

Breeding Bird Survey Report 2024

Lissinagroagh Wind Farm,
Co. Leitrim





DOCUMENT DETAILS

Client: **FuturEnergy Ireland**

Project Title: **Lissinagroagh Wind Farm, Co. Leitrim**

Project Number: **200217-i**

Document Title: **Breeding Bird Survey Report 2024**

Document File Name: **FEI Lissinagroagh Breeding Bird Surveys
End of Season Report 2024 – F1- 18_12_24
200217-i**

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Rev	Status	Date	Author	Approved By
01	Final	10/02/2	AO'D	PM

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1.

SUMMARY

Ornithological surveys have been undertaken at the site of Lissinagroagh Wind Farm, Manorhamilton, Co. Leitrim since 2018. This report outlines the findings from surveys completed during the 2024 breeding season. The following surveys were undertaken:

- > Vantage Point Surveys (VPs)
- > Breeding Raptor Surveys
- > Foraging Vantage Point Surveys (FVPs)

The key observations during surveys relate to breeding hen harrier. Hen harrier was recorded frequently, with multiple birds present. Two breeding pairs were confirmed, with one pair nesting approximately 800m from the site boundary to the south of site, and a second pair nesting north of site, approximately 1.5km from the site boundary. Locations are presented in Confidential Appendix 3 Figure 6.0.

2. INTRODUCTION

MKO was appointed to carry out ornithological surveys at Lissinagroagh Wind Farm, Manorhamilton, Co. Leitrim (hereafter “the site”) for the 2024 breeding season. This report describes the survey methods and findings for the period April 2024 to September 2024 inclusive.

2.1 Site Description

The site is located north of Manorhamilton (Grid Ref: X 591484.00 Y 842226.00). The dominant habitat on site is forestry, upland blanket bog and rough grassland. The wider surroundings are predominantly upland blanket bog, rough grassland, forestry, and improved agricultural grassland.

2.2 Details of Proposed Development

Appendix 1 Figure 1.0 shows the wind farm site boundary, based on the most up to date 14 turbine layout at the time of preparing this report.

2.3 Purpose of this Report

This report describes the ornithological survey methods employed, and survey data collected at Lissinagroagh Wind Farm for the period April 2024 to September 2024 inclusive. It does not include an assessment or discussion of the potential impacts of the proposed development on birds. Instead, this report aims to provide robust baseline ornithological survey data for the breeding period. This data will be used to inform a separate ecological impact assessment and appropriate assessment for the proposed wind farm.

2.4 Relevant Legislation

The following key legislative provisions are applicable to wild birds in Ireland: Irish Wildlife Acts 1976 to 2022.; the European Union Birds Directive (EU Directive 2009/147/EC on the conservation of wild birds); the European Communities (Birds and Natural Habitats) Regulations 2011, as amended (S.I. no. 477 of 2011) and the International Convention on Wetlands of International Importance (the Ramsar Convention), 1971.

3. METHODS

3.1 Scope

3.1.1 Description of Study Area

The ornithology study area was defined as a 500m radius of the viable area for turbines (see Figure 1.0). This boundary accounts for both detecting birds that use the wind farm site occasionally and spatial inaccuracies in observational data, as well as ancillary structures. The ornithology study area was used for vantage point surveys, following Scottish Natural Heritage (SNH; now NatureScot) 2017 guidance (SNH, 2017) that flight activity surveys encompass an area extending 500m beyond the potential outermost proposed turbines. A 5km radius of the ornithology study area boundary was used for breeding raptor surveys, based on the core foraging range of hen harrier, which this area is known to support. The novel foraging vantage point surveys (FVPs) were located at the nest sites as they were located, irrespective of the wind farm site boundary.

3.1.2 Ecological Features Considered

Ecological features considered in the scope of the surveys were the habitats present on the site and hinterland, as reviewed by aerial photography and reconnaissance visits, and the Special Protection Areas (SPA) designated under the Birds and Habitats (92/43/EEC) Directives Natura 2000 network within foraging range for SCI species and/or 15km of the site. Bird species of conservation interest were also considered, including those listed on Annex I of the Birds Directive that occur in Ireland, species that are a Special Conservation Interest (SCI) of SPAs within foraging range for SCI species and/or 15km of the site, species on the Red List of Birds of Conservation Concern in Ireland (Gilbert *et al.*, 2021) and all raptor species that occur in Ireland, because these species are particularly sensitive to wind farm developments.

3.1.3 Consultation

MKO undertook a consultation exercise to inform the scope of the surveys. Table 3-1 provides a list of the organisations consulted and notes where responses have been received.

Table 3-1 Consultation Response Summary

No.	Consultee	Response to Consultation
1	BirdWatch Ireland	No Response
2	National Parks and Wildlife Service (NPWS)	Initial response received 18/06/2018. Confirmation received 30/12/2019 from NPWS that no more recent information was available.

3.2 Desk Study

A comprehensive desk study was undertaken in 2019, and updated during the preparation of this report, to search for any relevant information on species of conservation concern which potentially use the site. The assessment included a thorough review of the available ornithological data including:

- Review of sites designated for birds.
- Review of breeding bird atlases (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. An information request was sent to the NPWS requesting records from the Rare and Protected Species Database.

- Review of the 2022 National Survey of Breeding Hen Harrier in Ireland Report (Ruddock *et al.*, 2024).

3.3 Field Surveys

The approach to breeding bird surveys for the proposed wind farm is based on recommendations outlined in NatureScot (2017). This guidance is recognised as standard good practice guidance throughout the UK and Ireland for surveying birds to inform impact assessment for onshore wind farms. Field surveys were undertaken from April 2024 to September 2024 inclusive. Individual survey types are described below.

3.3.1 Flight Activity Surveys

Vantage point surveys were undertaken following the guidance of NatureScot (2017) from four vantage point locations during the 2024 breeding season. Vantage point surveys aim to quantify the flight activity of primary and secondary ‘target species’ within the study area. The main purpose of vantage point surveys is to collect data on primary target species that will enable estimates to be made of:

- The time spent flying over the site.
- The relative use by birds of different parts of the site.
- The proportion of flying time spent within the provisional upper and lower risk height limits as determined by the potential rotor diameter and rotor hub height.
- The analysis of the potential risk of collision of birds with rotating turbines.

Vantage Point Locations and Viewshed Analysis

Viewshed analysis was carried out to confirm the sufficiency of the chosen vantage point locations (VP1 at ITM X592930 Y842236, VP2 at ITM X592615 Y842428, VP3 at ITM X593496 Y843692 and VP4 at ITM X 590407 Y 840997). The initial viewshed analysis was conducted in 2018 and reviewed in 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 layer suspended at 25m, which is representative of the minimum height considered for the Potential Collision Risk Area based on the turbine model at the time the vantage point locations were selected. Note that 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. Therefore, the viewshed analysis aims to identify the most suitable locations to site vantage points such that the airspace of the turbine rotor swept area is in view using the fewest possible number of vantage points. The vantage point locations were tested for visibility coverage by creating a viewshed point 1.75m in height (to represent the height of observer) on a map using 10m contours terrain data. The relative height of any surrounding trees and its effects on visibility is also accounted for in the analysis. Using the ZTV software, a viewshed of 360° was produced calculating an area 25m from ground level up to a 2km radius. The resulting viewshed image was then cropped to 180° to give the viewshed.

Survey Effort

A total of 36 hours of watches was undertaken at each of the four vantage point locations from April to September 2024 inclusive. This equates to a total of six hours per vantage point per month. Survey effort undertaken during the 2024 breeding season is summarised in Table 3-2 and full details are presented in Appendix 2 of this report, including dates, times, duration, and weather conditions. A map of the vantage point locations is provided in Appendix 1 Figure 1.1.

Table 3.2 Summary of vantage point survey effort undertaken at the proposed Lissinagroagh Wind Farm from April 2024 to September 2024.

	VP1 ITM ¹ X 592930 Y 842236	VP2 ITM X 592615 Y 842428	VP3 ITM X 593496 Y 843692	VP4 ITM X 590407 Y 840997
Month	Hours			
April	4/4/24 6 hours	2/4/24 6 hours	3/4/24 6 hours	29/4/24 6 hours
May	31/5/24 6 hours	14/5/24 6 hours	15/5/24 6 hours	7/5/24 6 hours
June	12/6/24 6 hours	10/6/24 6 hours	13/6/24 6 hours	6/6/24 6 hours
July	8/7/24 6 hours	3/7/24 6 hours	5/7/24 6 hours	10/7/24 6 hours
August	14/8/24 6 hours	30/8/24 6 hours	15/8/24 6 hours	2/8/24 3 hours 19/8/24 3 hours
September	20/9/24 6 hours	19/9/24 6 hours	26/9/23 6 hours	20/9/24 6 hours
Total Hours	36	36	36	36

Primary Target Species

The target species for vantage point surveys were defined by legal and/or conservation status, following SNH (2017) guidance, which states that “*in most circumstances the target species will be limited to those species which are afforded a higher level of legislative protection.*” A list of primary target species was drawn from the following sources:

- Species that are SCIs of the SPAs within 15km of the site.
- Species listed on Annex I of the Birds Directive that occur in Ireland.
- Species listed on the Red List of Birds of Conservation Concern in Ireland (Gilbert *et al.*, 2021) with the exception of Red List passerines, as these are generally not significantly impacted by wind energy developments.

Secondary Target Species

SNH (2017) also states that “*local circumstances may indicate that survey information should also be acquired on other species, especially those of regional conservation concern.*” A list of secondary target species comprised:

- All raptors that occur in Ireland that are not included as primary target species.

Data Collection

Data on bird observations and flight activity was collected by the surveyor by scanning the arc of 180° and a 2km radius from the fixed location. Surveys were scheduled to provide a spread over the full daylight period including at dawn and dusk (starting or ending an hour before dawn or an hour after dusk on alternate months for April, May, August, and September) to coincide with the highest peaks of bird activity and to record any wildfowl migration or crepuscular species. Breaks of at least 30 minutes were taken every 3 hours to minimise observer fatigue. A 10-minute settling in period was allowed for at the start of each vantage point to allow the surveyor to get into place, and to minimise the impact of surveyor disturbance on flight activity. For each primary target species observation, the following details were recorded:

- Date, time, and location of observation.

¹ Irish Transverse Mercator Co-Ordinates

- > Number of species recorded.
- > Total duration of flightline observation.
- > Duration at each of flightline at each height band.
- > Species age and sex (where determinable).
- > Habitat(s).
- > Behaviour.

Recording height bands were determined based on the likely turbine specifications under consideration at the time of survey (upper tip height 175m and lower tip height 25m). Flight heights were attributed to four distinct height bands as follows:

- > Band 1 = 0 - 15m (below the likely rotor swept area).
- > Band 2 = 15 - 25m (potentially within the likely rotor swept area, at least in part).
- > Band 3 = 25 - 175m (within the likely rotor swept area, potential collision height, PCH).
- > Band 4 = >175m (above the likely rotor swept area).

Although recording of secondary species is subsidiary to recording of primary target species, secondary target species were also recorded to provide an index of flight activity for secondary target species within the site.

3.3.2 Foraging Vantage Point Surveys

Foraging vantage point surveys (FVPs) were undertaken to provide additional information on foraging areas utilised by hen harrier breeding in the study area. FVPs were selected based on the number of nests located and the available viewshed in each case. Given the large core foraging area of birds and the extensive effort required to cover all potential foraging areas simultaneously, it was decided the nest sites would be directly observed and all visible activity recorded to provide as much information on areas utilised for foraging as possible given limitations on survey effort. Surveys were carried out during daylight hours and in accordance with peak activity hours for the species where possible. Surveys lasted from 3 to 6 hours.

FVPs began in June 2024 once the nest sites had been identified and continued into July 2024 until observations at nest sites declined. The southern nest site identified was surveyed from two FVPs. The northern nest site was surveyed from three FVPs, with equal total survey effort spent at each nest. The FVPs were selected with the aim of monitoring routes to and from the nests adequately. On each occasion a bird was observed its flight path was followed until it was lost from view. The key undertaking during these observations was to identify the areas utilised by foraging hen harrier. For each hen harrier observation, the following details were recorded:

- > Flightline including direction of flight.
- > Date, time, and location of observation.
- > Number of species recorded.
- > Species age and sex (where determinable).
- > Habitat(s).
- > Behaviour.

FVP locations are presented in Appendix 1 Figure 4.0.

3.3.3 Breeding Raptor Surveys

Breeding raptor (i.e. birds of prey) surveys were undertaken to identify occupied raptor territories and ascertain whether breeding was successful. Surveys were carried out during the core breeding season period from April to August 2024.

Methodology followed Hardey *et al.* (2013). Surveys involved a combination of raptor vantage point watches of 3 hours and transects in areas deemed most likely to hold breeding raptors based on habitat and observed movements of raptor species in the study area. There were 12 breeding raptor survey locations. Once breeding activity was observed, vantage point and transect locations were adjusted with the aim of pinpointing breeding locations. Each breeding raptor survey location was visited four times to complete a full round of breeding season surveys. The purpose of the four visits is (1) to establish occupancy, (2) to establish active nests, (3) to check for chicks and (4) to check for fledglings. Timings of these visits vary by species as set out in Hardey *et al.* (2013). Although visits between April and July are advised, nests identified during surveys were still active at the end of July, therefore surveys were extended into August. Survey effort is provided in Appendix 2 of this report, including dates, times, duration and weather conditions. A map of the breeding raptor survey locations is presented in Appendix 1 Figure 3.0.

3.4 Project Team

This report has been prepared by Andrew O'Donoghue (B.Sc.), Project Ornithologist with MKO and reviewed by Patrick Manley (B.Sc.), Senior Ornithologist. Both are suitably qualified ornithologists with experience in completing avifaunal assessments and competent experts for the purposes of the preparation of this report, following SNH (2017) and CIEEM (2017) ecological reporting guidelines.

3.4.1 Field Survey Team

The field surveys were undertaken in the 2024 breeding season by Andrew O'Donoghue and Niall McHugh (B.Sc.). Surveyors are suitably qualified competent experts in field ornithology. Andrew has eight years of experience in ornithological surveys and Niall has five years of experience, including vantage point, breeding raptor and breeding walkover surveys.

3.5 Survey Limitations

A comprehensive suite of bird surveys was undertaken at the site between April and September 2024, as detailed in this report. There were no significant gaps in viewsheds during vantage point surveys. It was possible to schedule surveys to avoid potential human disturbances (e.g., forestry operations, agriculture, peat extraction, recreational activity). Surveys were not carried out in unsuitable weather conditions where visibility or bird activity would be impacted. On occasions where weather turned unsuitable or dangerous (e.g. lightning) after the survey had begun, surveys were postponed. Results from the 2024 breeding season are derived from a continuous six months of surveying undertaken following best practice guidance (NatureScot, 2017). The survey duration and scope are considered entirely satisfactory.

The foraging vantage points mentioned above in Section 3.3.2, were selected to identify where nesting hen harriers were foraging. And foraging areas were successfully identified. However, as hen harriers forage over a large area, the five No. FVP locations are unlikely to have provided full coverage of all areas utilised for foraging by the two identified nesting pairs.

4. RESULTS

4.1 Desk Study

4.1.1 Sites Designated for Nature Conservation

Using GIS software, sites designated for nature conservation within the potential zone of influence of the proposed wind farm development were identified. In the absence of any specific European or Irish guidance, NatureScot (2016) was consulted. This document provides guidance in relation to the identification of connectivity between proposed development proposals and SPAs. It takes into consideration the distances some species may travel beyond the boundary of their SPAs and outlines information on dispersal and foraging ranges of certain bird species. In addition, taking a precautionary approach, sites within a 15km radius of the proposed wind farm were identified. Sites designated for birds are listed below in Table 4-1.

Table 4-1 Designated sites within 15km of the site

Designated site and code	Distance from proposed works (km)
Special Protection Areas (SPA)	
Sligo/Leitrim Uplands (002384)	9.2
Natural Heritage Areas (NHA)	
Dough/Thur Mountains (002384)	0.1
Aghavoghil Bog (002430)	4.2
Crockauns/Keelogyboy Bogs (002435)	9.0

4.1.2 Previous Survey Data

4.1.2.1 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 breeding birds in Ireland. It provides information on species and their breeding status in 10km hectads. The site lies within hectad G94. Table 5-1 presents a list of nine species of conservation interest recorded within this hectad.

Table 5-1 Bird atlas 2007-11 records

Species Name	Hectad (G94)	Conservation Status
Golden plover	Non-Breeding	Annex I EU Birds Directive, BoCCI Red Listed
Peregrine	Probable Breeding	Annex I EU Birds Directive, SCI of SPA within 15km
Hen harrier	Confirmed Breeding	Annex I EU Birds Directive
Merlin	Possible Breeding	Annex I EU Birds Directive

Species Name	Hectad (G94)	Conservation Status
Red grouse	Probable Breeding	BoCCI Red Listed

4.1.2.2 Rare and Protected Species Dataset

An information request was sent to the NPWS requesting records from the Rare and Protected Species Database. The sections below provide records obtained from the NPWS (on 18th of June 2018) of the rare and protected breeding bird species hen harrier, peregrine and red grouse.

Hen Harrier

Table 5-2 below presents the NPWS records for hen harrier nest sites to defined radii of the development site.

Table 5-2 NPWS Hen Harrier Nest Site Records

Year	Within site boundary	0-1km from site boundary	1-3km from site boundary	3-5km from site boundary
2015	No Records	1 confirmed breeding site	No Records	1 confirmed breeding site
2010	No Records	3 confirmed breeding sites	1 sighting	1 confirmed breeding site, 1 additional sighting
2005	No Records	3 sightings	No records	No records
1998-2004	No Records	No Records	No Records	No records

Peregrine

The NPWS identified one confirmed peregrine nest site within 3-5km of the site. The observation was recorded during a survey in 2002.

Red Grouse

The NPWS hold records of red grouse in the area. Between 2000 and 2011 this species was recorded on nine occasions. One observation was recorded on site. There were two records located approximately 500m from the site - one just south of Dough Mountain and the other just north of Killea. The remainder of the observations were recorded over 3km from the site, three of which were in the vicinity of Thur Mountain.

4.2 Field Surveys

4.2.1 Flight Activity Surveys

During vantage point surveys, hen harrier were recorded regularly on site, including some time spent at potential collision height (PCH). White-tailed eagle, merlin, golden plover, snipe, woodcock, buzzard, and kestrel were also recorded on site, including at PCH (Individual species accounts of primary and secondary target species are provided below).

4.2.1.1 Primary Target Species

White tailed eagle

White tailed eagle was observed once during surveys. In August a single bird was observed soaring at Boleyboy and Dough Mountain. A total of 270 seconds were recorded at PCH. Maps are presented in Appendix 1 Figure 1.3.

Golden plover

Golden plover were recorded twice during vantage point surveys. A total of 68 seconds of flight were recorded at PCH. Observations involved flocks of up to 15 birds in flight at Dough Mountain. Maps are presented in Appendix 1 Figure 1.4.

Hen harrier

Hen harrier were observed 17 times during vantage point surveys. A total of 370 seconds of flight were recorded at PCH. All observations involved adult male or female birds flying, hunting, foraging, and perched. Maps are presented in Appendix 1 Figure 1.5.

Merlin

Merlin were recorded five times during vantage point surveys. There were no observations at PCH. All observations involved female birds in flight, hunting or perched around Killea on site and within 500m of site. Maps are presented in Appendix 1 Figure 1.6.

Snipe

Snipe were recorded 74 times during vantage point surveys, all on site or within 500m of the site. A total of 6,925 seconds were recorded at PCH. Observations involved single birds or small flocks in flight, calling and displaying. Displaying birds were observed near Killea, Tawnyfeacle, and Dough Mountain. Maps are presented in Appendix 1 Figure 1.7.

Kestrel

Kestrel were recorded 28 times during vantage point surveys. A total of 7,430s were spent at PCH. Observations involved single birds foraging, hovering or travelling. Maps are presented in Appendix 1 Figure 1.8.

4.2.1.2 Secondary Target Species

Sparrowhawk

Sparrowhawk was recorded on one occasion during vantage point surveys. A single female was observed in flight on site. A total of 120s were recored at PCH. Maps are presented in Appendix 1 Figure 1.9.

Buzzard

Buzzard were recorded 60 times during vantage point surveys, all on site or within 500m of the site. A total of 25,255 bird seconds were recorded at PCH. Observations included single birds or pairs soaring, travelling, or foraging in both the northern and southern sections of the site. Maps are presented in Appendix 1 Figure 1.10.

4.2.2 Breeding Raptor Surveys

Hen harrier

Hen harrier were observed 85 times during breeding raptor surveys. To the south of site, on the 5th of April an adult male and immature male were observed both displaying and the older bird chasing the younger in the vicinity of a historic nest site. On the 19th of April three adult males were observed sky dancing (displaying) over the historic nest sites on site and within 500m of site, between [REDACTED]. On the same day, a single female was observed in flight with at least one of these displaying males on site. On the 30th of May a food pass was observed between an adult male and female, with the female dropping back with prey to the same location as the 2023 nest site. This confirms nesting in the same location this year. Provisioning flights and food passes were observed in the following weeks. On the 27th of June the male and female were observed at the nest site including provisioning flights and carrying prey. They were not observed again at this location despite extensive survey effort. It is likely this nest failed and breeding was unsuccessful given the sharp drop off in observations.

To the north of site, one of the three displaying males on the 19th of April was displaying on the south side of Dough Mountain moving northwest towards Killea, indicating an occupied territory to the north. In May a male was recorded in flight displaying on a number of occasions near the historic nest site at [REDACTED]. On the 30th of May a food pass was observed between a male and a female at the same location. The female returned to the ground with prey confirming a nest approx. 100m from the historic nest site here. Observations dropped off in June indicating that this nest likely also failed.

Maps are presented in Confidential Appendix 3 Figure 6.1.

Osprey

Osprey were recorded on one occasion during breeding raptor surveys. On the 23rd of May and adult was observed soaring high over the north of site from the direction of Lough Melvin. The bird then flew off site to the northeast. Maps are presented in Appendix 1 Figure 3.2.

Merlin

Merlin were observed on five occasions during breeding raptor surveys. In June and July, a female was observed in flight, hunting and perched within 500m of site on the top of Dough Mountain. No breeding behaviour was observed. Maps are presented in Appendix 1 Figure 3.3.

Kestrel were recorded 22 times during breeding raptor surveys. Observations all involved single birds flying and hunting/foraging on and off site. No breeding behaviour was observed. Observations centred around Saddle Hill, Faughery, and Dough Mountain. Maps are presented in Appendix 1 Figure 3.4.

Buzzard

Buzzard were recorded 41 times during breeding raptor surveys. Single birds or groups of up to three were recorded. Juvenile birds were recorded on site at Killea and within 500m of site at Tawnylust confirming breeding in these areas. A displaying bird off site at Raheelin also indicates probable breeding there. The remaining observations were of birds travelling, hunting or soaring. Maps are presented in Appendix 1 Figure 3.5.

Sparrowhawk

Sparrowhawk were recorded nine times during breeding raptor surveys. Observations involved single birds in flight, foraging, displaying or carrying prey. Breeding was confirmed off site at Tawnyfeacle and Raheelin with adults carrying prey recorded in both areas. Maps are presented in Appendix 1 Figure 3.6.

4.2.3 Foraging Vantage Point Surveys

Hen harrier

Hen harrier were observed 11 times during FVPs, of these, nine observations involved foraging behaviour throughout or for part of the observation. Prey carrying and food passes were observed four times. Individual adult male or female birds and pairs were observed. To the south, foraging observations centred around Faughery, the South of Saddle Hill, and in suitable habitat in the vicinity of the nest site at [REDACTED]. To the north, two foraging observations were recorded northeast of saddle hill. Maps are presented in Appendix 1 Figure 4.1.

4.2.4 Incidental Observations

Golden plover

Golden plover were recorded once as an incidental observation. On the 19th of April a flock of 80 birds were recorded in flight on Dough Mountain within 500m of site. No breeding evidence was recorded. Maps are presented in Appendix 1 Figure 5.0.

Hen harrier

Hen harrier were observed once as incidental observations. In May, an adult male was recorded foraging and travelling at Faughery on site and within 500m of site. Maps are presented in Appendix 1 Figure 5.1.

Red grouse

Red grouse were recorded six times as incidental observations. Observations involved single birds or pairs. Birds were recorded calling at Dough Mountain, Killea, and Saddle Hill on site and within 500m of site, indicating probable breeding in these areas. Maps are presented in Appendix 1 Figure 5.2.

Snipe were recorded 37 times as incidental observations. Behaviours included flying, flushed by the observer, chipping (display song), alarm calling and drumming (displaying). Probable breeding was indicated with the presence of displaying birds at Faughery, Dough Mountain, Saddle Hill, and Killea, all on site or within 500m of the site. Maps are presented in Appendix 1 Figure 5.3.

Kestrel

Kestrel were recorded twice as incidental observations. Single birds were observed in flight and foraging at Tawnyfeacle in July and Lissinagroagh in August. Maps are presented in Appendix 1 Figure 5.4.

Sparrowhawk

Sparrowhawk were recorded on six occasions as incidental observations. Single birds were recorded in flight, soaring, foraging and hunting on site at Tawnyfeacle, Boleyboy and Faughery. In July male and female were recorded carrying prey at Tawnyfeacle confirming breeding at this location, off site. Maps are presented in Appendix 1 Figure 5.5.

Buzzard

Buzzard were recorded twice as an incidental observations. A pair were recorded calling and in flight at Boleyboy in April indicating possible breeding here. A single bird was also observed in flight at Skreeny. Maps are presented in Appendix 1 Figure 5.6

Long-Eared Owl

Long eared owl were recorded twice as incidental observations. In June juvenile begging call were recorded on site at Faughery, confirming breeding here. Additionally, in June probable breeding was recorded off site at Raheelin with the presence of an alarm calling adult bird. Maps are presented in Appendix 1 Figure 5.7.

5. DISCUSSION

Ornithological surveys were conducted at the Lissinagroagh wind farm site from April to September 2024 inclusive. During these surveys, breeding territories were identified for hen harrier, red grouse, snipe, buzzard, long-eared owl and sparrowhawk.

Hen harrier were regularly recorded on site during surveys. In April three adult males, one immature male, and at least one female were observed engaging in display flights and courtship behaviour across the site in the vicinity of previously occupied territories/ nest sites.

To the south, on the 30th of May, a food pass was observed between an adult male and female, with the female dropping back with prey to the same location as the 2023 nest site. This confirmed nesting in that same location (Figure 6.0). Provisioning flights and food passes were observed in the following weeks. FVPs here indicated foraging centred around Faughery, the South of Saddle Hill, and in suitable habitat in the vicinity of the nest site at [REDACTED]. On the 27th of June, the male and female were observed at the nest site including provisioning flights and carrying prey. They were not observed again at this location despite extensive survey effort. It is likely this nest failed, and breeding was unsuccessful given the sharp drop off in observations.

To the north of site, in April and May a male hen harrier was recorded in flight displaying on a number of occasions on site at Killea and near the historic nest site at [REDACTED]. On the 30th of May, a food pass was observed between a male and a female at the same location. The female returned to the ground with prey confirming a nest approx. 100m from a historic nest site (last occupied in 2021) (Figure 6.0). FVPs at this nest recorded foraging northeast of Saddle Hill. This nest was particularly difficult to observe due to vegetation and topography.

Following the identification of the nest sites, FVPs were undertaken from early June and ended in July. These surveys aimed to identify where hen harrier were foraging. Observations at both nest sites sharply declined in late June indicating failure at both nests. There was no obvious reason for this. All other previously identified historic nest sites to the north and south of the site (i.e. to the north, on site at Killea, to the south, historic nest sites on site around Boleyboy, and off site at Curraghfore) were unoccupied.

Red grouse were classified as probable breeding (as evidenced by the presence of calling birds) on site and within 500m of the site at Saddle Hill, Dough Mountain and Killea. Snipe were also considered to be probable breeders with displaying birds recorded within 500m of the site at Saddle Hill, Faughery, Killea, Dough Mountain, and off site at Raheelin and Tawnyfeacle.

Merlin were recorded infrequently but consistently throughout the breeding season around the northern side of Dough Mountain. However, no breeding behaviour was recorded. Sparrowhawk were confirmed breeding in two locations off site at Raheelin and Tawnyfeacle. Long eared owl breeding was confirmed on site at Faughery and probable breeding off site at Raheelin. Buzzard were also confirmed breeding on site at Killea and Tawnylust, with probable breeding also recorded at Boleyboy.

Other birds of conservation concern recorded during the surveys were osprey, white-tailed eagle, and golden plover. These species were observed on site or within 500m of the site during the breeding season. There was a low frequency of observations, and no breeding behaviour was observed.

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APPENDIX 1

FIGURES



Map Legend

- Site Boundary
- 500m Radius of Site Boundary



Drawing Title	
Site Boundary (14T Layout)	
Project Title	
Lissinagroagh	
Drawn By	Checked By
AO'D	PC
Project No.	Drawing No.
200217	Fig 1.0
Scale	Date
1:35,000	16/12/24
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Map Legend

- Site Boundary
- 500m Radius of Site Boundary



Drawing Title

Vantage Point Locations

Project Title

Lissinagroagh

Drawn By

AO'D

Checked By

PC

Project No.

200217

Drawing No.

Fig 1.1

Scale

1:35,000

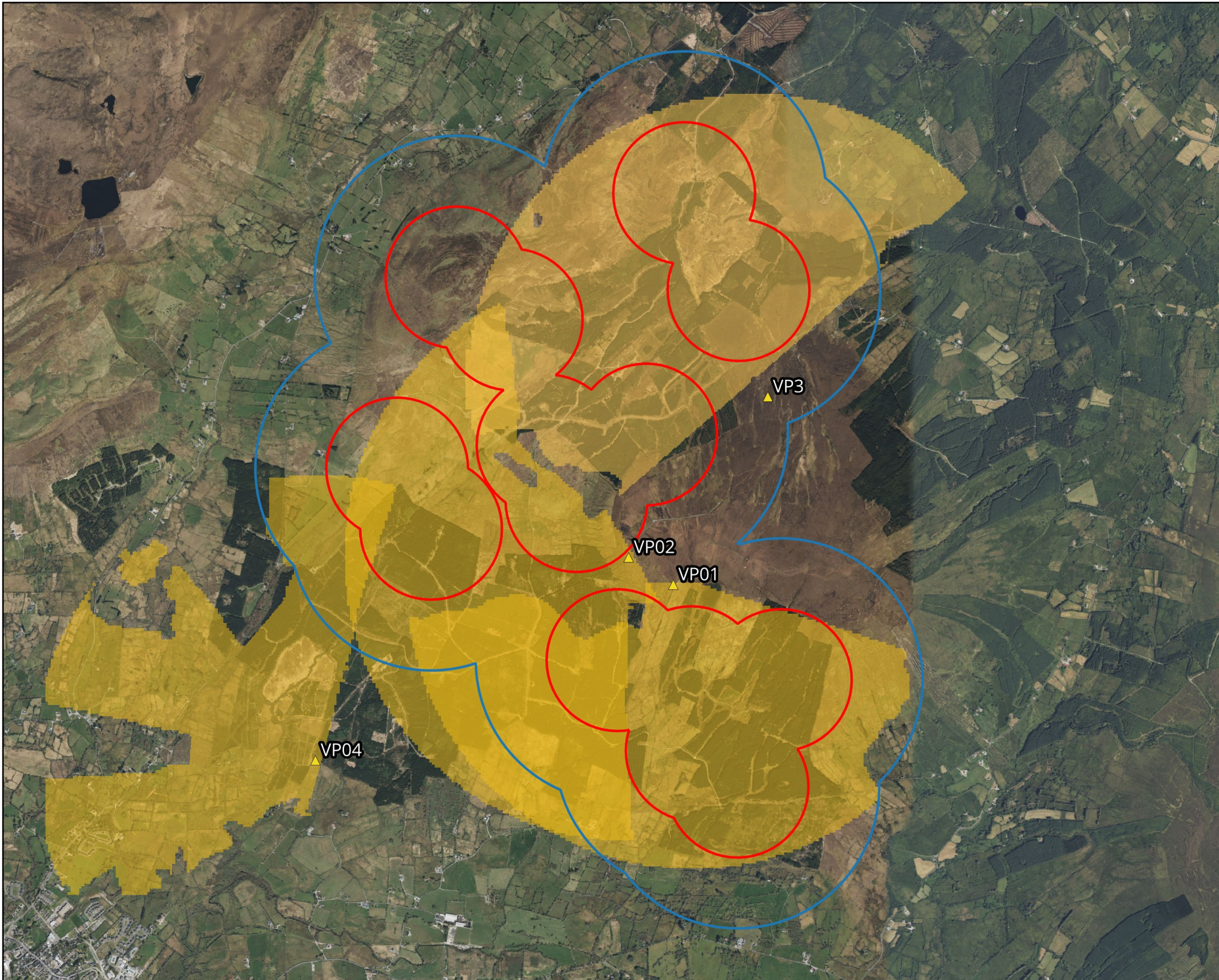
Date

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Map Legend

- Site Boundary
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Drawing Title

Vantage Point Viewsheds

Project Title

Lissinagroagh

Drawn By

AO'D

Checked By

PC

Project No.

