

Appendix 7-4 and 7-5 combined



FuturEnergy Ireland

Scart Mountain 2023-2024 Ornithology Surveys: Baseline Report

COMMERCIAL IN CONFIDENCE



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1. Executive Summary

APEM Ltd (APEM) was commissioned by FuturEnergy Ireland to undertake bird surveys between March 2023 and March 2024 for the proposed Scart Mountain Wind Farm “the Wind Farm Site”. APEM was requested to carry out an additional year of surveys to update the baseline data for the Wind Farm Site and inform a future impact assessment. The Wind Farm Site is located approximately 17 km north - west of Dungarvan in Co. Waterford.

Ornithology surveys were undertaken to determine the ornithological baseline and to inform an assessment of potential effects arising from the proposed development. The main potential risks to birds arising from wind farms are direct habitat loss, disturbance and displacement, collision risk, and barrier effects. The survey scope was determined with reference to current NatureScot guidance, and the ‘target species’ included those which are Annex 1 listed and are of conservation concern, or those that are more likely to be impacted by the proposed development.

The survey scope included Flight Activity Surveys from eight Vantage Points, Breeding Distribution Surveys (BDS) and Breeding Raptor Surveys. Flight activity was moderate during Flight Activity Surveys (FAS), while a total of 368 flights were recorded, the majority of records were of kestrel, with a total of 231 flights. The only other species with more than 20 recorded flights were hen harrier, peregrine, and golden plover, with a total of 63, 23, and 23 flights recorded respectively.

There were very few target species recorded breeding during the BDS, with a single red grouse territory and two snipe territories. A single woodcock territory was also identified during FAS.

Three probable kestrel territories were present within the Raptor Survey Area, with one inside the Wind Farm Site. In addition, three long-eared owl territories were recorded during surveys, all of which were more than 1 km from the Wind Farm Site. Territories for buzzard, sparrowhawk and raven (all secondary species) were also identified.

2. Introduction

2.1 Background

APEM Ltd (APEM) was commissioned by FuturEnergy Ireland to undertake bird surveys between March 2023 and March 2024 for the proposed Scart Mountain Wind Farm, hereafter referred to as 'the Wind Farm Site'.

The Wind Farm Site (**Figure 1**) is located approximately 17km north-west of Dungarvan, Co. Waterford, with a central grid reference of S 13219 05471. Habitats within the Wind Farm Site include commercial conifer plantation, with moorland in the upland portions. The centre of the Wind Farm Site also consists of pastoral farmland. The wider area surrounding the Wind Farm Site is comprised of coniferous plantations, farmland and open moorland. The Glenshelane River flows between the two areas of the Wind Farm Site and the Glenafallia River flows to the west of the Wind Farm Site.

2.2 Purpose of the Report

This report outlines the survey methods and results of all ornithology surveys undertaken. Ornithology surveys were undertaken to update the ornithological baseline and to inform an assessment of potential effects arising from the proposed development.

3. Methods

The key guidance used to inform the scope of surveys and reporting was published by NatureScot (2017) and is considered best practice for wind farm developments in Ireland. NatureScot guidance recommends that surveys should focus on a suite of ‘target species’ which are of higher importance (due to legislative protection or conservation status) and are more susceptible to potential impacts from wind farms. Target species for the project were determined with reference to guidance (NatureScot, 2016) and Irish legislation and conservation status. The target species selected for surveys are outlined in **Section 3**.

Species names used in this report follow the Irish List (IRBC, 2019), which is maintained by the Irish Rare Birds Committee (IRBC). A list of scientific names, as well as details of relevant legislation and conservation status of all bird species mentioned in this report is provided in Appendix 1. This report is supported by a separate Confidential Annex.

3.1 Desk Study Methods

A request for ornithological data was made to both the National Parks and Wildlife Service (NPWS) and the Irish Raptor Study Group (IRSG) in September 2023. Details were requested from NPWS of any protected or rare avian species within the two 10 km grid squares which include the Wind Farm Site, while records of any breeding or roosting raptor records from the past 10 years within 2 km of the Wind Farm Site were requested from the IRSG.

3.2 Field Survey Methods

The 2023-2024 baseline ornithology survey programme was developed based on the habitats present at the Wind Farm Site and the ornithological sensitivities known to occur in the area and comprised the following surveys:

- Flight Activity Surveys (FAS) – March to September 2023 (the breeding season), and December 2023 to March 2024 (the non-breeding season).
- Breeding Distribution Surveys – April to July 2023; and
- Breeding Raptor Surveys – March to August 2023.

Full details of the methods followed during surveys are provided below. Survey methods followed current NatureScot (2017) guidance and were undertaken by Bird Surveyors Ltd (led by Marc Ruddock), Nick Veale, Andre Robinson and Paul Connaughton. All are experienced field ornithologists with full knowledge of all survey methods and the local environment.

Flight Activity Surveys

FAS were carried out between March and September 2023 (the breeding season), and between December 2023 and March 2024 (the non-breeding season), using a series of watches from nine (later reduced to eight) Vantage Point (VPs) locations overlooking the Wind Farm Developable Area and a surrounding 500m buffer to record flight activity of target bird species following NatureScot guidance. VPs were selected using viewshed analysis undertaken using Geographic Information Systems (GIS) and were 'ground-truthed' in the field to ensure that views were accurate. VP locations and viewsheds are shown in **Figure 2**.

The flight lines of all target species observed during the FAS were recorded on large scale maps in the field. Target species during FAS were as follows:

- All wild swan, duck and goose species except mallard;
- All diver and grebe species;
- All raptor species¹ except buzzard and sparrowhawk;
- All wader species; and
- Any other qualifying interests of nearby SPAs and Ramsar sites.

Secondary species included the following: buzzard, sparrowhawk, raven, mallard, all gull species, cormorant, grey heron and passerine species of conservation concern recorded in flocks of more than 100 individuals. Recording of target species took priority over that of secondary species.

