APPENDIX 7

ORNITHOLOGICAL SECTION 131 RESPONSE

Planning and Environmental Consultants

Response to S131 Request Ornithology

Proposed Croagh Wind Farm Development



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Planning and Environmental Consultants

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1. SECTION 131 RESPONSE ORNITHOLOGY

1.1 Introduction

This report relates solely to ornithology and herein sets out the response to the matters raised. The opportunity afforded by the Section 131 request has been taken to address the key issues raised in the ACP Inspector's Report (as summarised in Section 1.5 below). The response to these issues has been prepared by the MKO Ornithology team who wrote the Ornithology Sections of the EIAR. This response has been prepared by Principal Ornithologist, Padraig Cregg (B.Sc., M.Sc.), with assistance from Senior Ornithologist, Patrick Manley (B.Sc.) of MKO. They are both full members of the Chartered Institute of Ecology and Environmental Management (CIEEM). Padraig has over thirteen years of experience working in environmental consultancies and has worked on over 60 wind farm projects in both Ireland and the UK. Both of whom are suitably qualified, competent, professional ornithologists with extensive experience in completing avifaunal assessments and are competent experts for the purpose of the preparation of this response. The findings in this report represent our expert assessment of effects arising from the proposed project and reflect our relevant education and experience in these matters and are based on relevant research material widely accepted in the field of ornithology.

1.2 Updated Survey Results

In order to undertake an accurate assessment of the potential impact of a proposed wind farm, it is important that sufficient levels of robust data are collected. To that end, surveying was recommenced at the proposed Croagh Wind Farm in the intervening period between the submission of the planning application and remittal. The surveys that informed the EIAR as submitted were undertaken between September 2017 and September 2019. The updated surveys were undertaken between November 2023 and September 2025 inclusively. The value in this considerable span of data is the ability to identify trends over time. Additionally, with the increase in volume of data comes an increasing confidence that this data corresponds to a representative sample of the baseline condition. Collecting a representative sample is the goal of all robust survey scopes.

Twenty-four additional months of bird surveys have been undertaken at the proposed Croagh Wind Farm since submission of the planning application (See Appendix 7.1). These surveys followed recognised industry practice guidance as set out in NatureScot (SNH, 2017; revised in NatureScot, 2025)[1] and were undertaken from November[2] 2023 to September 2025 inclusively. Raw data for bird species of conservation concern, including hen harrier, golden plover and whooper swan, has been tabulated for the period and is presented in Appendix 7.1 of this document. The dominant habitat type within the Proposed Development has been, and continues to be, commercial forestry since bird surveys commenced in September 2017 until surveys ceased in September 2025. Consequently, the distribution and abundance of birds would not be expected to change in any meaningful way. This proved to be the case, with the only notable exceptions discussed in detail below.

The bird assemblage of the Proposed Development site and findings of the bird surveys remained largely unchanged during the surveys from September 2017 up to and including September 2025. There was no significant change in the distribution and abundance of key ornithological receptors, such as kestrel, snipe, buzzard and sparrowhawk. However, there was one noteworthy exception at the wind farm site, this species was merlin. An update is also provided for hen harrier, golden plover and whooper swan, as these were the three key species of concern at the site previously.

[1] *As outlined in Section 7.2.4 of the EIAR, surveys were undertaken in line with the NatureScot Guidance of the time (SNH, 2017). Following the completion of these surveys, updated survey Guidance was published by NatureScot (i.e. SNH, 2017; revised in NatureScot, 2025). The surveys are also in accordance with the revised Guidance (NatureScot, 2025).*
[2] *Surveys in the first winter began in November rather than October; however, the requirement to undertake 36 hours of vantage point surveys was achieved despite the late start.*

Hen Harrier

No breeding territories were confirmed within 2km of the proposed Croagh Wind Farm. However, one display flight was recorded in May 2024 and May 2025. Display flights are a behaviour that could be indicative of breeding. Hen harrier can display over a large area before choosing a nest site. These flights at their mid-point were c. 850m and c. 1.9km respectively from the nearest proposed turbine. And were c.500m and 1.4km at their nearest point to a proposed turbine. To avoid the widespread circulation of this sensitive information, figures showing these display flight locations have not been included in this report. Location details can be made available on request. Following the May display fight observations, the survey effort in this area was increased to confirm whether breeding occurred (both in 2024 and 2025). This increased effort was deployed in the nearest, most suitable habitat to the proposed Croagh Wind Farm that overlapped with the display flights. Notwithstanding this increase in survey effort, a nest was not located. As a robust survey effort was employed in the nearest, most suitable habitat, breeding can likely be ruled out in this area. The likelihood is that if breeding occurred, it was undertaken in the forestry to the north of the display flights, away from the proposed Croagh Wind Farm.

As outlined in Appendix 7.1, hen harrier little used the proposed Croagh Wind Farm for foraging. This is as would be expected based on the nature of the onsite habitats. Commercial forestry is of limited value to the species. When observed, hen harrier activity was concentrated in the open habitats to the east and west of the proposed Croagh Wind Farm. Overall, there was a slight increase in activity levels between the previous surveys (2017 to 2019) and the 2023 to 2025 surveys.

A hen harrier winter roost area was recorded to the east of the proposed Croagh Wind Farm. The nearest element of the project is the proposed grid connection route, which is proposed within a local road. Please see EIAR Chapter 4 for a full description. This grid connection route is within 300m of the roosting area at its nearest point, which extends a further 1.2km to the east. The birds moved their roost location slightly within the same block of habitat. The roost is located in open peatland habitats on elevated ground above the road where the grid connection is proposed.

Golden Plover

Golden plover were recorded frequently during the winter months. This has been consistent between 2017 and 2025. Birds were associated with the open habitat to the east and west of the proposed Croagh Wind Farm. Behaviour included birds observed loafing on the ground. The observations included birds crossing the site, however the majority of the flight activity was offsite where no turbines are proposed, and the associated risk of a collision is nil. The commercial forestry of the proposed Croagh Wind Farm is of no ecological value to this species. There were no observations of any behaviour that would indicate breeding locally.

Whooper Swan

Throughout the updated surveys, there were four whooper swan flights recorded in total, all of which were during the migration period. Of these, only one was within the proposed Croagh Wind Farm. As there were so few observations, they are listed below for ease of reference:

- In October 2024: One flight of seven birds flew over the site, another flight of 11 passed within 500m of the site and the flock of 20 were off site.
- In November 2024 a flock of 16 birds were observed in migrating flight approx. 2km west of site.

There were no interactions with the habitats of the proposed Croagh Wind Farm and wider surroundings within a 500m radius.

Merlin

The observations of merlin were predominantly in the wider surroundings of the proposed Croagh Wind Farm. Please see Appendix 7.1 for details. This is as would be expected, given the proposed Croagh Wind Farm is a commercial forestry plantation and merlin are an open habitat species (Fernandez-Bellon & Lusby 2011). The key merlin observation was the location of a nest in 2024, sited in an isolated tree within the western margins of the proposed Croagh Wind Farm. The nest failed early in the season in

2024 and wasn't active in 2025. No breeding was recorded during the 2017-2019 surveys. This is the key difference requiring further consideration.

1.3 Update to Collision Risk Analysis

The data generated by the additional surveys that were undertaken between November 2023 and September 2025, allowed for the updating of the collision risk analysis. There has been an update to the NatureScot collision risk model and associated guidance. The methods for the analysis followed the NatureScot 2024 guidance[3]. Please see that document for further details. The data analysed in the model included the full dataset spanning 2017 to 2025. The results of the analysis are presented in Table 1 below.

[3] NatureScot (2024). Guidance on using an updated collision risk model to assess bird collision risk at onshore wind farms. NatureScot, Inverness, Scotland. Available at: https://www.nature.scot/doc/guidance-using-updated-collision-risk-model-assess-bird-collision-risk-onshore-wind-farms

Table 1 Provides a summary of the results of the updated collision risk model. The data analysed in the model included the full dataset spanning 2017 to 2025. The final column in the table is the predicted annual collision rates as presented in EIAR for ease of reference.

Species	Months	Model	Avoidance Factor	Annual Collision Rate (2017-2025)	Range of Uncertainty	Collisions Over Lifetime	Years to One Collision	EIAR Annual Collision Rate (2017-2019)
Whooper Swan	Oct-Mar	non-directional	0.995	**0.04**	0.010-0.070	1.2	25	0.22
Golden Plover	Oct-Mar	non-directional	0.996	**3.712**	1.856-5.568	111.36	<1	22
Hen Harrier	Oct-Sep	non-directional	0.99	**0.002**	0.001-0.004	0.06	>30	0.002
Merlin	Oct-Sep	non-directional	0.98	**0.004**	0.001-0.008	0.12	>30	0.0009
Buzzard	Oct-Sep	non-directional	0.98	**0.142**	0.074-0.210	4.26	7	0.119
Sparrowhawk	Oct-Sep	non-directional	0.98	**0.004**	0.001-0.008	0.12	>30	0.009
Kestrel	Oct-Sep	non-directional	0.95	**0.135**	0.070-0.200	4.05	7	0.118
Snipe	Oct-Sep	non-directional	0.98	**0.185**	0.026-0.345	5.55	5	0.097

The results of the updated collision risk model (Table 1 above) are not substantively different from those reported in Chapter 7 of the EIAR. The result of the impact assessment, as included in the EIAR as submitted therefore stands (no significant collision risk effects); thus, the update to the collision risk analysis serves to further corroborate the findings of the EIAR as submitted. The only exception to this is the golden plover, for which there has been a notable reduction in predicted collisions. This difference is primarily due to new research on golden plover avoidance rates. Until recently, a species-specific avoidance rate has not been available for golden plover. A review of golden plover collision avoidance from four UK wind farms has been undertaken. This information is included in Appendix 7.2. The output of this new research was a golden plover avoidance rate of 99.6 to 99.8%. Following a precautionary approach, the lower of these avoidance rates (i.e. 99.6%) was used in the collision risk analysis. A generic avoidance rate of 98% was used in the EIAR, as that was prior to the above research being published.

As per Chapter 7 of the EIAR, the results of the collision risk analysis using the 2017-2019 data alone and the generic avoidance rate predicted 22 potential collisions annually. Using all the data spanning 2017 to 2025 and the species-specific avoidance rate, 3.7 potential collisions are predicted.

1.4 Updated Impact Assessment and Mitigation

The impact assessments of merlin have been updated to reflect the increased observations of these species at the wind farm site. An update is also provided for hen harrier, golden plover and whooper swan, as these were the three key species of concern at the site previously. All other assessments of impacts and effects on Key Ornithological Receptors remain unchanged from the EIAR as submitted (no significant effects), as the level of activity on the site has not changed significantly. An outline of the potential effects and the impact assessment methodology is provided in Section 7.2.5 of the EIAR as submitted.

Hen Harrier

In the intervening period since the planning application was submitted, surveys have been ongoing. When observed, hen harrier was concentrated in the open habitats to the east and west of the proposed Croagh Wind Farm. The commercial forestry of the proposed Croagh Wind Farm was little used by hen harrier. The two key observations are offsite and as follows:

- Potentially breeding between 850m and 1.9km to the north of the proposed Croagh Wind Farm (based on mid-point of display flight); and
- A confirmed roost to the east of the proposed Croagh Wind Farm (c. 300m of grid connection route).

These are the two key observations requiring detailed consideration.

Potential impacts: Construction Phase

Habitat Loss (physical)

No significant direct or physical habitat loss effects are predicted based on the following rationale. The species is not dependent on the commercial forestry of the proposed Croagh Wind Farm. As outlined in Appendix 7.1, hen harrier little used the proposed Croagh Wind Farm for foraging. And no breeding or roosting was recorded within the proposed Croagh Wind Farm. This is as would be expected based on the nature of the onsite habitats. Commercial forestry is of limited value to the species. When observed, hen harrier activity was concentrated in the open habitats to the east and west of the proposed Croagh Wind Farm. Commercial forestry is an abundant habitat type locally and not uniquely present within the site. Although commercial forestry is used by the species when young it is a net negative in the landscape for hen harrier. As per Article 12 reporting, forestry is a pressure/threat of high importance for the species.

Disturbance

The action of construction works has the potential to affect habitats beyond the proposed Croagh Wind Farm boundary. The key site where there is potential for a significant effect is the westernmost winter roost,

which is within c. 300m of the grid connection route. Owing to this proximity, without intervention, there is the potential for a significant disturbance effect on winter roosting hen harriers in this location. Consequently, construction works within 750m of the identified roost sites will be seasonally constrained. Please see the mitigation section below for details. Following mitigation, no significant effects are predicted for the winter roosting hen harrier.

Owing to the considerable separation distance between the proposed Croagh Wind Farm and the potential breeding habitat to the north (c. 850m to c. 1.9km) and potentially obscuring forestry, no significant disturbance effects are predicted. Disturbance to breeding/resting places resulting from construction works can occur within 500m with some disruption up to 1km recorded, depending on topography and sightlines (Madders 2004[4]).

As the proposed Croagh Wind Farm is predominantly a commercial forestry plantation, no significant effects are predicted for the foraging hen harrier. Forestry is only of very limited value to hen harrier, they favour open habitats when foraging. There is substantial Irish-based evidence that shows that both moorland habitats, low-intensity managed grasslands and dense structured hedgerows are important for foraging hen harrier (Barton et al., (2006), Ruddock et al., 2012).

Potential impacts: Operational Phase

Habitat Loss (physical)

No effects are predicted as no additional infrastructure is proposed to be built during the operational phase.

Disturbance/Displacement and Barrier Effect

There are no operational phase impacts associated with the grid connection for the winter roosting hen harrier. As no further operational phase works are proposed, and the cable is underground, where impacts for hen harrier can be ruled out.

Owing to the considerable separation distance between the proposed Croagh Wind Farm and the potential breeding habitat to the north (c. 850m to c. 1.9km), no significant disturbance effects are predicted. Displacement from breeding/resting places during the operational phase can occur between 500 and 750m (Ruddock and Whitfield 2007[5]).

It is reported in hen harrier that there was a reduction of 52.5% in (flight) activity within 500m of operating wind turbines and significant avoidance within 250m (Pearce-Higgins et al., 2009). As the proposed Croagh Wind Farm is predominantly a commercial forestry plantation, no significant effects are predicted for the foraging hen harrier. Forestry is only of very limited value to hen harrier, they favour open habitats when foraging. There is substantial Irish-based evidence that shows that both moorland habitats, low-intensity managed grasslands and dense structured hedgerows are important for foraging hen harrier (Barton et al., (2006), Ruddock et al., 2012).

Collision Risk

As previously outlined the proposed Croagh Wind Farm was little visited by hen harrier. Such a low rate of occurrence is not predicted to result in significant levels of collision risk. As outlined in Section 1.3 above, no collisions are predicted during the lifetime of the wind farm. This therefore further corroborates the findings of EIAR of no significant collision risk effects for hen harrier. The literature also agrees that collision risk is unlikely to be a high threat to the species (Wilson et al., 2015). No significant collision risk effects are predicted.

Potential impacts: Decommissioning Phase

Significance of effects is as predicted for the construction phase.

[4] *Madders, M. 2004. The ecology of hen harriers in Scotland in relation to windfarms.*
[5] *Ruddock M. and Whitfield D. P. (2007) A review of disturbance distances in selected bird species.*

Construction Phase Mitigation

The following additional mitigation measures are proposed for the construction phase (note all mitigation outlined in Section 7.13 of the EIAR as submitted otherwise remains unaltered):

- Seasonal constraints will be applied during the construction phase and all construction works within 750m of the identified hen harrier roosts will be undertaken outside the winter roosting season, i.e. between October and March. The 750m buffer was deemed sufficient given the topography of the area.

Wintering Golden Plover

Potential impacts: Construction Phase

Habitat Loss (physical)

The observations of golden plover were predominantly in the wider surroundings of the proposed Croagh Wind Farm. Please see Appendix 7.1 for details. This is as would be expected, given the proposed Croagh Wind Farm is a commercial forestry plantation and golden plover are on open habitat species. As the proposed Croagh Wind Farm is predominantly a commercial forestry plantation, no significant effects are predicted for the species. Forestry is of no ecological value to golden plover.

Disturbance

The golden plover using the habitat around the margins of the proposed Croagh Wind Farm have the potential to be subject to disturbance effects. Golden Plover will approach wind turbines to an average distance of 175 m in non-breeding season (Hötker et al. 2006). However, no significant (indirect) habitat loss effects are predicted, based on the following rationale. There are lands of similar elevation and habitat composition to the north and east of Lough Allen, which constitute a significant amount of upland habitat. The majority of the turbines within this upland area are concentrated in a southern cluster to the west of Lough Allen. The Croagh Wind Farm is proposed within this same cluster. When the wider uplands are considered rather than just the uplands immediately to the west of Lough Allen in isolation, there is currently a low density of operational turbines within these uplands. Furthermore and crucially, golden plover are not restricted to the uplands during the winter months; rather, they more typically occur in lowland areas (Burke et al. 2018; Gillings and Fuller, 1999). There is an abundance of the lowland agricultural grassland habitat that is favoured by this species throughout the wider surroundings. As agricultural grassland is one of the most abundant habitat types in the state, if golden plover were displaced from operational turbines in these uplands, it is unlikely to give rise to a significant habitat loss effect. Owing to this abundance of wintering habitat, no significant (indirect) habitat loss effects are predicted.

Potential impacts: Operational Phase

Habitat Loss (physical)

No effects are predicted as no additional infrastructure is proposed to be built during the operational phase.

Disturbance/Displacement and Barrier Effect

The golden plover using the habitat around the margins of the proposed Croagh Wind Farm have the potential to be displaced. However, no significant (indirect) habitat loss effects are predicted, based on the following rationale. There are lands of similar elevation and habitat composition to the north and east of Lough Allen which constitutes a significant amount of upland habitat. The majority of the turbines within this upland area are concentrated in a southern cluster to the west of Lough Allen. The Croagh Wind Farm is proposed within this same cluster. When the wider uplands are considered rather than just the uplands immediately to the west of Lough Allen in isolation, there is currently a low density of operational turbines within these uplands. Furthermore and crucially, golden plover are not restricted to the uplands during the winter months; rather, they more typically occur in lowland areas (Burke et al.

2018; Gillings and Fuller, 1999). There is an abundance of the lowland agricultural grassland habitat that is favoured by this species throughout the wider surroundings. As agricultural grassland is one of the most abundant habitat types in the state, if golden plover were displaced from operational turbines in these uplands, it is unlikely to give rise to a significant habitat loss effect. Owing to this abundance of wintering habitat, no significant (indirect) habitat loss effects or barrier effects are predicted.

Collision Risk

A revised collision risk assessment was undertaken that incorporated data from a further two years of bird surveys that have been undertaken since the EIAR was submitted. If, as outlined in Table 1 above, 3.7 collisions were to occur per year, it would mean that the losses at the proposed wind farm would increase the estimated annual mortality of the County population (i.e. 4,770 birds, please see EIAR Section 7.5.2 for further details) by 0.3%[6]. The predicted collision risk is therefore negligible in the context of the County population. No significant collision risk effects are predicted.

Potential impacts: Decommissioning Phase

Effects are predicted to be similar, albeit lesser in magnitude than the construction phase. Therefore, no significant effects are predicted.

Whooper Swan

Potential impacts: Construction Phase

Habitat Loss (physical) and/or Disturbance

The evidence of surveys is that the proposed Croagh Wind Farm is not of any significant value to this species. As whooper swan are a wetland species and will on occasion graze in lowland improved agricultural grassland, there is no expectation that the forestry or upland habitats of the wider surroundings would be of any significant value to whooper swans. The unfavourable nature of onsite habitats (i.e. dominated by mature forestry) effectively eliminates the potential for ecologically significant habitat loss effects. No significant direct or indirect habitat loss effect is predicted.

Potential impacts: Operational Phase

Habitat Loss (physical)

No effects are predicted as no additional infrastructure is proposed to be built during the operational phase.

Disturbance/Displacement and Barrier Effect

There is no evidence to suggest, nor is there any expectation, that the forestry or upland habitats of the wider surroundings of the proposed Croagh Wind Farm would be of any significant value to this species. Whooper swan are a wetland species and will on occasion graze in lowland improved agricultural grassland. The unfavourable nature of onsite habitats (i.e. dominated by mature forestry) effectively eliminates the potential for ecologically significant habitat loss effects. Furthermore, the very low rate of occurrence is evidence of the lack of a regularly used migratory corridor in the vicinity of the proposed Croagh Wind Farm. No significant indirect habitat loss effect or barrier effect (including migratory birds) is predicted.

Collision Risk

Whooper swan were not predicted to be at risk of significant impacts of any kind from the Proposed Development and in particular collision risk, based on the following rationale. The risk of colliding with a turbine decreases/increases with the amount of time spent in the air within the rotor swept area of a

[6] *Annual mortality of adult golden plover has been calculated at 27% per annum (Sandercock, 2003).*

turbine. As outlined in Section 1.2 above, whooper swan were observed on only one occasion within the boundary (please see Appendix 7.1). This is an extremely low rate of occurrence and given the nature of the habitats onsite (largely conifer plantation) the species would not be expected to be attracted to the Site with any more regularity than was observed. This is a wetland species. As outlined in Section 1.3 above, the probability of a collision is very low, i.e. not predicted to occur for 25 years.

In summary and to reiterate, no significant effects (including collision risk) are predicted for wintering or migratory whooper swans.

Potential impacts: Decommissioning Phase

Effects are predicted to be similar, albeit lesser in magnitude than the construction phase. Therefore, no significant effects are predicted.

Merlin

The observations of merlin were predominantly in the wider surroundings of the proposed Croagh Wind Farm. Please see Appendix 7.1 for details. This is as would be expected, given the proposed Croagh Wind Farm is a commercial forestry plantation and merlin are on open habitat species (Fernandez-Bellon & Lusby 2011). Most of the diet comprises open-country passerine species, such as meadow pipit and skylark. The key merlin observation was the location of a nest in 2024, sited in an isolated tree within the western margins of the proposed Croagh Wind Farm. The nest is c. 280m from the nearest proposed turbine. Disturbance estimates for merlin range from 300 to 500m (Goodship and Furness 2022). The nest failed early in the season in 2024 and wasn't active in 2025. As previously outlined, the species was not recorded breeding previously.

Potential impacts: Construction Phase

Habitat Loss (physical)

No infrastructure is proposed that overlaps with the inactive merlin nest. Therefore, no direct effects are predicted at this location. As the proposed Croagh Wind Farm is predominantly a commercial forestry plantation, no significant effects are predicted for the foraging merlin. Forestry is of little to no ecological value to foraging merlin, they favour open habitats when foraging.

Disturbance

The key merlin observation was the location of a nest site in 2024. However, the nest site is no longer occupied (as per summer 2025 surveys). The site of this historic nest site is likely to be subject to disturbance during the construction works (within 300m). There is therefore the potential for the loss of potential nesting habitat rather than disturbance to nesting merlin. For this loss of nesting habitat to be significant, there would need to be the loss of a scarce resource. In this instance, this is unlikely to be the case, as there is likely an abundance of corvid nests along the margins of forestry in the wider surroundings. Merlin nest in, among other things, old corvid nests. Corvids and their nests are abundant in the Irish uplands.

As there will be no loss of a scarce resource, no significant loss of nesting habitat is predicted. Notwithstanding this, a precautionary approach is proposed. Although nest sites (i.e. old corvid nests) are not likely a scarce resource locally (with the abundance of corvids), three merlin nest baskets will be provided as alternative nest sites. Please see the merlin mitigation section for details.

As the proposed Croagh Wind Farm is predominantly a commercial forestry plantation, no significant effects are predicted for the foraging merlin. Forestry is of little to no ecological value to foraging merlin, they favour open habitats when foraging. No significant effects are predicted.

Potential impacts: Operational Phase

Habitat Loss (physical)

No effects are predicted as no additional infrastructure is proposed to be built during the operational phase.

Disturbance/Displacement and Barrier Effect

The key merlin observation was the location of a nest site in 2024. However, the nest site is no longer occupied (as per summer 2025 surveys). The site of this historic nest site is likely to be subject to displacement due to the proximity of turbines (within 300m). There is therefore the potential for the loss of potential nesting habitat rather than disturbance to nesting merlin. For this loss of nesting habitat to be significant, there would need to be the loss of a scarce resource. In this instance, this is unlikely to be the case, as there is likely an abundance of corvid nests with the margins of forestry in the wider surroundings. Merlin nest in, among other things, old corvid nests.

As there will be no loss of a scarce resource, no significant loss of nesting habitat is predicted. Notwithstanding this, a precautionary approach is proposed. As previously outlined, although nest sites (i.e. old corvid nests) are not likely a scarce resource locally (with the abundance of corvids), three merlin nest baskets will be provided as alternative nest sites. Please see the merlin mitigation section for details.

As the proposed Croagh Wind Farm is predominantly a commercial forestry plantation, no significant effects are predicted for the foraging merlin. Forestry is of little to no ecological value to foraging merlin, they favour open habitats when foraging.

Collision Risk

As outlined in Section 1.3 above, no collisions are predicted during the lifetime of the wind farm. This therefore further corroborates the findings of EIAR of no significant collision risk effects for merlin. No significant collision risk effects are predicted.

Potential impacts: Decommissioning Phase

Effects are predicted to be similar, albeit lesser in magnitude than the construction phase. Therefore, no significant effects are predicted.

Precautionary Mitigation Measures

The following additional mitigation measures are proposed for the construction phase (note all mitigation outlined in Section 7.13 of the EIAR as submitted otherwise remains unaltered):

- A pre-commencement confirmatory survey will be required to confirm the merlin nest continues to be inactive. A vantage point survey will be undertaken on three separate days, with one visit in early, mid and late April. The vantage point will be sufficiently distant from the historic nest site to avoid disturbance and include a view shed of the 2024 nest location and (following the treeline) the 500m on either side of the nest. Following the recommendations of Hardey (2013) to confirm occupancy the vantage point will be 4-6 hours in duration and undertaken in the morning before 12 midday or after 4pm.
- If the nest location is found to be active during the pre-commencement surveys, then seasonal constraints will be applied during the construction phase and all construction works within 500m of the identified merlin nest will be undertaken outside the breeding season. The period when breeding merlin are sensitive to disturbance runs from the 1st of March to the 31st of August.
- Although nest sites (i.e. old corvid nests) are not likely a scarce resource locally (with the abundance of corvids), following a precautionary approach, three merlin nest baskets will be provided as alternative nest sites. Lusby *et al.* (2022) confirmed that merlin predominantly nest in trees in Ireland (99.5% of nests), with birds mostly selecting nests at the edge (within 10m) of mature conifer plantations (80.8% of nests). These nest baskets will be sited, greater than 500m from a turbine, in suitable mature conifer trees at the margins of a plantation within the landholding of the Croagh Wind Farm.

1.5 Discussion of Relevant Aspects of Inspector's Report 2022

There were three reasons for refusal (which were subsequently quashed), the third of which relates solely to birds.

Refusal reason three relates to the potential for significant cumulative impacts on birds, and in particular whooper swan, golden plover and hen harriers are mentioned. The key text from ABP states (emphasis added):

> *"In the absence of data monitoring the impacts, if any, of existing wind farm development in this area on these birds of conservation value...the Board cannot be satisfied that the cumulative environmental assessment of likely effects of the proposed development on avifauna can reasonably exclude the possibility of a significant effect."*

ABP's third reason for refusal aligns with the recommendations of the inspector, who states (concerning birds) in the last line of Section 8.4 of the inspector's report:

> *"The cumulative impact would be significant, in my opinion."*

The inspector's rationale for this opinion is as follows: the upland range of the proposed development can only sustainably support a certain amount of turbines. This threshold has already been crossed so the proposed Croagh Wind Farm could not but contribute to a significant cumulative effect that is squeezing bird species of conservation concern out of the area. The inspector's wording is as follows:

> *"The cumulative impact of wind farm development in this area must be substantially eroding the quality of the environment for sensitive bird species of conservation value by distorting migratory routes, eroding habitat, encroaching on foraging areas, affecting roosting and breeding sites, etc. The proposed development would add to this impact. The species of conservation value identified in the applicant's surveys are being squeezed out of this area as habitats are displaced and distorted by increasing wind farm development."*

The inspector does not outline why wind farms ***must be*** the reason for species of conservation concern being squeezed out of the area over and above other pressures acting on local bird species. The inspector further states:

> *"In my opinion, there can be no doubt that the continued expansion of wind farm development in this area adversely effects the existence of these species of conservation value at this location."*

The inspector's view seems to be as follows: bird species with declining populations are present in the area and there is also a proliferation of turbines, therefore the declines must be due to the presence of the turbines.

In the absence of data monitoring the impacts of existing wind farms, ABP accepts the inspector's view that "***wind farm development in this area must be substantially eroding the quality of the environment for sensitive bird species of conservation value by distorting migratory routes, eroding habitat, encroaching on foraging areas, affecting roosting and breeding sites".*** ABP is correct that there isn't available data from operational wind farms that would provide definitive information on the actual impact of existing wind farms. To address this absence of information, an alternative approach to the cumulative assessment has been taken to provide additional meaningful information. The updated NatureScot 2025 guidance has informed the assessment below[7]. To that end, a landscape-level assessment of cumulative effects is provided. This approach provides a transparent, quantitative assessment of the ecological value of available habitats within the uplands where the development is proposed. And then quantifies the cumulative effects that are likely to contribute to a significant effect.

[7] *https://www.nature.scot/doc/guidance-assessing-cumulative-impacts-onshore-wind-farms-birds*

1.6 Assessment of Cumulative Effects

This response first briefly summarises the EIAR/Further Information Response cumulative assessment findings (for ease of reference) and then provides the additional landscape-level information.

As stated in the EIAR and 2021 Further Information Response, no significant negative cumulative effects are predicted to result from the proposed development. In undertaking the cumulative assessment, consideration was given to the predicted impacts from surrounding development for shared key ornithological receptors and their habitats. An assessment was also provided on the relative ecological value of the habitats present. Taking into consideration the reported effects (from EIS/EIARs) at other wind farms, the ecological value of the habitats present and the predicted effects of the Proposed Project, no significant residual additive, antagonistic or synergistic effects were identified.

Overview of Alternative Approach

There were three key ornithological receptors (KORs) identified in the reason for refusal: hen harrier, golden plover, and whooper swan. A key consideration in the assessment of the potential for cumulative impacts to result in significant effects on KORs is proximity and whether the projects under consideration all contain suitable habitats for the species in question. As outlined in NatureScot (2025) "Assessments often focus on collision risk, which is easier to quantify, but often displacement/habitat loss has the greater effect on population viability (May et al. 2020), so should be incorporated as far as possible". Cumulative impacts should be assessed at the relevant biogeographical scale (NatureScot, 2025). To address this requirement, this cumulative impact assessment has been carried out at the landscape level. The upland area included in the cumulative assessment, as outlined in Figure 1 below has been chosen as the focus for the cumulative assessment for the following reasons:

- Firstly, the proposed Croagh Wind Farm is sited in these wider uplands; and
- Secondly, the area is largely one coherent ecological unit that contains a contiguous mosaic of similar habitats that likely contain similar species as were observed during the surveying of the proposed Croagh Wind Farm and wider surroundings.
    - The uplands are defined as the lands above 100m in elevation, to the west and north of Lough Allen where there are turbines. It is noted that uplands of similar elevation and habitat composition occur to the east of Lough Allen, these have not been included as there are no turbines there.
    - The upland area partly overlaps with a regional stronghold for hen harrier: called the Leitrim Uplands[8] in NPWS (2021) reporting[9] (Figure 14 of that report).
    - O'Donoghue (2004) described the modern landscape of the Irish breeding hen harrier as upland, typically above 100m above sea level.

1.6.1 Landscape-Level Assessment

A GIS mapping exercise was undertaken that aimed to, firstly, quantify the amount of land within the wider landscape (i.e. the upland area as identified in Figure 1) and secondly apportion the associated land management practices. Figure 1 below shows the cumulative assessment upland area and the uplands to the east of Lough Allen.

Of the total upland area included in the cumulative assessment (35,322ha), the two main land management uses in these uplands are forestry and pastoral agriculture, which is the 'open habitat' mentioned below. When considering turbines in the analysis, impacts were predicted to be restricted to the area near a turbine. Near a turbine was defined as within the range of 250m to 500m. This distance

[8] *This area has been amalgamated into a larger complex in more recent reporting called the Leitrim, Slieve Rushen, Cavan complex, as per the national survey (IWM 147 (2024) Hen Harrier National Survey 2022).*
[9] *NPWS, (2021). Hen Harrier Conservation and the Wind Energy Sector in Ireland. Supporting document to the Hen Harrier Threat Response Plan. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage*

was chosen as Pearce-Higgins *et al.* (2009) identified, for a range of species, significant avoidance of turbines between 250m and 500m. It therefore follows that significant effects are unlikely at distances greater than 500m.