200217

Drawing No.

Fig 1.2

Scale

1:35,000

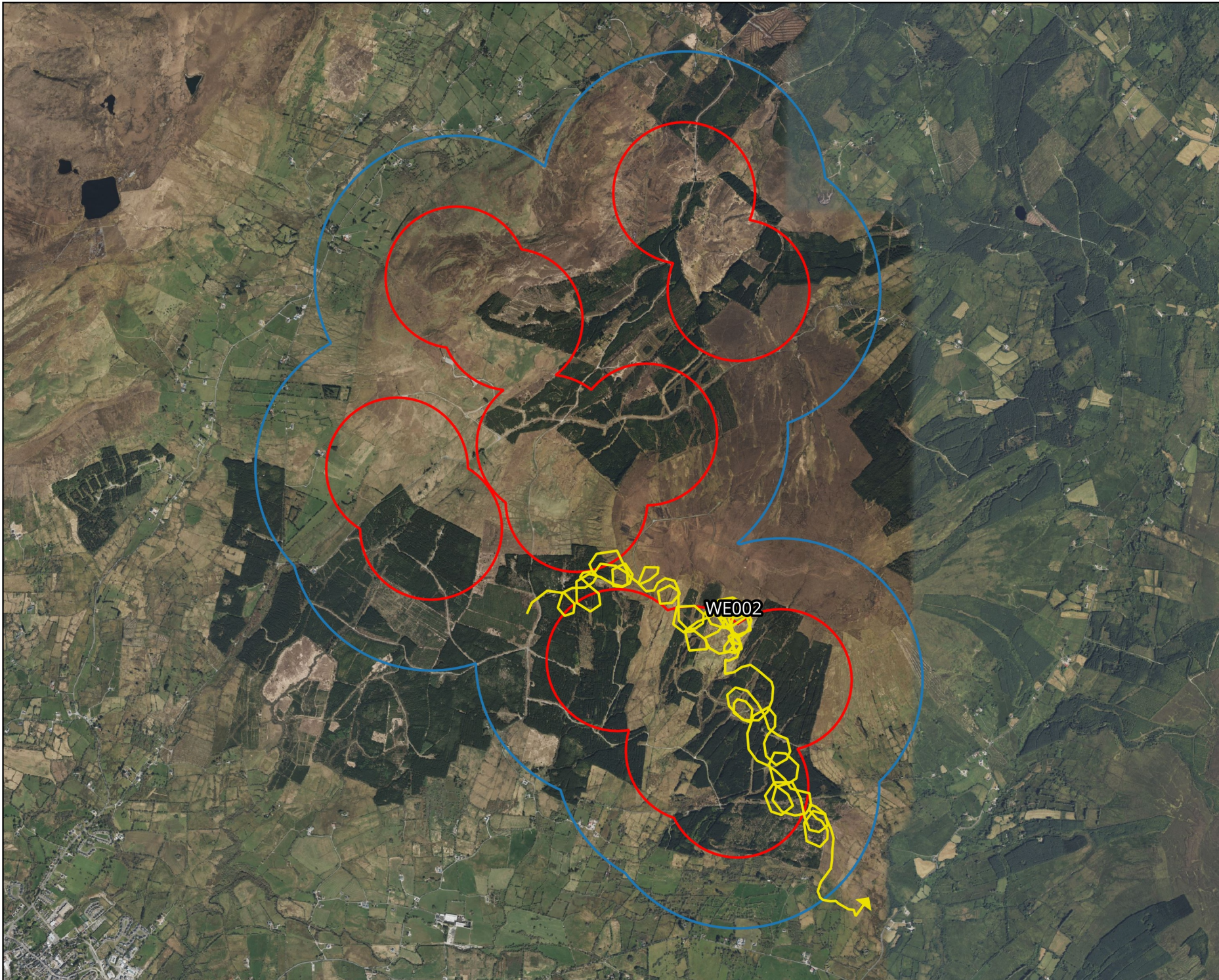
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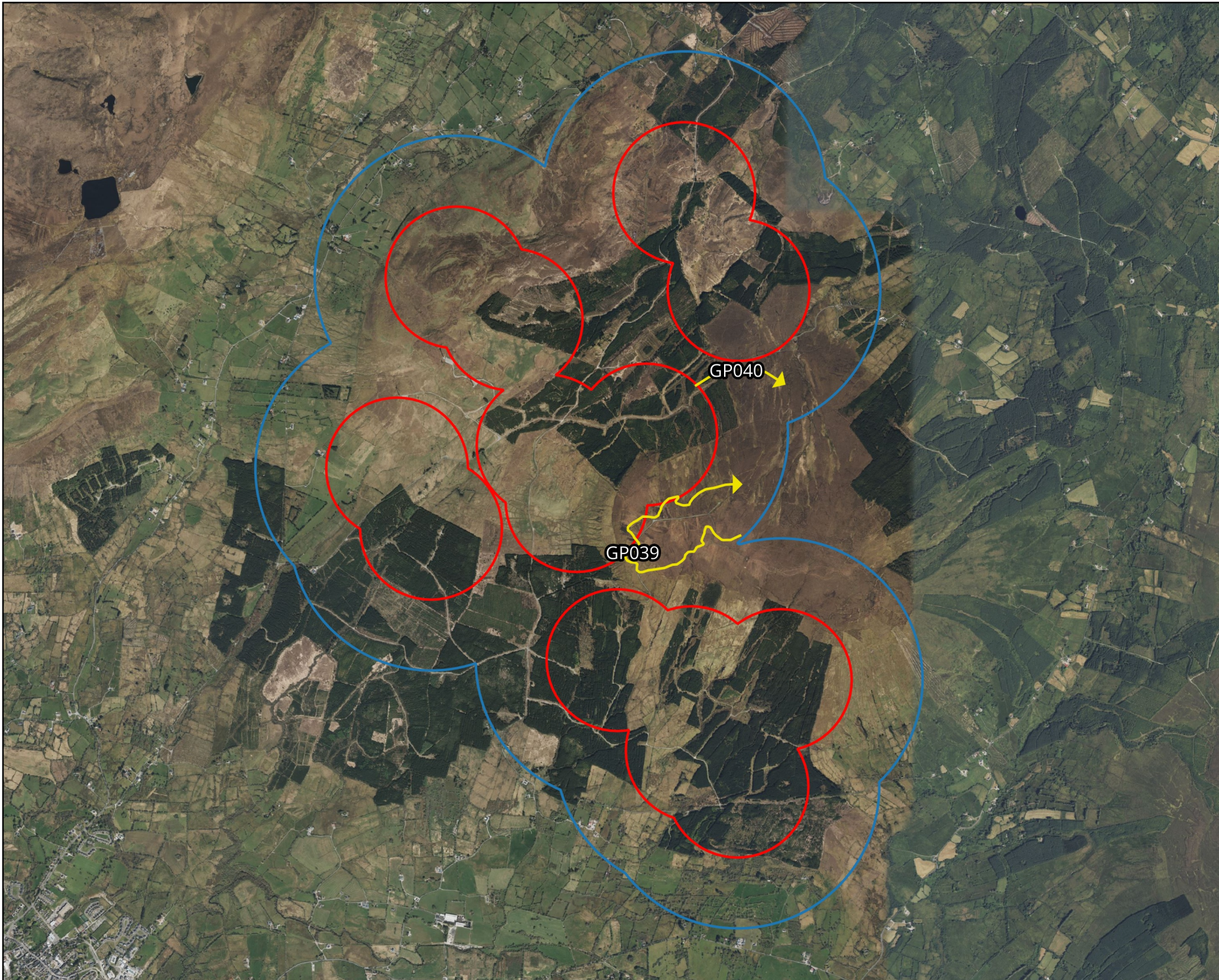
Map Legend

- Site Boundary
- 500m Radius of Site Boundary
- Observation Flightline



Drawing Title	
White Tailed Eagle Vantage Point Surveys	
Project Title	
Lissinagroagh	
Drawn By	Checked By
AO'D	PC
Project No.	Drawing No.
200217	Fig 1.3
Scale	Date
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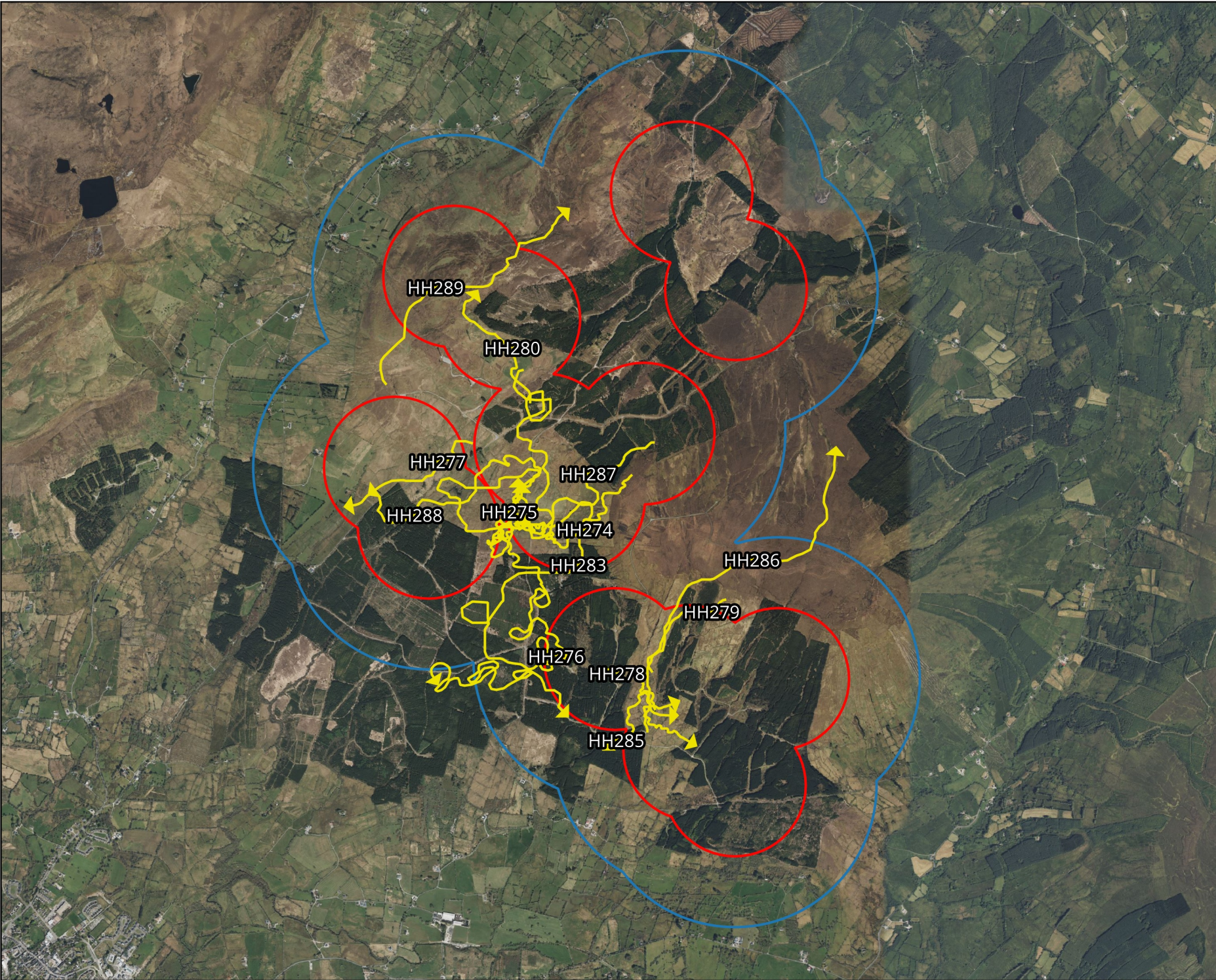
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- 500m Radius of Site Boundary
- Observation Flightline



Drawing Title	
Golden Plover Vantage Point Surveys	
Project Title	
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Drawn By	Checked By
AO'D	PC
Project No.	Drawing No.
200217	Fig 1.4
Scale	Date
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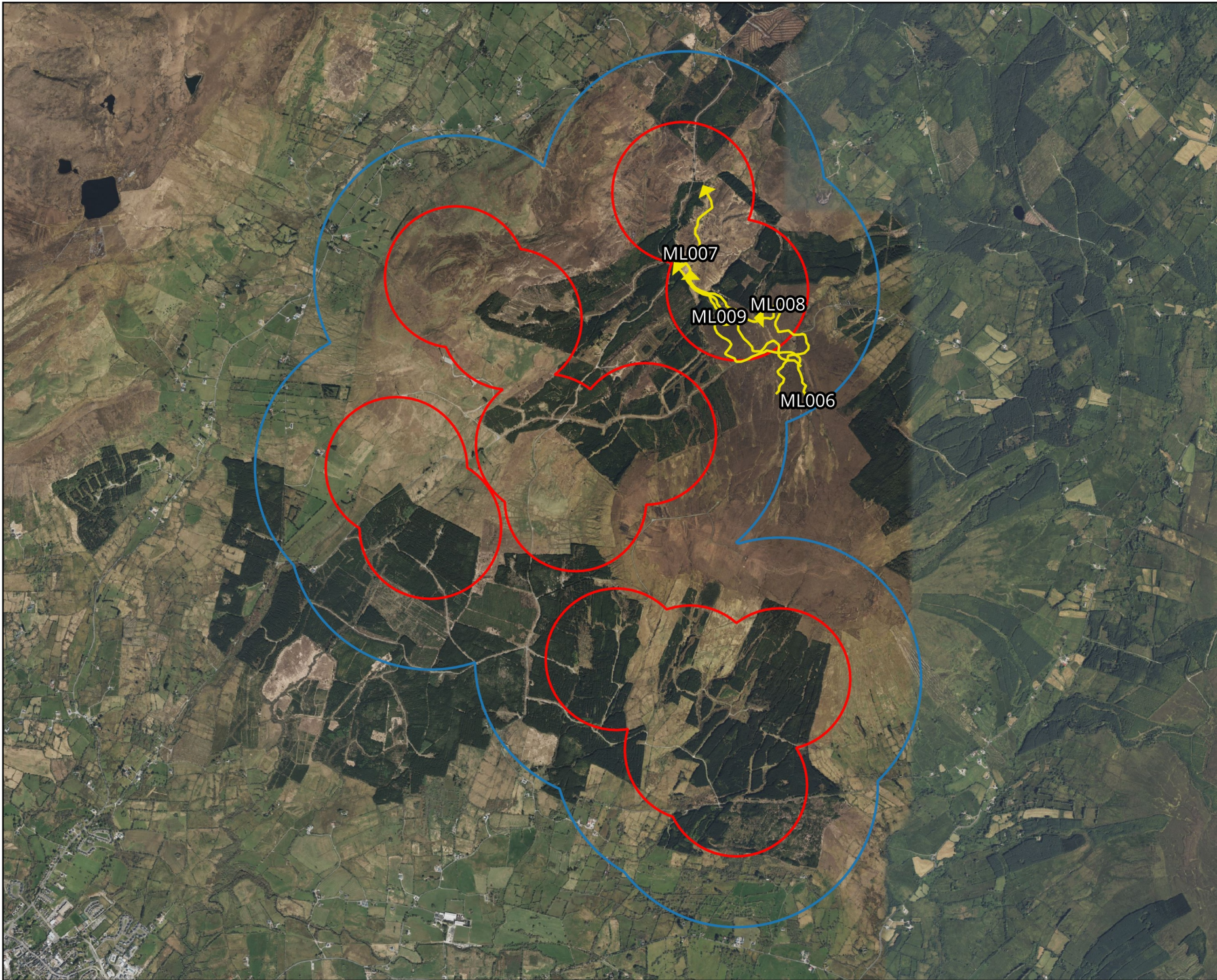


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 - Observation Flightline



Drawing Title	
Hen Harrier Vantage Point Surveys	
Project Title	
Lissinagroagh	
Drawn By	Checked By
AO'D	PC
Project No.	Drawing No.
200217	Fig 1.5
Scale	Date
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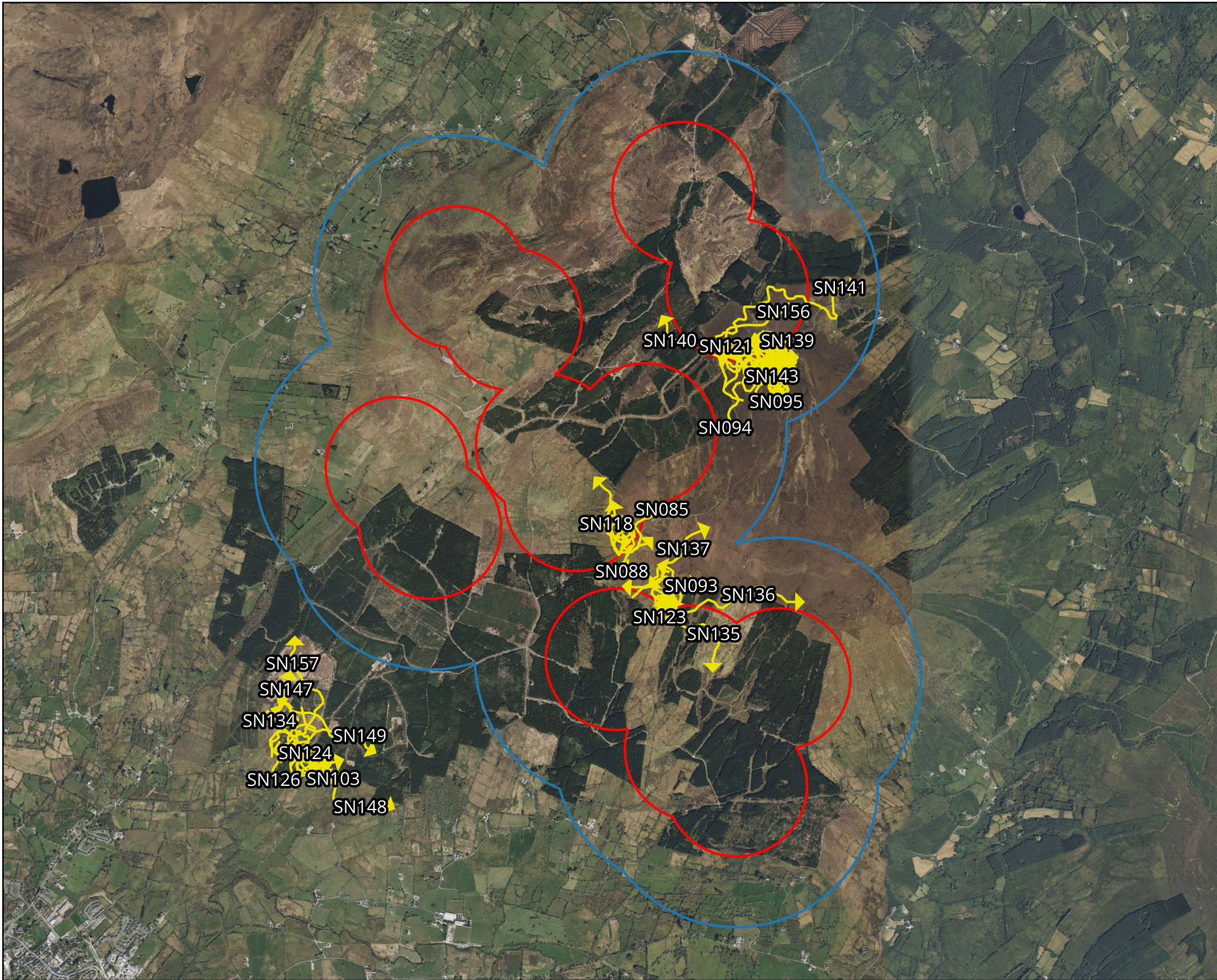
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- 500m Radius of Site Boundary
- Observation Flightline



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Project Title Lissinagroagh	
Drawn By AO'D	Checked By PC
Project No. 200217	Drawing No. Fig 1.6
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Map Legend

- Site Boundary
- 500m Radius of Site Boundary
- Observation Flightline



Drawing Title

Snipe
Vantage Point Surveys

Project Title

Lissinagroagh

Drawn By

AO'D

Checked By

PC

Project No.

200217

Drawing No.

Fig 1.7

Scale

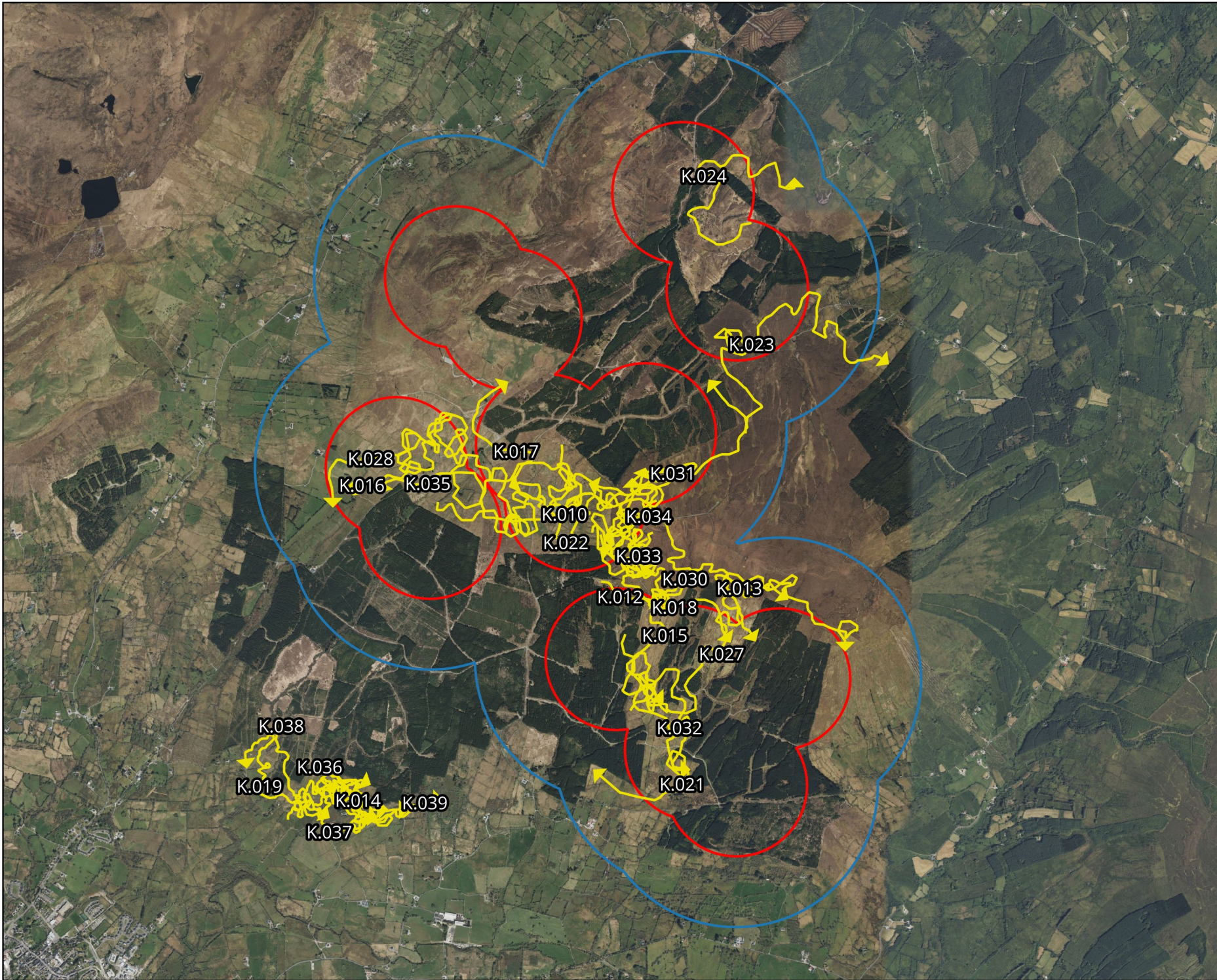
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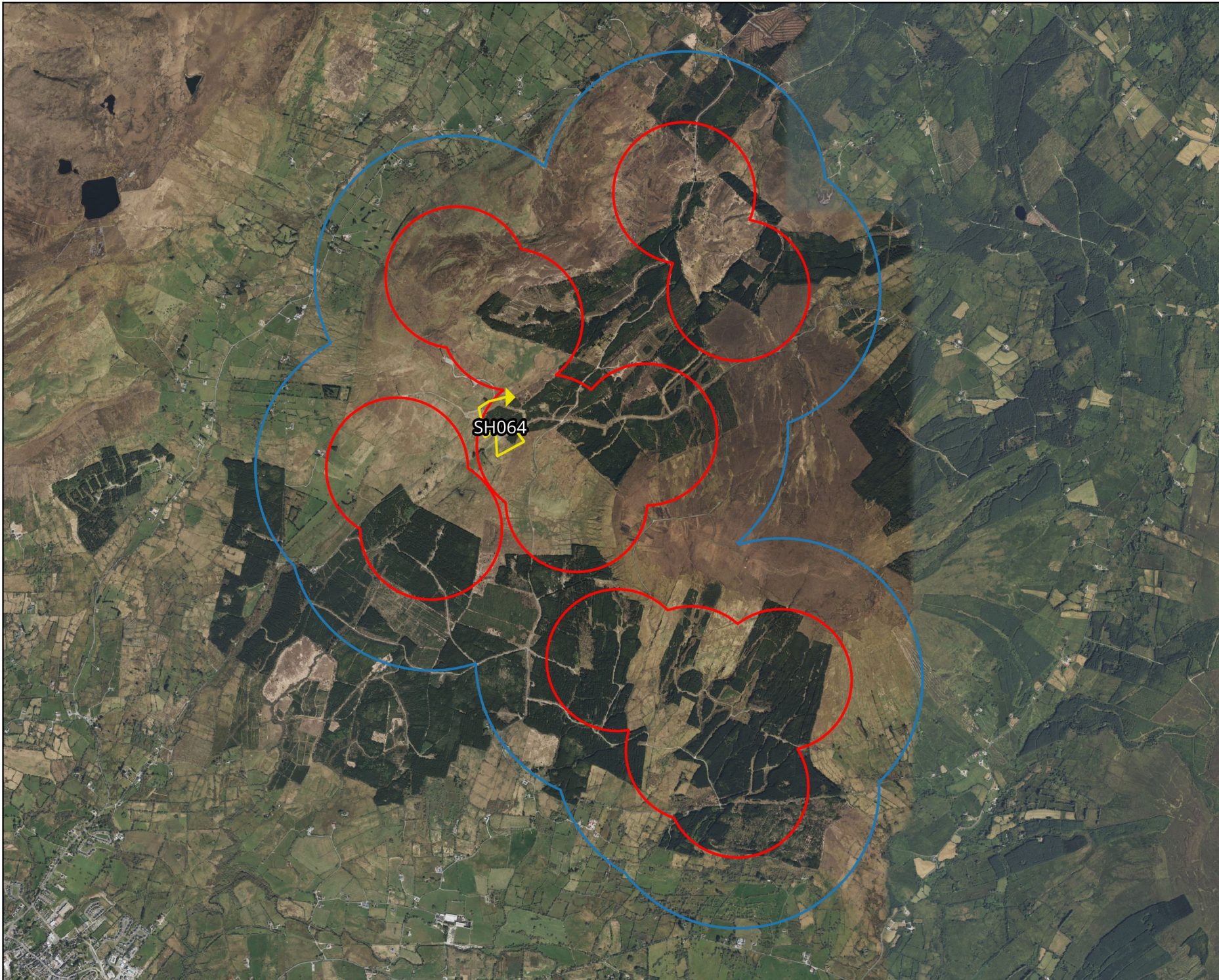


- Map Legend
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 - Observation Flightline



Drawing Title	
Kestrel Vantage Point Surveys	
Project Title	
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AO'D	PC
Project No.	Drawing No.
200217	Fig 1.8
Scale	Date
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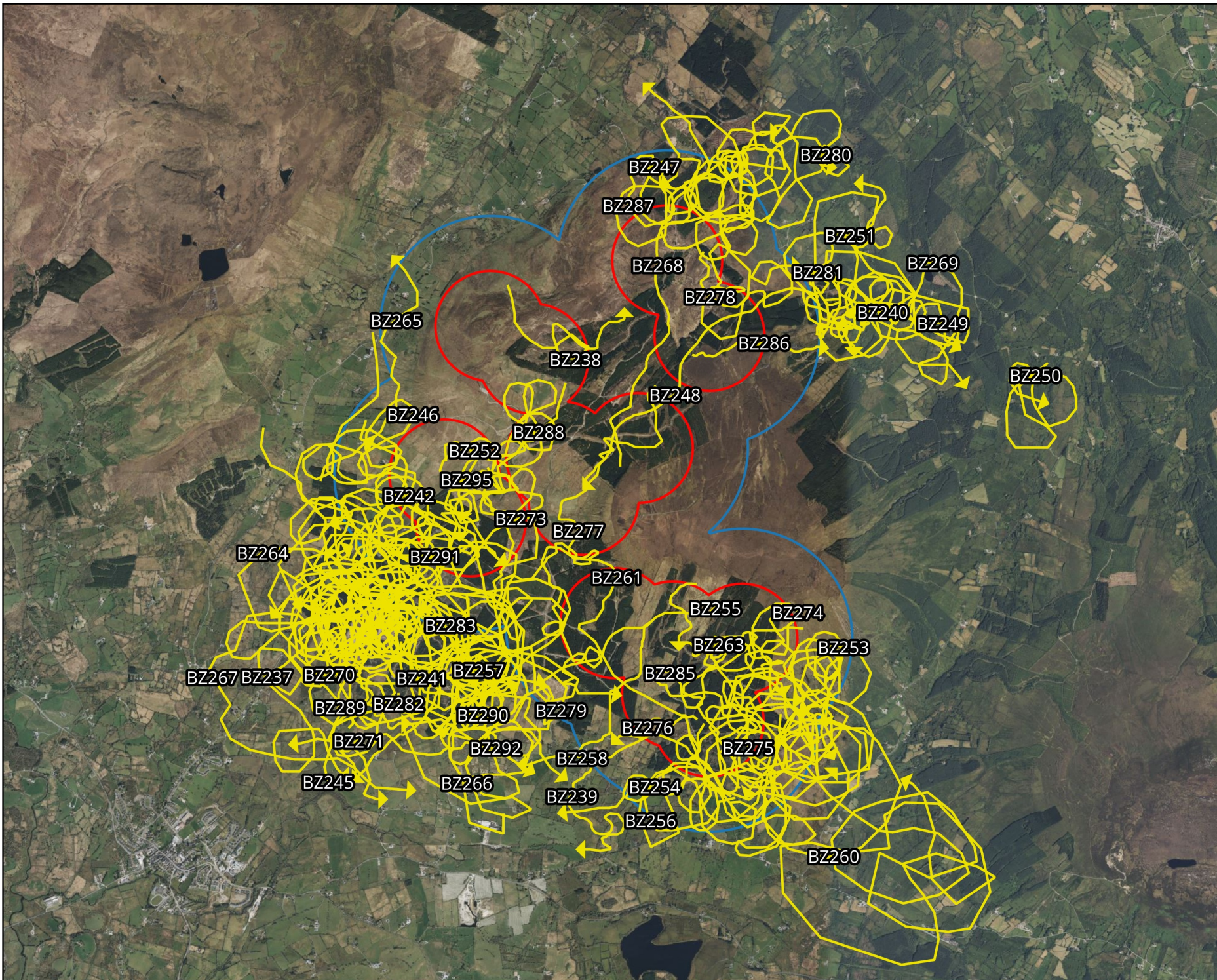
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- ➔ Observation Flightline