Each recorded flight path was numbered and cross-referenced, with the following data recorded:

- Time on detection;
- Bird species, age and sex (where age and sex was determinable);
- Number of birds;
- Behaviour where applicable (e.g. foraging, commuting, display etc);
- Duration of flight within the VP viewshed; and
- Duration at each height band as follows:
 - A. <10m
 - B. 10-20m
 - C. 20-50m
 - D. 50-190m
 - E. >190m

¹ Owls have been included due to their nocturnal behaviour, which may cause them to be at greater risk of impacts from wind farms.

Height bands were determined based on the proposed turbine model at the commencement of surveys. In addition to recording target species flights, the number and activity of 'secondary' species was recorded when secondary species were detected.

Survey Effort

In line with NatureScot guidance, surveyors aimed to complete 36 hours of survey from each VP location during the breeding season and non-breeding season (72 hours in total from each VP). Surveys were stratified to cover all times of day including dawn and dusk periods. Each watch lasted three hours with a 30-minute break in between watches. A breakdown of monthly survey effort is shown in

Table 1

Table 1. Flight Activity Survey Effort

Full details of survey dates, times and hourly weather conditions are presented in **Table 6, Appendix 3**.

Month and year	Number of survey hours								
	VP1*	VP2	VP3	VP4	VP5	VP6	VP7	VP8**	VP9
Breeding survey									
Mar-23	12	6	6	0	3	3	0	6	6
Apr-23	6	6	6	12	9	9	9	0	6
May-23	6	6	6	6	6	6	6	0	6
Jun-23	6	6	6	6	6	6	6	0	6
Jul-23	6	6	3	6	6	6	6	0	6
Aug-23	6	0	3	6	0	6	6	0	6
Sep-23	0	6	6	0	6	0	0	0	0
Total breeding season hours	42	36	36	36	39	36	33	6	36
Non-Breeding survey									
Dec-23	6	6	6	6	6	6	6		6
Jan-24	12	12	12	12	12	12	12		12
Feb-24	12	12	12	12	12	12	12		12
Mar-24	6	6	6	6	6	6	6		6
Total breeding season hours	36	36	36	36	36	36	36	0	36
*VP1 was moved following the first six hours of survey, with the final location providing better coverage of the Survey Area. A full 36 hours were then completed from the final VP1 location. ** Surveys from VP8 were discontinued following the revision of VP1, as this VP was no longer required.									

Breeding Distribution Surveys

A Breeding Distribution Survey (BDS) was undertaken between April and July 2023. The BDS Survey Area covered the Wind Farm Site and a 500 m buffer. In line with NatureScot guidance, the survey combined elements of the Smith and O'Brien (1992) method (designed to census lowland breeding waders) and Brown and Shepherd (designed to survey moorland species) with four survey visits completed.

The survey dates were as follows:

- Visit 1: 20/04/2023-27/04/2023;
- Visit 2: 18/05/2023-31/05/2023;
- Visit 3: 21/06/2023-27/06/2023; and
- Visit 4: 20/07/2023-26/07/2023.

Target species during surveys were non-passerine species of conservation concern breeding within open habitats. NS guidance states that survey of woodland and farmland passerines, especially in commercial coniferous forest or intensive agricultural land, is generally not required. All species of conservation concern were recorded during surveys, however passerine species are generally not subject to significant effects from wind farm developments and therefore were not considered target species during the BDS. The BDS Survey Area is shown in **Figure 1**.

Breeding Territory Analysis

Following completion of all BDS visits, all registrations of waders from the field maps were digitised using GIS to determine the number and distribution of likely territories present within the Survey Area.

The method used to determine territories was informed by that described by Bibby (2000) and Gilbert et al (1998). A precautionary approach was followed, with a bird deemed to be holding a territory if breeding behaviour (e.g. singing, alarm-calling, adults carrying food, etc.) was observed, or if pairs of birds were observed in suitable habitat, during just one of the BDS visits.

Breeding Raptor Surveys

Breeding Raptor Surveys were undertaken between April and August 2023 inclusive, with reference to the methods detailed in Hardey et al. (2013). Surveys covered a 2 km buffer of the Wind Farm Site (1 km for goshawk and owls other than short-eared owl), with surveyors covering all areas of habitat suitable for breeding raptors. Due to known breeding raptor species within the Survey Area (discussed further within the Confidential Annex) an intensive six-visit survey method was used to ensure all breeding raptor species were recorded.

Surveys involved completing a series of short watches over areas of suitable breeding habitat from suitable ad-hoc VP locations, and walkover surveys to identify any evidence of breeding. Although the surveys focused on recording target raptor species (Annex I species, raptors listed on Birds of Conservation Concern Ireland), 'secondary' species were also recorded (buzzard, sparrowhawk and raven). Observations were recorded on large-scale field maps, with notes on behaviour taken where appropriate.

Survey dates were as follows:

- Visit 1: 23/03/2023-24/03/2023;
- Visit 2: 04/04/2023-27/04/2023;
- Visit 3: 07/05/2023-31/05/2023;
- Visit 4: 08/06/2023-27/06/2023;
- Visit 5: 10/07/2023-26/07/2023; and
- Visit 6: 09/08/2023

Individual survey dates can be found in **Appendix 3**.

The Breeding Raptor Survey Areas are shown in **Figure 1**.

Survey Limitations

Access was limited to the Wind Farm Site Boundary, Coillte land and publicly accessible lands. As far as possible, surveys were timed to coincide with suitable weather conditions, particularly during the breeding season, however periods of poor weather (e.g. rain, strong winds and reduced visibility) were occasionally encountered during the surveys, which was unavoidable due to the number of surveys required and the frequent, inclement weather encountered on the Wind Farm Site throughout the surveys.

As the majority of surveys were completed in optimal weather conditions it is considered that a small number of surveys undertaken in poor weather conditions are not a constraint. Furthermore, it is considered that surveying in a variety of conditions will be more representative of the baseline conditions and associated levels of bird activity within the Survey Areas. As such, sub-optimal weather is not considered to represent a constraint to the robustness of the data collected.