The total upland area (>100m elevation) is 35,322ha, and of this, 2,705ha (7.7%) is within 500m of an operational turbine. It is noted that there are no proposed turbines within this upland area apart from the proposed Croagh Wind Farm. The GIS exercise provided the following results (see Figure 1 below).

- The total area of forestry = 11,865ha (33.6% of the total upland area)
    - Forestry greater than 500m from permitted/existing turbines = 11,205ha (or 94.4% of the forestry).
    - Forestry greater than 500m from permitted/existing turbines and the proposed Croagh Wind Farm = 10,843ha (or 91.4% of the forestry).
- The total area of open habitat = 23,457ha (66.4% of the total upland area)
    - Open areas greater than 500m from permitted/existing turbines = 21,411ha (or 91.3% of the open habitat).
    - Open areas greater than 500m from permitted/existing turbines and the proposed Croagh Wind Farm is 21,343ha (or 91.0% of the open habitat).

Having undertaken the above analysis of the available area within the surrounding uplands, the following is of note:

- The majority of the turbines within this upland area are concentrated in a southern cluster to the west of Lough Allen. The Croagh Wind Farm is proposed within this same cluster.
- When the wider uplands are considered rather than just the uplands immediately to the west of Lough Allen in isolation, there is currently a low density of operational turbines within these uplands and no further proposed turbines apart from the proposed Croagh Wind Farm. Only 7.7% of the land is within 500m of a permitted turbine. It is noted that this is a precautionary figure, as the c. 35,000ha of uplands to the east of Lough Allen have not been included (for the reasons already outlined), if they were included, this would substantively reduce the 7.7% figure.
- If the proposed Croagh Wind Farm were granted planning permission, there would continue to be a low density of turbines in these uplands.
- If the Croagh Wind Farm received planning permission and was built, there would continue to be 21,343ha open habitat greater than 500m from a turbine. This would continue to constitute a significant amount of upland open habitat. The open habitat is the key habitat for hen harrier and golden plover. Whereas whooper swan do not use the uplands.

As forestry and agriculture (i.e. open habitat) make up the vast majority of the total 35,322ha within the uplands, it is reasonable to conclude that the relative quality/suitability of these habitats is likely to have the greatest (positive or negative) influence on the local avian community. While many of the species encountered at the Site are in decline at a national level, it is not possible to conclusively attribute the decline to any one industry, though likely, the national hierarchy of threats/pressures as per Article 12 reporting holds true locally also. That is; forestry practice (including forest planting on open ground and forestry management) and the modification of cultivation practices (agriculture) are of high to medium importance. Impacts associated with wind farms (renewable abiotic energy use) are likely of medium importance in the wider uplands. As outlined in a recent NPWS (2025) report[10] "existing onshore windfarms have been considered a low-level pressure to Irish waterbirds [including whooper swan and golden plover] ... future expansion may increase the threat to particular species and waterbird

[10] *Burke, B., Kennedy, J., Gadd, R., Fitzgerald, N., Lynch, A., Caffrey, B., Walsh, A., Murray, T. & Kelly, S.B.A. (2025). The status and distribution of wintering waterbirds in Ireland in 2023: results from the Irish Wetland Bird Survey (I-WeBS). Irish Wildlife Manuals, No. 162.National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland*

communities at particular sites." Please see the following species-specific impact assessment for a detailed discussion of cumulative effects.

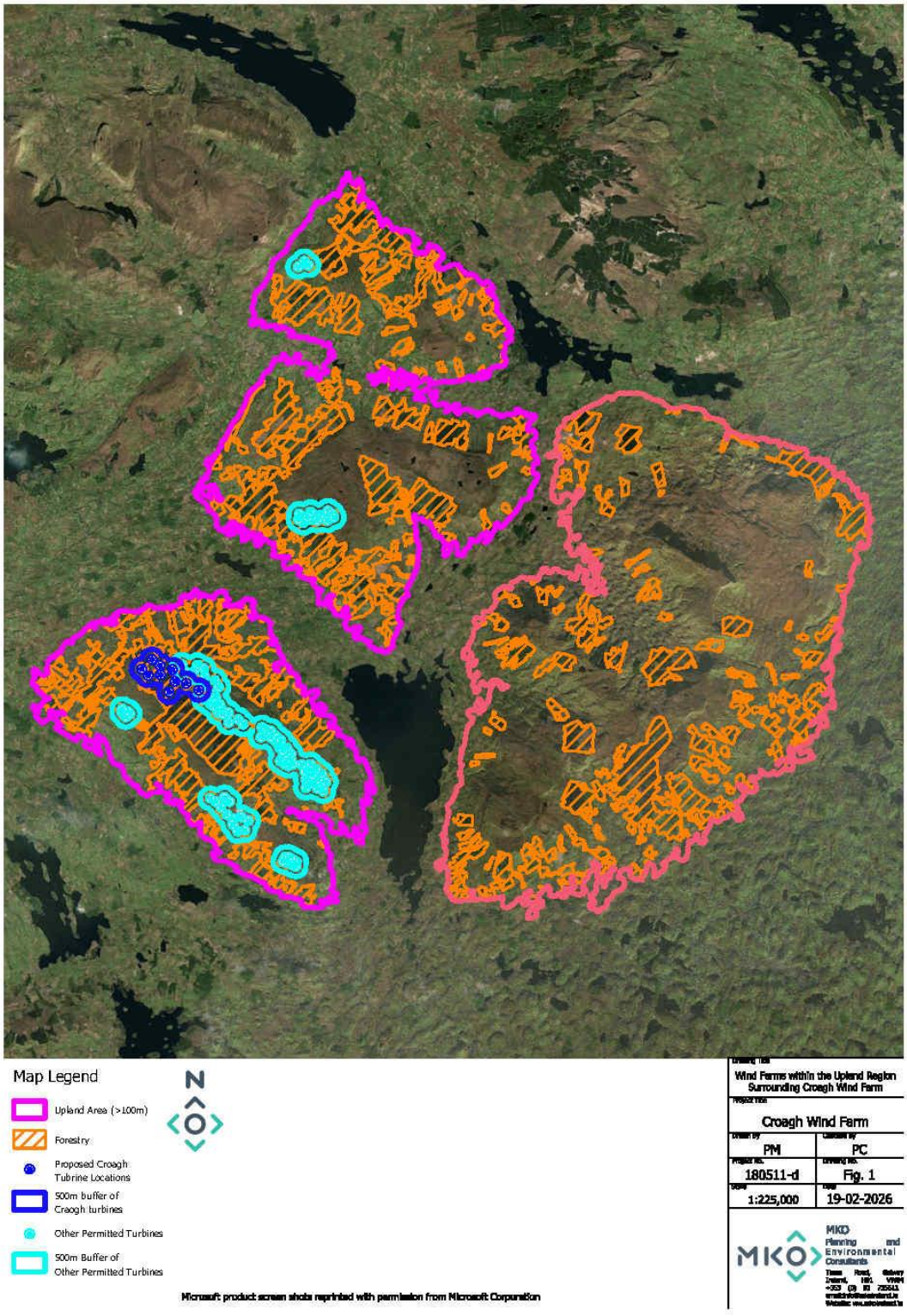


Figure 1 Uplands in the wider surroundings of the proposed Croagh Wind Farm, with information on the location of turbines, forestry and open habitats provided.

Hen Harrier

The Hen Harrier Threat Response Plan 2024-2028 states:

"While wind energy production is identified as one of the key pressures on the species, wind energy development is also, more generally, a key part of the global and national response to alleviating climate change. Biodiversity and climate change commitments have equal standing, and creating opportunities to achieve both, without compromising each other, is critical, particularly as biodiversity can assist in climate change mitigation and adaptation."

The fluctuations in hen harrier populations in Ireland can be related to habitat modification and loss (Wilson *et al.*, 2015). In particular, extensive afforestation over the past 65 years in Ireland has resulted in the loss of large areas of open habitat suitable for breeding hen harrier. Agricultural intensification and wind farms are also identified as key pressures/threats.

There is substantial Irish-based evidence that shows that both moorland habitats, low-intensity managed grasslands and dense structured hedgerows are important for foraging hen harrier (Barton et al., (2006), Ruddock et al., 2012) and mature heather for nesting. However, as mature heather becomes increasingly rare in Ireland, the species is forced to nest in young commercial coniferous forestry. Wilson *et al.* (2015) and Madsen (2010) highlight the importance of open habitats that hold a high diversity of prey species for foraging hen harrier. Young conifer plantations provide cover suitable for nesting hen harrier, however forestry may be associated with higher rates of nest predation and lower prey availability around the nest (Wilson et al., 2015; Gómez-Catasús et al., 2021). Open habitats are favoured by hen harrier and are potentially of strategic importance to a declining population undergoing range contraction. While hen harrier can nest in forestry, they are reliant on open habitats for foraging. An absence (or unavailability) of open habitats can limit range expansion and the associated population recovery.

The results of the landscape-level analysis provide the following information. There are 21,343ha of open habitat greater than 500m from a turbine in the uplands included in the cumulative assessment area. In the same uplands, there are 10,843ha of forestry greater than 500m from a turbine. Owing to the likely asynchronous rotation cycle of the forestry crop, only a proportion of the forestry will be young (pre-thicket) and thus useful/available to hen harrier at any one time. The forestry is suitable for approximately a quarter of its lifecycle. All else being equal, approx. 2,700ha of the 10,843ha is likely available to hen harrier at any one time. The 24,000ha combined total constitutes a significant amount of upland habitat. The majority of the turbines within the cumulative assessment upland area are concentrated in a southern cluster to the west of Lough Allen. The Croagh Wind Farm is proposed within this same cluster. It is noted that the proposed Croagh Wind Farm turbines are sited in a conifer plantation, which the NPWS (2021) report recommends over open heath/bog habitat that is likely to be of more long-term benefit to hen harrier. Forestry is a net negative for hen harrier as it is only suitable or available to the species while young (>10-12 years typically) and after canopy closure is of no ecological value.

When the wider uplands (north and west) are considered rather than just the uplands immediately to the west of Lough Allen in isolation, there is currently a low density of operational turbines within the cumulative assessment (north and west) uplands. Furthermore, c. 35,000ha of uplands of similar elevation and habitat composition occur to the east of Lough Allen, away from the influence of turbines. The c. 59,000ha combined total constitutes a significant amount of upland habitat. For reference, the home range of a male hen harrier is 800ha (Arroyo 2014).

NPWS (2021) undertook an analysis of turbine coverage within the non-designated regional stronghold for breeding hen harrier. The upland area included in the cumulative assessment partially overlaps with the Leitrim Uplands stronghold. The overlap occurs to the north of Lough Allen, as per Figure 1, in the low-density turbine area. It is noted that the proposed Croagh Wind Farm is not located in this non-designated but regionally important hen harrier stronghold. As outlined in Table 7 of the NPWS 2021 report, the regional zone coverage of turbines is 3.2% of the Leitrim Uplands stronghold.

In summary, there is a concentration of turbines in a southern cluster (which includes the proposed Croagh Wind Farm), as per Figure 1. While there are acknowledged habitat loss effects locally, the concentration of turbines means that a majority of the uplands are little affected by turbines. Within this southern cluster of turbines, the proposed Croagh Wind Farm is located in a suboptimal habitat (conifer plantation). Notably, the current status quo means that a low density of turbines is present in the non-designated but regionally important hen harrier stronghold.

Within the proposed Croagh Wind Farm, there is c. 533ha within 500m of turbines, c.437ha of which is commercial forestry. At any one time over the lifetime of the wind farm, a quarter of the forestry (c. 109ha) is likely suitable for hen harrier and c. 96ha of open habitat of the c. 533ha total. This c. 205ha is a 0.85%[11] loss of the remaining habitat greater than 500m from a turbine (24,000ha) within the cumulative assessment uplands. This is not a significant (direct/indirect) contribution to the cumulative loss of habitat for breeding hen harrier. Furthermore, the remaining c. 23,795ha continues to constitute a significant amount of upland habitat. If the suitable habitat to the east of Lough Allen is taken into consideration (c. 35,000ha), the relative contribution to the cumulative habitat loss reduces still further, i.e. a 0.3% habitat loss effect.

"A review of the relevant scientific literature on the collision risk of harriers with turbines indicates that the species is probably at low risk of collision generally, given the low altitude of the majority of its flight activity" (NPWS, 2021). As outlined in the updated collision risk assessment in Section 1.3 above, collisions are predicted to be very rare events for this species. Mortality of harriers may be disproportionately lower than that of other raptors (Drewitt and Langston, 2008). This is likely due to hen harrier's characteristic low altitude flight[12], particularly when foraging (Madders, 2000; Whitfield and Madders, 2006; Band *et al.*, 2007). This low altitude flight limits the potential for a collision to occur. The Windharrier research project[13] carried out by University College Cork (UCC) between 2012 and 2014, found the risk of collisions for hen harrier to be low. As outlined in Section 1.3 above, and reiterated herein, based on the annual rate of predicted collisions (no collisions predicted during the lifetime of the wind farm), significant collision risk effects are not predicted for this species either as a result of the proposed Croagh Wind Farm alone or cumulatively.

In summary, no significant cumulative effects are predicted.

<u>Golden Plover</u>

As outlined in a recent NPWS publication[14], "the majority of Eurasian Golden Plover that winter in Ireland are from the altifrons population that breed in Iceland, the Faroes and Greenland. This population winters in Ireland, Britain, France, Iberia and north-west Africa. It is unknown where the apicaria population, which breeds in Ireland, migrates to spend winter, but it is likely that a proportion remain in the country, with the rest moving to winter elsewhere (Wernham et al., 2002)". Wintering golden plover are widely distributed in Ireland, both inland and along the coast, where they favour open habitats. They often feed on grassland.

No significant cumulative (direct or indirect) habitat loss effects are predicted, based on the following rationale. The results of the landscape-level analysis provide the following information. There are 21,343ha of open habitat greater than 500m from a turbine in the uplands included in the cumulative assessment area. This constitutes a significant amount of upland habitat. The majority of the turbines within this upland area are concentrated in a southern cluster to the west of Lough Allen. The Croagh Wind Farm is proposed within this same cluster. When the wider uplands are considered rather than just the uplands immediately to the west of Lough Allen in isolation, there is currently a low density of operational turbines within these uplands. And as previously outlined, there is c. 35,000ha of uplands of similar elevation and habitat composition to the east of Lough Allen, away from the influence of turbines. Furthermore and crucially, golden plover are not restricted to the uplands during the winter months; rather, they more typically occur in lowland areas (Burke et al. 2018; Gillings and Fuller, 1999). There is an abundance of the lowland agricultural grassland habitat that is favoured by this species throughout the wider surroundings. As agricultural grassland is one of the most abundant habitat types in the state, if golden plover were displaced from operational turbines in these uplands, it is unlikely to give rise to a

[11] *It is noted that this is likely an overestimate as the area within a 500m radius of turbines was used to calculate indirect habitat loss rather than 250m as is likely more appropriate. Rationale: It was reported in hen harrier that there was a reduction of 52.5% in activity within 500m of operating wind turbines and significant avoidance within 250m (Pearce-Higgins et al., 2009).*
[12] *The only exception to this is early in the breeding season, when display flights can overlap with the turbine rotor swept height. However, in the present case, no confirmed nest was found locally. Thus, such flight activity is not predicted.*
[13] *Wilson et al. (2015). The interactions between Hen Harriers and wind turbines. WINDHARRIER Final Project Report. School of Biological, Earth & Environmental Sciences, University College Cork, Ireland.*
[14] *Burke, B., Kennedy, J., Gadd, R., Fitzgerald, N., Lynch, A., Caffrey, B., Walsh, A., Murray, T. & Kelly, S.B.A. (2025). The status and distribution of wintering waterbirds in Ireland in 2023: results from the Irish Wetland Bird Survey (I-WeBS). Irish Wildlife Manuals, No. 162. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.*

significant habitat loss effect. Owing to this abundance of wintering habitat, no significant cumulative (direct or indirect) habitat loss effects are predicted.

As outlined in Section 1.3 above, no significant collision risk effects are predicted for golden plover to result from the proposed Croagh Wind Farm. The magnitude of the effect was negligible (i.e. less than a 1% increase in background mortality (0.3%)), which limits the potential to contribute to an ecologically significant cumulative effect. In undertaking the impact assessment, predicted rates of collisions are considered in relation to increases in background mortality to account for a population's ability to absorb a certain level of mortality and still remain viable.

As discussed in Section 7.2.5 of the EIAR as submitted and outlined in detail in Percival (2003), a 1% increase in background mortality is often set as the threshold for judging significance in relation to collision risk. However, this is likely quite conservative. The threshold likely originates from a hunting threshold set by the European Commission (and referenced in EC, 2008)[15] and was not intended to indicate that all increases in mortality above 1% were significant. Among other reasons, the threshold was set at 1% by the European Commission because such losses are so low that they are within the margin of error from a mathematical point of view in population dynamics modelling studies. This context further limits the potential for significant cumulative collision risk effects to result for golden plover. The origin of the 1% threshold is discussed at length in the recently permitted Castlebanny Wind Farm EIAR[16].

Notwithstanding this, a comprehensive suite of commencement/pre-construction and operational phase monitoring is proposed in Section 7.15 of the EIAR. The proposed monitoring programme was proposed as a best practice measure (SNH, 2009). The proposed monitoring plan is comprehensive and considered entirely adequate in this regard. The monitoring results will be reported to the Planning Authority following each monitoring year and will include information on the rate of occurrence of receptors and the number of collisions. This will inform recommendations that may include additional mitigation or adaptation if required. Adaptive management is an iterative process whereby the results of previous monitoring are analysed to inform future monitoring or mitigation as relevant. As the Bird Monitoring Programme is considered entirely adequate as currently submitted, no change will be proposed unless there is a significant change in the use of the site by the local avian community.

In summary, no significant cumulative effects are predicted.

<u>Whooper Swan</u>

There is no evidence to suggest, nor is there any expectation, that the forestry or upland habitats of the wider surroundings of the proposed Croagh Wind Farm would be of any significant value to this species. Whooper swan are a wetland species and will on occasion graze in lowland improved agricultural grassland. The unfavourable nature of onsite habitats (i.e. dominated by mature forestry) effectively eliminates the potential for ecologically significant habitat loss effects. As no significant loss of these habitats is predicted, no cumulative habitat loss is therefore predicted. The key potential impacts requiring consideration are the cumulative barrier effect and/or collision risk.

As previously outlined, a significant amount of data has been collected between initial surveys beginning in September 2017 and the more recent two years of surveys undertaken between November 2023 and September 2025. The value in this considerable span of data is the ability to identify trends over time. Additionally, with the increase in volume of data comes an increasing confidence that the data correspond to a representative sample of the baseline condition.

It is noted that during the two years of surveying (2017-2019), there were five flights of whooper swan recorded in total. All observations involved birds flying over the wind farm site. Observations of this species were predominantly recorded during the migratory periods (i.e. spring and autumn). As discussed in Section 7.6.1 of the EIAR, four of the five flights were described as birds likely to be on migration over the site due to the time of the observations. This amount of flight activity is very low relative the survey effort undertaken. As detailed in Section 7.2.4 of the EIAR a comprehensive suite of surveys was

[15] *EC (2008). Guidance Document on Hunting under Council Directive 79/409/EEC on the Conservation of Wild Birds "The Birds Directive" Birds Directive". European Commission.*
[16] *https://castlebannyplanning.ie/*

undertaken including a total of 72 hours of vantage point surveys per vantage point across two winter seasons. There is therefore no evidence to suggest that the development site lies on an important commuting or migratory route for the species. No regularly used flight paths or commuting corridors were identified between roosting/foraging habitats, including Lough Arrow SPA. The SPA is located 9.3km from the wind farm site, which greatly exceeds the 5km core foraging range of whooper swan (SNH, 2016). This limits the potential for a significant barrier effect. The bird assemblage of the Proposed Development site and findings of the bird surveys remained largely unchanged, including whooper swans, during the surveys from September 2017 up to and including September 2025. With very few whooper swan flights recorded.

As outlined in Section 1.3 above, the probability of a collision is very low, i.e. not predicted to occur for 25 years. There is therefore no possibility of contributing to a significant cumulative collision risk, given this extremely low probability of a collision.

In summary, no significant cumulative effects are predicted.

1.7 Conclusion

Following the clarification and explanation provided above, it is clearly demonstrated that the issues raised have been comprehensively addressed. The information before the Coimisiún is robust and no deficiencies in information remain. Furthermore, it has been demonstrated that the Proposed Croagh Wind Farm will not significantly affect bird species of conservation concern individually or in combination with other developments.

APPENDIX 7.1

UPDATED SURVEY RESULTS REPORT.

Planning and Environmental Consultants

Bird Survey Results 2023-2025

Croagh Wind Farm, Co. Leitrim

DOCUMENT DETAILS

Client:	**FuturEnergy Ireland**
Project Title:	**Croagh Wind Farm, Co. Leitrim**
Project Number:	**231124**
Document Title:	**Bird Survey Results 2023-2025**
Document File Name:	**FEI Croagh 2023-2025 Results Only Report**

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Rev	Status	Date	Author(s)	Approved By
01	Final	10/03/26	AOD	PC

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Appendix A – Survey Effort

Appendix B – Survey Data

1. SUMMARY

Ornithological surveys were conducted at Croagh Wind Farm, Co. Leitrim, over two years, from November 2023 to September 2025. This report outlines the results from surveys completed during the winter 2023/2024, breeding 2024, winter 2024/2025, and breeding 2025 seasons. The following surveys were undertaken:

- Vantage Point Surveys
- Breeding Walkover Surveys
- Breeding Raptor Surveys
- Breeding Woodcock Surveys
- Breeding Red Grouse Surveys
- Winter Walkover Surveys
- Hen Harrier Roost Surveys

The key observations during surveys included:

- Merlin nesting on the west of the site in 2024.
- Hen harrier probable breeding, based on birds recorded displaying between approx. 500m and 2.4km away from the nearest proposed turbine, in 2024 and 2025.
- Hen harrier winter roost in regular use, approx. 1.6km from the nearest proposed turbine and approx. 300m from the grid connection route.

Other observations related to golden plover, red grouse, kestrel, snipe, woodcock, buzzard and sparrowhawk.

2. INTRODUCTION

MKO were appointed to carry out bird surveys at Croagh Wind Farm, Co. Leitrim for winter and breeding seasons from November 2023 to September 2025. This report describes the ornithological survey methods employed and survey data collected at Croagh Wind Farm, Co. Leitrim for the period from November 2023 to September 2025 inclusive.

2.1 Background

Croagh Wind Farm has been surveyed previously during breeding and winter seasons in 2017 and 2019. Please see the EIAR for the proposed Croagh Wind Farm for full details of the survey methods and results for those survey periods.

2.2 Site Description

The site is located approximately 3km west of Drumkeeran (Grid Ref: G 86452 24417). The dominant habitat on site is conifer plantations and cutover bog, with accompanying smaller areas of intact blanket bog and areas of semi-natural woodland. The wider surroundings are predominantly conifer plantation, blanket bog and agricultural grassland.

2.3 Details of the Proposed Development

The total area of the Core Site Boundary is approximately 695 hectares. Figure 1.0 shows the Core Site Boundary.

2.4 Purpose of this Report

This report describes the ornithological survey methods employed and survey data collected at Croagh Wind Farm for the period November 2023 to September 2026 inclusive. This report aims to provide robust baseline ornithological survey data. This data will be used to inform the Section 131 response.

3. METHODS

3.1 Scope

3.1.1 Description of Study Area

The ornithology study area was defined as a minimum of a 500m radius of the core site boundary (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 NatureScot guidance (2017, revised in 2025) that flight activity surveys encompass an area extending 500m beyond the potential outermost proposed turbines. A 500m radius of the Core Site Boundary was used for Breeding Walkover Surveys, Breeding Woodcock Surveys, Winter Walkover Surveys and Breeding Red Grouse Surveys, following NatureScot guidance (2017, revised in 2025) that distribution and abundance surveys encompass an area extending at least 500m beyond the development area. A 2km radius of the Core Site Boundary was used for Breeding Raptor Surveys and Hen Harrier Roost Surveys, based on NatureScot guidance (2017, revised in 2025). The Core Site Boundary is hereafter referred to as the site boundary.

3.2 Desk Study

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

- Review of online web-mappers from the National Parks and Wildlife Service (NPWS) and National Biodiversity Data Centre (NBDC);
- Review of Irish Wetland Bird Survey (I-WeBS) data
- Review of the Bird Atlas (Balmer *et al.,* 2013);
- Review of specially requested records from the NPWS Rare and Protected Species Database.

3.3 Field Surveys

The approach to breeding and wintering bird surveys for the proposed wind farm is based on recommendations given in NatureScot guidance (2017). This guidance was revised in 2025; the surveys remain in accordance with this update. 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 November 2023 to September 2025 inclusive. Individual survey types are described below.

3.3.1 Vantage Point Surveys

Vantage point surveys were undertaken following the guidance of NatureScot guidance (2017, revised in 2025) from three vantage point the locations during the 2023-25 survey period.

Viewshed Analysis

Vantage point locations and Viewsheds are presented in Appendix B, Figure 1.1. Viewshed analysis was carried out to inform coverage of the study area from fixed vantage point locations (i.e. VPs 1, 3 and 4). 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 30m, which is representative of the minimum height considered for the Potential Collision Risk Area based on a worst-case scenario turbine model. While the relevance of being able to view as much of the site to ground level is acknowledged, the SNH guidance emphasises the importance of visibility of the 'collision risk volume' when the data is to be used to estimate the risk of collision with turbines by birds.

The viewshed analysis involved testing each VP location for its visibility coverage by creating a viewshed point 1.5 meters in height (to represent the height of the observer) on a map using 10 metre contours terrain data. The relative height of forestry and its effects on visibility are also accounted for. Using the ZTV software, a viewshed of 360 degrees was produced, calculating an area 30 metres from ground level up to a 2km radius. The resulting viewshed image was then cropped to 180 degrees to give the viewshed from each VP location in line with SNH (2017, revised in 2025). A 500m buffer was applied to the outermost turbines of the proposed wind farm development in line with SNH (2017, revised in 2025). The viewshed analysis aims to identify the visible airspace of the turbine rotor swept area, using the fewest VPs.

Survey Effort

A total of 36 hours of watches was undertaken at each of the vantage points, equating to a total of six hours per vantage point per month. Survey effort is summarised in Table 3-1 and full details are presented in Appendix A of this report, including dates, times, duration and weather conditions. The location of vantage points is shown in Appendix B, Figure 1.1.

Table 3-1 Summary of Vantage point Survey effort undertaken at the proposed Croagh Windfarm from November 2023 to September 2025 inclusive.

	VP1 ITM X 584147 Y 821673	VP3 ITM X 582943 Y 823261	VP4 ITM X 586261 Y 823328
Month			
November 2023	30/11/2023 x 6hrs	-	-
December 2023	15/12/2023 x 6hrs 19/12/2023 x 6hrs	18/12/2023 x 6hrs 20/12/2023 x 6hrs 23/12/2023 x 3hrs 30/12/2023 x 3hrs	14/12/2023 x 6hrs 21/12/2023 x 6hrs
January 2024	10/01/2024 x 6hrs	26/01/2024 x 3hrs 29/01/2024 x 3hrs	04/01/2024 x 6hrs 30/01/2024 x 6hrs
February 2024	16/02/2024 x 3hrs 19/02/2024 x 3hrs	21/02/2024 x 5hrs 28/02/2024 x 1hr	23/02/2024 x 4hrs
March 2024	12/03/2024 x 3hrs 22/03/2024 x 3hrs	05/03/2024 x 3hrs 15/03/2024 x 3hrs	04/03/2024 x 2hrs 26/03/2024 x 6hrs
Season Total	**36:00**	**36:00**	**36:00**
April 2024	03/04/2024 x 6 hrs	18/04/2024 x 3 hrs	11/04/2024 x 3 hrs
May 2024	15/05/2024 x 3 hrs 30/05/2024 x 3 hrs	15/05/2024 x 3 hrs 16/05/2024 x 6 hrs	14/05/2024 x 6 hrs 29/05/2024 x 3 hrs
June 2024	17/06/2024 x 6 hrs	19/06/2024 x 6 hrs	26/06/2024 x 6 hrs
July 2024	17/07/2024 x 6 hrs	19/07/2024 x 6 hrs	12/07/2024 x 3 hrs
August 2024	29/08/2024 x 6 hrs	06/08/2024 x 6 hrs	01/08/2024 x 6 hrs 21/08/2024 x 3 hrs 26/08/2024 x 3 hrs
September 2024	17/09/2024 x 6 hrs	11/09/2024 x 6 hrs	12/09/2024 x 6 hrs
Season Total	**36:00**	**36:00**	**36:00**
October 2024	17/10/2024 x 3hrs 22/10/2024 x 3hrs	10/10/2024 x 3hrs 11/10/2024 x 3hrs	21/10/2024 x 2hrs 30/10/2024 x 3hrs
November 2024	05/11/2024 x 6hrs	13/11/2024 x 2hrs	01/11/2024 x 1hr

	VP1 ITM X 584147 Y 821673	VP3 ITM X 582943 Y 823261	VP4 ITM X 586261 Y 823328
		27/11/2024 x 4hrs	19/11/2024 x 3hrs 28/11/2024 x 3hrs
December 2024	18/12/2024 x 3hrs	13/12/2024 x 6hrs	06/12/2024 x 3hrs 09/12/2024 x 3hrs
January 2025	21/01/2025 x 6hrs 31/01/2025 x 3hrs	27/01/2025 x 1hrs 31/01/2025 x 5hrs	23/01/2025 x 6hrs
February 2025	19/02/2025 x 6 hrs	12/02/2025 x 3hrs 18/02/2025 x 3hrs	27/02/2025 x 6hrs
March 2025	19/03/2025 x 3hrs 31/03/2025 x 3hrs	06/03/2025 x 3hrs 19/03/2025 x 3hrs	21/03/2025 x 6hrs
Season Total	**36:00**	**36:00**	**36:00**
April 2025	03/04/2025 x 6hrs	04/04/2025 x 6hrs	25/04/2025 x 3hrs 28/05/2025 x 3hrs
May 2025	19/05/2025 x 6hrs	18/05/2025 x 6hrs	15/05/2025 x 3hrs 20/05/2025 x 3hrs
June 2025	-	-	25/06/2025 x 3hrs 26/05/2025 x 3hrs
July 2025	01/07/2025 x 6hrs 09/07/2025 x 6hrs	01/07/2025 x 6hrs 02/07/2025 x 6hrs	03/07/2025 x 6hrs
August 2025	19/08/2025 x 6hrs	20/08/2025 x 6hrs	21/08/2025 x 6hrs
September 2025	23/09/2025 x 6hrs	05/09/2025	25/09/2025 x 6hrs
Total Hours	**144:00**	**144:00**	**144:00**

Target Species

The target species for surveys were defined by legal and/or conservation status, following NatureScot (2017, revised in 2025) 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 nearby SPAs ;
- 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.
- All raptors that occur in Ireland that are not included as primary target species.

Data Collection

Data on bird observations and flight activity were collected by the surveyor by scanning an 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 six months) 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 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 the location of observation.
- 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. 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 - 200m (within the likely rotor swept area, Potential Collision Height PCH).
- Band 4 = >200m (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 Breeding Walkover Surveys

Breeding walkover surveys were undertaken to determine the presence of bird species of conservation concern and identify areas of possible, probable or confirmed breeding territories. The survey methodology followed O'Brien and Smith (1992) and Gilbert et al. (1998), combined with Common Bird Census methods (British Trust for Ornithology, 2021) for dense habitat. Transect routes were devised to ensure coverage of different habitat complexes between vantage point the locations within the study area and to survey all areas of suitable breeding habitat to within 100m, where access allowed. Surveys were carried out during daylight hours during the core breeding season months of April, May, June, and July, with the site being visited four days per month on each occasion. Following all survey visits, the field maps were analysed to determine the number and the location of breeding territories. All non-breeding individuals and species encountered were also recorded. Survey effort is presented in Appendix A, including dates, times, duration and weather conditions. See Appendix B, Figure 2.0 for the location of breeding walkover transects.

