swallow		KB
22/04/2021	Vantage Point Survey, VP3	Lesser Redpoll		KB
22/04/2021	Vantage Point Survey, VP3	Starling		KB
26/04/2021	Breeding Walkover Survey,	Blackbird	singing	DM
26/04/2021	Breeding Walkover Survey,	Chiffchaff	singing	DM
26/04/2021	Breeding Walkover Survey,	Blackcap	singing	DM
26/04/2021	Breeding Walkover Survey,	Wren	singing	DM
26/04/2021	Breeding Walkover Survey,	Chaffinch	singing	DM
26/04/2021	Breeding Walkover Survey,	Robin	singing	DM
26/04/2021	Breeding Walkover Survey,	Bullfinch	pair	DM
26/04/2021	Breeding Walkover Survey,	Song Thrush	singing	DM
26/04/2021	Breeding Walkover Survey,	Dunnock		DM
26/04/2021	Breeding Walkover Survey,	Willow Warbler	singing	DM
26/04/2021	Breeding Walkover Survey,	Long-tailed Tit		DM
26/04/2021	Breeding Walkover Survey,	Woodpigeon		DM
26/04/2021	Breeding Walkover Survey,	Stock Dove		DM

Date	Survey	Species	Notes	Surveyor
26/04/2021	Breeding Walkover Survey,	Jackdaw	nest building	DM
26/04/2021	Breeding Walkover Survey,	Rook		DM
26/04/2021	Breeding Walkover Survey,	Mistle Thrush		DM
26/04/2021	Breeding Walkover Survey,	Hooded Crow		DM
26/04/2021	Breeding Walkover Survey,	Pheasant	calling	DM
26/04/2021	Breeding Walkover Survey,	Coal Tit		DM
26/04/2021	Breeding Walkover Survey,	Sand Martin	feeding	DM
26/04/2021	Breeding Walkover Survey,	Raven	calling	DM
26/04/2021	Breeding Walkover Survey,	Reed Bunting		DM
26/04/2021	Breeding Walkover Survey,	Stonechat	agitated male	DM
26/04/2021	Breeding Walkover Survey,	Jay		DM
26/04/2021	Breeding Walkover Survey,	Linnet	feeding on dandelion	DM
26/04/2021	Breeding Walkover Survey,	Great Tit	calling	DM
26/04/2021	Breeding Walkover Survey,	Skylark	pair	DM
26/04/2021	Breeding Walkover Survey,	Blue Tit	at nest	DM
26/04/2021	Breeding Walkover Survey,	Barn Swallow		DM
27/04/2021	Vantage Point Survey, VP1	Blackbird		KB
27/04/2021	Vantage Point Survey, VP1	Robin		KB
27/04/2021	Vantage Point Survey, VP1	Song Thrush		KB
27/04/2021	Vantage Point Survey, VP1	Chaffinch		KB
27/04/2021	Vantage Point Survey, VP1	Woodpigeon		KB
27/04/2021	Vantage Point Survey, VP1	Hooded Crow		KB
27/04/2021	Vantage Point Survey, VP1	Rook		KB
27/04/2021	Vantage Point Survey, VP1	Starling		KB
27/04/2021	Vantage Point Survey, VP1	Pied Wagtail		KB
27/04/2021	Breeding Walkover Survey,	Blackbird	singing	DM

Date	Survey	Species	Notes	Surveyor
27/04/2021	Breeding Walkover Survey,	Wren	singing	DM
27/04/2021	Breeding Walkover Survey,	Chaffinch	singing	DM
27/04/2021	Breeding Walkover Survey,	Robin	singing	DM
27/04/2021	Breeding Walkover Survey,	Collared Dove	calling	DM
27/04/2021	Breeding Walkover Survey,	Woodpigeon	calling	DM
27/04/2021	Breeding Walkover Survey,	Rook		DM
27/04/2021	Breeding Walkover Survey,	Jackdaw		DM
27/04/2021	Breeding Walkover Survey,	Willow Warbler	singing	DM
27/04/2021	Breeding Walkover Survey,	Great Tit	calling	DM
27/04/2021	Breeding Walkover Survey,	Song Thrush	singing	DM
27/04/2021	Breeding Walkover Survey,	Mistle Thrush		DM
27/04/2021	Breeding Walkover Survey,	Blackcap	singing	DM
27/04/2021	Breeding Walkover Survey,	Lesser Redpoll	singing	DM
27/04/2021	Breeding Walkover Survey,	Skylark	singing	DM
27/04/2021	Breeding Walkover Survey,	Pied Wagtail		DM
27/04/2021	Breeding Walkover Survey,	Hooded Crow		DM
27/04/2021	Breeding Walkover Survey,	Bullfinch	pair	DM
27/04/2021	Breeding Walkover Survey,	Chiffchaff	singing	DM
27/04/2021	Breeding Walkover Survey,	Wheatear	male	DM
27/04/2021	Breeding Walkover Survey,	Willow Warbler	singing	DM
27/04/2021	Breeding Walkover Survey,	Raven		DM
27/04/2021	Breeding Walkover Survey,	Blue Tit	pair	DM
27/04/2021	Breeding Walkover Survey,	Stonechat	carrying food	DM
27/04/2021	Breeding Walkover Survey,	Reed Bunting		DM
27/04/2021	Breeding Walkover Survey,	Coal Tit		DM
27/04/2021	Breeding Walkover Survey,	Goldfinch	feeding on dandelion	DM

Date	Survey	Species	Notes	Surveyor
27/04/2021	Breeding Walkover Survey,	Linnet	feeding on dandelion	DM
27/04/2021	Breeding Walkover Survey,	Jay		DM
27/04/2021	Breeding Walkover Survey,	Pheasant	calling	DM
27/04/2021	Breeding Walkover Survey,	Sedge Warbler	singing	DM
27/04/2021	Breeding Walkover Survey,	Barn Swallow		DM
29/04/2021	Vantage Point Survey, VP2	Goldfinch		KB
29/04/2021	Vantage Point Survey, VP2	Sand Martin		KB
29/04/2021	Vantage Point Survey, VP2	Blackbird		KB
29/04/2021	Vantage Point Survey, VP2	Song Thrush		KB
29/04/2021	Vantage Point Survey, VP2	Woodpigeon		KB
29/04/2021	Vantage Point Survey, VP2	Skylark		KB
29/04/2021	Vantage Point Survey, VP2	Wren		KB
29/04/2021	Vantage Point Survey, VP2	Chaffinch		KB
29/04/2021	Vantage Point Survey, VP2	Robin		KB
29/04/2021	Vantage Point Survey, VP2	Great Tit		KB
29/04/2021	Vantage Point Survey, VP2	Barn Swallow		KB
29/04/2021	Vantage Point Survey, VP2	Chiffchaff		KB
29/04/2021	Vantage Point Survey, VP2	Pied Wagtail		KB
29/04/2021	Vantage Point Survey, VP2	Raven		KB
24/05/2021	Vantage Point Survey, VP3	Song Thrush		KB
24/05/2021	Vantage Point Survey, VP3	Blackbird		KB
24/05/2021	Vantage Point Survey, VP3	Robin		KB
24/05/2021	Vantage Point Survey, VP3	Wren		KB
24/05/2021	Vantage Point Survey, VP3	Woodpigeon		KB
24/05/2021	Vantage Point Survey, VP3	Linnet		KB
24/05/2021	Vantage Point Survey, VP3	Greenfinch		KB

Date	Survey	Species	Notes	Surveyor
24/05/2021	Vantage Point Survey, VP3	Raven		KB
24/05/2021	Vantage Point Survey, VP3	Hooded Crow		KB
24/05/2021	Vantage Point Survey, VP3	Rook		KB
24/05/2021	Vantage Point Survey, VP3	Blue Tit		KB
24/05/2021	Vantage Point Survey, VP3	Chiffchaff		KB
24/05/2021	Vantage Point Survey, VP3	Starling		KB
24/05/2021	Vantage Point Survey, VP3	Barn Swallow		KB
24/05/2021	Vantage Point Survey, VP3	Goldfinch		KB
24/05/2021	Vantage Point Survey, VP3	Blackcap		KB
24/05/2021	Vantage Point Survey, VP3	Jay		KB
24/05/2021	Vantage Point Survey, VP3	Great Tit		KB
24/05/2021	Vantage Point Survey, VP3	Mistle Thrush		KB
26/05/2021	Breeding Walkover Survey, South	House Sparrow		KB
26/05/2021	Breeding Walkover Survey, South	Chaffinch		KB
26/05/2021	Breeding Walkover Survey, South	Hooded Crow		KB
26/05/2021	Breeding Walkover Survey, South	Rook		KB
26/05/2021	Breeding Walkover Survey, South	Robin		KB
26/05/2021	Breeding Walkover Survey, South	Woodpigeon		KB
26/05/2021	Breeding Walkover Survey, South	Barn Swallow		KB
26/05/2021	Breeding Walkover Survey, South	Wren		KB
26/05/2021	Breeding Walkover Survey, South	Dunnock		KB
26/05/2021	Breeding Walkover Survey, South	Starling		KB
26/05/2021	Breeding Walkover Survey, South	Golden Pheasant		KB
26/05/2021	Breeding Walkover Survey, South	Jackdaw		KB
26/05/2021	Breeding Walkover Survey, South	Blue Tit		KB
26/05/2021	Breeding Walkover Survey, South	Willow Warbler		KB

Date	Survey	Species	Notes	Surveyor
26/05/2021	Breeding Walkover Survey, South	Great Tit		KB
26/05/2021	Breeding Walkover Survey, South	Chiffchaff		KB
26/05/2021	Breeding Walkover Survey, South	Goldcrest		KB
26/05/2021	Breeding Walkover Survey, South	Jay		KB
26/05/2021	Breeding Walkover Survey, South	Pied Wagtail		KB
26/05/2021	Breeding Walkover Survey, South	Siskin		KB
26/05/2021	Breeding Walkover Survey, South	Mistle Thrush		KB
26/05/2021	Breeding Walkover Survey, South	Pheasant		KB
26/05/2021	Breeding Walkover Survey, South	Bullfinch		KB
26/05/2021	Breeding Walkover Survey, South	Song Thrush		KB
26/05/2021	Breeding Walkover Survey, South	Blackcap		KB
27/05/2021	Vantage Point Survey, VP1	Blackbird		KB
27/05/2021	Vantage Point Survey, VP1	Song Thrush		KB
27/05/2021	Vantage Point Survey, VP1	Robin		KB
27/05/2021	Vantage Point Survey, VP1	Chaffinch		KB
27/05/2021	Vantage Point Survey, VP1	Rook		KB
27/05/2021	Vantage Point Survey, VP1	Willow Warbler		KB
27/05/2021	Vantage Point Survey, VP1	Hooded Crow		KB
27/05/2021	Vantage Point Survey, VP1	Raven		KB
27/05/2021	Vantage Point Survey, VP1	Starling		KB
27/05/2021	Vantage Point Survey, VP1	Magpie		KB
27/05/2021	Vantage Point Survey, VP1	Woodpigeon		KB
27/05/2021	Vantage Point Survey, VP1	Wren		KB
27/05/2021	Vantage Point Survey, VP1	Great Tit		KB
27/05/2021	Vantage Point Survey, VP1	Blue Tit		KB
27/05/2021	Vantage Point Survey, VP1	Jackdaw		KB

Date	Survey	Species	Notes	Surveyor
31/05/2021	Breeding Walkover Survey, Centre	Barn Swallow		KB
31/05/2021	Breeding Walkover Survey, Centre	Starling		KB
31/05/2021	Breeding Walkover Survey, Centre	Woodpigeon		KB
31/05/2021	Breeding Walkover Survey, Centre	Wren		KB
31/05/2021	Breeding Walkover Survey, Centre	Robin		KB
31/05/2021	Breeding Walkover Survey, Centre	Blackbird		KB
31/05/2021	Breeding Walkover Survey, Centre	Song Thrush		KB
31/05/2021	Breeding Walkover Survey, Centre	Mistle Thrush		KB
31/05/2021	Breeding Walkover Survey, Centre	Chaffinch		KB
31/05/2021	Breeding Walkover Survey, Centre	Stonechat		KB
31/05/2021	Breeding Walkover Survey, Centre	House Martin		KB
31/05/2021	Breeding Walkover Survey, Centre	Sand Martin		KB
31/05/2021	Breeding Walkover Survey, Centre	Willow Warbler		KB
31/05/2021	Breeding Walkover Survey, Centre	Pied Wagtail		KB
31/05/2021	Breeding Walkover Survey, Centre	Dunnock		KB
31/05/2021	Breeding Walkover Survey, Centre	Magpie		KB
31/05/2021	Breeding Walkover Survey, Centre	Hooded Crow		KB
31/05/2021	Breeding Walkover Survey, Centre	Rook		KB
01/06/2021	Breeding Walkover Survey, North	Willow Warbler		KB
01/06/2021	Breeding Walkover Survey, North	Chaffinch		KB
01/06/2021	Breeding Walkover Survey, North	Chiffchaff		KB
01/06/2021	Breeding Walkover Survey, North	Blackbird		KB
01/06/2021	Breeding Walkover Survey, North	Song Thrush		KB
01/06/2021	Breeding Walkover Survey, North	Mistle Thrush		KB
01/06/2021	Breeding Walkover Survey, North	Woodpigeon		KB
01/06/2021	Breeding Walkover Survey, North	Goldcrest		KB



Date	Survey	Species	Notes	Surveyor
01/06/2021	Breeding Walkover Survey, North	Greenfinch		KB
01/06/2021	Breeding Walkover Survey, North	Dunnock		KB
01/06/2021	Breeding Walkover Survey, North	Pied Wagtail		KB
01/06/2021	Breeding Walkover Survey, North	Wren		KB
01/06/2021	Breeding Walkover Survey, North	Robin		KB
01/06/2021	Breeding Walkover Survey, North	Sand Martin		KB
01/06/2021	Breeding Walkover Survey, North	House Martin		KB
01/06/2021	Breeding Walkover Survey, North	Barn Swallow		KB
01/06/2021	Breeding Walkover Survey, North	House Sparrow		KB
01/06/2021	Breeding Walkover Survey, North	Blue Tit		KB
01/06/2021	Breeding Walkover Survey, North	Great Tit		KB
01/06/2021	Breeding Walkover Survey, North	Hooded Crow		KB
01/06/2021	Breeding Walkover Survey, North	Rook		KB
01/06/2021	Breeding Walkover Survey, North	Raven		KB
01/06/2021	Breeding Walkover Survey, North	Jackdaw		KB
01/06/2021	Breeding Walkover Survey, North	Bullfinch		KB
10/06/2021	Vantage Point Survey, VP3	Blackbird		KB
10/06/2021	Vantage Point Survey, VP3	Starling		KB
10/06/2021	Vantage Point Survey, VP3	Barn Swallow		KB
10/06/2021	Vantage Point Survey, VP3	Wren		KB
10/06/2021	Vantage Point Survey, VP3	Robin		KB
10/06/2021	Vantage Point Survey, VP3	Rook		KB
10/06/2021	Vantage Point Survey, VP3	Chaffinch		KB
10/06/2021	Vantage Point Survey, VP3	Skylark		KB
10/06/2021	Vantage Point Survey, VP3	Woodpigeon		KB
10/06/2021	Vantage Point Survey, VP3	Raven		KB

Date	Survey	Species	Notes	Surveyor
10/06/2021	Vantage Point Survey, VP3	House Martin		KB
10/06/2021	Vantage Point Survey, VP3	Chiffchaff		KB
10/06/2021	Vantage Point Survey, VP3	Greenfinch		KB
10/06/2021	Vantage Point Survey, VP3	Jay		KB
15/06/2021	Vantage Point Survey, VP3	Willow Warbler		KB
15/06/2021	Vantage Point Survey, VP3	Lesser Redpoll		KB
15/06/2021	Vantage Point Survey, VP3	Magpie		KB
15/06/2021	Vantage Point Survey, VP3	Woodpigeon		KB
15/06/2021	Vantage Point Survey, VP3	Chaffinch		KB
15/06/2021	Vantage Point Survey, VP3	Wren		KB
15/06/2021	Vantage Point Survey, VP3	Great Tit		KB
15/06/2021	Vantage Point Survey, VP3	Barn Swallow		KB
15/06/2021	Vantage Point Survey, VP3	House Sparrow		KB
15/06/2021	Vantage Point Survey, VP3	Greenfinch		KB
15/06/2021	Vantage Point Survey, VP3	Raven		KB
15/06/2021	Vantage Point Survey, VP3	Rook		KB
15/06/2021	Vantage Point Survey, VP3	Starling		KB
15/06/2021	Vantage Point Survey, VP3	Sand Martin		KB
23/06/2021	Vantage Point Survey, VP2	Chiffchaff		KB
23/06/2021	Vantage Point Survey, VP2	Wren		KB
23/06/2021	Vantage Point Survey, VP2	Great Tit		KB
23/06/2021	Vantage Point Survey, VP2	Chaffinch		KB
23/06/2021	Vantage Point Survey, VP2	Dunnock		KB
23/06/2021	Vantage Point Survey, VP2	Barn Swallow		KB
23/06/2021	Vantage Point Survey, VP2	Sand Martin		KB
23/06/2021	Vantage Point Survey, VP2	Blackbird		KB

Date	Survey	Species	Notes	Surveyor
23/06/2021	Vantage Point Survey, VP2	Song Thrush		KB
23/06/2021	Vantage Point Survey, VP2	Spotted Flycatcher		KB
23/06/2021	Vantage Point Survey, VP2	Robin		KB
23/06/2021	Vantage Point Survey, VP2	Woodpigeon		KB
23/06/2021	Vantage Point Survey, VP2	Rook		KB
23/06/2021	Vantage Point Survey, VP2	Jackdaw		KB
23/06/2021	Vantage Point Survey, VP2	Pheasant		KB
24/06/2021	Vantage Point Survey, VP1	Blackbird		KB
24/06/2021	Vantage Point Survey, VP1	Barn Swallow		KB
24/06/2021	Vantage Point Survey, VP1	Woodpigeon		KB
24/06/2021	Vantage Point Survey, VP1	Chaffinch		KB
24/06/2021	Vantage Point Survey, VP1	Robin		KB
24/06/2021	Vantage Point Survey, VP1	Great Tit		KB
24/06/2021	Vantage Point Survey, VP1	Rook		KB
24/06/2021	Vantage Point Survey, VP1	Jackdaw		KB
24/06/2021	Vantage Point Survey, VP1	Jay		KB
24/06/2021	Vantage Point Survey, VP1	Wren		KB
24/06/2021	Vantage Point Survey, VP1	House Martin		KB
25/06/2021	Breeding Walkover Survey, South	Magpie		KB
25/06/2021	Breeding Walkover Survey, South	Rook		KB
25/06/2021	Breeding Walkover Survey, South	Wren		KB
25/06/2021	Breeding Walkover Survey, South	Woodpigeon		KB
25/06/2021	Breeding Walkover Survey, South	Blackbird		KB
25/06/2021	Breeding Walkover Survey, South	Blue Tit		KB
25/06/2021	Breeding Walkover Survey, South	Raven		KB
25/06/2021	Breeding Walkover Survey, South	Chaffinch		KB

Date	Survey	Species	Notes	Surveyor
25/06/2021	Breeding Walkover Survey, South	Great Tit		KB
25/06/2021	Breeding Walkover Survey, South	Goldfinch		KB
25/06/2021	Breeding Walkover Survey, South	Greenfinch		KB
25/06/2021	Breeding Walkover Survey, South	Barn Swallow		KB
25/06/2021	Breeding Walkover Survey, South	Pied Wagtail		KB
25/06/2021	Breeding Walkover Survey, South	Song Thrush		KB
25/06/2021	Breeding Walkover Survey, South	Willow Warbler		KB
25/06/2021	Breeding Walkover Survey, South	Goldcrest		KB
28/06/2021	Breeding Walkover Survey, South + Centre	Woodpigeon		KB
28/06/2021	Breeding Walkover Survey, South + Centre	Wren		KB
28/06/2021	Breeding Walkover Survey, South + Centre	Blue Tit		KB
28/06/2021	Breeding Walkover Survey, South + Centre	Coal Tit		KB
28/06/2021	Breeding Walkover Survey, South + Centre	Rook		KB
28/06/2021	Breeding Walkover Survey, South + Centre	Jay		KB
28/06/2021	Breeding Walkover Survey, South + Centre	Magpie		KB
28/06/2021	Breeding Walkover Survey, South + Centre	Chaffinch		KB
28/06/2021	Breeding Walkover Survey, South + Centre	Greenfinch		KB
28/06/2021	Breeding Walkover Survey, South + Centre	Robin		KB
28/06/2021	Breeding Walkover Survey, South + Centre	Blackbird		KB
28/06/2021	Breeding Walkover Survey, South + Centre	Barn Swallow		KB
28/06/2021	Breeding Walkover Survey, South + Centre	Dunnock		KB
28/06/2021	Breeding Walkover Survey, South + Centre	Lesser Redpoll		KB
28/06/2021	Breeding Walkover Survey, South + Centre	Pied Wagtail		KB
28/06/2021	Breeding Walkover Survey, South + Centre	Starling		KB
28/06/2021	Breeding Walkover Survey, South + Centre	House Martin		KB
29/06/2021	Breeding Walkover Survey, Centre	Hooded Crow		KB

Date	Survey	Species	Notes	Surveyor
29/06/2021	Breeding Walkover Survey, Centre	Rook		KB
29/06/2021	Breeding Walkover Survey, Centre	Wren		KB
29/06/2021	Breeding Walkover Survey, Centre	Blackbird		KB
29/06/2021	Breeding Walkover Survey, Centre	Robin		KB
29/06/2021	Breeding Walkover Survey, Centre	Linnet		KB
29/06/2021	Breeding Walkover Survey, Centre	Woodpigeon		KB
29/06/2021	Breeding Walkover Survey, Centre	Barn Swallow		KB
29/06/2021	Breeding Walkover Survey, Centre	Sand Martin		KB
29/06/2021	Breeding Walkover Survey, Centre	Song Thrush		KB
29/06/2021	Breeding Walkover Survey, Centre	Mistle Thrush		KB
29/06/2021	Breeding Walkover Survey, Centre	Blue Tit		KB
29/06/2021	Breeding Walkover Survey, Centre	Great Tit		KB
29/06/2021	Breeding Walkover Survey, Centre	Dunnock		KB
29/06/2021	Breeding Walkover Survey, Centre	Pied Wagtail		KB
29/06/2021	Breeding Walkover Survey, Centre	House Martin		KB
29/06/2021	Breeding Walkover Survey, Centre	Starling		KB
29/06/2021	Breeding Walkover Survey, Centre	Stonechat		KB
29/06/2021	Breeding Walkover Survey, Centre	Chiffchaff		KB
29/06/2021	Breeding Walkover Survey, Centre	Goldcrest		KB
30/06/2021	Breeding Walkover Survey, North + Centre	Hooded Crow		KB
30/06/2021	Breeding Walkover Survey, North + Centre	Pied Wagtail		KB
30/06/2021	Breeding Walkover Survey, North + Centre	Woodpigeon		KB
30/06/2021	Breeding Walkover Survey, North + Centre	Starling		KB
30/06/2021	Breeding Walkover Survey, North + Centre	Wren		KB
30/06/2021	Breeding Walkover Survey, North + Centre	Blackbird		KB
30/06/2021	Breeding Walkover Survey, North + Centre	Rook		KB