Drawing Title	
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Project Title	
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Drawn By	Checked By
AO'D	PC
Project No.	Drawing No.
200217	Fig 1.9
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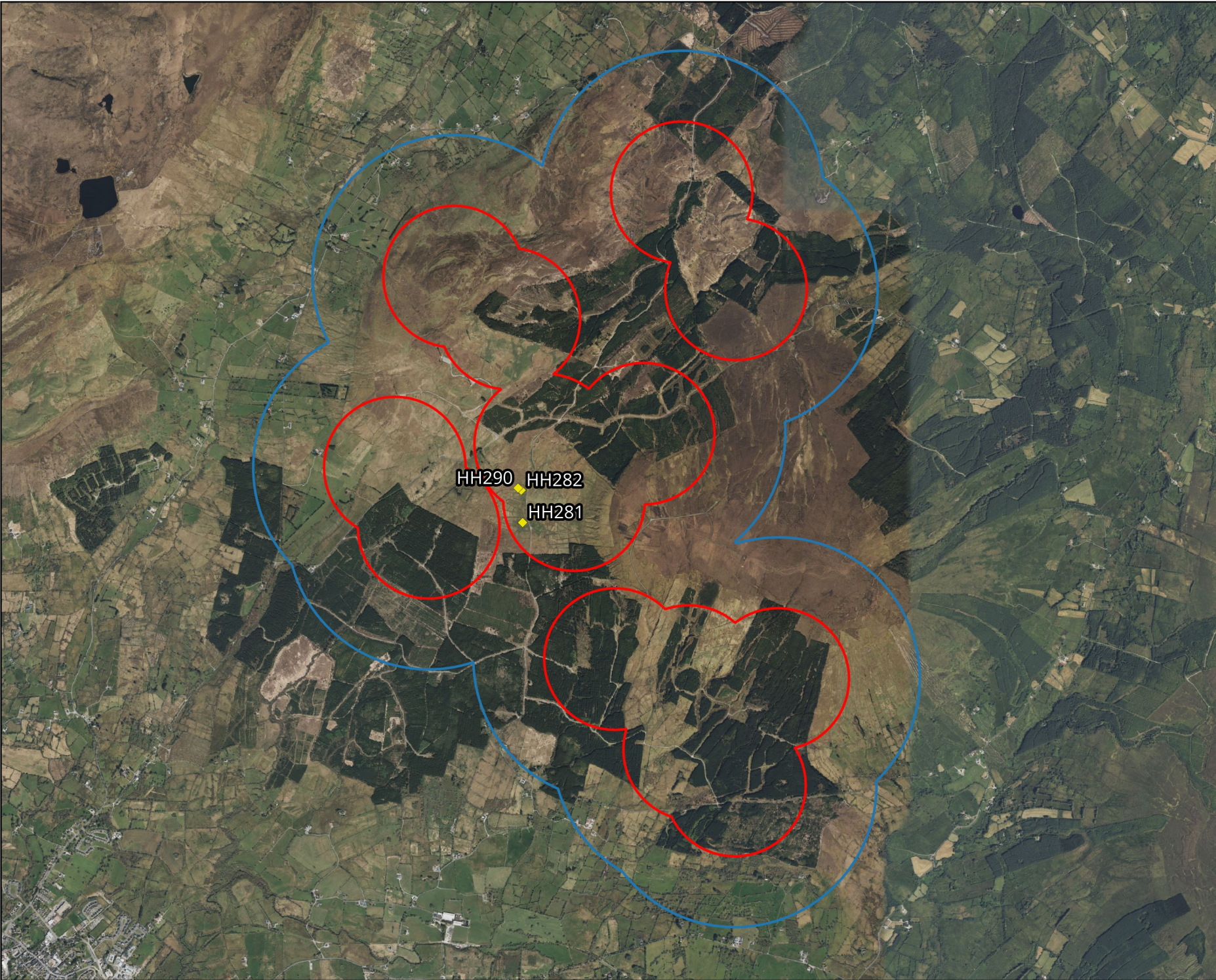
Map Legend

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- 500m Radius of Site Boundary
- Observation Flightline



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Project Title	
Lissinagroagh	
Drawn By	Checked By
AO'D	PC
Project No.	Drawing No.
200217	Fig 1.10
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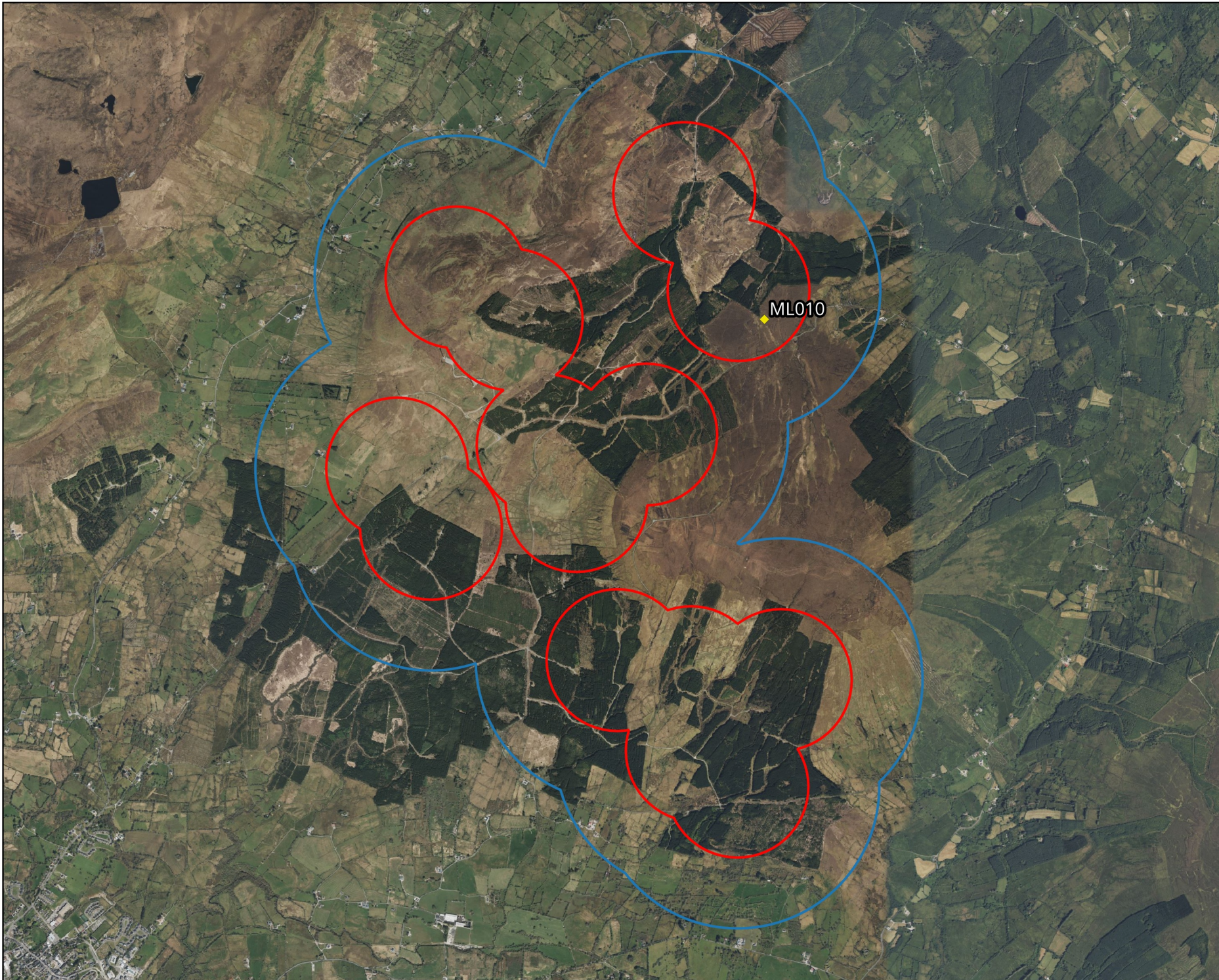
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HH290 HH282
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Drawn By AO'D	Checked By PC
Project No. 200217	Drawing No. Fig 2.0
Scale 1:35,000	Date 16/12/24
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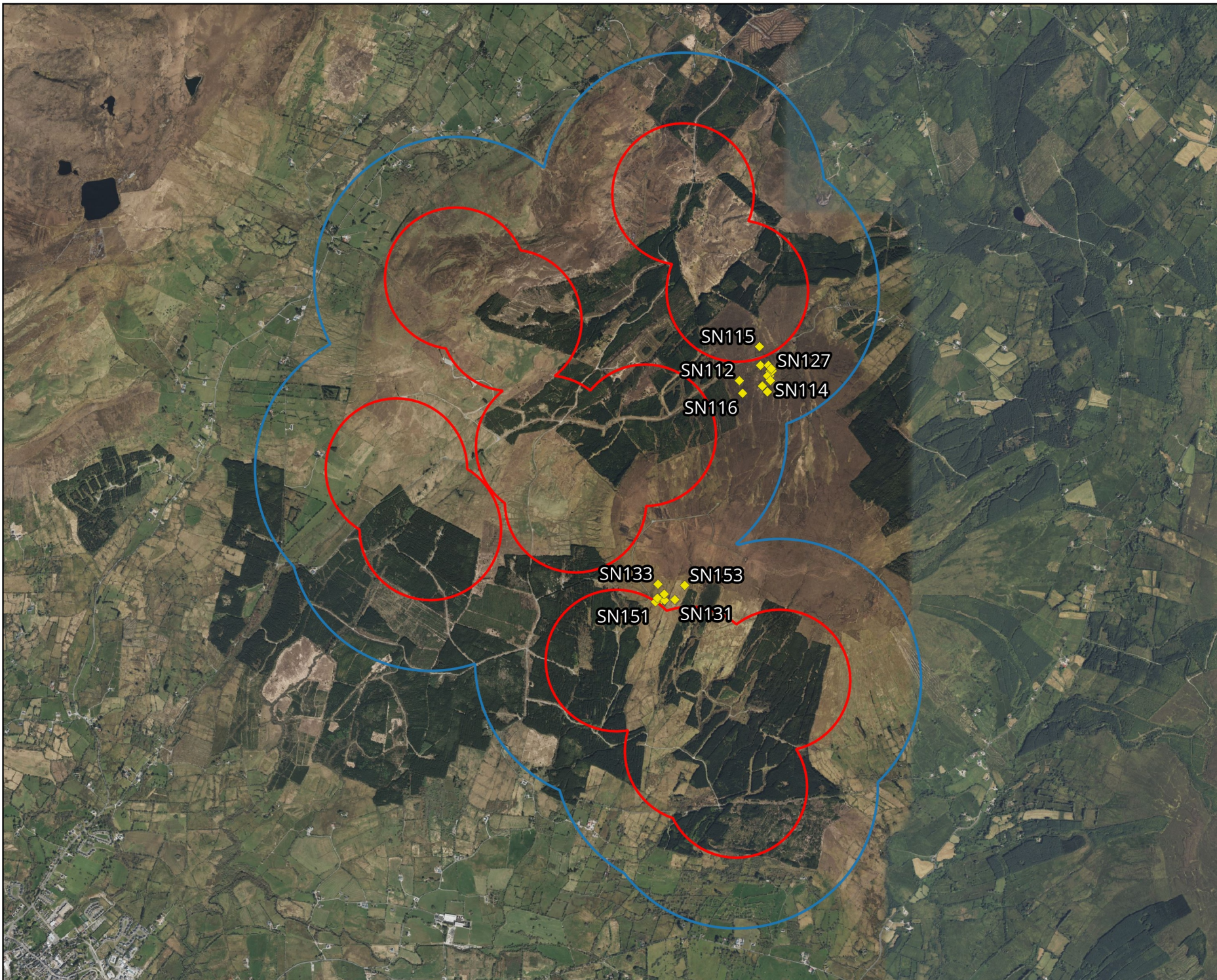
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- 500m Radius of Site Boundary
- ◆ Observation

ML010



Drawing Title Merlin Vantage Point Surveys (Non Flight)	
Project Title Lissinagroagh	
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Project No. 200217	Drawing No. Fig 2.1
Scale 1:35,000	Date 16/12/24
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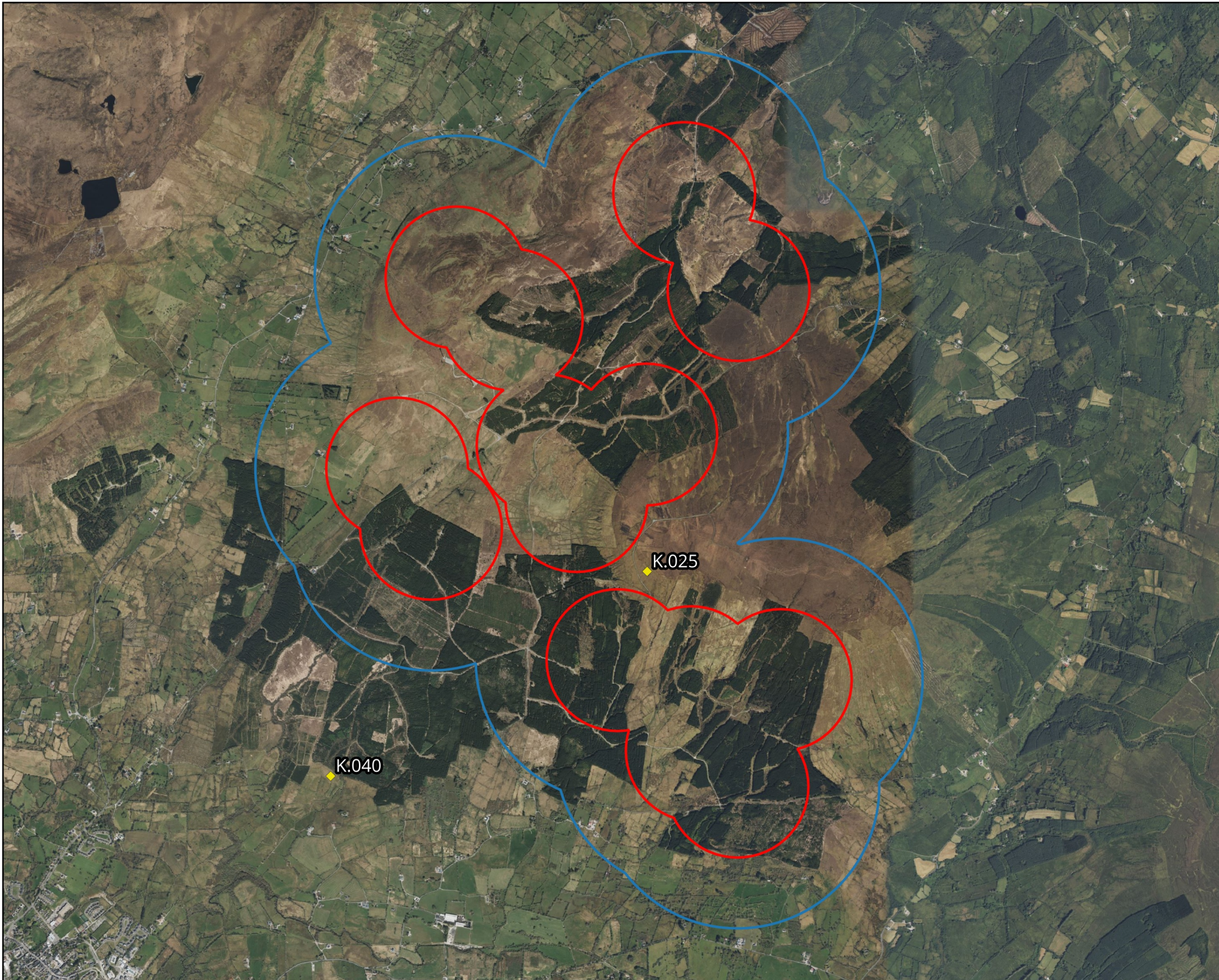
Map Legend

- Site Boundary
- 500m Radius of Site Boundary
- ◆ Observation



Drawing Title	
Snipe Vantage Point Surveys (Non Flight)	
Project Title	
Lissinagroagh	
Drawn By	Checked By
AO'D	PC
Project No.	Drawing No.
200217	Fig 2.2
Scale	Date
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Map Legend

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- ◆ Observation



Drawing Title

Kestrel
Vantage Point Surveys
(Non Flight)

Project Title

Lissinagroagh

Drawn By

AO'D

Checked By

PC

Project No.

200217

Drawing No.

Fig 2.3

Scale

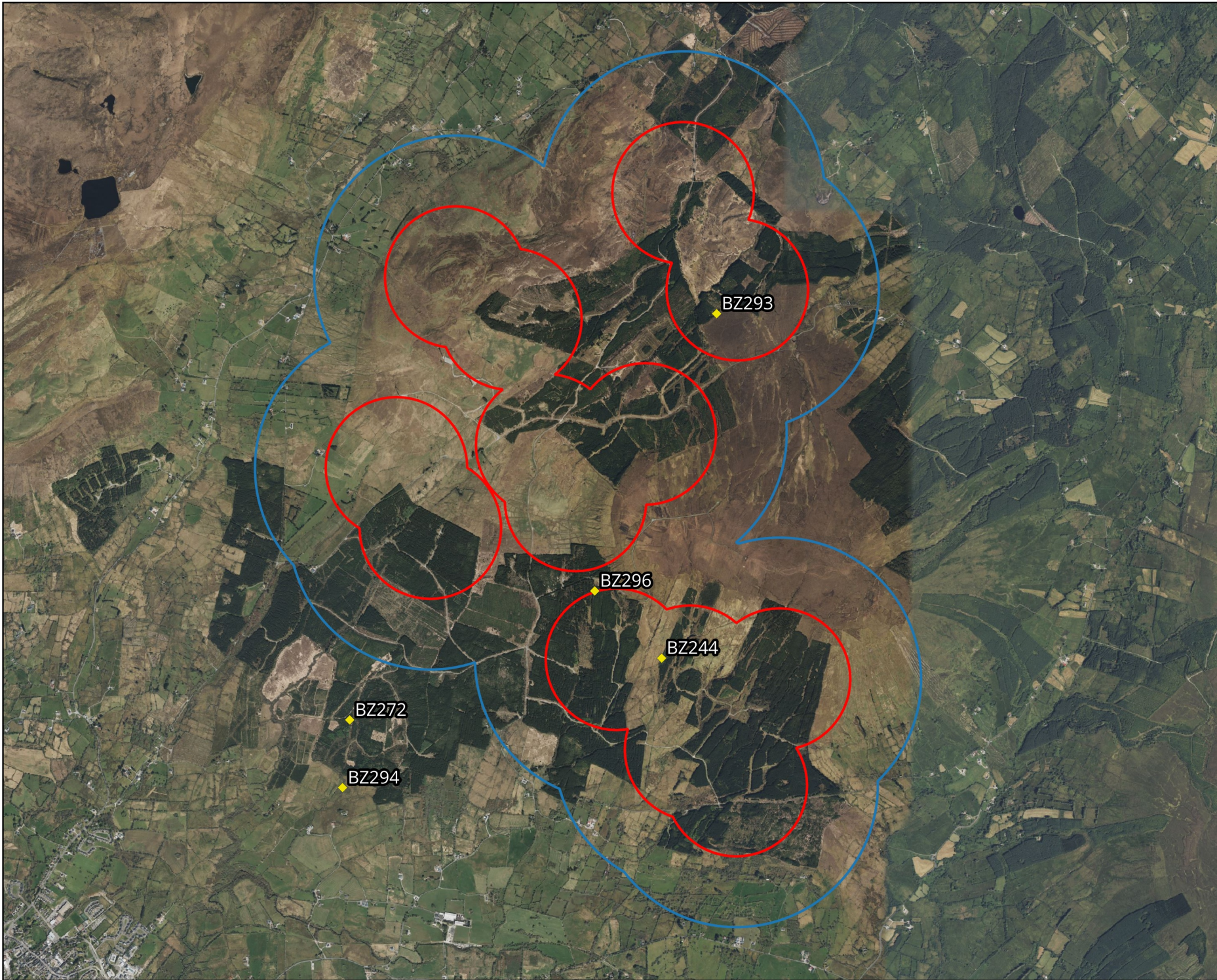
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Date

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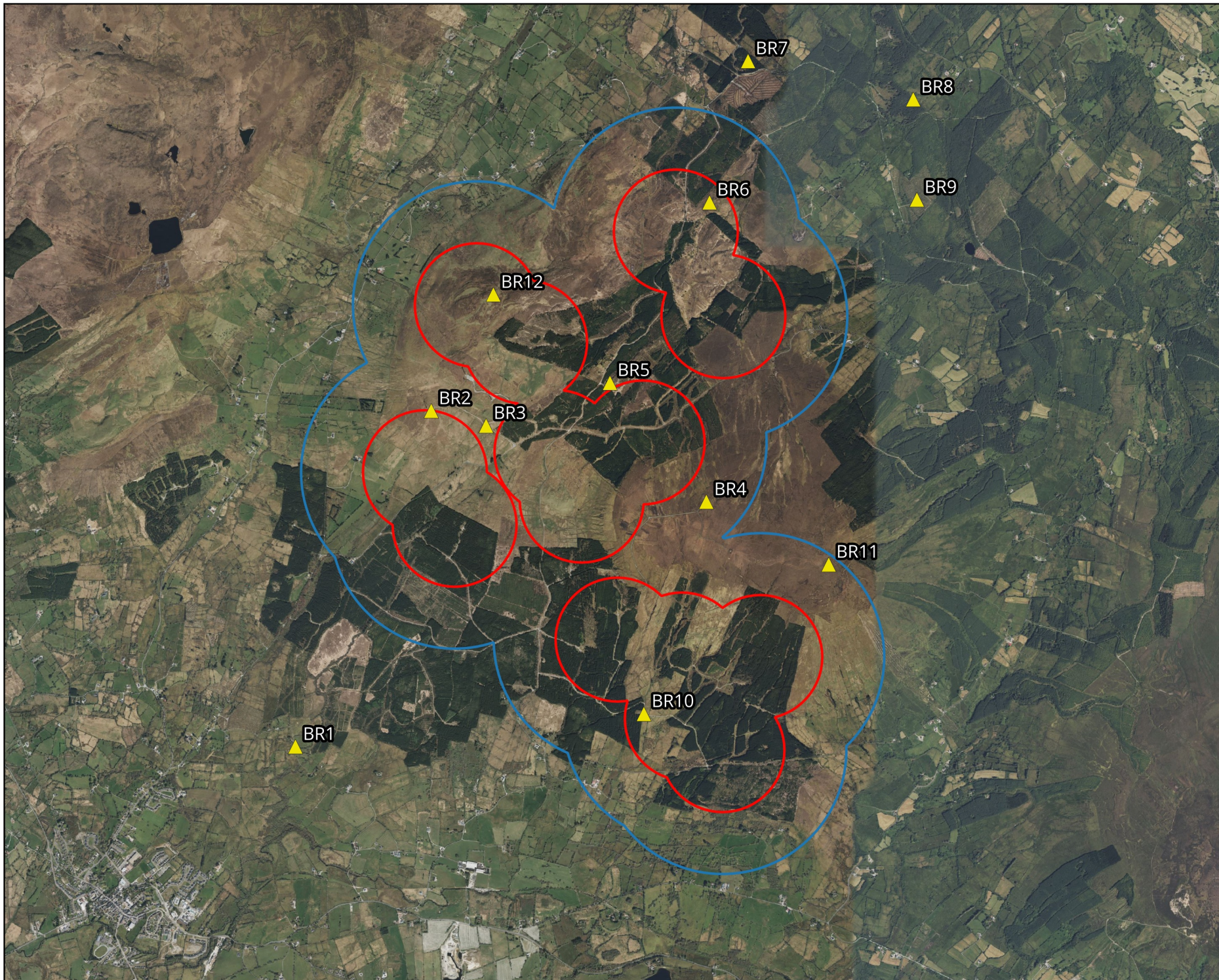
Map Legend

- Site Boundary
- 500m Radius of Site Boundary
- ◆ Observation



Drawing Title Buzzard Vantage Point Surveys (Non Flight)	
Project Title Lissinagroagh	
Drawn By AO'D	Checked By PC
Project No. 200217	Drawing No. Fig 2.4
Scale 1:35,000	Date 16/12/24
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Map Legend

- Site Boundary
- 500m Radius of Site Boundary
- ▲ BRVP Location



Drawing Title

Breeding Raptor
VP Locations

Project Title

Lissinagroagh

Drawn By

AO'D

Checked By

PC

Project No.

200217

Drawing No.

Fig 3.0

Scale

1:40,000

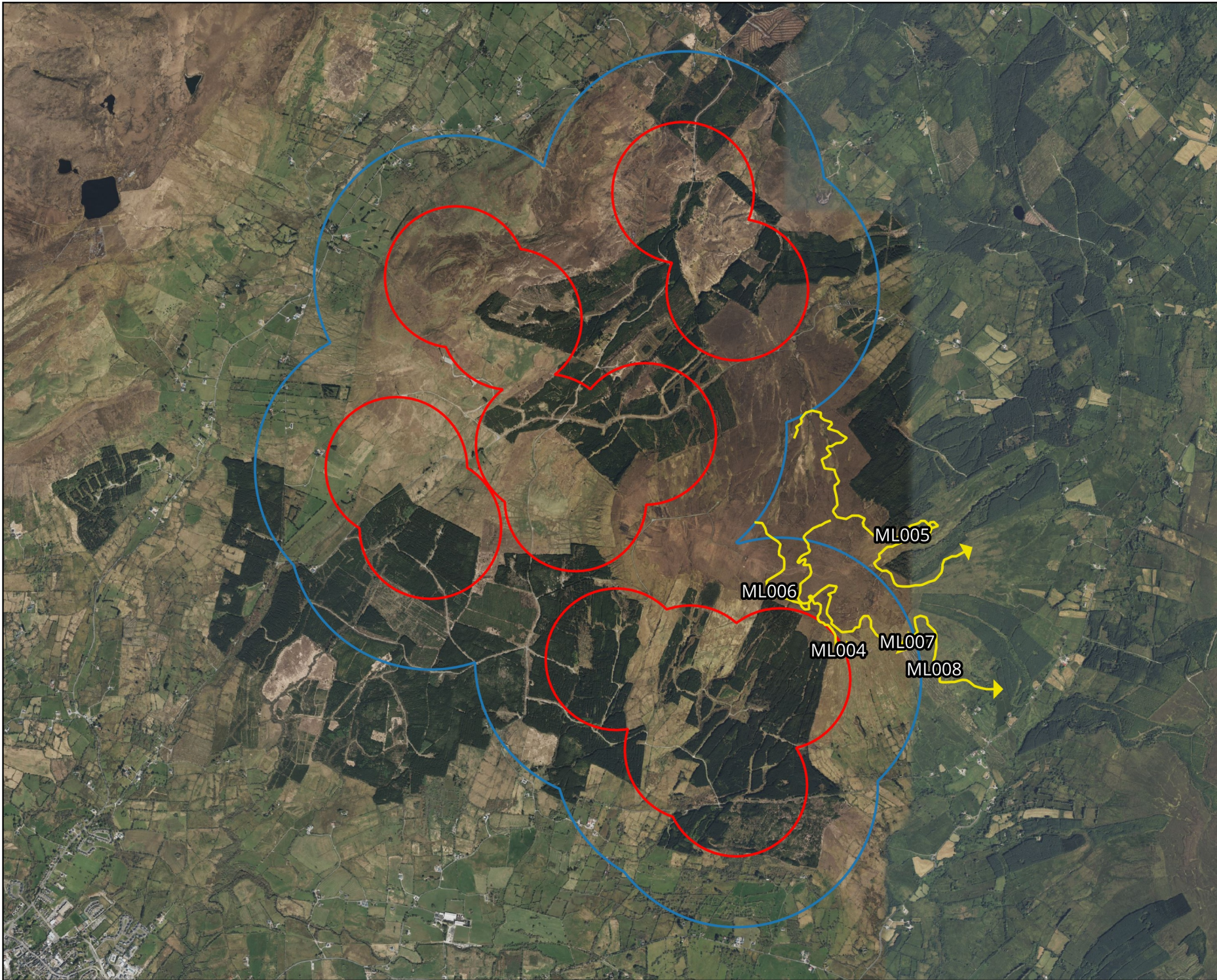
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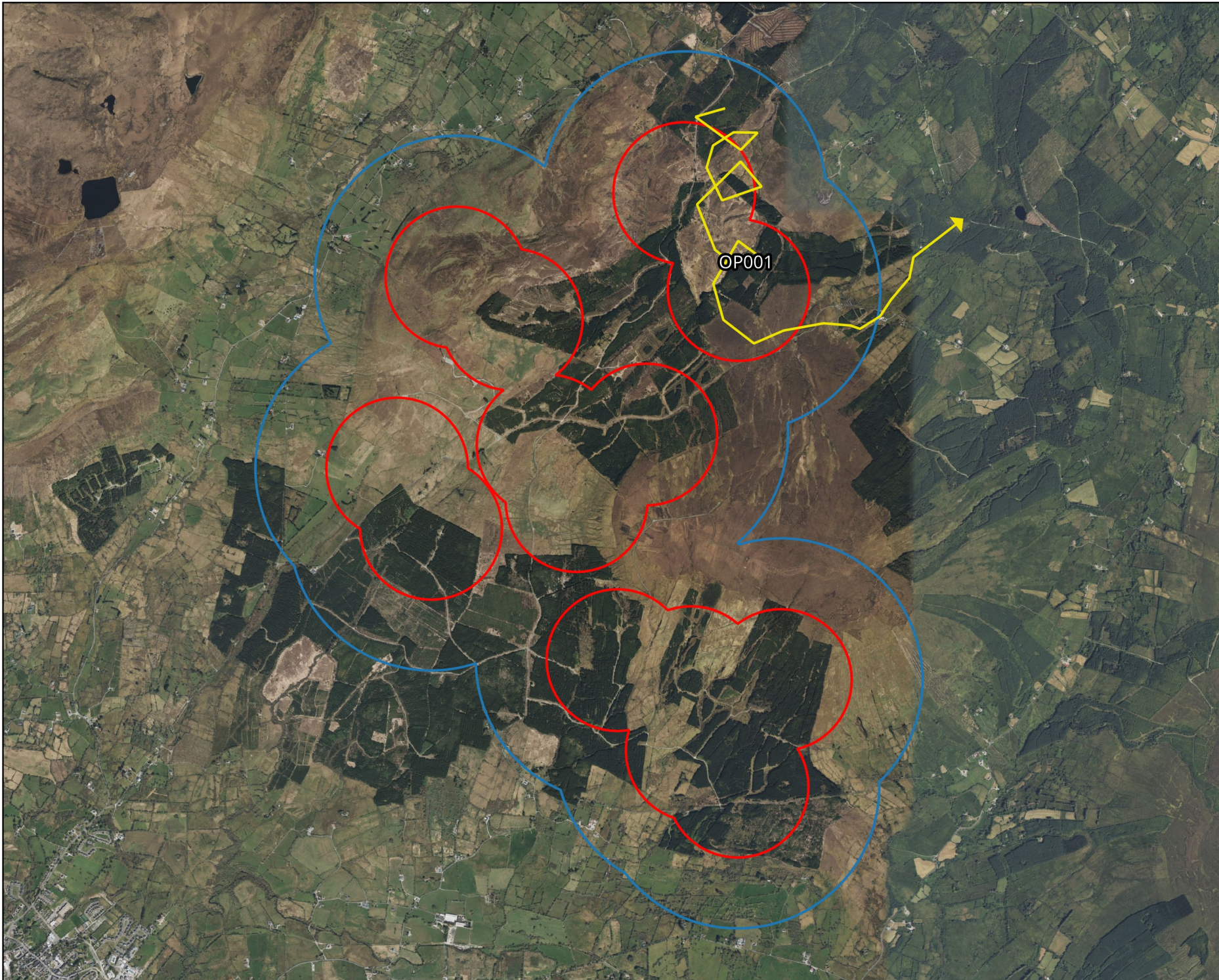
Map Legend

- Site Boundary
- 500m Radius of Site Boundary
- Observation Flightline



Drawing Title	
Merlin Breeding Raptor Surveys	
Project Title	
Lissinagroagh	
Drawn By	Checked By
AO'D	PC
Project No.	Drawing No.
200217	Fig 3.1
Scale	Date
1:35,000	16/12/24
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Map Legend

- Site Boundary
- 500m Radius of Site Boundary
- Observation Flightline



Drawing Title

Osprey
Breeding Raptor Surveys

Project Title

Lissinagroagh

Drawn By

AO'D

Checked By

PC

Project No.

