

Appendix 7-4

Winter Roost Survey

Hen Harrier Winter Usage and Roost Site Watch

Winter 2019-2020, Carrownagowan Wind Farm



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1 INTRODUCTION

1.1 PROJECT BACKGROUND

Cuideachta Ghníomhaíochta Ainmnithe (Coillte) proposes to develop a wind farm project at Carrownagowan, Slieve Bernagh in east Co. Clare. To investigate the use of the proposed site by avian species, Coillte commissioned ornithological surveys to form part of the baseline environmental studies at the site. Two consecutive years of comprehensive ornithological survey work were completed by McCarthy Keville O’Sullivan (MKO) during the winter seasons of 2016/2017 and 2017/2018, and the breeding seasons of 2017 and 2018. Included in the surveys were hen harrier winter roost watches. Roost watches were also undertaken by Malachy Walsh & Partners (MWP) during the winter season of 2018/19. MWP was commissioned to carry out a hen harrier winter roost and usage survey for the 2019/20 period with the current report presenting the findings of this survey.

1.2 STATEMENT OF AUTHORITY

Monica Kane (MSc. BSc.) senior ecologist with MWP is the Project Manager. Surveys were supervised by John N. Murphy, who is the Project Ornithologist. The winter roost surveyors were John N. Murphy and Austin Cooney. This report has been prepared by Fiona McKenna (BSc.) an ecologist with MWP and has been reviewed by the Project Ornithologist, John N. Murphy.

1.3 SITE LOCATION

Coillte propose to develop a 19 turbine wind farm in an upland area known as Carrownagowan on the northern side of Slieve Bernagh in East Co. Clare. It is situated approximately 4 kilometres northeast of Broadford, 7km north-west of Killaloe and 2.5 km south of the village of Bodyke, at its closest point. Lough Derg lies approximately 4km to the east of the proposed development area. The site mainly comprises Coillte forestry (see **Figure 1** below).

2 METHODOLOGY

2.1 DESKTOP STUDY

2.1.1 General hen harrier activity at the site

The hen harrier is listed as an Annex I species under the Birds Directive and is classified as an 'Amber Listed' species of medium conservation concern (Colhoun and Cummins, 2013). Hen harriers are ground nesting birds that breed in moorland, young conifer plantations and other upland habitats (Wilson et al., 2009, Wilson et al., 2010). In summer, breeding birds are confined to upland moorland and young forestry plantations, where they nest on the ground. Hen harriers are found mainly in Counties Laois, Tipperary, Cork, Clare, Limerick and Kerry. In winter, birds can roost communally and are found in most parts of Ireland including coastal areas.

Slieve Bernagh is a known hen harrier breeding area. In 2017, four breeding territories were recorded within the study area of which there were two failed nest attempts. One of these four territories, one was at a remove of 2-5km from the study area. In 2018, two breeding territories were recorded within the study area of which one was successful with four chicks fledged. In 2019, two breeding territories were recorded within the study area and though no nest site was identified, one incidental record of a juvenile bird indicates possible local breeding. In 2020, three breeding territories were recorded within the study area of which all failed.

2.1.2 Previous Hen Harrier Roost watch

Hen harrier was observed on five occasions during hen harrier roost surveys carried out by MKO over the winter periods of 2016/17, and 2017/18. Two of these observations were made during the same survey on the 23rd March 2017. One was of a male travelling over an area of forestry, while the other observation was of a female, recorded as likely going into roost in an area of heather to the west of the site boundary. The remaining three observations were confined to February and March 2018.

There was no evidence of roosting hen harrier between October 2018 and March 2019. Similar to the previous winter surveys, there was no hen harrier activity recorded between October and January. On February 28th, a male was seen hunting in the west of the site. On March 24th there were two observations of male hen harrier again in the west of the site.

The results outlined above would indicate that the study area was not used by hen harrier in significant numbers during the winter survey periods and usage was mainly confined to the late winter and early spring months. The timing of the observations suggest the observations were of breeding birds returning to the study area.

2.2 SURVEY METHODOLOGY

2.2.1 Hen Harrier Roost Watches

Winter roost surveys were carried out during non-breeding seasons November 2019 to March 2020. Survey work was undertaken with regard to methods described by Hardey et al. (2013). Roost watches were undertaken from suitable vantage points overlooking potentially suitable roosting habitat within the study area from late afternoon until dusk. They were carried out at the more suitable hen harrier roost watch locations, namely HH1, HH2 and HH3, where previous hen harrier survey roost work in

winter 2016/17 and 2017/18 indicated hen harrier activity over the late winter and early spring months of late February and March. These vantage points are illustrated in **Figure 1**, below.

2.2.2 Road Surveys and Vantage Point Watches

Road surveys were undertaken to determine the presence and abundance of hen harrier and provide information on habitat use in winter. The surveyors drove along two routes, A and B (See **Appendix A**) within the study area and stopping to survey from suitable vantage points to observe any hen harrier activity. The vantage points selected for survey included VP2, VP3, Vp5, VP7 and VP8 illustrated in **Figure 2** below. One route was taken each day in the months of November, December, January and February. For the month of March Route A was the only route surveyed due to the lockdown restrictions as a result of the Covid-19 pandemic. Survey times and weather details can be found in **Appendix B**.