It is acknowledged that only 33 hours of survey were completed from VP7, which is fewer than the 36 required by NatureScot guidance. Three hours fewer than planned were completed from VP7 during March 2023 while VP locations were finalised, however additional surveys were completed from the original VP1 location and VP8 which was subsequently dropped during March. Therefore, a shortfall of three hours from VP7 across the breeding season is not considered to represent a constraint to the robustness of the data collected.

Due to poor weather during August, 18 hours of VP survey which were scheduled to be completed during the month were postponed and completed during September. This is not

considered to represent a constraint, with surveys were completed no later than 2nd of September. Activity recorded has been reviewed and is considered comparable with August survey data.

Due to late commissioning, the non-breeding season surveys were completed within a compressed timeframe between December and early March. This covered the core winter and spring migration period, and although no surveys were completed in October or November, it is considered that the data collected is robust and representative of activity across a typical non-breeding season.

4. Results

4.1 Desk Study

NPWS provided six records of red grouse, the closest of which was 1.8km from the Wind Farm Site, and a single record of Greenland white-fronted goose which was more than 10 km from the Wind Farm Site. There was no response from the IRSG to APEM's data request.

4.2 Nearby Sites Designated for Ornithological Features

A desk-study was undertaken to identify statutory designated sites designated for ornithological features with potential connectivity to the Wind Farm Site. The desk-study searched for:

- Internationally important sites - Special Protection Areas (SPAs) and Ramsar sites within 20 km of the Wind Farm Site;
- Nationally important sites – Natural Heritage Areas (NHAs) within 20 km of the Wind Farm Site; and
- Nature Reserves within 10 km of the Wind Farm Site.

During the desk-study three designated sites were identified. Details of statutory sites are provided in Table 1 below.

Table 2. Statutory sites designated for ornithological interests within 20 km of the Wind Farm Site

Site Name	Designation	Qualifying Features	Distance from Wind Farm Site (at closest point)
Blackwater Callows	SPA	• Whooper swan (non-breeding) • Wigeon (non-breeding) • Teal (non-breeding) • Black-tailed godwit (non-breeding) • Wetland and Waterbirds	8.8km west
Dungarvan Harbour	SPA	• Great crested grebe (non-breeding) • Light-bellied brent goose (non-breeding) • Shelduck (non-breeding) • Red-breasted merganser (non-breeding) • Oystercatcher (non-breeding) • Golden plover (non-breeding) • Grey plover (non-breeding) • Lapwing (non-breeding) • Knot (non-breeding)	11.1km south-east

Site Name	Designation	Qualifying Features	Distance from Wind Farm Site (at closest point)
		- Dunlin (non-breeding) - Black-tailed godwit (non-breeding) - Bar-tailed godwit (non-breeding) - Curlew (non-breeding) - Redshank (non-breeding) - Turnstone (non-breeding) - Wetland and Waterbirds	
	Ramsar	- Light-bellied brent goose (non-breeding) - Black-tailed godwit (non-breeding) - Dunlin (non-breeding) - Golden plover (non-breeding) - Bar-tailed godwit (non-breeding)	
Blackwater Estuary	SPA	- Wigeon (non-breeding) - Golden plover (non-breeding) - Lapwing (non-breeding) - Dunlin (non-breeding) - Black-tailed godwit (non-breeding) - Bar-tailed godwit (non-breeding) - Curlew (non-breeding) - Redshank (non-breeding) - Wetland and Waterbirds	16.3km south

4.3 Field Surveys

4.3.1 Flight Activity Surveys

Target Species Flights

A total of 368 flights by twelve identified target species were recorded during FAS. Kestrel was the species recorded most frequently with a total of 231 flights, followed by hen harrier (63 flights). A summary of all target species flights recorded during the FAS, broken down by species and breeding season, is provided in **Table 3**. Full details of target species flights, with the exception of hen harrier, are presented in **0** and flight lines are shown in **Appendix 1**. Further details relating to hen harrier flight activity are contained within the Confidential Annex.

Flight activity was considerably higher during the breeding season than in the non-breeding season, with almost double the number of flights recorded. This was evident for kestrel which were recorded 165 times in the breeding season, compared to 66 times in the non-breeding season. Kestrel were primarily recorded hunting over areas of open ground but were also commuting throughout the survey area. In contrast, golden plover was recorded on 23 occasions, predominantly during the non-breeding season, commuting northwards through the Wind Farm Site on spring passage. Peregrine was also recorded on 23 occasions, mostly within the northern section of the Site.

The number of flights of all other target species recorded were low, all with fewer than eleven recorded flights. This indicates that these species are only present occasionally within the Survey Area. Additionally, the flight activity of these species was largely outside the Wind Farm Site Boundary. Furthermore, target species were recorded in low abundances, with only golden plover and occurring in abundances of greater than ten individuals.

Table 3. Summary of Target Species Flights Recorded during 2023-2024 FAS

Species*	Conservation Status**	Number of flights			No. of birds per flight
		Breeding season (Apr-Sep)	Non-breeding season (Dec-Mar)	Total	
Red Grouse	Red	0	7	7	1-2
Golden Plover	Ann I, Red	2	21	23	6-41
Curlew	Red	0	1	1	7
Woodcock	Red	2	0	2	1
Snipe	Red	0	10	10	1-2
Hen Harrier	Ann I, Amber	52	11	63	1
White-tailed Eagle	Ann I, Red	1	0	1	1
Kestrel	Ann I, Red	165	66	231	1-2
Merlin	Ann I, Amber	4	2	6	1
Hobby	Green	1	0	1	1
Peregrine	Ann I	15	8	23	1
Total		242	126	368	
* Species names and order follow the Irish List maintained by the IRBC¹. ** Ann I = listed on Annex I of the Bird's Directive⁸; Amber = Bird of Conservation Concern Ireland Amber-listed species⁵; Red = Bird of Conservation Concern Ireland Red-listed species⁵					

Secondary Species

Seven secondary species were recorded during the FAS, with raven recorded during the majority of surveys, and sparrowhawk and buzzard recorded frequently. This was the case for both the breeding and non-breeding season. There were also occasional registrations of mallard, lesser black-backed gull, herring gull and grey heron. Secondary species were generally recorded as single birds or in low numbers of fewer than five birds per record.