3.3.3 Breeding Raptor Surveys

Breeding raptor surveys (i.e. birds of prey) were undertaken to identify occupied raptor territories and ascertain whether breeding was successful. 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 six breeding raptor survey the locations, based on the area of suitable habitat available. Once breeding activity was observed, vantage point and transect locations were adjusted to pinpoint breeding locations. Breeding raptor survey locations were 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, (2) 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). Survey effort is presented in Appendix A, including dates, times, duration and weather conditions. In both July 2024 and July 2025 an additional two days of breeding raptor survey effort was carried out in the vicinity of probable breeding hen harrier area. See Appendix B, Figure 3.0 for the location of breeding raptor survey vantage points.

3.3.4 Breeding Woodcock Surveys

Breeding season surveys for woodcock were undertaken to record the presence of roding (displaying) male woodcock and thereby establish the distribution and abundance of the species in the study area.

Methodology followed Gilbert *et al.* (1998). Transects were carried out in areas of suitable habitat, i.e. woodland (particularly broadleaf) and dense bracken in upland areas by a surveyor walking slowly (~2km/hr). The same transect routes were followed on successive surveys. When a woodcock was detected, the following details are recorded for each observation: the location, time, transect number, number of birds, breeding activity/behaviour and primary habitat used (and secondary and tertiary habitats if applicable).

Transect surveys were undertaken in May and June. Surveys commenced one hour before sunset and continued for an hour after sunset or until it was too dark to see. Survey effort is presented in Appendix A, including dates, times, duration and weather conditions. A map of the transects is presented in Appendix B, Figure 4.0, for the location of breeding woodcock survey transects.

3.3.5 Breeding Red Grouse Surveys

Red grouse surveys were undertaken in March. The methodology used was derived from Bibby *et al.* (2000) and the survey methods from the most recent national Red Grouse survey (2006/2007 to 2007/2008) coordinated by BirdWatch Ireland (Murray *et al.,* 2013). The survey targeted areas of suitable habitat (i.e. open moorland and areas of heather) within 500m of the wind farm site. Areas of forestry and agricultural grassland,/etc, were not surveyed as they do not have the potential to support red grouse populations. The survey consisted of tape lure transects. The surveyor walked transects 150m apart, stopping every 100m to broadcast the lure for a maximum of 30 seconds and listening and watching for a response from a male red grouse. Responses were recorded as (1) call back, (2) call back and fly away, (3) flush without calling or (4) call back and fly towards the broadcaster. Survey effort is presented in Appendix B, including dates, times, duration and weather conditions. A map of the transect, the locations are presented in Appendix B, Figure 5.0. The work was carried out under NPWS Licence Numbers 006/2024 and 007/2025.

3.3.6 Winter Walkover Surveys

Winter walkover surveys were undertaken to determine the presence of bird species of conservation concern within the study area. Transect routes were devised to ensure coverage of different habitat complexes between vantage point locations within the study area. As NatureScot does not prescribe a specific winter walkover methodology, the methodology was broadly based on breeding bird survey methodologies described in Bibby *et al.* (2000) and Gilbert *et al.* (1998). The site was visited, and transects were walked three times between October and March. Survey effort is presented in Appendix A, including dates, times, duration and weather conditions. See Appendix B, Figure 7.0 for the location of walkover transects.

3.3.7 Hen Harrier Roost Surveys

Potential hen harrier roost sites within 2km of the proposed development area were surveyed for the presence of roosting hen harrier during hen harrier roost surveys. Survey work was undertaken following the methodology of Gilbert *et al.* (1998) and O'Donoghue (2019) from November to March. Missed October surveys were undertaken in November and December. Surveys were conducted from four locations each month, which overlooked the most suitable hen harrier roosting habitat. Survey effort is presented in Appendix A, including dates, times, duration and weather conditions. A map of the survey locations is presented in Appendix B.

3.4 Project Team

This report has been prepared by Andrew O'Donoghue (B.Sc), Project Ornithologist, and reviewed by Padraig Cregg (B.Sc, M.Sc), Principal 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 NatureScot guidance (2017, revised in 2025) and CIEEM (2025) ecological reporting guidelines.

3.4.1 Field Team

Field surveys were undertaken by Cillian Murphy (PgD), Andrew O'Donoghue (B.Sc.), Niall McHugh (B.Sc), Niamh Scanlon (B.Sc), Shane Cully (B.Sc), Franck Le Moenner, Conor Rowlands (B.Sc), Karole Guilfoyle (B.Sc) and John Coveney. All surveyors are suitably qualified and competent experts in field ornithology.

3.5 Survey Limitations

A comprehensive suite of bird surveys was undertaken at the site between November 2023 and September 2025. Results are derived from continuous surveying undertaken in accordance with best practice guidance, NatureScot guidance (2017, revised in 2025). However, there was a delayed start to surveying. NatureScot guidance recommends winter bird surveys begin in October; however, due to a delayed start, surveys began in November 2024 with additional Vantage Point Surveys and Hen Harrier Roost Surveys undertaken to make up for the missed October surveys. The survey duration and scope are considered satisfactory, as this shortfall in survey effort was made up within the same winter season. There were no issues relating to study area access/weather/time of year/Coillte forestry operations.

4. RESULTS

4.1 Desk Review

4.1.1 Previous Survey Data

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 G82. Table 4-1 presents a list of eight species of conservation interest recorded within this hectad.

Table 4-1 Bird Atlas data for birds of conservation concern and raptors for the relevant hectad

Species Name	Bird Atlas 2007-2011 (G82)	Conservation Status
Hen harrier	Probable	Annex I & Raptor
Curlew	Probable	Red List
Grey wagtail	Probable	Red List
Kestrel	Possible	Red List & Raptor
Meadow pipit	Confirmed	Red List
Snipe	Probable	Red List
Woodcock	Possible	Red List
Sparrowhawk	Possible	Raptor

BD=Birds Directive; RL = BoCCI Red List; Poss = possible breeding; Prob = probable breeding; Conf= confirmed breeding; Seen = present without evidence of breeding.

Wintering Bird Atlas Records

Bird Atlas 2007-11: The breeding and wintering birds of Britain and Ireland' (Balmer *et al.,* 2013) is the most recent comprehensive work on wintering birds in Ireland. It provides information on species and their wintering status in 10km hectads. The site lies within hectad G82. Table 4-2 presents a list of ten species of conservation interest recorded within this hectad.

Table 4-2 Bird Atlas data for relevant hectad [Present = recorded; - = not-recorded]

Species Name	Wintering Atlas 2007-2011 (G82)	Conservation Status
Hen Harrier	Present	Annex I EU Birds Directive
Whooper Swan	Present	Annex I EU Birds Directive
Peregrine	Present	Annex I EU Birds Directive
Black-headed Gull	-	BOCCI Red Listed
Woodcock	Present	BOCCI Red Listed
Curlew	-	BOCCI Red Listed
Lapwing	-	BOCCI Red Listed
Tufted Duck	Present	BOCCI Red Listed
Wigeon	Present	BOCCI Red Listed
Meadow Pipit	Present	BOCCI Red Listed

5. RESULTS

5.1 Field surveys

Observations made during vantage point surveys, breeding walkover surveys, breeding raptor surveys, breeding woodcock surveys, winter walkover surveys, hen harrier roost surveys, breeding red grouse surveys and incidental observations are provided below.

5.1.1 Species Accounts

Golden Plover

There were 75 observations of golden plover during vantage point surveys, with a maximum flock size of 340 birds recorded in January 2025. Observations were widespread with evidence of birds roosting in areas of open bog within 500m of the site, mainly recorded on an area of bog between Braudphark and Tullynamuckduff. Birds were recorded flying at PCH (25-200m) for a total of 10,193 seconds across two years of surveys. See Appendix B, Figure 1.2 for the locations of observations.

Golden plover were recorded six times during breeding walkover surveys. All observations related to birds recorded in April 2024 and April 2025. No breeding activity was recorded; birds present were considered wintering non-breeders. In the breeding season, a maximum flock size of 60 birds was recorded in flight and landing on bog at Braudphark within 500m of site. See Appendix B, Figure 2.1 for the location of observations.

Golden plover were recorded seven times during winter walkover surveys. A maximum flock size of 170 birds was recorded in November 2024. Observations were across the winter periods. All observations involved birds to the east of the site at Braudphark and Blackbanks Windfarm, and the west of the site at Croagh townland on site and within 500m of site. See Appendix B, Figure 7.1, for the location of observations.

Golden plover were recorded 23 times as incidental observations. A maximum flock size of 210 birds was recorded at Carrownyclowan off site in March 2024. In January 2025, 40 roosting birds were flushed from an area of bog at Braudphark within 500m of site. Other observations involved flocks in flight on site and within 500m of site. See Appendix B, Figure 8.0 for the location of observations.

Hen Harrier

There were 22 observations of hen harrier from vantage point surveys over two years. Records involved adult male, adult female and immature birds flying, hunting and foraging on site. A total of 344 seconds was recorded at PCH. See Appendix B, Figure 1.3 for the location of observations.

Hen harrier were recorded three times during breeding walkover surveys. In May 2025, a male was recorded in flight on site at Croagh townland. In July 2025, a female was recorded foraging twice at Garvagh within 500m of site. See Appendix B, Figure 2.2 for the location of observations.

Hen harrier were recorded 18 times during breeding raptor surveys. Observations involved single male or female birds in flight, foraging, soaring and displaying. On the 8th and 9th of May 2024, a male was recorded in flight and foraging on site and within the study area to the southeast and southwest. On the 10th of May, a male was recorded sky dancing (displaying) at Tullnamuckduff within the study area approx. 500m to 1.2km from the nearest proposed turbine. This indicates probable breeding in the wider area. An unsexed individual was briefly recorded in flight on the 7th of July. Despite additional

survey effort in this area, there were no further hen harrier observations during breeding raptor surveys in 2024, and no further breeding evidence from any survey type.

In 2025, on the 24th of April, a male was recorded foraging within the study area to the northeast. On the 29th of April, a male was observed in flight, followed by a male northern harrier (vagrant species) or hybrid hen harrier bird. On the 7th of May, a male was observed sky dancing (displaying) at Tullnamuckduff within the study area, approx. 1.4km to 2.4km from the nearest proposed turbine. This indicates probable breeding in the wider area. In June, a male was recorded foraging, flying and soaring in this same general area. On the 26th of June, a female was observed foraging off site to the east at Seltan, marking this as the only observation of a female bird. No further breeding evidence was recorded despite a doubling of survey effort in June/July 2025. Information on the potential territory location has been redacted to ensure this sensitive information isn't widely circulated. It can be made available on request.

Hen harrier were recorded on 40 occasions during hen harrier roost surveys. Twenty five of these observations related to birds roosting on moorland off site to the east. In March 2024, a hen harrier roost was located east of site, approx.1.6km from the nearest proposed turbine and 300m from the grid connection route near Seltan townland. This roost was regularly used in the subsequent survey period, with roosting recorded each month, with up to 4 individuals (3 male, 1 female) observed roosting during any one survey (November 2024). The area of habitat used for roosting extended across approx. another 1km stretch of moorland habitat east away from site. Birds were observed using the further away end of the roost when disturbance (corvid or fox related) was recorded at the favoured location nearer the site. Other non-roost observations involved male or female adult birds foraging, hunting or travelling on and off site. See Appendix B, Figure 6.0 for the location of roost survey vantage points. Information on the roost location has been redacted to ensure this sensitive information isn't widely circulated. It can be made available on request.

Hen harrier were recorded six times during winter walkover surveys. Observations involved adult male or immature birds travelling, soaring and foraging. See Appendix B, Figure 7.2 for the location of observations.

Hen harrier were recorded twelve times as incidental observations across the survey period. In May 2024, a male was observed carrying vegetation or prey, further indicating breeding in the wider area. Other observations of single males or female flying, hunting, travelling and soaring. See Appendix B, Figure 8.1, for the location of observations.

Summary: In May 2024, a displaying male indicated probable breeding in the study area north of the site. There were a low number of observations after this point. No further breeding evidence was recorded despite additional survey effort. In May 2025, a displaying male again indicated probable breeding in the same general area. A female was recorded foraging off site in June. No further breeding evidence was recorded despite additional survey effort. In both 2024 and 2025, breeding was likely somewhere north of the displaying observations, given extensive survey coverage of the area to the south, i.e. the site. This would have been greater than 500m (2024) and 1.4km (2025) from the nearest proposed turbines.

In the non-breeding season, a regularly used communal roost was located that was approx. 1.6km east of the nearest proposed turbine and 300m from the grid connection route.

Merlin

Merlin were recorded on 14 occasions from vantage point surveys across two years. Observations involved birds in flight, hunting and travelling and birds perched. Records included adult male, female or unsexed birds. A total of 166 seconds was spent at PCH. See Appendix B, Figure 1.4 for the location of observations.

Merlin were observed 14 times during breeding raptor surveys. Single birds or pairs were observed in flight, foraging and interacting. In early May 2024, a nest site was identified in a lone conifer in open bog between Garvagh and Croagh on site approx. 280m from the nearest proposed turbine. A female was observed receiving prey from male and carrying to the nest site, followed by further observations in this area confirming breeding here. All observations were from May 2024, with no observations beyond this point, indicating likely nest failure soon after establishment. In 2025, there were no records of merlin during breeding raptor surveys. Observations from other survey types did not record breeding activity. See Appendix B, Figure 3.2, for the location of observations. Information on the nest site location has been redacted to ensure this sensitive information isn't widely circulated. It can be made available on request.

Merlin were observed on one occasion as an incidental observation. A single bird was observed hunting off site in May 2024, off site to the southwest. See Appendix B, Figure 8.3 for the location of observations.

Whooper swan

Whooper swan were observed on one occasion during winter walkover surveys. In November 2024, a flock of 16 birds were observed in migrating flight approx. 2km west of site. See Appendix B, Figure 7.3 for the location of observations.

Whooper swan were recorded three times as incidental observations. All observations involved migrating flights in October 2024. One flight of seven birds flew over the site, another flight of 11 passed within 500m of the site, and the flock of 20 were off site. See Appendix B, Figure 8.2, for the location of observations.

Red Grouse

There were 39 records of red grouse from vantage point surveys across two years. Observations involved birds calling or in flight in open habitat to the west and south of the site near Garvagh and Carrowmore. See Appendix B, Figure 1.5 for the location of observations.

Red grouse were recorded once during a breeding walkover. In April 2025, a bird was flushed within 500m of the site at Croagh. See Appendix B, Figure 2.3 for the location of observations.

Red grouse were recorded 17 times across two seasons of species-specific tape lure surveys. Birds were recorded on site and within 500m of the site, to the west of the site, in areas of suitable habitat. All but one observation was made between Croagh and Carrownyclowan west and southwest of the site, with one record of a calling bird to the east at Braudphark indicating probable breeding in these areas. See Appendix B, Figure 5.0 for the location of survey transects and Figure 5.1 for the location of observations.

Red grouse were recorded twice during winter walkover surveys. Birds were flushed to the west of the site at Garvagh in January 2024 and 2025. See Appendix B, Figure 7.4 for the location of observations.

Red grouse were recorded 17 times as incidental observations. Observations involved birds flushed or heard calling in open areas to the west of site between Garvagh and Carrowmore. See Appendix B, Figure 8.4, for the location of observations.

Snipe

There were 52 observations of snipe during the survey period. Birds were recorded in flight, calling and displaying. Displaying birds were recorded at Croagh, Tullynamuckduff, and Carrowmore, indicating probably breeding here. A total of 2,998 seconds of flight time was recorded at PCH. See Appendix B, Figure 1.6 for the location of observations.

Snipe were recorded 22 times during breeding walkover surveys. Birds were observed flushed in flight, calling and singing. Probable breeding territories were recorded in open habitat to the east of the site at Braudphark and west of the site at Garvagh and Croagh. See Appendix B, Figure 2.5 for the location of observations.

Snipe were recorded six times during winter walkover surveys. Single birds or pairs were flushed or observed in flight on site and within 500m. See Appendix B, Figure 7.6 for the location of observations.

Snipe were recorded 68 times as incidental observations. Observations involved birds flushed, calling, in flight and displaying. Probable breeding territories were identified to the west and east of the site in areas of open habitat. See Appendix B, Figure 8.6 for the location of observations.

Kestrel

Kestrel were recorded on 40 occasions during vantage point surveys. All observations involved single birds in flight, foraging, hovering and hunting. A total of 2,875seconds was recorded at PCH. See Appendix B, Figure 1.7 for the location of observations.

Kestrel were recorded twice during breeding walkovers. Both observations were in July 2025 and involved birds hunting on site at Croagh. See Appendix B, Figure 2.4 for the location of observations.

Kestrel were observed 27 times during breeding raptor surveys. All observations involved individual birds flying, foraging, hunting and soaring. No breeding activity was recorded. See Appendix B, Figure 3.3 for the location of observations.

Kestrel were recorded once during winter walkover surveys. A single bird was observed hunting in March 2024 on site at Boleymaguire. See Appendix B, Figure 7.5 for the location of observations.

Kestrel were recorded 14 times as incidental observations. Observations involved single birds in flight, foraging and hunting on site and within 500m of the site. See Appendix B, Figure 8.5 for the location of observations.

Woodcock

There were two observations of woodcock during the survey period. Both were at Croagh on site in winter, with birds recorded in flight. See Appendix B, Figure 1.8 for the location of observations.

Woodcock were recorded during species-specific surveys in the breeding season on nine occasions. Birds were observed in display (roding) or calling unseen. A minimum of two breeding territories on site is probable. See Appendix B, Figure 4.0 for the location of survey transects and Figure 4.1 for the locations of observations.

Woodcock were recorded three times during winter walkover surveys. Birds were flushed or observed in flight on site and within 500m of the site. See Appendix B, Figure 7.7 for the location of observations.

Woodcock were recorded eight times as incidental observations. Observations all involved single birds flushed or in flight on and off site. See Appendix B, Figure 8.7, for the location of observations.

Buzzard

Buzzard were recorded 24 times during vantage point surveys. Observations involved flying, soaring, displaying and prey carrying. Prey carrying and displaying was observed at Croagh on site, confirming breeding here. A total of 3,910 seconds was recorded at PCH. See Appendix B, Figure 1.9 for the location of observations.

Buzzard were recorded ten times during breeding walkover surveys. Single birds or pairs were observed in flight, soaring or displaying. In June 2024, a pair were observed in display flight at Garvagh on site, indicating probable breeding here. See Appendix B, Figure 2.6 for the location of observations.

Buzzard were observed 25 times during breeding raptors surveys. In 2024, two or three birds were observed in courtship on site at Garvagh Glebe and off site at Carrane Hill, indicating probable breeding in these areas. The remaining observations involved birds in flight and soaring. See Appendix B, Figure 3.4 for the location of observations.

Buzzard were recorded twice during winter walkover surveys. Birds were observed in flight or perched on site and within 500m of the site. See Appendix B, Figure 7.8 for the location of observations.

Buzzard were recorded 15 times as incidental observations. Displaying birds were recorded on site at Croagh and off site at Tullynamckduff, and Carrowmore, indicating probable breeding in these areas. Other observations involved birds in flight, soaring and foraging. See Appendix B, Figure 8.8, for the location of observations.

Sparrowhawk

Sparrowhawk were observed thirteen times during vantage point surveys. Individual birds were observed in flight, soaring and hunting on site or within 500m of the site. A total of 676 seconds of flight time was recorded at PCH. See Appendix B, Figure 1.10 for the location of observations.

Sparrowhawk were observed six times during breeding walkover surveys. Single birds were recorded in flight, hunting and prey carrying. In June 2024, a bird was observed carrying prey on site at Garvagh. See Appendix B, Figure 2.7 for the location of observations.

Sparrowhawk were recorded on three occasions during breeding raptor surveys. In 2024, a nest site was confirmed on site with the presence of three begging chicks on site at Garvagh. In 2025, an adult was observed carrying prey towards the same area. See Appendix B, Figure 3.5 for the location of observations.

Sparrowhawk were recorded twice during winter walkover surveys. Birds were observed in flight on site and within 500m of the site. See Appendix B, Figure 7.9 for the location of observations.

Sparrowhawk were recorded six times as incidental observations. Observations relate to single birds in flight, foraging or hunting on and off site. See Appendix B, Figure 8.9 for the location of observations.

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APPENDIX A

Table of Tables

Table 1 Survey effort.....1

Table 1 Survey effort

Date	Survey	Location	Duration (h)	Weather Conditions	Comments	Surveyor
29/11/2023	Hen Harrier Roost Survey	HHVP1	2:00 starting at 14:50	Visibility: good; Wind speed and direction: gentle breeze N; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	No Hen harrier	AOD
30/11/2023	Vantage Point Survey	VP1	3:00 starting at 11:15	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: light; Snow: none		NM
30/11/2023	Vantage Point Survey	VP1	3:00 starting at 14:45	Visibility: good; Wind speed and direction: moderate breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: light; Snow: none		NM
13/12/2023	Hen Harrier Roost Survey	HHVP4	2:00 starting at 14:40	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
14/12/2023	Vantage Point Survey	VP4	3:00 starting at 10:54	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CR
14/12/2023	Vantage Point Survey	VP4	3:00 starting at 14:25	Visibility: good; Wind speed and direction: fresh breeze S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CR
14/12/2023	Hen Harrier Roost Survey	HHVP1	2:00 starting at 14:40	Visibility: poor; Wind speed and direction: fresh breeze W; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		AOD
15/12/2023	Vantage Point Survey	VP1	3:00 starting at 10:40	Visibility: none; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none	Dense fog only clearing for brief periods	SC
15/12/2023	Vantage Point Survey	VP1	3:00 starting at 14:10	Visibility: none; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		SC
18/12/2023	Vantage Point Survey	VP3	3:00 starting at 10:40	Visibility: limited; Wind speed and direction: moderate breeze WSW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none	Mostly foggy with strong winds and persistent drizzle	SC
18/12/2023	Vantage Point Survey	VP3	3:00 starting at 14:10	Visibility: limited; Wind speed and direction: moderate breeze WSW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		SC
18/12/2023	Hen Harrier Roost Survey	HHVP4	1:00 starting at 14:40	Visibility: moderate; Wind speed and direction: light air NW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none	No Hen Harrier	CM

18/12/2023	Hen Harrier Roost Survey	HHVP4	1:00 starting at 15:40	Visibility: moderate; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none	No Hen Harrier	CM
18/12/2023	Hen Harrier Roost Survey	HHVP4	0:30 starting at 16:40	Visibility: poor; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none	No Hen Harrier	CM
19/12/2023	Vantage Point Survey	VP1	3:00 starting at 07:50	Visibility: good; Wind speed and direction: fresh breeze WNW; Cloud cover and height: 66-100% 150-500m; Rain: heavy showers; Frost: none; Snow: none	Periods of sunshine with persistent strong wind and intermittent heavy showers. Very cold	SC
19/12/2023	Vantage Point Survey	VP1	3:00 starting at 11:20	Visibility: good; Wind speed and direction: fresh breeze WNW; Cloud cover and height: 66-100% 150-500m; Rain: heavy showers; Frost: none; Snow: none		SC
19/12/2023	Hen Harrier Roost Survey	HHVP3	2:00 starting at 15:10	Visibility: good; Wind speed and direction: fresh breeze WNW; Cloud cover and height: 66-100% 150-500m; Rain: heavy showers; Frost: none; Snow: none	No Hen Harriers, Heavy showers with strong winds	SC
20/12/2023	Vantage Point Survey	VP3	3:00 starting at 07:50	Visibility: limited; Wind speed and direction: strong breeze W; Cloud cover and height: 66-100% <150m; Rain: persistent; Frost: none; Snow: none	Very strong wind with persistent rain, only briefly stopping and clearing at times.	SC
20/12/2023	Vantage Point Survey	VP3	3:00 starting at 11:20	Visibility: limited; Wind speed and direction: strong breeze W; Cloud cover and height: 66-100% <150m; Rain: persistent; Frost: none; Snow: none	Very strong wind, mixture of heavy and light showers, becoming persistent toward end of watch.	SC
20/12/2023	Hen Harrier Roost Survey	HHVP3	1:00 starting at 14:40	Visibility: poor; Wind speed and direction: fresh breeze W; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none	No Hen Harrier	CM
20/12/2023	Hen Harrier Roost Survey	HHVP3	1:00 starting at 15:40	Visibility: poor; Wind speed and direction: fresh breeze W; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none	No Hen Harrier	CM
20/12/2023	Hen Harrier Roost Survey	HHVP3	0:30 starting at 16:40	Visibility: poor; Wind speed and direction: strong breeze W; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none	No Hen Harrier	CM
21/12/2023	Vantage Point Survey	VP4	3:00 starting at 07:50	Visibility: moderate; Wind speed and direction: gale WNW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		SC

21/12/2023	Vantage Point Survey	VP4	3:00 starting at 11:20	Visibility: moderate; Wind speed and direction: gale WNW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		SC
21/12/2023	Hen Harrier Roost Survey	HHVP2	1:00 starting at 14:40	Visibility: moderate; Wind speed and direction: strong breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none	No Hen Harrier	CM
21/12/2023	Hen Harrier Roost Survey	HHVP3	2:30 starting at 14:40	Visibility: good; Wind speed and direction: near gale WNW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none	No Hen Harriers, very strong wind	SC
21/12/2023	Hen Harrier Roost Survey	HHVP2	1:00 starting at 15:40	Visibility: moderate; Wind speed and direction: fresh breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none	No Hen Harrier	CM
21/12/2023	Hen Harrier Roost Survey	HHVP2	0:30 starting at 16:40	Visibility: poor; Wind speed and direction: fresh breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none	No Hen Harrier	CM
22/12/2023	Winter Walkover Survey	T2	1:05 starting at 08:55	Visibility: poor; Wind speed and direction: strong breeze W; Cloud cover and height: 66-100% 150-500m; Rain: persistent; Frost: none; Snow: none	A breezy overcast morning with low cloud/fog and persistent rain	SC
22/12/2023	Winter Walkover Survey	T2	0:50 starting at 10:10	Visibility: poor; Wind speed and direction: strong breeze W; Cloud cover and height: 66-100% 150-500m; Rain: heavy showers; Frost: none; Snow: none	Low cloud/fog, heavy showers and strong winds	SC
22/12/2023	Winter Walkover Survey	T2	1:10 starting at 11:05	Visibility: poor; Wind speed and direction: strong breeze W; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none	Foggy and strong wind but mostly dry	SC
22/12/2023	Hen Harrier Roost Survey	HHVP4	2:30 starting at 14:40	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none	No Hen harriers, An overcast, breezy evening with some drizzle	SC
23/12/2023	Vantage Point Survey	VP3	3:00 starting at 07:50	Visibility: none; Wind speed and direction: strong breeze WSW; Cloud cover and height: 66-100% <150m; Rain: persistent; Frost: none; Snow: none	Light showers and fog to begin but rain becoming heavy and persistent. Abandoned after 3 hours	SC

29/12/2023	Winter Walkover Survey	T1	0:35 starting at 11:10	Visibility: good; Wind speed and direction: fresh breeze WSW; Cloud cover and height: 33-66% 150-500m; Rain: light showers; Frost: none; Snow: none	A cold winters day with light showers	SC
29/12/2023	Winter Walkover Survey	T1	0:45 starting at 11:50	Visibility: good; Wind speed and direction: fresh breeze W; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none	Mostly sunny but cold	SC
29/12/2023	Winter Walkover Survey	T1	0:55 starting at 12:40	Visibility: good; Wind speed and direction: fresh breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none	A cold, overcast afternoon	SC
30/12/2023	Vantage Point Survey	VP3	3:00 starting at 11:20	Visibility: good; Wind speed and direction: fresh breeze S; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none	A very cold afternoon with the occasional light shower	SC
30/12/2023	Hen Harrier Roost Survey	HHVP4	2:30 starting at 14:50	Visibility: good; Wind speed and direction: fresh breeze SSE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none	Sunny but cold	SC
04/01/2024	Vantage Point Survey	VP4	3:00 starting at 08:20	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CR
04/01/2024	Vantage Point Survey	VP4	3:00 starting at 11:50	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CR
05/01/2024	Hen Harrier Roost Survey	HHVP1	1:00 starting at 15:00	Visibility: moderate; Wind speed and direction: gentle breeze N; Cloud cover and height: 0-33% 150-500m; Rain: light showers; Frost: none; Snow: none		CM
05/01/2024	Hen Harrier Roost Survey	HHVP1	1:00 starting at 16:00	Visibility: poor; Wind speed and direction: gentle breeze N; Cloud cover and height: 33-66% 150-500m; Rain: drizzle; Frost: none; Snow: none		CM
05/01/2024	Hen Harrier Roost Survey	HHVP1	0:15 starting at 17:00	Visibility: limited; Wind speed and direction: gentle breeze N; Cloud cover and height: 66-100% 150-500m; Rain: heavy showers; Frost: none; Snow: none		CM
08/01/2024	Hen Harrier Roost Survey	HHVP4	1:00 starting at 15:00	Visibility: good; Wind speed and direction: light air S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: light; Snow: none		CM
08/01/2024	Hen Harrier Roost Survey	HHVP4	1:00 starting at 16:00	Visibility: moderate; Wind speed and direction: light breeze SE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: heavy; Snow: none		CM

08/01/2024	Hen Harrier Roost Survey	HHVP4	0:20 starting at 17:00	Visibility: poor; Wind speed and direction: light breeze SE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: heavy; Snow: none		CM
10/01/2024	Vantage Point Survey	VP1	1:00 starting at 08:00	Visibility: moderate; Wind speed and direction: light breeze SE; Cloud cover and height: 0-33% 150-500m; Rain: none; Frost: heavy; Snow: none		CM
10/01/2024	Vantage Point Survey	VP1	1:00 starting at 09:00	Visibility: moderate; Wind speed and direction: gentle breeze S; Cloud cover and height: 0-33% 150-500m; Rain: none; Frost: light; Snow: none		CM
10/01/2024	Vantage Point Survey	VP1	1:00 starting at 10:00	Visibility: moderate; Wind speed and direction: gentle breeze S; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: light; Snow: none		CM
10/01/2024	Vantage Point Survey	VP1	1:00 starting at 11:30	Visibility: moderate; Wind speed and direction: moderate breeze SE; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: light; Snow: none		CM
10/01/2024	Vantage Point Survey	VP1	1:00 starting at 12:30	Visibility: moderate; Wind speed and direction: moderate breeze SE; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: light; Snow: none		CM
10/01/2024	Vantage Point Survey	VP1	1:00 starting at 13:30	Visibility: poor; Wind speed and direction: moderate breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: light; Snow: none		CM
18/01/2024	Winter Walkover Survey	T1	1:00 starting at 11:30	Visibility: good; Wind speed and direction: light breeze N; Cloud cover and height: 0-33% >500m; Rain: none; Frost: light; Snow: on ground	Lough Nacroagh frozen over.	CM
18/01/2024	Winter Walkover Survey	T1	1:00 starting at 12:30	Visibility: moderate; Wind speed and direction: light breeze N; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: light; Snow: falling	Snowfall for 0.25 hour	CM
18/01/2024	Winter Walkover Survey	T1	1:00 starting at 13:30	Visibility: good; Wind speed and direction: light breeze N; Cloud cover and height: 0-33% >500m; Rain: none; Frost: light; Snow: on ground		CM
18/01/2024	Hen Harrier Roost Survey	HHVP2	1:00 starting at 15:15	Visibility: good; Wind speed and direction: gentle breeze N; Cloud cover and height: 0-33% >500m; Rain: none; Frost: light; Snow: on ground		CM
18/01/2024	Hen Harrier Roost Survey	HHVP2	1:00 starting at 16:15	Visibility: poor; Wind speed and direction: gentle breeze N; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: light; Snow: falling	Visibility poor in snow showers.	CM
18/01/2024	Hen Harrier Roost Survey	HHVP2	0:20 starting at 17:15	Visibility: moderate; Wind speed and direction: gentle breeze N; Cloud cover and height: 0-33% <150m; Rain: none; Frost: light; Snow: on ground		CM