200217

Drawing No.

Fig 3.2

Scale

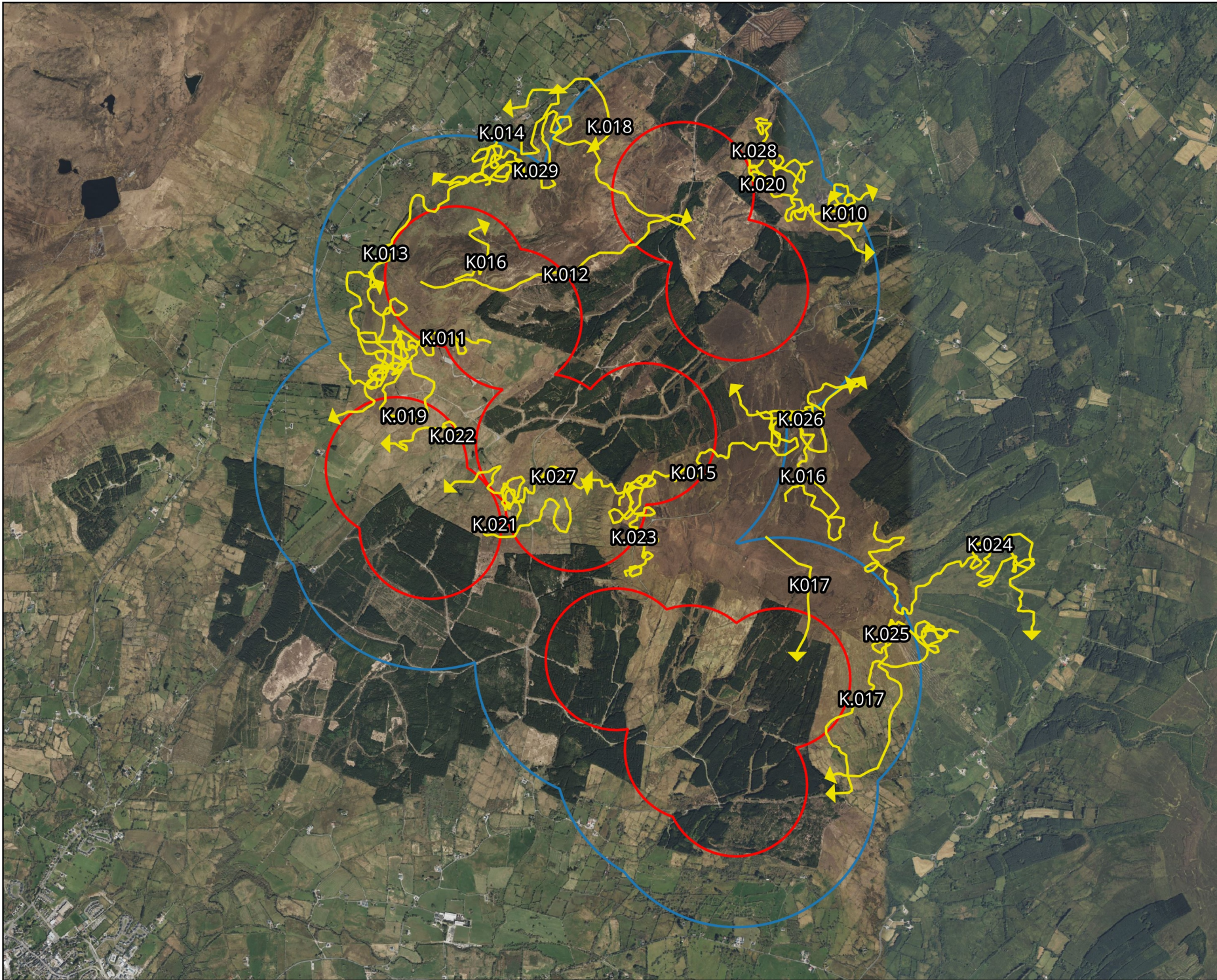
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Map Legend

- Site Boundary
- 500m Radius of Site Boundary
- Observation Flightline



Drawing Title

Kestrel
Breeding Raptor Surveys

Project Title

Lissinagroagh

Drawn By

AO'D

Checked By

PC

Project No.

200217

Drawing No.

Fig 3.3

Scale

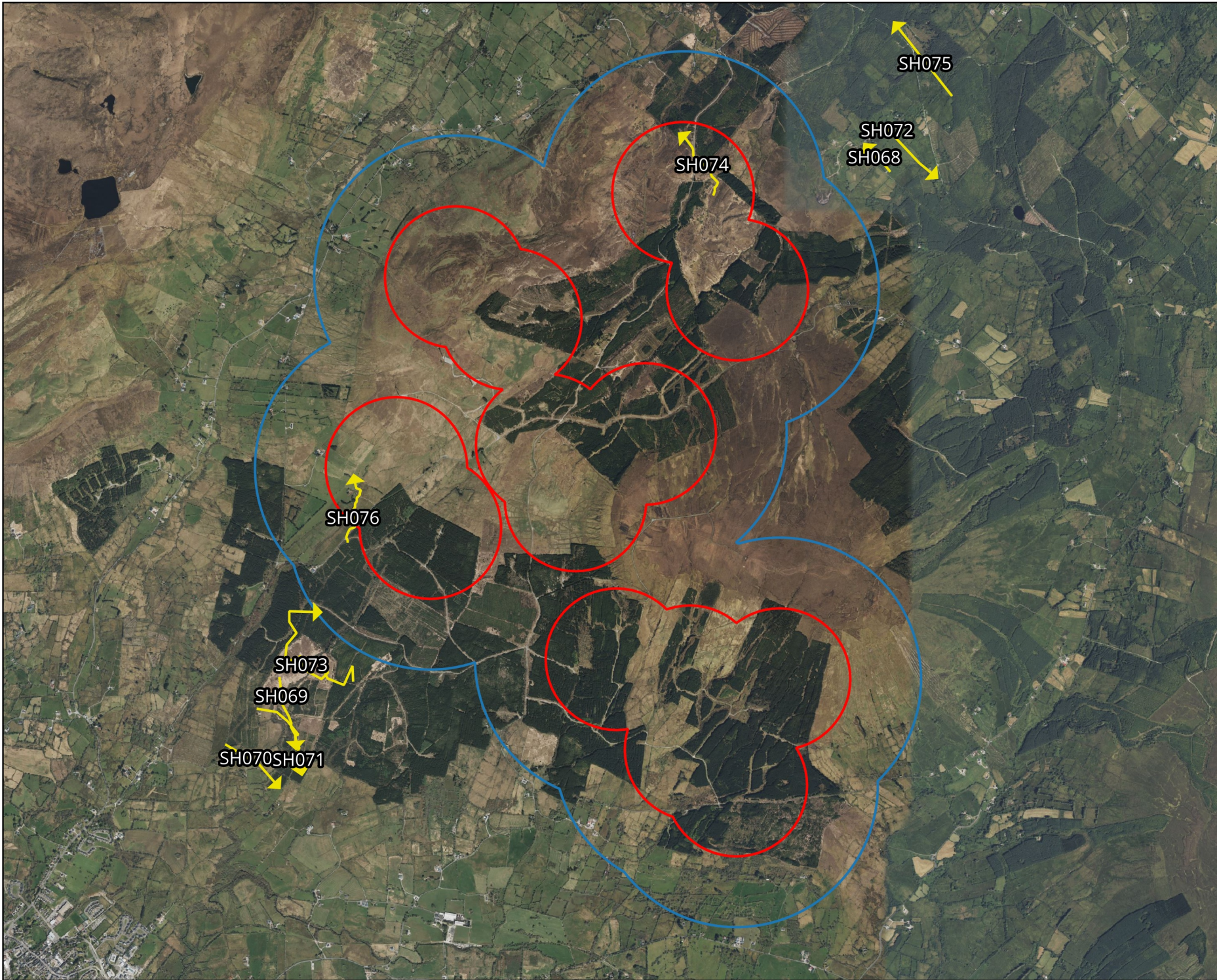
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Map Legend

- Site Boundary
- 500m Radius of Site Boundary
- ↗ Observation Flightline



Drawing Title

Sparrowhawk Breeding Raptor Surveys

Project Title

Lissinagroagh

Drawn By

AO'D

Checked By

PC

Project No.

200217

Drawing No.

Fig 3.4

Scale

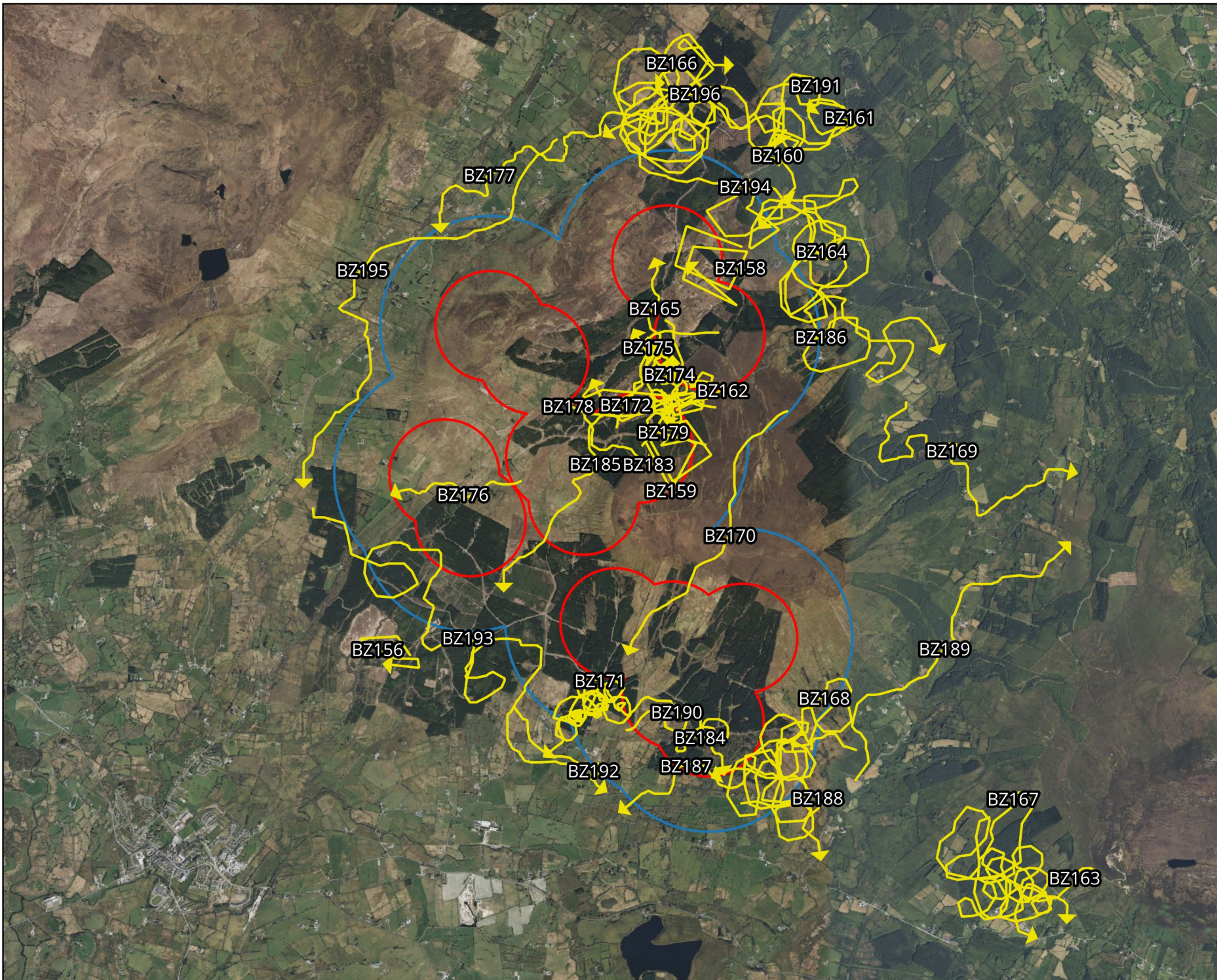
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Map Legend

- Site Boundary
- 500m Radius of Site Boundary
- Observation Flightline

MOZ

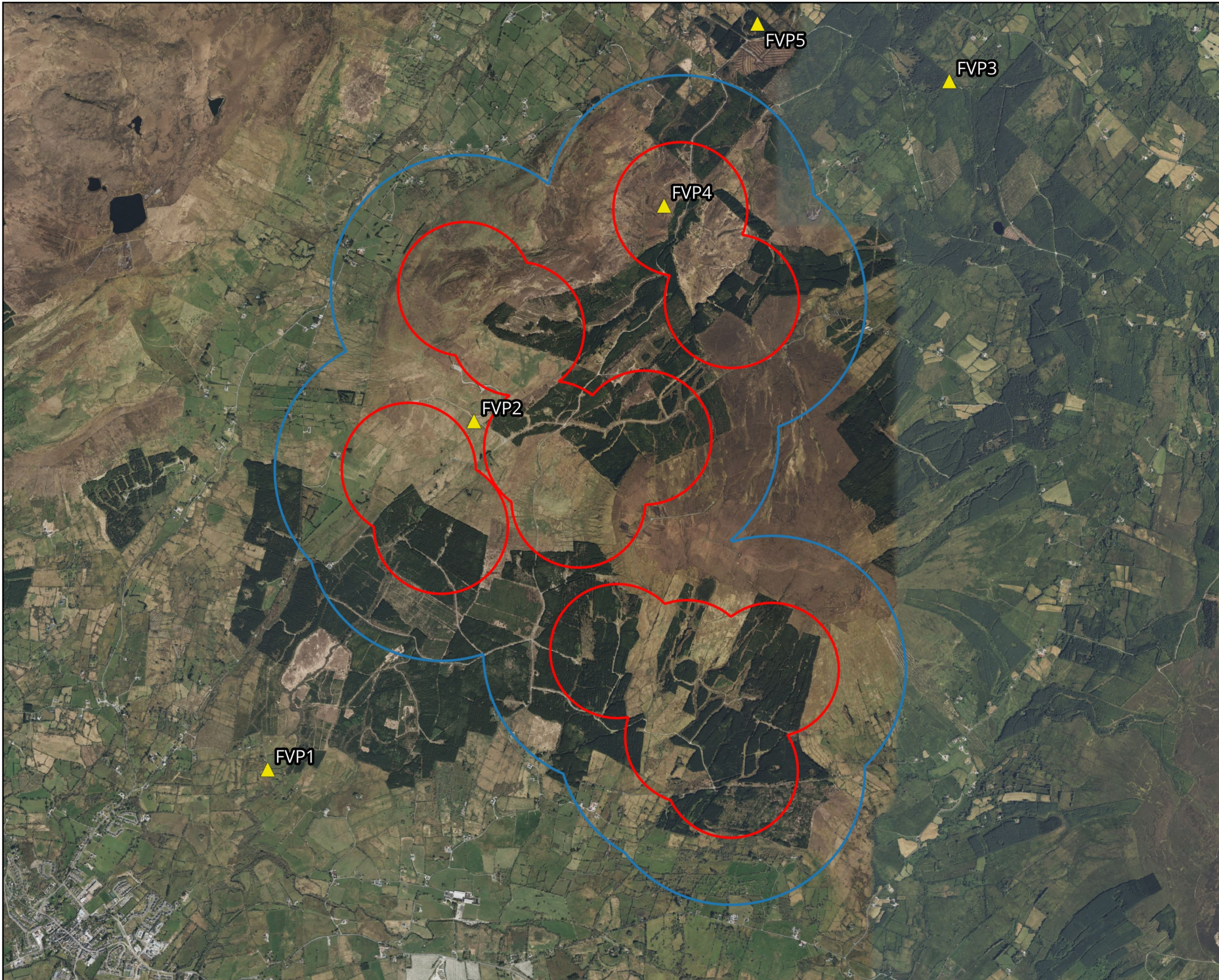
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Project Title: Lissinagroagh

Drawn By: AO'D	Checked By: PC
Project No.: 200217	Drawing No.: Fig 3.5
Scale: 1:45,000	Date: 16/12/24

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Map Legend

- Site Boundary
- 500m Radius of Site Boundary
- ▲ FVP Location



Drawing Title

Foraging VP Locations

Project Title

Lissinagroagh

Drawn By

AO'D

Checked By

PC

Project No.

200217

Drawing No.

Fig 4.0

Scale

1:37,000

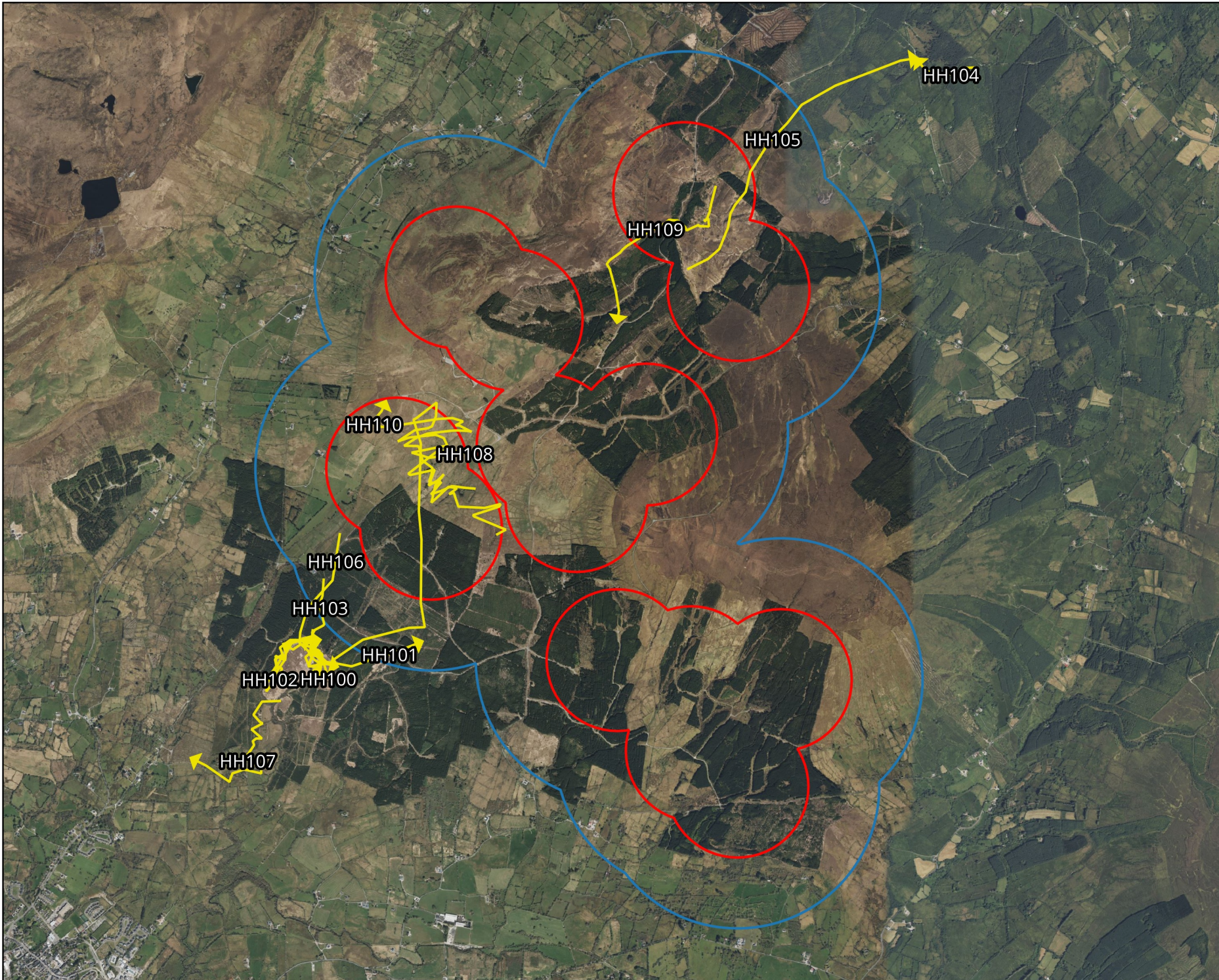
Date

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Map Legend

- Site Boundary
- 500m Radius of Site Boundary
- Observation Flightline



Drawing Title

Hen Harrier Foraging VP Surveys

Project Title

Lissinagroagh

Drawn By

AO'D

Checked By

PC

Project No.

200217

Drawing No.

Fig 4.1

Scale

1:35,000

Date

16/12/24



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Map Legend

- Site Boundary
- 500m Radius of Site Boundary
- Observation Flightline

GP004



Drawing Title

Golden Plover
Incidental Observations

Project Title

Lissinagroagh

Drawn By

AO'D

Checked By

PC

Project No.

200217

Drawing No.

Fig 5.0

Scale

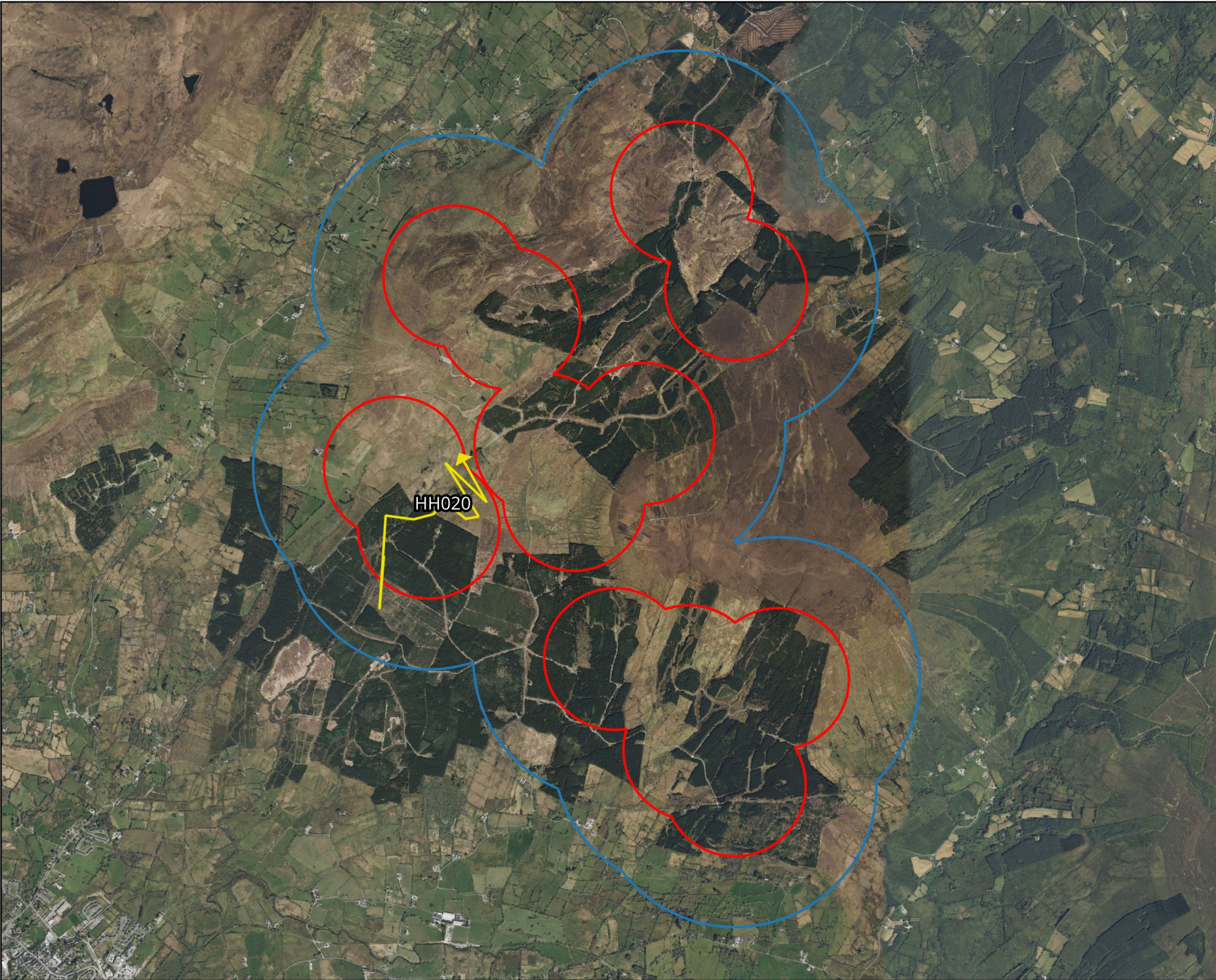
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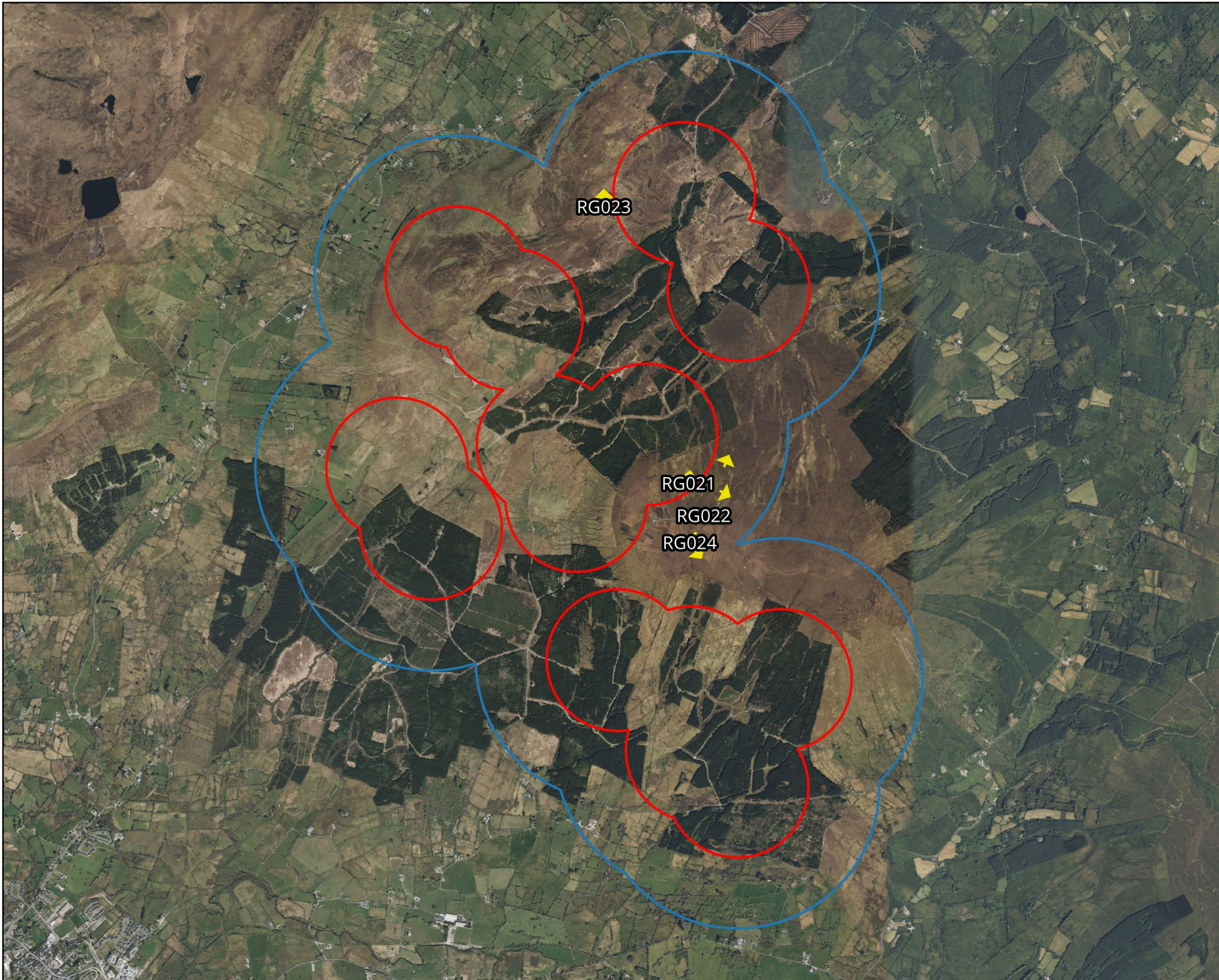


- Map Legend
- Site Boundary
 - 500m Radius of Site Boundary
 - Observation Flightline

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<p>Drawing Title</p> <p>Hen Harrier Incidental Observations</p>	
<p>Project Title</p> <p>Lissinagroagh</p>	
<p>Drawn By</p> <p>AO'D</p>	<p>Checked By</p> <p>PC</p>
<p>Project No.</p> <p>200217</p>	<p>Drawing No.</p> <p>Fig 5.1</p>
<p>Scale</p> <p>1:35,000</p>	<p>Date</p> <p>16/12/24</p>
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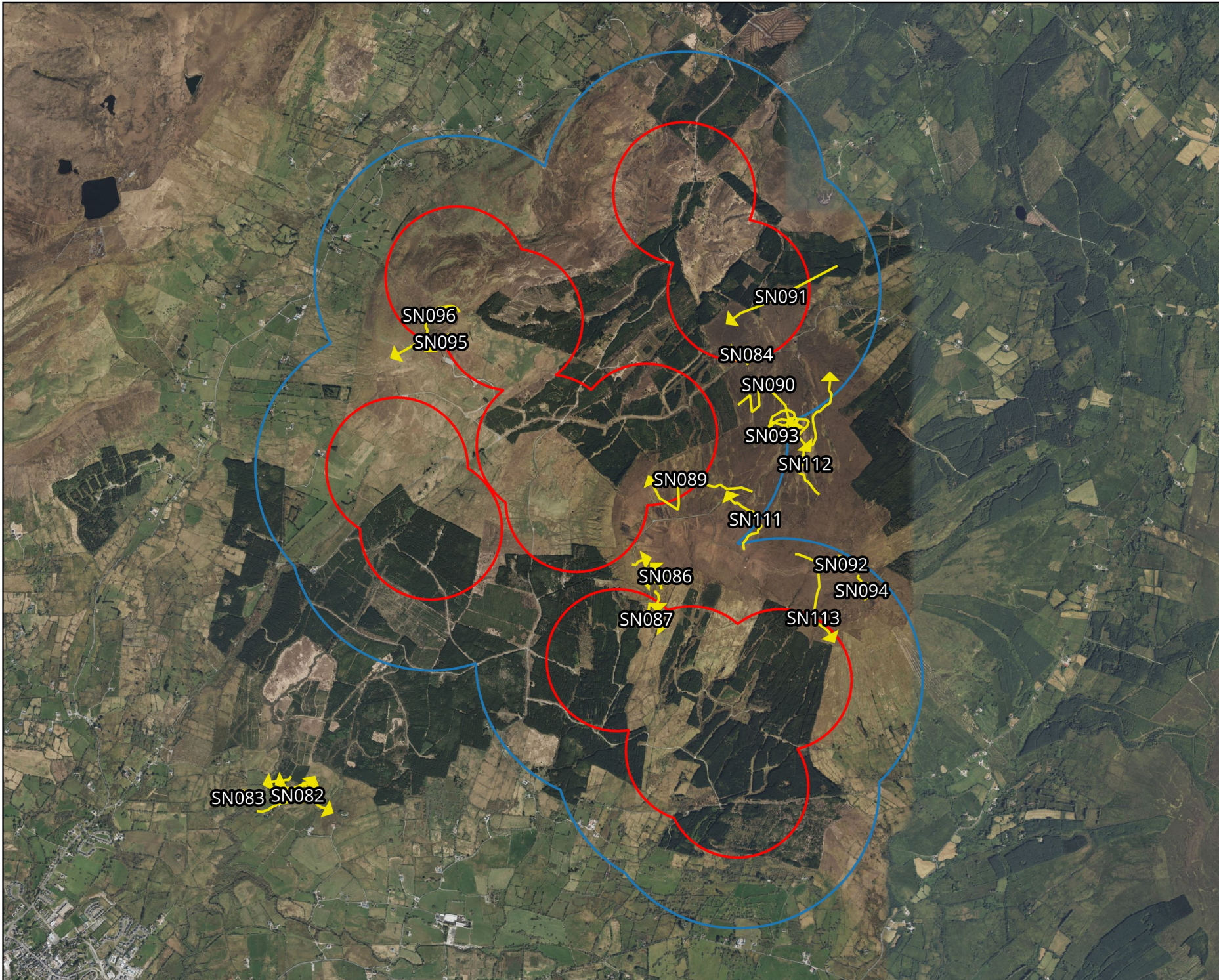
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- 500m Radius of Site Boundary
- ▶ Observation Flightline

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Drawing Title	
Red Grouse Incidental Observations	
Project Title	
Lissinagroagh	
Drawn By	Checked By
AO'D	PC
Project No.	Drawing No.
200217	Fig 5.2
Scale	Date
1:35,000	16/12/24
 MKO Planning and Environmental Consultants Tuam Road, Galway Ireland, H91 VV84 +353 (0) 91 735611 email: info@mkoireland.ie Website: ww.mkoireland.ie	



Map Legend

- Site Boundary
- 500m Radius of Site Boundary
- Observation Flightline



Drawing Title

Snipe
Incidental Observations

Project Title

Lissinagroagh

Drawn By

AO'D

Checked By

PC

Project No.