Incidental Records

Merlin, peregrine, hen harrier, kestrel, golden plover, and snipe were all recorded incidentally during FAS; flights were observed during surveys but were beyond 2 km from surveyors, and therefore in line with NatureScot (2017) guidance, these flights have been omitted from analysis.

4.3.2 Breeding Distribution Surveys

Target Species

Following analysis of data collected during Breeding Distribution Survey data, and any data recorded during other surveys which was indicative of breeding, territory analysis was undertaken. Three non-passerine species of conservation concern: red grouse, snipe and woodcock were recorded breeding within the survey area. A single, probable, red grouse territory and two probable snipe territories were recorded during the BDS. A single roding woodcock was recorded incidentally during FAS. Territory locations² are shown on **Figure 21**. Further red grouse were also recorded during the BDS, however were not recorded exhibiting any indicative breeding behaviour and therefore were not considered to be breeding territories. It is acknowledged that the number of red grouse territories could be a slight underestimate.

Table 4. Summary of Species of Conservation Concern Assessed as Breeding during the 2023 BDS

Species*	Number of territories			Conservation Status**
	Within the Site	Within the Survey Area	Total	
Red grouse	1		1	Red
Snipe	1	1	2	Red
Woodcock		1	1	Red

² Indicative territory locations are shown, with the centre of the territory marked or the nest site if known. Territories include all birds that were defending or holding a territory (even if this was not subsequently occupied by nesting birds) and regardless of breeding success.

* Species names and order follow the Irish List maintained by the IRBC.

** Red = Bird of Conservation Concern Ireland Red-listed species⁴.

Golden plover (red listed) was also recorded during BDS, however only during the first survey visit and this species did not breeding within the Survey Area. It is thought that these were birds on passage and this species is considered likely to have bred in the wider landscape.

Lesser black-backed gull (green listed) was also recorded during BDS, with a single individual during the third survey visit. This was not considered to be breeding within the Survey Area.

4.3.3 Breeding Raptor Surveys

Annex I Raptor Species

A total of four Annex I raptor species were recorded within the Survey Area during Breeding Raptor Surveys. Details of Annex I raptor and owl species which were confirmed breeding species are provided in the Confidential Annex.

One non-breeding Annex I species, white-tailed eagle, was recorded during the Breeding Raptor Surveys during a single survey on 24/03/23. An immature male was observed flying north-west across the Glenafalla River to the west of Knocknanask, before later being observed perched in an area of coniferous plantation at Knocknafall and then flying north-west out of the Raptor Survey Area. A white-tailed eagle was also observed flying south-west towards Knocknanask during a single FAS on 29/05/23. Both observations occurred outside of the Wind Farm Site

There was no evidence of any breeding white-tailed eagle during surveys. This species ranges widely when not holding territory, and it is likely that records are related to a non-breeding bird.

Other Target Raptor Species

Two other target raptor species were recorded during Breeding Raptor Surveys which were both breeding within the Breeding Raptor Survey Area. These are discussed further within the Confidential Annex.

Kestrel was frequently recorded during FAS, with a total of 165 flights during the breeding season, and kestrel was also recorded on 46 occasions during Breeding Raptor Surveys. The majority of flight activity related to hunting birds and was associated with suitable areas of open foraging habitat, particularly at Knocknanask, and immediately to the north-east and south-west of this area. A number of short duration flights were also recorded associated with woodland habitat.

During Breeding Raptor Surveys, although no kestrel nest locations were identified, evidence of breeding behaviour was recorded, and a number of juveniles were recorded within the

Breeding Raptor Survey Area towards the end of the breeding season which confirmed successful breeding. Based on behaviour observed, it has been estimated that three territories were present, however it is possible that this is an underestimate and that further territories were present within the Survey Area.

Long-eared owl was recorded on three occasions during surveys, with a calling male, calling juvenile, and a juvenile in flight observed. As a cryptic nocturnal species, it is difficult to record this species through standard survey methods and therefore a precautionary approach was taken when determining the three long-eared owl territories present. All long-eared owl territories were further than 1 km from the Wind Farm Site. Non-confidential breeding raptor territories are shown on **Figure 22**.

Secondary Raptor Species

Three secondary species were observed during the Breeding Raptor Surveys: buzzard, sparrowhawk and raven. Registrations of these species are briefly summarised below:

- **Buzzard:** Frequently recorded, with at least five territories within the Raptor Survey Area, of which two were within the Wind Farm Site. There is an abundance of suitable breeding habitat within the Wind Farm Site and Survey Area.
- **Sparrowhawk:** Frequently recorded, with at least three territories within the Raptor Survey Area, all outside Wind Farm Site. There is an abundance of suitable breeding habitat within the Wind Farm Site and Survey Area.
- **Raven:** Frequently recorded, with three confirmed nests identified. All nests were recorded within the Raptor Survey Area, outside the Wind Farm Site.

Incidental Raptor Records

A single red kite was recorded during a survey on 13/07/23 calling in flight. Although a target species, this record was approximately 420 m south-west of the Raptor Survey Area at Glenshelane Wood. It is possible that this species bred beyond the Raptor Survey Area.

A single osprey was recorded during a survey on 19/04/23 observed perched in a tree beside an area of clearfell. Although a target species, this record was approximately 970 m north-west of the Raptor Survey Area.

A single goshawk flight was recorded during a survey on 13/07/23 calling in flight. Although a target species, this record was approximately 1 km south-west of the Raptor Survey Area at Glenshelane Wood. It is possible that this species bred outside the Raptor Survey Area.

5. Summary of Key Findings

Flight activity was moderate during FAS. While a total of 368 flights were recorded, the majority of records were of kestrel, with a total of 231 flights. The only other species with more than 20 recorded flights were hen harrier, peregrine, and golden plover, with a total of 63, 23, and 23 flights recorded respectively.

There were very few target species recorded breeding during the BDS, with a single red grouse territory and two snipe territories. A single woodcock territory was also identified during FAS.