Date	Survey	Species	Notes	Surveyor
30/06/2021	Breeding Walkover Survey, North + Centre	Jackdaw		KB
30/06/2021	Breeding Walkover Survey, North + Centre	Robin		KB
30/06/2021	Breeding Walkover Survey, North + Centre	Barn Swallow		KB
30/06/2021	Breeding Walkover Survey, North + Centre	Sand Martin		KB
30/06/2021	Breeding Walkover Survey, North + Centre	House Sparrow		KB
30/06/2021	Breeding Walkover Survey, North + Centre	Chaffinch		KB
30/06/2021	Breeding Walkover Survey, North + Centre	Magpie		KB
30/06/2021	Breeding Walkover Survey, North + Centre	House Martin		KB
30/06/2021	Breeding Walkover Survey, North + Centre	Song Thrush		KB
30/06/2021	Breeding Walkover Survey, North + Centre	Goldcrest		KB
30/06/2021	Breeding Walkover Survey, North + Centre	Coal Tit		KB
30/06/2021	Breeding Walkover Survey, North + Centre	Great Tit		KB
30/06/2021	Breeding Walkover Survey, North + Centre	Raven		KB
16/07/2021	Vantage Point Survey, VP3	Goldfinch		KB
16/07/2021	Vantage Point Survey, VP3	Blue Tit		KB
16/07/2021	Vantage Point Survey, VP3	Raven		KB
16/07/2021	Vantage Point Survey, VP3	Woodpigeon		KB
16/07/2021	Vantage Point Survey, VP3	Chiffchaff		KB
16/07/2021	Vantage Point Survey, VP3	Starling		KB
16/07/2021	Vantage Point Survey, VP3	Barn Swallow		KB
16/07/2021	Vantage Point Survey, VP3	Hooded Crow		KB
16/07/2021	Vantage Point Survey, VP3	Linnet		KB
16/07/2021	Vantage Point Survey, VP3	Blackbird		KB
16/07/2021	Breeding Walkover Survey, Centre	Woodpigeon		KB
16/07/2021	Breeding Walkover Survey, Centre	Barn Swallow		KB
16/07/2021	Breeding Walkover Survey, Centre	Starling		KB

Date	Survey	Species	Notes	Surveyor
16/07/2021	Breeding Walkover Survey, Centre	Pied Wagtail		KB
16/07/2021	Breeding Walkover Survey, Centre	Rook		KB
16/07/2021	Breeding Walkover Survey, Centre	Magpie		KB
16/07/2021	Breeding Walkover Survey, Centre	Hooded Crow		KB
16/07/2021	Breeding Walkover Survey, Centre	Chaffinch		KB
16/07/2021	Breeding Walkover Survey, Centre	Wren		KB
19/07/2021	Vantage Point Survey, VP2	Starling		KB
19/07/2021	Vantage Point Survey, VP2	Lesser Redpoll		KB
19/07/2021	Vantage Point Survey, VP2	Rook		KB
19/07/2021	Vantage Point Survey, VP2	Sand Martin		KB
19/07/2021	Vantage Point Survey, VP2	Barn Swallow		KB
19/07/2021	Vantage Point Survey, VP2	Raven		KB
19/07/2021	Vantage Point Survey, VP2	Woodpigeon		KB
19/07/2021	Vantage Point Survey, VP2	Hooded Crow		KB
19/07/2021	Vantage Point Survey, VP2	Blackbird		KB
19/07/2021	Vantage Point Survey, VP2	Chaffinch		KB
19/07/2021	Vantage Point Survey, VP2	Robin		KB
19/07/2021	Vantage Point Survey, VP2	Wren		KB
19/07/2021	Vantage Point Survey, VP2	Blue Tit		KB
19/07/2021	Vantage Point Survey, VP2	Pied Wagtail		KB
20/07/2021	Vantage Point Survey, VP3	Lesser Redpoll		KB
20/07/2021	Vantage Point Survey, VP3	Wren		KB
20/07/2021	Vantage Point Survey, VP3	Robin		KB
20/07/2021	Vantage Point Survey, VP3	Woodpigeon		KB
20/07/2021	Vantage Point Survey, VP3	Blackbird		KB
20/07/2021	Vantage Point Survey, VP3	Dunnock		KB

Date	Survey	Species	Notes	Surveyor
20/07/2021	Vantage Point Survey, VP3	Starling		KB
20/07/2021	Vantage Point Survey, VP3	Rook		KB
20/07/2021	Vantage Point Survey, VP3	Raven		KB
20/07/2021	Vantage Point Survey, VP3	Barn Swallow		KB
20/07/2021	Vantage Point Survey, VP3	Pied Wagtail		KB
20/07/2021	Vantage Point Survey, VP1	Barn Swallow		KB
20/07/2021	Vantage Point Survey, VP1	Wren		KB
20/07/2021	Vantage Point Survey, VP1	Robin		KB
20/07/2021	Vantage Point Survey, VP1	Blackbird		KB
20/07/2021	Vantage Point Survey, VP1	Woodpigeon		KB
20/07/2021	Vantage Point Survey, VP1	Blue Tit		KB
20/07/2021	Vantage Point Survey, VP1	Chaffinch		KB
20/07/2021	Vantage Point Survey, VP1	Great Tit		KB
20/07/2021	Vantage Point Survey, VP1	Chiffchaff		KB
20/07/2021	Vantage Point Survey, VP1	House Martin		KB
20/07/2021	Vantage Point Survey, VP1	Jackdaw		KB
20/07/2021	Vantage Point Survey, VP1	Rook		KB
20/07/2021	Vantage Point Survey, VP1	Pied Wagtail		KB
20/07/2021	Vantage Point Survey, VP1	Raven		KB
26/07/2021	Breeding Walkover Survey, South	Wren		KB
26/07/2021	Breeding Walkover Survey, South	Robin		KB
26/07/2021	Breeding Walkover Survey, South	Linnet		KB
26/07/2021	Breeding Walkover Survey, South	Blackbird		KB
26/07/2021	Breeding Walkover Survey, South	Mistle Thrush		KB
26/07/2021	Breeding Walkover Survey, South	Lesser Redpoll		KB
26/07/2021	Breeding Walkover Survey, South	Dunnock		KB

Date	Survey	Species	Notes	Surveyor
26/07/2021	Breeding Walkover Survey, South	Hooded Crow		KB
26/07/2021	Breeding Walkover Survey, South	Rook		KB
26/07/2021	Breeding Walkover Survey, South	Raven		KB
26/07/2021	Breeding Walkover Survey, South	Jay		KB
26/07/2021	Breeding Walkover Survey, South	Jackdaw		KB
26/07/2021	Breeding Walkover Survey, South	Barn Swallow		KB
26/07/2021	Breeding Walkover Survey, South	Sand Martin		KB
26/07/2021	Breeding Walkover Survey, South	Blue Tit		KB
26/07/2021	Breeding Walkover Survey, South	Coal Tit		KB
26/07/2021	Vantage Point Survey, VP2	Sand Martin		KB
26/07/2021	Vantage Point Survey, VP2	Barn Swallow		KB
26/07/2021	Vantage Point Survey, VP2	Chaffinch		KB
26/07/2021	Vantage Point Survey, VP2	Wren		KB
26/07/2021	Vantage Point Survey, VP2	Woodpigeon		KB
26/07/2021	Vantage Point Survey, VP2	Robin		KB
26/07/2021	Vantage Point Survey, VP2	Blackbird		KB
26/07/2021	Vantage Point Survey, VP2	Lesser Redpoll		KB
26/07/2021	Vantage Point Survey, VP2	Jay		KB
26/07/2021	Vantage Point Survey, VP2	Hooded Crow		KB
26/07/2021	Vantage Point Survey, VP2	Rook		KB
26/07/2021	Vantage Point Survey, VP2	Pied Wagtail		KB
27/07/2021	Breeding Walkover Survey, North + Centre	Starling		KB
27/07/2021	Breeding Walkover Survey, North + Centre	Barn Swallow		KB
27/07/2021	Breeding Walkover Survey, North + Centre	Sand Martin		KB
27/07/2021	Breeding Walkover Survey, North + Centre	Pied Wagtail		KB
27/07/2021	Breeding Walkover Survey, North + Centre	Woodpigeon		KB

Date	Survey	Species	Notes	Surveyor
27/07/2021	Breeding Walkover Survey, North + Centre	Jackdaw		KB
27/07/2021	Breeding Walkover Survey, North + Centre	Rook		KB
27/07/2021	Breeding Walkover Survey, North + Centre	Goldfinch		KB
27/07/2021	Breeding Walkover Survey, North + Centre	Wren		KB
27/07/2021	Breeding Walkover Survey, North + Centre	Greenfinch		KB
27/07/2021	Breeding Walkover Survey, North + Centre	Hooded Crow		KB
27/07/2021	Breeding Walkover Survey, North + Centre	Blackbird		KB
27/07/2021	Breeding Walkover Survey, North + Centre	Mistle Thrush		KB
27/07/2021	Breeding Walkover Survey, North + Centre	Jay		KB
27/07/2021	Breeding Walkover Survey, North + Centre	Goldcrest		KB
27/07/2021	Breeding Walkover Survey, North + Centre	Coal Tit		KB
27/07/2021	Breeding Walkover Survey, North + Centre	Raven		KB
27/07/2021	Breeding Walkover Survey, North + Centre	Chaffinch		KB
27/07/2021	Vantage Point Survey, VP1	Barn Swallow		KB
27/07/2021	Vantage Point Survey, VP1	Wren		KB
27/07/2021	Vantage Point Survey, VP1	Blackbird		KB
27/07/2021	Vantage Point Survey, VP1	Woodpigeon		KB
27/07/2021	Vantage Point Survey, VP1	Starling		KB
27/07/2021	Vantage Point Survey, VP1	Sand Martin		KB
27/07/2021	Vantage Point Survey, VP1	Jackdaw		KB
27/07/2021	Vantage Point Survey, VP1	Rook		KB
27/07/2021	Vantage Point Survey, VP1	Rook		KB
27/07/2021	Vantage Point Survey, VP1	Goldfinch		KB
27/07/2021	Vantage Point Survey, VP1	Blue Tit		KB
27/07/2021	Vantage Point Survey, VP1	Chaffinch		KB
27/07/2021	Vantage Point Survey, VP1	Pied Wagtail		KB

Date	Survey	Species	Notes	Surveyor
28/07/2021	Breeding Walkover Survey, North + Centre	Pheasant		KB
28/07/2021	Breeding Walkover Survey, North + Centre	Jay		KB
28/07/2021	Breeding Walkover Survey, North + Centre	Blackbird		KB
28/07/2021	Breeding Walkover Survey, North + Centre	Woodpigeon		KB
28/07/2021	Breeding Walkover Survey, North + Centre	Hooded Crow		KB
28/07/2021	Breeding Walkover Survey, North + Centre	Rook		KB
28/07/2021	Breeding Walkover Survey, North + Centre	Jackdaw		KB
28/07/2021	Breeding Walkover Survey, North + Centre	Chaffinch		KB
28/07/2021	Breeding Walkover Survey, North + Centre	Robin		KB
28/07/2021	Breeding Walkover Survey, North + Centre	Wren		KB
28/07/2021	Breeding Walkover Survey, North + Centre	Coal Tit		KB
28/07/2021	Breeding Walkover Survey, North + Centre	House Martin		KB
28/07/2021	Breeding Walkover Survey, North + Centre	Barn Swallow		KB
28/07/2021	Breeding Walkover Survey, North + Centre	Pied Wagtail		KB
28/07/2021	Vantage Point Survey, VP3	Woodpigeon		KB
28/07/2021	Vantage Point Survey, VP3	Rook		KB
28/07/2021	Vantage Point Survey, VP3	Raven		KB
28/07/2021	Vantage Point Survey, VP3	Chaffinch		KB
28/07/2021	Vantage Point Survey, VP3	Pied Wagtail		KB
28/07/2021	Vantage Point Survey, VP3	Barn Swallow		KB
28/07/2021	Vantage Point Survey, VP3	Goldfinch		KB
28/07/2021	Vantage Point Survey, VP3	Wren		KB
28/07/2021	Vantage Point Survey, VP3	Blackbird		KB
28/07/2021	Vantage Point Survey, VP3	Blue Tit		KB
28/07/2021	Vantage Point Survey, VP3	Robin		KB
28/07/2021	Vantage Point Survey, VP3	Lesser Redpoll		KB

Date	Survey	Species	Notes	Surveyor
30/07/2021	Vantage Point Survey, VP2	Wren		KB
30/07/2021	Vantage Point Survey, VP2	Blackbird		KB
30/07/2021	Vantage Point Survey, VP2	Robin		KB
30/07/2021	Vantage Point Survey, VP2	Hooded Crow		KB
30/07/2021	Vantage Point Survey, VP2	Blue Tit		KB
30/07/2021	Vantage Point Survey, VP2	Raven		KB
30/07/2021	Vantage Point Survey, VP2	Sand Martin		KB
30/07/2021	Vantage Point Survey, VP2	Barn Swallow		KB
30/07/2021	Vantage Point Survey, VP2	Starling		KB
30/07/2021	Vantage Point Survey, VP2	Pied Wagtail		KB
30/07/2021	Vantage Point Survey, VP2	Chaffinch		KB
30/07/2021	Vantage Point Survey, VP2	Linnet		KB
30/07/2021	Vantage Point Survey, VP2	Woodpigeon		KB
30/07/2021	Vantage Point Survey, VP2	Goldcrest		KB
30/07/2021	Vantage Point Survey, VP2	Lesser Redpoll		KB
30/07/2021	Vantage Point Survey, VP2	Great Tit		KB
30/07/2021	Breeding Walkover Survey, Centre + South	Wren		KB
30/07/2021	Breeding Walkover Survey, Centre + South	Lesser Redpoll		KB
30/07/2021	Breeding Walkover Survey, Centre + South	Blue Tit		KB
30/07/2021	Breeding Walkover Survey, Centre + South	Raven		KB
30/07/2021	Breeding Walkover Survey, Centre + South	Robin		KB
30/07/2021	Breeding Walkover Survey, Centre + South	Blackbird		KB
30/07/2021	Breeding Walkover Survey, Centre + South	Starling		KB
30/07/2021	Breeding Walkover Survey, Centre + South	Barn Swallow		KB
30/07/2021	Breeding Walkover Survey, Centre + South	Great Tit		KB
30/07/2021	Breeding Walkover Survey, Centre + South	Coal Tit		KB

Date	Survey	Species	Notes	Surveyor
30/07/2021	Breeding Walkover Survey, Centre + South	Song Thrush		KB
30/07/2021	Breeding Walkover Survey, Centre + South	Stonechat		KB
30/07/2021	Breeding Walkover Survey, Centre + South	Woodpigeon		KB
30/07/2021	Breeding Walkover Survey, Centre + South	Magpie		KB
30/07/2021	Breeding Walkover Survey, Centre + South	Collared Dove		KB
16/08/2021	Vantage Point Survey, VP1	Barn Swallow		NM
16/08/2021	Vantage Point Survey, VP1	House Martin		NM
16/08/2021	Vantage Point Survey, VP1	Robin		NM
16/08/2021	Vantage Point Survey, VP1	Raven		NM
16/08/2021	Vantage Point Survey, VP1	Rook		NM
16/08/2021	Vantage Point Survey, VP1	Magpie		NM
16/08/2021	Vantage Point Survey, VP1	Hooded Crow		NM
16/08/2021	Vantage Point Survey, VP1	Woodpigeon		NM
16/08/2021	Vantage Point Survey, VP1	Collared Dove		NM
16/08/2021	Vantage Point Survey, VP1	Starling		NM
16/08/2021	Vantage Point Survey, VP1	Song Thrush		NM
16/08/2021	Vantage Point Survey, VP1	Blackbird		NM
16/08/2021	Vantage Point Survey, VP1	Wren		NM
16/08/2021	Vantage Point Survey, VP1	Goldcrest		NM
16/08/2021	Vantage Point Survey, VP1	Chaffinch		NM
16/08/2021	Vantage Point Survey, VP1	Greenfinch		NM
16/08/2021	Vantage Point Survey, VP1	Goldfinch		NM
16/08/2021	Vantage Point Survey, VP1	Long-tailed Tit		NM
16/08/2021	Vantage Point Survey, VP1	Linnet		NM
16/08/2021	Vantage Point Survey, VP1	Whitethroat		NM
16/08/2021	Vantage Point Survey, VP1	Jackdaw		NM



Date	Survey	Species	Notes	Surveyor
17/08/2021	Vantage Point Survey, VP3	Magpie		NM
17/08/2021	Vantage Point Survey, VP3	Woodpigeon		NM
17/08/2021	Vantage Point Survey, VP3	Mistle Thrush		NM
17/08/2021	Vantage Point Survey, VP3	Hooded Crow		NM
17/08/2021	Vantage Point Survey, VP3	Robin		NM
17/08/2021	Vantage Point Survey, VP3	Linnet		NM
17/08/2021	Vantage Point Survey, VP3	Song Thrush		NM
17/08/2021	Vantage Point Survey, VP3	Collared Dove		NM
17/08/2021	Vantage Point Survey, VP3	Wren		NM
17/08/2021	Vantage Point Survey, VP3	Goldfinch		NM
17/08/2021	Vantage Point Survey, VP3	Siskin		NM
17/08/2021	Vantage Point Survey, VP3	Greenfinch		NM
17/08/2021	Vantage Point Survey, VP3	Blackcap		NM
17/08/2021	Vantage Point Survey, VP3	Dunnock		NM
17/08/2021	Vantage Point Survey, VP3	Rook		NM
17/08/2021	Vantage Point Survey, VP3	Pied Wagtail		NM
18/08/2021	Vantage Point Survey, VP2	Song Thrush		NM
18/08/2021	Vantage Point Survey, VP2	Magpie		NM
18/08/2021	Vantage Point Survey, VP2	Woodpigeon		NM
18/08/2021	Vantage Point Survey, VP2	Rook		NM
18/08/2021	Vantage Point Survey, VP2	Whitethroat		NM
18/08/2021	Vantage Point Survey, VP2	Goldcrest		NM
18/08/2021	Vantage Point Survey, VP2	Chaffinch		NM
18/08/2021	Vantage Point Survey, VP2	Blackcap		NM
18/08/2021	Vantage Point Survey, VP2	Willow Warbler		NM
18/08/2021	Vantage Point Survey, VP2	Stonechat		NM



Date	Survey	Species	Notes	Surveyor
18/08/2021	Vantage Point Survey, VP2	Pied Wagtail		NM
18/08/2021	Vantage Point Survey, VP2	Linnet		NM
18/08/2021	Vantage Point Survey, VP2	Dunnock		NM
18/08/2021	Vantage Point Survey, VP2	Robin		NM
18/08/2021	Vantage Point Survey, VP2	Hooded Crow		NM
18/08/2021	Vantage Point Survey, VP2	Long-tailed Tit		NM
18/08/2021	Vantage Point Survey, VP2	Goldfinch		NM
18/08/2021	Vantage Point Survey, VP2	Pied Wagtail		NM
18/08/2021	Vantage Point Survey, VP2	Wren		NM
13/09/2021	Vantage Point Survey, VP3	Wren		TR
13/09/2021	Vantage Point Survey, VP3	Rook		TR
13/09/2021	Vantage Point Survey, VP3	Hooded Crow		TR
13/09/2021	Vantage Point Survey, VP3	House Sparrow		TR
13/09/2021	Vantage Point Survey, VP3	Robin		TR
13/09/2021	Vantage Point Survey, VP3	Dunnock		TR
13/09/2021	Vantage Point Survey, VP3	Blackbird		TR
13/09/2021	Vantage Point Survey, VP3	Barn Swallow		TR
13/09/2021	Vantage Point Survey, VP3	Woodpigeon		TR
13/09/2021	Vantage Point Survey, VP3	Collared Dove		TR
13/09/2021	Vantage Point Survey, VP3	Dunnock		TR
13/09/2021	Vantage Point Survey, VP3	Mistle Thrush		TR
13/09/2021	Vantage Point Survey, VP3	Great Tit		TR
14/09/2021	Vantage Point Survey, VP1	Rook	heavy construction in field behind vp1 throughout survey	TR
14/09/2021	Vantage Point Survey, VP1	Hooded Crow		TR
14/09/2021	Vantage Point Survey, VP1	Robin		TR
14/09/2021	Vantage Point Survey, VP1	Raven		TR