200217

Drawing No.

Fig 5.3

Scale

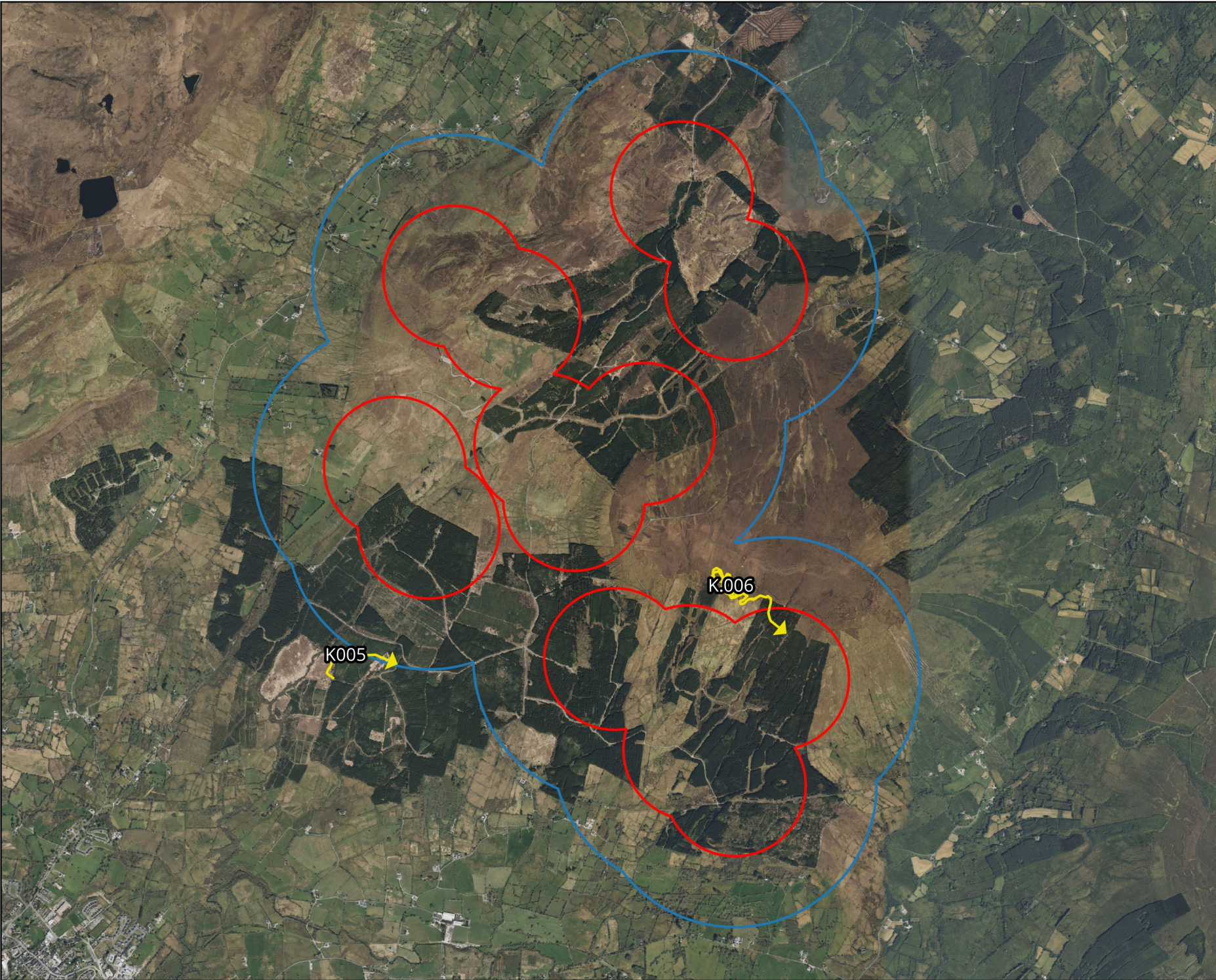
1:35,000

Date

16/12/24



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Planning and
Environmental
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email: info@mkoireland.ie
Website: ww.mkoireland.ie

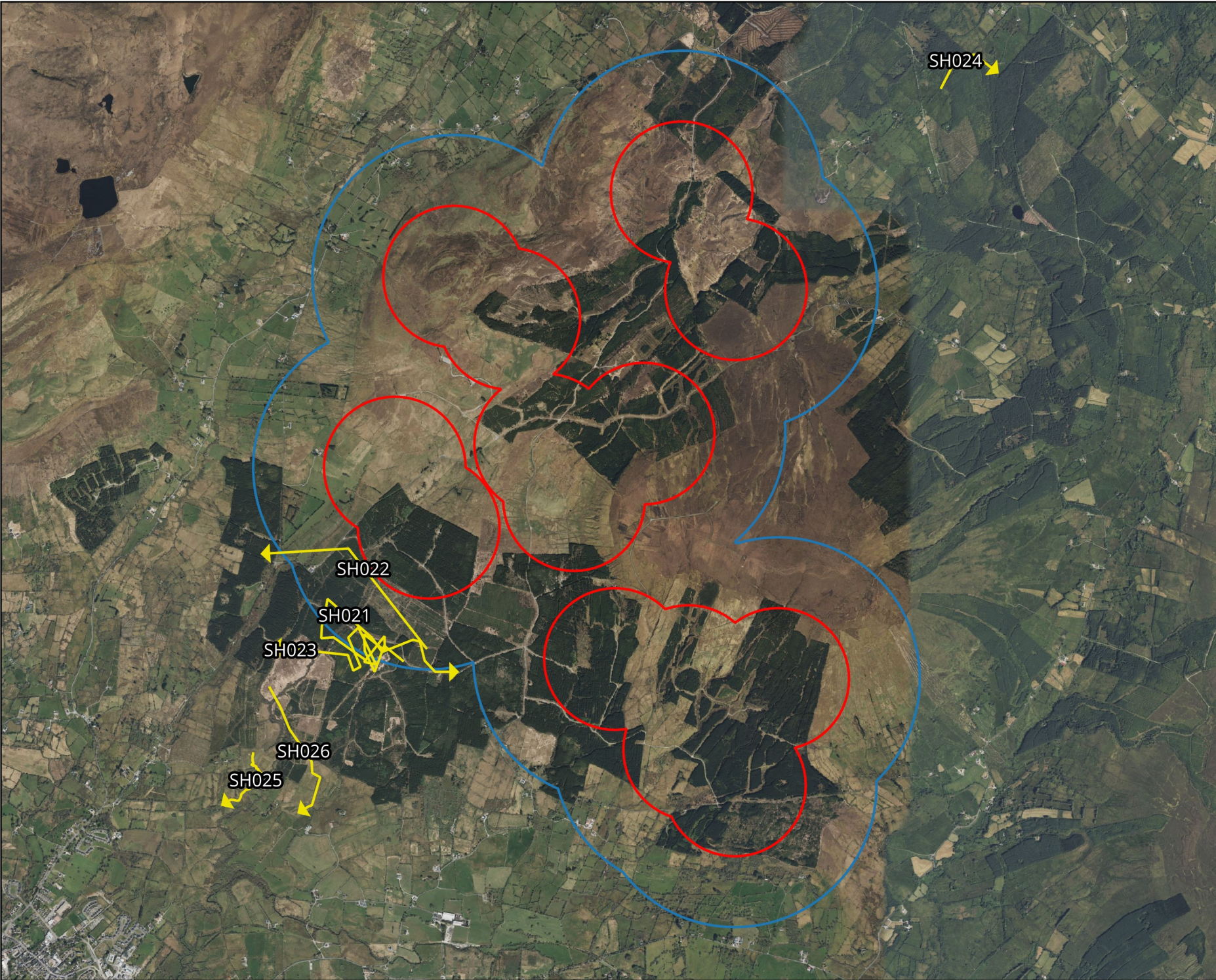


- Map Legend
- Site Boundary
 - 500m Radius of Site Boundary
 - Observation Flightline



Drawing Title	
Kestrel Incidental Observations	
Project Title	
Lissinagroagh	
Drawn By	Checked By
AO'D	PC
Project No.	Drawing No.
200217	Fig 5.4
Scale	Date
1:35,000	16/12/24
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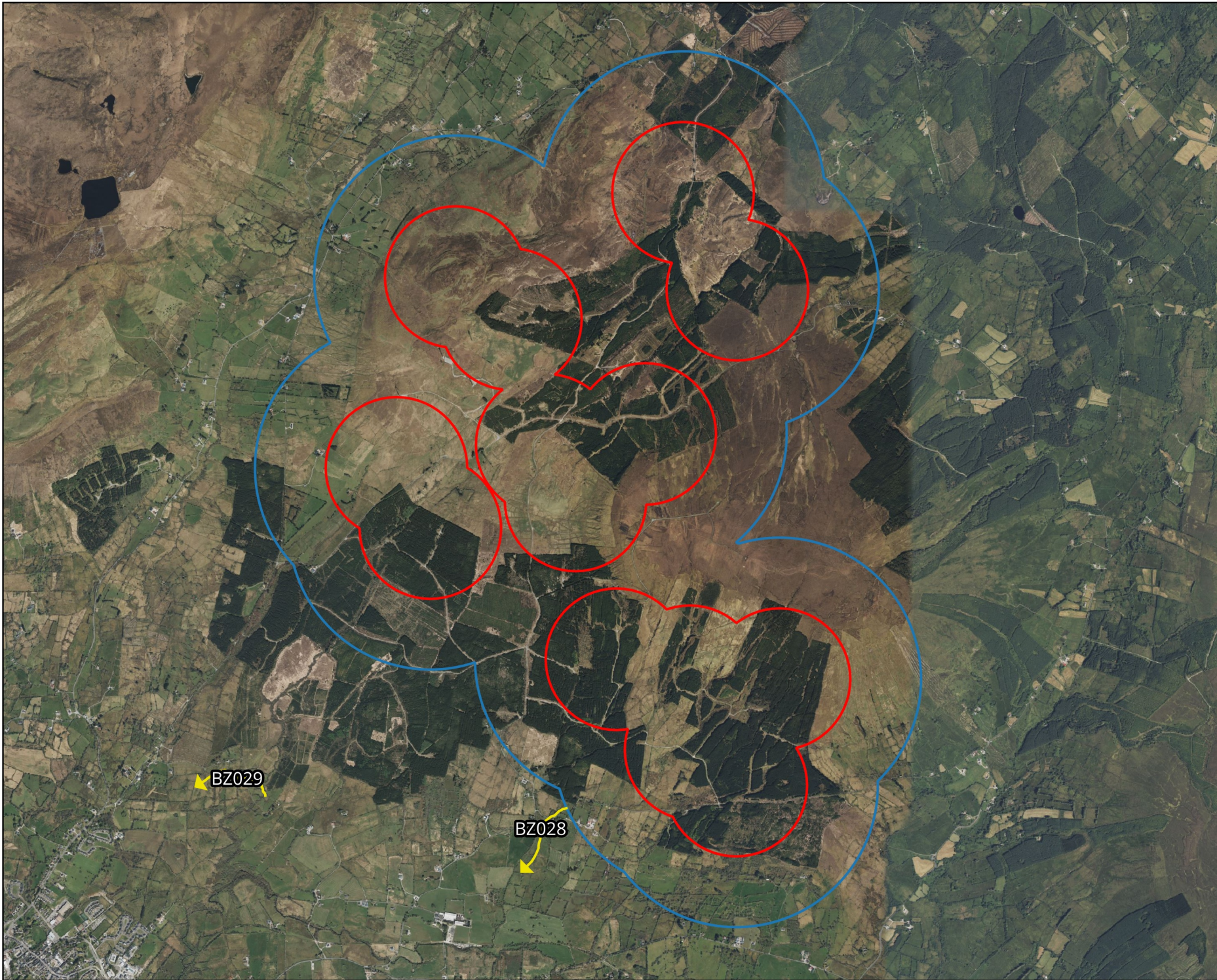


- Map Legend
- Site Boundary
 - 500m Radius of Site Boundary
 - Observation Flightline



Drawing Title	
Sparrowhawk Incidental Observations	
Project Title	
Lissinagroagh	
Drawn By	Checked By
AO'D	PC
Project No.	Drawing No.
200217	Fig 5.5
Scale	Date
1:35,000	16/12/24
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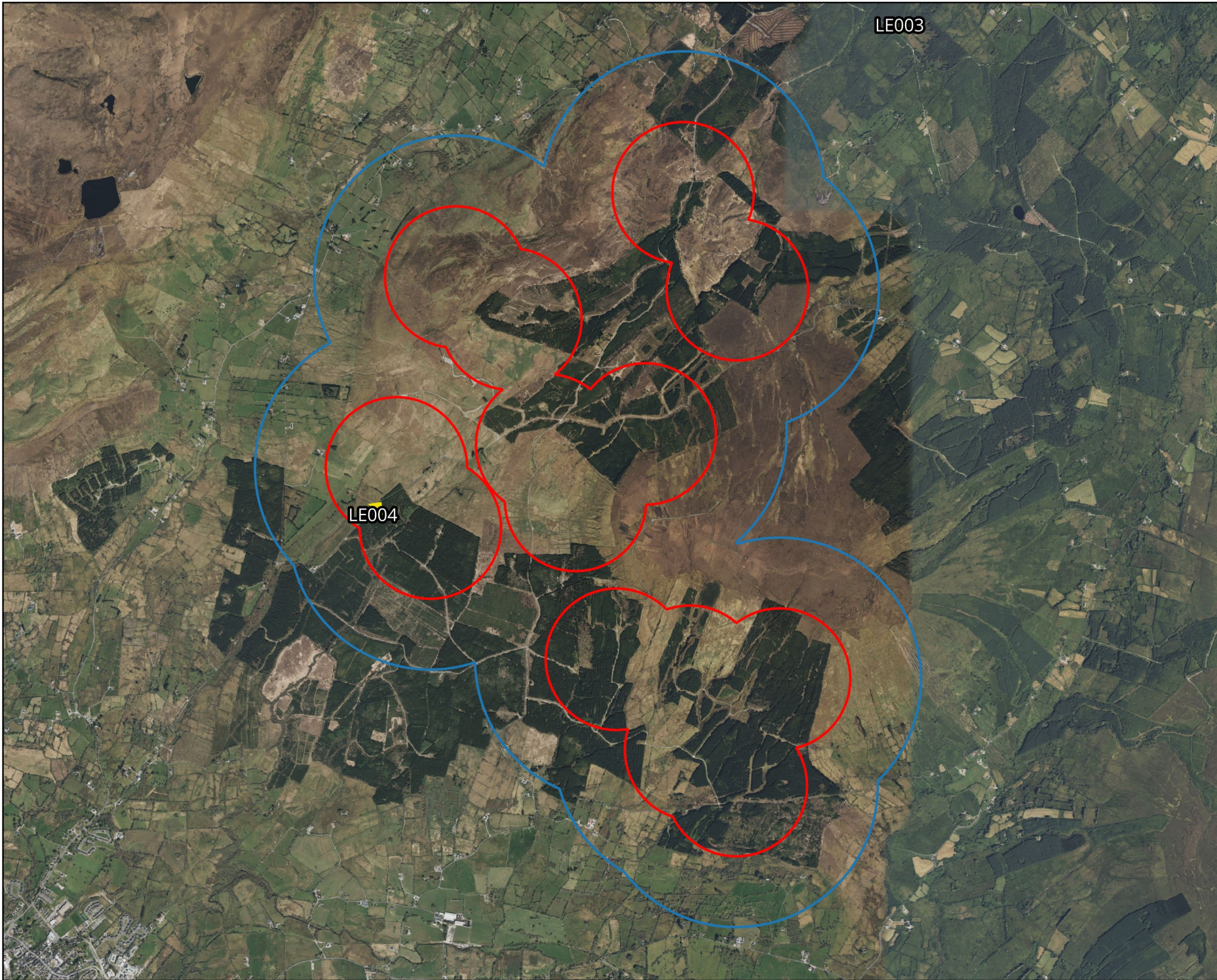
Map Legend

- Site Boundary
- 500m Radius of Site Boundary
- ↙ Observation Flightline



Drawing Title	
Buzzard Incidental Observations	
Project Title	
Lissinagroagh	
Drawn By	Checked By
AO'D	PC
Project No.	Drawing No.
200217	Fig 5.6
Scale	Date
1:35,000	16/12/24
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LE003

LE004

Map Legend

- Site Boundary
- 500m Radius of Site Boundary
- ➔ Observation Flightline



<p>Long-Eared Owl Incidental Observations</p>	
<p>Lissinagroagh</p>	
<p>Drawn By AO'D</p>	<p>Checked By PC</p>
<p>Project No. 200217</p>	<p>Drawing No. Fig 5.7</p>
<p>Scale 1:35,000</p>	<p>Date 16/12/24</p>
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APPENDIX 2
DETAILED SURVEY DATA

Table 1.0 Survey Effort

Date	Survey	Location	Duration (h)	Weather Conditions	Comments	Surveyor
05/04/2024	Breeding Raptor Survey	BR1	3:00 starting at 11:15	Visibility: poor; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none		AOD
05/04/2024	Breeding Raptor Survey	BR9	3:00 starting at 14:25	Visibility: poor; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none		AOD
19/04/2024	Breeding Raptor Survey	BR1	3:00 starting at 12:30	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		AOD
19/04/2024	Breeding Raptor Survey	BR4	3:00 starting at 15:40	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		AOD
22/04/2024	Breeding Raptor Survey	BR4	3:00 starting at 11:30	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
22/04/2024	Breeding Raptor Survey	BR4	1:00 starting at 15:00	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
02/04/2024	Vantage Point Survey	VP2	3:00 starting at 14:45	Visibility: good; Wind speed and direction: fresh breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Largely fair and clear, cold and wintery throughout, 4 - 8°C	NM
02/04/2024	Vantage Point Survey	VP2	3:00 starting at 18:10	Visibility: moderate; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none	Clouding over gradually, light drizzle and blustery squalls in evening. Dusk survey. Sunset - 20:07	NM

03/04/2024	Vantage Point Survey	VP3	3:00 starting at 14:45	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 33-66% >500m; Rain: drizzle; Frost: none; Snow: none	Largely fair with cloud and occasional drizzle early on. 7 - 13°C	NM
03/04/2024	Vantage Point Survey	VP3	3:00 starting at 18:10	Visibility: good; Wind speed and direction: moderate breeze SE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Staying dry all evening. Dusk survey. Sunset - 20:09	NM
04/04/2024	Vantage Point Survey	VP1	3:00 starting at 14:45	Visibility: good; Wind speed and direction: moderate breeze SSW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	Largely fair throughout, blustery squalls throughout, cold and wintery, 5 - 10°C	NM
04/04/2024	Vantage Point Survey	VP1	3:00 starting at 18:10	Visibility: good; Wind speed and direction: fresh breeze SW; Cloud cover and height: 33-66% >500m; Rain: light showers; Frost: none; Snow: none	Dusk survey. Sunset - 20:11	NM
29/04/2024	Vantage Point Survey	VP4	3:00 starting at 15:30	Visibility: moderate; Wind speed and direction: gentle breeze SSW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none	Persistent light rain at the start but gradually clearing. Visibility hampered at times early on.	NM
29/04/2024	Vantage Point Survey	VP4	3:00 starting at 19:00	Visibility: good; Wind speed and direction: gentle breeze SSW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Clearing in evening. 7 - 12°C. Dusk survey. Sunset - 20:58	NM
01/05/2024	Breeding Raptor Survey	BR1	3:00 starting at 10:40	Visibility: good; Wind speed and direction: moderate breeze E; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		AOD
01/05/2024	Breeding Raptor Survey	BR4	3:00 starting at 14:05	Visibility: good; Wind speed and direction: moderate breeze E; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		AOD
16/05/2024	Breeding Raptor Survey	BR7	4:00 starting at 11:20	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		AOD

17/05/2024	Breeding Raptor Survey	BR4	3:00 starting at 09:40	Visibility: good; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
17/05/2024	Breeding Raptor Survey	BR4	3:00 starting at 12:40	Visibility: good; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
21/05/2024	Breeding Raptor Survey	BR1	3:00 starting at 14:00	Visibility: poor; Wind speed and direction: light air S; Cloud cover and height: 66-100% <150m; Rain: heavy showers; Frost: none; Snow: none		AOD
21/05/2024	Breeding Raptor Survey	BR1	3:00 starting at 17:00	Visibility: poor; Wind speed and direction: light air S; Cloud cover and height: 66-100% <150m; Rain: heavy showers; Frost: none; Snow: none		AOD
22/05/2024	Breeding Raptor Survey	BR4	3:00 starting at 12:20	Visibility: good; Wind speed and direction: fresh breeze W; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		AOD
22/05/2024	Breeding Raptor Survey	BR8	3:00 starting at 16:00	Visibility: good; Wind speed and direction: fresh breeze W; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		AOD
23/05/2024	Breeding Raptor Survey	BR6	3:00 starting at 09:00	Visibility: good; Wind speed and direction: fresh breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
23/05/2024	Breeding Raptor Survey	BR7	3:00 starting at 12:45	Visibility: good; Wind speed and direction: fresh breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
28/05/2024	Breeding Raptor Survey	BR1	3:00 starting at 11:20	Visibility: moderate; Wind speed and direction: light breeze W; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
30/05/2024	Breeding Raptor Survey	BR4	1:00 starting at 12:40	Visibility: limited; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
30/05/2024	Breeding Raptor Survey	BR8	3:00 starting at 13:55	Visibility: poor; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none		AOD
30/05/2024	Breeding Raptor Survey	BR3	4:00 starting at 17:30	Visibility: poor; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none		AOD

07/05/2024	Vantage Point Survey	VP4	3:00 starting at 04:45	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Fair throughout. Bright with cloudy spells. 6 - 13°C. Dawn survey. Sunrise - 05:40	NM
07/05/2024	Vantage Point Survey	VP4	3:00 starting at 08:10	Visibility: good; Wind speed and direction: light breeze NE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		NM
14/05/2024	Vantage Point Survey	VP2	3:00 starting at 04:30	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	Very damp underfoot. Largely fair and bright. Chill in morning, 5 - 16°C	NM
14/05/2024	Vantage Point Survey	VP2	3:00 starting at 08:00	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Dawn survey. Sunrise - 05:28	NM
15/05/2024	Vantage Point Survey	VP3	3:00 starting at 04:25	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	Clear and bright throughout. Dawn survey. Sunrise - 05:26	NM
15/05/2024	Vantage Point Survey	VP3	3:00 starting at 07:50	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		NM
31/05/2024	Vantage Point Survey	VP1	3:00 starting at 04:05	Visibility: moderate; Wind speed and direction: moderate breeze WNW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Largely fair with cooling breeze. Visibility poor enough early in the morning due to haze and mist - burned off by 05:45am. Dawn survey. Sunrise - 05:06	NM
31/05/2024	Vantage Point Survey	VP1	3:00 starting at 07:30	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Continued to be fair. Wind dropping as survey progressed. 9 - 17°C	NM

07/06/2024	Foraging VP	FVP4	3:00 starting at 11:35	Visibility: good; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none		AOD
07/06/2024	Foraging VP	FVP2	3:00 starting at 15:00	Visibility: good; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
11/06/2024	Foraging VP	FVP2	3:00 starting at 11:55	Visibility: good; Wind speed and direction: fresh breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
11/06/2024	Breeding Raptor Survey	BR5	3:00 starting at 15:15	Visibility: good; Wind speed and direction: fresh breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
12/06/2024	Foraging VP	FVP5	3:00 starting at 12:30	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
12/06/2024	Foraging VP	FVP4	3:00 starting at 16:00	Visibility: good; Wind speed and direction: moderate breeze SE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
18/06/2024	Breeding Raptor Survey	BR4	3:00 starting at 11:30	Visibility: good; Wind speed and direction: strong breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
18/06/2024	Breeding Raptor Survey	BR2	3:00 starting at 15:00	Visibility: good; Wind speed and direction: strong breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
20/06/2024	Foraging VP	FVP1	3:00 starting at 10:55	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
20/06/2024	Foraging VP	FVP3	3:00 starting at 14:45	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
20/06/2024	Breeding Raptor Survey	BR6	3:00 starting at 18:00	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
26/06/2024	Breeding Raptor Survey	BR6	3:00 starting at 08:30	Visibility: good; Wind speed and direction: fresh breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		AOD
26/06/2024	Breeding Raptor Survey	BR4	3:00 starting at 12:15	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD

27/06/2024	Breeding Raptor Survey	BR1	3:00 starting at 15:00	Visibility: limited; Wind speed and direction: strong breeze SW; Cloud cover and height: 66-100% <150m; Rain: heavy showers; Frost: none; Snow: none		AOD
27/06/2024	Breeding Raptor Survey	BR2	3:00 starting at 18:10	Visibility: limited; Wind speed and direction: strong breeze SW; Cloud cover and height: 66-100% <150m; Rain: heavy showers; Frost: none; Snow: none		AOD
28/06/2024	Breeding Raptor Survey	BR4	3:00 starting at 13:30	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
04/07/2024	Foraging VP	FVP1	3:00 starting at 09:00	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		AOD
04/07/2024	Foraging VP	FVP3	3:00 starting at 12:40	Visibility: good; Wind speed and direction: fresh breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		AOD
05/07/2024	Foraging VP	FVP4	3:00 starting at 08:40	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
05/07/2024	Foraging VP	FVP2	3:00 starting at 12:15	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
06/06/2024	Vantage Point Survey	VP4	3:00 starting at 14:00	Visibility: good; Wind speed and direction: moderate breeze WSW; Cloud cover and height: 33-66% >500m; Rain: light showers; Frost: none; Snow: none	Mostly fair with brief showers blowing through. Cool, 8 - 12°C	NM
06/06/2024	Vantage Point Survey	VP4	3:00 starting at 17:30	Visibility: good; Wind speed and direction: moderate breeze WSW; Cloud cover and height: 33-66% >500m; Rain: drizzle; Frost: none; Snow: none	Brightening to some extent in the evening. Occasional drizzle but very light	NM
10/06/2024	Vantage Point Survey	VP2	3:00 starting at 11:30	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Largely fair and clear. Sunny spells and scattered cloud. Cool at times, 9 - 13°C	NM
10/06/2024	Vantage Point Survey	VP2	3:00 starting at 15:00	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		NM
12/06/2024	Vantage Point Survey	VP1	3:00 starting at 14:15	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Fair throughout. Cool, 10 - 14°C	NM

12/06/2024	Vantage Point Survey	VP1	4:00 starting at 17:45	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		NM
13/06/2024	Vantage Point Survey	VP3	3:00 starting at 14:40	Visibility: poor; Wind speed and direction: gentle breeze WNW; Cloud cover and height: 66-100% 150-500m; Rain: persistent; Frost: none; Snow: none	Grey and wholly overcast. Cool W breeze, 9 - 13°C. Persistent rain throughout - clearing gradually. Visibility very poor.	NM
13/06/2024	Vantage Point Survey	VP3	3:00 starting at 17:50	Visibility: moderate; Wind speed and direction: gentle breeze WNW; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none	Overcast with low cloud. Light showers. Rain easing off gradually	NM
24/06/2024	Breeding Raptor Survey	BR 10, 11	8:45 starting at 13:15	Visibility: good; Wind speed and direction: moderate breeze SSW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Fair and bright throughout, prolonged sunny periods. Moderate breeze. Warm, 13 - 22°C. Clouding over gradually in the evening, cool with breeze at times	NM
25/06/2024	Breeding Raptor Survey	BR 5, 12	7:40 starting at 14:50	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Largely overcast, sunny spells in evening, 13 - 20°C	NM
12/07/2024	Foraging VP	FVP4	3:00 starting at 07:30	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
12/07/2024	Foraging VP	FVP2	3:00 starting at 11:30	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
16/07/2024	Foraging VP	FVP1	3:00 starting at 08:45	Visibility: good; Wind speed and direction: light breeze S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
16/07/2024	Breeding Raptor Survey	BR4	3:00 starting at 12:20	Visibility: good; Wind speed and direction: light breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD

18/07/2024	Foraging VP	FVP2	3:00 starting at 15:45	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
24/07/2024	Foraging VP	FVP5	3:00 starting at 14:25	Visibility: moderate; Wind speed and direction: moderate breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
26/07/2024	Breeding Raptor Survey	BR4	3:00 starting at 11:50	Visibility: good; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		AOD
26/07/2024	Breeding Raptor Survey	BR11	5:30 starting at 14:00	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		AOD
26/07/2024	Breeding Raptor Survey	BR6	1:30 starting at 19:30	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		AOD
31/07/2024	Breeding Raptor Survey	BR4	5:00 starting at 07:20	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
31/07/2024	Breeding Raptor Survey	BR1	1:00 starting at 12:55	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
03/07/2024	Vantage Point Survey	VP2	3:00 starting at 12:30	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Largely fair throughout. Sunny spells. 14 - 19°C	NM
03/07/2024	Vantage Point Survey	VP2	3:00 starting at 16:00	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none	Clouding over gradually	NM
05/07/2024	Vantage Point Survey	VP3	3:00 starting at 15:15	Visibility: moderate; Wind speed and direction: light breeze S; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none	Entirely overcast, light showers blowing through which hampered visibility. Mild, 15 - 21°C	NM
05/07/2024	Vantage Point Survey	VP3	3:00 starting at 18:45	Visibility: good; Wind speed and direction: light breeze S; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none	Rain clearing gradually, staying grey and overcast	NM