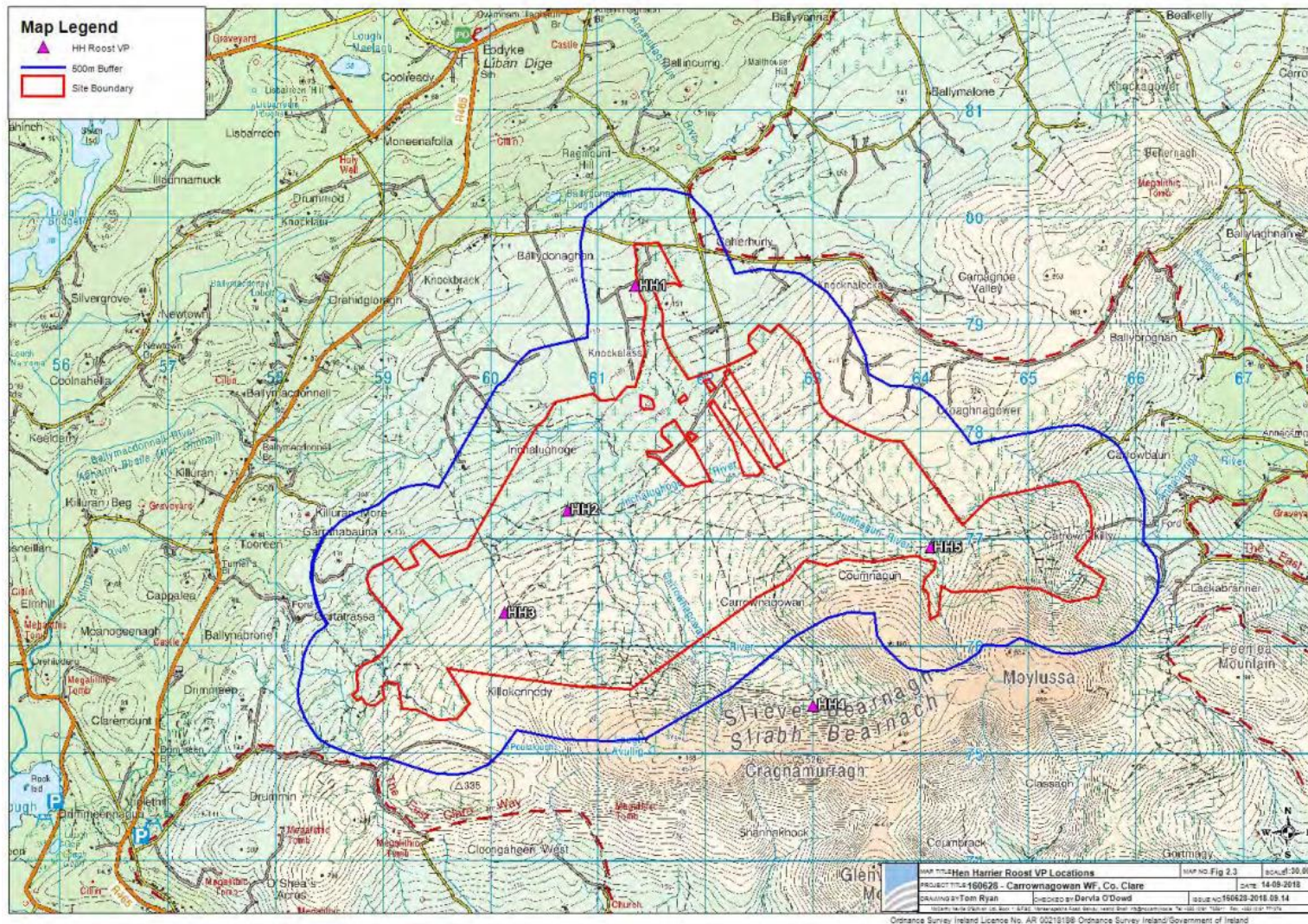


Figure 1. View of hen harrier roost watch locations where focus was on HH1, HH2 and HH3