Territories of kestrel were identified with a minimum of three territories present within the Raptor Survey Area, of which one was within Wind Farm Site. However, given the abundant suitable breeding habitat and large number of flights recorded during FAS, it is possible that further breeding kestrel pairs went undetected during surveys. Additionally, long-eared owl was recorded during surveys with three territories present. Due to the cryptic, nocturnal nature of the species, a precautionary approach to calculating territories was adopted as the survey method does not target nocturnal species. All long-eared owl territories were further than 1 km from the Wind Farm Site. Territories for buzzard, sparrowhawk and raven (all secondary species) were also identified.

References

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Appendix 1 Figures

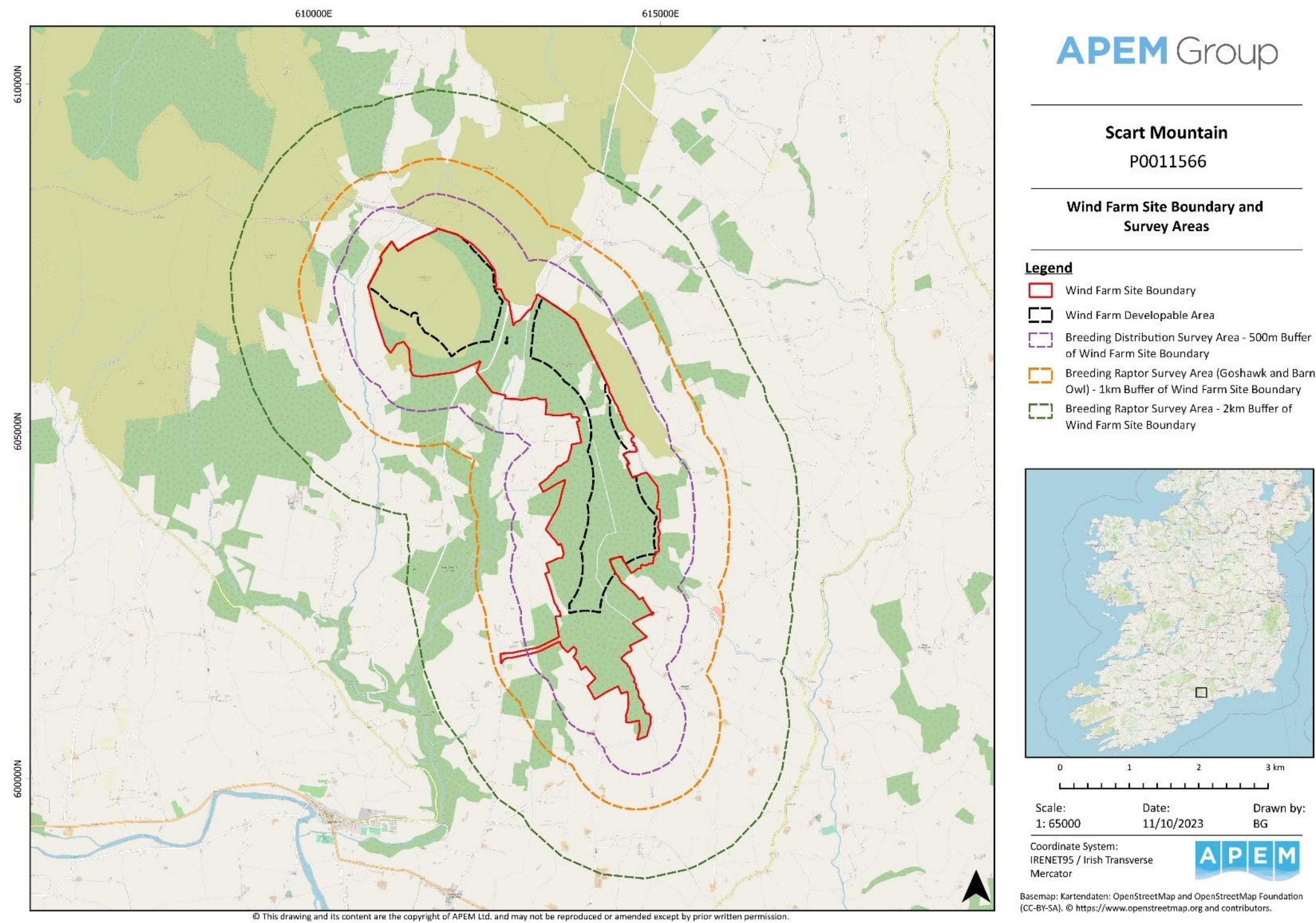


Figure 1. The Wind Farm Site Boundary and Survey Areas

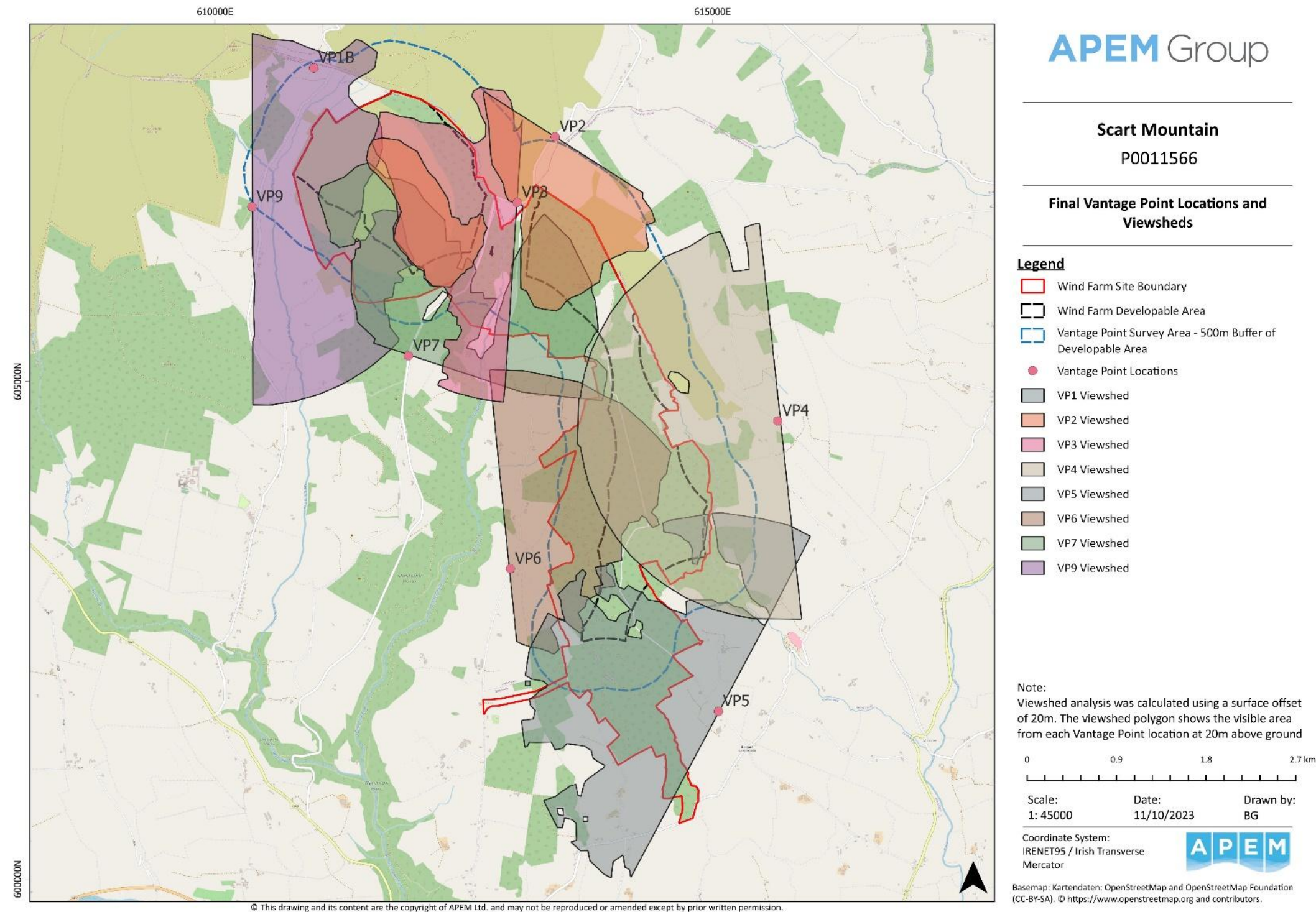


Figure 2. Final Vantage Point locations and their respective viewsheds.