19/01/2024	Hen Harrier Roost Survey	HHVP3	1:00 starting at 15:15	Visibility: good; Wind speed and direction: fresh breeze W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: on ground		CM
19/01/2024	Hen Harrier Roost Survey	HHVP3	1:00 starting at 16:15	Visibility: moderate; Wind speed and direction: fresh breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: on ground		CM
19/01/2024	Hen Harrier Roost Survey	HHVP3	0:15 starting at 17:15	Visibility: poor; Wind speed and direction: fresh breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: on ground		CM
26/01/2024	Vantage Point Survey	VP3	1:00 starting at 13:15	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM
26/01/2024	Vantage Point Survey	VP3	1:00 starting at 14:15	Visibility: moderate; Wind speed and direction: moderate breeze W; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		CM
26/01/2024	Vantage Point Survey	VP3	1:00 starting at 15:15	Visibility: poor; Wind speed and direction: fresh breeze W; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		CM
29/01/2024	Vantage Point Survey	VP3	3:10 starting at 07:20	Visibility: moderate; Wind speed and direction: light breeze E; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM
30/01/2024	Vantage Point Survey	VP4	3:00 starting at 07:30	Visibility: good; Wind speed and direction: moderate breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		AOD
30/01/2024	Vantage Point Survey	VP4	3:00 starting at 11:00	Visibility: good; Wind speed and direction: moderate breeze SE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		AOD
31/01/2024	Winter Walkover Survey	T2	1:00 starting at 14:20	Visibility: limited; Wind speed and direction: fresh breeze W; Cloud cover and height: 66-100% <150m; Rain: heavy showers; Frost: none; Snow: none		CM
31/01/2024	Winter Walkover Survey	T2	1:00 starting at 15:20	Visibility: poor; Wind speed and direction: fresh breeze W; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		CM
31/01/2024	Winter Walkover Survey	T2	1:00 starting at 16:20	Visibility: moderate; Wind speed and direction: moderate breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		CM
06/02/2024	Hen Harrier Roost Survey	HHVP4	1:30 starting at 16:00	Visibility: moderate; Wind speed and direction: light air W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM

06/02/2024	Hen Harrier Roost Survey	HHVP4	0:35 starting at 17:30	Visibility: poor; Wind speed and direction: light air W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
08/02/2024	Hen Harrier Roost Survey	HHVP1	1:00 starting at 16:00	Visibility: moderate; Wind speed and direction: moderate breeze SE; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: on ground		CM
08/02/2024	Hen Harrier Roost Survey	HHVP1	0:55 starting at 17:00	Visibility: poor; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: on ground	Visibility decreased rapidly in rain.	CM
09/02/2024	Hen Harrier Roost Survey	hhvp4	2:00 starting at 16:00	Visibility: poor; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none	no hh	AOD
14/02/2024	Hen Harrier Roost Survey	hhvp1	2:00 starting at 16:00	Visibility: poor; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% <150m; Rain: heavy showers; Frost: none; Snow: none	no hh	AOD
16/02/2024	Vantage Point Survey	VP1	1:00 starting at 13:45	Visibility: moderate; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		CM
16/02/2024	Vantage Point Survey	VP1	2:00 starting at 14:45	Visibility: moderate; Wind speed and direction: gentle breeze SW; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		CM
19/02/2024	Vantage Point Survey	VP1	2:00 starting at 15:45	Visibility: moderate; Wind speed and direction: gentle breeze SSW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none	Farmer gathering sheep on quad across viewshed 17:20-17:40.	CM
19/02/2024	Vantage Point Survey	VP1	1:00 starting at 17:45	Visibility: limited; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		CM
21/02/2024	Vantage Point Survey	VP3	2:00 starting at 13:00	Visibility: good; Wind speed and direction: fresh breeze E; Cloud cover and height: 0-33% >500m; Rain: light showers; Frost: none; Snow: none		AOD
21/02/2024	Vantage Point Survey	VP3	3:00 starting at 16:00	Visibility: good; Wind speed and direction: fresh breeze E; Cloud cover and height: 0-33% >500m; Rain: light showers; Frost: none; Snow: none		AOD
23/02/2024	Vantage Point Survey	VP4	3:00 starting at 12:30	Visibility: good; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none		AOD

23/02/2024	Vantage Point Survey	VP4	1:00 starting at 16:00	Visibility: good; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none		AOD
28/02/2024	Vantage Point Survey	VP3	1:00 starting at 10:30	Visibility: limited; Wind speed and direction: strong breeze SW; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none		AOD
28/02/2024	Breeding Red Grouse Survey	T1	4:00 starting at 12:00	Visibility: limited; Wind speed and direction: strong breeze SW; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none		AOD
04/03/2024	Vantage Point Survey	VP4	2:00 starting at 17:10	Visibility: good; Wind speed and direction: strong breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		AOD
05/03/2024	Vantage Point Survey	VP3	3:00 starting at 11:30	Visibility: moderate; Wind speed and direction: moderate breeze NW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM
05/03/2024	Winter Walkover Survey	T1	3:00 starting at 15:00	Visibility: moderate; Wind speed and direction: gentle breeze W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM
07/03/2024	Winter Walkover Survey	T2	3:00 starting at 13:00	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		CM
07/03/2024	Hen Harrier Roost Survey	HHVP3	2:45 starting at 16:30	Visibility: moderate; Wind speed and direction: moderate breeze W; Cloud cover and height: 33-66% >500m; Rain: drizzle; Frost: none; Snow: none		CM
08/03/2024	Hen Harrier Roost Survey	HHVP3	2:40 starting at 16:30	Visibility: moderate; Wind speed and direction: moderate breeze SE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM
11/03/2024	Hen Harrier Roost Survey	HHVP1	1:30 starting at 17:00	Visibility: poor; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		CM
11/03/2024	Hen Harrier Roost Survey	HHVP1	0:30 starting at 18:30	Visibility: poor; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		CM
12/03/2024	Vantage Point Survey	VP1	1:00 starting at 09:30	Visibility: limited; Wind speed and direction: gentle breeze S; Cloud cover and height: 0-33% <150m; Rain: none; Frost: none; Snow: none		CM
12/03/2024	Vantage Point Survey	VP1	1:00 starting at 10:30	Visibility: poor; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none	Visibility varying with cloud height.	CM

12/03/2024	Vantage Point Survey	VP1	1:00 starting at 11:30	Visibility: moderate; Wind speed and direction: gentle breeze S; Cloud cover and height: 0-33% <150m; Rain: none; Frost: none; Snow: none		CM
13/03/2024	Breeding Red Grouse Survey	T2	2:00 starting at 13:30	Visibility: good; Wind speed and direction: strong breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		AOD
13/03/2024	Hen Harrier Roost Survey	HHVP3	2:15 starting at 17:00		Machinery operating nearby.	CM
15/03/2024	Vantage Point Survey	VP3	1:30 starting at 06:00	Visibility: poor; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none	Visibility poor in showers.	CM
15/03/2024	Vantage Point Survey	VP3	1:30 starting at 07:30	Visibility: moderate; Wind speed and direction: gentle breeze NW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM
22/03/2024	Vantage Point Survey	VP1	1:50 starting at 05:40	Visibility: poor; Wind speed and direction: gentle breeze W; Cloud cover and height: 33-66% >500m; Rain: drizzle; Frost: none; Snow: none		CM
22/03/2024	Vantage Point Survey	VP1	1:10 starting at 07:30	Visibility: moderate; Wind speed and direction: moderate breeze W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM
26/03/2024	Vantage Point Survey	VP4	3:00 starting at 05:35	Visibility: moderate; Wind speed and direction: moderate breeze NE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		CM
26/03/2024	Vantage Point Survey	VP4	1:35 starting at 09:05	Visibility: limited; Wind speed and direction: light breeze NE; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		CM
26/03/2024	Vantage Point Survey	VP4	1:25 starting at 10:40	Visibility: poor; Wind speed and direction: gentle breeze E; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		CM
03/04/2024	Vantage Point Survey	VP1	3:00 starting at 14:55	Visibility: good; Wind speed and direction: light air NW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Wind direction variable.	CM
03/04/2024	Vantage Point Survey	VP1	3:00 starting at 18:25	Visibility: moderate; Wind speed and direction: light breeze W; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none		CM
10/04/2024	Breeding Walkover Survey	T1	2:00 starting at 15:00	Visibility: poor; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		CM

10/04/2024	Breeding Walkover Survey	T1	1:00 starting at 17:00	Visibility: limited; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% <150m; Rain: persistent; Frost: none; Snow: none		CM
11/04/2024	Breeding Walkover Survey	T2	2:15 starting at 15:00	Visibility: poor; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none		CM
11/04/2024	Breeding Walkover Survey	T2	0:45 starting at 17:15	Visibility: poor; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% <150m; Rain: persistent; Frost: none; Snow: none		CM
11/04/2024	Vantage Point Survey	VP4	1:00 starting at 18:30	Visibility: poor; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% <150m; Rain: persistent; Frost: none; Snow: none		CM
11/04/2024	Vantage Point Survey	VP4	2:00 starting at 19:30	Visibility: limited; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% <150m; Rain: persistent; Frost: none; Snow: none	Persistent drizzle with heavy showers.	CM
12/04/2024	Breeding Walkover Survey	T2	1:30 starting at 14:00	Visibility: poor; Wind speed and direction: moderate breeze W; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		CM
12/04/2024	Breeding Walkover Survey	T2	1:30 starting at 15:30	Visibility: poor; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		CM
18/04/2024	Breeding Walkover Survey	T1	3:00 starting at 15:15	Visibility: moderate; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none		CM
18/04/2024	Vantage Point Survey	VP3	1:45 starting at 18:45	Visibility: moderate; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		CM
18/04/2024	Vantage Point Survey	VP3	1:15 starting at 20:30	Visibility: limited; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		CM
08/05/2024	Breeding Raptor Survey	BR1	3:00 starting at 09:00	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Fair, partly cloudy. Prolonged bright periods. 9 - 15°C	NM
08/05/2024	Breeding Raptor Survey	BR10	3:00 starting at 15:00	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	Clear and bright. 11 - 21°C	NM

08/05/2024	Breeding Raptor Survey	BR3	3:00 starting at 18:20	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	Clear and bright. 11 - 21°C	NM
09/05/2024	Breeding Raptor Survey	BR2	3:00 starting at 11:00	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Fair, clear and warm. Refreshing S breeze. 9 - 21°C	NM
09/05/2024	Breeding Raptor Survey	BR7	3:00 starting at 14:50	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Clear and bright. Warm with heat haze, 14 - 22°C	NM
09/05/2024	Breeding Raptor Survey	BR5	3:00 starting at 18:00	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Fair, clear and warm. Refreshing S breeze. 9 - 21°C	NM
10/05/2024	Breeding Raptor Survey	BR8	3:00 starting at 14:00	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Fair, clear and warm. Refreshing S breeze. 9 - 21°C	NM
10/05/2024	Breeding Raptor Survey	BR9	3:00 starting at 14:50	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	Fair, clear and warm. Refreshing S breeze. 9 - 21°C	NM
10/05/2024	Breeding Raptor Survey	BR4	3:00 starting at 18:30	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	Fair, clear and warm. Refreshing S breeze. 9 - 21°C	NM
14/05/2024	Vantage Point Survey	VP4	1:30 starting at 04:30	Visibility: poor; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none	Mist on lower levels.	CM
14/05/2024	Vantage Point Survey	VP4	1:30 starting at 06:00	Visibility: moderate; Wind speed and direction: light air SE; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		CM
14/05/2024	Vantage Point Survey	VP4	1:10 starting at 08:00	Visibility: moderate; Wind speed and direction: light breeze SE; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none	Forced break for operational reasons.	CM
14/05/2024	Vantage Point Survey	VP4	1:50 starting at 10:10	Visibility: moderate; Wind speed and direction: light breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		CM
15/05/2024	Vantage Point Survey	VP1	3:00 starting at 07:00	Visibility: moderate; Wind speed and direction: light breeze E; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM

15/05/2024	Vantage Point Survey	VP3	3:00 starting at 11:20	Visibility: moderate; Wind speed and direction: gentle breeze NE; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none		CM
16/05/2024	Vantage Point Survey	VP3	3:00 starting at 04:40	Visibility: moderate; Wind speed and direction: light air SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	Bright sunlight affecting SE view.	CM
16/05/2024	Vantage Point Survey	VP3	3:00 starting at 08:10	Visibility: moderate; Wind speed and direction: light breeze NE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		CM
16/05/2024	Breeding Raptor Survey	BR5	3:00 starting at 16:00	Visibility: good; Wind speed and direction: moderate breeze NNW; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		KG
16/05/2024	Breeding Woodcock Survey	T1	2:00 starting at 20:15	Visibility: good; Wind speed and direction: light breeze NNW; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		KG
17/05/2024	Breeding Raptor Survey	BR6	3:00 starting at 15:45	Visibility: good; Wind speed and direction: light air N; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KG
17/05/2024	Breeding Woodcock Survey	T2	2:00 starting at 20:15	Visibility: good; Wind speed and direction: light breeze N; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		KG
27/05/2024	Breeding Raptor Survey	BR1	3:00 starting at 17:15	Visibility: moderate; Wind speed and direction: fresh breeze SSW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KG
27/05/2024	Breeding Woodcock Survey	T2	1:50 starting at 20:45	Visibility: good; Wind speed and direction: light breeze SSW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KG
28/05/2024	Breeding Raptor Survey	BR4	3:00 starting at 16:50	Visibility: limited; Wind speed and direction: fresh breeze WSW; Cloud cover and height: 66-100% <150m; Rain: heavy showers; Frost: none; Snow: none	persistent heavy showers reduced visibility	KG
28/05/2024	Breeding Woodcock Survey	T1	1:55 starting at 20:25	Visibility: poor; Wind speed and direction: light breeze W; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none	mist reduced visibility for part of the survey	KG
29/05/2024	Vantage Point Survey	VP4	3:00 starting at 04:15	Visibility: limited; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		CM
30/05/2024	Vantage Point Survey	VP1	1:00 starting at 04:25	Visibility: poor; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
30/05/2024	Vantage Point Survey	VP1	1:00 starting at 05:25	Visibility: limited; Wind speed and direction: moderate breeze NW; Cloud cover and height: 66-100% <150m; Rain: persistent; Frost: none; Snow: none		CM

30/05/2024	Vantage Point Survey	VP1	1:00 starting at 06:25	Visibility: poor; Wind speed and direction: fresh breeze NW; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none		CM
05/06/2024	Breeding Raptor Survey	BR8	3:00 starting at 09:50	Visibility: good; Wind speed and direction: fresh breeze WNW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none	variable wind speeds	KG
05/06/2024	Breeding Walkover Survey	T2	2:00 starting at 13:30	Visibility: good; Wind speed and direction: fresh breeze WNW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KG
05/06/2024	Breeding Walkover Survey	T2	1:30 starting at 15:30	Visibility: good; Wind speed and direction: fresh breeze WNW; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		KG
07/06/2024	Breeding Raptor Survey	BR9	3:00 starting at 08:50	Visibility: poor; Wind speed and direction: moderate breeze WSW; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: ; Snow:	mist and persistent drizzle reduced visibility	KG
07/06/2024	Breeding Walkover Survey	T1	2:15 starting at 13:00	Visibility: limited; Wind speed and direction: gentle breeze WNW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		KG
07/06/2024	Breeding Walkover Survey	T1	1:00 starting at 15:15	Visibility: moderate; Wind speed and direction: light breeze WNW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		KG
10/06/2024	Breeding Raptor Survey	BR1	3:00 starting at 17:30	Visibility: moderate; Wind speed and direction: moderate breeze N; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM
11/06/2024	Breeding Walkover Survey	T2	3:00 starting at 17:20	Visibility: good; Wind speed and direction: moderate breeze NNE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KG
11/06/2024	Breeding Woodcock Survey	T2	2:00 starting at 20:50	Visibility: good; Wind speed and direction: light breeze NNW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KG
12/06/2024	Breeding Walkover Survey	T1	2:00 starting at 17:30	Visibility: good; Wind speed and direction: light air SSW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KG
12/06/2024	Breeding Walkover Survey	T1	1:30 starting at 19:30	Visibility: good; Wind speed and direction: light air SSW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KG
12/06/2024	Breeding Woodcock Survey	T1	1:50 starting at 21:05	Visibility: good; Wind speed and direction: light air SSW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KG

17/06/2024	Vantage Point Survey	vp1	1:00 starting at 09:00	Visibility: good; Wind speed and direction: light breeze NNW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none	1011hpa - 13c - f12c	FLM
17/06/2024	Vantage Point Survey	vp1	1:00 starting at 10:00	Visibility: good; Wind speed and direction: gentle breeze NNW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none	1011hpa - 13c - f12c	FLM
17/06/2024	Vantage Point Survey	vp1	1:00 starting at 11:00	Visibility: good; Wind speed and direction: gentle breeze NNW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none	1011hpa - 13c - f14c	FLM
17/06/2024	Vantage Point Survey	vp1	1:00 starting at 12:30	Visibility: good; Wind speed and direction: gentle breeze NNW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none	1012hpa - 13c - f14c	FLM
17/06/2024	Vantage Point Survey	vp1	1:00 starting at 13:30	Visibility: good; Wind speed and direction: gentle breeze NNW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none	1012hpa - 13c - f14c	FLM
17/06/2024	Vantage Point Survey	vp1	1:00 starting at 14:30	Visibility: good; Wind speed and direction: gentle breeze NNW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none	1013hpa - 14c - f15c	FLM
18/06/2024	Breeding Raptor Survey	BR3	3:00 starting at 07:20	Visibility: moderate; Wind speed and direction: gentle breeze NE; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none		CM
18/06/2024	Breeding Raptor Survey	BR7	3:00 starting at 12:00	Visibility: moderate; Wind speed and direction: gentle breeze N; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
18/06/2024	Breeding Raptor Survey	BR7	3:00 starting at 15:30	Visibility: moderate; Wind speed and direction: light breeze NE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM
19/06/2024	Vantage Point Survey	vp3	1:00 starting at 09:00	Visibility: good; Wind speed and direction: light air NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	1025hpa - 11c - f10c	FLM
19/06/2024	Vantage Point Survey	vp3	1:00 starting at 10:00	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none	1024hpa - 12c - f12c	FLM
19/06/2024	Vantage Point Survey	vp3	1:00 starting at 11:00	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none	1024hpa - 13c - f12c	FLM
19/06/2024	Vantage Point Survey	vp3	1:00 starting at 12:30	Visibility: good; Wind speed and direction: light air W; Cloud cover and height: 0-33% 150-500m; Rain: none; Frost: none; Snow: none	1024hpa - 14c - f14c	FLM

19/06/2024	Vantage Point Survey	vp3	1:00 starting at 13:30	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 0-33% 150-500m; Rain: none; Frost: none; Snow: none	1023hpa - 16c - f15c	FLM
19/06/2024	Vantage Point Survey	vp3	1:00 starting at 14:30	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	1023hpa - 17c - f16c	FLM
21/06/2024	Breeding Raptor Survey	BR3	2:00 starting at 06:00	Visibility: moderate; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		CM
21/06/2024	Breeding Raptor Survey	BR3	1:00 starting at 08:00	Visibility: poor; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none		CM
24/06/2024	Breeding Walkover Survey	T2	1:00 starting at 09:55	Visibility: limited; Wind speed and direction: moderate breeze SSW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		KG
24/06/2024	Breeding Walkover Survey	T2	1:00 starting at 11:55	Visibility: good; Wind speed and direction: light breeze SSW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none	heavy mist at start of survey lifted after 1 hour	KG
24/06/2024	Breeding Walkover Survey	T1	3:00 starting at 13:05	Visibility: good; Wind speed and direction: light breeze SSW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KG
25/06/2024	Breeding Raptor Survey	BR5	2:00 starting at 14:45	Visibility: moderate; Wind speed and direction: light breeze NW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM
25/06/2024	Breeding Raptor Survey	BR3	1:00 starting at 17:00	Visibility: moderate; Wind speed and direction: light breeze NW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM
26/06/2024	Vantage Point Survey	VP4	3:00 starting at 10:00	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none	Wholly overcast but bright. Cool SW breeze, 12 - 17°C	NM
26/06/2024	Vantage Point Survey	VP4	3:00 starting at 13:20	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none	Light drizzle blowing through, but sparse	NM
04/07/2024	Breeding Raptor Survey	BR1	3:00 starting at 10:15	Visibility: moderate; Wind speed and direction: moderate breeze NW; Cloud cover and height: 33-66% >500m; Rain: heavy showers; Frost: none; Snow: none		CM
04/07/2024	Breeding Raptor Survey	BR8	3:00 starting at 13:45	Visibility: moderate; Wind speed and direction: moderate breeze NW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM

05/07/2024	Breeding Raptor Survey	BR1	3:00 starting at 08:45	Visibility: moderate; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
05/07/2024	Breeding Raptor Survey	BR3	3:00 starting at 12:15	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
12/07/2024	Breeding Raptor Survey	BR1	3:00 starting at 14:00	Visibility: moderate; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
12/07/2024	Breeding Raptor Survey	VP4	3:00 starting at 17:30	Visibility: poor; Wind speed and direction: moderate breeze N; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		CM
15/07/2024	Breeding Walkover Survey	T2	2:00 starting at 07:45	Visibility: limited; Wind speed and direction: light air SE; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none	Heavy mist restricted vision	KG
15/07/2024	Breeding Walkover Survey	T2	1:00 starting at 09:45	Visibility: good; Wind speed and direction: light air SE; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		KG
16/07/2024	Breeding Walkover Survey	T1	2:00 starting at 07:45	Visibility: moderate; Wind speed and direction: light air W; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		KG
16/07/2024	Breeding Walkover Survey	T1	2:00 starting at 09:45	Visibility: good; Wind speed and direction: light air W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		KG
17/07/2024	Vantage Point Survey	VP1	3:00 starting at 15:00	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none	Largely overcast and grey throughout. Brighter patches early on with shifting cloud layers. Mild but cold in exposed and windy VP, 13 - 19°C. Drizzly squalls	NM
17/07/2024	Vantage Point Survey	VP1	3:00 starting at 18:30	Visibility: moderate; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% 150-500m; Rain: heavy showers; Frost: none; Snow: none	Heavier and more persistent rain in evening, visibility reducing	NM
18/07/2024	Breeding Raptor Survey	BR6	3:00 starting at 11:50	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		AOD

19/07/2024	Vantage Point Survey	VP3	3:00 starting at 14:00	Visibility: good; Wind speed and direction: gentle breeze SSW; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none	Largely overcast and damp. Mild, 13 - 19°C. Brighter periods early on but short-lived	NM
19/07/2024	Vantage Point Survey	VP3	3:00 starting at 17:30	Visibility: moderate; Wind speed and direction: moderate breeze SSW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow:	Blustery showers, visibility reducing. Persistent rain by the end.	NM
25/07/2024	Breeding Raptor Survey	BR2	3:00 starting at 09:00	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none	No raptor observations	CG
25/07/2024	Breeding Raptor Survey	BR5	3:00 starting at 12:30	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none	No raptor observations	CG
01/08/2024	Vantage Point Survey	VP4	3:00 starting at 10:45	Visibility: moderate; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none		CM
01/08/2024	Vantage Point Survey	VP4	3:00 starting at 14:15	Visibility: poor; Wind speed and direction: fresh breeze W; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		CM
06/08/2024	Vantage Point Survey	VP3	3:00 starting at 10:50	Visibility: poor; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% >500m; Rain: heavy showers; Frost: none; Snow: none	Turf being gathered in viewshed.	CM
06/08/2024	Vantage Point Survey	VP3	3:00 starting at 14:20	Visibility: poor; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: heavy showers; Frost: none; Snow: none		CM
21/08/2024	Vantage Point Survey	VP4	2:00 starting at 11:30	Visibility: poor; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% 150-500m; Rain: persistent; Frost: none; Snow: none		CM
21/08/2024	Vantage Point Survey	VP4	1:00 starting at 13:30	Visibility: limited; Wind speed and direction: strong breeze S; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		CM
26/08/2024	Vantage Point Survey	VP4	2:00 starting at 14:00	Visibility: poor; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM

26/08/2024	Vantage Point Survey	VP4	1:00 starting at 16:00	Visibility: poor; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none		CM
29/08/2024	Vantage Point Survey	VP1	3:00 starting at 09:10	Visibility: poor; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		CM
29/08/2024	Vantage Point Survey	VP1	3:00 starting at 12:40	Visibility: poor; Wind speed and direction: moderate breeze W; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		CM
11/09/2024	Vantage Point Survey	VP3	3:00 starting at 06:00	Visibility: poor; Wind speed and direction: gentle breeze NW; Cloud cover and height: 33-66% >500m; Rain: heavy showers; Frost: none; Snow: none		CM
11/09/2024	Vantage Point Survey	VP3	3:00 starting at 09:30	Visibility: moderate; Wind speed and direction: gentle breeze NW; Cloud cover and height: 0-33% >500m; Rain: light showers; Frost: none; Snow: none		CM
12/09/2024	Vantage Point Survey	VP4	1:30 starting at 06:15	Visibility: poor; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: heavy showers; Frost: none; Snow: none		CM
12/09/2024	Vantage Point Survey	VP4	1:30 starting at 07:45	Visibility: moderate; Wind speed and direction: light breeze NW; Cloud cover and height: 33-66% 150-500m; Rain: light showers; Frost: none; Snow: none		CM
12/09/2024	Vantage Point Survey	VP4	3:00 starting at 09:45	Visibility: good; Wind speed and direction: light breeze NW; Cloud cover and height: 33-66% >500m; Rain: light showers; Frost: none; Snow: none		CM
17/09/2024	Vantage Point Survey	VP1	3:00 starting at 06:20	Visibility: moderate; Wind speed and direction: light breeze S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
17/09/2024	Vantage Point Survey	VP1	3:00 starting at 09:50	Visibility: moderate; Wind speed and direction: gentle breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		CM
10/10/2024	Vantage Point Survey	VP3	3:00 starting at 14:15	Visibility: good; Wind speed and direction: light breeze N; Cloud cover and height: 33-66% >500m; Rain: light showers; Frost: none; Snow: none		AOD
10/10/2024	Hen Harrier Roost Survey	HHVP1	2:00 starting at 17:20	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		AOD
11/10/2024	Vantage Point Survey	VP3	3:00 starting at 16:45	Visibility: good; Wind speed and direction: fresh breeze S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD

15/10/2024	Hen Harrier Roost Survey	HHVP2	2:00 starting at 17:05	Visibility: poor; Wind speed and direction: strong breeze NE; Cloud cover and height: 66-100% <150m; Rain: heavy showers; Frost: none; Snow: none		AOD
17/10/2024	Vantage Point Survey	VP1	3:00 starting at 16:30	Visibility: good; Wind speed and direction: fresh breeze SW; Cloud cover and height: 33-66% >500m; Rain: light showers; Frost: none; Snow: none		AOD
21/10/2024	Vantage Point Survey	VP4	2:00 starting at 17:20	Visibility: good; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
22/10/2024	Vantage Point Survey	VP1	3:00 starting at 13:30	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		AOD
22/10/2024	Hen Harrier Roost Survey	HHVP4	2:00 starting at 16:50	Visibility: good; Wind speed and direction: light breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
30/10/2024	Vantage Point Survey	VP4	3:00 starting at 11:30	Visibility: limited; Wind speed and direction: light breeze S; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
01/11/2024	Vantage Point Survey	VP4	1:00 starting at 11:30	Visibility: moderate; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
01/11/2024	Winter Walkover Survey	T1	2:00 starting at 12:30	Visibility: moderate; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
01/11/2024	Hen Harrier Roost Survey	HHVP3	2:00 starting at 15:30	Visibility: moderate; Wind speed and direction: light breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
04/11/2024	Winter Walkover Survey	T2	4:00 starting at 11:15	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
04/11/2024	Hen Harrier Roost Survey	HHVP1	2:00 starting at 15:20	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
05/11/2024	Vantage Point Survey	VP1	3:00 starting at 06:45	Visibility: moderate; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		CM

05/11/2024	Vantage Point Survey	VP1	2:15 starting at 10:15	Visibility: poor; Wind speed and direction: fresh breeze S; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		CM
05/11/2024	Vantage Point Survey	VP1	0:45 starting at 12:30	Visibility: limited; Wind speed and direction: moderate breeze SE; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		CM
07/11/2024	Hen Harrier Roost Survey	HHVP2	2:00 starting at 15:15	Visibility: moderate; Wind speed and direction: moderate breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
08/11/2024	Hen Harrier Roost Survey	HHVP4a	2:00 starting at 15:15	Visibility: moderate; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
13/11/2024	Vantage Point Survey	VP3	2:00 starting at 14:20	Visibility: limited; Wind speed and direction: light air S; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		AOD
19/11/2024	Vantage Point Survey	VP4	3:00 starting at 11:55	Visibility: good; Wind speed and direction: moderate breeze NE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: light; Snow: on ground		AOD
19/11/2024	Hen Harrier Roost Survey	HHVP3	2:00 starting at 15:05	Visibility: good; Wind speed and direction: light breeze N; Cloud cover and height: 0-33% >500m; Rain: none; Frost: light; Snow: on ground		AOD
22/11/2024	Hen Harrier Roost Survey	HHVP4a	2:00 starting at 14:50	Visibility: good; Wind speed and direction: light air W; Cloud cover and height: 0-33% >500m; Rain: none; Frost: heavy; Snow: on ground		AOD
27/11/2024	Vantage Point Survey	VP3	3:00 starting at 07:35	Visibility: good; Wind speed and direction: light air NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: heavy; Snow: none		AOD
27/11/2024	Winter Walkover Survey	T1	3:00 starting at 10:45	Visibility: good; Wind speed and direction: light air NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: heavy; Snow: none		AOD
27/11/2024	Vantage Point Survey	VP3	1:00 starting at 14:05	Visibility: good; Wind speed and direction: light air W; Cloud cover and height: 0-33% >500m; Rain: none; Frost: heavy; Snow: none		AOD
28/11/2024	Vantage Point Survey	VP4	2:00 starting at 07:30	Visibility: good; Wind speed and direction: strong breeze SE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
28/11/2024	Vantage Point Survey	VP4	1:00 starting at 10:00	Visibility: good; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
28/11/2024	Winter Walkover Survey	T2	3:00 starting at 11:45	Visibility: good; Wind speed and direction: moderate breeze SE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD

28/11/2024	Hen Harrier Roost Survey	HHVP3a	2:00 starting at 14:45	Visibility: good; Wind speed and direction: moderate breeze SE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
06/12/2024	Vantage Point Survey	VP4	2:00 starting at 09:45	Visibility: poor; Wind speed and direction: gentle breeze SE; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none		CM
06/12/2024	Vantage Point Survey	VP4	1:00 starting at 11:45	Visibility: poor; Wind speed and direction: fresh breeze S; Cloud cover and height: 66-100% 150-500m; Rain: persistent; Frost: light; Snow: none		CM
09/12/2024	Vantage Point Survey	VP4	3:00 starting at 14:10	Visibility: moderate; Wind speed and direction: light breeze NE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: light; Snow: none	Low hazy sun affecting visibility.	CM
11/12/2024	Hen Harrier Roost Survey	hhvp3a	2:00 starting at 14:45	Visibility: good; Wind speed and direction: light breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
13/12/2024	Vantage Point Survey	vp3	3:00 starting at 10:45	Visibility: good; Wind speed and direction: moderate breeze W; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
13/12/2024	Vantage Point Survey	vp3	3:00 starting at 14:15	Visibility: moderate; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: drizzle; Frost: none; Snow: none		AOD
17/12/2024	Hen Harrier Roost Survey	hhvp1	2:00 starting at 14:40	Visibility: limited; Wind speed and direction: strong breeze SW; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none		AOD
18/12/2024	Vantage Point Survey	vp1	3:00 starting at 14:10	Visibility: good; Wind speed and direction: light breeze SW; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none		AOD
14/01/2025	Winter Walkover Survey	T1	3:00 starting at 12:05	Visibility: limited; Wind speed and direction: strong breeze S; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
14/01/2025	Hen Harrier Roost Survey	HHVP1	2:00 starting at 15:10	Visibility: limited; Wind speed and direction: fresh breeze S; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none		AOD
16/01/2025	Winter Walkover Survey	T2	3:00 starting at 12:20	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
16/01/2025	Hen Harrier Roost Survey	HHVP3a	2:00 starting at 15:20	Visibility: good; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD

21/01/2025	Vantage Point Survey	VP1	3:00 starting at 07:40	Visibility: poor; Wind speed and direction: light air W; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none	Early fog clearing rapidly.	CM
21/01/2025	Vantage Point Survey	VP1	3:00 starting at 11:10	Visibility: poor; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none		CM
23/01/2025	Vantage Point Survey	VP4	3:00 starting at 07:40	Visibility: poor; Wind speed and direction: gentle breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: heavy showers; Frost: none; Snow: none		CM
23/01/2025	Vantage Point Survey	VP4	3:00 starting at 11:10	Visibility: moderate; Wind speed and direction: fresh breeze W; Cloud cover and height: 33-66% >500m; Rain: heavy showers; Frost: none; Snow: falling	Clear spells with short heavy rain or snow showers.	CM
23/01/2025	Hen Harrier Roost Survey	HHVP4a	2:00 starting at 15:30	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		AOD
27/01/2025	Vantage Point Survey	VP3	1:00 starting at 14:20	Visibility: poor; Wind speed and direction: light breeze SE; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
27/01/2025	Hen Harrier Roost Survey	HHVP2a	2:00 starting at 15:30	Visibility: poor; Wind speed and direction: light breeze SE; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
31/01/2025	Vantage Point Survey	vp3	3:00 starting at 07:35	Visibility: good; Wind speed and direction: light breeze SW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		AOD
31/01/2025	Vantage Point Survey	vp3	2:00 starting at 11:05	Visibility: good; Wind speed and direction: light air S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		AOD
31/01/2025	Vantage Point Survey	vp1	3:00 starting at 14:15	Visibility: poor; Wind speed and direction: gentle breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		AOD
06/02/2025	Hen Harrier Roost Survey	HHVP4a	2:30 starting at 15:55	Visibility: moderate; Wind speed and direction: gentle breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		CM
07/02/2025	Hen Harrier Roost Survey	HHVP3a	2:30 starting at 15:50	Visibility: moderate; Wind speed and direction: light air E; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none	Farmer using ATV near the bog, disturbance likely.	CM
12/02/2025	Vantage Point Survey	vp3	3:00 starting at 12:55	Visibility: good; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD

12/02/2025	Hen Harrier Roost Survey	hhvp1	2:00 starting at 16:05	Visibility: good; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
14/02/2025	Hen Harrier Roost Survey	hhvp3a	2:00 starting at 16:15	Visibility: moderate; Wind speed and direction: light breeze W; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
18/02/2025	Vantage Point Survey	vp3	3:00 starting at 15:50	Visibility: moderate; Wind speed and direction: strong breeze SE; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		AOD
19/02/2025	Vantage Point Survey	VP1	3:00 starting at 12:10	Visibility: poor; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: heavy showers; Frost: none; Snow: none		CM
19/02/2025	Vantage Point Survey	VP1	3:00 starting at 15:40	Visibility: limited; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: persistent; Frost: none; Snow: none		CM
27/02/2025	Vantage Point Survey	VP4	3:00 starting at 12:50	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none		CM
27/02/2025	Vantage Point Survey	VP4	3:00 starting at 16:20	Visibility: moderate; Wind speed and direction: light breeze N; Cloud cover and height: 33-66% >500m; Rain: light showers; Frost: none; Snow: none		CM
06/03/2025	Vantage Point Survey	vp3	3:00 starting at 13:30	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
06/03/2025	Hen Harrier Roost Survey	hhvp1	2:00 starting at 16:40	Visibility: moderate; Wind speed and direction: fresh breeze S; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none		AOD
10/03/2025	Hen Harrier Roost Survey	hhvp3a	2:00 starting at 17:00	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		AOD
13/03/2025	Breeding Red Grouse Survey	T1	4:00 starting at 11:15	Visibility: good; Wind speed and direction: gentle breeze N; Cloud cover and height: 33-66% >500m; Rain: light showers; Frost: none; Snow: none		CM
13/03/2025	Breeding Red Grouse Survey	T2	2:00 starting at 16:00	Visibility: moderate; Wind speed and direction: gentle breeze N; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM
19/03/2025	Vantage Point Survey	vp3	3:00 starting at 05:50	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		AOD

19/03/2025	Vantage Point Survey	vp1	3:00 starting at 10:15	Visibility: good; Wind speed and direction: moderate breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		AOD
21/03/2025	Vantage Point Survey	VP4	3:00 starting at 05:45	Visibility: poor; Wind speed and direction: fresh breeze S; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none	Helicopter low flight flushing golden plover from bog at 8:25.	CM
21/03/2025	Vantage Point Survey	VP4	0:45 starting at 09:15	Visibility: poor; Wind speed and direction: fresh breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		CM
21/03/2025	Vantage Point Survey	VP4	2:15 starting at 10:30	Visibility: moderate; Wind speed and direction: fresh breeze S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
25/03/2025	Winter Walkover Survey	T1	1:30 starting at 15:50	Visibility: good; Wind speed and direction: light air S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
25/03/2025	Hen Harrier Roost Survey	hhvp1	2:00 starting at 17:20	Visibility: good; Wind speed and direction: light air S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		AOD
26/03/2025	Winter Walkover Survey	T1 and T2	4:30 starting at 12:50	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
26/03/2025	Hen Harrier Roost Survey	hhvp4a	2:00 starting at 17:25	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
31/03/2025	Vantage Point Survey	vp1	3:00 starting at 06:20	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
03/04/2025	Vantage Point Survey	VP1	3:00 starting at 14:45	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	Clear and bright throughout. Hazy at distance. 8 - 13°C	NM
03/04/2025	Vantage Point Survey	VP1	3:00 starting at 18:10	Visibility: good; Wind speed and direction: moderate breeze SSE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	Gusting breeze in evening. Dusk survey. Sunset - 20:10	NM
04/04/2025	Vantage Point Survey	VP3	3:00 starting at 14:45	Visibility: moderate; Wind speed and direction: moderate breeze SE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none	Largely fair, moisture in air. Overcast but bright. Hazy. Fresh gusts, 7 - 12°C	NM
04/04/2025	Vantage Point Survey	VP3	3:00 starting at 18:10	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	Brightening, sun emerging briefly. Visibility improving. Dusk survey. Sunset - 20:11	NM
17/04/2025	Breeding Walkover Survey	T1	1:00 starting at 13:30	Visibility: good; Wind speed and direction: calm N; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		JC
17/04/2025	Breeding Walkover Survey	T1	1:00 starting at 14:30	Visibility: good; Wind speed and direction: light breeze N; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		JC

17/04/2025	Breeding Walkover Survey	T1	1:00 starting at 15:30	Visibility: good; Wind speed and direction: calm N; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		JC
17/04/2025	Breeding Walkover Survey	T1	1:00 starting at 16:30	Visibility: good; Wind speed and direction: calm N; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		JC
17/04/2025	Breeding Walkover Survey	T1	1:00 starting at 17:30	Visibility: good; Wind speed and direction: calm N; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		JC
17/04/2025	Breeding Walkover Survey	T1	1:00 starting at 18:30	Visibility: good; Wind speed and direction: calm N; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		JC
21/04/2025	Breeding Walkover Survey	T2	1:00 starting at 11:00	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none		JC
21/04/2025	Breeding Walkover Survey	T2	1:00 starting at 12:00	Visibility: moderate; Wind speed and direction: fresh breeze WNW; Cloud cover and height: 66-100% 150-500m; Rain: heavy showers; Frost: none; Snow: none		JC
21/04/2025	Breeding Walkover Survey	T2	1:00 starting at 13:00	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		JC
21/04/2025	Breeding Walkover Survey	T2	1:00 starting at 14:00	Visibility: good; Wind speed and direction: gentle breeze W; Cloud cover and height: 33-66% 150-500m; Rain: light showers; Frost: none; Snow: none		JC
21/04/2025	Breeding Walkover Survey	T2	1:00 starting at 15:00	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 0-33% >500m; Rain: light showers; Frost: none; Snow: none		JC
21/04/2025	Breeding Walkover Survey	T2	1:00 starting at 16:00	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		JC
21/04/2025	Breeding Raptor Survey	BR8	1:00 starting at 17:30	Visibility: good; Wind speed and direction: light breeze WSW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		JC
21/04/2025	Breeding Raptor Survey	BR8	1:00 starting at 18:30	Visibility: good; Wind speed and direction: light air WSW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		JC
21/04/2025	Breeding Raptor Survey	BR8	1:00 starting at 19:30	Visibility: good; Wind speed and direction: light air WSW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		JC
22/04/2025	Breeding Raptor Survey	BR7	1:00 starting at 08:30	Visibility: good; Wind speed and direction: moderate breeze ESE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		JC
22/04/2025	Breeding Raptor Survey	BR7	1:00 starting at 09:30	Visibility: good; Wind speed and direction: moderate breeze SE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		JC
22/04/2025	Breeding Raptor Survey	BR7	1:00 starting at 10:30	Visibility: moderate; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		JC
24/04/2025	Breeding Raptor Survey	BR1	3:00 starting at 15:00	Visibility: good; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD

24/04/2025	Breeding Raptor Survey	BR11	3:00 starting at 18:00	Visibility: moderate; Wind speed and direction: moderate breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		AOD
25/04/2025	Vantage Point Survey	VP4	2:00 starting at 16:00	Visibility: poor; Wind speed and direction: light breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: heavy showers; Frost: none; Snow: none		CM
25/04/2025	Vantage Point Survey	VP4	1:00 starting at 18:00	Visibility: moderate; Wind speed and direction: light breeze S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
28/04/2025	Vantage Point Survey	VP4	3:00 starting at 19:00	Visibility: moderate; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
29/04/2025	Breeding Raptor Survey	BR1	3:00 starting at 09:05	Visibility: good; Wind speed and direction: light breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		AOD
29/04/2025	Breeding Raptor Survey	BR9	3:00 starting at 12:15	Visibility: good; Wind speed and direction: light breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		AOD
07/05/2025	Breeding Raptor Survey	BR1	3:00 starting at 14:50	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		AOD
07/05/2025	Breeding Raptor Survey	BR1	1:30 starting at 18:00	Visibility: good; Wind speed and direction: gentle breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		AOD
15/05/2025	Vantage Point Survey	VP4	3:00 starting at 10:00	Visibility: moderate; Wind speed and direction: gentle breeze E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		CM
18/05/2025	Vantage Point Survey	VP3	1:00 starting at 04:45	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	vis. poor at start in near darkness, improved to 4 from c. 30 mins after start	JC
18/05/2025	Vantage Point Survey	VP3	1:00 starting at 05:45	Visibility: good; Wind speed and direction: light breeze E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	see email re access & viewshed	JC
18/05/2025	Vantage Point Survey	VP3	1:00 starting at 06:45	Visibility: good; Wind speed and direction: light air E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		JC
18/05/2025	Vantage Point Survey	VP3	1:00 starting at 08:15	Visibility: good; Wind speed and direction: light air E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		JC
18/05/2025	Vantage Point Survey	VP3	1:00 starting at 09:15	Visibility: good; Wind speed and direction: light breeze E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		JC
18/05/2025	Vantage Point Survey	VP3	1:00 starting at 10:15	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		JC
18/05/2025	Breeding Raptor Survey	BR7	1:00 starting at 16:00	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	see email re viewshed	JC
18/05/2025	Breeding Raptor Survey	BR7	1:00 starting at 17:00	Visibility: moderate; Wind speed and direction: gentle breeze NE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	smoke from fire to E - less vis.	JC
18/05/2025	Breeding Raptor Survey	BR7	1:00 starting at 18:00	Visibility: moderate; Wind speed and direction: gentle breeze NE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	smoke from fire to E - less vis.	JC
19/05/2025	Vantage Point Survey	VP1	1:00 starting at 04:30	Visibility: moderate; Wind speed and direction: light breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	vis. poor at start in near darkness, improved to 4 from c. 30 mins after start	JC

19/05/2025	Vantage Point Survey	VP1	1:00 starting at 05:30	Visibility: moderate; Wind speed and direction: light breeze E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	vis mod due to strong sun in E & mist/fog to E	JC
19/05/2025	Vantage Point Survey	VP1	1:00 starting at 06:30	Visibility: moderate; Wind speed and direction: light breeze E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	same	JC
19/05/2025	Vantage Point Survey	VP1	1:00 starting at 08:00	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		JC
19/05/2025	Vantage Point Survey	VP1	1:00 starting at 09:00	Visibility: good; Wind speed and direction: moderate breeze E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		JC
19/05/2025	Vantage Point Survey	VP1	1:00 starting at 10:00	Visibility: good; Wind speed and direction: gentle breeze E; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	see email re access	JC
19/05/2025	Breeding Raptor Survey	BR8	1:00 starting at 16:00	Visibility: good; Wind speed and direction: gentle breeze SSE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		JC
19/05/2025	Breeding Raptor Survey	BR8	1:00 starting at 17:00	Visibility: good; Wind speed and direction: light breeze SSE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		JC
19/05/2025	Breeding Raptor Survey	BR8	1:00 starting at 18:00	Visibility: good; Wind speed and direction: light breeze SSE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		JC
20/05/2025	Vantage Point Survey	VP4	3:00 starting at 04:30	Visibility: good; Wind speed and direction: light breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		CM
22/05/2025	Breeding Raptor Survey	BR1	1:00 starting at 15:35	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		AOD
22/05/2025	Breeding Raptor Survey	BR10	4:30 starting at 16:35	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		AOD
24/05/2025	Breeding Walkover Survey	T1	1:00 starting at 11:30	Visibility: moderate; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none	partial blockage by fallen trees near N end of middle leg (S of house) cleared since Apr	JC
24/05/2025	Breeding Walkover Survey	T1	1:00 starting at 12:30	Visibility: poor; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% <150m; Rain: heavy showers; Frost: none; Snow: none		JC
24/05/2025	Breeding Walkover Survey	T1	1:00 starting at 13:30	Visibility: moderate; Wind speed and direction: gentle breeze SSW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		JC
24/05/2025	Breeding Walkover Survey	T1	1:00 starting at 14:30	Visibility: good; Wind speed and direction: gentle breeze SSW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		JC
24/05/2025	Breeding Walkover Survey	T1	1:00 starting at 15:30	Visibility: moderate; Wind speed and direction: gentle breeze SSW; Cloud cover and height: 66-100% <150m; Rain: heavy showers; Frost: none; Snow: none		JC
24/05/2025	Breeding Walkover Survey	T1	1:00 starting at 16:30	Visibility: moderate; Wind speed and direction: gentle breeze SSW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		JC

24/05/2025	Breeding Woodcock Survey	T1	1:00 starting at 20:30	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		JC
24/05/2025	Breeding Woodcock Survey	T1	1:00 starting at 21:30	Visibility: moderate; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: heavy showers; Frost: none; Snow: none		JC
24/05/2025	Breeding Woodcock Survey	T1	0:45 starting at 22:30	Visibility: poor; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none	vis poorer as it got dark	JC
25/05/2025	Breeding Walkover Survey	T2	1:00 starting at 13:30	Visibility: good; Wind speed and direction: moderate breeze WSW; Cloud cover and height: 66-100% 150-500m; Rain: heavy showers; Frost: none; Snow: none		JC
25/05/2025	Breeding Walkover Survey	T2	1:00 starting at 14:30	Visibility: good; Wind speed and direction: fresh breeze WSW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		JC
25/05/2025	Breeding Walkover Survey	T2	1:00 starting at 15:30	Visibility: good; Wind speed and direction: moderate breeze WSW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		JC
25/05/2025	Breeding Walkover Survey	T2	1:00 starting at 16:30	Visibility: good; Wind speed and direction: moderate breeze WSW; Cloud cover and height: 33-66% 150-500m; Rain: light showers; Frost: none; Snow: none		JC
25/05/2025	Breeding Walkover Survey	T2	1:00 starting at 17:30	Visibility: good; Wind speed and direction: moderate breeze WSW; Cloud cover and height: 33-66% >500m; Rain: light showers; Frost: none; Snow: none		JC
25/05/2025	Breeding Walkover Survey	T2	1:00 starting at 18:30	Visibility: good; Wind speed and direction: moderate breeze WSW; Cloud cover and height: 0-33% >500m; Rain: light showers; Frost: none; Snow: none		JC
25/05/2025	Breeding Woodcock Survey	T2	1:00 starting at 20:30	Visibility: good; Wind speed and direction: gentle breeze WSW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		JC
25/05/2025	Breeding Woodcock Survey	T2	1:00 starting at 21:30	Visibility: good; Wind speed and direction: moderate breeze WSW; Cloud cover and height: 33-66% >500m; Rain: drizzle; Frost: none; Snow: none		JC
25/05/2025	Breeding Woodcock Survey	T2	0:30 starting at 22:30	Visibility: poor; Wind speed and direction: gentle breeze WSW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	vis poorer as it got dark	JC
03/06/2025	Breeding Raptor Survey	BR3	3:00 starting at 14:25	Visibility: good; Wind speed and direction: strong breeze NW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		AOD
03/06/2025	Breeding Raptor Survey	BR10	2:00 starting at 17:50	Visibility: good; Wind speed and direction: fresh breeze NW; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none		AOD

06/06/2025	Breeding Raptor Survey	BR10	3:00 starting at 14:45	Visibility: good; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: light showers; Frost: none; Snow: none		AOD
11/06/2025	Breeding Raptor Survey	BR1	3:00 starting at 18:45	Visibility: good; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
12/06/2025	Breeding Walkover Survey	T1	4:45 starting at 11:45	Visibility: poor; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% 150-500m; Rain: persistent; Frost: none; Snow: none	Visibility variable	CM
12/06/2025	Breeding Walkover Survey	T1	1:30 starting at 16:45	Visibility: moderate; Wind speed and direction: gentle breeze S; Cloud cover and height: 66-100% >500m; Rain: drizzle; Frost: none; Snow: none		CM
12/06/2025	Breeding Raptor Survey	BR1	3:00 starting at 17:00	Visibility: poor; Wind speed and direction: light breeze S; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
13/06/2025	Breeding Raptor Survey	BRT1	3:00 starting at 10:15	Visibility: good; Wind speed and direction: gentle breeze SE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		AOD
16/06/2025	Breeding Walkover Survey	T2	3:00 starting at 17:55	Visibility: moderate; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
16/06/2025	Breeding Woodcock Survey	T2	2:00 starting at 21:10	Visibility: moderate; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
17/06/2025	Breeding Walkover Survey	T2	3:00 starting at 17:15	Visibility: good; Wind speed and direction: gentle breeze NW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		CM
17/06/2025	Breeding Woodcock Survey	T1	2:00 starting at 21:10	Visibility: moderate; Wind speed and direction: light air W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM
25/06/2025	Breeding Raptor Survey	BR11	3:00 starting at 15:25	Visibility: good; Wind speed and direction: fresh breeze SE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		AOD
25/06/2025	Vantage Point Survey	VP4	3:00 starting at 17:50	Visibility: moderate; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none		CM
25/06/2025	Breeding Woodcock Survey	T2	2:00 starting at 21:15	Visibility: moderate; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		CM
26/06/2025	Breeding Raptor Survey	BR3	2:00 starting at 12:05	Visibility: good; Wind speed and direction: fresh breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		AOD

26/06/2025	Breeding Raptor Survey	BR11	4:00 starting at 14:45	Visibility: good; Wind speed and direction: fresh breeze S; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		AOD
26/06/2025	Vantage Point Survey	VP4	3:00 starting at 17:10	Visibility: poor; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: heavy showers; Frost: none; Snow: none		CM
26/06/2025	Breeding Woodcock Survey	T1	2:00 starting at 21:10	Visibility: moderate; Wind speed and direction: moderate breeze SE; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		CM
27/06/2025	Breeding Raptor Survey	BR11	3:00 starting at 16:05	Visibility: poor; Wind speed and direction: fresh breeze S; Cloud cover and height: 66-100% <150m; Rain: light showers; Frost: none; Snow: none		AOD
01/07/2025	Vantage Point Survey	VP3	1:00 starting at 07:55	Visibility: good; Wind speed and direction: gentle breeze NNW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none	1. VP3 is relatively low lying with somewhat restricted visibility of its viewshed	JC
01/07/2025	Vantage Point Survey	VP3	1:00 starting at 08:55	Visibility: good; Wind speed and direction: light breeze NNW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none	2. June survey done on 1 Jul due to heavy rain on 30 Jun	JC
01/07/2025	Vantage Point Survey	VP3	1:00 starting at 09:55	Visibility: good; Wind speed and direction: light air NNW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		JC
01/07/2025	Vantage Point Survey	VP3	1:00 starting at 11:25	Visibility: good; Wind speed and direction: light breeze NNW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		JC
01/07/2025	Vantage Point Survey	VP3	1:00 starting at 12:25	Visibility: good; Wind speed and direction: light air NNW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		JC
01/07/2025	Vantage Point Survey	VP3	1:00 starting at 13:25	Visibility: good; Wind speed and direction: light breeze NNW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		JC
01/07/2025	Vantage Point Survey	VP1	1:00 starting at 15:30	Visibility: good; Wind speed and direction: light breeze NE; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none	3. June survey done on 1 Jul due to heavy rain on 30 Jun	JC
01/07/2025	Vantage Point Survey	VP1	1:00 starting at 16:30	Visibility: good; Wind speed and direction: gentle breeze NE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		JC
01/07/2025	Vantage Point Survey	VP1	1:00 starting at 17:30	Visibility: good; Wind speed and direction: light breeze NE; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		JC

01/07/2025	Vantage Point Survey	VP1	1:00 starting at 19:00	Visibility: good; Wind speed and direction: gentle breeze NNW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		JC
01/07/2025	Vantage Point Survey	VP1	1:00 starting at 20:00	Visibility: good; Wind speed and direction: light breeze NNW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		JC
01/07/2025	Vantage Point Survey	VP1	1:00 starting at 21:00	Visibility: good; Wind speed and direction: light air NNW; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		JC
02/07/2025	Vantage Point Survey	VP3	3:00 starting at 09:45	Visibility: moderate; Wind speed and direction: gentle breeze W; Cloud cover and height: 33-66% >500m; Rain: heavy showers; Frost: none; Snow: none		CM
02/07/2025	Vantage Point Survey	VP3	3:00 starting at 13:15	Visibility: moderate; Wind speed and direction: gentle breeze W; Cloud cover and height: 33-66% >500m; Rain: heavy showers; Frost: none; Snow: none		CM
02/07/2025	Breeding Raptor Survey	BR11	3:00 starting at 16:15	Visibility: moderate; Wind speed and direction: gentle breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		AOD
03/07/2025	Vantage Point Survey	VP4	3:00 starting at 11:50	Visibility: moderate; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: light showers; Frost: none; Snow: none		CM
03/07/2025	Vantage Point Survey	VP4	3:00 starting at 15:20	Visibility: moderate; Wind speed and direction: fresh breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
04/07/2025	Breeding Raptor Survey	BR3	3:00 starting at 09:50	Visibility: poor; Wind speed and direction: moderate breeze SW; Cloud cover and height: 66-100% >500m; Rain: heavy showers; Frost: none; Snow: none		CM
07/07/2025	Breeding Raptor Survey	BR1	3:00 starting at 09:45	Visibility: moderate; Wind speed and direction: gentle breeze NW; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
08/07/2025	Breeding Raptor Survey	BR1	3:00 starting at 08:30	Visibility: poor; Wind speed and direction: light breeze NW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none	Delayed start due to restricted visibility.	CM
08/07/2025	Breeding Raptor Survey	BR11	3:00 starting at 14:55	Visibility: poor; Wind speed and direction: moderate breeze S; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD
08/07/2025	Breeding Raptor Survey	BR12	3:00 starting at 18:15	Visibility: poor; Wind speed and direction: fresh breeze SW; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		AOD

09/07/2025	Breeding Raptor Survey	BR9	3:00 starting at 09:00	Visibility: moderate; Wind speed and direction: light breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		CM
09/07/2025	Vantage Point Survey	VP1	3:00 starting at 13:15	Visibility: moderate; Wind speed and direction: light breeze W; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM
09/07/2025	Vantage Point Survey	VP1	3:00 starting at 16:45	Visibility: moderate; Wind speed and direction: light breeze W; Cloud cover and height: 66-100% >500m; Rain: none; Frost: none; Snow: none		CM
16/07/2025	Breeding Raptor Survey	BR10	3:00 starting at 07:15	Visibility: good; Wind speed and direction: gentle breeze N; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		NS
18/07/2025	Breeding Raptor Survey	BR12	3:00 starting at 07:00	Visibility: good; Wind speed and direction: gentle breeze SSE; Cloud cover and height: 66-100% <150m; Rain: drizzle; Frost: none; Snow: none		NS
18/07/2025	Breeding Walkover Survey	t2	6:00 starting at 10:30	Visibility: good; Wind speed and direction: moderate breeze SE; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		NS
24/07/2025	Breeding Walkover Survey	t1	6:00 starting at 10:30	Visibility: good; Wind speed and direction: moderate breeze SSE; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		NS
19/08/2025	Vantage Point Survey	vp1	3:00 starting at 11:15	Visibility: good; Wind speed and direction: fresh breeze E; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		NS
19/08/2025	Vantage Point Survey	vp1	3:00 starting at 14:45	Visibility: good; Wind speed and direction: fresh breeze E; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		NS
20/08/2025	Vantage Point Survey	vp3	3:00 starting at 10:50	Visibility: good; Wind speed and direction: moderate breeze E; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		NS
20/08/2025	Vantage Point Survey	vp3	3:00 starting at 14:20	Visibility: good; Wind speed and direction: moderate breeze E; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none		NS
21/08/2025	Vantage Point Survey	vp4	3:00 starting at 11:30	Visibility: good; Wind speed and direction: moderate breeze SE; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		NS

21/08/2025	Vantage Point Survey	vp4	3:00 starting at 15:00	Visibility: good; Wind speed and direction: moderate breeze SE; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		NS
05/09/2025	Vantage Point Survey	VP3	3:00 starting at 06:00	Visibility: moderate; Wind speed and direction: light breeze SW; Cloud cover and height: 66-100% 150-500m; Rain: none; Frost: none; Snow: none		CM
05/09/2025	Vantage Point Survey	VP3	3:00 starting at 09:30	Visibility: moderate; Wind speed and direction: gentle breeze SW; Cloud cover and height: 33-66% >500m; Rain: none; Frost: none; Snow: none		CM
23/09/2025	Vantage Point Survey	VP1	3:00 starting at 06:25	Visibility: moderate; Wind speed and direction: light breeze S; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		CM
23/09/2025	Vantage Point Survey	VP1	3:00 starting at 09:55	Visibility: moderate; Wind speed and direction: gentle breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		CM
25/09/2025	Vantage Point Survey	VP4	1:30 starting at 06:25	Visibility: moderate; Wind speed and direction: light breeze SE; Cloud cover and height: 33-66% 150-500m; Rain: none; Frost: none; Snow: none		CM
25/09/2025	Vantage Point Survey	VP4	1:30 starting at 07:55	Visibility: limited; Wind speed and direction: gentle breeze SE; Cloud cover and height: 66-100% <150m; Rain: none; Frost: none; Snow: none	Low cloud/fog passing	CM
25/09/2025	Vantage Point Survey	VP4	3:00 starting at 09:55	Visibility: moderate; Wind speed and direction: moderate breeze SE; Cloud cover and height: 0-33% >500m; Rain: none; Frost: none; Snow: none		CM

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GOLDEN PLOVER

Table 1-1 Golden Plover Vantage Point Observations

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
GP001	VP4	14/12/2023	11:23	Golden Plover	130	334	0	0	235	99	cutover bog and conifer plantation; flying	CR
GP002	VP1	15/12/2023	10:52	Golden Plover	30	15	15	0	0	0	upland blanket bog; flushed, flying, flew east	SC
GP003	VP1	15/12/2023	15:03	Golden Plover	2	13	13	0	0	0	upland blanket bog; flying, came in from ne heading nw at <1m	SC
GP004	VP1	15/12/2023	15:43	Golden Plover	27	25	25	0	0	0	upland blanket bog; flying, observed flying n-s-se	SC
GP005	VP3	18/12/2023	13:37	Golden Plover	1	-	-	-	-	-	upland blanket bog; calling, heard calling directly overhead. couldn't see in fog.	SC
GP006	VP1	19/12/2023	08:35	Golden Plover	1	-	-	-	-	-	upland blanket bog; calling, heard calling to south	SC
GP007	VP1	19/12/2023	09:37	Golden Plover	20	39	0	0	39	0	upland blanket bog; flying, observed to east flying nw over vp1	SC
GP008	VP1	19/12/2023	13:06	Golden Plover	2	35	2	3	30	0	upland blanket bog; flushed, flying, observed to wsw flushed from mountain when a feral pigeon flew by	SC
GP009	VP1	19/12/2023	13:43	Golden Plover	100	240	0	0	0	240	conifer plantation; flying, circling, observed to ne circlinng high, flying east into site. lost site in rain cloud	SC