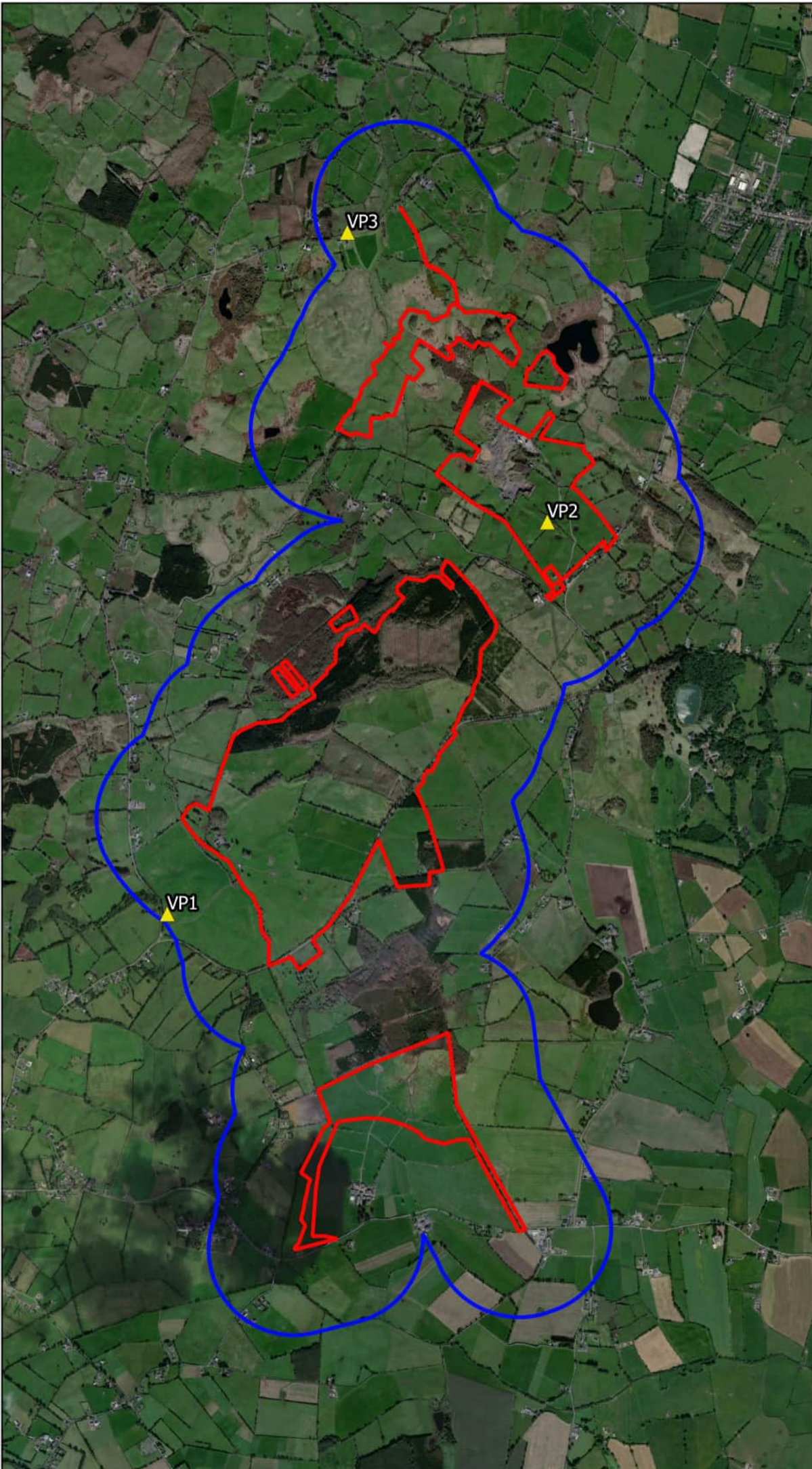


Date	Survey	Species	Notes	Surveyor
14/09/2021	Vantage Point Survey, VP1	Robin		TR
14/09/2021	Vantage Point Survey, VP1	Dunnock		TR
14/09/2021	Vantage Point Survey, VP1	Wren		TR
22/09/2021	Vantage Point Survey, VP2	Rook		TR
22/09/2021	Vantage Point Survey, VP2	Dunnock		TR
22/09/2021	Vantage Point Survey, VP2	Wren		TR
22/09/2021	Vantage Point Survey, VP2	Robin		TR
22/09/2021	Vantage Point Survey, VP2	Hooded Crow		TR
22/09/2021	Vantage Point Survey, VP2	Woodpigeon		TR
22/09/2021	Vantage Point Survey, VP2	Raven		TR
22/09/2021	Vantage Point Survey, VP2	Barn Swallow		TR
22/09/2021	Vantage Point Survey, VP2	Sand Martin		TR
22/09/2021	Vantage Point Survey, VP2	Coal Tit		TR
22/09/2021	Vantage Point Survey, VP2	House Sparrow		TR



APPENDIX 2

FIGURES



Map Legend

- Site Boundary
- 500m Survey Radius
- ▲ Vantage Point Locations

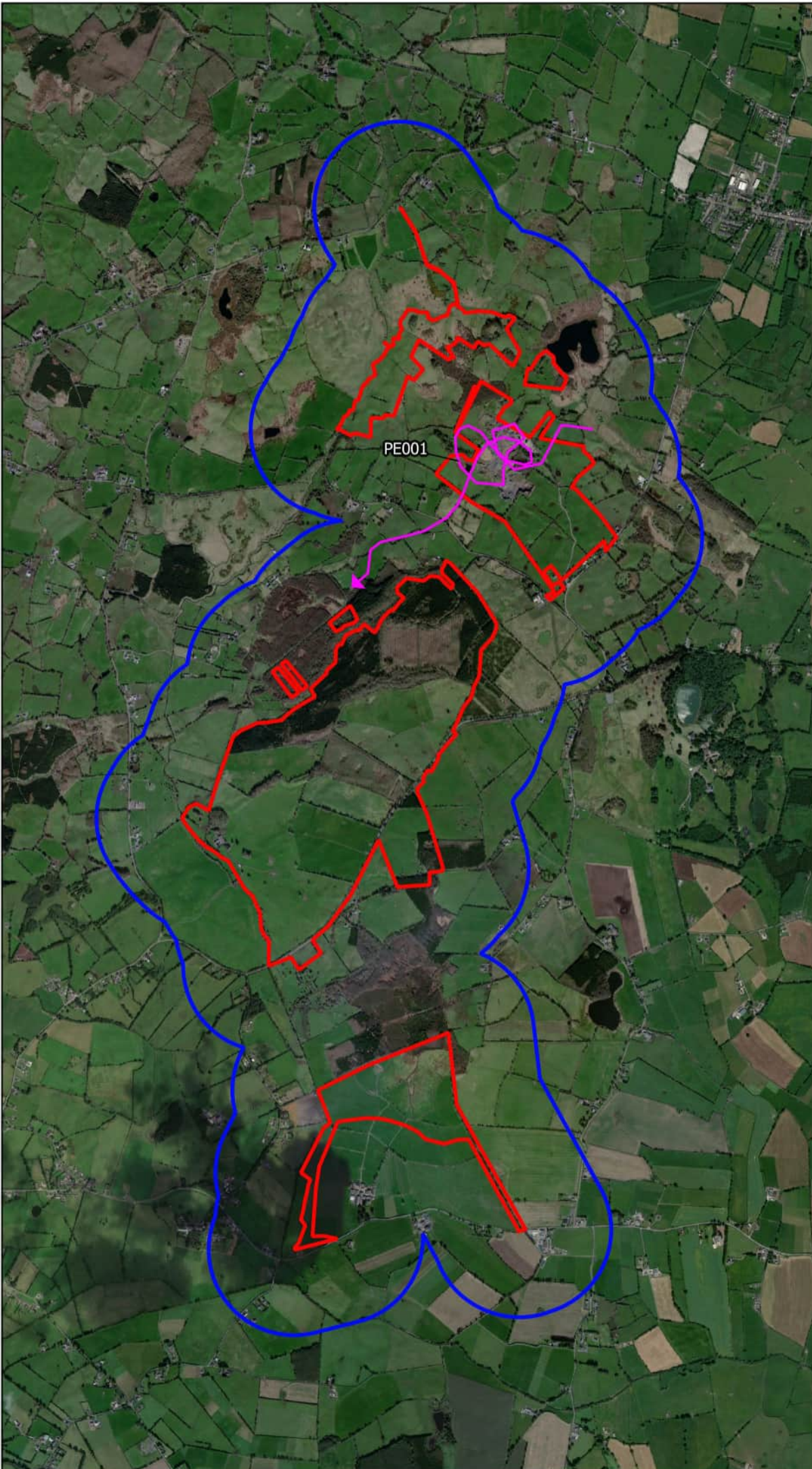


Examining Title
Vantage Point Locations





Project Title
Crowinstown

Examined By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 1
Scale 1:30000	Date 08.11.21

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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Vantage Point Locations
-  Flightline

PE001



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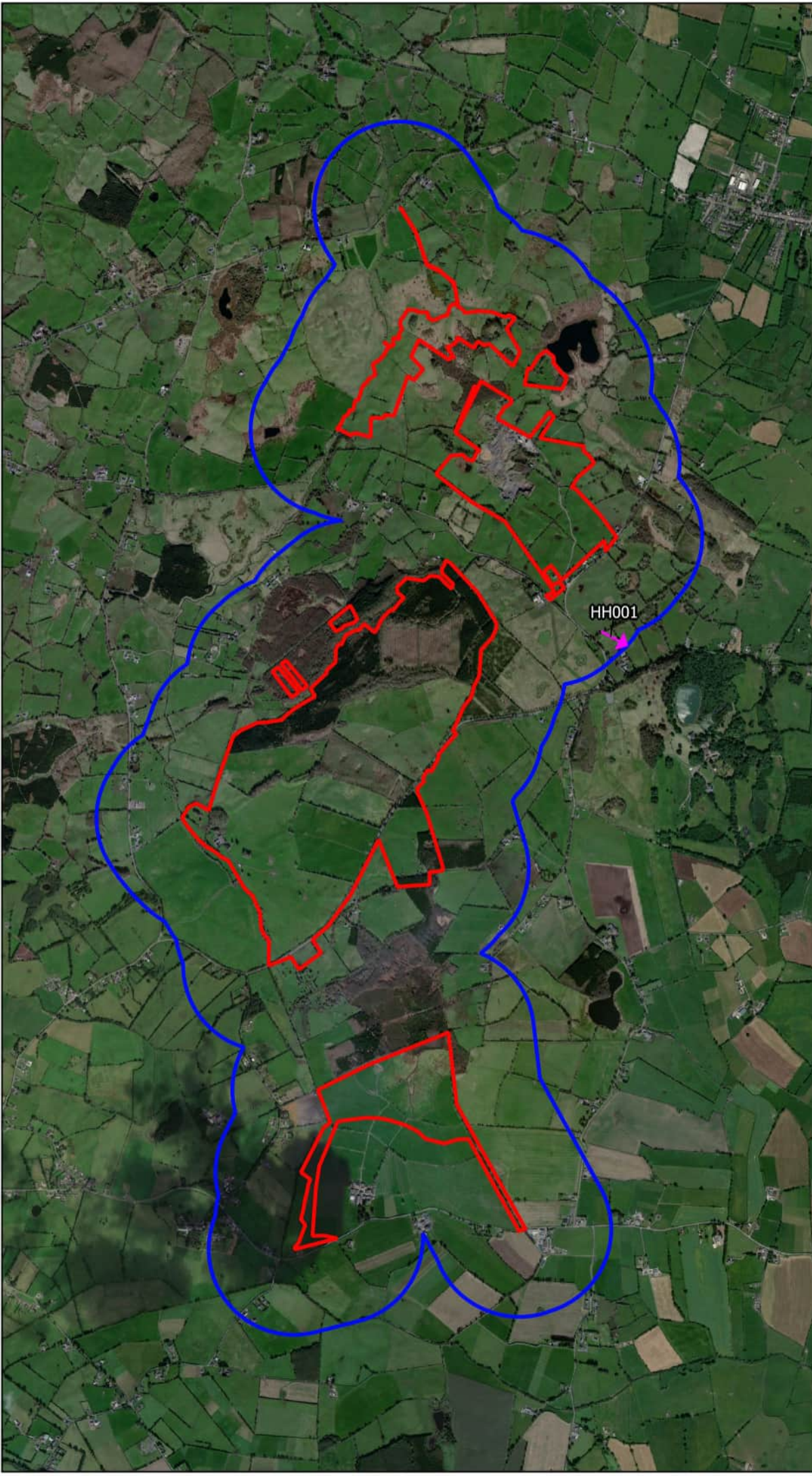
Examining Title
**Peregrine Falcon Observations
 Vantage Point Surveys**

Project Title
Crowinstown

Examined By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 1.1
Scale 1:30000	Date 08.11.21



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Map Legend

- Site Boundary
- 500m Survey Radius
- ▲ Vantage Point Locations
- ➔ Flightline

HH001



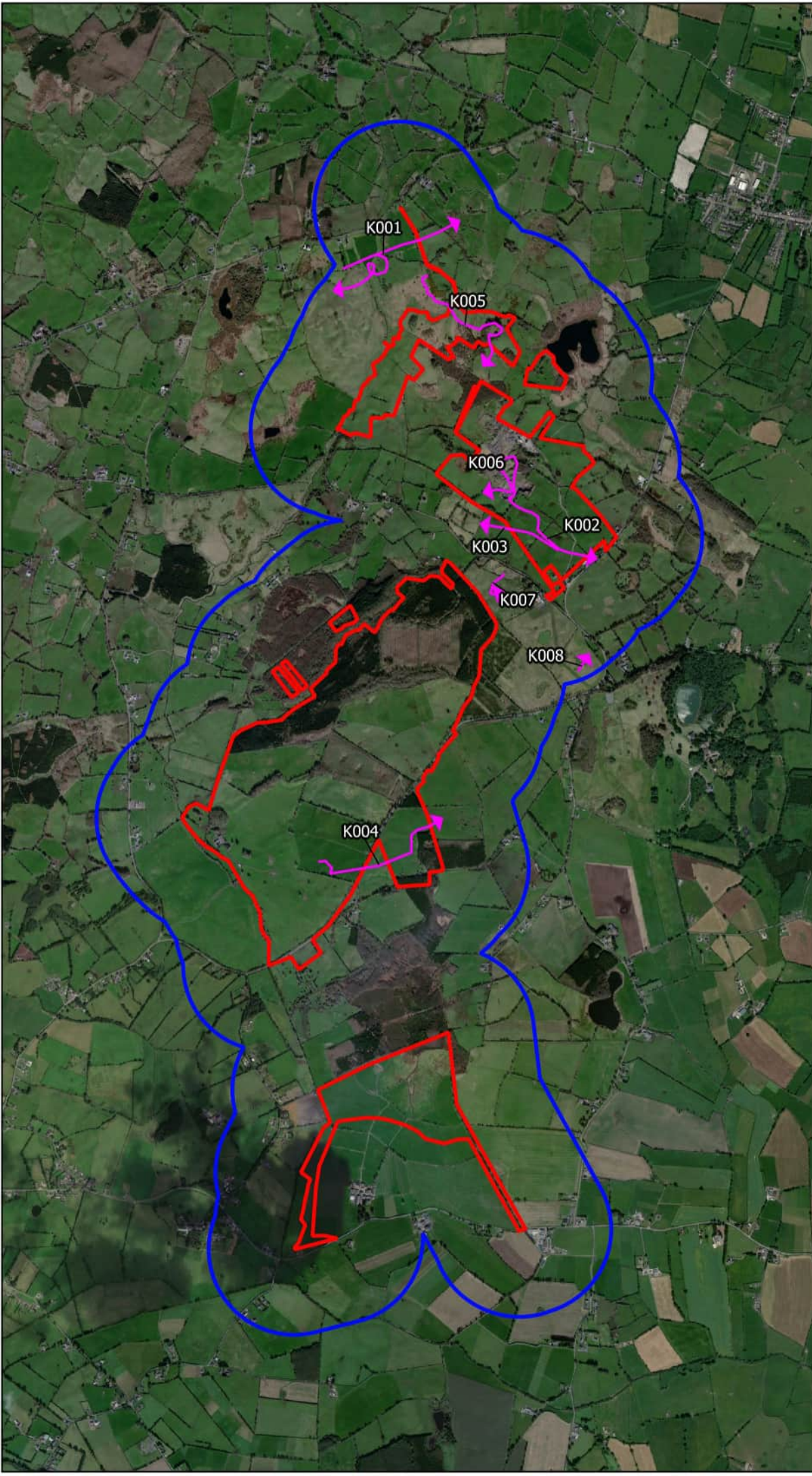
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Examining Title
**Hen Harrier Observations
 Vantage Point Surveys**





Project Title
Crowinstown

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Project No. 190531-b	Drawing No. Fig. 1.2
Scale 1:30000	Date 08.11.21

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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Vantage Point Locations
-  Flightline



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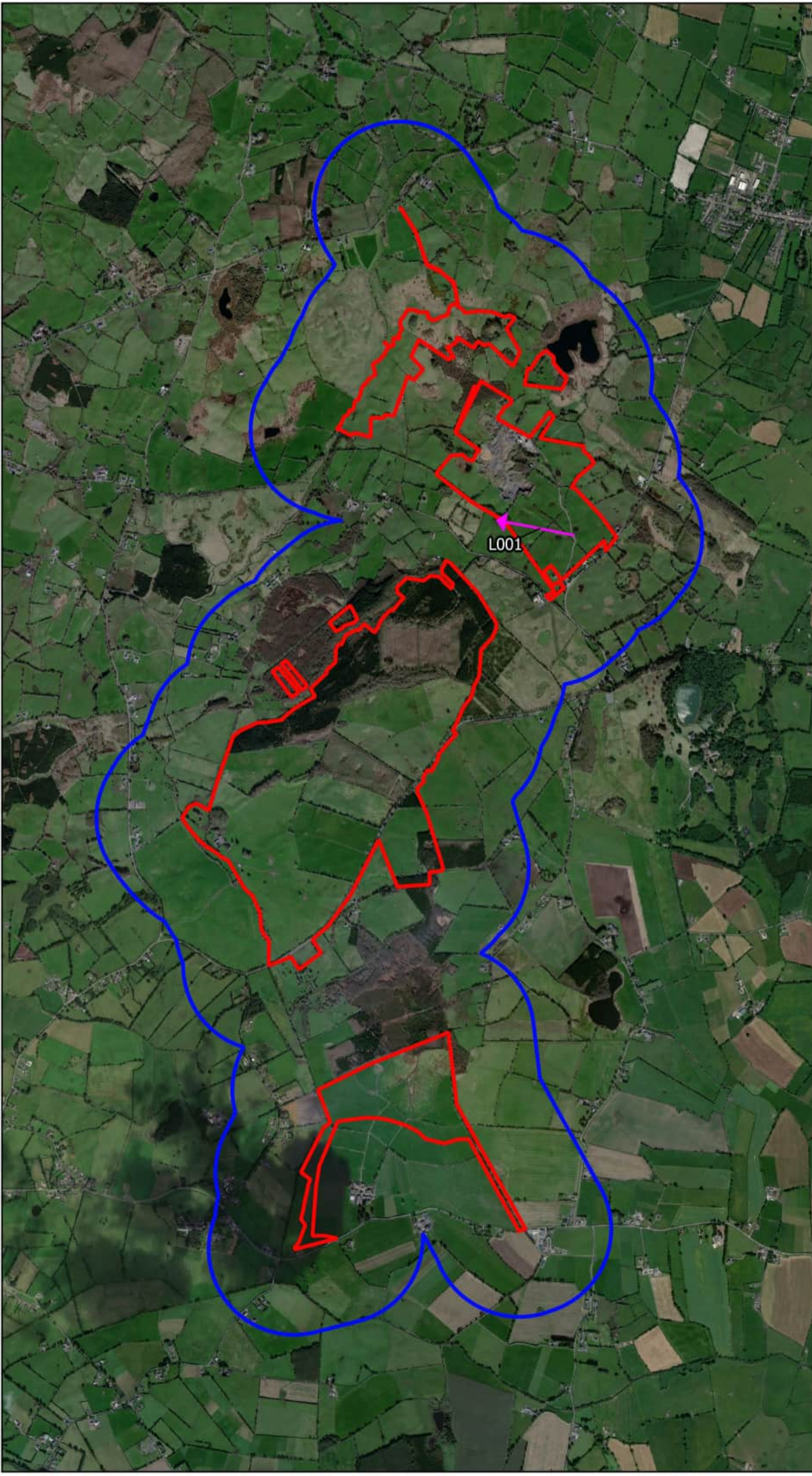
Examining Title
**Kestrel Observations
 Vantage Point Surveys**

Project Title
Crowinstown





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Project No. 190531-b	Drawing No. Fig. 1.3
Scale 1:30000	Date 08.11.21



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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Vantage Point Locations
-  Flightline



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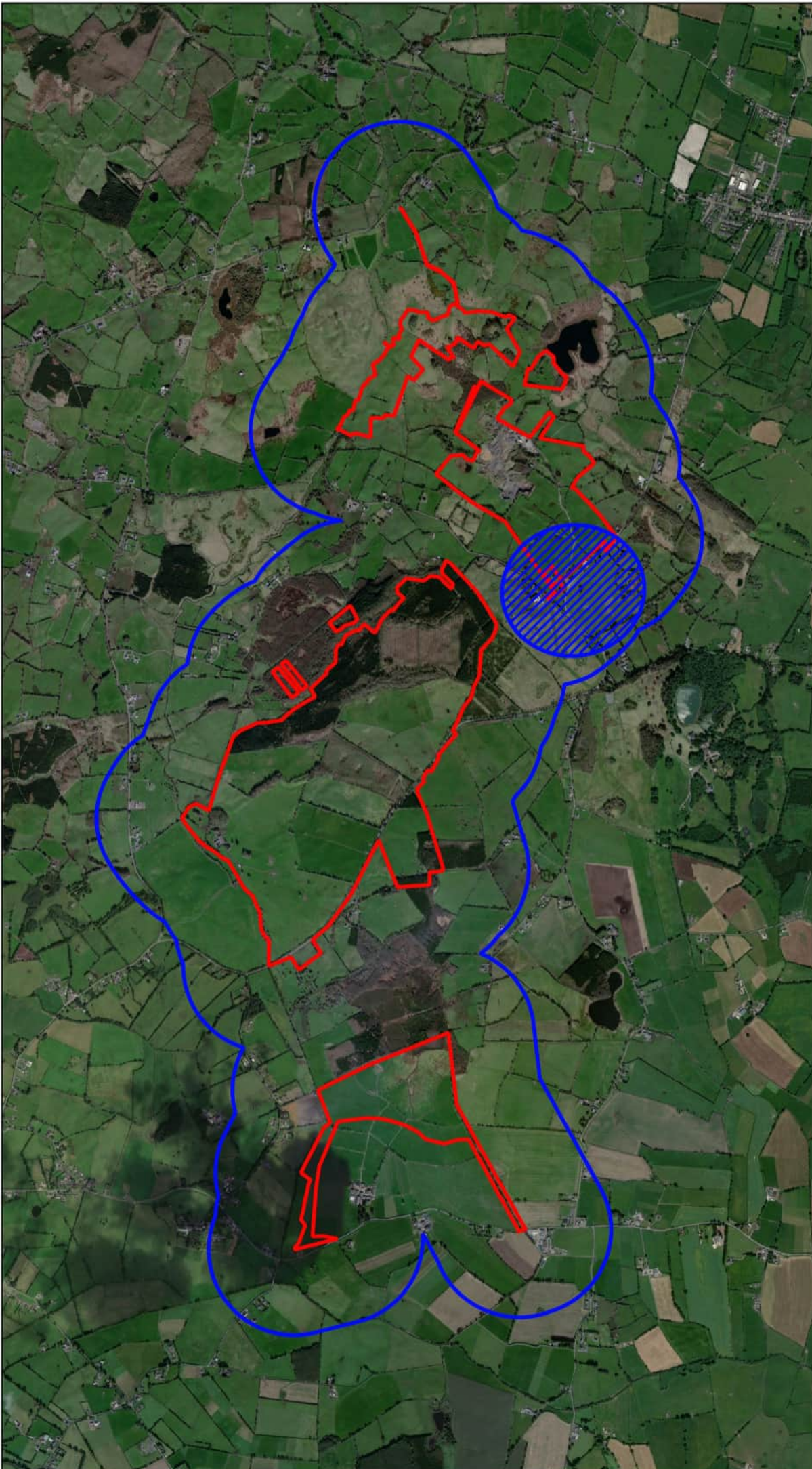
Examining Title
**Lapwing Observations
 Vantage Point Surveys**