08/07/2024	Vantage Point Survey	VP1	3:00 starting at 08:00	Visibility: good; Wind speed and direction: moderate breeze NE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	Clear and bright in the morning, largely fair throughout. Cool in breeze, 13 - 19°C	NM
08/07/2024	Vantage Point Survey	VP1	3:00 starting at 11:30	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Clouding over gradually, but remaining fair	NM
10/07/2024	Vantage Point Survey	VP4	3:00 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	Grey and overcast throughout. Mild and humid, 15 - 21°C	NM
10/07/2024	Vantage Point Survey	VP4	3:00 starting at 13:30	Visibility: good; Wind speed and direction: gentle breeze NNW; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none	Light drizzle coming and going	NM
15/07/2024	Breeding Raptor Survey	BR1	6:45 starting at 14:00	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none	Largely overcast but bright. Humid and close, 15 - 19°C	NM
16/07/2024	Breeding Raptor Survey	BR10, BR5	7:10 starting at 13:50	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 33-66% >500m; Rain: drizzle; Frost: none; Snow: none	Largely fair. Cloudy but bright and with occasional sunny spells. Light drizzle in evening	NM
18/07/2024	Breeding Raptor Survey	BR12	4:05 starting at 07:30	Visibility: good; Wind speed and direction: gentle breeze SSW; Cloud cover and height: 66-100% <150m; Rain: persistent; Frost: none; Snow: none	Overcast and grey with low cloud and persistent misty rain. Blustery breeze. Humid, 12 - 16°C. Clearing somewhat towards the end of survey but remaining wet	NM
18/07/2024	Breeding Raptor Survey	BR6	4:15 starting at 17:30	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	Complete opposite conditions to morning. Clear and bright with high wispy cloud. 14 - 18°C	NM

01/08/2024	Breeding Raptor Survey	BR6	3:00 starting at 07:45	Visibility: good; Wind speed and direction: moderate breeze SE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
01/08/2024	Breeding Raptor Survey	BR11	3:00 starting at 11:05	Visibility: good; Wind speed and direction: moderate breeze SE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
14/08/2024	Breeding Raptor Survey	BR3	3:00 starting at 09:40	Visibility: poor; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
14/08/2024	Breeding Raptor Survey	BR9	3:00 starting at 13:10	Visibility: poor; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
16/08/2024	Breeding Raptor Survey	BR4	3:00 starting at 07:50	Visibility: good; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
16/08/2024	Breeding Raptor Survey	BR7	3:00 starting at 11:15	Visibility: good; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
16/08/2024	Breeding Raptor Survey	BR8	3:00 starting at 14:45	Visibility: good; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
29/08/2024	Breeding Raptor Survey	BR4	4:00 starting at 10:00	Visibility: moderate; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		AOD
02/08/2024	Vantage Point Survey	VP4	3:00 starting at 06:15	Visibility: good; Wind speed and direction: gentle breeze SSW; Cloud cover and height: 33-66% >500m; Rain: drizzle; Frost: none; Snow: none	Largely fair, occasional drizzle. Changeable.	NM
14/08/2024	Vantage Point Survey	VP1	3:00 starting at 10:00	Visibility: good; Wind speed and direction: moderate breeze SSE; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none	Largely overcast but bright. Fresh gusts. Cool in breeze, 12 - 16°C	NM
14/08/2024	Vantage Point Survey	VP1	3:00 starting at 13:30	Visibility: good; Wind speed and direction: moderate breeze SSE; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none	Brief patches of sun but short and seldom	NM

15/08/2024	Vantage Point Survey	VP3	3:00 starting at 14:00	Visibility: good; Wind speed and direction: moderate breeze WSW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Fresh. Somewhat overcast but clearing. Chill in open, 13 - 17°C.	NM
15/08/2024	Vantage Point Survey	VP3	3:00 starting at 17:30	Visibility: good; Wind speed and direction: light breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Becoming brighter in evening, wind dropping	NM
16/08/2024	Breeding Raptor Survey	BR5, BR10	8:00 starting at 06:00	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none	Grey and overcast but largely fair. Occasional light showers	NM
19/08/2024	Vantage Point Survey	VP4	3:00 starting at 13:00	Visibility: moderate; Wind speed and direction: light breeze N; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none	Thoroughly damp throughout. Constant drizzle with light showers. Cool at times, 13 - 15°C	NM
22/08/2024	Breeding Raptor Survey	BRT1	7:15 starting at 08:45	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none	Largely overcast and unsettled. Light rain coming in afternoon, 11 - 15°C	NM
23/08/2024	Breeding Raptor Survey	BR12, BR6	8:45 starting at 11:00	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none	Largely fair early on, sunny spells and scattered light showers. Largely grey, becoming darker. 12 - 16°C	NM
30/08/2024	Vantage Point Survey	VP2	3:00 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	Largely fair and clear, prolonged sunny period. Hazy at distance. 14 - 20°C	NM

30/08/2024	Vantage Point Survey	VP2	3:00 starting at 17:00	Visibility: moderate; Wind speed and direction: gentle breeze SW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	Cloud cover decreasing. Visibility difficult due to glare from sun in direction of VP	NM
26/09/2024	Vantage Point Survey	vp3	1:00 starting at 06:00	Visibility: none; Wind speed and direction: moderate breeze NNE; Cloud cover and height: 66-100% <150m; Rain: persistent; Frost: none; Snow: none	987hpa - 9c - f3c	FLM
26/09/2024	Vantage Point Survey	vp3	1:00 starting at 07:00	Visibility: limited; Wind speed and direction: moderate breeze NNE; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none	987hpa - 9c - f2c	FLM
26/09/2024	Vantage Point Survey	vp3	1:00 starting at 08:00	Visibility: moderate; Wind speed and direction: moderate breeze NNE; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none	988hpa - 9c - f2c	FLM
26/09/2024	Vantage Point Survey	vp3	1:00 starting at 09:30	Visibility: moderate; Wind speed and direction: moderate breeze NNE; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none	990hpa - 9c - f0c	FLM
26/09/2024	Vantage Point Survey	vp3	1:00 starting at 10:30	Visibility: good; Wind speed and direction: moderate breeze NNE; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none	990hpa - 8c - f0c	FLM
26/09/2024	Vantage Point Survey	vp3	1:00 starting at 11:30	Visibility: moderate; Wind speed and direction: moderate breeze NNE; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none	991hpa - 8c - f0c	FLM
20/09/2024	Vantage Point Survey	VP4	3:00 starting at 06:10	Visibility: poor; Wind speed and direction: light air ENE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Mist early in the morning - hampered visibility. Dawn survey. Sunrise - 07:12	NM
20/09/2024	Vantage Point Survey	VP4	3:00 starting at 09:30	Visibility: moderate; Wind speed and direction: light breeze ENE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Mist gradually burning off. Remaining hazy, visibility patchy. 9 - 18°	NM
19/09/2024	Vantage Point Survey	VP2	3:00 starting at 06:25	Visibility: good; Wind speed and direction: light breeze SE; Cloud cover and height: 0-33% 150-500m; Rain: none; Frost: none; Snow: none		AOD

19/09/2024	Vantage Point Survey	VP2	3:00 starting at 10:10	Visibility: good; Wind speed and direction: light breeze SE; Cloud cover and height: 0-33% 150-500m; Rain: none; Frost: none; Snow: none		AOD
20/09/2024	Vantage Point Survey	VP1	3:00 starting at 06:20	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 0-33% 150-500m; Rain: none; Frost: none; Snow: none		AOD
20/09/2024	Vantage Point Survey	VP1	3:00 starting at 11:00	Visibility: good; Wind speed and direction: moderate breeze SE; Cloud cover and height: 0-33% 150-500m; Rain: none; Frost: none; Snow: none		AOD

Table 2.0 Vantage Point Surveys

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-Xm)	Band 2 (X-Xm)	Band 3 (X-Xm)	Band 4 (>Xm)	Habitat and activity	Surveyor
SN084	VP2	02/04/2024	18:14	Snipe	2	25	25	0	0	0	bogs; flushed, alarming	NM
K.088	VP2	02/04/2024	17:56	Kestrel	1	80	0	20	60	0	bogs, improved agricultural grassland and semi-natural grassland; travelling	NM
HH274	VP2	02/04/2024	17:05	Hen Harrier	1	160	120	30	10	0	bogs, semi-natural grassland and improved agricultural grassland; travelling, hunting, landing, male, travelling and fluttering over moorland and rough adjacent grassland	NM
HH275	VP2	02/04/2024	17:26	Hen Harrier	1	100	100	0	0	0	improved agricultural grassland, bogs and semi-natural grassland; fluttering, hunting, landing, same male, over heather and rushy pasture	NM
HH276	VP2	02/04/2024	17:34	Hen Harrier	1	370	50	120	200	0	improved agricultural grassland, bogs and conifer plantation; departing, swirling, soaring, landing, same male, soaring over forestry before landing within	NM
HH277	VP2	02/04/2024	19:49	Hen Harrier	1	45	45	0	0	0	bogs and improved agricultural grassland; travelling, male	NM

K.089	VP2	02/04/2024	17:49	Kestrel	1	85	0	35	50	0	bogs; hunting, soaring	NM
K.090	VP2	02/04/2024	20:12	Kestrel	1	30	0	30	0	0	bogs and mixed conifer woodland; travelling	NM
H.010	VP2	02/04/2024	15:07	Grey Heron	1	70	0	0	70	0	bogs and highly modified/non-native woodland; travelling	NM
H.011	VP2	02/04/2024	16:39	Grey Heron	2	140	0	0	100	40	highly modified/non-native woodland and improved agricultural grassland; soaring, travelling	NM
BZ237	VP2	02/04/2024	18:21	Buzzard	2	780	0	0	0	780	mixed conifer woodland, improved agricultural grassland and bogs; soaring, circling	NM
BZ238	VP2	02/04/2024	15:39	Buzzard	1	75	20	55	0	0	conifer plantation; gliding, low over forestry before disappearing behind	NM
SN085	VP2	02/04/2024	18:27	Snipe	1	35	25	10	0	0	bogs; travelling, alarming	NM
GP039	VP2	02/04/2024	20:22	Golden Plover	15	140	0	90	50	0	bogs; swirling, calling, departing, vanishing northeast	NM
SN084	VP2	02/04/2024	20:29	Snipe	2	25	20	5	0	0	bogs; flushed, calling	NM
SN086	VP2	02/04/2024	08:57	Snipe	1	15	15	0	0	0	bogs; flushed, calling	NM
SN087	VP2	02/04/2024	20:50	Snipe	2	30	0	0	30	0	bogs; alarming	NM
K.091	VP1	04/04/2024	15:49	Kestrel	1	430	0	60	370	0	bogs, semi-natural grassland and highly modified/non-native woodland; hunting, hovering, travelling	NM
BZ239	VP1	04/04/2024	19:32	Buzzard	1	530	50	140	340	0	mixed conifer woodland, improved agricultural grassland and scrub; departing, travelling, soaring, departing from perched, proceeded to soar over farmland off site (to the south)	NM
HH278	VP1	04/04/2024	18:34	Hen Harrier	1	150	110	40	0	0	bogs, semi-natural grassland and scrub; travelling, hunting, fluttering, male, characteristic hen harrier flight style	NM
HH279	VP1	04/04/2024	20:03	Hen Harrier	1	120	60	50	10	0	mixed conifer woodland, bogs and semi-natural grassland; travelling, male, swirling briefly over forestry	NM
LB048	VP1	04/04/2024	19:27	Lesser Black-backed Gull	6	150	0	0	125	25	bogs, conifer plantation and scrub; soaring, travelling	NM

SN089	VP1	04/04/2024	14:47	Snipe	1	25	20	5	0	0	bogs; flushed	NM
#REF!	VP1	04/04/2024	16:03	Snipe	2	25	15	10	0	0	bogs and semi-natural grassland; flushed, alarming	NM
SN090	VP1	04/04/2024	18:39	Snipe	2	50	0	0	50	0	bogs; travelling, alarming	NM
SN091	VP1	04/04/2024	20:07	Snipe	1	30	20	10	0	0	bogs; flushed, alarming	NM
SN092	VP1	04/04/2024	20:49	Snipe	1	20	0	0	20	0	bogs; travelling, alarming	NM
BZ240	VP3	03/04/2024	16:43	Buzzard	1	430	0	50	350	30	improved agricultural grassland and highly modified/non-native woodland; soaring, hunting	NM
SN093	VP3	03/04/2024	19:27	Snipe	3	30	0	0	30	0	bogs and highly modified/non-native woodland; flying, alarming	NM
HH280	VP3	03/04/2024	19:14	Hen Harrier	1	55	0	55	0	0	bogs, improved agricultural grassland and highly modified/non-native woodland; travelling, hunting, male	NM
ML006	VP3	03/04/2024	20:02	Merlin	1	275	245	30	0	0	bogs, scrub and highly modified/non-native woodland; perching, travelling, hunting, female. perched intermittently on posts within moorland	NM
H.012	VP3	03/04/2024	19:47	Grey Heron	1	130	0	0	100	30	bogs, highly modified/non-native woodland and improved agricultural grassland; soaring, travelling	NM
CA003	VP3	03/04/2024	15:06	Cormorant	2	90	0	0	70	20	improved agricultural grassland and bogs; travelling	NM
SN094	VP3	03/04/2024	19:26	Snipe	1	15	0	0	15	0	bogs; drumming	NM
SN095	VP3	03/04/2024	20:38	Snipe	1	90	0	0	90	0	bogs; drumming	NM
SN096	VP3	03/04/2024	20:40	Snipe	1	50	0	15	35	0	bogs; drumming	NM
SN097	VP3	03/04/2024	20:45	Snipe	2	75	0	30	45	0	bogs; drumming, swooping, chasing	NM
SN098	VP3	03/04/2024	20:51	Snipe	1	30	0	0	30	0	bogs; drumming	NM
SN099	VP3	03/04/2024	21:04	Snipe	1	15	0	15	0	0	bogs; drumming	NM

SN100	VP3	03/04/2024	19:24	Snipe	5	160	160	0	0	0	bogs; chirping, perched, on ground, moving with heather moorland	NM
SN101	VP3	03/04/2024	20:11	Snipe	1	35	0	35	0	0	bogs and highly modified/non-native woodland; flying, alarming	NM
K.092	VP4	29/04/2024	20:17	Kestrel	1	680	0	240	440	0	semi-natural grassland and improved agricultural grassland; hunting, travelling	NM
BZ241	VP4	29/04/2024	16:29	Buzzard	1	170	0	80	90	0	conifer plantation; soaring, calling, travelling	NM
BZ242	VP4	29/04/2024	17:43	Buzzard	2	1900	0	0	700	1200	highly modified/non-native woodland, improved agricultural grassland and bogs; soaring, circling	NM
BZ243	VP4	29/04/2024	20:50	Buzzard	1	70	0	20	50	0	highly modified/non-native woodland and scrub/transitional woodland; travelling, calling	NM
LB049	VP4	29/04/2024	18:23	Lesser Black-backed Gull	1	50	0	0	50	0	highly modified/non-native woodland, scrub and improved agricultural grassland; travelling	NM
LB050	VP4	29/04/2024	19:59	Lesser Black-backed Gull	4	110	0	30	80	0	highly modified/non-native woodland, improved agricultural grassland and scrub/transitional woodland; travelling, swooping	NM
SN102	VP4	29/04/2024	15:54	Snipe	2	35	0	0	35	0	highly modified/non-native woodland and improved agricultural grassland; flying, alarming	NM
SN103	VP4	29/04/2024	17:14	Snipe	1	25	0	25	0	0	improved agricultural grassland and highly modified/non-native woodland; flying, alarming	NM
SN104	VP4	29/04/2024	20:50	Snipe	3	30	0	0	30	0	improved agricultural grassland and highly modified/non-native woodland; flying, alarming	NM
SN105	VP4	29/04/2024	21:11	Snipe	1	25	0	0	25	0	improved agricultural grassland and highly modified/non-native woodland; flying, alarming	NM
SN106	VP4	29/04/2024	21:45	Snipe	1	20	0	0	20	0	improved agricultural grassland; alarming	NM
SN107	VP4	29/04/2024	21:33	Snipe	1	450	0	150	300	0	improved agricultural grassland and highly modified/non-native woodland; drumming	NM
SN108	VP4	29/04/2024	21:14	Snipe	2	230	0	60	170	0	improved agricultural grassland; drumming, chasing	NM
HH281	VP2	02/04/2024	17:09	Hen Harrier	1	0	0	0	0	0	improved agricultural grassland and semi-natural grassland; perched, preening, male	NM
HH282	VP2	02/04/2024	17:28	Hen Harrier	1	0	0	0	0	0	improved agricultural grassland and semi-natural grassland; perched, same male	NM
BZ244	VP1	04/04/2024	18:53	Buzzard	1	0	0	0	0	0	mixed conifer woodland and scrub; perched	NM

SN109	VP3	03/04/2024	18:46	Snipe	3	0	0	0	0	0	bogs; chirping	NM
SN110	VP3	03/04/2024	19:16	Snipe	4	0	0	0	0	0	bogs; chirping	NM
SN111	VP3	03/04/2024	19:23	Snipe	2	0	0	0	0	0	bogs; chirping, alarming	NM
SN112	VP3	03/04/2024	20:07	Snipe	3	0	0	0	0	0	bogs; alarming	NM
SN113	VP3	03/04/2024	20:38	Snipe	1	0	0	0	0	0	bogs; chirping	NM
SN114	VP3	03/04/2024	20:49	Snipe	2	0	0	0	0	0	bogs and semi-natural grassland; chirping	NM
SN115	VP3	03/04/2024	20:53	Snipe	2	0	0	0	0	0	bogs; chirping	NM
SN116	VP3	03/04/2024	20:50	Snipe	2	0	0	0	0	0	bogs; chirping, persistent calling from same spot until survey end. numbers were estimates	NM
HH283	VP2	14/05/2024	07:04	Hen Harrier	1	950	550	250	150	0	highly modified/non-native woodland, bogs and improved agricultural grassland; travelling, foraging, male. departing south, swirling over forestry before being lost	NM
K.093	VP2	14/05/2024	09:54	Kestrel	1	770	0	150	620	0	bogs, highly modified/non-native woodland and semi-natural grassland; hunting, hovering, travelling	NM
K.094	VP2	14/05/2024	05:57	Kestrel	1	2000	100	450	1450	0	bogs, highly modified/non-native woodland and semi-natural grassland; hunting, hovering	NM
K.095	VP2	14/05/2024	08:02	Kestrel	1	760	70	140	550	0	semi-natural grassland, bogs and highly modified/non-native woodland; hunting, hovering, departing, male	NM
BZ245	VP2	14/05/2024	07:18	Buzzard	2	1150	0	0	850	300	highly modified/non-native woodland, scrub/transitional woodland and improved agricultural grassland; soaring, circling	NM
BZ246	VP2	14/05/2024	10:28	Buzzard	2	650	0	200	450	0	improved agricultural grassland and highly modified/non-native woodland; soaring, circling, calling, descending and landing in forestry	NM
LB051	VP2	14/05/2024	08:13	Lesser Black-backed Gull	3	75	0	0	75	0	improved agricultural grassland and highly modified/non-native woodland; travelling	NM
LB052	VP2	14/05/2024	08:29	Lesser Black-backed Gull	7	65	0	0	65	0	highly modified/non-native woodland, bogs and improved agricultural grassland; travelling	NM

LB053	VP2	14/05/2024	06:33	Lesser Black-backed Gull	6	90	0	30	60	0	highly modified/non-native woodland and bogs; travelling, swooping	NM
LB054	VP2	14/05/2024	09:17	Lesser Black-backed Gull	12	100	0	60	40	0	improved agricultural grassland; travelling, swooping	NM
LB055	VP2	14/05/2024	09:34	Lesser Black-backed Gull	3	90	0	40	50	0	highly modified/non-native woodland and improved agricultural grassland; travelling	NM
SN117	VP2	14/05/2024	05:15	Snipe	2	1500	0	400	1100	0	bogs and semi-natural grassland; drumming, chasing, separate territories	NM
ML007	VP3	15/05/2024	07:03	Merlin	1	80	60	20	0	0	bogs, highly modified/non-native woodland and scrub/transitional woodland; travelling, foraging, moving rapidly along northeast boundary	NM
H.013	VP3	15/05/2024	09:18	Grey Heron	1	100	0	0	100	0	improved agricultural grassland and highly modified/non-native woodland; travelling	NM
BZ247	VP3	15/05/2024	10:04	Buzzard	1	240	0	0	190	50	highly modified/non-native woodland and bogs; soaring, circling	NM
BZ248	VP3	15/05/2024	05:20	Buzzard	1	90	0	90	0	0	highly modified/non-native woodland and bogs; travelling	NM
BZ249	VP3	15/05/2024	06:04	Buzzard	2	270	0	0	30	250	improved agricultural grassland and scrub/transitional woodland; wd	NM
BZ250	VP3	15/05/2024	07:25	Buzzard	1	80	0	0	80	0	improved agricultural grassland and highly modified/non-native woodland; soaring, circling, far off site	NM
BZ251	VP3	15/05/2024	08:02	Buzzard	1	670	0	0	670	0	improved agricultural grassland and highly modified/non-native woodland; soaring, gliding	NM
BZ252	VP3	15/05/2024	08:56	Buzzard	2	980	0	0	680	300	highly modified/non-native woodland, improved agricultural grassland and bogs; soaring, circling	NM
SN118	VP3	15/05/2024	04:52	Snipe	1	140	0	50	90	0	bogs; drumming	NM
SN119	VP3	15/05/2024	05:16	Snipe	1	360	10	80	280	0	bogs; drumming, landing	NM
SN120	VP3	15/05/2024	05:48	Snipe	2	230	0	40	190	0	bogs; drumming, chasing, separate territories	NM
SN121	VP3	15/05/2024	08:16	Snipe	4	45	45	0	0	0	bogs; chirping, departing, bursting from heather	NM
HH284	VP1	31/05/2024	05:27	Hen Harrier	1	25	25	0	0	0	semi-natural grassland, scrub and bogs; foraging, female	NM

HH285	VP1	31/05/2024	05:58	Hen Harrier	1	45	40	5	0	0	scrub, semi-natural grassland and highly modified/non-native woodland; foraging, travelling, same female. disappearing over forestry	NM
K.096	VP1	31/05/2024	06:43	Kestrel	1	350	0	60	290	0	bogs and highly modified/non-native woodland; hunting, travelling, soaring away southeast	NM
BZ253	VP1	31/05/2024	07:34	Buzzard	2	1000	0	0	600	400	bogs, improved agricultural grassland and highly modified/non-native woodland; soaring, circling	NM
BZ254	VP1	31/05/2024	05:56	Buzzard	1	340	0	140	200	0	highly modified/non-native woodland and improved agricultural grassland; soaring, travelling	NM
BZ255	VP1	31/05/2024	06:32	Buzzard	1	65	0	35	30	0	highly modified/non-native woodland and bogs; travelling, calling	NM
BZ256	VP1	31/05/2024	09:18	Buzzard	3	160	0	0	0	160	highly modified/non-native woodland, improved agricultural grassland and scrub/transitional woodland; soaring, circling	NM
BZ257	VP1	31/05/2024	10:21	Buzzard	1	150	0	40	110	0	highly modified/non-native woodland and improved agricultural grassland; circling, gliding	NM
LB056	VP1	31/05/2024	09:42	Lesser Black-backed Gull	1	65	0	20	45	0	improved agricultural grassland and highly modified/non-native woodland; swooping, travelling, far off site	NM
LB057	VP1	31/05/2024	06:04	Lesser Black-backed Gull	5	100	0	40	60	0	bogs, highly modified/non-native woodland and improved agricultural grassland; travelling	NM
LB058	VP1	31/05/2024	08:09	Lesser Black-backed Gull	2	140	0	0	140	0	highly modified/non-native woodland and bogs; travelling	NM
SN122	VP1	31/05/2024	04:27	Snipe	3	1800	0	450	1350	0	bogs and semi-natural grassland; drumming, separate territories. numbers were rough	NM
K.097	VP4	07/05/2024	08:19	Kestrel	1	2100	5	800	1295	0	improved agricultural grassland, highly modified/non-native woodland and semi-natural grassland; hunting, hovering, present for a long period. dropping abruptly and was not seen again	NM
LB059	VP4	07/05/2024	06:09	Lesser Black-backed Gull	7	120	0	0	120	0	improved agricultural grassland and highly modified/non-native woodland; travelling, swooping	NM
H.014	VP4	07/05/2024	10:53	Grey Heron	2	35	0	0	35	0	improved agricultural grassland; travelling	NM

H.015	VP4	07/05/2024	08:21	Grey Heron	1	40	0	15	25	0	highly modified/non-native woodland, bogs and scrub; travelling	NM
SN123	VP4	07/05/2024	05:02	Snipe	1	360	0	80	280	0	highly modified/non-native woodland, improved agricultural grassland and semi-natural grassland; drumming	NM
SN124	VP4	07/05/2024	05:23	Snipe	2	2700	0	800	1900	0	highly modified/non-native woodland, bogs and improved agricultural grassland; drumming, chasing, separate territories, drumming at same time. numbers were rough	NM
SN125	VP4	07/05/2024	07:42	Snipe	2	40	0	20	20	0	highly modified/non-native woodland, scrub/transitional woodland and improved agricultural grassland; travelling, alarming	NM
SN126	VP3	15/05/2024	04:47	Snipe	1	0	0	0	0	0	bogs; chirping	NM
SN127	VP3	15/05/2024	05:22	Snipe	2	0	0	0	0	0	bogs; chirping	NM
SN128	VP3	15/05/2024	06:04	Snipe	2	0	0	0	0	0	bogs; chirping	NM
SN129	VP3	15/05/2024	09:30	Snipe	2	0	0	0	0	0	bogs; chirping	NM
SN130	VP1	31/05/2024	05:07	Snipe	1	0	0	0	0	0	semi-natural grassland; chirping	NM
SN131	VP1	31/05/2024	06:19	Snipe	1	0	0	0	0	0	semi-natural grassland; chirping	NM
SN132	VP1	31/05/2024	09:50	Snipe	2	0	0	0	0	0	bogs and semi-natural grassland; chirping	NM
HH286	VP1	12/06/2024	20:08	Hen Harrier	1	60	60	0	0	0	bogs and semi-natural grassland; travelling, foraging, following edge of forestry, lost across summit	NM
K.098	VP1	12/06/2024	18:34	Kestrel	1	35	25	10	0	0	bogs and semi-natural grassland; departing, travelling, leaving perch	NM
K.099	VP1	12/06/2024	16:19	Kestrel	1	130	0	40	90	0	improved agricultural grassland, semi-natural grassland and scrub; hunting, hovering, br10 area, dropping abruptly	NM
BZ258	VP1	12/06/2024	14:36	Buzzard	1	45	0	45	0	0	improved agricultural grassland and scrub; travelling	NM

BZ259	VP1	12/06/2024	17:53	Buzzard	1	270	0	100	170	0	highly modified/non-native woodland, scrub and improved agricultural grassland; soaring, gliding, calling	NM
BZ260	VP1	12/06/2024	20:57	Buzzard	2	1300	0	0	400	900	highly modified/non-native woodland and improved agricultural grassland; soaring, circling, off site mostly - tawnyunshinagh	NM
BZ261	VP1	12/06/2024	16:29	Buzzard	1	130	0	45	85	0	improved agricultural grassland and highly modified/non-native woodland; travelling, gliding	NM
BZ262	VP1	12/06/2024	15:52	Buzzard	1	45	0	45	0	0	highly modified/non-native woodland; travelling low, calling, low across forestry	NM
BZ263	VP1	12/06/2024	16:04	Buzzard	1	80	0	60	20	0	highly modified/non-native woodland, bogs and improved agricultural grassland; gliding, calling, travelling, low across forestry, same individual as was seen ~15mins previous	NM
H.016	VP1	12/06/2024	21:19	Grey Heron	1	110	0	0	110	0	improved agricultural grassland and highly modified/non-native woodland; travelling, calling	NM
H.017	VP1	12/06/2024	19:04	Grey Heron	1	70	0	0	55	15	improved agricultural grassland, highly modified/non-native woodland and bogs; travelling, calling	NM
HH287	VP2	10/06/2024	12:35	Hen Harrier	1	100	75	25	0	0	improved agricultural grassland, bogs and highly modified/non-native woodland; travelling, foraging, landing, male. perching on upland farmland	NM
HH288	VP2	10/06/2024	12:57	Hen Harrier	1	70	55	15	0	0	improved agricultural grassland, bogs and highly modified/non-native woodland; foraging, travelling, male - same individual. lost behind forestry	NM
HH289	VP2	10/06/2024	17:25	Hen Harrier	1	50	50	0	0	0	improved agricultural grassland and bogs; travelling, male, traversing saddle hill and vanishing down opposite side (towards br6 area)	NM
K.100	VP2	10/06/2024	15:38	Kestrel	1	320	0	100	220	0	bogs and improved agricultural grassland; hunting, hovering, travelling	NM
BZ264	VP2	10/06/2024	16:19	Buzzard	3	3400	80	550	2570	200	highly modified/non-native woodland; soaring, circling, calling, appeared to be a juvenile with 2 adults, dropping into forestry near to vp4 eventually	NM
BZ265	VP2	10/06/2024	11:47	Buzzard	1	110	0	80	30	0	improved agricultural grassland, bogs and scrub; travelling, off site	NM

BZ266	VP2	10/06/2024	17:52	Buzzard	1	45	0	0	0	45	highly modified/non-native woodland and improved agricultural grassland; soaring, circling, off site	NM
BZ267	VP2	10/06/2024	17:04	Buzzard	1	70	0	0	70	0	improved agricultural grassland and highly modified/non-native woodland; gliding, travelling, off site	NM
LB060	VP2	10/06/2024	13:19	Lesser Black-backed Gull	1	65	0	0	65	0	highly modified/non-native woodland, improved agricultural grassland and bogs; travelling	NM
LB061	VP2	10/06/2024	16:56	Lesser Black-backed Gull	2	40	0	0	40	0	improved agricultural grassland and highly modified/non-native woodland; travelling, swooping	NM
LB062	VP2	10/06/2024	17:07	Lesser Black-backed Gull	7	115	0	0	115	0	improved agricultural grassland, highly modified/non-native woodland and bogs; travelling, swooping	NM
K.101	VP3	13/06/2024	19:07	Kestrel	1	270	0	60	210	0	bogs, improved agricultural grassland and scrub; hunting, hovering	NM
K.102	VP3	13/06/2024	20:04	Kestrel	1	120	5	25	90	0	bogs, highly modified/non-native woodland and scrub; hunting, hovering, dropping abruptly, br6 area	NM
BZ268	VP3	13/06/2024	20:41	Buzzard	1	90	0	80	10	0	bogs and highly modified/non-native woodland; travelling	NM
BZ269	VP3	13/06/2024	15:57	Buzzard	1	540	0	130	410	0	bogs, highly modified/non-native woodland and improved agricultural grassland; soaring, circling, calling, br9 area (raheelin)	NM
H.018	VP3	13/06/2024	18:23	Grey Heron	1	110	0	0	110	0	bogs, highly modified/non-native woodland and scrub; travelling, calling	NM
BZ270	VP4	06/06/2024	19:04	Buzzard	1	1570	0	0	900	670	highly modified/non-native woodland, semi-natural grassland and scrub; soaring, circling	NM
BZ271	VP4	06/06/2024	15:29	Buzzard	1	540	200	340	0	0	improved agricultural grassland and linear woodland/scrub; travelling, calling, perching, perching briefly but continuing low across farmland	NM
H.019	VP4	06/06/2024	16:29	Grey Heron	1	30	0	0	0	30	highly modified/non-native woodland and scrub; travelling high	NM
H.020	VP4	06/06/2024	20:21	Grey Heron	1	45	0	45	0	0	improved agricultural grassland; travelling, calling	NM