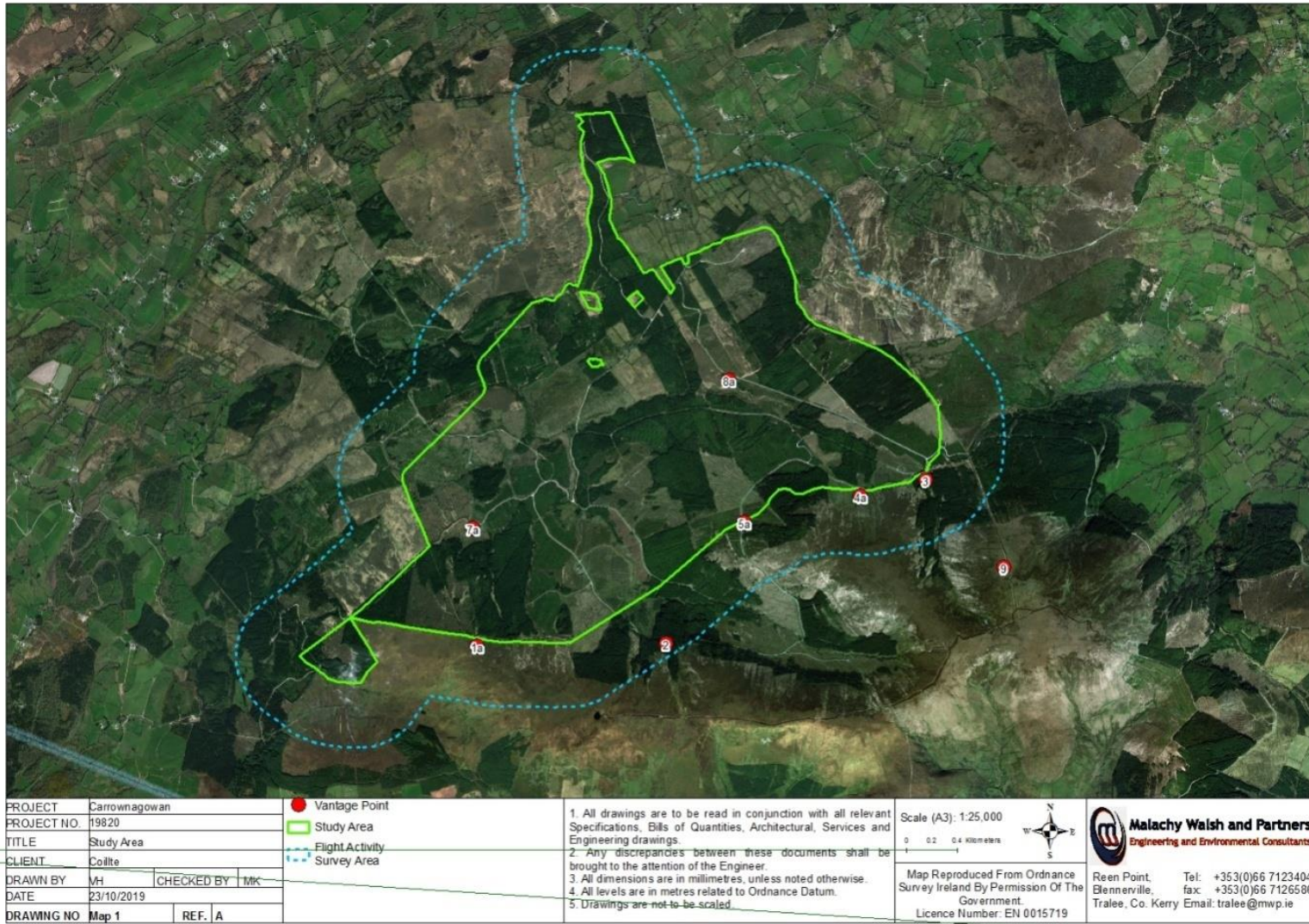


Figure 2. Development site boundary and vantage points, of which a selection were used during the road surveys

3 SURVEY RESULTS

3.1 INTRODUCTION

The following species were encountered during the winter 2019/20 hen harrier roost surveys, (Annex I species are highlighted in bold):

- **Hen harrier**
- Buzzard
- Crossbill
- Kestrel
- Red grouse
- Sparrowhawk
- Snow bunting
- Woodcock

3.2 ROOST WATCH SURVEY RESULTS

There was no hen harrier activity observed in the months of November, December and January. Hen harrier activity was observed in late February and March and is summarised here.

February 28th

The first time hen harrier activity occurred throughout the roost survey period was on this date. A 3rd year calendar male was seen hunting north and west of VP7 for 5 minutes over a wide area and flushed two red grouse. Flight heights ranged between 2-10m.

March 24th

Two observations of hen harrier occurred on this date. The first sighting was a 3rd year calendar male (possibly the same bird recorded on February 28th) hunting west of VP7 flying east along a forest treeline for four minutes at heights between 60-10m.

The second observation was of a different male, a mature clean adult. He was briefly seen for 30 seconds northeast of VP7 flying in a southerly direction over spruce trees at a height of 15m.

3.3 CONCLUSION

Previous hen harrier roost surveys conducted in winter 2016/17, 2017/18 and 2019/20 indicated hen harrier activity over the late winter and early spring months of late February and March. Activity associated with these months was recorded in the north and west of the study site. The timings of these observations would indicate that the hen harriers observed were not related to winter roosts within the study area but were in fact birds arriving back to the area from wintering grounds elsewhere in order to set up breeding territory.

The results of the current hen harrier roost survey are comparative with the findings of these previous surveys. The absence of activity recorded during the current winter 2019/20 survey months of November, December and January would indicate that hen harrier do not use the study area as a winter roost. The three observations mentioned above occurred towards the end of the winter period,

late February and March, which are likely to be males arriving or returning from wintering grounds elsewhere to set up breeding territory.

Survey details are presented in **Appendix C**, and hen harrier observations and flight maps are presented in **Appendix D** and **E**, respectively.