Project Title
Crowinstown

Examined By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 1.4
Scale 1:30000	Date 08.11.21



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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Probable Territory



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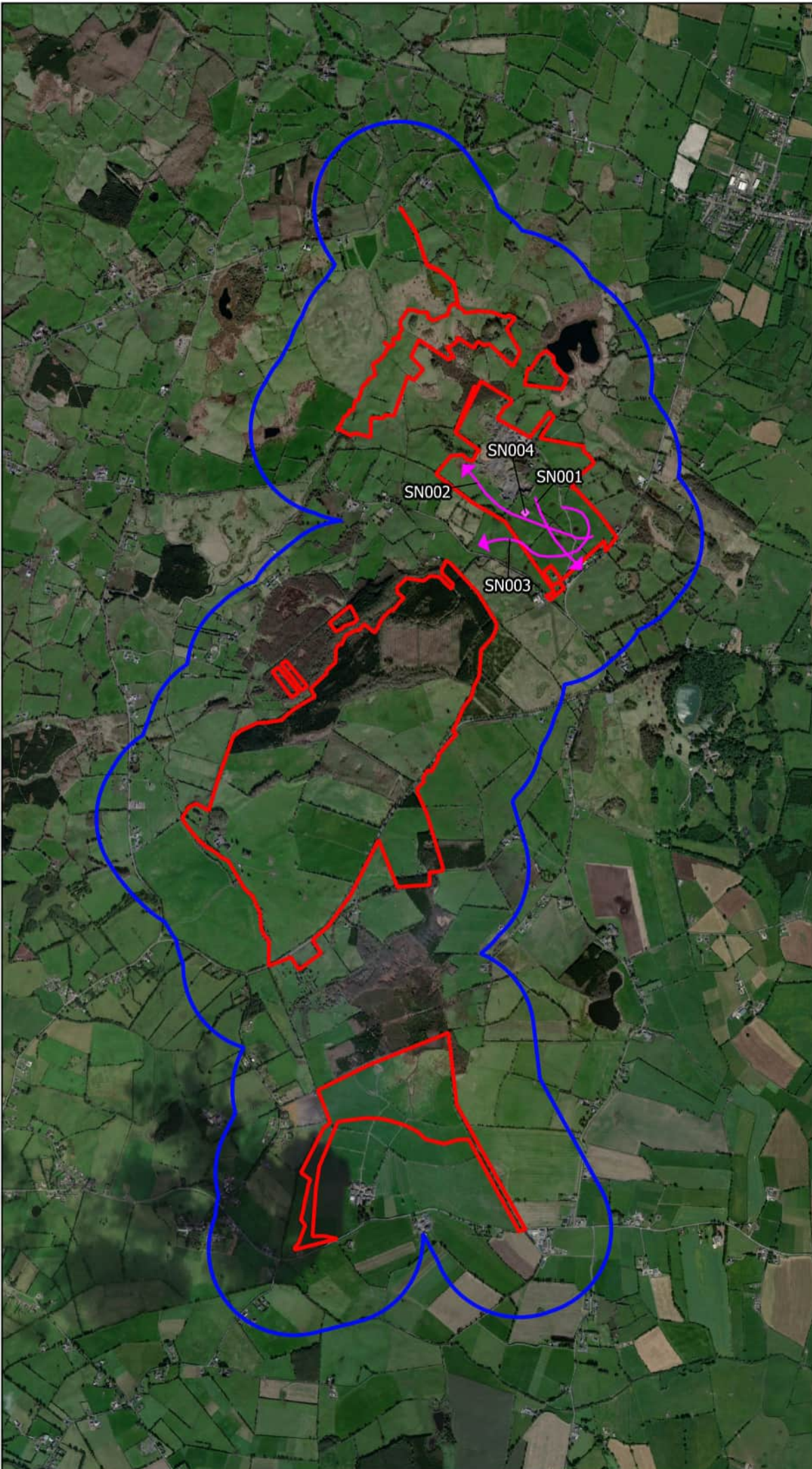
Examining Title
**Lapwing Territories
 Vantage Point Surveys**

Project Title
Crowinstown

Examined By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 1.4.1
Scale 1:30000	Date 08.11.21



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Map Legend

- ▭ Site Boundary
- ▭ 500m Survey Radius
- ▲ Vantage Point Locations
- Flightline
- ◆ Observation



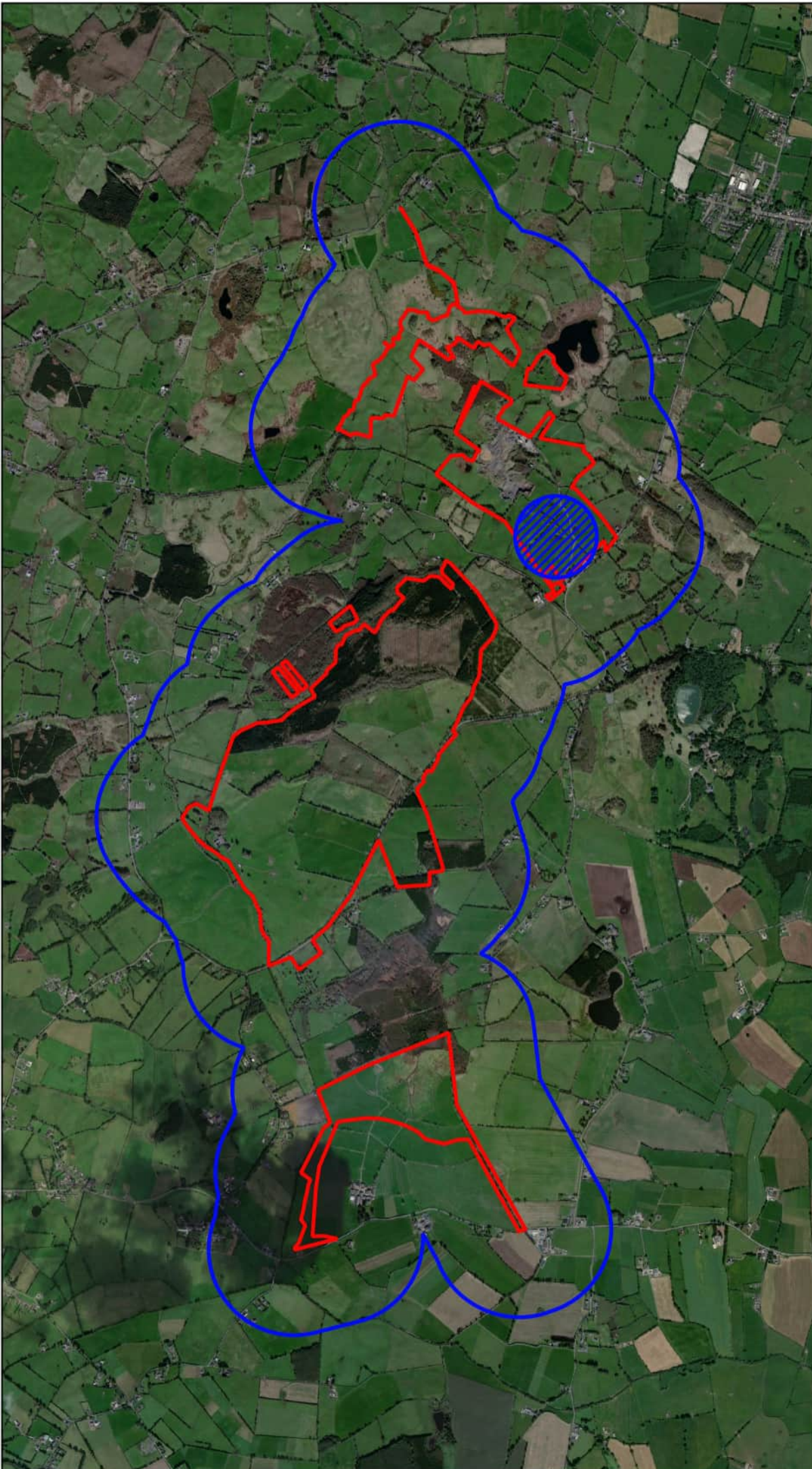
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Project Title: **Crowinstown**

Examined By	Checked By
D. Woods	P. Cregg
Project No.	Drawing No.
190531-b	Fig. 1.5
Scale	Date
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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Probable Territory



Drawing Title
**Snipe Territories
 Vantage Point Surveys**

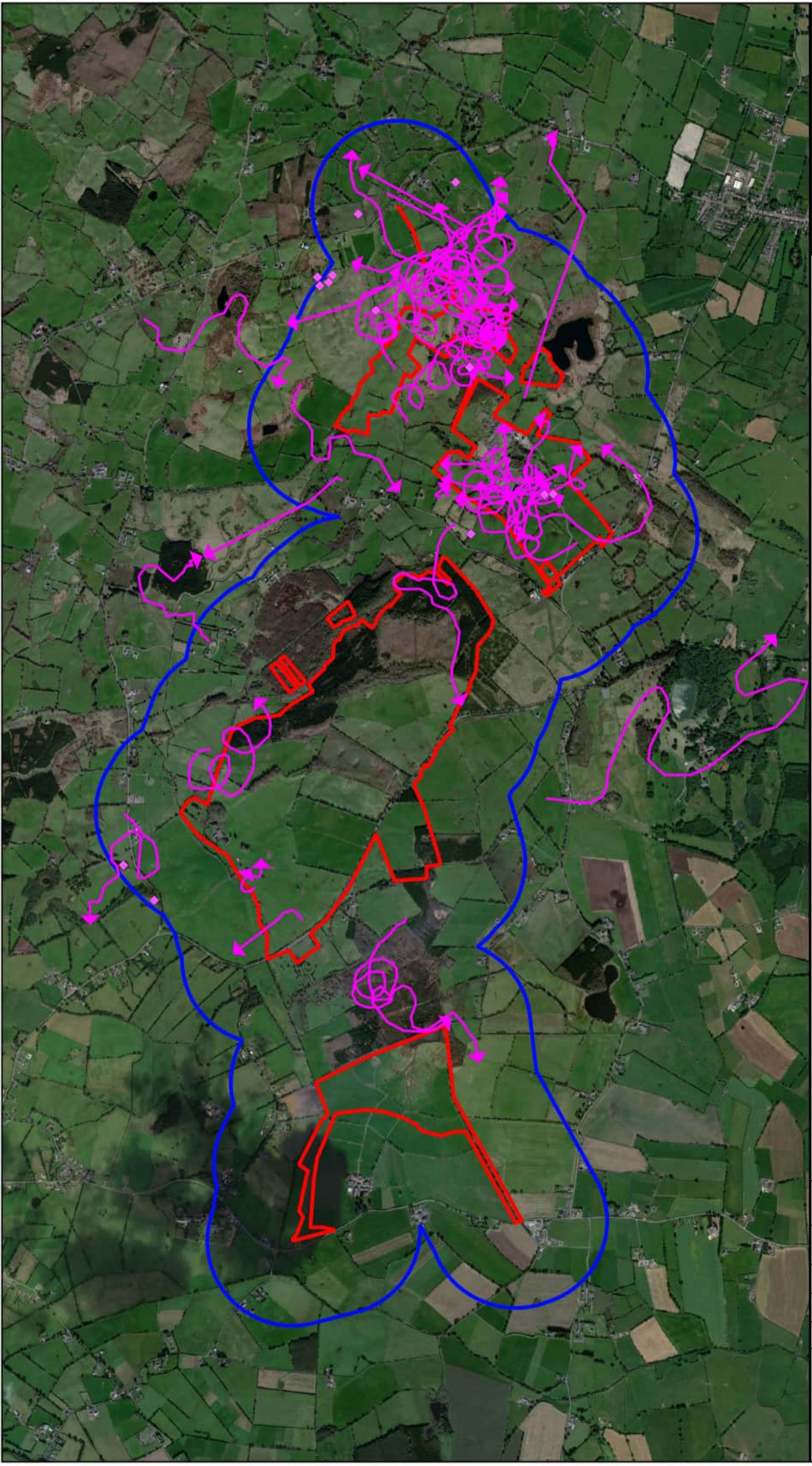
Project Title
Crowinstown

Exam By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 1.5.1
Scale 1:30000	Date 08.11.21



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Map Legend

- ▭ Site Boundary
- ▭ 500m Survey Radius
- ▲ Vantage Point Locations
- Flightline



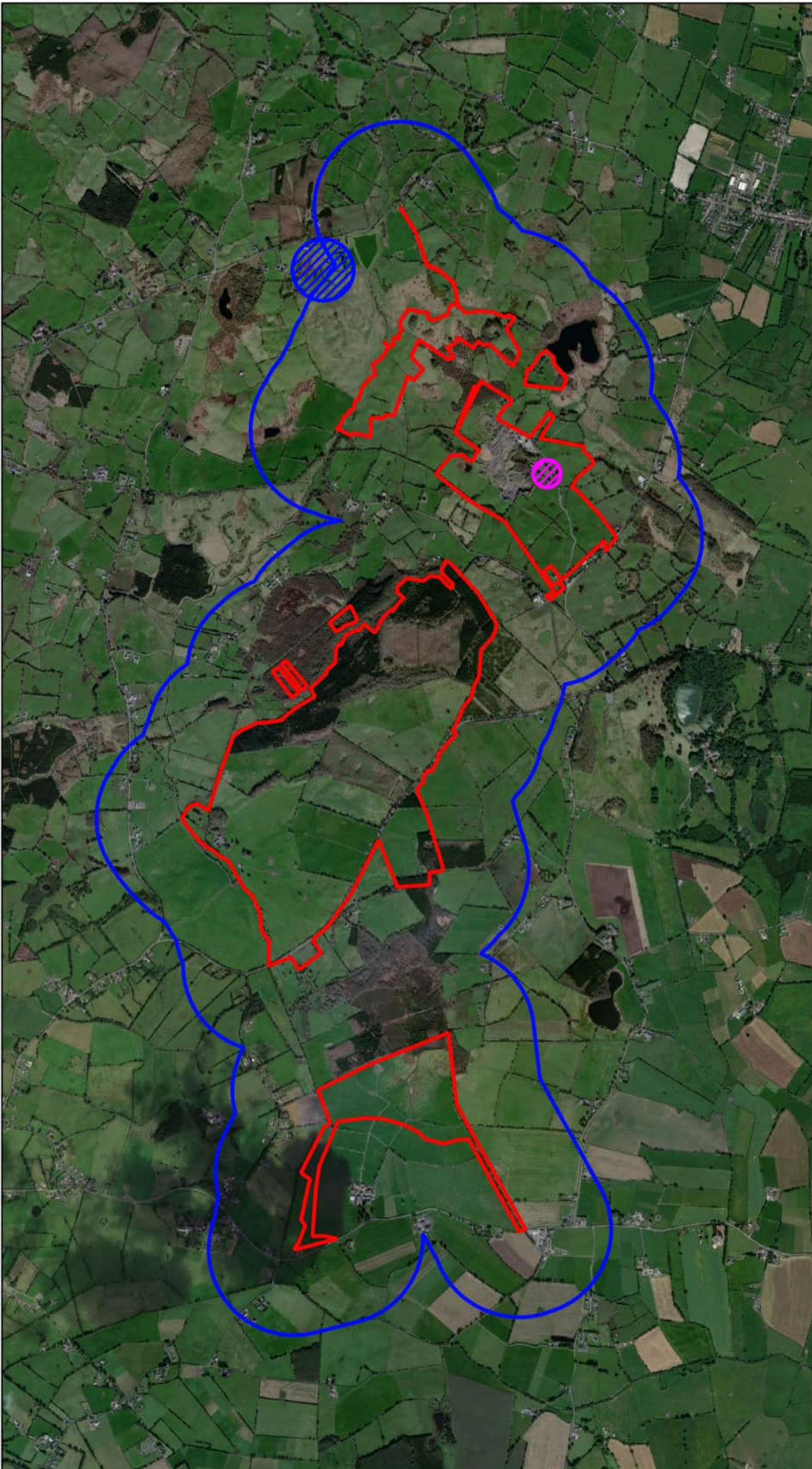
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Examining Title
**Buzzard Observations
 Vantage Point Surveys**





Project Title
Crowinstown

Examined By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 1.6
Scale 1:30000	Date 08.11.21

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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Confirmed Territory
-  Probable Territory



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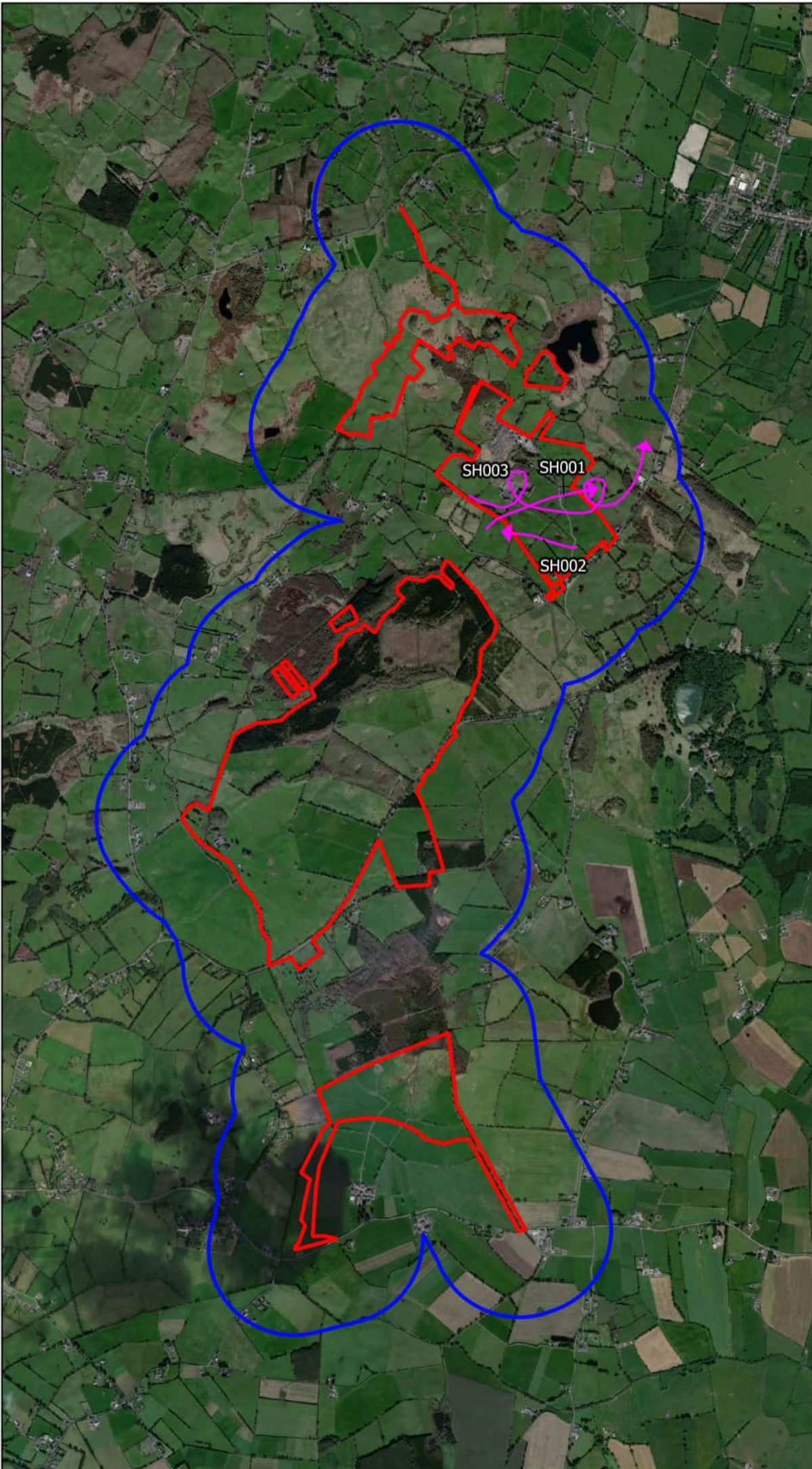
Drawing Title
 Buzzard Territories
 Vantage Point Surveys

Project Title
 Crowinstown

Exam By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 1.6.1
Scale 1:30000	Date 08.11.21



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Map Legend

- Site Boundary
- 500m Survey Radius
- ▲ Vantage Point Locations
- Flightline



Examining Title
**Sparrowhawk Observations
 Vantage Point Surveys**

Project Title
Crowinstown

Examined By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 1.7
Scale 1:30000	Date 08.11.21