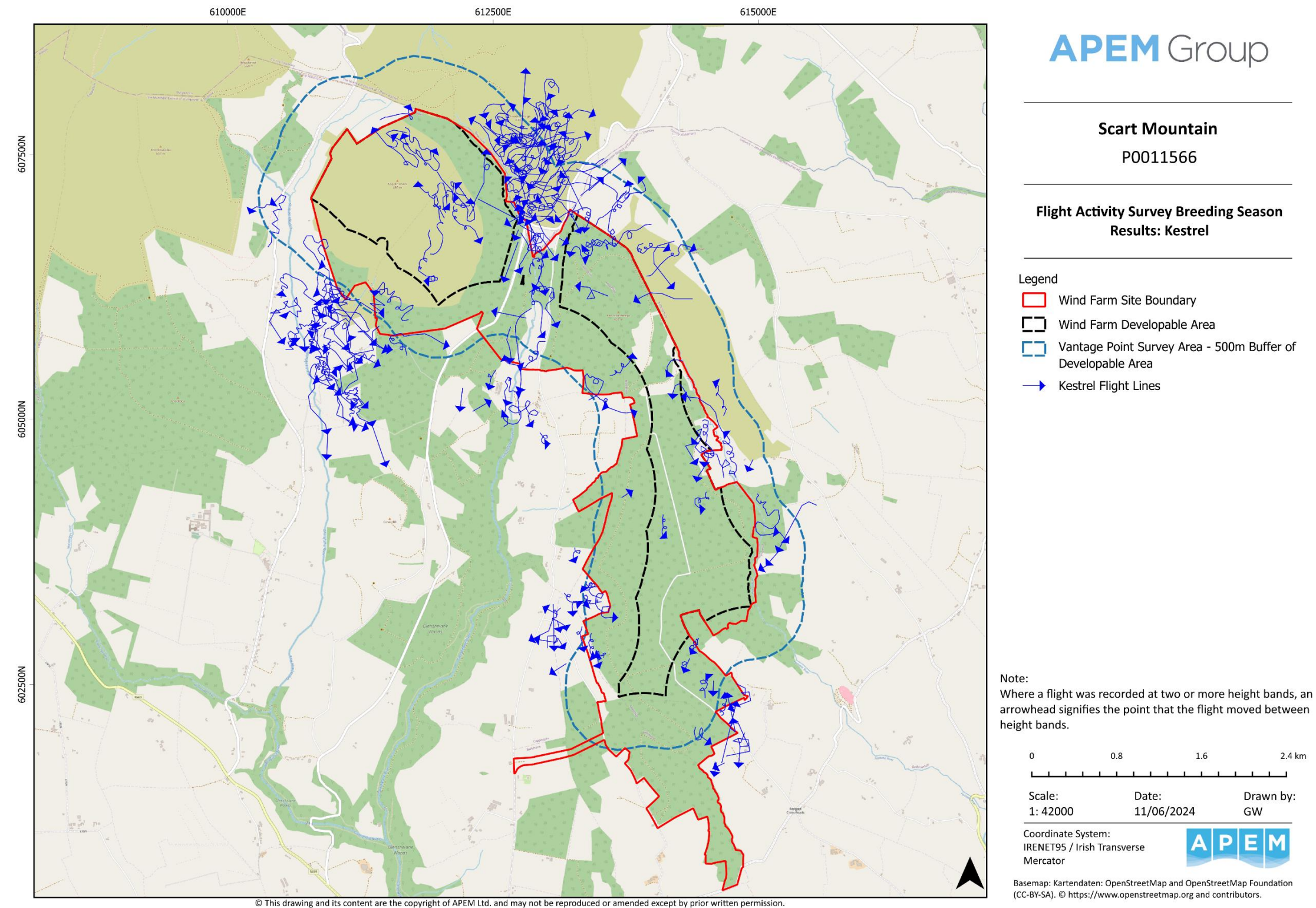


Figure 3. An overview of breeding season results for kestrel during FAS

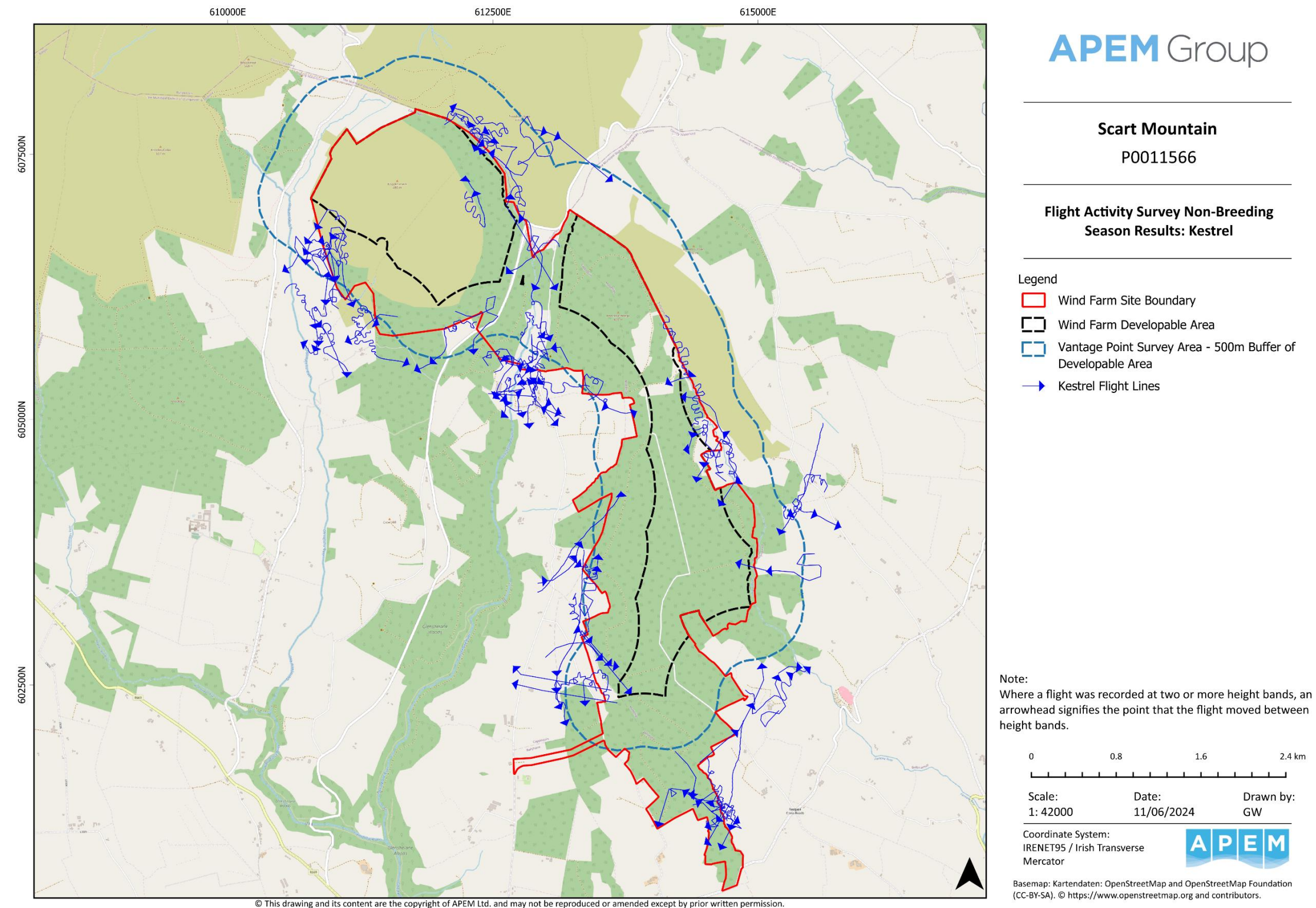