LB063	VP4	06/06/2024	17:58	Lesser Black-backed Gull	3	65	0	0	65	0	improved agricultural grassland, linear woodland/scrub and highly modified/non-native woodland; travelling	NM
SN133	VP4	06/06/2024	20:09	Snipe	2	25	5	15	10	0	highly modified/non-native woodland, scrub and semi-natural grassland; flying, calling	NM
K.103	VP1	12/06/2024	18:19	Kestrel	1	0	0	0	0	0	bogs; perched, male	NM
HH290	VP2	10/06/2024	12:37	Hen Harrier	1	0	0	0	0	0	improved agricultural grassland; perched, preening, male	NM
BZ272	VP4	06/06/2024	15:20	Buzzard	1	0	0	0	0	0	highly modified/non-native woodland; calling, calling regularly throughout vp, possible nest site	NM
BZ273	VP1	08/07/2024	09:57	Buzzard	2	1340	0	250	1000	90	highly modified/non-native woodland and scrub; soaring, circling, calling, descending gradually to west	NM
BZ274	VP1	08/07/2024	13:28	Buzzard	1	130	0	20	110	0	highly modified/non-native woodland and bogs; swirling, gliding	NM
BZ275	VP1	08/07/2024	11:36	Buzzard	1	540	0	130	390	20	highly modified/non-native woodland and scrub/transitional woodland; soaring, circling	NM
BZ276	VP1	08/07/2024	08:57	Buzzard	1	45	0	45	0	0	improved agricultural grassland and scrub; travelling, gliding, low within rough farmland	NM
K.104	VP1	08/07/2024	08:12	Kestrel	1	45	0	35	10	0	bogs and semi-natural grassland; hunting, hovering, vp2 area, lost behind terrain	NM
K.105	VP1	08/07/2024	12:22	Kestrel	1	760	40	380	260	0	improved agricultural grassland, highly modified/non-native woodland and bogs; hunting, hovering, moving into and across upland moorland	NM
LB064	VP1	08/07/2024	13:28	Lesser Black-backed Gull	1	100	0	0	100	0	bogs and highly modified/non-native woodland; travelling	NM
LB065	VP1	08/07/2024	08:43	Lesser Black-backed Gull	2	110	0	40	70	0	highly modified/non-native woodland and improved agricultural grassland; travelling	NM
LB066	VP1	08/07/2024	09:10	Lesser Black-backed Gull	12	310	15	125	170	0	highly modified/non-native woodland, improved agricultural grassland and lakes and ponds; travelling, swirling, landing, travelling from northwest, swirling over l. munakill (off site) for a time before landing on rocky shore	NM

SN134	VP1	08/07/2024	08:21	Snipe	2	35	20	15	0	0	bogs, improved agricultural grassland and highly modified/non-native woodland; flushed, alarming, dropping down to southeast	NM
SN135	VP1	08/07/2024	11:36	Snipe	1	40	0	20	20	0	highly modified/non-native woodland and bogs; travelling, alarming	NM
SN136	VP1	08/07/2024	08:41	Snipe	1	25	25	0	0	0	bogs; travelling low, alarming, lost behind terrain	NM
SN138	VP1	08/07/2024	09:13	Snipe	8	340	340	0	0	0	bogs and semi-natural grassland; flitting, chirping, perched, moving across open moorland, sporadically dropping into vegetation but continuing downhill	NM
K.106	VP2	03/07/2024	16:19	Kestrel	1	860	120	330	410	0	bogs, improved agricultural grassland and scrub/transitional woodland; hunting, hovering, male	NM
BZ277	VP2	03/07/2024	13:04	Buzzard	1	490	0	350	140	0	highly modified/non-native woodland, bogs and improved agricultural grassland; travelling, calling, gliding, swooping, gradually dropping into forestry, but lost from view before that	NM
BZ278	VP2	03/07/2024	18:42	Buzzard	1	70	0	0	0	70	highly modified/non-native woodland and bogs; soaring, circling, lost behind terrain	NM
BZ279	VP2	03/07/2024	17:28	Buzzard	2	540	0	70	450	20	highly modified/non-native woodland; soaring, circling, gradually dropping and landing within forestry - adjacent to vp4 area	NM
H.021	VP2	03/07/2024	16:19	Grey Heron	2	70	30	40	0	0	improved agricultural grassland and highly modified/non-native woodland; travelling, calling	NM
H.022	VP2	03/07/2024	18:32	Grey Heron	1	45	0	0	45	0	highly modified/non-native woodland and improved agricultural grassland; travelling, moving off site	NM
LB067	VP2	03/07/2024	18:02	Lesser Black-backed Gull	4	65	0	0	65	0	bogs and highly modified/non-native woodland; travelling, swooping, moving south and off site	NM
H.023	VP3	05/07/2024	18:57	Grey Heron	1	35	0	0	35	0	improved agricultural grassland; wd, off site	NM
ML008	VP3	05/07/2024	21:09	Merlin	1	230	190	40	0	0	bogs; hunting, travelling, perching, male	NM
ML009	VP3	05/07/2024	21:28	Merlin	1	50	40	10	0	0	bogs, highly modified/non-native woodland and scrub; departing, travelling, same male	NM

BZ280	VP3	05/07/2024	18:52	Buzzard	2	470	0	0	60	410	highly modified/non-native woodland, bogs and improved agricultural grassland; soaring, circling, pair off site	NM
BZ281	VP3	05/07/2024	20:19	Buzzard	1	40	0	0	40	0	highly modified/non-native woodland and improved agricultural grassland; gliding, off site. lost behind terrain	NM
SN139	VP3	05/07/2024	19:09	Snipe	6	270	20	50	200	0	bogs; swirling, calling, chasing, swirling over heather moorland for a time before dropping back down, drumming evident but infrequently	NM
SN140	VP3	05/07/2024	16:24	Snipe	3	40	0	0	40	0	bogs and highly modified/non-native woodland; travelling, alarming	NM
SN141	VP3	05/07/2024	19:56	Snipe	1	80	20	60	0	0	bogs and scrub; travelling, swirling, alarming	NM
SN142	VP3	05/07/2024	20:06	Snipe	1	30	0	0	30	0	bogs; drumming, swirling	NM
SN143	VP3	05/07/2024	20:37	Snipe	1	15	0	0	15	0	bogs; drumming	NM
SN144	VP3	05/07/2024	21:17	Snipe	3	450	30	70	350	0	bogs; drumming, circling, swooping, chasing, separate territories	NM
SN145	VP3	05/07/2024	21:39	Snipe	1	30	0	10	20	0	bogs and semi-natural grassland; drumming, circling	NM
LB068	VP4	10/07/2024	12:19	Lesser Black-backed Gull	1	30	0	0	30	0	highly modified/non-native woodland; travelling	NM
LB069	VP4	10/07/2024	15:18	Lesser Black-backed Gull	3	45	0	0	45	0	highly modified/non-native woodland; travelling	NM
LB070	VP4	10/07/2024	15:39	Lesser Black-backed Gull	2	35	0	0	35	0	highly modified/non-native woodland and bogs; travelling	NM
K.107	VP4	10/07/2024	14:05	Kestrel	1	545	40	220	285	0	improved agricultural grassland, semi-natural grassland and linear woodland/scrub; hunting, hovering, travelling, off site	NM
BZ282	VP4	10/07/2024	16:13	Buzzard	1	65	0	65	0	0	highly modified/non-native woodland and improved agricultural grassland; calling, travelling, calling across forestry, moving off site	NM

BZ283	VP4	10/07/2024	10:10	Buzzard	2	190	0	50	140	0	highly modified/non-native woodland; soaring, circling, calling	NM
BZ284	VP4	10/07/2024	11:06	Buzzard	2	60	20	40	0	0	highly modified/non-native woodland and scrub; gliding, calling, flying, fluttering and calling low across forestry, dropping and lost from view within forestry	NM
SN146	VP4	10/07/2024	10:40	Snipe	2	30	0	0	30	0	highly modified/non-native woodland and scrub; travelling, alarming	NM
SN147	VP4	10/07/2024	11:49	Snipe	1	25	0	0	25	0	improved agricultural grassland and highly modified/non-native woodland; travelling, alarming	NM
SN148	VP4	10/07/2024	16:13	Snipe	3	45	15	30	0	0	improved agricultural grassland and highly modified/non-native woodland; travelling, swirling, calling	NM
SN149	VP4	10/07/2024	13:37	Snipe	1	20	0	0	20	0	highly modified/non-native woodland and scrub; travelling, alarming	NM
SN150	VP1	08/07/2024	08:03	Snipe	1	0	0	0	0	0	semi-natural grassland and improved agricultural grassland; chirping, numbers were estimates	NM
SN151	VP1	08/07/2024	08:47	Snipe	1	0	0	0	0	0	semi-natural grassland and bogs; chirping, numbers were estimates	NM
SN152	VP1	08/07/2024	09:54	Snipe	2	0	0	0	0	0	bogs and semi-natural grassland; chirping, numbers were estimates	NM
SN153	VP1	08/07/2024	10:17	Snipe	2	0	0	0	0	0	bogs and semi-natural grassland; chirping, numbers were estimates	NM
SN154	VP1	08/07/2024	10:31	Snipe	3	0	0	0	0	0	semi-natural grassland and bogs; chirping, flurry of chirping calls, numbers were estimates	NM
ML010	VP3	05/07/2024	21:14	Merlin	1	0	0	0	0	0	bogs; perched, preening, male	NM
SN155	VP3	05/07/2024	16:29	Snipe	5	0	0	0	0	0	bogs; chirping on ground, chirping in surrounding moorland throughout vp. never seen, only heard. scattered and sporadic, very hard to get an accurate number -> numbers were very rough, under estimate	NM
BZ285	VP1	14/08/2024	11:13	Buzzard	1	340	0	120	220	0	highly modified/non-native woodland, bogs and scrub; soaring, calling, circling	NM

K.108	VP1	14/08/2024	10:05	Kestrel	1	570	40	330	200	0	bogs, semi-natural grassland and highly modified/non-native woodland; hunting, hovering, disappearing across summit	NM
K.109	VP1	14/08/2024	14:45	Kestrel	1	140	0	70	70	0	bogs and semi-natural grassland; hunting, hovering, over vp2 area	NM
K.110	VP1	14/08/2024	11:39	Kestrel	1	50	30	20	0	0	bogs, highly modified/non-native woodland and improved agricultural grassland; travelling	NM
LB071	VP3	15/08/2024	17:28	Lesser Black-backed Gull	2	80	0	0	80	0	bogs and highly modified/non-native woodland; travelling, disappearing behind saddle hill	NM
H.024	VP3	15/08/2024	17:56	Grey Heron	1	130	0	100	30	0	bogs and highly modified/non-native woodland; travelling, calling	NM
BZ286	VP3	15/08/2024	14:55	Buzzard	1	70	25	45	0	0	bogs, highly modified/non-native woodland and scrub/transitional woodland; departing, travelling	NM
SN156	VP3	15/08/2024	14:56	Snipe	1	20	10	10	0	0	bogs; flushed, calling, flushed by bz flyover, swirling and landing within heather	NM
BZ287	VP3	15/08/2024	18:37	Buzzard	2	1400	0	250	700	450	highly modified/non-native woodland, bogs and scrub; soaring, circling, over br6/7 area, eventually dropping	NM
K.111	VP2	30/08/2024	14:31	Kestrel	1	65	5	30	30	0	bogs and semi-natural grassland; hunting, hovering, dropping abruptly	NM
BZ288	VP2	30/08/2024	15:10	Buzzard	1	70	0	0	40	30	#N/A	NM
K.112	VP2	30/08/2024	15:57	Kestrel	1	40	0	40	0	0	bogs; hovering, soaring	NM
WE002	VP2	30/08/2024	17:10	White-tailed Eagle	1	670	0	0	270	400	bogs and highly modified/non-native woodland; soaring, circling, soaring high, moving southeast. sex not confirmed. shadowed by group of raven	NM
K.113	VP2	30/08/2024	19:33	Kestrel	1	65	20	45	0	0	bogs, improved agricultural grassland and scrub; travelling, male	NM
H.025	VP4	02/08/2024	07:19	Grey Heron	1	65	0	0	65	0	highly modified/non-native woodland, improved agricultural grassland and scrub/transitional woodland; travelling	NM
H.026	VP4	02/08/2024	06:47	Grey Heron	2	35	0	35	0	0	improved agricultural grassland and scrub; travelling, calling, off site	NM

H.027	VP4	02/08/2024	09:02	Grey Heron	1	35	0	0	30	5	highly modified/non-native woodland and improved agricultural grassland; soaring, travelling	NM
LB072	VP4	02/08/2024	07:34	Lesser Black-backed Gull	1	25	0	0	25	0	highly modified/non-native woodland and scrub/transitional woodland; travelling	NM
LB073	VP4	02/08/2024	08:52	Lesser Black-backed Gull	6	50	0	20	30	0	improved agricultural grassland and scrub/transitional woodland; travelling, swooping, off site	NM
BZ289	VP4	02/08/2024	06:56	Buzzard	1	35	0	35	0	0	highly modified/non-native woodland, improved agricultural grassland and scrub/transitional woodland; travelling, calling, perching	NM
BZ290	VP4	02/08/2024	07:17	Buzzard	1	45	10	25	10	0	improved agricultural grassland, highly modified/non-native woodland and scrub; departing, travelling, swooping	NM
BZ291	VP4	02/08/2024	08:43	Buzzard	1	380	0	60	320	0	highly modified/non-native woodland and scrub; soaring, circling	NM
K.114	VP4	19/08/2024	13:04	Kestrel	1	30	25	5	0	0	scrub/transitional woodland, improved agricultural grassland and highly modified/non-native woodland; flushed, travelling, disappearing into forestry fringe	NM
K.115	VP4	19/08/2024	15:09	Kestrel	1	780	0	350	430	0	improved agricultural grassland and semi-natural grassland; hunting, hovering, departing, dropping abruptly numerous times but re-emerging soon after. off site	NM
LB074	VP4	19/08/2024	13:29	Lesser Black-backed Gull	2	60	0	0	60	0	improved agricultural grassland and highly modified/non-native woodland; travelling, across south of site	NM
SN157	VP4	19/08/2024	14:07	Snipe	2	45	5	10	30	0	highly modified/non-native woodland, scrub/transitional woodland and bogs; travelling, alarming, dropping and disappearing	NM
BZ292	VP4	19/08/2024	14:29	Buzzard	1	250	0	80	170	0	highly modified/non-native woodland, improved agricultural grassland and scrub/transitional woodland; travelling, calling, circling, moving southeast and off site	NM
BZ293	VP3	15/08/2024	14:35	Buzzard	1	0	0	0	0	0	highly modified/non-native woodland, bogs and scrub; perched	NM

BZ294	VP4	02/08/2024	06:57	Buzzard	1	0	0	0	0	0	scrub and improved agricultural grassland; perched	NM
GP040	VP3	26/09/2024	09:52	Golden Plover	12	18	0	0	18	0	upland blanket bog; flying	FLM
LB075	VP4	20/09/2024	11:18	Lesser Black-backed Gull	1	50	0	0	50	0	highly modified/non-native woodland, improved agricultural grassland and scrub/transitional woodland; travelling	NM
LB076	VP4	20/09/2024	12:19	Lesser Black-backed Gull	5	70	0	0	40	30	improved agricultural grassland, scrub/transitional woodland and highly modified/non-native woodland; travelling, swooping	NM
HG006	VP4	20/09/2024	10:43	Herring Gull	2	130	0	0	40	90	highly modified/non-native woodland, scrub/transitional woodland and improved agricultural grassland; travelling, moving southwest and off site	NM
K.116	VP4	20/09/2024	10:17	Kestrel	1	220	0	100	120	0	highly modified/non-native woodland, scrub/transitional woodland and improved agricultural grassland; travelling, hunting, dropping abruptly into rough farmland	NM
K.117	VP4	20/09/2024	10:38	Kestrel	1	340	40	160	140	0	improved agricultural grassland and scrub; hunting, hovering, travelling, likely the same individual as was seen 10 mins previous	NM
K.118	VP4	20/09/2024	12:26	Kestrel	1	-	-	-	-	-	improved agricultural grassland; perched, preening, within farmland, present when survey ended	NM
SH064	VP2	19/09/2024	10:26	Sparrowhawk	1	120	0	0	120	0	conifer plantation; soaring, female	AOD
BZ295	VP2	19/09/2024	11:15	Buzzard	1	240	0	0	180	60	conifer plantation; soaring	AOD
BZ296	VP2	19/09/2024	07:51	Buzzard	1	-	-	-	-	-	conifer plantation; call	AOD

Table 3.0 Breeding Raptor Surveys

Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
HH272	BR1	22/04/2024	13:25	Hen Harrier	1	upland blanket bog and conifer plantation, soaring, male	suitable nesting habitat; possible breeder	AOD
HH273	BR1	22/04/2024	13:46	Hen Harrier	1	conifer plantation, displaying, male sky dancing, dropped into wd4 at end	courtship and display; probable breeding	AOD
HH274	BR1	22/04/2024	14:22	Hen Harrier	1	upland blanket bog and conifer plantation, display, male sky dancing	courtship and display; probable breeding	AOD
HH275	BR1	22/04/2024	14:41	Hen Harrier	1	conifer plantation and upland blanket bog, flying, male flying over	suitable nesting habitat; possible breeder	AOD
HH276	BR1	22/04/2024	15:59	Hen Harrier	1	conifer plantation and upland blanket bog, flying, male, mobbed by hc briefly	suitable nesting habitat; possible breeder	AOD
HH277	BR1	05/04/2024	11:25	Hen Harrier	1	conifer plantation, flying over, male near historic nest sites	suitable nesting habitat; possible breeder	AOD
HH278	BR1	05/04/2024	12:21	Hen Harrier	1	upland blanket bog, foraging, male	suitable nesting habitat; possible breeder	AOD
HH279	BR1	05/04/2024	12:30	Hen Harrier	1	conifer plantation, flying over, male	suitable nesting habitat; possible breeder	AOD
HH280	BR1	05/04/2024	13:06	Hen Harrier	2	conifer plantation, display, sky dancing, immature male sky dancing on site followed by an adult male who chased younger bird	courtship and display; probable breeding	AOD
SH068	BR9	05/04/2024	16:45	Sparrowhawk	1	wet grassland, flying over	suitable nesting habitat; possible breeder	AOD
HH281	BR1	19/04/2024	12:47	Hen Harrier	1	conifer plantation, soaring	suitable nesting habitat; possible breeder	AOD
HH282	BR1	19/04/2024	12:55	Hen Harrier	2	conifer plantation, sky dancing, two males flying close together one began sky dancing	courtship and display; probable breeding	AOD

HH283	BR1	19/04/2024	12:57	Hen Harrier	1	conifer plantation, sky dancing, a third adult male began sky dancing away from the other two	courtship and display; probable breeding	AOD
HH284	BR1	19/04/2024	13:09	Hen Harrier	1	conifer plantation and upland blanket bog, sky dancing, same third male dancing up dough mtn and northwards	courtship and display; probable breeding	AOD
HH285	BR1	19/04/2024	13:11	Hen Harrier	1	conifer plantation, wet grassland and upland blanket bog, sky dancing, male sky dancing, three males dancing simultaneously	courtship and display; probable breeding	AOD
HH286	BR1	19/04/2024	13:12	Hen Harrier	1	conifer plantation, flying over, female flying low near historic nest sites	suitable nesting habitat; possible breeder	AOD
HH287	BR1	19/04/2024	13:13	Hen Harrier	1	conifer plantation, flying, male cruising over forestry, now three males visible	suitable nesting habitat; possible breeder	AOD
HH288	BR1	19/04/2024	13:18	Hen Harrier	2	conifer plantation, flying, two males flying close together while third dancing	suitable nesting habitat; possible breeder	AOD
HH289	BR1	19/04/2024	13:18	Hen Harrier	1	conifer plantation, sky dancing, male dancing, three males visible	courtship and display; probable breeding	AOD
HH290	BR1	19/04/2024	13:22	Hen Harrier	2	conifer plantation, courtship flight, male and female flying close interacting near historic nest areas	courtship and display; probable breeding	AOD
HH291	BR1	19/04/2024	13:31	Hen Harrier	1	conifer plantation, flying, another male flying near courting pair	suitable nesting habitat; possible breeder	AOD
HH292	BR1	19/04/2024	13:36	Hen Harrier	2	conifer plantation, soaring, male and female up male perched female soaring up high towards dough mtn alone	suitable nesting habitat; possible breeder	AOD
HH293	BR1	19/04/2024	13:49	Hen Harrier	3	conifer plantation, flying display, three adult males flying low together around historic nest area flew north chasing each other interacting	courtship and display; probable breeding	AOD
HH294	BR1	19/04/2024	14:00	Hen Harrier	1	conifer plantation, soaring, female	suitable nesting habitat; possible breeder	AOD
HH295	BR1	19/04/2024	14:02	Hen Harrier	2	conifer plantation, display, two males chasing low one began dancing	courtship and display; probable breeding	AOD
SH069	BR1	19/04/2024	14:03	Sparrowhawk	2	conifer plantation and wet grassland, courtship, pair	courtship and display; probable breeding	AOD

BZ156	BR1	19/04/2024	14:03	Buzzard	1	conifer plantation, soaring	suitable nesting habitat; possible breeder	AOD
HH296	BR1	19/04/2024	14:10	Hen Harrier	1	conifer plantation, soaring, sky dancing, male soaring began dancing northwards	courtship and display; probable breeding	AOD
HH297	BR1	19/04/2024	14:12	Hen Harrier	2	conifer plantation, courtship, two males chasing, thirds still visible dancing to north	courtship and display; probable breeding	AOD
HH298	BR1	19/04/2024	14:17	Hen Harrier	1	conifer plantation, soaring, male soaring	suitable nesting habitat; possible breeder	AOD
HH299	BR1	19/04/2024	14:31	Hen Harrier	1	conifer plantation, soaring, male	suitable nesting habitat; possible breeder	AOD
HH300	BR1	19/04/2024	14:39	Hen Harrier	1	wet grassland and upland blanket bog, soaring, male soaring	suitable nesting habitat; possible breeder	AOD
HH301	BR1	19/04/2024	14:39	Hen Harrier	1	conifer plantation, soaring, male soaring two visible	suitable nesting habitat; possible breeder	AOD
HH302	BR1	19/04/2024	14:44	Hen Harrier	1	conifer plantation, sky dancing, male	courtship and display; probable breeding	AOD
HH303	BR4	19/04/2024	15:42	Hen Harrier	1	upland blanket bog, foraging, prey carrying, male hunting caught prey flew off towards historic nest area	courtship and display; probable breeding	AOD
HH304	BR4	19/04/2024	16:02	Hen Harrier	1	upland blanket bog and conifer plantation, flying, sky dancing, likely same male as previous obs up from north began dancing heading south	courtship and display; probable breeding	AOD
HH305	BR4	19/04/2024	16:20	Hen Harrier	1	conifer plantation and upland blanket bog, sky dancing, male dancing over site historic nest site then soaring high to north	courtship and display; probable breeding	AOD
HH306	BR4	19/04/2024	16:38	Hen Harrier	1	upland blanket bog, foraging, female	suitable nesting habitat; possible breeder	AOD
HH307	BR4	19/04/2024	09:43	Hen Harrier	1	upland blanket bog, foraging, male likely following female	suitable nesting habitat; possible breeder	AOD
HH308	BR4	19/04/2024	17:10	Hen Harrier	1	conifer plantation and upland blanket bog, foraging, male	suitable nesting habitat; possible breeder	AOD

HH309	BR4	19/04/2024	17:38	Hen Harrier	1	conifer plantation, flying, male	suitable nesting habitat; possible breeder	AOD
BZ157	BR4	19/04/2024	18:10	Buzzard	1	upland blanket bog, foraging	suitable nesting habitat; possible breeder	AOD
HH310	BR4	22/04/2024	12:20	Hen Harrier	1	conifer plantation, soaring, foraging, sky dancing, male foraging on site then began dancing south	courtship and display; probable breeding	AOD
HH311	BR4	22/04/2024	13:15	Hen Harrier	1	conifer plantation and upland blanket bog, sky dancing, male dancing over historic nest areas on site and off site	courtship and display; probable breeding	AOD
HH312	BR4	22/04/2024	13:12	Hen Harrier	1	conifer plantation, flying, female flew up from forestry near male	suitable nesting habitat; possible breeder	AOD
HH313	BR1	01/05/2024	11:25	Hen Harrier	1	wet grassland, foraging, male foraging	suitable nesting habitat; possible breeder	AOD
HH314	BR1	01/05/2024	11:37	Hen Harrier	1	conifer plantation, fly, male low over trees	suitable nesting habitat; possible breeder	AOD
HH315	BR1	01/05/2024	12:19	Hen Harrier	1	conifer plantation, fly, male low lost in trees	suitable nesting habitat; possible breeder	AOD
HH316	BR1	01/05/2024	13:06	Hen Harrier	1	conifer plantation and wet grassland, flying, foraging, male up from forestry same area lost in previous obs. flew north began foraging up saddle hill	suitable nesting habitat; possible breeder	AOD
HH317	BR1	01/05/2024	13:14	Hen Harrier	1	conifer plantation, soaring, male.likely different bird to previous obs	suitable nesting habitat; possible breeder	AOD
HH318	BR1	01/05/2024	13:17	Hen Harrier	1	conifer plantation and upland blanket bog, fly, male	suitable nesting habitat; possible breeder	AOD
HH319	BR4	17/05/2024	10:20	Hen Harrier	1	conifer plantation, soaring, male	suitable nesting habitat; possible breeder	AOD
HH320	BR4	17/05/2024	11:01	Hen Harrier	1	upland blanket bog, foraging, male	suitable nesting habitat; possible breeder	AOD
HH321	BR4	17/05/2024	11:12	Hen Harrier	1	conifer plantation, soaring, male	suitable nesting habitat; possible breeder	AOD

HH322	BR4	17/05/2024	11:28	Hen Harrier	1	conifer plantation and upland blanket bog, flying, foraging, male flying then foraging, likely different male to previous obs based on location/time	suitable nesting habitat; possible breeder	AOD
HH323	BR4	17/05/2024	12:07	Hen Harrier	1	conifer plantation and upland blanket bog, display, male sky dancing strated on site flew north then back to site began dancing again a flew south	courtship and display; probable breeding	AOD
HH324	BR4	17/05/2024	12:37	Hen Harrier	2	conifer plantation, foodpass, male in with prey met by female up from vegetation femaleback down male flew north circling	adult carrying food/faecal sac; confirmed breeding	AOD
HH325	BR4	17/05/2024	14:48	Hen Harrier	2	conifer plantation, display, sky dancing, male sky dancing, second male appeared from low met first male, first male continued dancing second male lost in forestry	courtship and display; probable breeding	AOD
HH326	BR4	17/05/2024	15:07	Hen Harrier	1	conifer plantation, soaring, male. likely 3rd male today.	suitable nesting habitat; possible breeder	AOD
HH327	BR1	21/05/2024	14:20	Hen Harrier	1	upland blanket bog and conifer plantation, soaring, female circling low near 2023 nest area	suitable nesting habitat; possible breeder	AOD
HH328	BR1	21/05/2024	18:03	Hen Harrier	1	upland blanket bog, flying, female in flight low at 2023 nest area	suitable nesting habitat; possible breeder	AOD
HH329	BR1	21/05/2024	18:24	Hen Harrier	2	upland blanket bog and conifer plantation, foodpass, male in with prey to female, female up from perch returned to perch with prey.male then flew over to 2023 nest area.behaviour indcates nest likely	courtship and display; probable breeding	AOD
HH330	BR1	21/05/2024	19:27	Hen Harrier	2	conifer plantation and upland blanket bog, flying, display, male and female flying low together circling.flight frantic back and forth possible courtship or agitated behaviour	courtship and display; probable breeding	AOD
SH070	BR1	21/05/2024	19:49	Sparrowhawk	1	wet grassland, flying	suitable nesting habitat; possible breeder	AOD
HH331	BR4	22/05/2024	13:58	Hen Harrier	1	conifer plantation and upland blanket bog, sky dancing, foraging, male soaring then dancing began foraging then	courtship and display; probable breeding	AOD
HH332	BR4	22/05/2024	14:03	Hen Harrier	1	conifer plantation and upland blanket bog, sky dancing, male sky dancing	courtship and display; probable breeding	AOD

BZ158	BR4	22/05/2024	14:08	Buzzard	1	conifer plantation and upland blanket bog, soaring	suitable nesting habitat; possible breeder	AOD
BZ159	BR4	22/05/2024	14:08	Buzzard	1	conifer plantation, soaring	suitable nesting habitat; possible breeder	AOD
CA001	BR4	17/05/2024	14:09	Cormorant	1	conifer plantation, travelling	flyover; non-breeding	AOD
HH333	BR4	22/05/2024	14:57	Hen Harrier	1	conifer plantation, soaring, foraging, male flying low circling near suitable nest habitat. Then flew out towards site foraging	suitable nesting habitat; possible breeder	AOD
HH334	BR8	22/05/2024	16:42	Hen Harrier	1	conifer plantation, mobbing, male mobbing bz	agitated behaviour; probable breeding	AOD
HH335	BR8	22/05/2024	17:44	Hen Harrier	1	conifer plantation, flying, male flying low briefly dropped to ground possible nest	suitable nesting habitat; possible breeder	AOD
HH336	BR6	23/05/2024	09:34	Hen Harrier	1	conifer plantation, flying, displaying, male flying low over trees sky dancing briefly	suitable nesting habitat; possible breeder	AOD
HH337	BR6	23/05/2024	09:37	Hen Harrier	1	conifer plantation, displaying, male back out same direction it came in dancing high eastwards	courtship and display; probable breeding	AOD
OP001	BR6	23/05/2024	11:19	Osprey	1	conifer plantation, wet grassland and upland blanket bog, soaring, osprey adult soaring high	flyover; non-breeding	AOD
BZ160	BR7	23/05/2024	14:30	Buzzard	2	conifer plantation and wet grassland, display, pair in display flight	courtship and display; probable breeding	AOD
HH338	BR7	23/05/2024	14:39	Hen Harrier	1	conifer plantation, flying, male flying low over trees	suitable nesting habitat; possible breeder	AOD
HH339	BR7	23/05/2024	15:27	Hen Harrier	1	conifer plantation, soaring, male back the way he came	suitable nesting habitat; possible breeder	AOD
K.025	BR6	23/05/2024	12:08	Kestrel	1	wet grassland and upland blanket bog, foraging	suitable nesting habitat; possible breeder	AOD
HH340	BR1	28/05/2024	13:08	Hen Harrier	1	conifer plantation and wet grassland, soaring, foraging, male soaring up from probable nest site then foraging	suitable nesting habitat; possible breeder	AOD
HH341	BR1	28/05/2024	13:38	Hen Harrier	1	conifer plantation, prey carry, male in with prey to possible nest site, dropped to ground	suitable nesting habitat; possible breeder	AOD

HH342	BR8	30/05/2024	14:33	Hen Harrier	1	conifer plantation, flying, male flying low near possible nest site	suitable nesting habitat; possible breeder	AOD
HH343	BR8	30/05/2024	14:57	Hen Harrier	1	conifer plantation, display, male sky dancing and calling	courtship and display; probable breeding	AOD
HH344	BR8	30/05/2024	15:59	Hen Harrier	1	conifer plantation, display, calling, male calling	courtship and display; probable breeding	AOD
HH345	BR8	30/05/2024	16:14	Hen Harrier	2	conifer plantation, flying, female and male flying low, likely nest nearby. Female circled back male lost	occupied nest; confirmed breeding	AOD
HH346	BR8	30/05/2024	16:26	Hen Harrier	1	conifer plantation, prey carrying, male in with prey dropped to ground came up without prey flew north foraging. Nest location confirmed in young forestry	adult carrying food/faecal sac; confirmed breeding	AOD
HH347	BR8	30/05/2024	16:51	Hen Harrier	1	conifer plantation, flying from nest, female flew up from nest	occupied nest; confirmed breeding	AOD
HH348	BR3	30/05/2024	17:39	Hen Harrier	1	conifer plantation and upland blanket bog, at nest, flying, female flew up from 2023 nest site circled briefly then dropped back	occupied nest; confirmed breeding	AOD
HH349	BR3	30/05/2024	17:55	Hen Harrier	2	conifer plantation and upland blanket bog, foodpass, prey carrying, male in with prey female up from nest foodpass female back down male perched in tree.nest confirmed.	adult carrying food/faecal sac; confirmed breeding	AOD
BZ161	BR7	16/05/2024	14:19	Buzzard	1	conifer plantation, soaring	suitable nesting habitat; possible breeder	AOD
HH350	BR3	30/05/2024	20:15	Hen Harrier	1	conifer plantation, flying, male dropped into nest area	suitable nesting habitat; possible breeder	AOD
HH351	BR1	27/06/2024	15:39	Hen Harrier	1	upland blanket bog, conifer plantation and wet grassland, foraging, female up from nest area foraging near nest then out west	occupied nest; confirmed breeding	AOD
SH071	BR1	27/06/2024	17:11	Sparrowhawk	1	conifer plantation, prey carrying, female with prey	adult carrying food/faecal sac; confirmed breeding	AOD
HH352	BR1	27/06/2024	17:56	Hen Harrier	1	conifer plantation and upland blanket bog, prey carrying, female into nest with prey from north	adult carrying food/faecal sac; confirmed breeding	AOD