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Map Legend

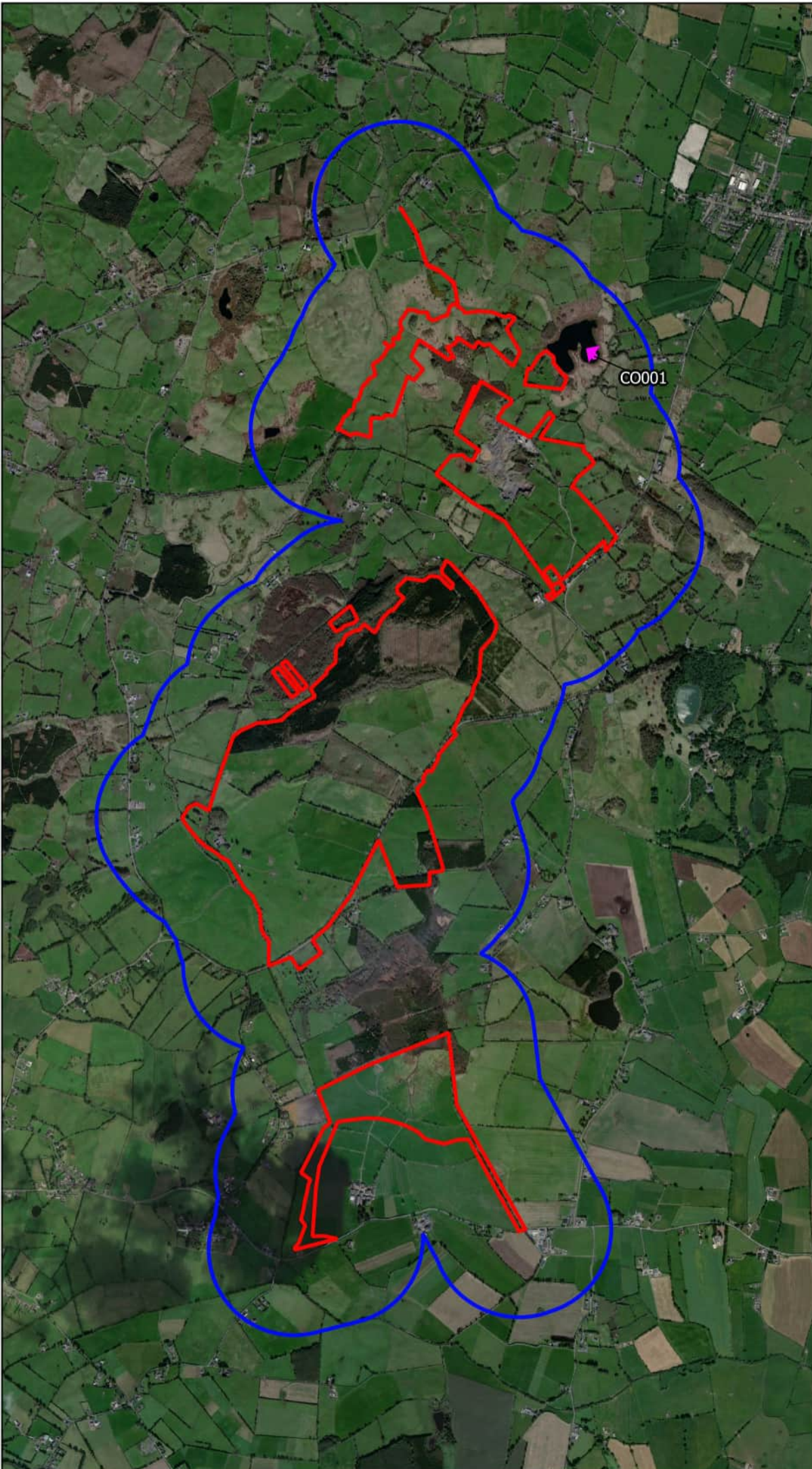
- Site Boundary
- 500m Survey Radius



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Drawing Title	
Breeding Walkover Survey Area	
Project Title	
Crowinstown	
Exam By	Checked By
D. Woods	P. Cregg
Project No.	Drawing No.
190531-b	Fig. 2
Scale	Date
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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Flightline

CO001



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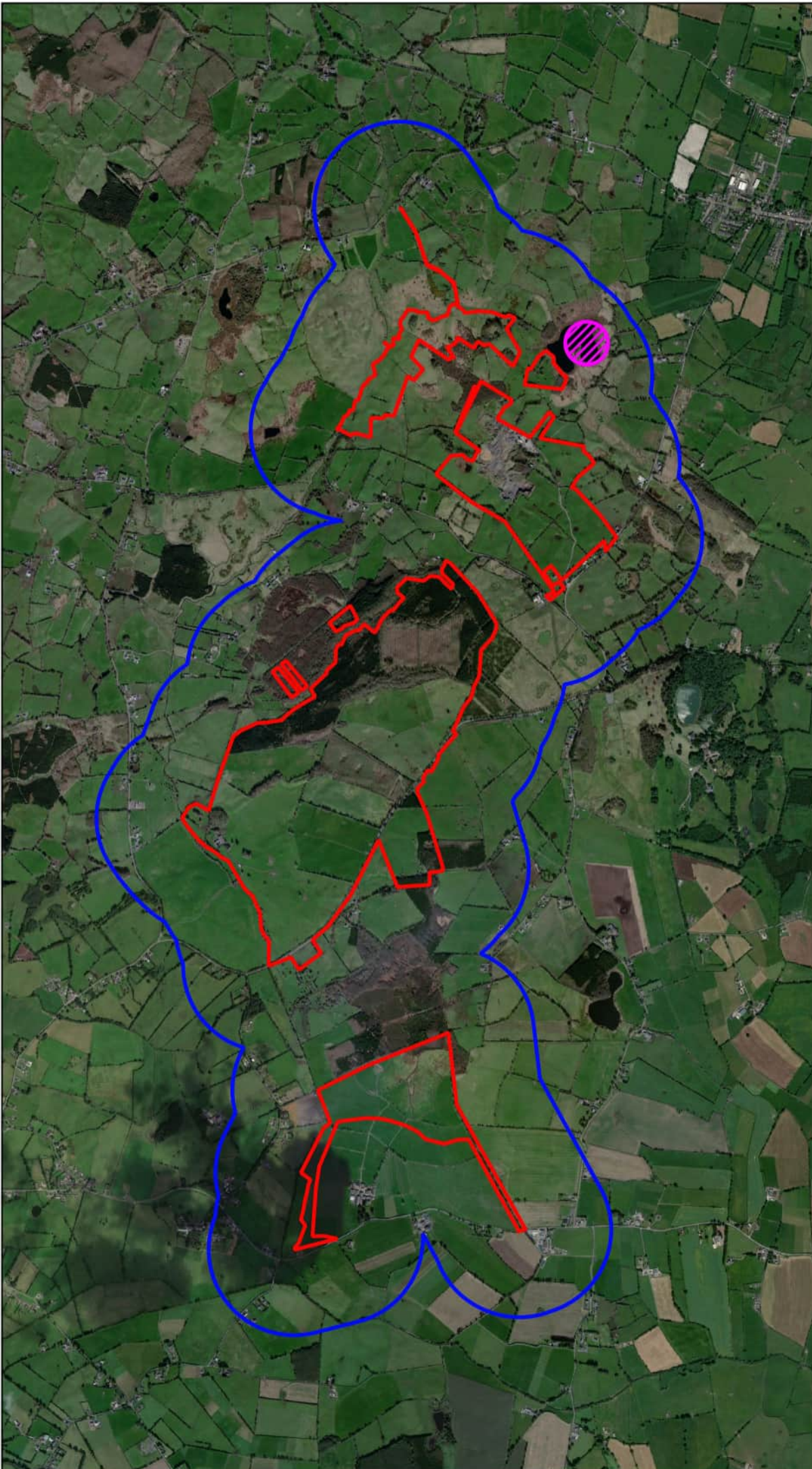
Drawing Title
**Coot Observations
Breeding Walkover Surveys**

Project Title
Crowinstown

Examined By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 2.1
Scale 1:30000	Date 08.11.21



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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Confirmed Territory

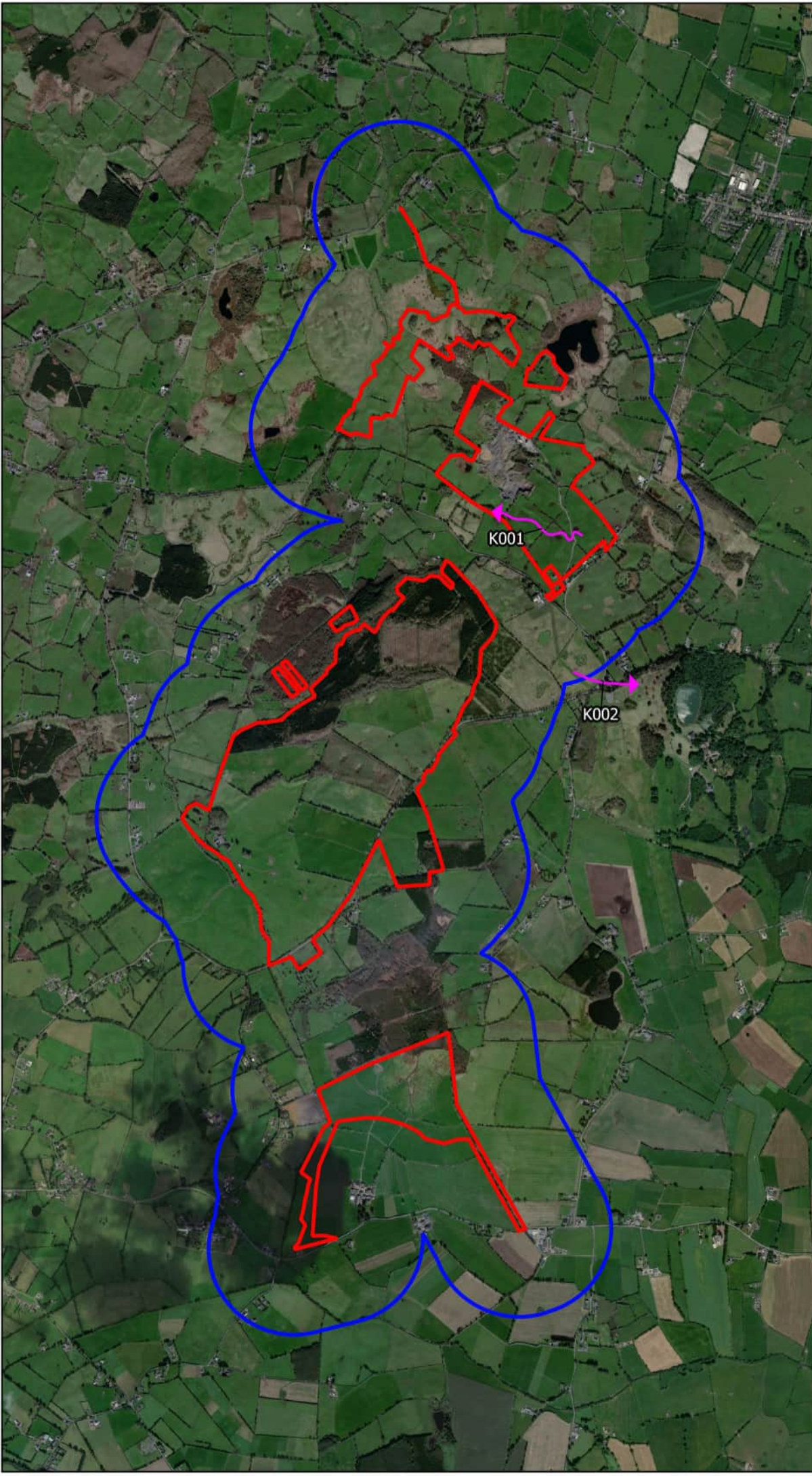


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Drawing Title	
Coot Territories Breeding Walkover Surveys	
Project Title	
Crowinstown	
Exam By	Checked By
D. Woods	P. Cregg
Project No.	Drawing No.
190531-b	Fig. 2.1.1
Scale	Date
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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Flightline

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Drawing Title	
Kestrel Observations Breeding Walkover Surveys	
Project Title	
Crowinstown	
Exam By	Checked By
D. Woods	P. Cregg
Project No.	Drawing No.
190531-b	Fig. 2.2
Scale	Date
1:30000	08.11.21



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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Probable Territory

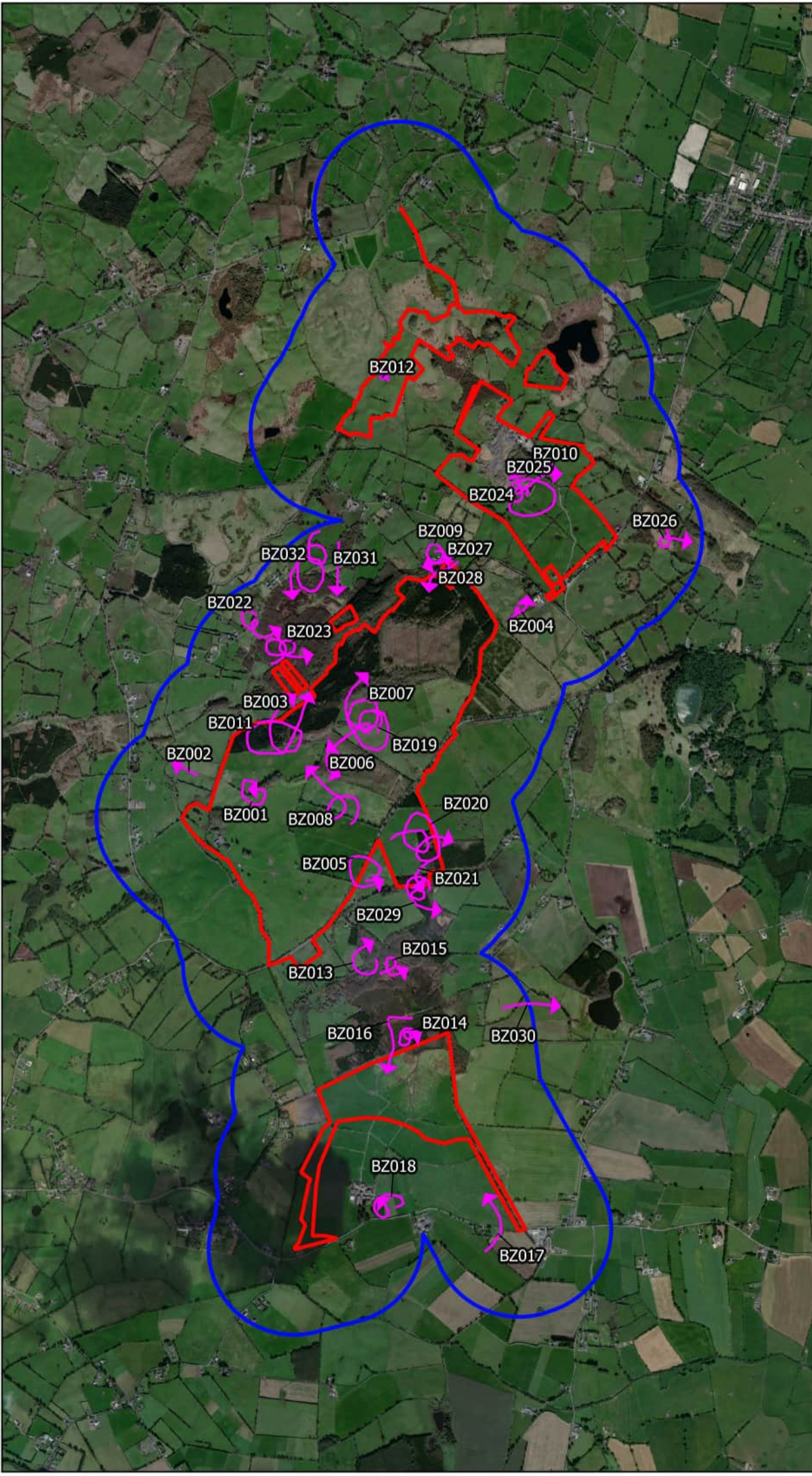


Drawing Title	
Kestrel Territories Breeding Walkover Surveys	
Project Title	
Crowinstown	
Exam By	Checked By
D. Woods	P. Cregg
Project No.	Drawing No.
190531-b	Fig. 2.2.1
Scale	Date
1:30000	08.11.21



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Map Legend

- Site Boundary
- 500m Survey Radius
- Flightline



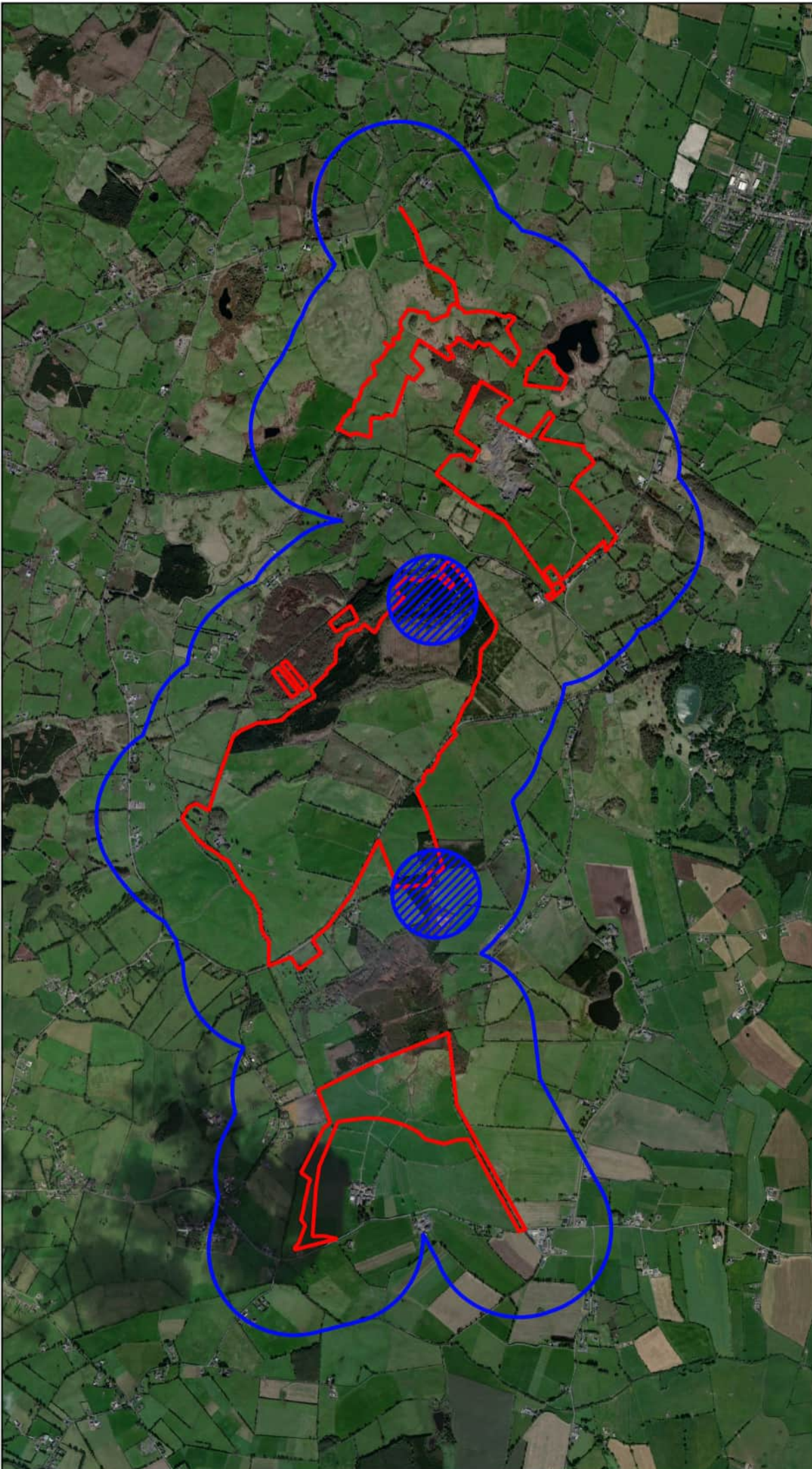
Drawing Title
**Buzzard Observations
 Breeding Walkover Surveys**

Project Title
Crowinstown

Exam By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 2.3
Scale 1:30000	Date 08.11.21

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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Probable Territory

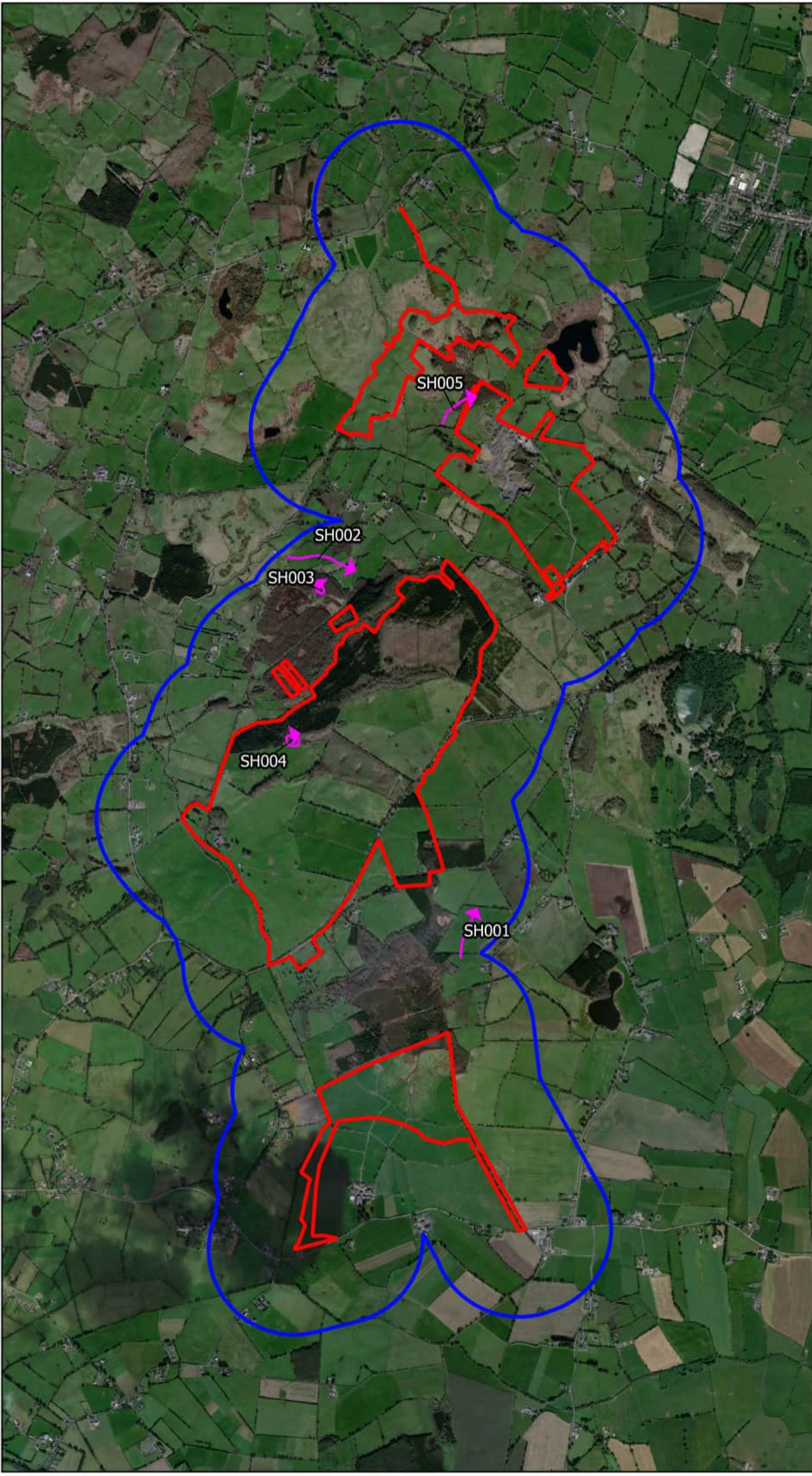


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Drawing Title	
Buzzard Territories Breeding Walkover Surveys	
Project Title	
Crowinstown	
Exam By	Checked By
D. Woods	P. Cregg
Project No.	Drawing No.
190531-b	Fig. 2.3.1
Scale	Date
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Map Legend