4 REFERENCES

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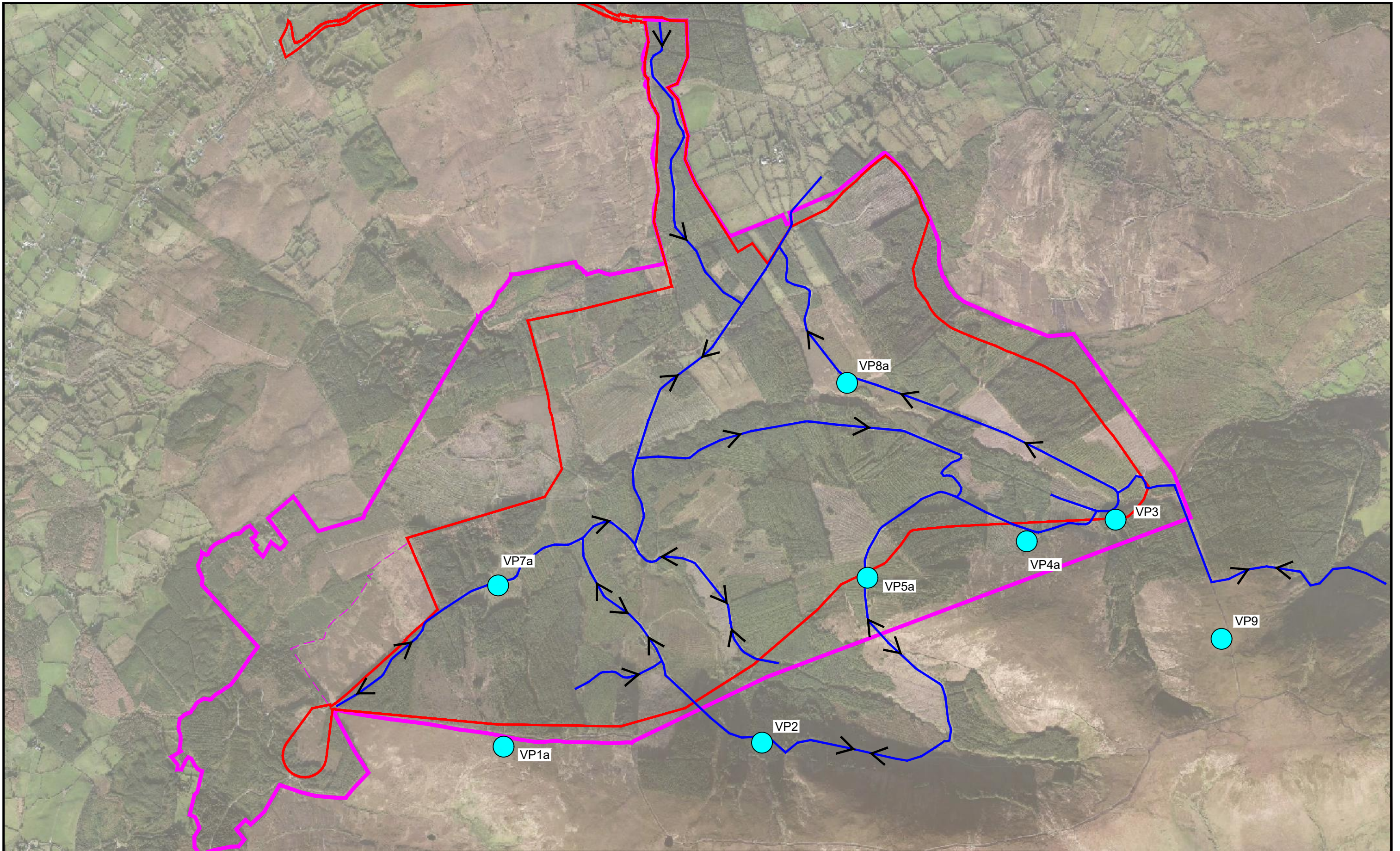
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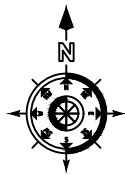
Appendix A

Surveyor Location Maps



Legend

- VP1a Vantage Point
- Study Area
- Lands Not Involved in Study Area
- Site Boundary