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
GP010	VP1	19/12/2023	13:44	Golden Plover	200	290	10	10	40	240	upland blanket bog and conifer plantation; flying, circling, flock reappeared and joined by another 100 birds, circled mountain eventually flying nw out of sight.	SC
GP011	VP4	21/12/2023	09:20	Golden Plover	14	767	15	23	20	709	upland blanket bog and conifer plantation; flying, circling, observed to south, looked like they came up off the bog and circled site, flying east.	SC
GP012	VP4	21/12/2023	10:18	Golden Plover	135	610	0	0	10	610	upland blanket bog and conifer plantation; flying, circling, observed to se moving over and back through the site, heading north.	SC
GP013	VP3	23/12/2023	09:48	Golden Plover	20	8	8	0	0	0	upland blanket bog; flying, observed to east flying south at 4-10m	SC
GP014	VP3	26/01/2024	13:36	Golden Plover	108	112	10	102	0	0	bogs; travelling, appeared to come up from bog.	CM
GP015	VP3	26/01/2024	14:03	Golden Plover	120	125	10	50	65	0	raised bog; landing, settled on bog near hhvp01	CM
GP016	VP3	26/01/2024	14:30	Golden Plover	120	1740	0	0	640	1100	bogs; travelling	CM
GP017	VP3	26/01/2024	15:27	Golden Plover	29	883	70	320	493	0	bogs; travelling, appeared to be settling on bog, visual lost behind hill rise.	CM
GP018	VP3	29/01/2024	09:15	Golden Plover	12	24	24	0	0	0	bogs; travelling, appeared to come up from the bog.	CM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
GP019	VP3	29/01/2024	09:17	Golden Plover	29	17	17	0	0	0	bogs; travelling	CM
GP020	VP3	29/01/2024	18:00	Golden Plover	150	2364	0	300	2064	0	bogs; circling, flock splitting and rejoining often. appeared to settle to the west of site.	CM
GP021	VP1	16/02/2024	14:10	Golden Plover	23	29	29	0	0	0	bogs; travelling	CM
GP022	VP1	16/02/2024	14:22	Golden Plover	116	36	0	0	36	0	bogs and conifer plantation; travelling	CM
GP023	VP1	16/02/2024	14:25	Golden Plover	150	44	0	0	44		bogs and conifer plantation; travelling	CM
GP024	VP1	16/02/2024	14:57	Golden Plover	23	17	0	17	0	0	bogs; travelling	CM
GP025	VP1	16/02/2024	14:58	Golden Plover	170	40	0	0	40	0	bogs; travelling	CM
GP026	VP1	16/02/2024	15:21	Golden Plover	36	989	120	300	569	0	bogs; travelling, multiple circuits at varying heights.	CM
GP027	VP1	19/02/2024	17:46	Golden Plover	2	-	-	-	-	-	bogs; calling, heard not seen on two occasions.	CM
GP028	VP4	23/02/2024	13:47	Golden Plover	54	540	0	0	540	0	conifer plantation; flying, flock flying over	AOD
GP029	VP4	23/02/2024	15:28	Golden Plover	25	420	0	0	420	0	conifer plantation and upland blanket bog; flying	AOD
GP030	VP3	05/03/2024	13:52	Golden Plover	37	563	0	0	563	0	bogs and conifer plantation; flying, calling	CM
GP031	VP3	15/03/2024	06:55	Golden Plover	180	25	0	0	25	0	bogs and conifer plantation; flying, count approximate, lost visual in poor visibility.	CM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
GP032	VP3	15/03/2024	06:59	Golden Plover	31	507	37	60	410	0	bogs and conifer plantation; flying, calling	CM
GP033	VP3	15/03/2024	07:35	Golden Plover	200	232	0	0	232	0	conifer plantation and bogs; travelling	CM
GP034	VP3	15/03/2024	08:33	Golden Plover	40	16	0	16	0	0	bogs; flying	CM
GP035	VP4	26/03/2024	06:00	Golden Plover	85	96	96	0	0	0	bogs; flying, calling, took off from, and landed back onto the bog.	CM
GP036	VP4	26/03/2024	08:03	Golden Plover	2	78	24	54	0	0	bogs; flying	CM
GP037	VP4	26/03/2024	08:10	Golden Plover	115	319	0	0	319	0	bogs and conifer plantation; flying, calling, 40 birds split from flock to land on the bog.	CM
GP038	VP4	26/03/2024	08:12	Golden Plover	40	17	4	13	0	0	bogs; landing, separated from larger flock and settled onto the bog.	CM
GP039	VP4	26/03/2024	11:54	Golden Plover	1	77	17	5	55	0	bogs; flying, calling	CM
GP040	VP4	26/03/2024	12:13	Golden Plover	1	15	4	11	0	0	bogs; landing	CM
GP041	VP4	11/04/2024	20:59	Golden Plover	4	-	-	-	-	-	bogs; calling, heard, not seen.	CM
GP042	VP3	18/04/2024	20:30	Golden Plover	280	310	0	0	140	170	bogs and conifer plantation; travelling, calling, landing, flying at height before descending over bog. lost visual behind rise in the land but believe they settled onto the bog.	CM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-1.5m)	Band 2 (1.5-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
GP043	VP1	15/05/2024	09:56	Golden Plover	1	-	-	-	-	-	bogs; calling, heard, not seen.	CM
GP044	VP3	10/10/2024	14:37	Golden Plover	3	30	0	0	30	0	conifer plantation and upland blanket bog; flying over	AOD
GP045	VP3	10/10/2024	14:50	Golden Plover	38	290	0	0	290	0	upland blanket bog and conifer plantation; flying over	AOD
GP046	VP3	10/10/2024	14:53	Golden Plover	2	50	0	0	50	0	conifer plantation and upland blanket bog; flying over	AOD
GP047	VP1	17/10/2024	17:01	Golden Plover	2	40	0	0	40	0	upland blanket bog; flying	AOD
GP048	VP4	21/10/2024	18:37	Golden Plover	5	-	-	-	-	-	upland blanket bog; roosting, likely larger flock on bog roosting out of view	AOD
GP049	VP1	22/10/2024	15:31	Golden Plover	26	70	0	0	70	0	upland blanket bog and conifer plantation; flying	AOD
GP050	VP4	01/11/2024	11:56	Golden Plover	6	260	0	100	160	0	upland blanket bog; flying, flying up from roost area	AOD
GP051	VP1	05/11/2024	07:00	Golden Plover	1	-	-	-	-	-	bogs; calling, heard, not seen.	CM
GP052	VP4	19/11/2024	13:02	Golden Plover	2	-	-	-	-	-	upland blanket bog; call, birds roosting out of view on bog. likely more unseen.	AOD
GP053	VP3	13/12/2024	15:22	Golden Plover	2	-	-	-	-	-	upland blanket bog; flying, calling unseen. Likely more.	AOD
GP054	VP1	21/01/2025	08:20	Golden Plover	1	-	-	-	-	-	bogs; calling, heard, not seen.	CM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
GP055	VP1	21/01/2025	09:50	Golden Plover	120	610	0	0	610	0	bogs and conifer plantation; flying, circling, flew in line formation over vp heading south, flock breaking and reforming while circling.	CM
GP056	VP1	21/01/2025	12:10	Golden Plover	17	83	0	0	83	0	bogs and conifer plantation; flying	CM
GP057	VP4	23/01/2025	08:30	Golden Plover	1	-	-	-	-	-	bogs; calling, not observed	CM
GP058	VP4	23/01/2025	12:25	Golden Plover	120	210	0	0	210	0	bogs; flying, circling, flock circling and descending, looked to be preparing to land but continued flying to the north.	CM
GP059	VP4	23/01/2025	13:29	Golden Plover	340	608	0	0	0	608	bogs and conifer plantation; travelling, flock travelling at height, turned towards vp1 before visual lost.	CM
GP060	VP4	23/01/2025	13:35	Golden Plover	31	257	0	0	257	0	conifer plantation and bogs; travelling	CM
GP061	VP3	31/01/2025	08:45	Golden Plover	43	200	0	0	200	0	upland blanket bog and conifer plantation; flying	AOD
GP062	VP3	31/01/2025	09:08	Golden Plover	43	120	0	0	120	0	conifer plantation and upland blanket bog; flying	AOD
GP063	VP3	18/02/2025	17:23	Golden Plover	64	175	40	35	100	0	upland blanket bog; flying, flock up from bog	AOD
GP064	VP1	19/02/2025	14:20	Golden Plover	22	297	0	0	240	57	bogs and conifer plantation; flying, circling, visual lost in rain shower.	CM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
GP065	VP4	27/02/2025	14:34	Golden Plover	56	915	0	30	253	632	bogs and conifer plantation; flying, calling	CM
GP066	VP4	27/02/2025	18:48	Golden Plover	8	34	0	0	34	0	bogs; flying, calling, observed in low light.	CM
GP067	VP4	21/03/2025	07:16	Golden Plover	26	52	12	40	0	0	bogs; landing, calling, settled on bog	CM
GP068	VP4	21/03/2025	08:00	Golden Plover	12	33	15	18	0	0	bogs; landing, settled on bog	CM
GP069	VP4	21/03/2025	08:01	Golden Plover	2	9	9	0	0	0	bogs; taking off, landing	CM
GP070	VP4	21/03/2025	08:05	Golden Plover	17	32	17	15	0	0	bogs; landing, descending from low cloud and settling on bog	CM
GP071	VP4	21/03/2025	08:10	Golden Plover	12	17	17	0	0	0	bogs; taking off, landing, flock shifting position on bog.	CM
GP072	VP4	21/03/2025	08:25	Golden Plover	83	410	43	100	267	0	bogs; flushed, flying, landing, several small flocks flushed by helicopter noise, most settled together, smaller flock continued and mapped separately.	CM
GP073	VP4	21/03/2025	08:34	Golden Plover	53	120	15	30	75	0	bogs; flushed, flying, landing, broke away from large flock that landed first, originally flushed by helicopter passing.	CM
GP074	VP1	03/04/2025	17:41	Golden Plover	24	130	0	0	40	90	bogs and conifer plantation; travelling, calling	NM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
GP075	VP1	23/09/2025	08:43	Golden Plover	20	144	0	0	35	109	bogs and conifer plantation; travelling, calling	CM

Table 1-2 Golden Plover Breeding Walkover Observations

Ref.	Date	Time	Transect	Species	Number	Habitat and activity	Surveyor
GP001	10/04/2024	17:55	T1	Golden Plover	13	bogs; flying (suitable nesting habitat; possible breeder)	CM
GP002	11/04/2024	17:46	T2	Golden Plover	2	bogs; flying, calling (suitable nesting habitat; possible breeder)	CM
GP003	11/04/2024	17:46	T2	Golden Plover	1	bogs; flying (suitable nesting habitat; possible breeder)	CM
GP004	12/04/2024	15:37	T2	Golden Plover	4	bogs; landing (suitable nesting habitat; possible breeder)	CM
GP005	21/04/2025	11:00	T2	Golden Plover	1	dry-humid acid grassland and cutover bog; calling overhead (flyover; non-breeding)	JC
GP006	21/04/2025	13:55	T2	Golden Plover	60	upland blanket bog; landed & flew, estimate as they only landed briefly b4 flying off high to nw (suitable nesting habitat; possible breeder)	JC

Table 1-3 Golden Plover Winter Walkover Observations

Ref.	Date	Time	Transect	Species	Number	Habitat and activity	Surveyor
GP001	31/01/2024	17:23	T2	Golden Plover	5	bogs; calling, heard calling on five occasions (wintering)	CM
GP002	07/03/2024	14:50	T2	Golden Plover	35	bogs; flushed, flying, flushed from the bog surface. (wintering)	CM

GP003	01/11/2024	12:35	T2	Golden Plover	3	upland blanket bog; flying, flushed from bog (wintering)	AOD
GP004	01/11/2024	13:50	T2	Golden Plover	170	upland blanket bog; flying, flock moving around windfarm (wintering)	AOD
GP005	04/11/2024	11:42	T1	Golden Plover	51	upland blanket bog; flying over (wintering)	AOD
GP006	16/01/2025	13:22	T2	Golden Plover	74	upland blanket bog; flying, flying very close to turbines circling for duration. (wintering)	AOD
GP007	25/03/2025	16:09	T1	Golden Plover	83	upland blanket bog; flying, flock in flight (wintering)	AOD

Table 1-4 Golden Plover Incidental Observations

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
GP001	Hen Harrier Roost Survey; HHVP1	29/11/2023	15:31	Golden Plover	160	upland blanket bog; flying, flock flying for 30-40 minutes	AOD
GP002	Hen Harrier Roost Survey; HHVP4	13/12/2023	15:30	Golden Plover	38	upland blanket bog and conifer plantation; fly, flock in flight v high	AOD
GP003	Hen Harrier Roost Survey; HHVP4	13/12/2023	16:34	Golden Plover	3	upland blanket bog; fly, low on bog	AOD
GP004	Hen Harrier Roost Survey; HHVP1	15/12/2023	15:46	Golden Plover	56	upland blanket bog; fly, flock flying high	AOD
GP005	Hen Harrier Roost Survey; Carrownyclowan	05/01/2024	14:45	Golden Plover	6	bogs; travelling, passed overhead while on the way to hhvp1	CM
GP006	Vantage Point Survey; hhvp1	26/01/2024	12:45	Golden Plover	80	raised bog; travelling, circling over bog, settled briefly near hhvp01 but did not stay.	CM
GP007	Hen Harrier Roost Survey; hhvp1	08/02/2024	17:13	Golden Plover	3	bogs; calling, heard not seen.	CM
GP008	Hen Harrier Roost Survey; hhvp1	14/02/2024	16:25	Golden Plover	70	upland blanket bog; fly over	AOD
GP009	Hen Harrier Roost Survey; hhvp1	14/02/2024	17:09	Golden Plover	16	upland blanket bog and conifer plantation; flying	AOD

GP010	Breeding Red Grouse Survey; Carrowmore	28/02/2024	12:55	Golden Plover	1	upland blanket bog; fly	AOD
GP011	Hen Harrier Roost Survey; Currane Hill	11/03/2024	17:45	Golden Plover	210	bogs and conifer plantation; flying, calling, large flock, some settled onto bog on currane hill.	CM
GP012	Breeding Red Grouse Survey; Braudphark	13/03/2024	13:15	Golden Plover	140	upland blanket bog and conifer plantation; flying, flock flying	AOD
GP013	Vantage Point Survey; Currane Hill	03/04/2024	18:10	Golden Plover	80	bogs; travelling, flock of golden plover flying over at height during survey break.	CM
GP014	Hen Harrier Roost Survey; HHVP1	10/10/2024	17:23	Golden Plover	46	upland blanket bog; flying	AOD
GP015	Hen Harrier Roost Survey; HHVP1	10/10/2024	18:18	Golden Plover	6	upland blanket bog; flying, flying low	AOD
GP016	Hen Harrier Roost Survey; HHVP1	10/10/2024	18:39	Golden Plover	26	upland blanket bog; flying, flying low	AOD
GP017	Vantage Point Survey; VP1	05/11/2024	09:30	Golden Plover	9	bogs; flying	CM
GP018	Hen Harrier Roost Survey; on site	14/01/2025	16:31	Golden Plover	20	upland blanket bog and conifer plantation; flying	AOD
GP019	Vantage Point Survey; VP1	21/01/2025	10:45	Golden Plover	23	bogs; flying, observed during survey break.	CM
GP020	Hen Harrier Roost Survey; hhvp1	23/01/2025	15:32	Golden Plover	75	upland blanket bog; flying over	AOD
GP021	Hen Harrier Roost Survey; hhvp4a	23/01/2025	15:38	Golden Plover	40	upland blanket bog; roosting flying, roosting birds flushed from bog	AOD
GP022	Hen Harrier Roost Survey; HHVP1	06/02/2025	17:12	Golden Plover	12	bogs; circling	CM
GP023	Breeding Raptor Survey; Braudphark	24/04/2025	16:09	Golden Plover	12	conifer plantation and upland blanket bog; flying	AOD

HEN HARRIER

Table 1-5 Hen Harrier Vantage Point Observations

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
HH001	VP1	10/01/2024	08:58	Hen Harrier	1	112	97	15	0	0	bogs; hunting, male	CM
HH002	VP1	12/03/2024	10:48	Hen Harrier	1	27	27	0	0	0	bogs; hunting, male, immature.	CM
HH003	VP4	14/05/2024	08:55	Hen Harrier	1	21	21	0	0	0	bogs; hunting, male	CM
HH004	VP4	14/05/2024	09:07	Hen Harrier	1	34	34	0	0	0	bogs; hunting, male	CM
HH005	VP3	15/05/2024	11:40	Hen Harrier	1	284	0	0	284	0	conifer plantation and bogs; travelling, female hen harrier observed flying in the direction of vp04	CM
HH006	VP3	15/05/2024	13:42	Hen Harrier	1	83	83	0	0	0	bogs; hunting, male	CM
HH007	VP3	16/05/2024	06:26	Hen Harrier	1	33	0	33	0	0	conifer plantation and bogs; flying, hen harrier, gender unknown. crossing forestry	CM
HH008	VP3	19/06/2024	13:44	Hen Harrier	1	63	63	0	0	0	upland blanket bog and conifer plantation; flying, male	FLM
HH009	VP4	26/06/2024	10:47	Hen Harrier	1	320	250	70	0	0	bogs, highly modified/non-native woodland and scrub/transitional woodland; foraging, travelling, male	NM
HH010	VP4	26/06/2024	15:04	Hen Harrier	1	420	380	40	0	0	bogs and highly modified/non-native woodland; travelling, foraging, male	NM
HH011	VP1	17/07/2024	18:17	Hen Harrier	1	210	210	0	0	0	bogs, scrub and highly modified/non-native woodland; foraging, travelling, male, vanished behind forestry on northwest site boundary	NM
HH012	VP1	29/08/2024	14:36	Hen Harrier	1	237	237	0	0	0	bogs; hunting, adult male	CM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
HH013	VP1	17/09/2024	07:39	Hen Harrier	1	20	20	0	0	0	bogs; hunting, ringtail hen harrier hunting on bog and along ridge	CM
HH014	VP1	17/09/2024	08:36	Hen Harrier	1	17	17	0	0	0	bogs and conifer plantation; flying, ringtail harrier emerged near young forestry and flew low, uphill, following the edge of the forestry.	CM
HH015	VP1	05/11/2024	13:01	Hen Harrier	1	52	15	37	0	0	bogs and conifer plantation; flying, male hen harrier flying over bog, gained height over forestry clearing. visual lost in period of low visibility.	CM
HH016	VP4	09/12/2024	15:16	Hen Harrier	1	57	57	0	0	0	bogs; travelling, hunting, male	CM
HH017	VP3	31/01/2025	09:55	Hen Harrier	1	60	60	0	0	0	upland blanket bog; hunting flying, immature male harrier. this bird not recorded before at site.	AOD
HH018	VP3	31/01/2025	12:28	Hen Harrier	1	55	45	10	0	0	conifer plantation and upland blanket bog; hunting, male	AOD
HH019	VP3	18/02/2025	16:08	Hen Harrier	1	5	5	0	0	0	upland blanket bog; foraging, adult male	AOD
HH020	VP4	27/02/2025	15:13	Hen Harrier	1	56	56	0	0	0	bogs and conifer plantation; hunting, ringtail hen harrier. large individual, likely female.	CM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
HH021	VP1	19/05/2025	06:44	Hen Harrier	1	65		5	60		wet heath; flew nw, male flew steadily nw below vp1 - not quartering ground. may have landed just n of parking (pk) - checked for but no sign after vp1 watch	JC

Table 4-6 Hen Harrier Breeding Walkover Observations

Ref.	Date	Time	Transect	Species	Number	Habitat and activity	Surveyor
HH001	16/06/2025	20:21	T2	Hen Harrier	1	conifer plantation: flying, adult male flying over track, turned away from surveyor (suitable nesting habitat; possible breeder)	CM
HH002	24/07/2025	13:07	T1	Hen Harrier	1	bogs and scrub; hunting, ringtail hunting over the bog, landed in a tree for approx. 4 minutes where the flightline ends. (suitable nesting habitat; possible breeder)	NS
HH003	24/07/2025	13:15	T1	Hen Harrier	1	bogs; hunting, same ringtail, seen flying up in the air turning before it descended back to ground before hunting again. last sighting due to the topography. (suitable nesting habitat; possible breeder)	NS

Table 1-7 Hen Harrier Winter Walkover Observations

Ref.	Date	Time	Transect	Species	Number	Habitat and activity	Surveyor
HH001	31/01/2024	14:34	T2	Hen Harrier	1	bogs and conifer plantation; travelling, male (wintering)	CM
HH002	31/01/2024	16:10	T2	Hen Harrier	1	bogs and conifer plantation; travelling, male (wintering)	CM

HH003	31/01/2024	16:14	T2	Hen Harrier	1	bogs and conifer plantation; travelling, male (wintering)	CM
HH004	25/03/2025	17:07	T1	Hen Harrier	1	wet grassland; soaring, male soaring high (wintering)	AOD
HH005	26/03/2025	14:52	T1	Hen Harrier	1	upland blanket bog; flying foraging, immature male. Unusual plumage, possible hybrid or northern harrier. (wintering)	AOD
HH006	26/03/2025	14:53	T1	Hen Harrier	1	upland blanket bog and conifer plantation; soaring, adult male soaring (wintering)	AOD

Table 1-8 Hen Harrier Roost Survey Observations

Ref.	HHVP	Date	Time	Species	Number	Habitat and activity	Surveyor
HH001	HHVP1	05/01/2024	15:07	Hen Harrier	1	raised bog, hunting, male	CM
HH002	HHVP1	05/01/2024	15:34	Hen Harrier	1	raised bog, hunting, male	CM
HH003	HHVP4	08/01/2024	16:22	Hen Harrier	1	bogs and conifer plantation, travelling, male	CM
HH004	HHVP4	08/01/2024	16:34	Hen Harrier	1	bogs and conifer plantation, travelling, male, travelling at same height and direction as male 12 minutes previous.	CM
HH005	HHVP3	07/03/2024	17:29	Hen Harrier	1	bogs, roosting, male observed gong to roost, not seen again before dark.	CM
HH006	HHVP3	07/03/2024	17:40	Hen Harrier	1	bogs, travelling, approached area another male had just dropped into roost but continued on.	CM
HH007	HHVP3	08/03/2024	17:00	Hen Harrier	1	bogs, hunting, male	CM
HH008	HHVP3	08/03/2024	17:04	Hen Harrier	1	bogs, hunting, male	CM
HH009	HHVP3	08/03/2024	18:13	Hen Harrier	1	bogs, hunting, chasing, briefly chased a pipit which it flushed from the bog, unsuccessful.	CM

Ref.	HHVP	Date	Time	Species	Number	Habitat and activity	Surveyor
HH010	HHVP1	11/03/2024	18:03	Hen Harrier	1	bogs, travelling, hunting, male, moving south.	CM
HH011	HHVP1	10/10/2024	17:25	Hen Harrier	1	upland blanket bog, flying, foraging, adult male low over bog	AOD
HH012	HHVP4a	08/11/2024	15:59	Hen Harrier	1	upland blanket bog and conifer plantation, foraging, flying, adult female	AOD
HH013	HHVP4a	08/11/2024	16:23	Hen Harrier	1	upland blanket bog and conifer plantation, foraging, adult male	AOD
HH014	HHVP3	19/11/2024	16:21	Hen Harrier	1	upland blanket bog, roosting, adult male flew into known roost. likely roosted	AOD
HH015	HHVP3a	28/11/2024	14:19	Hen Harrier	1	upland blanket bog, roosting, adult male in from north settled in heather. Still visible on ground. settled approx. 100m away from another male already present in roost	AOD
HH016	HHVP3a	28/11/2024	14:20	Hen Harrier	1	upland blanket bog, roosting, male roosting in heather present before surveyor arrived. visible on ground near 2nd male.	AOD
HH017	HHVP3a	28/11/2024	15:04	Hen Harrier	1	upland blanket bog, roosting, first male not seen arriving flew into deeper heather out of view.	AOD

Ref.	HHVP	Date	Time	Species	Number	Habitat and activity	Surveyor
HH018	HHVP3a	28/11/2024	15:15	Hen Harrier	1	upland blanket bog, roosting, first male observed but second bird at roost now also dropped into deep heather out of view	AOD
HH019	HHVP3a	28/11/2024	16:08	Hen Harrier	1	upland blanket bog, roosting, adult female in from east flushed one male from roost and she settled. Male also settled	AOD
HH020	HHVP3a	28/11/2024	16:08	Hen Harrier	1	upland blanket bog, roosting, male flushed from ground by roosting female	AOD
HH021	HHVP3a	28/11/2024	16:22	Hen Harrier	1	upland blanket bog, roosting, final visible male dropped into deeper heather closer other birds. total of 4 birds a roosting 3 males 1 female.	AOD
HH022	HHVP3a	28/11/2024	16:34	Hen Harrier	1	upland blanket bog, roosting, third male in from west dropped into deep heather. both earlier males still visible on ground at roost.	AOD
HH023	HHVP3a	11/12/2024	15:42	Hen Harrier	1	upland blanket bog, roosting, male in circled then dropped into deep heather. did not rise.	AOD
HH024	HHVP3a	11/12/2024	16:10	Hen Harrier	1	upland blanket bog, roosting, 2nd male in from direction of site. circled then dropped near first male. did not rise again. 2 birds total roosting	AOD
HH025	HHVP3a	16/01/2025	15:49	Hen Harrier	1	upland blanket bog, flying, roosting, adult male into roost	AOD
HH026	HHVP3a	16/01/2025	15:53	Hen Harrier	1	upland blanket bog, roosting, second adult male in from west, settled.	AOD

Ref.	HHVP	Date	Time	Species	Number	Habitat and activity	Surveyor
HH027	HHVP3a	16/01/2025	15:55	Hen Harrier	1	upland blanket bog, flying at roost, 3rd adult male in from north. tussled with 2nd male briefly then lost from view.	AOD
HH028	HHVP3a	16/01/2025	16:03	Hen Harrier	1	upland blanket bog, roosting, 2nd male met 3rd male then settled	AOD
HH029	HHVP3a	16/01/2025	16:11	Hen Harrier	1	upland blanket bog, roosting, 3rd male appeared again perched visible on ground.	AOD
HH030	HHVP3a	16/01/2025	16:53	Hen Harrier	3	upland blanket bog, roosting, flying, all three adult males up circling interacting for approx. 8mins then settled close together.	AOD
HH031	HHVP3a	16/01/2025	17:02	Hen Harrier	1	upland blanket bog, roosting, adult male in from east. likely one of original three, possible 4th bird.	AOD
HH032	HHVP3a	16/01/2025	17:06	Hen Harrier	1	upland blanket bog, flying, roosting, last observation. total of 3 birds at roost minimum.	AOD
HH033	HHVP3a	14/02/2025	16:54	Hen Harrier	1	conifer plantation and upland blanket bog, flying, adult male	AOD
HH034	HHVP3a	14/02/2025	16:55	Hen Harrier	1	upland blanket bog, roosting, adult male, a second bird different to first observation.	AOD
HH035	HHVP3a	14/02/2025	17:25	Hen Harrier	1	upland blanket bog, roosting, first adult male back again flew to where other male dropped and roosted. 2 hh total roosting.	AOD
HH036	HHVP3a	10/03/2025	17:50	Hen Harrier	1	upland blanket bog, flying mobbed, adult male mobbed by hc pair	AOD
HH037	HHVP3a	10/03/2025	18:03	Hen Harrier	2	upland blanket bog, flying mobbed, adult male and female flying to roost area mobbed by hc pair. Both hh driven away to south.	AOD

Ref.	HHVP	Date	Time	Species	Number	Habitat and activity	Surveyor
HH038	HHVP3a	10/03/2025	18:09	Hen Harrier	1	upland blanket bog, flying roost attempt, adult male flying over previously used roost spot. driven away by a fox below. fox aware of hh	AOD
HH039	HHVP3a	10/03/2025	18:20	Hen Harrier	1	upland blanket bog, roosted, adult male flew directly in and roosted. likely 3 hh present but only one roosted in area.	AOD

Table 1-9 Hen Harrier Incidental Observations

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
HH 001	Vantage Point Survey; Carrownyclowan	19/02/ 2024	15: 33	Hen Harrie r	1	bogs; hunting, male, hunting on hillside moving nw. observed while walking to vp1	CM
HH 002	Vantage Point Survey; VP01	12/03/ 2024	12: 43	Hen Harrie r	1	bogs; flying, brief visual of male hen harrier after vp survey.	CM
HH 003	Vantage Point Survey; Garvagh near vp03	15/03/ 2024	09: 18	Hen Harrie r	1	bogs; hunting, male hen harrier observed while walking back from vp3	CM

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
HH 004	Breeding Raptor Survey; BR3 area	09/05/2024	14:13	Hen Harrier	1	bogs; foraging, travelling, perching, male, disappearing into heather and not re emerging	NM
HH 005	Breeding Raptor Survey; BR7 area	10/05/2024	07:59	Hen Harrier	1		NM
HH 006	Vantage Point Survey; Bargowla	14/05/2024	07:03	Hen Harrier	1	conifer plantation and bogs; skydancing, displaying, flying, male hen harrier flying low behind vp04 before gaining height and displaying over forestry, turned southwest frequently displaying.	CM
HH 007	Vantage Point Survey; Corglancey	15/05/2024	12:00	Hen Harrier	1	conifer plantation and bogs; soaring, travelling, female hen harrier offsite travelling towards hhvp4	CM
HH 008	Vantage Point Survey; HHVP01	16/05/2024	11:29	Hen Harrier	1	bogs; carrying nesting material, soaring. observed after vp., male, carrying grass while soaring over hhvp01. possibly grass caught on prey rather than nesting purposes.	CM
HH 009	Vantage Point Survey; Seltan	26/06/2024	16:55	Hen Harrier	1	bogs; travelling, foraging, female, moving southeast over open heather moorland	NM
HH 010	Vantage Point Survey; Black Banks winfarm	19/07/2024	13:12	Hen Harrier	1	bogs and highly modified/non-native woodland; travelling, mobbed, male, mobbed up around windfarm entrances and nearby young forestry. moving away low and west	NM

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
H011	Vantage Point Survey; Croagh near VP1	12/09/2024	12:34	Hen Harrier	1	bogs; flying, distant scope view of male hen harrier outside of survey area. appeared to be hunting on hillside near vp01.	CM
HH012	Vantage Point Survey; Croagh vp4	15/05/2025	11:34	Hen Harrier	1	conifer plantation and bogs; flying, soaring, adult male flying east	CM

MERLIN

Table 1-10 Merlin Vantage Point Observations

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
ML001	VP3	15/05/2024	12:44	Merlin	1	79	79	0	0	0	bogs and conifer plantation; hunting, mobbed, merlin, believed to be female, observed chasing passerines. hunt failed then mobbed.	CM
ML002	VP3	19/07/2024	14:11	Merlin	1	540	250	200	90	0	bogs, scrub and highly modified/non-native woodland; hunting, swooping, female. hunting and swirling rapidly over moorland, chasing passerines. vanishing into forestry edge	NM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
ML003	VP3	19/07/2024	14:52	Merlin	1	210	130	70	10	0	bogs; hunting, swooping, perching, female - likely the same individual as was seen ~35 mins previous. perching in solitary conifer on moorland	NM
ML004	VP3	19/07/2024	14:57	Merlin	1	0	0	0	0	0	bogs; perched, female, perched on solitary conifer for 14mins	NM
ML005	VP3	19/07/2024	15:11	Merlin	1	190	130	60	0	0	bogs, scrub and highly modified/non-native woodland; departing, foraging, perching, perching at forestry edge briefly	NM
ML006	VP3	19/07/2024	15:12	Merlin	1	0	0	0	0	0	highly modified/non-native woodland and scrub; perched, female. perched at forestry edge for 3mins	NM
ML007	VP3	19/07/2024	15:16	Merlin	1	20	15	5	0	0	highly modified/non-native woodland and scrub; departing, flying, female. departing from perch and swooping low, lost from view behind young forestry	NM
ML008	VP3	13/12/2024	15:55	Merlin	1	55	55	0	0	0	upland blanket bog; flying, hunting, female/juv type	AOD
ML009	VP3	31/01/2025	11:51	Merlin	1	5	5	0	0	0	upland blanket bog; flying	AOD
ML010	VP4	21/03/2025	11:00	Merlin	1	-	-	-	-	-	bogs; perched, male merlin perched on low vegetation for +30 minutes. area frequented by golden plover today.	CM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
ML011	VP4	21/03/2025	11:36	Merlin	1	6	6	0	0	0	bogs; taking off, flying, male merlin flew from perch low behind ridge.	CM
ML012	VP3	04/04/2025	18:30	Merlin	1	55	45	10	0	0	bogs and highly modified/non-native woodland; travelling, foraging, moving low and downhill	NM
ML013	VP1	23/09/2025	07:13	Merlin	1	106	10	30	66	0	bogs and conifer plantation; flying, unsexed, silhouette	CM

Table 5-11 Merlin Breeding Raptor Observations

Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
ML001	BR2	09/05/2024	12:11	Merlin	1	recently felled woodland, conifer plantation and bogs, travelling, perching	suitable nesting habitat; possible breeder	NM
ML002	BR5	09/05/2024	19:37	Merlin	1	bogs, flying, carrying prey, food pass, perching, male, passing prey to female, calling and landing in heather nearby	adult carrying food/faecal sac; confirmed breeding	NM
ML003	BR5	09/05/2024	19:37	Merlin	1	bogs, nesting, gathering prey from male, calling, female, gathered prey off male before landing with suspected nest site, did not emerge again but calls heard	occupied nest; confirmed breeding	NM
ML004	BR5	09/05/2024	19:39	Merlin	1	bogs, flying, perched, fluttering in and around nest area, perching nearby	agitated behaviour; probable breeding	NM
ML005	BR5	09/05/2024	19:40	Merlin	1	bogs, flying, calling, perched, flew around in wide arc before perching, stayed perched in tree until 2000	agitated behaviour; probable breeding	NM
ML006	BR5	09/05/2024	20:02	Merlin	1	bogs and conifer plantation, flying, mobbed, perched	agitated behaviour; probable breeding	NM
ML007	BR3	10/05/2024	13:32	Merlin	1	highly modified/non-native woodland, scrub/transitional woodland and bogs, flying, perched, female	suitable nesting habitat; possible breeder	NM
ML008	BR4	10/05/2024	19:54	Merlin	1	bogs and conifer plantation, flying, mobbed, female, descending into forestry	suitable nesting habitat; possible breeder	NM
ML009	BR4	10/05/2024	20:07	Merlin	1	bogs, scrub/transitional woodland and highly modified/non-native woodland, hunting, mobbed, female - same bird	suitable nesting habitat; possible breeder	NM

Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
ML010	BR4	10/05/2024	20:15	Merlin	1	bogs and scrub/transitional woodland, hunting, swooping, perched, female - same bird. chased by passerines	suitable nesting habitat; possible breeder	NM
ML011	BR4	10/05/2024	20:18	Merlin	1	bogs, hunting, landing, chased by passerines, female - same bird. landing in bog	suitable nesting habitat; possible breeder	NM
ML012	BR4	10/05/2024	20:20	Merlin	1	bogs and scrub/transitional woodland, hunting, chased, perched, female - same bird. harried by passerines and returning to perch	suitable nesting habitat; possible breeder	NM
ML013	BR4	10/05/2024	20:23	Merlin	1	bogs and scrub/transitional woodland, hunting, mobbed, departing area, female - same bird. perching briefly before departing northeast	suitable nesting habitat; possible breeder	NM
ML014	BR4	10/05/2024	21:30	Merlin	1	linear woodland/scrub and bogs, flushed, flying, lisgavneen	suitable nesting habitat; possible breeder	NM

Table 1-12 Merlin Incidental Observations

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
ML001	Breeding Raptor Survey; opposite roadside of br5	16/05/2024	19:03	Merlin	1	upland blanket bog; hunting, after survey	KG

WHOOPER SWAN

Table 1-13 Whooper Swan Winter Walkover Observations

Ref.	Date	Time	Transect	Species	Number	Habitat and activity	Surveyor
WS001	04/11/2024	11:15	T1	Whooper Swan	16	wet grassland; flying over, migrating flock (wintering)	AOD

Table 1-14 Whooper Swan Incidental Observations

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS001	Hen Harrier Roost Survey; Garvagh	10/10/2024	18:20	Whooper Swan	7	wet grassland and conifer plantation; flying over, migrating flock	AOD
WS002	Hen Harrier Roost Survey; Boleymount	10/10/2024	18:23	Whooper Swan	20	improved agricultural grassland, wet grassland and conifer plantation; flying over, migrating flock	AOD
WS003	Hen Harrier Roost Survey; Garvagh	10/10/2024	18:59	Whooper Swan	11	improved agricultural grassland, wet grassland and conifer plantation; flying over, migrating flock	AOD