- Site Boundary
- 500m Survey Radius
- Flightline



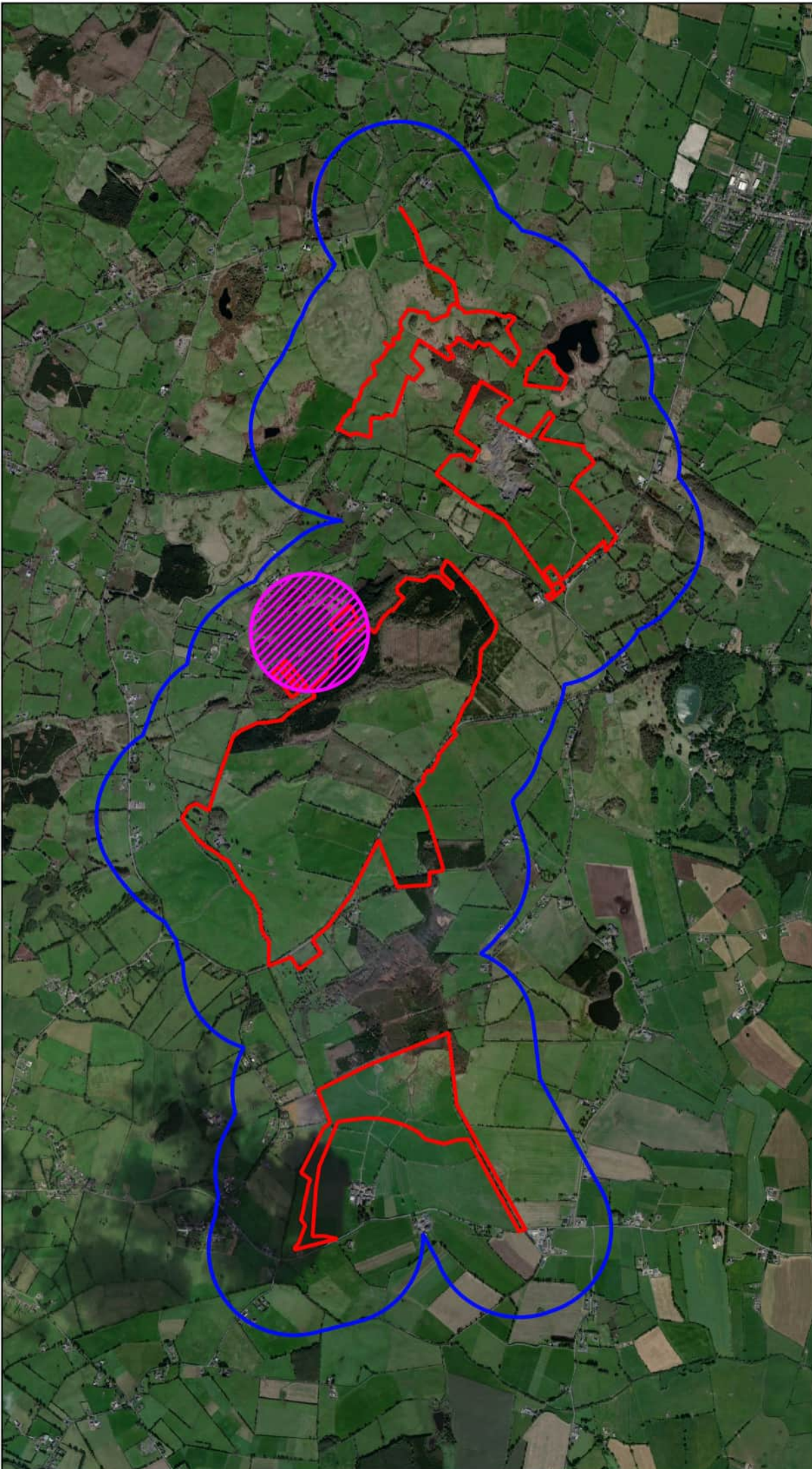
Examining Title
**Sparrowhawk Observations
 Breeding Walkover Surveys**

Project Title
Crowinstown

Examined By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 2.4
Scale 1:30000	Date 08.11.21

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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Confirmed Territory

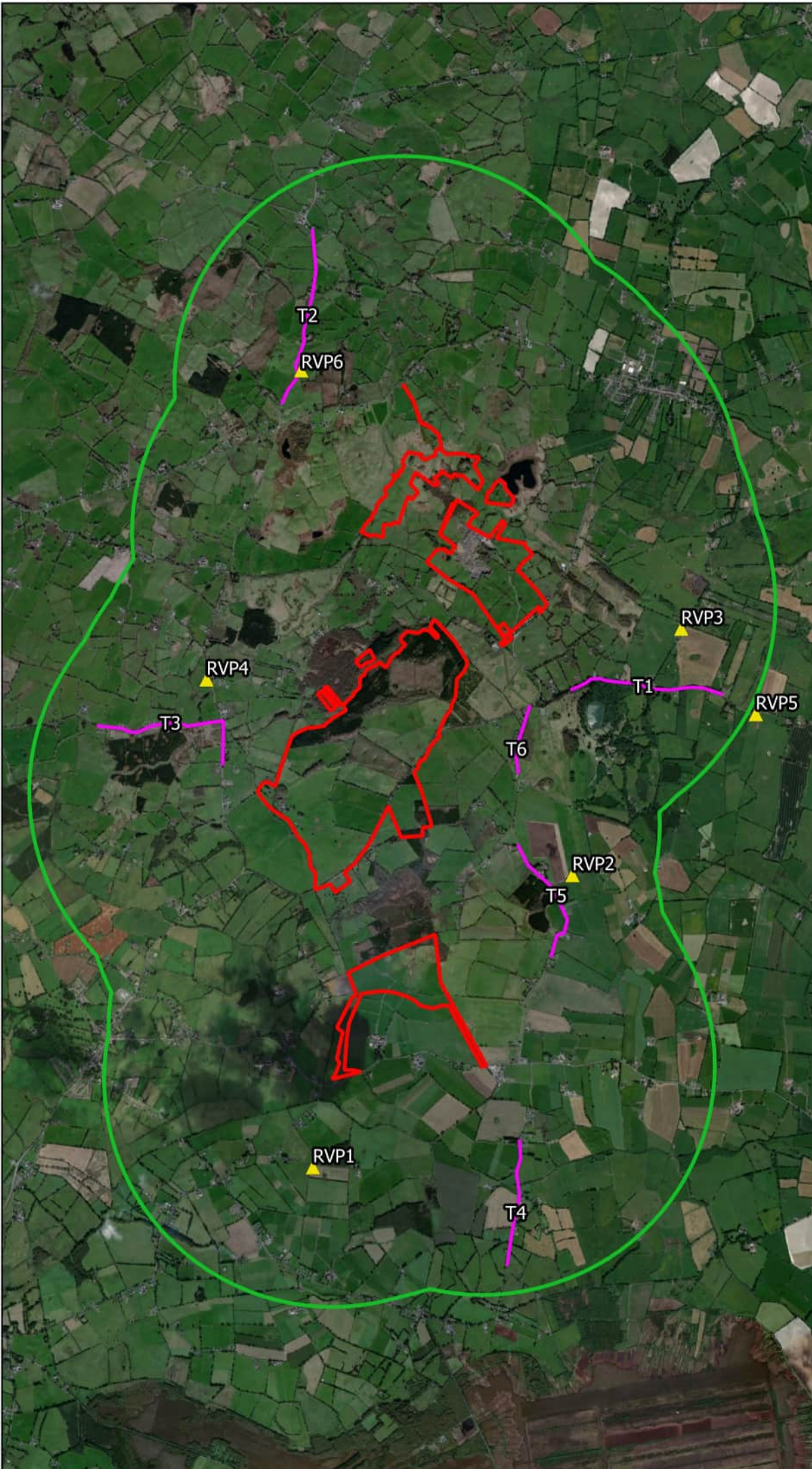


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Drawing Title	
Sparrowhawk Territories Breeding Walkover Surveys	
Project Title	
Crowinstown	
Examined By	Checked By
D. Woods	P. Cregg
Project No.	Drawing No.
190531-b	Fig. 2.4.1
Scale	Date
1:30000	08.11.21



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- ### Map Legend
- ▭ Site Boundary
 - 2km Survey Radius
 - ▲ Breeding Raptor Vantage Point Locations
 - Breeding Raptor Transects



Drawing Title	
Breeding Raptor Survey Area	
Project Title	
Crowinstown	
Exam By	Checked By
D. Woods	P. Cregg
Project No.	Drawing No.
190531-b	Fig. 3
Scale	Date
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Map Legend

-  Site Boundary
-  2km Survey Radius
-  Flightline

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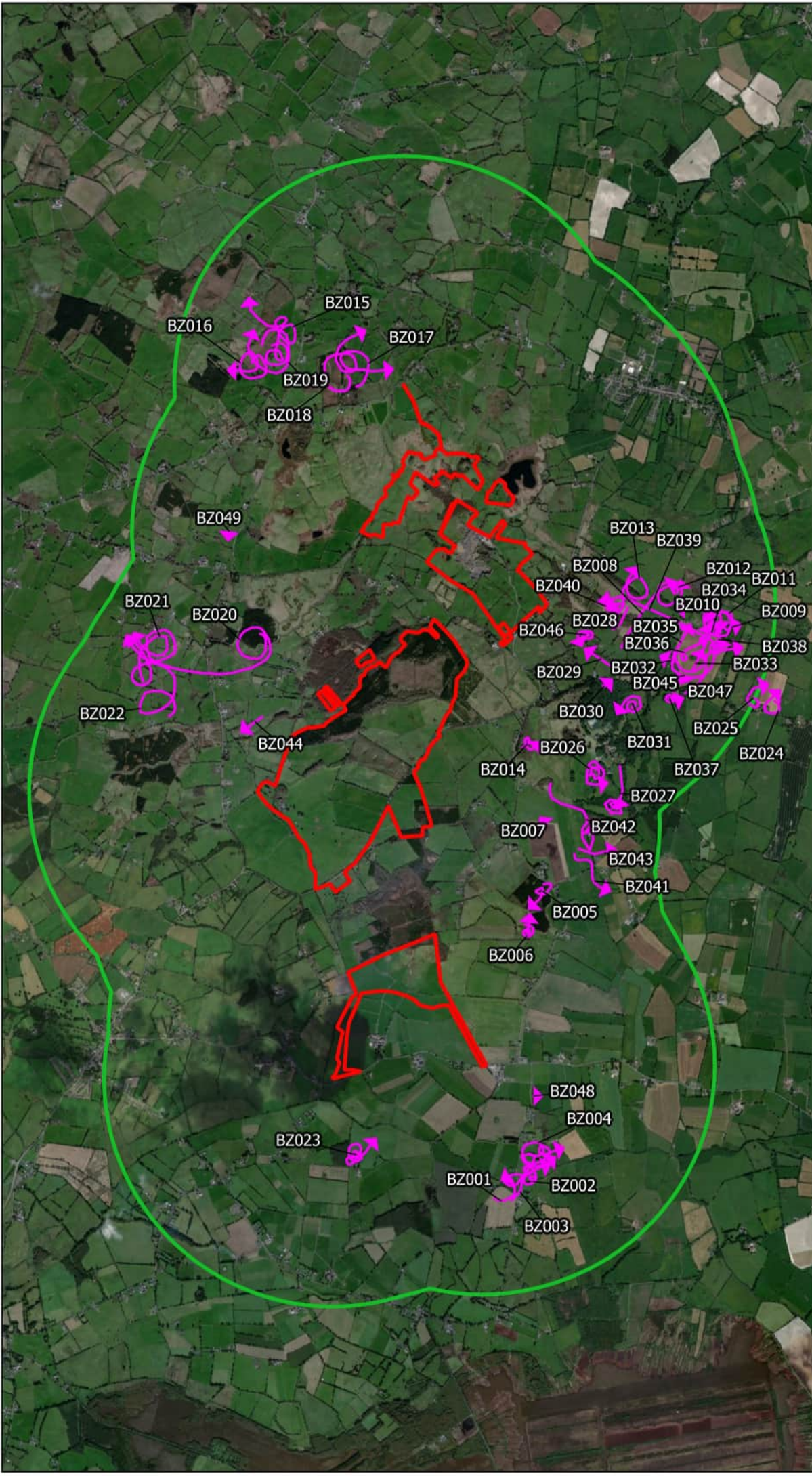
Drawing Title
**Kestrel Observations
Breeding Raptor Surveys**

Project Title
Crowinstown

Examined By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 3.1
Scale 1:45000	Date 08.11.21



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Map Legend

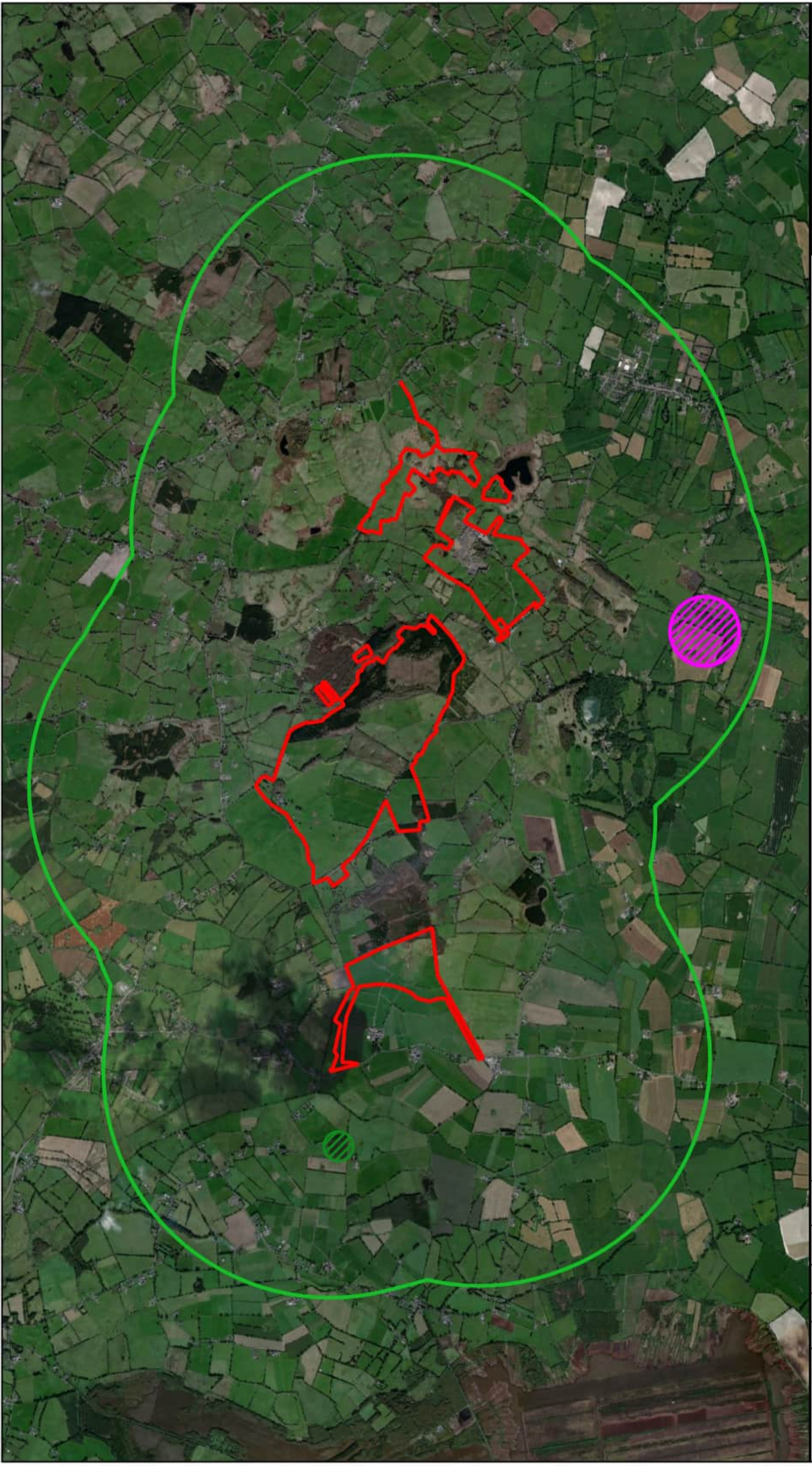
- Site Boundary
- 2km Survey Radius
- Flightline



Drawing Title	
Buzzard Observations Breeding Raptor Surveys	
Project Title	
Crowinstown	
Exam By	Checked By
D. Woods	P. Cregg
Project No.	Drawing No.
190531-b	Fig. 3.2
Scale	Date
1:45000	08.11.21

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Map Legend

-  Site Boundary
-  2km Survey Radius
-  Confirmed Territory
-  Possible Territory



Drawing Title
**Buzzard Territories
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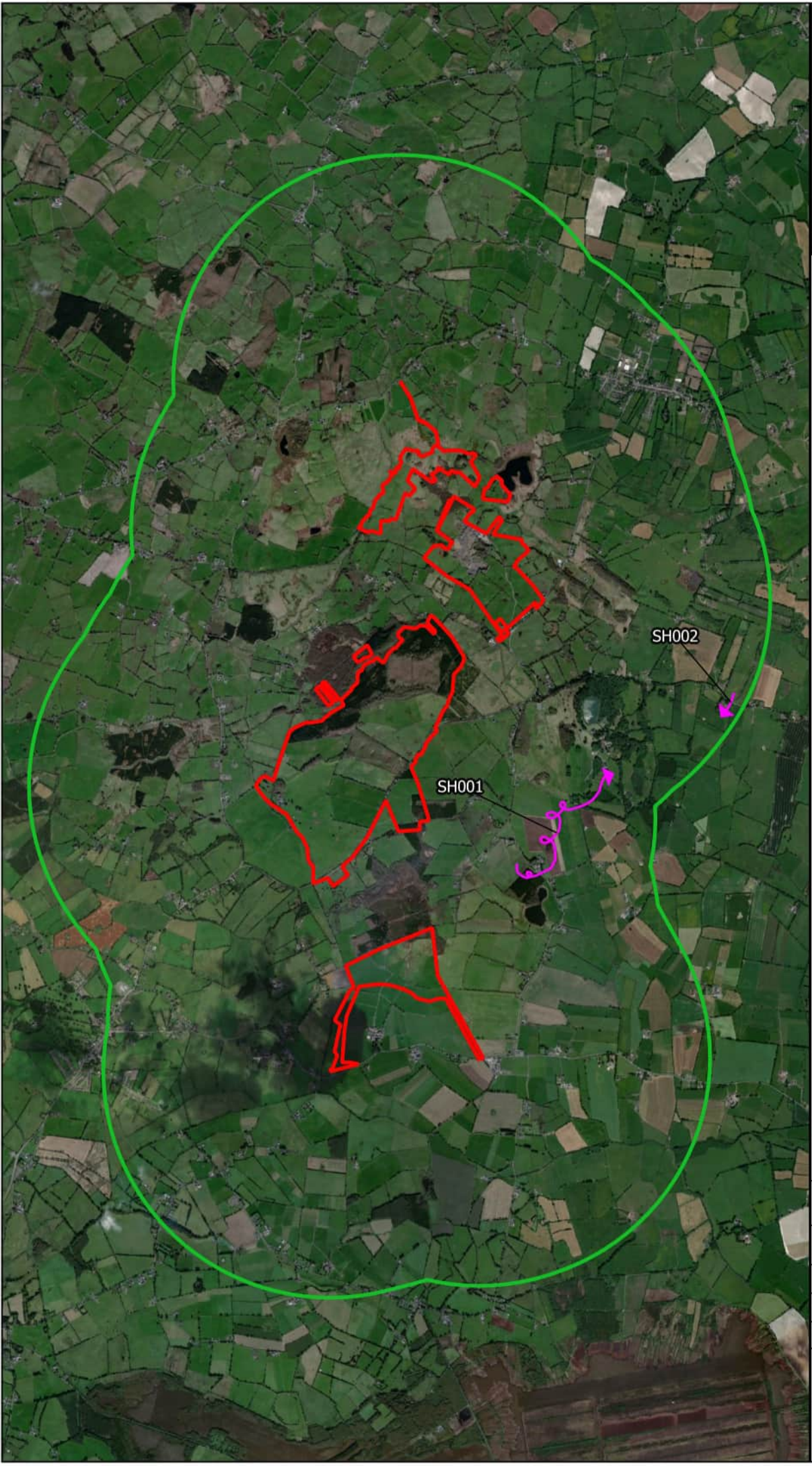
Project Title
Crowinstown

Examined By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 3.2.1
Scale 1:45000	Date 08.11.21