Figure 4. An overview of non-breeding season results for kestrel during FAS

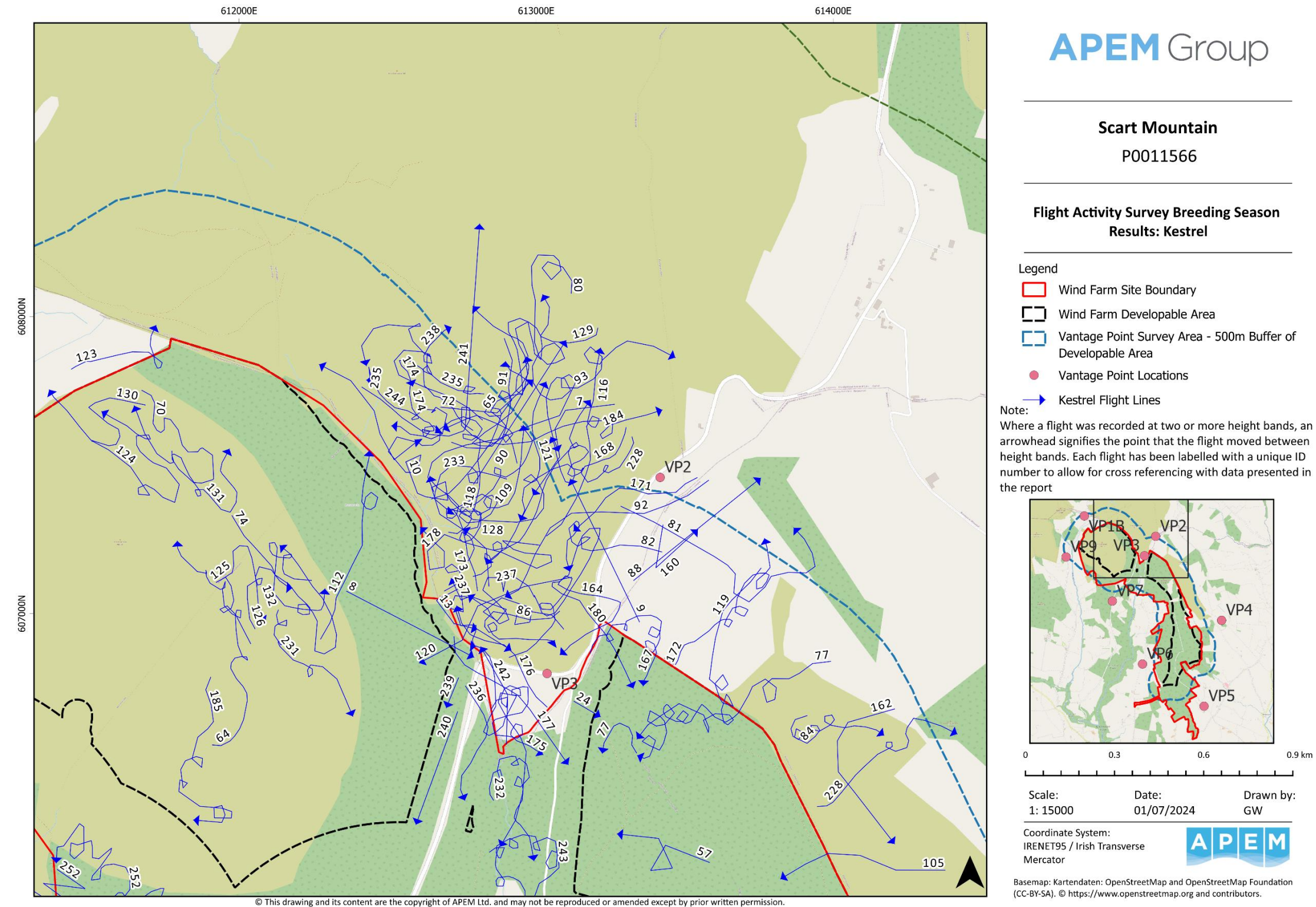