RED GROUSE

Table 1-15 Red Grouse Vantage Point Observations

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
RG001	VP3	18/12/2023	11:14	Red Grouse	1	-	-	-	-	-	upland blanket bog; calling, heard calling to wnw and again at 11:47	SC
RG002	VP3	18/12/2023	14:45	Red Grouse	1	-	-	-	-	-	upland blanket bog; calling, not seen, a second male heard calling to ese	SC
RG003	VP1	19/12/2023	08:03	Red Grouse	1	-	-	-	-	-	upland blanket bog; calling, calling to nw	SC
RG004	VP1	19/12/2023	08:12	Red Grouse	1	-	-	-	-	-	upland blanket bog; calling, heard calling to se	SC
RG005	VP3	20/12/2023	08:31	Red Grouse	1	-	-	-	-	-	upland blanket bog; calling, heard calling to ene several times during duration of vp	SC
RG006	VP3	23/12/2023	08:06	Red Grouse	1	-	-	-	-	-	upland blanket bog; calling, 2nd rg heard to ese	SC

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
RG007	VP3	23/12/2023	08:07	Red Grouse	1	-	-	-	-	-	upland blanket bog; calling, 3rd rg heard to west	SC
RG008	VP3	23/12/2023	08:08	Red Grouse	1	-	-	-	-	-	upland blanket bog and cutover bog; calling, 4th rg heard to north	SC
RG009	VP3	23/12/2023	08:16	Red Grouse	1	-	-	-	-	-	upland blanket bog and cutover bog; calling, 5th rg heard to south	SC
RG010	VP3	23/12/2023	08:33	Red Grouse	1	-	-	-	-	-	upland blanket bog and cutover bog; calling, heard calling directly overhead. couldn't see in fog.	SC
RG011	VP3	29/01/2024	07:35	Red Grouse	4	-	-	-	-	-	bogs; calling, multiple birds heard not seen, calling frequently.	CM
RG012	VP3	29/01/2024	07:45	Red Grouse	2	6	6	0	0	0	bogs; travelling, observed through binoculars in low light conditions.	CM
RG013	VP3	15/03/2024	06:30	Red Grouse	2	-	-	-	-	-	bogs; calling	CM
RG014	VP1	22/03/2024	06:00	Red Grouse	2	-	-	-	-	-	bogs; calling	CM
RG015	VP3	18/04/2024	21:49	Red Grouse	1	-	-	-	-	-	bogs; singing, heard, not seen.	CM
RG016	VP3	16/05/2024	05:47	Red Grouse	1	-	-	-	-	-	bogs; calling, heard, not seen.	CM
RG017	VP3	11/09/2024	06:14	Red Grouse	1	-	-	-	-	-	bogs; calling, heard, not seen.	CM
RG018	VP1	17/09/2024	06:39	Red Grouse	1	-	-	-	-	-	bogs; calling	CM
RG019	VP3	11/10/2024	19:13	Red Grouse	1	-	-	-	-	-	upland blanket bog; call	AOD
RG020	VP3	27/11/2024	08:51	Red Grouse	1	-	-	-	-	-	upland blanket bog; call	AOD
RG021	VP3	27/11/2024	08:56	Red Grouse	1	-	-	-	-	-	upland blanket bog; call	AOD

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
RG022	VP1	21/01/2025	07:47	Red Grouse	2	-	-	-	-	-	bogs; calling, heard, not seen.	CM
RG023	VP3	31/01/2025	07:55	Red Grouse	1	-	-	-	-	-	upland blanket bog; call	AOD
RG024	VP3	19/03/2025	06:19	Red Grouse	1	5	5	0	0	0	upland blanket bog; flying, flying	AOD
RG025	VP1	03/04/2025	16:19	Red Grouse	1	0	0	0	0	0	bogs; display calling, not seen, only heard. number was rough	NM
RG026	VP1	03/04/2025	17:58	Red Grouse	1	15	15	0	0	0	bogs; flying low, calling	NM
RG027	VP1	03/04/2025	21:06	Red Grouse	2	0	0	0	0	0	bogs; display calling, possibly two birds. two consecutive calls, one sounding fainter. same direction	NM
RG028	VP1	03/04/2025	21:14	Red Grouse	1	0	0	0	0	0	bogs; display calling, not seen, only heard. number was rough. likely same individual	NM
RG029	VP1	03/04/2025	21:32	Red Grouse	1	0	0	0	0	0	bogs; display calling, not seen, only heard. number was rough. likely the same individual	NM
RG030	VP1	03/04/2025	21:37	Red Grouse	1	0	0	0	0	0	bogs; display calling, faint calls. not seen, only heard. number was rough.	NM
RG031	VP1	03/04/2025	21:55	Red Grouse	1	0	0	0	0	0	bogs; display calling	NM
RG032	VP3	04/04/2025	19:22	Red Grouse	1	30	30	0	0	0	bogs; travelling, dropping, moving low across heather bog, dropping	NM
RG033	VP3	04/04/2025	20:51	Red Grouse	1	0	0	0	0	0	bogs; calling, in dusk	NM
RG034	VP3	04/04/2025	20:57	Red Grouse	1	0	0	0	0	0	bogs; calling, in dusk	NM
RG035	VP3	04/04/2025	21:03	Red Grouse	1	0	0	0	0	0	bogs; calling	NM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
RG036	VP3	18/05/2025	04:50	Red Grouse	1	0	0	0	0	0	cutover bog; calling	JC
RG037	VP3	05/09/2025	06:04	Red Grouse	1	-	-	-	-	-	bogs; calling, heard three times	CM
RG038	VP3	05/09/2025	08:13	Red Grouse	1	-	-	-	-	-	#N/A	CM

Table 1-16 Red Grouse Breeding Walkover Observations

Ref.	Date	Time	Transect	Species	Number	Habitat and activity	Surveyor
RG001	17/04/2025	19:00	T1	Red Grouse	1	wet heath and cutover bog; f, flushed & flew n calling & landed (moved from incidental) (flyover; non-breeding)	JC

Table 1-17 Red Grouse Survey Observations

Ref.	Transect	Date	Time	Species	Number	Habitat and activity	Surveyor
RG001	T1	28/02/2024	14:33	Red Grouse	2	upland blanket bog, flying, calling, 2 males in fight calling	AOD
RG002	T1	28/02/2024	15:01	Red Grouse	1	upland blanket bog, calling	AOD
RG003	T2	13/03/2024	13:36	Red Grouse	1	upland blanket bog, calling	AOD
RG004	T1	13/03/2025	11:48	Red Grouse	1	bogs, calling, call back, not observed.	CM
RG005	T1	13/03/2025	11:59	Red Grouse	1	bogs, calling, call back, not observed	CM
RG006	T1	13/03/2025	12:03	Red Grouse	1	bogs, flying, flush without calling.	CM
RG007	T1	13/03/2025	12:20	Red Grouse	1	bogs, calling, flying, call back and fly towards broadcaster.	CM
RG008	T1	13/03/2025	12:35	Red Grouse	1	bogs, flying, flying towards broadcast but no call.	CM

Ref.	Transect	Date	Time	Species	Number	Habitat and activity	Surveyor
RG009	T1	13/03/2025	12:37	Red Grouse	1	bogs, flying, calling, same individual, flying away and calling.	CM
RG010	T1	13/03/2025	12:41	Red Grouse	1	bogs, flying, calling, call back and fly towards broadcaster	CM
RG011	T1	13/03/2025	13:03	Red Grouse	1	bogs, calling, flying, call back and fly towards broadcaster	CM
RG012	T1	13/03/2025	13:26	Red Grouse	1	bogs, flying, calling, call back and fly away	CM
RG013	T1	13/03/2025	14:02	Red Grouse	1	bogs, calling, flying, call back and fly towards broadcast.	CM
RG014	T1	13/03/2025	14:24	Red Grouse	1	bogs, calling, call back, not observed	CM
RG015	T1	13/03/2025	14:54	Red Grouse	1	bogs, flying, in flight, not calling	CM
RG016	T1	13/03/2025	15:55	Red Grouse	1	bogs, calling, flying, call back and fly away	CM

Table 1-18 Red Grouse Winter Walkover Observations

Ref.	Date	Time	Transect	Species	Number	Habitat and activity	Surveyor
RG001	18/01/2024	14:15	T1	Red Grouse	1	bogs and conifer plantation; travelling, flushed while leaving forestry (wintering)	CM
RG002	14/01/2025	13:36	T1	Red Grouse	1	upland blanket bog; calling (wintering)	AOD

Table 1-19 Red Grouse Incidental Observations

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
RG001	Hen Harrier Roost Survey; HHVP4	13/12/2023	16:23	Red Grouse	1	upland blanket bog; call	AOD
RG002	Hen Harrier Roost Survey; Carrownyclowan	05/01/2024	16:45	Red Grouse	2	raised bog; calling, multiple red grouse calls heard to north and south of hhhvp01. calling at the same time, minimum of two birds present.	CM
RG003	Hen Harrier Roost Survey; Straduff	18/01/2024	17:10	Red Grouse	1	raised bog; calling, heard not seen	CM
RG004	Hen Harrier Roost Survey; hhvp2	09/02/2024	17:01	Red Grouse	1	upland blanket bog; call	AOD
RG005	Hen Harrier Roost Survey; vp3	14/02/2024	17:24	Red Grouse	1	upland blanket bog; call	AOD
RG006	Vantage Point Survey; VP3	11/09/2024	06:30	Red Grouse	1	bogs; flying, calling, heard calling before being observed flying low, behind viewshed.	CM
RG007	Hen Harrier Roost Survey; HHVP1	10/10/2024	19:06	Red Grouse	1	upland blanket bog; call	AOD
RG008	Hen Harrier Roost Survey; hhvp2	07/11/2024	16:46	Red Grouse	1	upland blanket bog; call	AOD
RG009	Hen Harrier Roost Survey; hhvp4a	08/11/2024	15:45	Red Grouse	2	upland blanket bog; calling	AOD
RG010	Vantage Point Survey; VP3	13/11/2024	15:31	Red Grouse	1	upland blanket bog; call	AOD
RG011	Hen Harrier Roost Survey; vp3	23/01/2025	17:06	Red Grouse	1	upland blanket bog; calling	AOD
RG012	Vantage Point Survey; Carrane Hill bog (VP1 area)	03/04/2025	21:38	Red Grouse	1	bogs; flushed, departing, calling	NM
RG013	Breeding Raptor Survey; Carrownyclowan	22/04/2025	12:40	Red Grouse	1	cutover bog; h, flushed by car & landed	JC
RG014	Vantage Point Survey; VP3 parking (PK)	18/05/2025	04:00	Red Grouse	1	cutover bog; calling	JC
RG015	Vantage Point Survey; VP3 - along BWO T1 track	18/05/2025	04:30	Red Grouse	1	cutover bog and dry-humid acid grassland; calling, access route in (map)	JC
RG016	Vantage Point Survey; behind VP1	19/05/2025	05:40	Red Grouse	1	wet heath; calling	JC

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
RG017	Vantage Point Survey; Carrownyclowan	23/09/2025	06:10	Red Grouse	1	bogs; calling, heard in darkness, not seen.	CM

SNIPE

Table 1-20 Snipe Vantage Point Observations

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
SN001	VP1	30/11/2023	11:54	Snipe	3	65	0	65	0	0	bogs; flying, alarm calling	NM
SN002	VP1	30/11/2023	14:37	Snipe	1	55	55	0	0	0	bogs and heath; flying, alarm calling	NM
SN003	VP1	30/11/2023	17:12	Snipe	2	35	35	0	0	0	bogs; flushed	NM
SN004	VP3	18/12/2023	16:47	Snipe	1	-	-	-	-	-	upland blanket bog; calling, heard calling to ese	SC
SN005	VP3	18/12/2023	16:51	Snipe	1	-	-	-	-	-	upland blanket bog; calling, 2nd bird heard calling to ene	SC
SN006	VP4	21/12/2023	10:30	Snipe	3	35	5	10	20	0	upland blanket bog; flying, appeared to flush from bog to south flying west	SC
SN007	VP3	21/02/2024	18:40	Snipe	2	-	-	-	-	-	upland blanket bog; chipping, chipping call from bog	AOD
SN008	VP3	15/03/2024	06:20	Snipe	1	-	-	-	-	-	bogs; calling, heard not seen.	CM
SN009	VP1	03/04/2024	21:10	Snipe	3	-	-	-	-	-	bogs; drumming, calling, one snipe drumming at vp01, two heard calling.	CM
SN010	VP4	11/04/2024	21:00	Snipe	1	-	-	-	-	-	bogs; calling, heard, not seen.	CM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
SN011	VP3	18/04/2024	21:50	Snipe	4	-	-	-	-	-	bogs; calling, heard, not seen.	CM
SN012	VP4	14/05/2024	06:50	Snipe	1	-	-	-	-	-	bogs; calling, observed on bog calling frequently.	CM
SN013	VP4	14/05/2024	08:38	Snipe	3	156	10	30	116	0	bogs and conifer plantation; displaying	CM
SN014	VP4	14/05/2024	08:39	Snipe	1	76	0	50	26	0	bogs; displaying, drumming	CM
SN015	VP1	15/05/2024	07:18	Snipe	1	133	0	0	133	0	conifer plantation and bogs; drumming, displaying	CM
SN016	VP1	15/05/2024	07:49	Snipe	1	761	0	0	761	0	bogs and conifer plantation; drumming	CM
SN017	VP1	15/05/2024	08:40	Snipe	1	37	0	0	37	0	bogs and conifer plantation; drumming	CM
SN018	VP1	15/05/2024	09:51	Snipe	1	203	0	9	194	0	bogs and conifer plantation; drumming	CM
SN019	VP1	15/05/2024	09:55	Snipe	1	-	-	-	-	-	bogs; drumming, heard, not seen.	CM
SN020	VP3	16/05/2024	06:03	Snipe	1	-	-	-	-	-	bogs; calling	CM
SN021	VP4	29/05/2024	04:26	Snipe	2	-	-	-	-	-	bogs; calling, chipping, heard, not seen.	CM
SN022	VP1	30/05/2024	04:35	Snipe	1	-	-	-	-	-	bogs; drumming, heard, not seen.	CM
SN023	VP1	17/07/2024	15:04	Snipe	1	25	15	10	0	0	bogs; flushed, alarming, swooping over heather moorland and landing once again	NM
SN024	VP1	17/07/2024	15:11	Snipe	2	25	25	0	0	0	bogs; flushed, alarming, departing low and rapidly	NM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
SN025	VP1	17/07/2024	16:09	Snipe	5	55	55	0	0	0	bogs; chirping, flitting, moving within heather, flitting and moving within moorland	NM
SN026	VP1	17/07/2024	17:43	Snipe	3	35	30	5	0	0	bogs, scrub and semi-natural grassland; flushed, alarming, swirling low across moorland, moving towards vp3 area	NM
SN027	VP1	17/07/2024	20:47	Snipe	1	20	0	0	20	0	bogs; travelling, alarming	NM
SN028	VP1	17/07/2024	21:14	Snipe	2	15	0	15	0	0	bogs; flying, alarming, visibility poor	NM
SN029	VP3	11/09/2024	06:04	Snipe	1	-	-	-	-	-	bogs; calling, heard, not seen.	CM
SN030	VP3	10/10/2024	16:32	Snipe	1	6	6	0	0	0	upland blanket bog; flying	AOD
SN031	VP3	11/10/2024	11:00	Snipe	6	50	0	0	50	0	upland blanket bog and conifer plantation; flying over	AOD
SN032	VP3	11/10/2024	16:45	Snipe	1	10	10	0	0	0	upland blanket bog; flying, flew from bog	AOD
SN033	VP3	11/10/2024	19:27	Snipe	1	20	10	10	0	0	upland blanket bog; flying	AOD
SN034	VP3	11/10/2024	19:33	Snipe	1	-	-	-	-	-	upland blanket bog; call	AOD
SN035	VP1	05/11/2024	06:50	Snipe	1	-	-	-	-	-	bogs; calling, heard, not seen.	CM
SN036	VP1	22/11/2024	13:32	Snipe	1	8	8	0	0	0	upland blanket bog; flying, flushed	AOD
SN037	VP3	13/12/2024	17:07	Snipe	1	-	-	-	-	-	upland blanket bog; call	AOD
SN038	VP1	18/12/2024	16:49	Snipe	1	-	-	-	-	-	upland blanket bog; call	AOD

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
SN039	VP3	18/02/2025	18:21	Snipe	1	-	-	-	-	-	upland blanket bog; display call, chipping call from bog	AOD
SN040	VP1	19/02/2025	18:17	Snipe	1	-	-	-	-	-	bogs; calling, sounded apparently flying overhead.	CM
SN041	VP3	06/03/2025	15:22	Snipe	1	8	8	0	0	0	upland blanket bog; 0	AOD
SN042	VP1	31/03/2025	08:03	Snipe	1	-	-	-	-	-	upland blanket bog; displaying, chipping	AOD
SN043	VP1	03/04/2025	15:19	Snipe	1	40	0	10	30	0	bogs and conifer plantation; flying, alarming	NM
SN044	VP1	03/04/2025	20:27	Snipe	6	2580	200	700	1500	180	bogs; drumming, swooping, drumming over vp area at dusk (21:27 - end). numbers rough, separate territories	NM
SN045	VP3	04/04/2025	20:52	Snipe	4	0	0	0	0	0	bogs; drumming, swooping, over moorland area surrounding vp. 20:50 - end	NM
SN046	VP4	28/04/2025	20:33	Snipe	1	11	0	0	11	0	bogs; flying, calling	CM
SN047	VP4	28/04/2025	20:45	Snipe	1	27	0	0	27	0	bogs; drumming, snipe displaying briefly, visual lost as it descended.	CM
SN048	VP4	28/04/2025	21:23	Snipe	1	73	0	0	73	0	bogs; drumming, displaying	CM
SN049	VP4	28/04/2025	21:33	Snipe	1	-	-	-	-	-	bogs; displaying, drumming snipe heard but not seen.	CM
SN050	VP3	02/07/2025	12:30	Snipe	1	21	10	11	0	0	bogs; flying, calling, likely flushed by passing tractor.	CM
SN051	VP3	02/07/2025	15:00	Snipe	1	-	-	-	-	-	bogs; chipping, heard, not seen.	CM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
SN052	VP3	20/08/2025	11:55	Snipe	2	40	0	40	0	0	bogs; flying, calling	NS

Table 6-21 Snipe Breeding Walkover Observations

Ref.	Date	Time	Transect	Species	Number	Habitat and activity	Surveyor
SN001	10/04/2024	15:10	T1	Snipe	1	bogs; flushed (suitable nesting habitat; possible breeder)	CM
SN002	10/04/2024	15:12	T1	Snipe	2	bogs; flushed (suitable nesting habitat; possible breeder)	CM
SN003	10/04/2024	15:20	T1	Snipe	1	bogs; flushed (suitable nesting habitat; possible breeder)	CM
SN004	10/04/2024	15:22	T1	Snipe	1	bogs; flushed (suitable nesting habitat; possible breeder)	CM
SN005	18/04/2024	15:30	T1	Snipe	1	bogs; flushed (suitable nesting habitat; possible breeder)	CM
SN006	18/04/2024	15:35	T1	Snipe	1	bogs; flushed (suitable nesting habitat; possible breeder)	CM
SN007	05/06/2024	14:30	T2	Snipe	1	bogs; flushed (suitable nesting habitat; possible breeder)	KG
SN008	05/06/2024	16:30	T2	Snipe	1	bogs; singing, flying (suitable nesting habitat; possible breeder)	KG
SN009	05/06/2024	16:58	T2	Snipe	1	bogs; travelling, singing (suitable nesting habitat; possible breeder)	KG
SN010	07/06/2024	15:32	T1	Snipe	1	bogs; flushed (flyover; non-breeding)	KG
SN011	11/06/2024	17:27	T2	Snipe	1	cutover bog; flushed (suitable nesting habitat; possible breeder)	KG

Ref.	Date	Time	Transect	Species	Number	Habitat and activity	Surveyor
SN012	11/06/2024	20:10	T2	Snipe	2	bogs; flushed (suitable nesting habitat; possible breeder)	KG
SN013	12/06/2024	18:10	T1	Snipe	1	bogs; calling, flushed (suitable nesting habitat; possible breeder)	KG
SN014	12/06/2024	18:37	T1	Snipe	1	cutover bog; flushed (suitable nesting habitat; possible breeder)	KG
SN015	24/06/2024	10:00	T2	Snipe	1	bogs; singing (suitable nesting habitat; possible breeder)	KG
SN016	24/06/2024	12:26	T2	Snipe	1	bogs; calling (suitable nesting habitat; possible breeder)	KG
SN017	21/04/2025	11:20	T2	Snipe	1	dry-humid acid grassland and cutover bog; calling & display (courtship and display; probable breeding)	JC
SN018	21/04/2025	11:25	T2	Snipe	1	dry-humid acid grassland and cutover bog; flushed & flew, not same as previous (suitable nesting habitat; possible breeder)	JC
SN019	21/04/2025	16:30	T2	Snipe	1	dry-humid acid grassland and cutover bog; flying, heard only (suitable nesting habitat; possible breeder)	JC
SN020	25/05/2025	13:15	T2	Snipe	1	dry-humid acid grassland and cutover bog; display flight (courtship and display; probable breeding)	JC
SN021	25/05/2025	14:30	T2	Snipe	1	upland blanket bog; song & display flight (courtship and display; probable breeding)	JC
SN022	12/06/2025	18:03	T1	Snipe	2	bogs; flushed, flying, flushed together while walking through bog (pair; probable breeding)	CM

Table 1-22 Snipe Winter Walkover Observations

Ref.	Date	Time	Transect	Species	Number	Habitat and activity	Surveyor
SN001	31/01/2024	14:54	T2	Snipe	1	bogs; evading, flushed (wintering)	CM
SN002	31/01/2024	15:10	T2	Snipe	1	bogs; calling (wintering)	CM
SN003	31/01/2024	15:16	T2	Snipe	1	bogs; escaping, flushed (wintering)	CM
SN004	01/11/2024	14:15	T2	Snipe	1	upland blanket bog; flying, flushed (wintering)	AOD
SN005	04/11/2024	12:17	T1	Snipe	1	upland blanket bog; flying, flushed (wintering)	AOD
SN006	16/01/2025	13:32	T2	Snipe	2	upland blanket bog; flying, flushed (wintering)	AOD

Table 1-23 Snipe Incidental Observations

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SN001	Hen Harrier Roost Survey; Beagh	08/01/2024	17:14	Snipe	1	bogs; travelling	CM
SN002	Vantage Point Survey; Carrownyclowan	10/01/2024	08:20	Snipe	2	conifer plantation and bogs; travelling, flushed while driving towards vp	CM
SN003	Vantage Point Survey; vp3	26/01/2024	16:33	Snipe	1	bogs; escaping, flushed from side of track.	CM
SN004	Hen Harrier Roost Survey; HHVP4	06/02/2024	16:04	Snipe	1	conifer plantation; escaping, flushed from near road	CM
SN005	Vantage Point Survey; Carrownyclowan	19/02/2024	19:05	Snipe	4	bogs; escaping, flushed from the road at hhvp1	CM
SN006	Vantage Point Survey; VP01	12/03/2024	12:44	Snipe	2	bogs; flushed, calling, alerted me to presence of male hen harrier, probably flushed by same.	CM
SN007	Vantage Point Survey; Croagh hhvp	22/03/2024	08:35	Snipe	4	bogs; flushed, observed on the track to vp01	CM
SN008	Breeding Raptor Survey; BR1	08/05/2024	09:13	Snipe	2	bogs and semi-natural grassland; flushed, alarming	NM
SN009	Breeding Raptor Survey; BR10	08/05/2024	15:24	Snipe	1	semi-natural grassland and improved agricultural grassland; flushed, alarming	NM
SN010	Breeding Raptor Survey; BR10	08/05/2024	17:47	Snipe	2	improved agricultural grassland, semi-natural grassland and linear woodland/scrub; travelling, alarming	NM
SN011	Breeding Raptor Survey; BR3	08/05/2024	21:34	Snipe	3	bogs; drumming, alarming	NM
SN012	Breeding Raptor Survey; Bargowla	09/05/2024	12:56	Snipe	2	bogs; flushed	NM
SN013	Breeding Raptor Survey; BR5	09/05/2024	18:50	Snipe	1	bogs; chirping	NM
SN014	Breeding Raptor Survey; BR5	09/05/2024	18:56	Snipe	1	bogs; drumming	NM
SN015	Breeding Raptor Survey; BR5	09/05/2024	19:01	Snipe	1	bogs; drumming	NM

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SN016	Breeding Raptor Survey; BR5	09/05/2024	19:06	Snipe	2	bogs; chirping	NM
SN017	Breeding Raptor Survey; BR5	09/05/2024	19:17	Snipe	1	bogs and highly modified/non-native woodland; travelling, alarming	NM
SN018	Breeding Raptor Survey; BR5	09/05/2024	19:30	Snipe	1	bogs; drumming	NM
SN019	Breeding Raptor Survey; BR5	09/05/2024	19:37	Snipe	2	bogs; chirping	NM
SN020	Breeding Raptor Survey; BR5	09/05/2024	19:41	Snipe	2	bogs; chirping	NM
SN021	Breeding Raptor Survey; BR5	09/05/2024	20:20	Snipe	5	bogs; calling, chirping	NM
SN022	Breeding Raptor Survey; BR5	09/05/2024	20:40	Snipe	1	bogs; chirping	NM
SN023	Breeding Raptor Survey; BR5	09/05/2024	20:45	Snipe	2	bogs; drumming, chasing	NM
SN024	Breeding Raptor Survey; BR5	09/05/2024	20:45	Snipe	2	bogs; chirping	NM
SN025	Breeding Raptor Survey; BR5	09/05/2024	20:52	Snipe	1	bogs; alarming	NM
SN026	Breeding Raptor Survey; BR5	09/05/2024	20:55	Snipe	2	bogs; alarming	NM
SN027	Breeding Raptor Survey; BR5	09/05/2024	21:00	Snipe	1	bogs; drumming	NM
SN028	Breeding Raptor Survey; BR5	09/05/2024	21:11	Snipe	1	bogs; chirping	NM
SN029	Breeding Raptor Survey; BR5	09/05/2024	21:14	Snipe	1	bogs; drumming	NM
SN030	Breeding Raptor Survey; BR5	09/05/2024	21:21	Snipe	2	bogs; chirping	NM
SN031	Breeding Raptor Survey; BR5	09/05/2024	21:36	Snipe	1	bogs; alarming, flying	NM
SN032	Breeding Raptor Survey; Carrane Hill bog	09/05/2024	21:46	Snipe	2	bogs; drumming	NM
SN033	Breeding Raptor Survey; BR7	10/05/2024	06:55	Snipe	2	bogs; flushed, alarming	NM

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SN034	Breeding Raptor Survey; BR7	10/05/2024	07:05	Snipe	2	bogs; chirping	NM
SN036	Breeding Raptor Survey; BR7	10/05/2024	07:39	Snipe	3	bogs; chirping	NM
HH008	Breeding Raptor Survey; BR7	10/05/2024	09:04	Snipe	2	bogs and conifer plantation; travelling, calling	NM
SN040	Breeding Raptor Survey; BR8	10/05/2024	14:06	Snipe	2	bogs and semi-natural grassland; flushed, alarming	NM
SN041	Breeding Raptor Survey; BR4	10/05/2024	21:20	Snipe	1	bogs; drumming	NM
SN042	Vantage Point Survey; Carrowmore	17/06/2024	08:40	Snipe	1	upland blanket bog and cutover bog; drumming	FLM
SN043	Vantage Point Survey; VP1 retreat	17/07/2024	21:41	Snipe	1	bogs and semi-natural grassland; flushed, alarming	NM
SN044	Vantage Point Survey; VP3	19/07/2024	13:47	Snipe	2	bogs and scrub; flushed, alarming, landing once again in moorland to southeast	NM
SN045	Hen Harrier Roost Survey; HHVP1	10/10/2024	17:24	Snipe	3	upland blanket bog; flying	AOD
SN046	Vantage Point Survey; VP1	17/10/2024	16:30	Snipe	1	upland blanket bog; flying, flushed	AOD
SN047	Vantage Point Survey; VP1	05/11/2024	13:02	Snipe	1	bogs; flushed, calling, flushed by nearby hen harrier.	CM
SN048	Hen Harrier Roost Survey; hhvp2	07/11/2024	15:22	Snipe	3	upland blanket bog; flushed	AOD
SN049	Hen Harrier Roost Survey; hhvp1	17/12/2024	15:46	Snipe	1	upland blanket bog; call	AOD
SN050	Hen Harrier Roost Survey; hhvp1	06/03/2025	18:04	Snipe	1	upland blanket bog; call	AOD
SN051	Hen Harrier Roost Survey; hhvp3	10/03/2025	19:20	Snipe	1	upland blanket bog and wet grassland; drumming	AOD
SN052	Hen Harrier Roost Survey; hhvp1	25/03/2025	18:21	Snipe	1	upland blanket bog; display, chipping	AOD

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SN053	Vantage Point Survey; Carrane Hill bog (VP1 area)	03/04/2025	21:24	Snipe	2	bogs; drumming, swooping	NM
SN054	Vantage Point Survey; Carrane Hill bog (VP1 area)	03/04/2025	21:25	Snipe	1	bogs; flushed, alarming	NM
SN055	Vantage Point Survey; Carrane Hill bog (VP1 area)	03/04/2025	21:40	Snipe	3	bogs; drumming, overhead, numbers rough in darkness	NM
SN056	Vantage Point Survey; VP3	04/04/2025	21:19	Snipe	1	bogs; drumming	NM
SN057	Vantage Point Survey; VP3	04/04/2025	21:26	Snipe	1	bogs; drumming	NM
SN058	Breeding Raptor Survey; Carrownyclowan	22/04/2025	12:30	Snipe	1	cutover bog; h, flushed by car & landed	JC
SN059	Breeding Red Grouse Survey; BR1	29/04/2025	09:56	Snipe	1	upland blanket bog; drumming, drumming	AOD
SN060	Vantage Point Survey; VP3 parking (PK)	18/05/2025	04:05	Snipe	1	cutover bog; dispay flight	JC
SN061	Breeding Raptor Survey; croagh	03/06/2025	14:20	Snipe	1	upland blanket bog; drumming	AOD
SN062	Breeding Raptor Survey; BR1	06/06/2025	14:49	Snipe	1	upland blanket bog; drumming	AOD
SN063	Breeding Woodcock Survey; Croagh	26/06/2025	22:46	Snipe	1	bogs; chipping, flying	CM
SN064	Breeding Raptor Survey; BR11	27/06/2025	16:19	Snipe	1	upland blanket bog; display call, chipping	AOD
SN065	Vantage Point Survey; flushed near VP1 parking on Carrownyclowan/ Carowmore boundary	01/07/2025	15:05	Snipe	1	cutover bog; flushed & flew sw	JC
SN066	Breeding Raptor Survey; Garvagh	08/07/2025	08:33	Snipe	1	bogs; landing, chipping, observed flying onto the bog and chipping for a sustained period.	CM
SN067	Breeding Raptor Survey; Garvagh	08/07/2025	08:37	Snipe	1	bogs; displaying, drumming, believed to be the same bird chipping previously	CM

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SN068	Breeding Raptor Survey; Garvagh	08/07/2025	10:35	Snipe	1	bogs; chipping, flying, perched briefly, chipping on overhead lines	CM
SN069	Breeding Raptor Survey; BR11	08/07/2025	19:27	Snipe	1	upland blanket bog; display call, chipping	AOD
SN070	Vantage Point Survey; Croagh	09/07/2025	19:56	Snipe	1	bogs; chipping, heard after survey, not seen.	CM
SN071	Vantage Point Survey; vp1	19/08/2025	11:10	Snipe	1	bogs; flushed	NS