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Map Legend

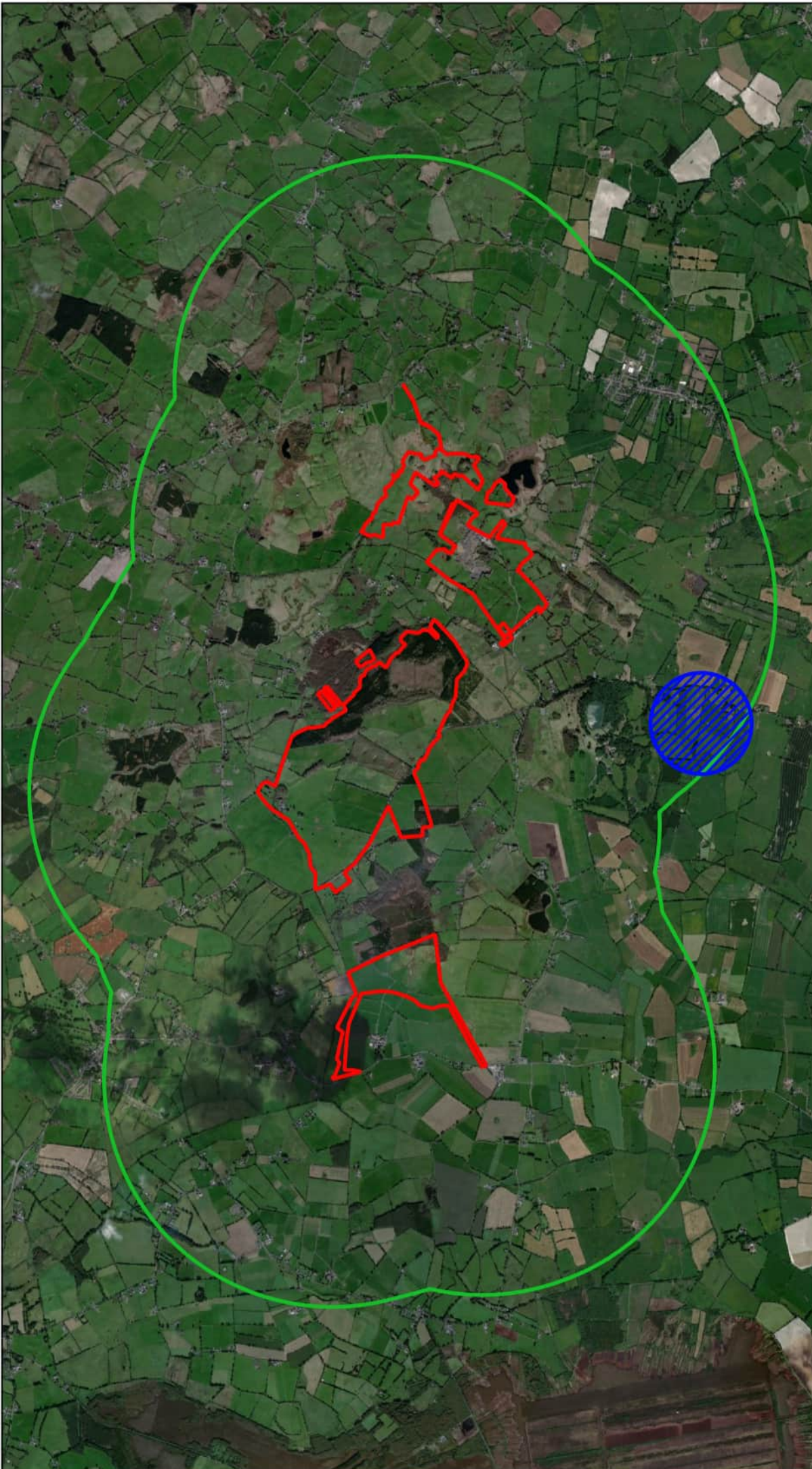
- Site Boundary
- 2km Survey Radius
- Flightline



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Examining Title	
Sparrowhawk Observations Breeding Raptor Surveys	
Project Title	
Crowinstown	
Examined By	Checked By
D. Woods	P. Cregg
Project No.	Drawing No.
190531-b	Fig. 3.3
Scale	Date
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Map Legend

-  Site Boundary
-  2km Survey Radius
-  Probable Territory



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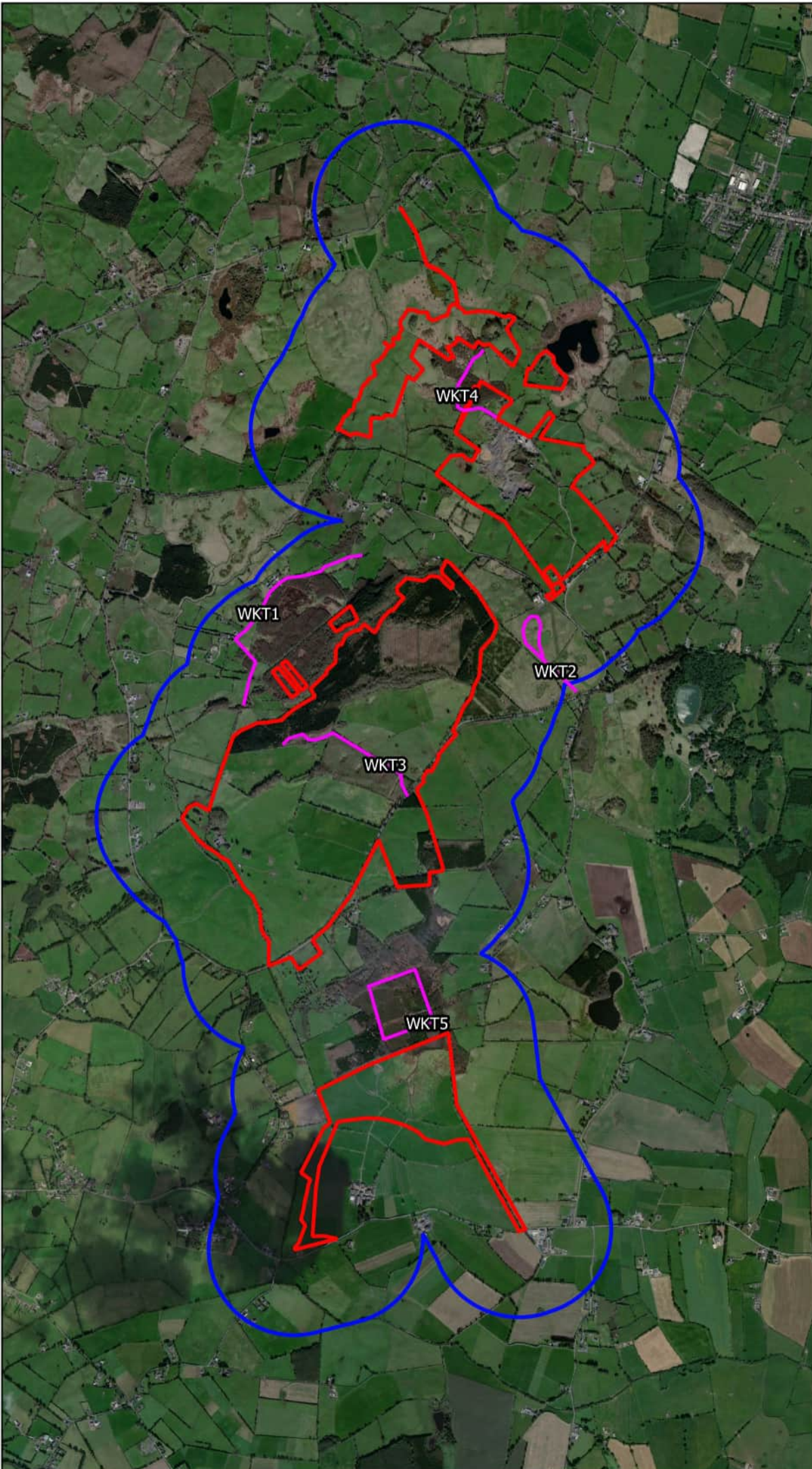
Examining Title
**Sparrowhawk Territories
 Breeding Raptor Surveys**

Project Title
Crowinstown

Examined By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 3.3.1
Scale 1:45000	Date 08.11.21



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Map Legend

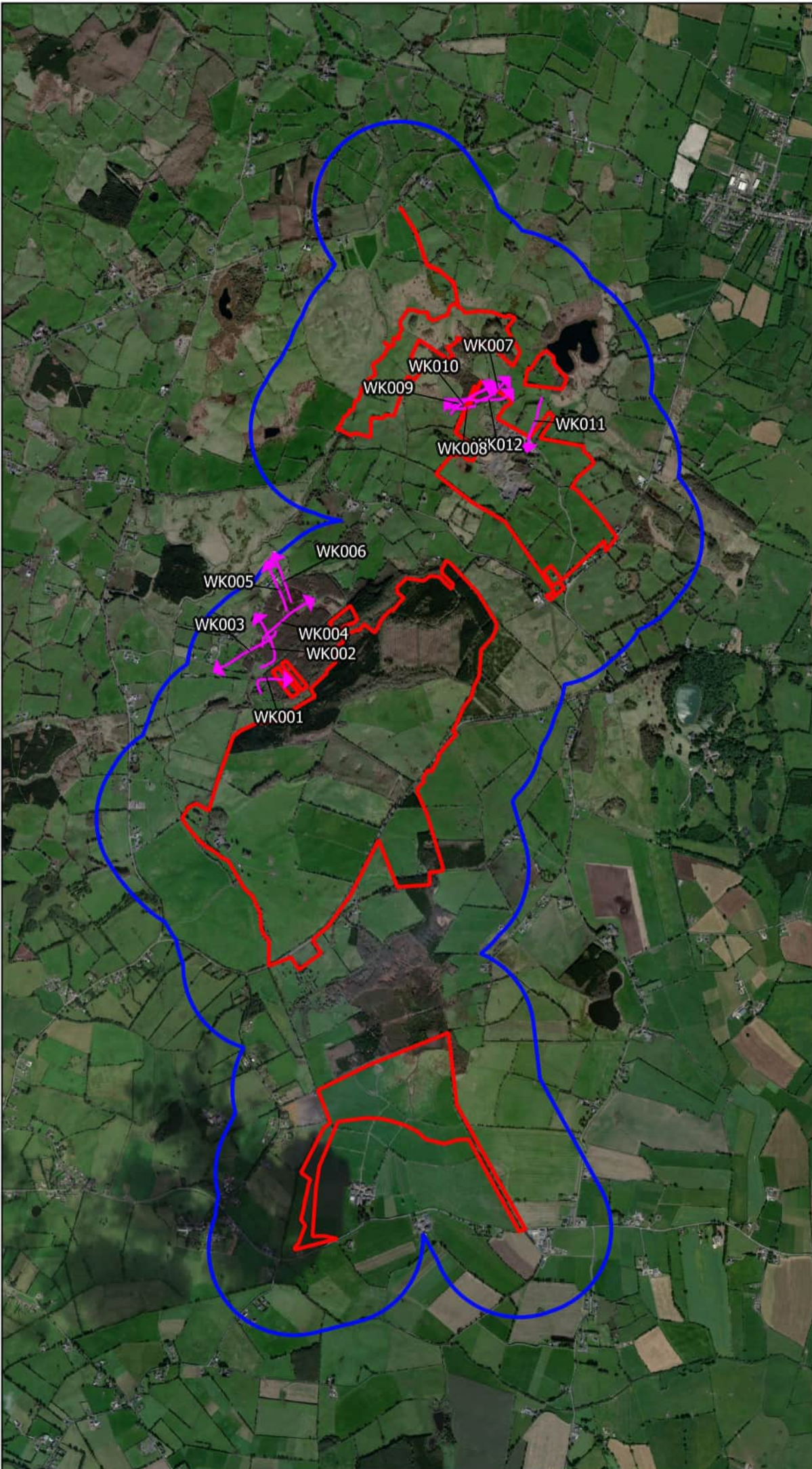
- ▭ Site Boundary
- ▭ 500m Survey Radius
- ▭ Woodcock Survey Transects



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Drawing Title	
Breeding Woodcock Survey Transects	
Project Title	
Crowinstown	
Exam By	Checked By
D. Woods	P. Cregg
Project No.	Drawing No.
190531-b	Fig. 4
Scale	Date
1:30000	08.11.21

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Map Legend

- Site Boundary
- 500m Survey Radius
- ➔ Flightline

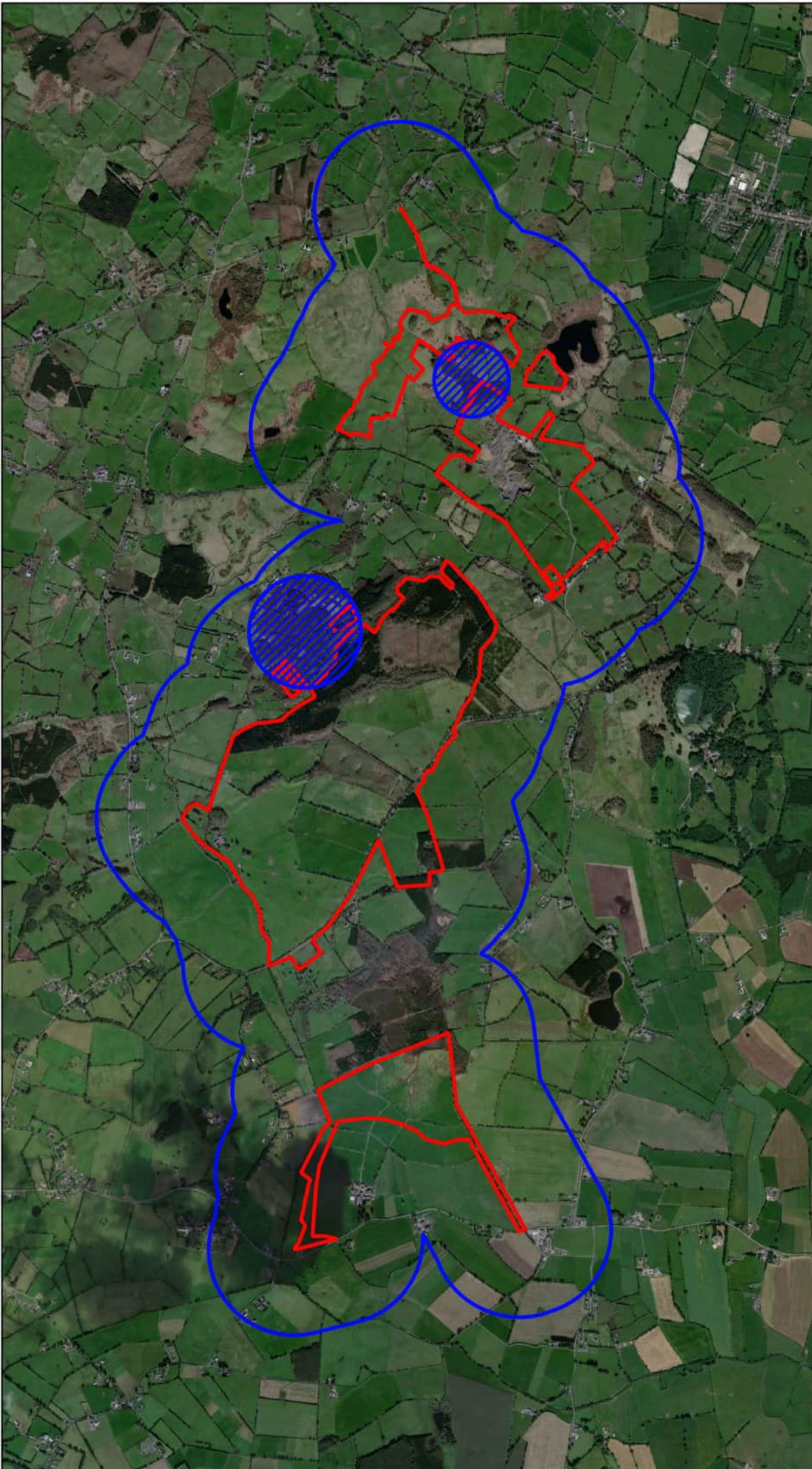


Examining Title
**Woodcock Observations
 Breeding Woodcock Survey**

Project Title
Crowinstown

Examined By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 4.1
Scale 1:30000	Date 08.11.21

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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Probable Breeding Area



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Drawing Title	
Woodcock Breeding Areas Breeding Woodcock Survey	
Project Title	
Crowinstown	
Exam By	Checked By
D. Woods	P. Cregg
Project No.	Drawing No.
190531-b	Fig. 4.1.1
Scale	Date
1:30000	08.11.21



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Map Legend

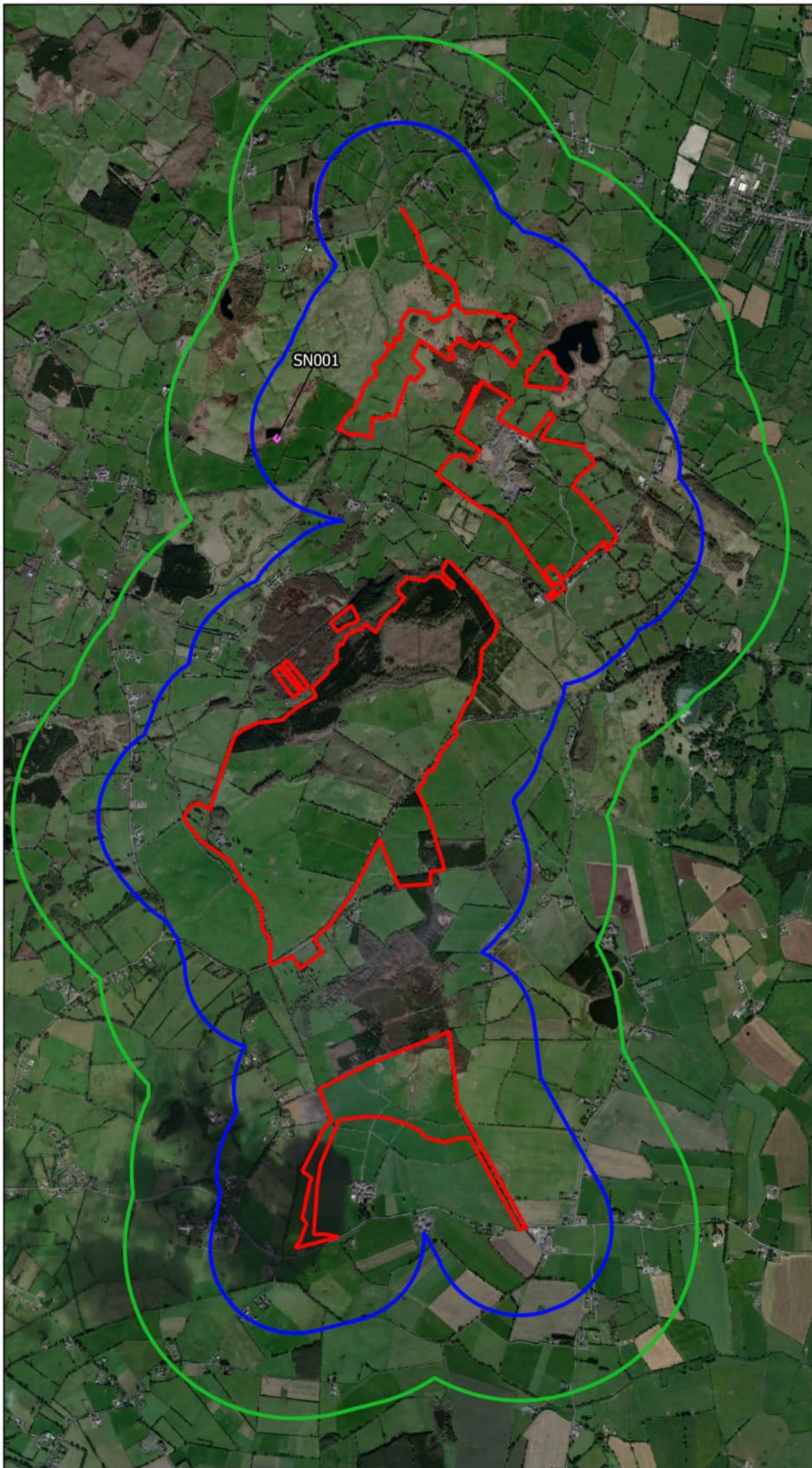
- Site Boundary
- 500m Survey Radius
- 1km Survey Radius



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Drawing Title Wildfowl Distribution Survey Area	
Project Title Crowinstown	
Exam By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 5
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Map Legend

- Site Boundary
- 500m Survey Radius
- 1km Survey Radius
- ◆ Observation



Drawing Title
**Snipe Observations
 Wildfowl Distribution Survey**

Project Title
Crowinstown

Examined By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 5.1
Scale 1:30000	Date 08.11.21



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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Flightline

PE001



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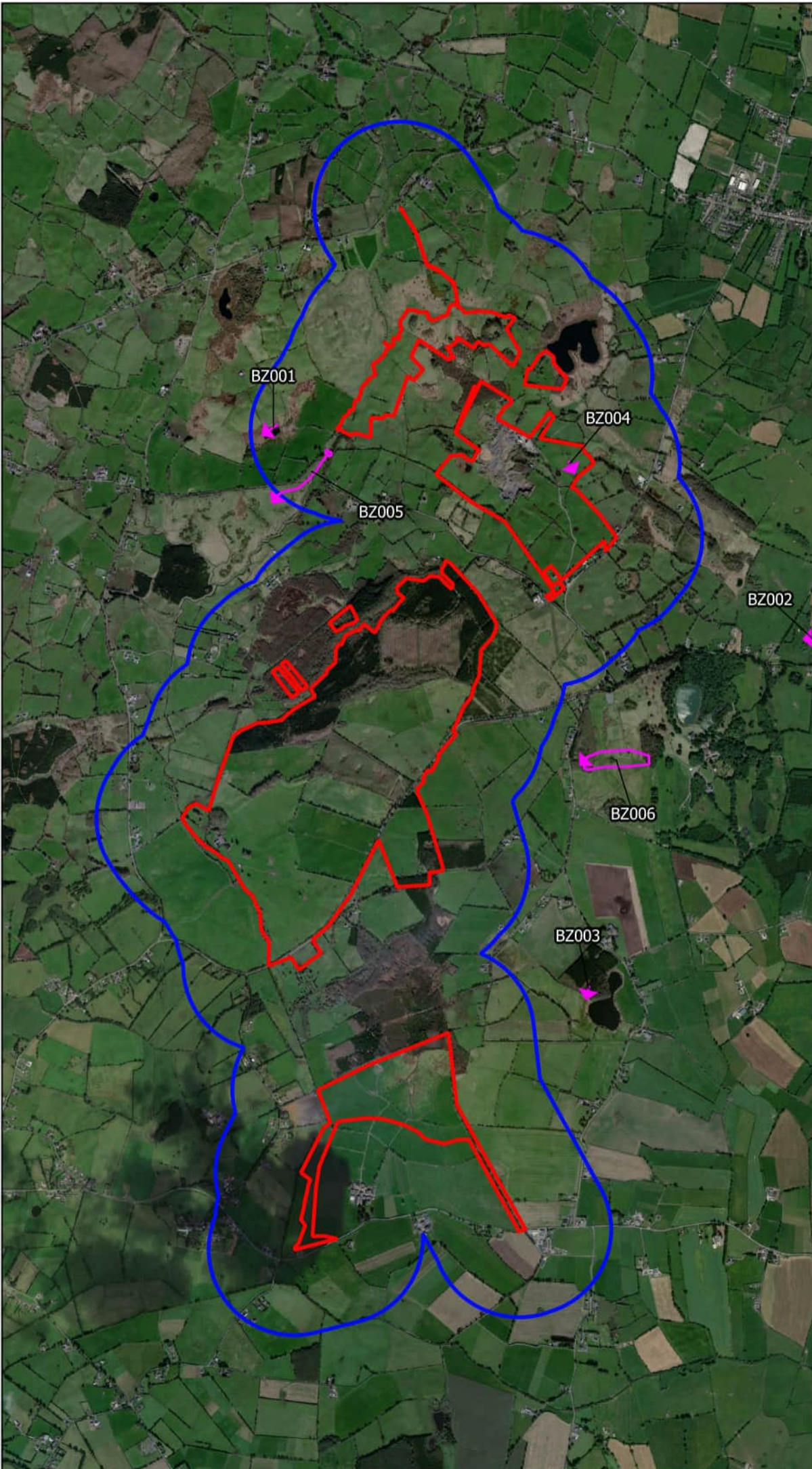
Drawing Title
**Peregrine Falcon
Incidental Observations**