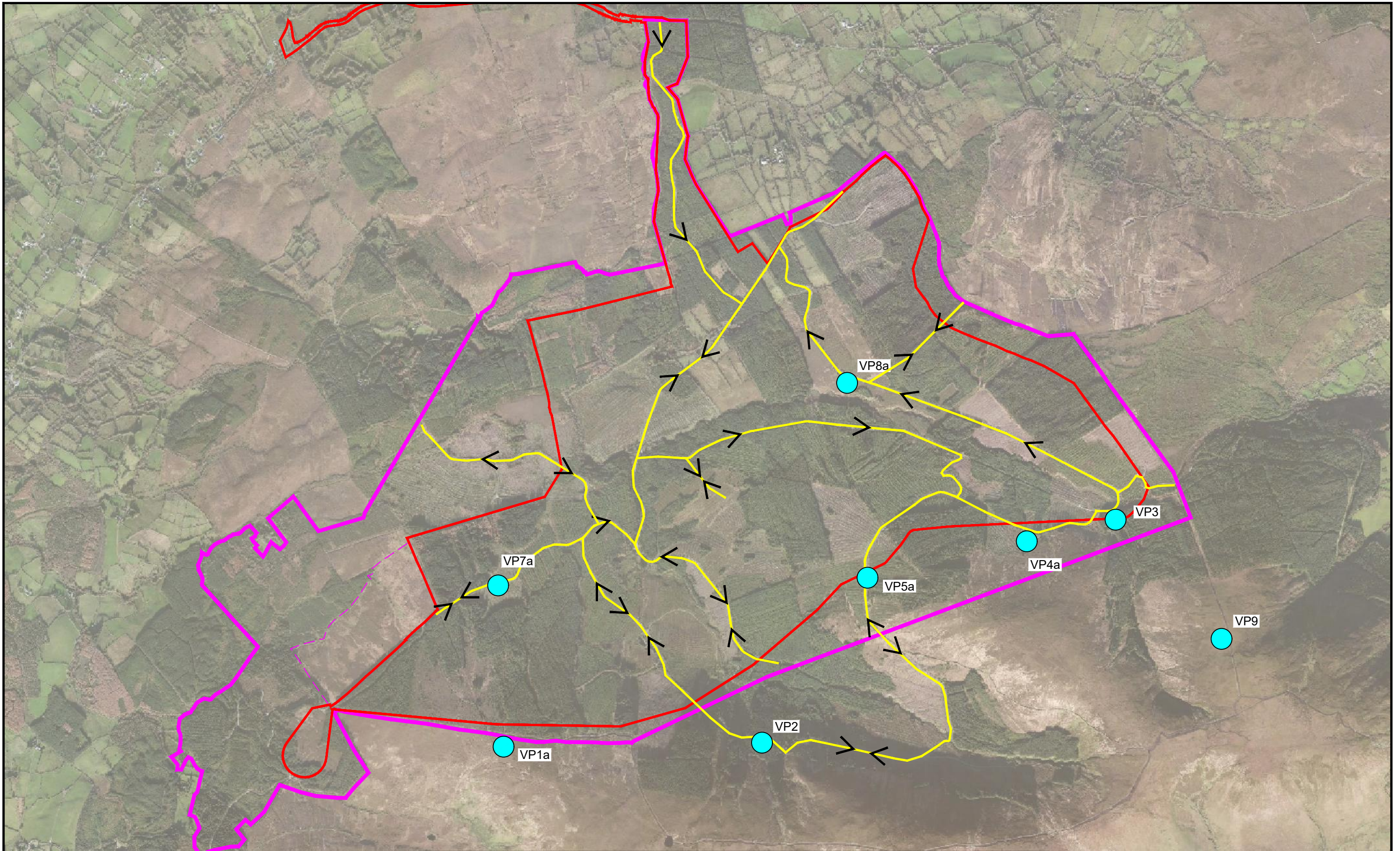
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Client			Coillte		

Project	Carrownagowan Wind Farm
Title	Hen Harrier Survey Map Route A

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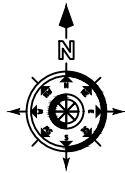
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Drawn	JK	02.06.2020	Rev. A
Checked	FMcK	02.06.2020	



Legend

- VP1a Vantage Point
- Study Area
- Lands Not Involved in Study Area
- Site Boundary



Rev.	Date	Description	by	ch'd	app
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Client			Coillte		

Project	Carrownagowan Wind Farm
Title	Hen Harrier Survey Map Route B

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Checked	FMcK	02.06.2020			

Appendix B

Survey Summary

Survey Summary

Route	Date	Observer	Start Time	Finish Time	Weather
A	25/11/2019	AC	10.25	17.00	Cloud cover 8/8 with continuous mist and rain. Wind S F1-2, temp 10-11oC, visibility poor, <100m at times.
B	26/11/2019	AC	08.05	15.20	Cloud cover 8/8 with continuous rain. Wind SE F4-5 and F5-6 after 12. Temp 7-8oC, visibility moderate to poor.
A	16/12/2019	JNM	09.00	18.00	Bright, cold and sunny day with slack winds. Temp -2-+4oC, visibility good.
B	17/12/2019	JNM	09.00	18.30	Foggy morning turning bright and dry, wind calm, temp 0-3oC, visibility moderate to good.
A	20/01/2020	AC	11.10	16.45	Cloud cover 2/8, sunshine. Wind S F3-4, temp 4-6oC, visibility good.
B	21/01/2020	AC	10.00	16.35	Cloud cover 8/8 with heavy mist/rain from 13.00. Wind SW F2-3, temp 7oC, visibility moderate to poor.
A	26/02/2020	JNM	11.00	18.30	Cold with snow, sleet and sunny spells. Wind W/SW calm and slack. Temp 4-5oC, visibility moderate at times during showers but otherwise good.
B	28/02/2020	JNM	11.00	18.30	Calm, dry day with some sunny spells. Wind W F4-5 and stormy. Temp 10-12oC, visibility good.
A	24/03/2020	JNM	14.00	21.00	Dry day with slack W/SW winds. Temp 5-7oC, visibility good.