HH353	BR2	27/06/2024	18:48	Hen Harrier	1	wet grassland, foraging, male	suitable nesting habitat; possible breeder	AOD
BZ162	BR4	18/06/2024	12:21	Buzzard	1	conifer plantation and upland blanket bog, soaring	suitable nesting habitat; possible breeder	AOD
HH354	BR2	18/06/2024	17:50	Hen Harrier	2	conifer plantation, foodpass, male in with prey to female	adult carrying food/faecal sac; confirmed breeding	AOD
SH072	BR6	26/06/2024	12:00	Sparrowhawk	1	conifer plantation and wet grassland, prey carrying, adult with prey into conifers	adult carrying food/faecal sac; confirmed breeding	AOD
BZ163	BR10	24/06/2024	14:39	Buzzard	1	highly modified/non-native woodland, bogs and improved agricultural grassland, soaring, circling, bays east, 1.5km off site	suitable nesting habitat; possible breeder	NM
ML004	BR11	24/06/2024	21:24	Merlin	1	bogs and semi-natural grassland, hunting, travelling, br11. female, chasing passerines	suitable nesting habitat; possible breeder	NM
BZ164	BR5	25/06/2024	15:24	Buzzard	2	highly modified/non-native woodland, improved agricultural grassland and scrub/transitional woodland, soaring, circling, raheelin	pair; probable breeding	NM
BZ165	BR5	25/06/2024	17:26	Buzzard	1	highly modified/non-native woodland and scrub/transitional woodland, travelling, calling	suitable nesting habitat; possible breeder	NM
BZ166	BR12	25/06/2024	19:51	Buzzard	2	highly modified/non-native woodland and improved agricultural grassland, soaring, circling, off site, over br 6/7 area	pair; probable breeding	NM
K.026	BR12	25/06/2024	18:47	Kestrel	1	bogs and improved agricultural grassland, hunting, hovering, faughery windfarm	suitable nesting habitat; possible breeder	NM
K.027	BR12	25/06/2024	21:54	Kestrel	1	bogs and highly modified/non-native woodland, travelling, disappearing into woodland adjacent to br6	flyover; non-breeding	NM
K.028	BR12	25/06/2024	19:53	Kestrel	1	bogs, semi-natural grassland and improved agricultural grassland, hunting, hovering, dropping abruptly	suitable nesting habitat; possible breeder	NM
K.029	BR12	25/06/2024	20:11	Kestrel	1	bogs, improved agricultural grassland and scrub/transitional woodland, hunting, hovering, likely the same individual as was seen 15mins previous	suitable nesting habitat; possible breeder	NM
SH073	BR1	30/07/2024	12:57	Sparrowhawk	1	upland blanket bog and conifer plantation, soaring	suitable nesting habitat; possible breeder	AOD

K.030	VP2 / BR4 area	15/07/2024	13:33	Kestrel	1	bogs, hunting, hovering, travelling	suitable nesting habitat; possible breeder	NM
K.031	BRT1	15/07/2024	19:47	Kestrel	1	bogs, scrub and semi-natural grassland, hunting, hovering, and adjacent to vp3 area	suitable nesting habitat; possible breeder	NM
K.032	BRT1 (Lissinagroagh)	15/07/2024	16:29	Kestrel	1	bogs, improved agricultural grassland and scrub, travelling, perched very briefly before continuing	suitable nesting habitat; possible breeder	NM
BZ167	BRT1 (Monecageer area)	15/07/2024	14:42	Buzzard	3	highly modified/non-native woodland, bogs and scrub, soaring, circling, three individuals - possibly a juvenile present but unable to see due to distance away	pair; probable breeding	NM
BZ168	BRT1 (Lissinagroagh area)	15/07/2024	19:57	Buzzard	2	improved agricultural grassland, highly modified/non-native woodland and scrub, calling, chasing, begging, swooping, adult with juveniles chasing and begging, descending and were lost behind woodland on s boundary (tawnylust)	fledged young; confirmed breeding	NM
BZ169	BRT1 (Glenkeel)	15/07/2024	19:27	Buzzard	1	highly modified/non-native woodland and improved agricultural grassland, soaring, calling, travelling	suitable nesting habitat; possible breeder	NM
BZ170	BRT1	15/07/2024	17:59	Buzzard	1	bogs and highly modified/non-native woodland, travelling low	flyover; non-breeding	NM
ML005	BRT1	15/07/2024	17:54	Merlin	1	bogs, semi-natural grassland and highly modified/non-native woodland, hunting, swooping, travelling, female	suitable nesting habitat; possible breeder	NM
ML006	BRT1	15/07/2024	19:28	Merlin	1	bogs and scrub, hunting, travelling, perching	suitable nesting habitat; possible breeder	NM
ML007	BRT1	15/07/2024	19:33	Merlin	1	scrub and bogs, perched, female, perched on fence post for 25mins before continuing	suitable nesting habitat; possible breeder	NM
ML008	BRT1 (Lissinagroagh area)	15/07/2024	20:04	Merlin	1	bogs, improved agricultural grassland and scrub/transitional woodland, departing, travelling, vanishing into scrubby farmland at bottom of hill	suitable nesting habitat; possible breeder	NM

BZ171	BR10	16/07/2024	16:50	Buzzard	1	highly modified/non-native woodland and improved agricultural grassland, soaring, calling	suitable nesting habitat; possible breeder	NM
BZ172	BR5	16/07/2024	18:31	Buzzard	1	highly modified/non-native woodland and scrub/transitional woodland, travelling, calling, low across forestry	suitable nesting habitat; possible breeder	NM
BZ173	BR5	16/07/2024	18:07	Buzzard	1	highly modified/non-native woodland, calling, not seen. possible juvenile within forestry	fledged young; confirmed breeding	NM
BZ174	BR5	16/07/2024	19:09	Buzzard	1	highly modified/non-native woodland, perched, calling, departing, departing southeast, low across forestry	suitable nesting habitat; possible breeder	NM
BZ175	BR5	16/07/2024	19:56	Buzzard	1	highly modified/non-native woodland, flying, calling, perching, juvenile	fledged young; confirmed breeding	NM
HH355	BR6	18/07/2024	18:21	Hen Harrier	1	bogs and scrub, foraging, travelling, male	suitable nesting habitat; possible breeder	NM
HH356	BR6	18/07/2024	19:45	Hen Harrier	1	bogs and highly modified/non-native woodland, foraging, travelling, male (possibly the same individual), continuing northwest over young forestry before being lost	suitable nesting habitat; possible breeder	NM
K.033	BR12	18/07/2024	10:17	Kestrel	1	bogs, highly modified/non-native woodland and improved agricultural grassland, travelling, disappearing into farmland	flyover; non-breeding	NM
K.034	BR12	18/07/2024	11:04	Kestrel	1	bogs, improved agricultural grassland and semi-natural grassland, hunting, hovering, largely within faughery windfarm. dropping abruptly into heather / scrub	suitable nesting habitat; possible breeder	NM
BZ176	Faughery	18/07/2024	11:43	Buzzard	1	semi-natural grassland, bogs and improved agricultural grassland, travelling low, calling	flyover; non-breeding	NM
BZ177	Tullyskeherny / Lisross	18/07/2024	22:13	Buzzard	1	improved agricultural grassland and linear woodland/scrub, travelling low, calling, travelling low across farmland within glen at dusk	suitable nesting habitat; possible breeder	NM
K.035	BR6	18/07/2024	21:27	Kestrel	1	bogs, semi-natural grassland and scrub, hunting, hovering, dropping abruptly on a few occasions but rising again almost immediately	suitable nesting habitat; possible breeder	NM
SH074	BR6	18/07/2024	18:53	Sparrowhawk	1	scrub, bogs and highly modified/non-native woodland, travelling low, vanishing into forestry	suitable nesting habitat; possible breeder	NM

K.036	BR3	14/08/2024	11:15	Kestrel	1	upland blanket bog, foraging	suitable nesting habitat; possible breeder	AOD
SH075	BR7	16/08/2024	11:55	Sparrowhawk	1	conifer plantation, flying	suitable nesting habitat; possible breeder	AOD
BZ178	BR4	16/08/2024	10:10	Buzzard	1	conifer plantation, soaring	suitable nesting habitat; possible breeder	AOD
K.037	BR4	29/08/2024	12:02	Kestrel	1	upland blanket bog and conifer plantation, foraging	suitable nesting habitat; possible breeder	AOD
SH076	Faughery	16/08/2024	06:12	Sparrowhawk	1	highly modified/non-native woodland, scrub and improved agricultural grassland, perched, flushed, flying, flying low within farmland	suitable nesting habitat; possible breeder	NM
BZ179	BR5	16/08/2024	08:04	Buzzard	1	highly modified/non-native woodland and scrub, flying, circling, dropping, dropping into forestry, met with flurry of begging calls	adult carrying food/faecal sac; confirmed breeding	NM
BZ180	BR5	16/08/2024	08:08	Buzzard	2	highly modified/non-native woodland and scrub, begging calls, at least two juveniles. begging calls when adult arrived with food	fledged young; confirmed breeding	NM
BZ181	BR5	16/08/2024	09:14	Buzzard	1	highly modified/non-native woodland and scrub, flying, calling, juvenile, fluttering within forestry before dropping into canopy	fledged young; confirmed breeding	NM
BZ182	BR5	16/08/2024	07:04	Buzzard	2	highly modified/non-native woodland and scrub, calling, juveniles calling, at least two individuals	fledged young; confirmed breeding	NM
BZ183	BR5	16/08/2024	06:27	Buzzard	1	highly modified/non-native woodland and scrub, gliding, calling, low over forestry	suitable nesting habitat; possible breeder	NM
K.038	Faughery	16/08/2024	09:56	Kestrel	1	bogs and semi-natural grassland, hunting, hovering, travelling, female	suitable nesting habitat; possible breeder	NM
BZ184	BR10	16/08/2024	12:28	Buzzard	1	improved agricultural grassland, scrub/transitional woodland and highly modified/non-native woodland, travelling, calling, circling	suitable nesting habitat; possible breeder	NM
K.039	Faughery	16/08/2024	14:09	Kestrel	1	improved agricultural grassland, bogs and scrub/transitional woodland, hunting, hovering	suitable nesting habitat; possible breeder	NM

K.040	VP2 area	22/08/2024	08:49	Kestrel	1	bogs and semi-natural grassland, hunting, hovering	suitable nesting habitat; possible breeder	NM
BZ185	Faughery	22/08/2024	08:58	Buzzard	1	highly modified/non-native woodland, bogs and improved agricultural grassland, travelling, gliding, travelling across site, moving towards vp4 area before being lost behind terrain	flyover; non-breeding	NM
BZ186	Killea	22/08/2024	09:09	Buzzard	1	highly modified/non-native woodland, improved agricultural grassland and scrub, soaring, hovering	suitable nesting habitat; possible breeder	NM
K.041	BRT1 - Tawnylust	22/08/2024	10:04	Kestrel	1	bogs, semi-natural grassland and scrub/transitional woodland, hunting, hovering	suitable nesting habitat; possible breeder	NM
K.042	BRT1 - Lissinagroagh	22/08/2024	10:19	Kestrel	1	bogs, scrub/transitional woodland and improved agricultural grassland, hunting, hovering, departing, travelling, vanishing into scrubby farmland and forestry edges	suitable nesting habitat; possible breeder	NM
K.043	BRT1 - Killea	22/08/2024	12:56	Kestrel	1	bogs, hunting, hovering	suitable nesting habitat; possible breeder	NM
BZ187	BRT1 - Lissinagroagh	22/08/2024	10:58	Buzzard	1	improved agricultural grassland, scrub and highly modified/non-native woodland, travelling, circling	suitable nesting habitat; possible breeder	NM
BZ188	BRT1 - Lissinagroagh	22/08/2024	11:17	Buzzard	2	scrub/transitional woodland, highly modified/non-native woodland and improved agricultural grassland, soaring, circling, moving southeast and off site	pair; probable breeding	NM
BZ189	BRT1 - Glenkeel	22/08/2024	09:55	Buzzard	1	improved agricultural grassland and highly modified/non-native woodland, travelling, off site	suitable nesting habitat; possible breeder	NM
BZ190	BRT1 - Boleyboy	22/08/2024	15:47	Buzzard	1	improved agricultural grassland, scrub/transitional woodland and highly modified/non-native woodland, travelling, soaring	suitable nesting habitat; possible breeder	NM

BZ191	BRT1 - Tullyskeherny / Lattone	22/08/2024	13:21	Buzzard	2	highly modified/non-native woodland, bogs and scrub/transitional woodland, soaring, circling, high, off site	pair; probable breeding	NM
BZ192	Cashelaveela	22/08/2024	16:03	Buzzard	1	improved agricultural grassland and scrub, travelling, gliding	suitable nesting habitat; possible breeder	NM
BZ193	BR12	23/08/2024	12:19	Buzzard	1	highly modified/non-native woodland, scrub/transitional woodland and improved agricultural grassland, soaring, circling, travelling, soaring over vp4 area and southwest of site, moving southeast	flyover; non-breeding	NM
BZ194	BR12	23/08/2024	11:39	Buzzard	1	highly modified/non-native woodland, bogs and improved agricultural grassland, soaring, circling, br7 area	suitable nesting habitat; possible breeder	NM
BZ195	BR12	23/08/2024	14:07	Buzzard	1	improved agricultural grassland and linear woodland/scrub, travelling, low within glen	flyover; non-breeding	NM
K.044	Faughery	23/08/2024	15:05	Kestrel	1	bogs and improved agricultural grassland, hunting, hovering	suitable nesting habitat; possible breeder	NM
BZ196	Tullyskeherny	23/08/2024	15:49	Buzzard	1	highly modified/non-native woodland and scrub, travelling, gliding	suitable nesting habitat; possible breeder	NM
K.045	BR6	23/08/2024	18:49	Kestrel	1	bogs and highly modified/non-native woodland, hunting, hovering, departing	suitable nesting habitat; possible breeder	NM
K.046	Lisdarush / Coolodonnell	23/08/2024	19:40	Kestrel	1	bogs, semi-natural grassland and improved agricultural grassland, hunting, hovering, travelling	suitable nesting habitat; possible breeder	NM

Table 4.0 Foraging VP Surveys

Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
HH100	FVP1	20/06/2024	11:32	Hen Harrier	1	upland blanket bog, flying, female low at nest	suitable nesting habitat; possible breeder	AOD
HH101	FVP1	20/06/2024	11:52	Hen Harrier	2	conifer plantation, upland blanket bog and, food pass, male in with prey met female. Male then perched then flew off east	adult carrying food/faecal sac; confirmed breeding	AOD
HH102	FVP1	20/06/2024	12:53	Hen Harrier	1	upland blanket bog, conifer plantation and , foraging, female foraging near nest	suitable nesting habitat; possible breeder	AOD
HH103	FVP1	20/06/2024	13:10	Hen Harrier	2	conifer plantation, foodpass, male in from north with prey foodpass with female over nest.female dropped to nest male to perch		AOD
HH104	FVP2	20/06/2024	17:18	Hen Harrier	1	conifer plantation, flying, male near nest	suitable nesting habitat; possible breeder	AOD
HH105	FVP4	07/06/2024	12:05	Hen Harrier	1	upland blanket bog, conifer plantation and , foraging prey carry, male foraging then carrying prey to nest area	adult carrying food/faecal sac; confirmed breeding	AOD
HH106	FVP2	07/06/2024	15:32	Hen Harrier	1	conifer plantation, prey carrying, male in with prey dropped to nest area	adult carrying food/faecal sac; confirmed breeding	AOD
HH107	FVP2	07/06/2024	16:20	Hen Harrier	1	wet grassland, foraging, male foraging over farmland	suitable nesting habitat; possible breeder	AOD
HH108	FVP2	07/06/2024	17:01	Hen Harrier	1	conifer plantation, upland blanket bog and wet grassland, foraging, male foraging caught prey flew to nest area	adult carrying food/faecal sac; confirmed breeding	AOD
HH109	FVP4	12/06/2024	17:46	Hen Harrier	1	upland blanket bog, foraging, male	suitable nesting habitat; possible breeder	AOD
HH110	FVP2	12/07/2024	12:24	Hen Harrier	1	wet grassland, upland blanket bog and , foraging, male foraging	suitable nesting habitat; possible breeder	AOD

Table 5.0 Incidental Observations

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ028	Vantage Point Survey; VP2 approach	02/04/2024	14:29	Buzzard	2	improved agricultural grassland, scrub and linear woodland/scrub; calling, travelling	NM
SN078	Vantage Point Survey; VP2	02/04/2024	21:16	Snipe	2	bogs; flushed	NM
SN079	Vantage Point Survey; VP1	04/04/2024	21:17	Snipe	3	bogs and semi-natural grassland; flushed, alarming	NM
LB055	Breeding Raptor Survey; Faughry	05/04/2024	12:52	Lesser Black-backed Gull	2	conifer plantation; flying over, adults	AOD
GP004	Breeding Raptor Survey; dough mtn	19/04/2024	15:41	Golden Plover	80	upland blanket bog; flying	AOD
SN080	Vantage Point Survey; VP4 approach	29/04/2024	15:14	Snipe	2	improved agricultural grassland and semi-natural grassland; flushed	NM
SN081	Vantage Point Survey; VP4	29/04/2024	22:06	Snipe	1	semi-natural grassland and highly modified/non-native woodland; flushed, alarming	NM
SN082	Vantage Point Survey; VP4 area, numbers were estimates	29/04/2024	22:09	Snipe	3	improved agricultural grassland and semi-natural grassland; drumming, chasing	NM
SN083	Vantage Point Survey; VP4 retreat	29/04/2024	22:19	Snipe	1	improved agricultural grassland and semi-natural grassland; drumming	NM
LB056	Breeding Raptor Survey; Faughry	01/05/2024	11:29	Lesser Black-backed Gull	6	wet grassland; fly	AOD
RG020	Breeding Raptor Survey; Dough mtn/ killea	01/05/2024	16:05	Red Grouse	1	upland blanket bog; call	AOD
HH020	Breeding Raptor Survey; Faughry	22/05/2024	15:17	Hen Harrier	1	#N/A	AOD
LB057	Breeding Raptor Survey; Raheelin	22/05/2024	18:46	Lesser Black-backed Gull	1	conifer plantation; fly, adult	AOD
LB058	Breeding Raptor Survey; Faughry	28/05/2024	13:50	Lesser Black-backed Gull	4	wet grassland and conifer plantation; flying, adults	AOD
SN084	Vantage Point Survey; VP3	15/05/2024	11:03	Snipe	2	bogs; flushed, alarming	NM
SN085	Vantage Point Survey; VP1	31/05/2024	04:02	Snipe	1	bogs and semi-natural grassland; flushed	NM
SN086	Vantage Point Survey; VP1	31/05/2024	04:04	Snipe	2	bogs and semi-natural grassland; flushed	NM
SN087	Vantage Point Survey; VP1	31/05/2024	10:39	Snipe	1	bogs and semi-natural grassland; flushed	NM
SN088	Vantage Point Survey; VP4 approach	07/05/2024	04:40	Snipe	1	improved agricultural grassland and semi-natural grassland; drumming	NM

LE003	Breeding Raptor Survey; Raheelin	20/06/2024	17:34	Long-eared Owl	1	conifer plantation; alarm call, parent alarm confirmed nest area.nest not visible	AOD
LB059	Breeding Raptor Survey; Raheelin	20/06/2024	15:37	Lesser Black-backed Gull	1	conifer plantation; flying, adult	AOD
RG021	Breeding Raptor Survey; Killea	20/06/2024	19:25	Red Grouse	1	upland blanket bog; call	AOD
LE004	Breeding Raptor Survey; Faughery	28/06/2024	14:00	Long-eared Owl	1	conifer plantation; begging call, young calling unseen, nest in area	AOD
SN089	Breeding Raptor Survey; Dough mtn	28/06/2024	15:17	Snipe	2	upland blanket bog; fly/displaying, both snipe displaying in flight	AOD
LB060	Breeding Raptor Survey; Tawnyfeacle	04/07/2024	09:54	Lesser Black-backed Gull	6	conifer plantation; flying, adults	AOD
SH021	Breeding Raptor Survey; Tawnyfeacle	04/07/2024	09:55	Sparrowhawk	1	conifer plantation; foraging	AOD
SH022	Breeding Raptor Survey; faughery	04/07/2024	10:55	Sparrowhawk	1	conifer plantation; soaring	AOD
SH023	Breeding Raptor Survey; Tawnyfeacle	04/07/2024	11:12	Sparrowhawk	3	conifer plantation; prey carrying, male and female carrying prey and then two birds flying together	AOD
LB061	Breeding Raptor Survey; Raheelin	04/07/2024	15:09	Lesser Black-backed Gull	4	conifer plantation; flying	AOD
SH024	Breeding Raptor Survey; Raheelin	04/07/2024	15:10	Sparrowhawk	1	conifer plantation; flying	AOD
SN090	Breeding Raptor Survey; Killea	05/07/2024	11:18	Snipe	1	upland blanket bog; flying	AOD
LB062	Breeding Raptor Survey; Saddle hill	07/06/2024	14:16	Lesser Black-backed Gull	2	conifer plantation; flying over, adults	AOD
RG022	Breeding Raptor Survey; Dough Mtn.	18/06/2024	11:50	Red Grouse	1	upland blanket bog; on ground, female slow to move on likely had chicks unseen	AOD
SN091	Breeding Raptor Survey; Killea	05/07/2024	09:35	Snipe	1	upland blanket bog; flying	AOD
RG023	Breeding Raptor Survey; Saddle Hill	05/07/2024	10:32	Red Grouse	1	upland blanket bog; call	AOD
SN092	Breeding Raptor Survey; BR11	24/06/2024	19:40	Snipe	3	bogs; chirping	NM
SN093	Breeding Raptor Survey; BR11	24/06/2024	19:58	Snipe	1	bogs and semi-natural grassland; drumming, swooping	NM
SN094	Breeding Raptor Survey; BR11	24/06/2024	20:02	Snipe	2	bogs; flushed, alarming	NM
RG024	Breeding Raptor Survey; BR11	24/06/2024	21:54	Red Grouse	2	bogs; flushed, calling, landing, flushed by fox	NM
H.007	Breeding Raptor Survey; BR5	25/06/2024	16:58	Grey Heron	1	highly modified/non-native woodland, improved agricultural grassland and bogs; travelling	NM

H.008	Breeding Raptor Survey; BR12	25/06/2024	18:54	Grey Heron	1	improved agricultural grassland and highly modified/non-native woodland; travelling, traversing south area of site	NM
H.009	Breeding Raptor Survey; BR12	25/06/2024	20:03	Grey Heron	2	improved agricultural grassland; travelling low, calling	NM
LB063	Breeding Raptor Survey; BR12	25/06/2024	19:17	Lesser Black-backed Gull	5	improved agricultural grassland, highly modified/non-native woodland and bogs; travelling, travelling along north buffer	NM
SN095	Breeding Raptor Survey; Faughery windfarm	25/06/2024	18:09	Snipe	2	bogs; flushed, alarming	NM
SH025	Vantage Point Survey; VP4 approach (Skreeny)	06/06/2024	13:23	Sparrowhawk	1	improved agricultural grassland and linear woodland/scrub; hunting, perching	NM
LB064	Breeding Raptor Survey; Tawnyfeacle	16/07/2024	09:23	Lesser Black-backed Gull	2	conifer plantation; flying, adults	AOD
K.005	Breeding Raptor Survey; Tawnyfeacle	16/07/2024	11:40	Kestrel	1	upland blanket bog; foraging	AOD
SH026	Breeding Raptor Survey; Tawnyfeacle	16/07/2024	11:47	Sparrowhawk	1	wet grassland; flying, female	AOD
LB065	Breeding Raptor Survey; Raheelin	16/07/2024	12:39	Lesser Black-backed Gull	2	conifer plantation; flying	AOD
LB066	Breeding Raptor Survey; Curraghfore	18/07/2024	16:22	Lesser Black-backed Gull	3	wet grassland and improved agricultural grassland; flying	AOD
H.010	Breeding Raptor Survey; Glenkeel (BRT1)	15/07/2024	19:24	Grey Heron	2	improved agricultural grassland and highly modified/non-native woodland; travelling, calling	NM
LB067	Breeding Raptor Survey; BR10	16/07/2024	14:36	Lesser Black-backed Gull	2	highly modified/non-native woodland, improved agricultural grassland and scrub; travelling	NM
SN096	Breeding Raptor Survey; BR12	18/07/2024	07:44	Snipe	2	bogs, semi-natural grassland and improved agricultural grassland; flushed, alarming	NM
LB068	Breeding Raptor Survey; BR12	18/07/2024	08:16	Lesser Black-backed Gull	2	highly modified/non-native woodland, improved agricultural grassland and bogs; travelling	NM
LB069	Breeding Raptor Survey; BR12	18/07/2024	08:21	Lesser Black-backed Gull	1	highly modified/non-native woodland, bogs and improved agricultural grassland; travelling	NM
LB070	Breeding Raptor Survey; BR12	18/07/2024	08:39	Lesser Black-backed Gull	7	highly modified/non-native woodland, improved agricultural grassland and bogs; travelling, swooping	NM
LB071	Breeding Raptor Survey; BR12	18/07/2024	10:57	Lesser Black-backed Gull	2	highly modified/non-native woodland and improved agricultural grassland; travelling	NM
LB072	Breeding Raptor Survey; BR6	18/07/2024	18:23	Lesser Black-backed Gull	1	highly modified/non-native woodland and scrub/transitional woodland; travelling	NM
SN097	Breeding Raptor Survey; BR6	18/07/2024	18:30	Snipe	5	bogs and semi-natural grassland; chirping, calling within br area frequently throughout, numbers were an estimate	NM
SN098	Breeding Raptor Survey; BR6	18/07/2024	19:47	Snipe	1	bogs, highly modified/non-native woodland and scrub; flying, calling	NM
SN099	Breeding Raptor Survey; BR6	18/07/2024	18:49	Snipe	2	bogs; travelling, swooping, landing, landing within moorland	NM

SN100	Breeding Raptor Survey; BR6	18/07/2024	21:31	Snipe	2	bogs, semi-natural grassland and scrub; flushed	NM
SN101	Vantage Point Survey; VP2 retreat	03/07/2024	19:13	Snipe	2	bogs; flushed, alarming	NM
SN102	Vantage Point Survey; VP3 approach	05/07/2024	15:07	Snipe	2	bogs; flushed	NM
SN103	Vantage Point Survey; VP3 retreat	05/07/2024	21:53	Snipe	3	bogs; flushed, alarming, dropping into moorland not far away	NM
SN104	Vantage Point Survey; VP3 retreat	05/07/2024	22:03	Snipe	1	bogs; flushed	NM
SN105	Vantage Point Survey; VP3 retreat	05/07/2024	21:52	Snipe	5	bogs; drumming, swirling, swooping, chasing, scattered within heather moorland, numbers were rough. separate territories	NM
SN106	Vantage Point Survey; VP4 approach	10/07/2024	09:45	Snipe	2	improved agricultural grassland; flushed	NM
SN107	Vantage Point Survey; VP4 approach	10/07/2024	09:48	Snipe	1	improved agricultural grassland and highly modified/non-native woodland; flushed	NM
SN108	Vantage Point Survey; Skreeny	10/07/2024	16:51	Snipe	2	improved agricultural grassland and linear woodland/scrub; travelling, alarming	NM
H.011	Vantage Point Survey; Skreeny	10/07/2024	16:44	Grey Heron	1	improved agricultural grassland and linear woodland/scrub; travelling	NM
LB073	Breeding Raptor Survey; Curraghfore	14/08/2024	10:29	Lesser Black-backed Gull	5	improved agricultural grassland; flying, adults and juveniles	AOD
LB074	Breeding Raptor Survey; Curraghfore	14/08/2024	10:31	Lesser Black-backed Gull	4	improved agricultural grassland; flying, juveniles	AOD
LB075	Breeding Raptor Survey; Raheelin	14/08/2024	15:46	Lesser Black-backed Gull	3	conifer plantation; flying	AOD
LB076	Breeding Raptor Survey; BR10 (Lissinagroagh / Tawnylust)	16/08/2024	11:18	Lesser Black-backed Gull	1	bogs and highly modified/non-native woodland; travelling	NM
K.006	Vantage Point Survey; Lissinagroagh	30/08/2024	16:51	Kestrel	1	bogs and highly modified/non-native woodland; hunting, hovering, departing	NM
RG025	Vantage Point Survey; Killea	30/08/2024	20:54	Red Grouse	1	bogs; calling, only heard, dusk	NM
SN109	Vantage Point Survey; VP4 approach	19/08/2024	12:51	Snipe	1	improved agricultural grassland and linear woodland/scrub; travelling, alarming	NM
SN110	Vantage Point Survey; VP4 retreat	19/08/2024	16:07	Snipe	2	improved agricultural grassland and semi-natural grassland; flushed, alarming, rushy pasture	NM
SN111	Breeding Raptor Survey; BRT1	22/08/2024	09:16	Snipe	1	bogs; flushed, alarming	NM

LB077	Breeding Raptor Survey; BRT1	22/08/2024	09:56	Lesser Black-backed Gull	7	bogs, highly modified/non-native woodland and improved agricultural grassland; travelling, swooping, across site	NM
LB078	Breeding Raptor Survey; Glenkeel	22/08/2024	11:06	Lesser Black-backed Gull	2	improved agricultural grassland and highly modified/non-native woodland; travelling, along valley	NM
LB079	Breeding Raptor Survey; Off site	22/08/2024	15:21	Lesser Black-backed Gull	1	improved agricultural grassland; travelling	NM
SN112	Breeding Raptor Survey; BRT1	22/08/2024	10:16	Snipe	2	bogs; flushed, alarming, dropping into heather moorland near vp3	NM
SN113	Breeding Raptor Survey; BRT1	22/08/2024	14:01	Snipe	1	bogs and highly modified/non-native woodland; flushed, alarming	NM
H.012	Breeding Raptor Survey; Faughery	23/08/2024	10:54	Grey Heron	1	improved agricultural grassland, highly modified/non-native woodland and scrub; travelling	NM
H.013	Breeding Raptor Survey; BR12	23/08/2024	12:39	Grey Heron	1	bogs and highly modified/non-native woodland; travelling, soaring high, soaring high over br6 / 9 area	NM
H.014	Breeding Raptor Survey; BR12	23/08/2024	14:04	Grey Heron	1	improved agricultural grassland; travelling, within glen	NM
SN114	Breeding Raptor Survey; Faughery wind farm	23/08/2024	14:50	Snipe	1	bogs and improved agricultural grassland; flushed, alarming	NM
LB080	Breeding Raptor Survey; BR6	23/08/2024	19:16	Lesser Black-backed Gull	5	highly modified/non-native woodland and bogs; travelling, high over killea / vp3 area	NM
LB081	Breeding Raptor Survey; BR6	23/08/2024	16:19	Lesser Black-backed Gull	1	bogs and highly modified/non-native woodland; travelling, lost behind terrain	NM
LB082	Breeding Raptor Survey; BR6	23/08/2024	16:26	Lesser Black-backed Gull	7	bogs and highly modified/non-native woodland; travelling, swooping, moving north across br 8 / 9 areas	NM
BZ029	Vantage Point Survey; Skreeny	20/09/2024	12:47	Buzzard	1	improved agricultural grassland, linear woodland/scrub and scrub/transitional woodland; travelling, low within farmland	NM



APPENDIX 3

CONFIDENTIAL APPENDIX