Project Title
Crowinstown

Exam By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 6.1
Scale 1:30000	Date 08.11.21



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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Flightline

BZ001

BZ004

BZ005

BZ002

BZ006

BZ003



Drawing Title
**Buzzard
Incidental Observations**

Project Title
Crowinstown

Examined By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 6.2
Scale 1:30000	Date 08.11.21



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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Flightline

SH001



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Drawing Title
**Sparrowhawk
Incidental Observations**

Project Title
Crowinstown

Examined By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 6.3
Scale 1:30000	Date 08.11.21



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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Probable Territory



Drawing Title
Kestrel Territories

Project Title
Crowinstown

Exam By D. Woods	Checked By P. Cregg
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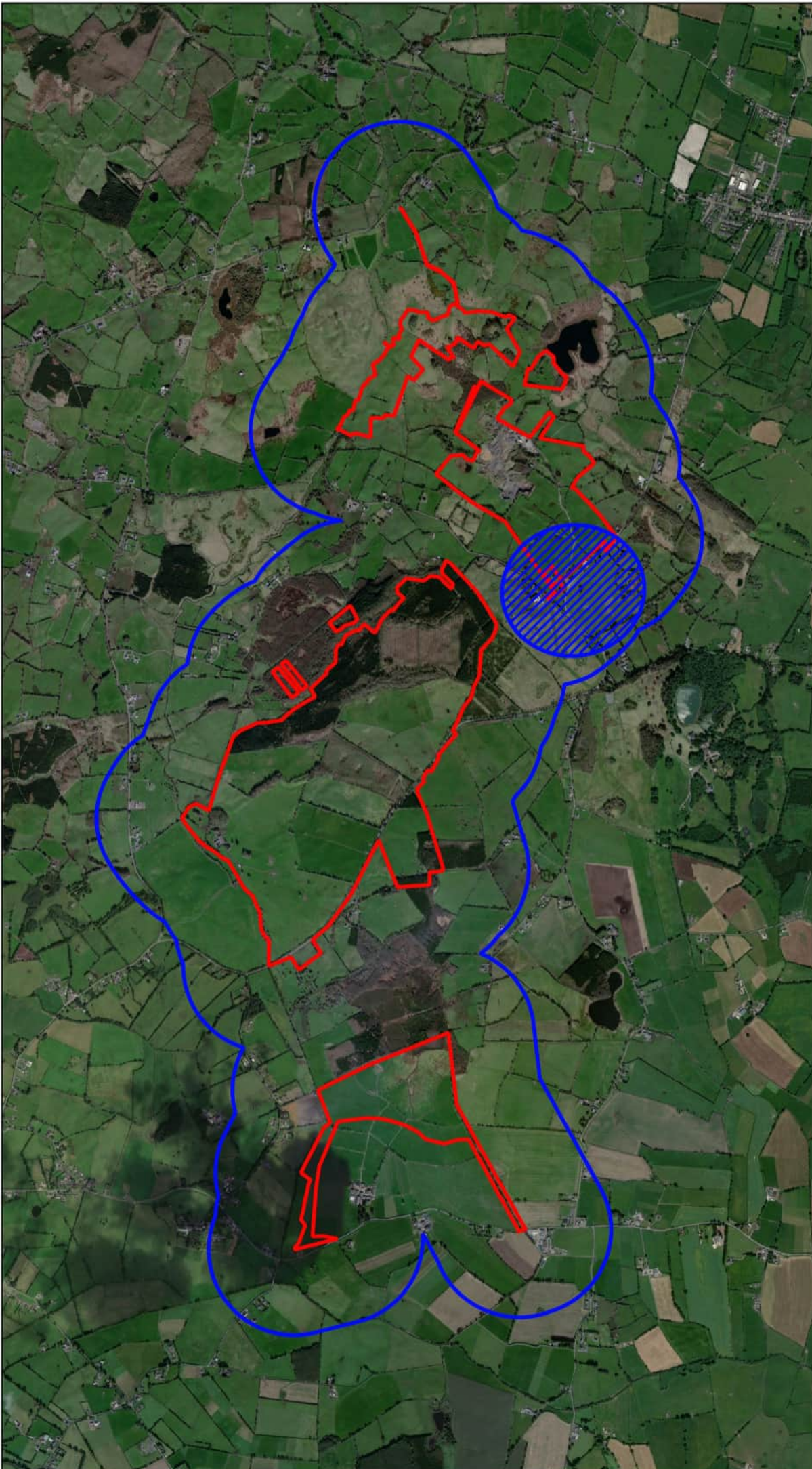
Project No. 190531-b	Drawing No. Fig. 7.1
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Scale 1:30000	Date 08.11.21
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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Probable Territory



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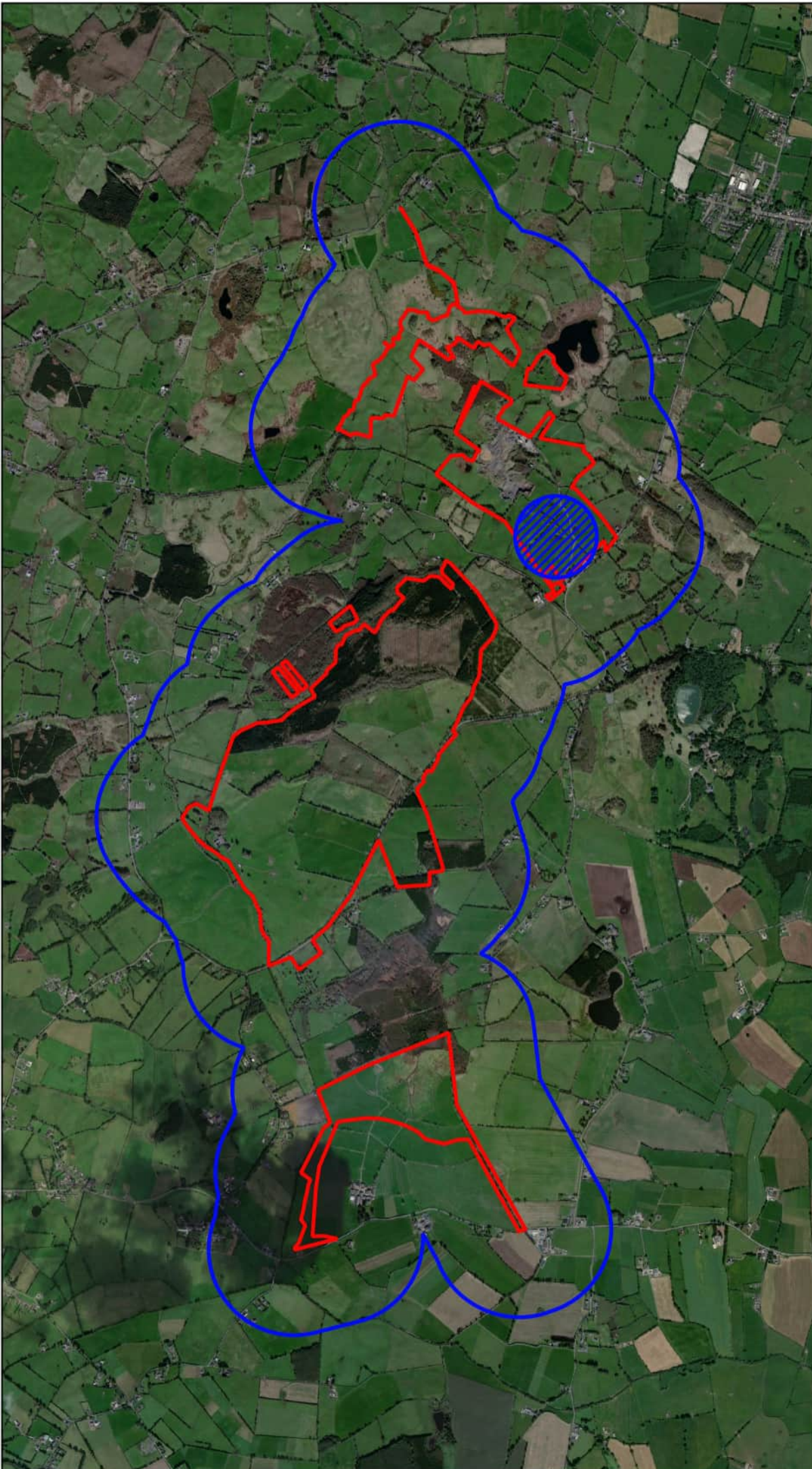
Drawing Title
Lapwing Territories

Project Title
Crowinstown

Exam By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 7.2
Scale 1:30000	Date 08.11.21



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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Probable Territory

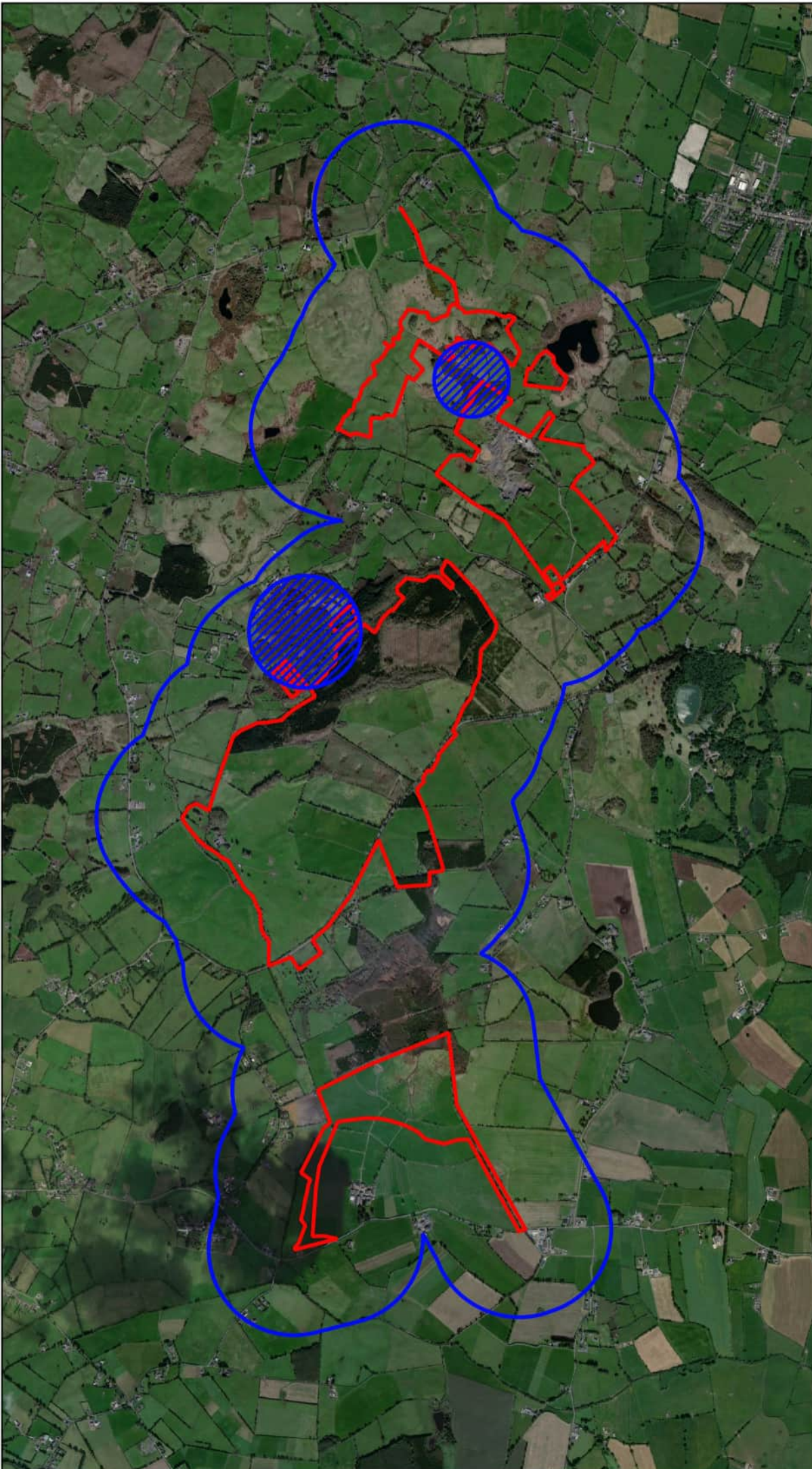


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Drawing Title	
Snipe Territories	
Project Title	
Crowinstown	
Exam By	Checked By
D. Woods	P. Cregg
Project No.	Drawing No.
190531-b	Fig. 7.3
Scale	Date
1:30000	08.11.21



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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Probable Breeding Area

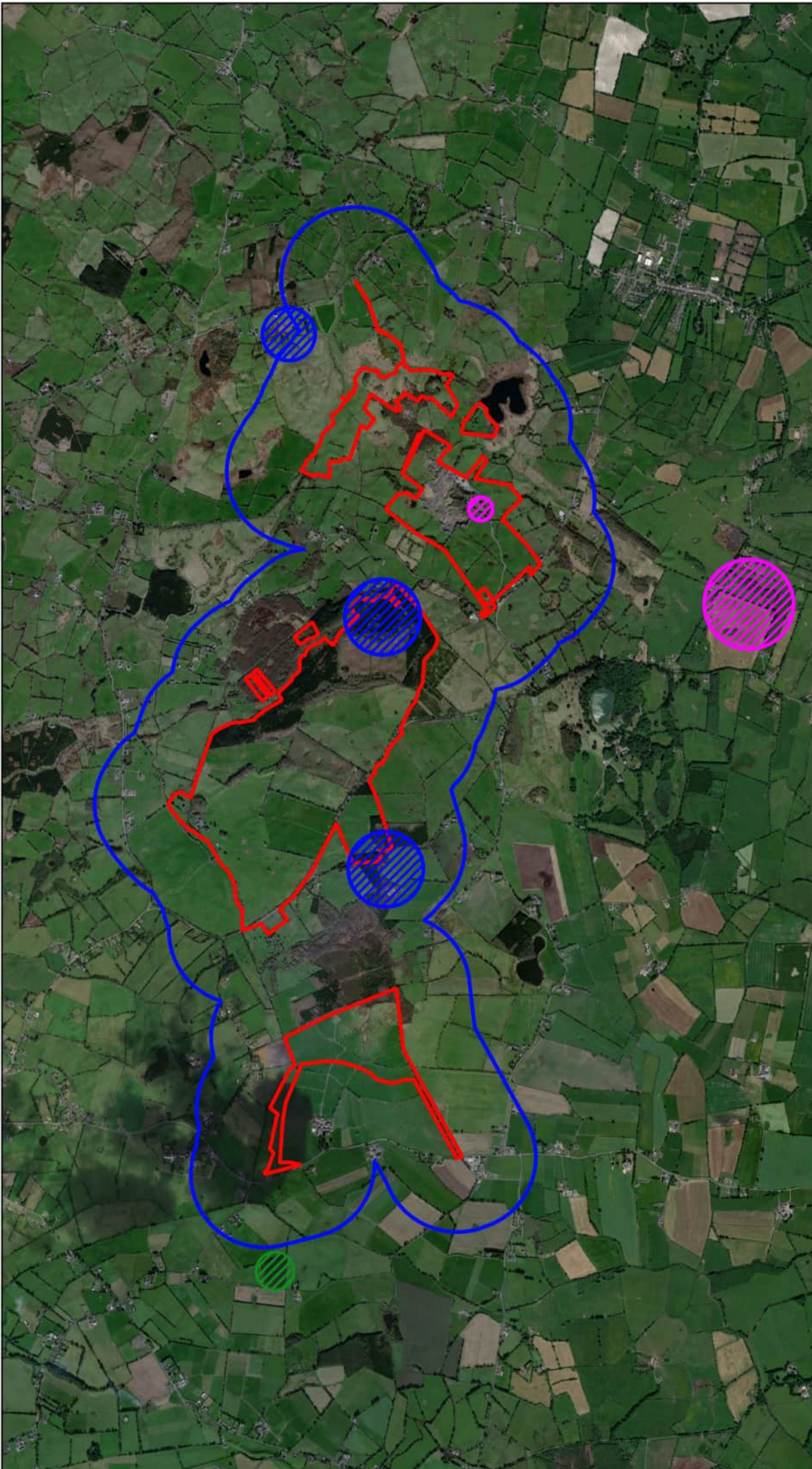


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Drawing Title	
Woodcock Breeding Areas	
Project Title	
Crowinstown	
Exam By	Checked By
D. Woods	P. Cregg
Project No.	Drawing No.
190531-b	Fig. 7.4
Scale	Date
1:30000	08.11.21



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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Confirmed Territory
-  Probable Territory
-  Possible Territory



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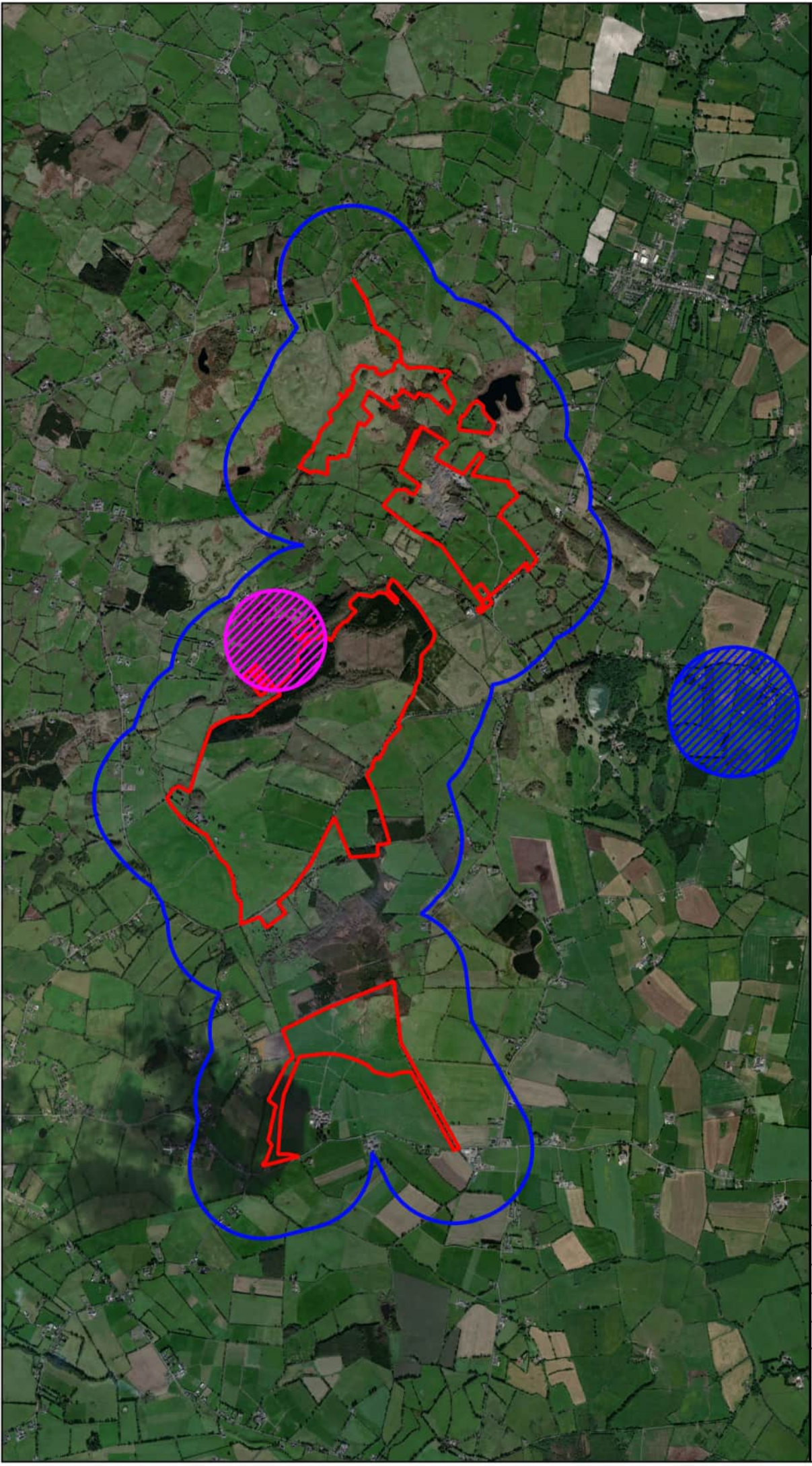
Drawing Title
Buzzard Territories

Project Title
Crowinstown

Exam By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 7.5
Scale 1:35000	Date 08.11.21



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Map Legend

-  Site Boundary
-  500m Survey Radius
-  Confirmed Territory
-  Probable Territory



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Drawing Title
Sparrowhawk Territories

Project Title
Crowinstown

Exam By D. Woods	Checked By P. Cregg
Project No. 190531-b	Drawing No. Fig. 7.6
Scale 1:35000	Date 08.11.21



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