Appendix C

Survey Details

Survey Details

Route	Date	Observer	Start Time	Finish Time	Notes
A	25/11/2019	AC	10.25	17.00	Visibility was less than 100m at times due to the continuous mist and rain. Surveyor drove around the site and spent time at VP2, 3, 5, 7 and 8 where previous sightings of harriers had occurred. No hen harrier activity recorded.
B	26/11/2019	AC	08.05	15.20	Continuous rain and wind throughout survey and visibility was moderate to poor at times. Surveyor drove around the site and spent time at VP2, 3, 5, 7 and 8. No Hen harrier activity recorded. Other species; snow bunting was seen on the track to the north of VP3.
A	16/12/2019	JNM	09.00	18.00	Bright day with good visibility, no hen harrier activity recorded. Other species: five buzzards were seen but were all outside the site.
B	17/12/2019	JNM	09.00	18.30	The day began foggy with moderate visibility brightening up later. No hen harrier activity recorded. Other species; crossbill and woodcock.
A	20/01/2020	AC	11.10	16.45	Weather conditions were good. Surveyor drove around the site along route A stopping at various points and at VP2, 4 and 7 in particular as there had been hen harrier activity at these VP's previously. No hen harrier activity recorded.
B	21/01/2020	AC	10.00	16.35	Visibility poor at times, improved to moderate at 13.00. Surveyor drove around the route stopping at various points including VP2, 5 and 7. Poor visibility from VP2 and 5, visibility moderate from VP7. No hen harrier activity recorded. Other species: the surveyor flushed a sparrowhawk whilst driving along the track.
A	26/02/2020	JNM	11.00	18.30	Cold with snow, sleet and sunny spells, visibility moderate at times during showers but otherwise good. No hen harrier activity recorded. Other species; kestrel.
B	28/02/2020	JNM	11.00	18.30	Dry day with some sunny spells with stormy W winds F4-5 and, visibility good. First time hen harrier activity was recorded, a 3 rd year calendar male was seen hunting north and west of VP7 for 5 minutes over a wide area at heights between 2-10m. During flight the hen harrier flushed 2 red grouse. Other species; two buzzards were observed north of VP7 outside the site.
A	24/03/2020	JNM	14.00	21.00	Dry day with slack W/SW winds and good visibility. Two observations of hen harrier occurred. The first sighting was a 3 rd year calendar male hunting west of VP7 flying east along a forest treeline for four minutes at heights between 60-10m. The second observation was of a different male, a mature clean adult. He was seen for 30 seconds northeast of VP7 flying in a southerly direction over spruce trees at a height of 15m.