KESTREL

Table 1-24 Kestrel Vantage Point Observations

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.001	VP3	29/01/2024	09:01	Kestrel	1	110	0	110	0	0	bogs and conifer plantation; hunting, hovered briefly before landing on treetop.	CM
K.002	VP3	29/01/2024	09:03	Kestrel	1	-	-	-	-	-	conifer plantation and bogs; perching	CM
K.003	VP4	23/02/2024	17:05	Kestrel	1	200	20	80	100	0	upland blanket bog; foraging hunting, hunting	AOD
K.004	VP3	15/03/2024	07:36	Kestrel	1	156	0	156	0	0	conifer plantation and bogs; flying	CM
K.005	VP3	18/04/2024	21:52	Kestrel	1	197	0	0	197	0	bogs; hunting	CM
K.006	VP3	15/05/2024	12:36	Kestrel	1	132	65	67	0	0	bogs; hunting, mobbed, male kestrel hunting and mobbed by passerines.	CM
K.007	VP3	16/05/2024	10:39	Kestrel	1	31	0	0	31	0	conifer plantation and bogs; flying	CM
K.008	VP4	26/06/2024	10:05	Kestrel	1	0	0	0	0	0	scrub/transitional woodland and bogs; perched, male	NM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.009	VP4	26/06/2024	10:11	Kestrel	1	50	30	20	0	0	bogs, scrub and highly modified/non-native woodland; departing, travelling	NM
K.010	VP4	26/06/2024	12:22	Kestrel	1	780	0	90	650	40	bogs and highly modified/non-native woodland; hunting, hovering	NM
K.011	VP3	19/07/2024	18:54	Kestrel	1	390	0	40	350	0	bogs, scrub and highly modified/non-native woodland; hunting, hovering, departing, travelling, moving away northwest	NM
K.012	VP4	01/08/2024	12:31	Kestrel	1	26	0	16	10	0	conifer plantation; hunting	CM
K.013	VP4	01/08/2024	12:33	Kestrel	1	45	0	45	0	0	conifer plantation; flying	CM
K.014	VP4	01/08/2024	13:22	Kestrel	1	12	0	12	0	0	conifer plantation; mobbed	CM
K.015	VP4	01/08/2024	13:23	Kestrel	1	26	0	26	0	0	conifer plantation and bogs; flying	CM
K.016	VP3	06/08/2024	16:28	Kestrel	1	197	0	30	167	0	bogs and conifer plantation; hunting	CM
K.017	VP4	21/08/2024	12:22	Kestrel	1	24	0	24	0	0	bogs; hunting	CM
K.018	VP1	29/08/2024	13:15	Kestrel	1	55	24	26	0	0	bogs; hunting	CM
K.019	VP1	03/04/2025	19:38	Kestrel	1	780	40	50	90	400	bogs, scrub/transitional woodland and semi-natural grassland; hunting, hovering, dropping abruptly into carrownyclowan wf area, between turbines	NM
K.020	VP3	02/07/2025	16:10	Kestrel	1	207	0	130	77	0	bogs; hunting, female	CM
K.021	VP4	03/07/2025	13:51	Kestrel	1	99	54	45	0	0	bogs; hunting, male, landed briefly on bog	CM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.022	VP4	03/07/2025	17:03	Kestrel	1	13	13	0	0	0	conifer plantation and bogs; hunting, perching, moving from perch to perch.	CM
K.023	VP4	03/07/2025	17:20	Kestrel	1	193	0	0	193	0	#N/A	CM
K.024	VP1	19/08/2025	12:37	Kestrel	1	90	10	10	70	0	bogs, conifer plantation and scrub; hunting	NS
K.025	VP1	19/08/2025	13:09	Kestrel	1	40	0	10	30	0	bogs; hunting	NS
K.026	VP1	19/08/2025	15:45	Kestrel	1	200	20	30	150	0	bogs; hunting	NS
K.027	VP3	20/08/2025	11:48	Kestrel	1	120	20	20	80	0	bogs; hunting	NS
K.028	VP3	20/08/2025	11:50	Kestrel	1	30	10	20	0	0	bogs; traveling, landed in tree	NS
K.029	VP3	20/08/2025	11:55	Kestrel	1	210	20	20	180	0	bogs; hunting	NS
K.030	VP3	20/08/2025	14:29	Kestrel	1	90	0	10	80	0	#N/A	NS
K.031	VP4	21/08/2025	12:06	Kestrel	1	60	10	10	40	0	bogs; hunting	NS
K.032	VP4	21/08/2025	13:45	Kestrel	1	200	20	20	160	0	bogs; hunting	NS
K.033	VP4	21/08/2025	17:20	Kestrel	1	140	10	10	120	0	bogs; hunting	NS
K.034	VP3	05/09/2025	10:31	Kestrel	1	313	203	70	40	0	bogs; hunting, mobbed by passerines.	CM
K.035	VP1	23/09/2025	07:24	Kestrel	1	14	14	0	0	0	conifer plantation and bogs; perching, flying, moving between perches.	CM
K.036	VP1	23/09/2025	07:44	Kestrel	1	43	10	33	0	0	conifer plantation and bogs; hunting	CM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.037	VP1	23/09/2025	10:46	Kestrel	1	81	5	16	60	0	conifer plantation and bogs; hunting, female, dived into clearing.	CM
K.038	VP1	23/09/2025	10:49	Kestrel	1	144	50	94	0	0	bogs and conifer plantation; hunting, female, continuation of hunting after diving into clearing.	CM
K.039	VP1	23/09/2025	11:12	Kestrel	1	71	71	0	0	0	bogs and conifer plantation; hunting, carrying prey., took prey off bog into nearby cover, not seen emerging.	CM
K.040	VP1	23/09/2025	11:45	Kestrel	1	182	152	30	0	0	bogs and conifer plantation; hunting, perching, female	CM

Table 1-25 Kestrel Breeding Walkover Observations

Ref.	Date	Time	Transect	Species	Number	Habitat and activity	Surveyor
K.001	18/07/2025	14:50	T2	Kestrel	1	bogs; hunting (suitable nesting habitat; possible breeder)	NS
K.002	24/07/2025	15:50	T1	Kestrel	1	bogs; hunting (suitable nesting habitat; possible breeder)	NS

Table 1-26 Kestrel Breeding Raptor Observations

Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
K.001	BR1	08/05/2024	09:48	Kestrel	1	bogs, highly modified/non-native woodland and scrub/transitional woodland, hunting, hovering	suitable nesting habitat; possible breeder	NM
K.002	BR1	08/05/2024	12:34	Kestrel	1	bogs and improved agricultural grassland, travelling, soaring	suitable nesting habitat; possible breeder	NM
K.003	BR10	08/05/2024	17:56	Kestrel	1	improved agricultural grassland, semi-natural grassland and scrub, hunting, hovering	suitable nesting habitat; possible breeder	NM
K.004	BR3	08/05/2024	18:59	Kestrel	1	bogs, improved agricultural grassland and scrub, hunting, hovering, departing	suitable nesting habitat; possible breeder	NM
K.005	BR2	09/05/2024	09:37	Kestrel	1	bogs and scrub/transitional woodland, hunting, hovering	suitable nesting habitat; possible breeder	NM
K.006	BR2	09/05/2024	12:50	Kestrel	1	bogs and scrub/transitional woodland, hunting, hovering, vp4 area	suitable nesting habitat; possible breeder	NM

Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
K.007	BR7	09/05/2024	15:23	Kestrel	1	bogs and scrub/transitional woodland, hunting, hovering	suitable nesting habitat; possible breeder	NM
K.008	BR9	10/05/2024	11:24	Kestrel	1	bogs and improved agricultural grassland, hunting, hovering	suitable nesting habitat; possible breeder	NM
K.009	BR5	16/05/2024	16:15	Kestrel	1	conifer plantation, cutover bog and wet heath, hunting	flyover; non-breeding	KG
K.010	BR5	16/05/2024	16:30	Kestrel	1	conifer plantation, travelling	flyover; non-breeding	KG
K.011	BR5	16/05/2024	17:20	Kestrel	1	conifer plantation, hunting	flyover; non-breeding	KG
K.012	BR5	16/05/2024	18:13	Kestrel	1	conifer plantation, upland blanket bog and wet heath, hunting	flyover; non-breeding	KG
K.013	BR5	16/05/2024	18:14	Kestrel	1	conifer plantation, travelling	flyover; non-breeding	KG
K.014	BR5	16/05/2024	18:30	Kestrel	1	bogs and conifer plantation, hunting	flyover; non-breeding	KG
K.015	BR6	17/05/2024	18:00	Kestrel	1	conifer plantation, circling	flyover; non-breeding	KG
K.016	BR1	27/05/2024	17:28	Kestrel	1	conifer plantation, hunting	flyover; non-breeding	KG
K.017	BR1	27/05/2024	18:18	Kestrel	1	conifer plantation, travelling	flyover; non-breeding	KG
K.018	BR4	28/05/2024	17:15	Kestrel	1	conifer plantation, hunting	flyover; non-breeding	KG
K.019	BR1	04/07/2024	11:08	Kestrel	1	bogs, hunting, male	suitable nesting habitat; possible breeder	CM
K.020	BR8	04/07/2024	16:07	Kestrel	1	bogs and conifer plantation, hunting	suitable nesting habitat; possible breeder	CM
K.021	BR6	18/07/2024	11:49	Kestrel	1	conifer plantation, flying	suitable nesting habitat; possible breeder	AOD
K.022	BR1	07/05/2025	15:41	Kestrel	1	upland blanket bog, soaring, male	suitable nesting habitat; possible breeder	AOD
K.023	BR10	22/05/2025	20:49	Kestrel	1	conifer plantation, flying	suitable nesting habitat; possible breeder	AOD
K.024	BR3	03/06/2025	15:10	Kestrel	1	conifer plantation and upland blanket bog, foraging	suitable nesting habitat; possible breeder	AOD
K.025	BR9	09/07/2025	11:48	Kestrel	1	conifer plantation and bogs, hunting, perching, flying, male	suitable nesting habitat; possible breeder	CM

Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
K.026	BR10	16/07/2025	07:45	Kestrel	1	conifer plantation and scrub, hunting	suitable nesting habitat; possible breeder	NS
K.027	BR12	18/07/2025	09:12	Kestrel	1	bogs, hunting	suitable nesting habitat; possible breeder	NS

Table 1-27 Kestrel Incidental Observations

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
K.001	Hen Harrier Roost Survey; HHVP4	18/12/2023	16:06	Kestrel	1	conifer plantation and bogs; hunting	CM
K.002	Hen Harrier Roost Survey; HHVP4	18/12/2023	16:26	Kestrel	1	bogs and conifer plantation; perched, lost behind conifers after long perch	CM
K.003	Winter Walkover Survey; Bargowla	31/01/2024	14:15	Kestrel	1	conifer plantation and bogs; travelling	CM
K.004	Breeding Raptor Survey; BR7 area	10/05/2024	07:18	Kestrel	1		NM
K.005	Breeding Raptor Survey; BR7 area	10/05/2024	09:37	Kestrel	1		NM
K.006	Vantage Point Survey; VP03	16/05/2024	05:52	Kestrel	1	bogs; flying	CM
K.007	Breeding Raptor Survey; Croagh nesr brvp3	16/05/2024	15:50	Kestrel	1	conifer plantation and upland blanket bog; hunting	KG
K.008	Vantage Point Survey; VP3	17/09/2024	11:41	Kestrel	1	bogs and conifer plantation; mobbing, harassing a buzzard. beyond viewshed	CM
K.009	Hen Harrier Roost Survey; HHVP1	10/10/2024	17:22	Kestrel	1	upland blanket bog; flying, perched	AOD
K.010	Vantage Point Survey; Carrownagilty	17/10/2024	16:10	Kestrel	1	wet grassland; foraging, male foraging	AOD
K.011	Hen Harrier Roost Survey; HHVP4a	22/10/2024	17:17	Kestrel	1	upland blanket bog; foraging	AOD

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
K.012	Vantage Point Survey; VP3 parking (PK)	18/05/2025	11:45	Kestrel	1	conifer plantation and cutover bog; flying & soaring high	JC
K.013	Vantage Point Survey; Croagh	09/07/2025	12:54	Kestrel	1	bogs; hunting	CM
K.014	Vantage Point Survey; vp3	20/08/2025	10:40	Kestrel	1	conifer plantation and bogs; hunting	NS

WOODCOCK

Table 1-28 Woodcock Vantage Point Observations

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
WK001	VP3	21/02/2024	18:33	Woodcock	1	5	5	0	0	0	conifer plantation; fly	AOD
WK002	VP3	27/11/2024	07:55	Woodcock	1	6	6	0	0	0	conifer plantation and upland blanket bog; flying	AOD

Table 1-29 Woodcock Breeding Survey Observations

Ref.	Transect	Date	Time	Species	Number	Habitat and activity	Surveyor
WK001	T1	12/06/2024	22:28	Woodcock	1	conifer plantation, displaying	KG
WK002	T2	16/06/2025	22:18	Woodcock	1	conifer plantation, roding, patrol flight, heard calling	CM
WK003	T2	16/06/2025	22:27	Woodcock	1	conifer plantation, roding, roding call heard but not observed	CM
WK004	T1	17/06/2025	21:59	Woodcock	1	conifer plantation, roding, roding woodcock in suitable breeding habitat.	CM
WK005	T1	17/06/2025	22:04	Woodcock	1	conifer plantation, roding, roding woodcock in suitable breeding habitat.	CM

Ref.	Transect	Date	Time	Species	Number	Habitat and activity	Surveyor
WK006	T2	25/06/2025	21:17	Woodcock	1	conifer plantation, roding, roding woodcock observed in suitable breeding habitat.	CM
WK007	T2	25/06/2025	21:28	Woodcock	1	conifer plantation, roding, roding woodcock observed in suitable breeding habitat.	CM
WK008	T2	25/06/2025	21:34	Woodcock	1	conifer plantation, roding, roding woodcock observed in suitable breeding habitat.	CM
WK009	T1	26/06/2025	21:49	Woodcock	1	conifer plantation, roding, roding woodcock in suitable breeding habitat.	CM

Table 1-30 Woodcock Winter Walkover Observations

Ref.	Date	Time	Transect	Species	Number	Habitat and activity	Surveyor
WK001	22/12/2023	10:55		Woodcock	1	#N/A	SC
WK002	22/12/2023	11:16		Woodcock	1	#N/A	SC
WK003	04/11/2024	13:31	T1	Woodcock	1	conifer plantation; flying, flushed (wintering)	AOD

Table 1-31 Woodcock Incidental Observations

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WK001	Hen Harrier Roost Survey; Bargola	20/12/2023	14:15	Woodcock	1	conifer plantation; flushed, ran away from vehicle driving to hhvp 3	CM

WK002	Hen Harrier Roost Survey; HHVP4	22/12/2023	16:57	Woodcock	1	scrub and wet grassland; flying, observed flying se to nw	SC
WK003	Hen Harrier Roost Survey; HHVP04	06/02/2024	17:10	Woodcock	1	conifer plantation; travelling, broke cover from young forestry.	CM
WK004	Hen Harrier Roost Survey; Beagh	06/02/2024	17:58	Woodcock	1	conifer plantation; travelling, took off from forestry border.	CM
WK005	Hen Harrier Roost Survey; hhvp4a	08/11/2024	17:05	Woodcock	1	upland blanket bog and conifer plantation; flying	AOD
WK006	Vantage Point Survey; vp3	13/12/2024	17:22	Woodcock	1	conifer plantation; flying	AOD
WK007	Vantage Point Survey; carrowmore	31/01/2025	07:31	Woodcock	2	conifer plantation; flushed	AOD
WK008	Breeding Raptor Survey; Boleymaguire wk1	21/04/2025	20:45	Woodcock	1	conifer plantation; f, flew down valley from mature wd4	JC

BUZZARD

Table 1-32 Buzzard Vantage Point Observations

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ001	VP1	30/11/2023	12:09	Buzzard	1	340	0	0	240	100	mixed conifer woodland and bogs; soaring	NM
BZ002	VP3	05/03/2024	14:18	Buzzard	1	73	0	0	73	0	conifer plantation and bogs; travelling, joined by another buzzard, separate flight line created.	CM
BZ003	VP3	05/03/2024	14:20	Buzzard	2	371	0	0	371	0	conifer plantation and bogs; displaying, circling, continuation of flight line for individual joined by another.	CM
BZ004	VP1	03/04/2024	15:59	Buzzard	1	1055	0	0	20	1035	conifer plantation and bogs; soaring, rose on thermal near turbines, soared at high altitude until visual was lost.	CM
BZ005	VP1	03/04/2024	17:02	Buzzard	1	135	0	0	135	0	bogs and conifer plantation; flying, mobbed, chased by ravens over forestry.	CM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ006	VP1	15/05/2024	09:00	Buzzard	1	-	-	-	-	-	bogs and conifer plantation; calling, heard, not seen.	CM
BZ007	VP1	17/06/2024	13:10	Buzzard	2	89	0	0	89	0	upland blanket bog and conifer plantation; circling	FLM
BZ008	VP4	26/06/2024	14:09	Buzzard	2	1000	0	0	700	300	conifer plantation and scrub/transitional woodland; soaring, circling, pair	NM
BZ009	VP1	17/07/2024	15:29	Buzzard	2	850	0	90	700	60	highly modified/non-native woodland and bogs; soaring, circling, calling, soaring high over south of site for a time, moving southeast and descending	NM
BZ010	VP1	17/07/2024	16:04	Buzzard	1	410	0	350	60	0	highly modified/non-native woodland and bogs; gliding, calling, carrownadargny area	NM
BZ011	VP1	17/07/2024	19:07	Buzzard	1	550	0	90	460	0	highly modified/non-native woodland, improved agricultural grassland and bogs; soaring, circling	NM
BZ012	VP4	26/08/2024	15:10	Buzzard	1	124	0	55	69	0	bogs and conifer plantation; travelling	CM
BZ013	VP4	26/08/2024	15:12	Buzzard	2	109	0	0	109	0	conifer plantation; circling	CM
BZ014	VP1	17/09/2024	07:23	Buzzard	1	-	-	-	-	-	bogs and conifer plantation; calling, heard not seen.	CM
BZ015	VP1	17/09/2024	11:51	Buzzard	1	324	0	0	200	124	conifer plantation and bogs; flying, soaring, flying over forestry then circled, rising high over bog	CM
BZ016	VP4	27/02/2025	13:38	Buzzard	2	408	0	0	127	281	conifer plantation and bogs; circling, soaring, pair of buzzard flying together. observed low near turbines then rising high over bogs and forestry.	CM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ017	VP4	27/02/2025	14:55	Buzzard	2	155	0	0	10	145	conifer plantation; circling, pair of buzzard, visual lost as they descended over site.	CM
BZ018	VP4	27/02/2025	15:05	Buzzard	1	27	0	0	27	0	conifer plantation; flying	CM
BZ019	VP3	19/03/2025	08:18	Buzzard	1	4	4	0	0	0	conifer plantation; flying	AOD
BZ020	VP1	03/04/2025	15:55	Buzzard	1	360	0	0	160	200	conifer plantation and bogs; soaring, circling	NM
BZ021	VP1	03/04/2025	18:22	Buzzard	3	400	0	40	120	340	conifer plantation, bogs and improved agricultural grassland; soaring, circling, courting	NM
BZ022	VP3	04/04/2025	15:43	Buzzard	1	340	0	30	240	70	conifer plantation and bogs; soaring, circling, dropping eventually	NM
BZ023	VP3	02/07/2025	16:23	Buzzard	1	183	0	183	0	0	conifer plantation and bogs; carrying prey, flying, heading towards forestry but not able to confirm if/where it landed with prey.	CM

Table 1-33 Buzzard Breeding Walkover Observations

Ref.	Date	Time	Transect	Species	Number	Habitat and activity	Surveyor
BZ001	10/04/2024	16:00	T1	Buzzard	1	conifer plantation; carrying prey, buzzard passed over forestry track carrying a frog. brief observation. (suitable nesting habitat; possible breeder)	CM
BZ002	18/04/2024	15:40	T1	Buzzard	1	bogs and conifer plantation; soaring (suitable nesting habitat; possible breeder)	CM

BZ003	18/04/2024	16:30	T1	Buzzard	1	conifer plantation and bogs; soaring, calling (suitable nesting habitat; possible breeder)	CM
BZ004	18/04/2024	16:45	T1	Buzzard	1	conifer plantation and bogs; hunting, soaring (suitable nesting habitat; possible breeder)	CM
BZ005	07/06/2024	13:04	T1	Buzzard	1	conifer plantation; carrying prey (suitable nesting habitat; possible breeder)	KG
BZ006	07/06/2024	15:44	T1	Buzzard	1	bogs and conifer plantation; hunting (flyover; non-breeding)	KG
BZ007	07/06/2024	16:34	T1	Buzzard	2	bogs and conifer plantation; sky dancing, hunting (courtship and display; probable breeding)	KG
BZ008	16/06/2025	18:05	T2	Buzzard	1	bogs; hunting (suitable nesting habitat; possible breeder)	CM
BZ009	17/06/2025	20:04	T2	Buzzard	1	conifer plantation and bogs; soaring, distant buzzard circling at height. (suitable nesting habitat; possible breeder)	CM
BZ010	24/07/2025	12:15	T1	Buzzard	2	semi-natural grassland; soaring (suitable nesting habitat; possible breeder)	NS

Table 1-34 Buzzard Breeding Raptor Observations

Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
BZ001	BR1	08/05/2024	11:38	Buzzard	1	highly modified/non-native woodland, semi-natural grassland and improved agricultural grassland, soaring, gliding on wind	suitable nesting habitat; possible breeder	NM
BZ002	BR1	08/05/2024	12:04	Buzzard	1	highly modified/non-native woodland, improved agricultural grassland and semi-natural grassland, soaring, gliding, calling	suitable nesting habitat; possible breeder	NM
BZ003	BR10	08/05/2024	15:47	Buzzard	1	semi-natural grassland, improved agricultural grassland and scrub, travelling low	suitable nesting habitat; possible breeder	NM
BZ004	BR10	08/05/2024	16:04	Buzzard	2	conifer plantation, bogs and improved agricultural grassland, soaring, calling, courting, soaring for a long period (~40 mins)	pair; probable breeding	NM
BZ005	BR10	08/05/2024	17:10	Buzzard	2	conifer plantation, semi-natural grassland and scrub/transitional woodland, soaring, calling, courting	courtship and display; probable breeding	NM
BZ006	BR10	08/05/2024	17:29	Buzzard	1	conifer plantation, improved agricultural grassland and bogs, soaring, travelling	suitable nesting habitat; possible breeder	NM

Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
BZ007	BR2	09/05/2024	12:16	Buzzard	2	conifer plantation, scrub/transitional woodland and bogs, soaring, calling, mobbed	pair; probable breeding	NM
BZ008	BR6	09/05/2024	15:57	Buzzard	2	mixed conifer woodland, semi-natural grassland and improved agricultural grassland, soaring, circling	pair; probable breeding	NM
BZ009	BR7	09/05/2024	16:26	Buzzard	1	highly modified/non-native woodland and bogs, soaring, mobbed	suitable nesting habitat; possible breeder	NM
BZ010	BR5	09/05/2024	16:40	Buzzard	3	conifer plantation and bogs, soaring, circling, courtship, carrownadargny	courtship and display; probable breeding	NM
BZ011	BR8	10/05/2024	14:24	Buzzard	1	highly modified/non-native woodland and improved agricultural grassland, soaring, travelling	suitable nesting habitat; possible breeder	NM
BZ012	BR8	10/05/2024	14:56	Buzzard	2	highly modified/non-native woodland, semi-natural grassland and improved agricultural grassland, soaring, circling	pair; probable breeding	NM
BZ013	BR8	10/05/2024	16:21	Buzzard	1	highly modified/non-native woodland and scrub/transitional woodland, soaring, circling	suitable nesting habitat; possible breeder	NM
BZ014	BR6	17/05/2024	15:45	Buzzard	2	conifer plantation, wet heath and wet grassland, soaring/hunting	flyover; non-breeding	KG
BZ015	BR6	17/05/2024	16:20	Buzzard	1	conifer plantation, hunting, mobbed by hooded crow	flyover; non-breeding	KG
BZ016	BR6	17/05/2024	17:36	Buzzard	1	conifer plantation and bogs, hunting	flyover; non-breeding	KG
BZ017	BR6	17/05/2024	18:00	Buzzard	1	conifer plantation, circling, individual seen circling over conifers multiple times	flyover; non-breeding	KG
BZ018	BR1	27/05/2024	19:41	Buzzard	1	conifer plantation, hunting	flyover; non-breeding	KG
BZ019	BR1	10/06/2024	19:04	Buzzard	1	bogs, hunting	suitable nesting habitat; possible breeder	CM
BZ020	BR1	10/06/2024	19:57	Buzzard	2	bogs and conifer plantation, soaring	suitable nesting habitat; possible breeder	CM
BZ021	BR11	24/04/2025	19:58	Buzzard	1	conifer plantation, soaring	suitable nesting habitat; possible breeder	AOD
BZ022	BR3	03/06/2025	15:43	Buzzard	1	conifer plantation, flying	suitable nesting habitat; possible breeder	AOD
BZ023	BR1	12/06/2025	16:55	Buzzard	1	conifer plantation, soaring	suitable nesting habitat; possible breeder	AOD

Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
BZ024	BR11	08/07/2025	16:09	Buzzard	1	conifer plantation, flying	suitable nesting habitat; possible breeder	AOD
BZ025	BR10	16/07/2025	09:27	Buzzard	1	scrub/transitional woodland and conifer plantation, soaring	suitable nesting habitat; possible breeder	NS

Table 1-35 Buzzard Winter Walkover Observations

Ref.		Date	Time	Transect	Species	Number	Habitat and activity	Surveyor
BZ001		27/11/2024	12:03	T1	Buzzard	1	conifer plantation; flying perched (wintering)	AOD
BZ002		14/01/2025	14:52	T1	Buzzard	1	conifer plantation and upland blanket bog; flying (wintering)	AOD

Table 7-36 Buzzard Incidental Observations

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ001	Vantage Point Survey;	30/11/2023	10:47	Buzzard	1	improved agricultural grassland and mixed conifer woodland; flying	NM
BZ002	Hen Harrier Roost Survey; HHVP4	08/01/2024	16:10	Buzzard	1	conifer plantation and bogs; travelling, dropped into conifer plantation, likely to roost.	CM
BZ003	Breeding Raptor Survey; BR6	08/05/2024	10:00	Buzzard	2	mixed conifer woodland, semi-natural grassland and improved agricultural grassland; soaring, circling	NM
BZ004	Breeding Raptor Survey; BR3 area	09/05/2024	14:30	Buzzard	1	bogs and conifer plantation; soaring, foraging	NM
BZ005	Vantage Point Survey; Knockacoska	14/05/2024	11:34	Buzzard	3	conifer plantation; displaying, soaring, calling	CM
BZ006	Vantage Point Survey; HHVP01	16/05/2024	11:32	Buzzard	2	bogs; displaying, soaring, observation made after vp	CM
BZ007	Breeding Woodcock Survey; beside t2 over conifer plantations	27/05/2024	20:58	Buzzard	1	conifer plantation; hunting	KG
BZ008	Breeding Raptor Survey; on bog near br4, seen after survey	07/06/2024	11:59	Buzzard	1	bogs; hunting, mobbed by hooded crow	KG

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ009	Vantage Point Survey; VP3	17/09/2024	11:41	Buzzard	1	bogs and conifer plantation; mobbed, harassed while soaring by a kestrel outside of viewshed	CM
BZ010	Hen Harrier Roost Survey; hhvp4a	23/01/2025	15:11	Buzzard	1	conifer plantation; soaring	AOD
BZ011	Hen Harrier Roost Survey; hhvp3a	14/02/2025	17:18	Buzzard	2	conifer plantation; flying perched calling	AOD
BZ012	Breeding Red Grouse Survey; Croagh	13/03/2025	14:00	Buzzard	4	conifer plantation and bogs; displaying, circling	CM
BZ013	Breeding Raptor Survey; carrane hill	03/06/2025	17:34	Buzzard	1	upland blanket bog; flying	AOD
BZ014	Breeding Woodcock Survey; Garvagh	16/06/2025	21:14	Buzzard	1	conifer plantation; flying	CM
BZ015	Vantage Point Survey; Garvagh	02/07/2025	13:00	Buzzard	1	conifer plantation; circling, observed during survey break.	CM

SPARROWHAWK

Table 1-37 Sparrowhawk Vantage Point Observations

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
SH001	VP4	12/09/2024	08:00	Sparrowhawk	1	-	-	-	-	-	conifer plantation and bogs; perching, preening, perched in a conifer tree after dawn, potentially roosted there. preening.	CM

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
SH002	VP4	12/09/2024	08:17	Sparrowhawk	1	8	8	0	0	0	conifer plantation and bogs; taking off, flying, left its perch after preening in a conifer and entered the forestry.	CM
SH003	VP1	17/09/2024	10:34	Sparrowhawk	1	15	15	0	0	0	conifer plantation; hunting	CM
SH004	VP3	11/10/2024	18:46	Sparrowhawk	1	8	8	0	0	0	upland blanket bog; flying	AOD
SH005	VP1	31/01/2025	15:56	Sparrowhawk	1	33	33	0	0	0	upland blanket bog; flying perched, male	AOD
SH006	VP1	31/03/2025	09:06	Sparrowhawk	1	18	18	0	0	0	upland blanket bog; flying, female	AOD
SH007	VP3	02/07/2025	11:31	Sparrowhawk	1	575	0	40	317	218	conifer plantation; soaring, circling, hunting, circling high then sudden stoop to forestry	CM
SH008	VP3	02/07/2025	14:43	Sparrowhawk	1	8	0	8	0	0	conifer plantation; flying	CM
SH009	VP3	02/07/2025	15:26	Sparrowhawk	1	552	0	0	217	335	conifer plantation and bogs; soaring, circling, observation lost high and distant. similar behaviour to earlier observation.	CM
SH010	VP1	09/07/2025	14:24	Sparrowhawk	1	6	6	0	0	0	conifer plantation and bogs; mobbed, chased by hooded crows at forestry border.	CM
SH011	VP1	09/07/2025	17:49	Sparrowhawk	1	177	0	35	142	0	conifer plantation and bogs; circling, sparrowhawk also observed circling here in previous week.	CM
SH012	VP4	21/08/2025	13:10	Sparrowhawk	1	15	15	0	0	0	scrub and bogs; hunting	NS

Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
SH013	VP4	21/08/2025	15:09	Sparrowhawk	1	19	19	0	0	0	scrub and bogs; hunting	NS

Table 1-38 Sparrowhawk Breeding Walkover Observations

Ref.	Date	Time	Transect	Species	Number	Habitat and activity	Surveyor
SH001	11/04/2024	16:44	T2	Sparrowhawk	1	conifer plantation; hunting (suitable nesting habitat; possible breeder)	CM
SH002	16/07/2024	11:48	T1	Sparrowhawk	1	conifer plantation; calling, heard not seen- juveniles calling (nest with young; confirmed breeding)	KG
SH003	16/07/2024	11:51	T1	Sparrowhawk	1	conifer plantation; carrying prey, brief observation- flew across track toward same forestry where young could be heard (adult carrying food/faecal sac; confirmed breeding)	KG
SH004	16/06/2025	20:07	T2	Sparrowhawk	1	conifer plantation and bogs; flying (suitable nesting habitat; possible breeder)	CM
SH005	18/07/2025	11:40	T2	Sparrowhawk	1	conifer plantation; hunting (suitable nesting habitat; possible breeder)	NS
SH006	24/07/2025	11:40	T1	Sparrowhawk	1	conifer plantation; hunting (suitable nesting habitat; possible breeder)	NS

Table 1-39 Sparrowhawk Breeding Raptor Observations

Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
SH001	BR3	18/06/2024	08:20	Sparrowhawk	1	conifer plantation, flying, brief visual above treetops.	suitable nesting habitat; possible breeder	CM
SH002	BR6	18/07/2024	12:30	Sparrowhawk	3	conifer plantation, begging calls, chicks calling from forestry	fledged young; confirmed breeding	AOD
SH003	BR3	26/06/2025	12:48	Sparrowhawk	1	conifer plantation, carrying prey, heading in direction of 2024 nest	adult carrying food/faecal sac; confirmed breeding	AOD

Table 1-40 Sparrowhawk Winter Walkover Observations

Ref.	Date	Time	Transect	Species	Number	Habitat and activity	Surveyor
SH001	07/03/2024	15:45	T2	Sparrowhawk	1	bogs and conifer plantation; hunting (wintering)	CM
SH002	26/03/2025	17:03	T2	Sparrowhawk	1	conifer plantation; flying (wintering)	AOD

Table 1-41 Sparrowhawk Incidental Observations

Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SH001	Vantage Point Survey; Croagh	29/08/2024	08:30	Sparrowhawk	1	bogs; flushed, flew from track on the way to vp survey.	CM
SH002	Hen Harrier Roost Survey; HHVP1	10/10/2024	17:44	Sparrowhawk	1	conifer plantation; flying	AOD
SH003	Hen Harrier Roost Survey; HHVP3a	07/02/2025	17:17	Sparrowhawk	1	conifer plantation; flying	CM
SH004	Hen Harrier Roost Survey; hhvp3a	10/03/2025	17:17	Sparrowhawk	1	conifer plantation; flying, mobbed by passerines	AOD
SH005	Vantage Point Survey; Croagh vp4	25/04/2025	19:04	Sparrowhawk	1	bogs and conifer plantation; flying, observed after survey flying low into forestry.	CM
SH006	Breeding Woodcock Survey; Carrowcashel	25/06/2025	21:30	Sparrowhawk	1	conifer plantation; flushed, flew from fencepost towards arigna river.	CM