Appendix D

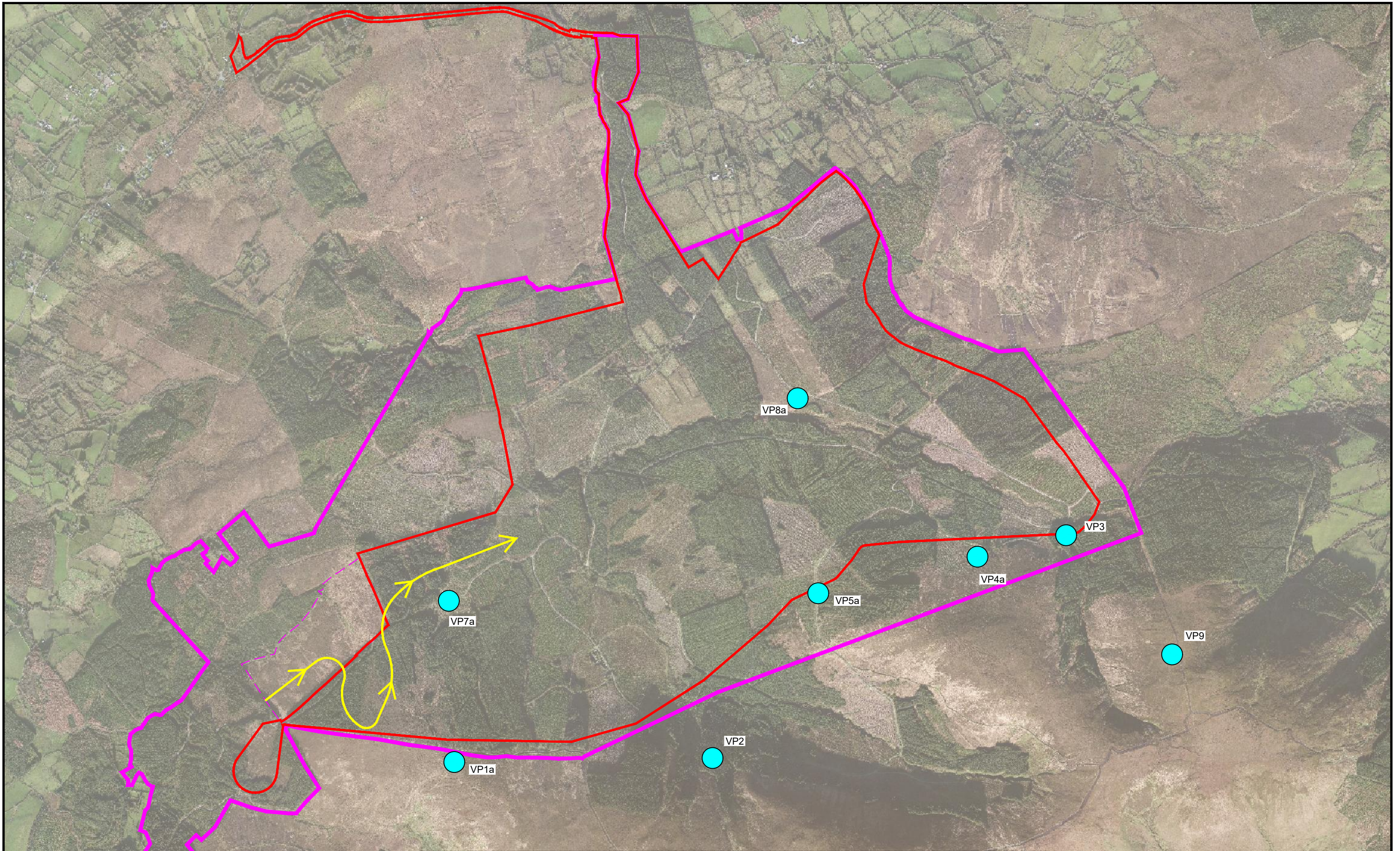
Hen harrier Observations

Hen harrier Observations

Hen harrier													
Date	Sex	Age	Map Ref	Habitat	No. Of Birds	Time of Flight/ Obs.	Activity	Flight Height (m)	Time (sec) in Height Category				
									Non-flight	0-50m	50 – 100m	>100m	>200m
28/02/2019	Male	Juvenile (3 rd calendar year)	1	Forestry, bog	1	15.00	Hunting	2-10	-	300	-	-	-
24/03/2020	Male	Juvenile (3 rd calendar year)	2	Forestry	1	16.24	Hunting	6-10	-	120	120	-	-
24/03/2020	Male	Adult	3	Forestry	1	18.06	Flying	15	-	30	-	-	-

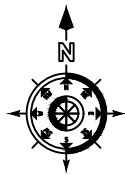
Appendix E

Flight Paths



Legend

- VP1a Vantage Point
- Study Area Boundary
- - - Lands Not Involved in Study Area
- ← Flightpath



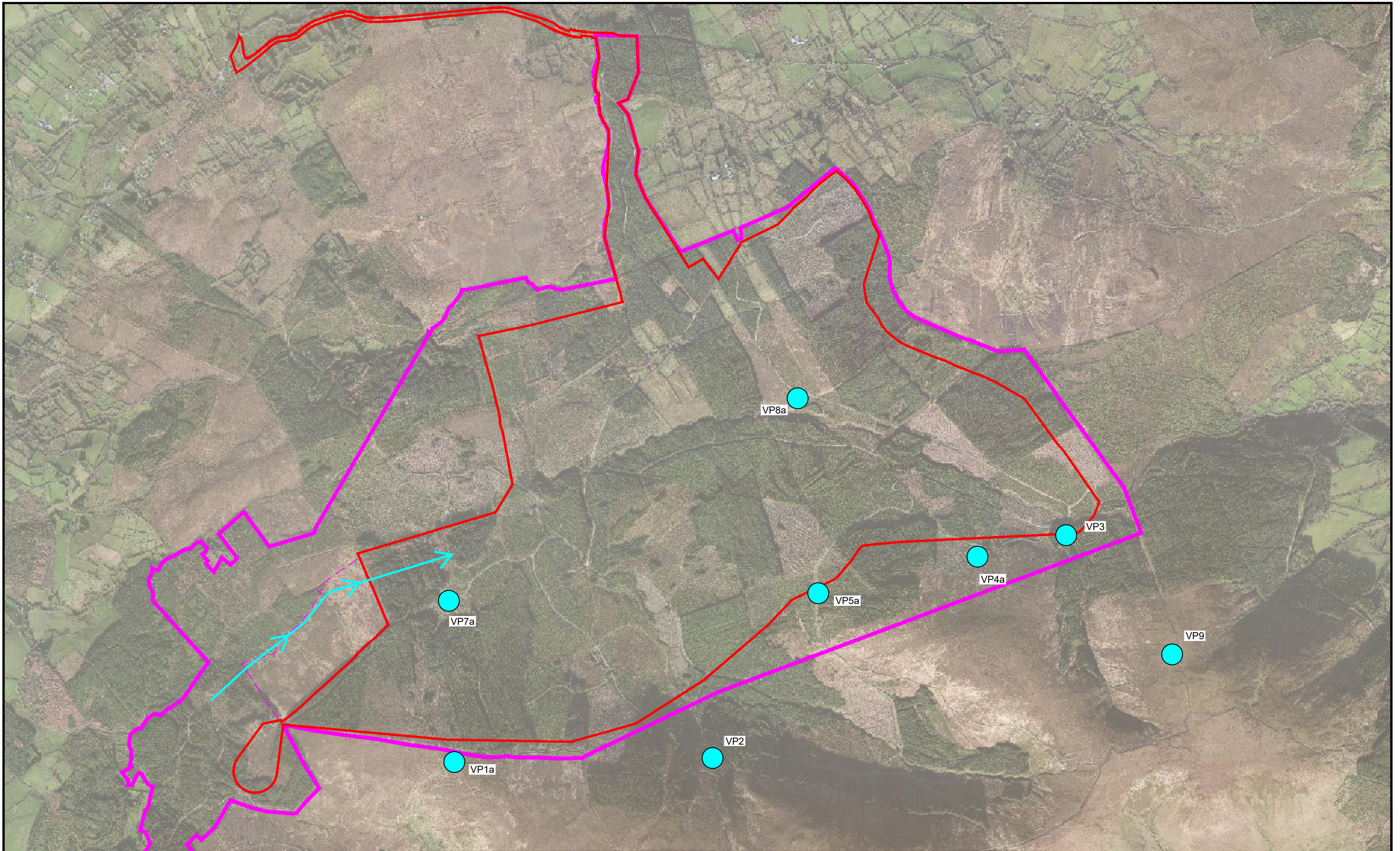
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Client					

Project	Carrownagowan Wind Farm
Title	Hen Harrier Flightpath February 28th 2020



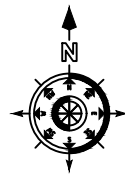
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Legend

- VP1a Vantage Point
- Study Area Boundary
- - - Lands Not Involved in Study Area
- ← Flightpath



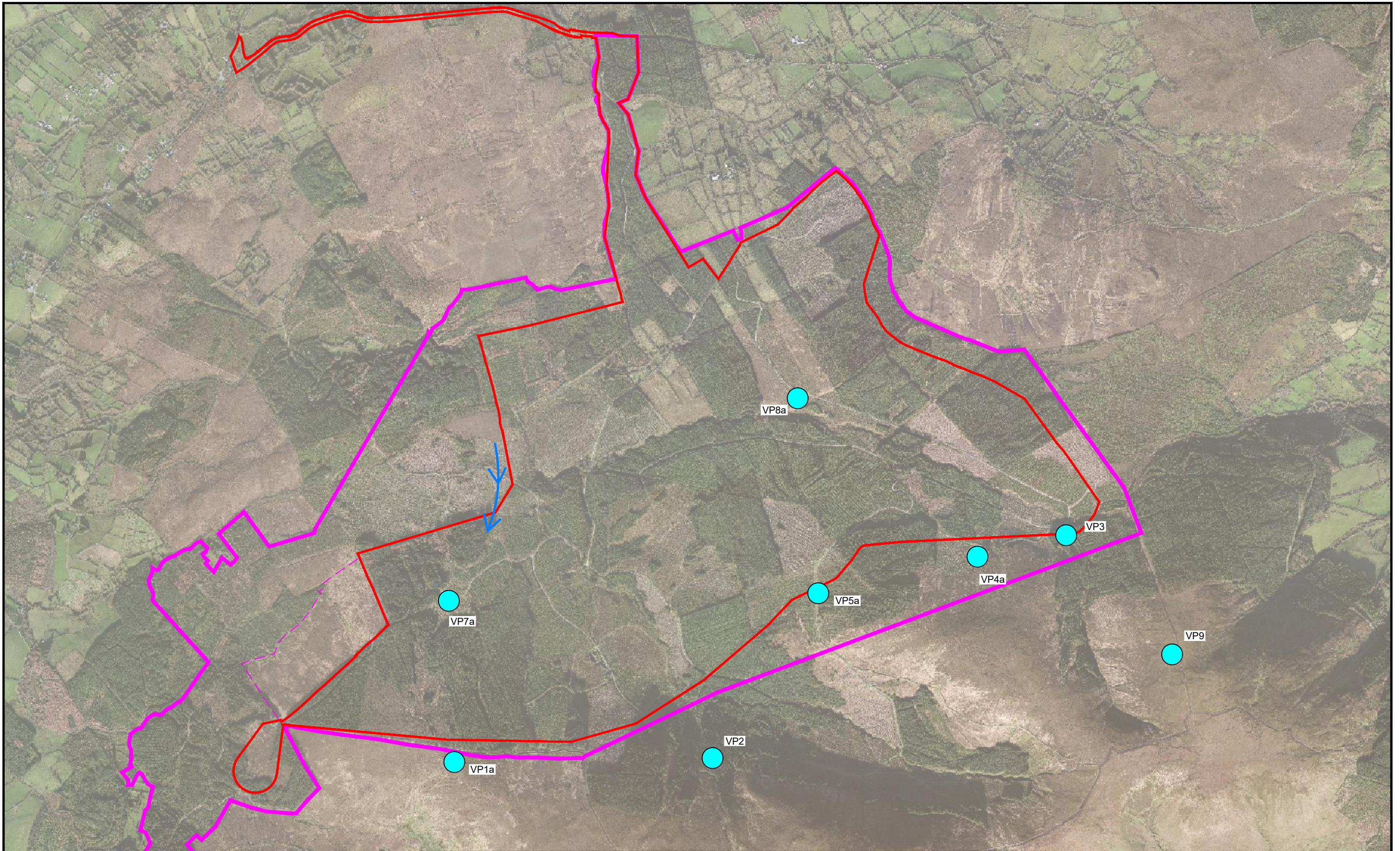
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Project	Carrownagowan Wind Farm
Title	Hen Harrier Flightpath March 24th 2020 - Flightpath 1

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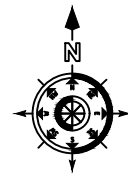
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Legend

- VP1a Vantage Point
- Study Area Boundary
- - - Lands Not Involved in Study Area
- ← Flightpath



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Client					

Project	Carrownagowan Wind Farm
Title	Hen Harrier Flightpath March 24th 2020 - Flightpath 2

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