Figure 5. Breeding Season FAS results for kestrel. Part 1

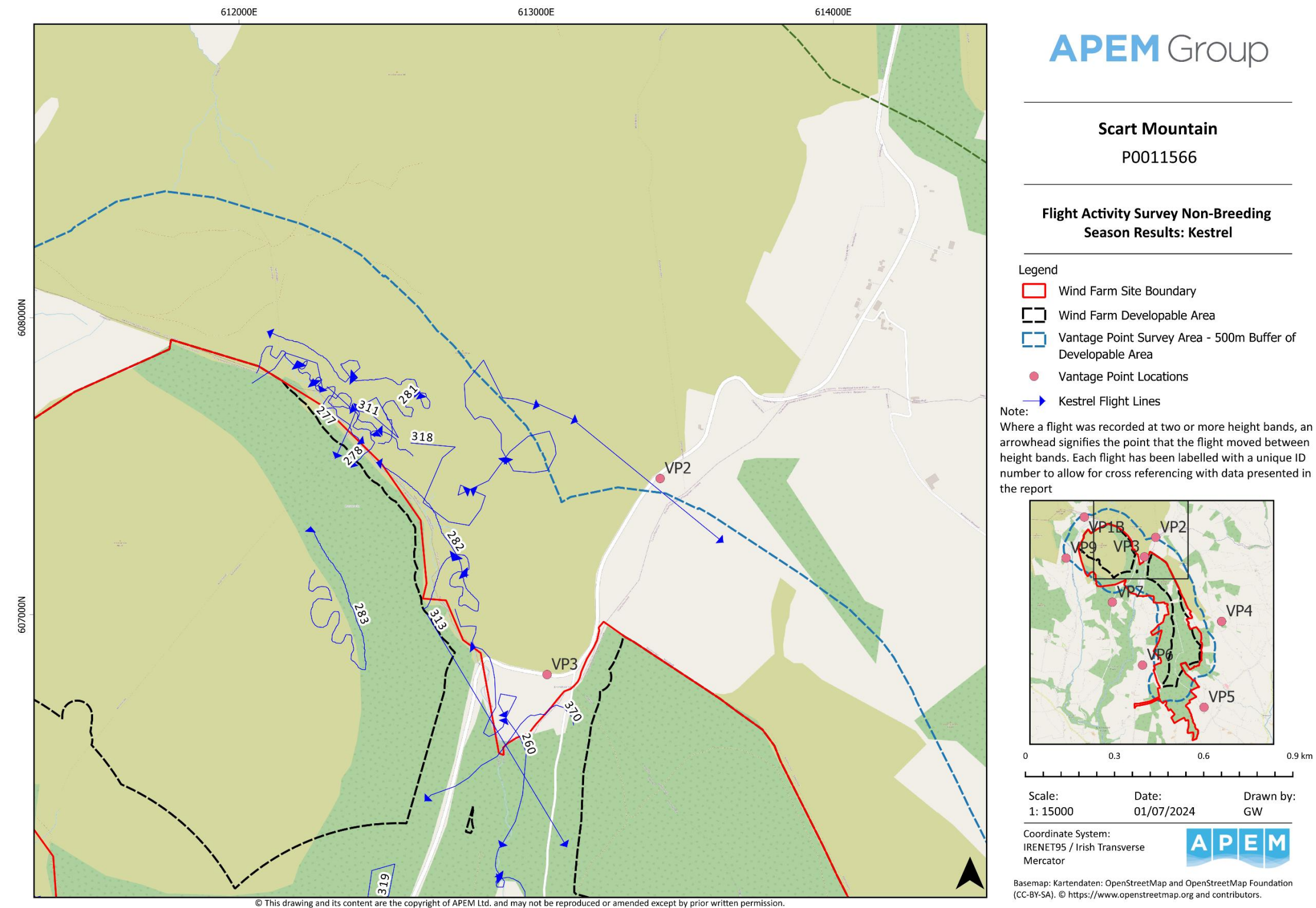


Figure 6. Non-Breeding Season FAS results for kestrel. Part 1

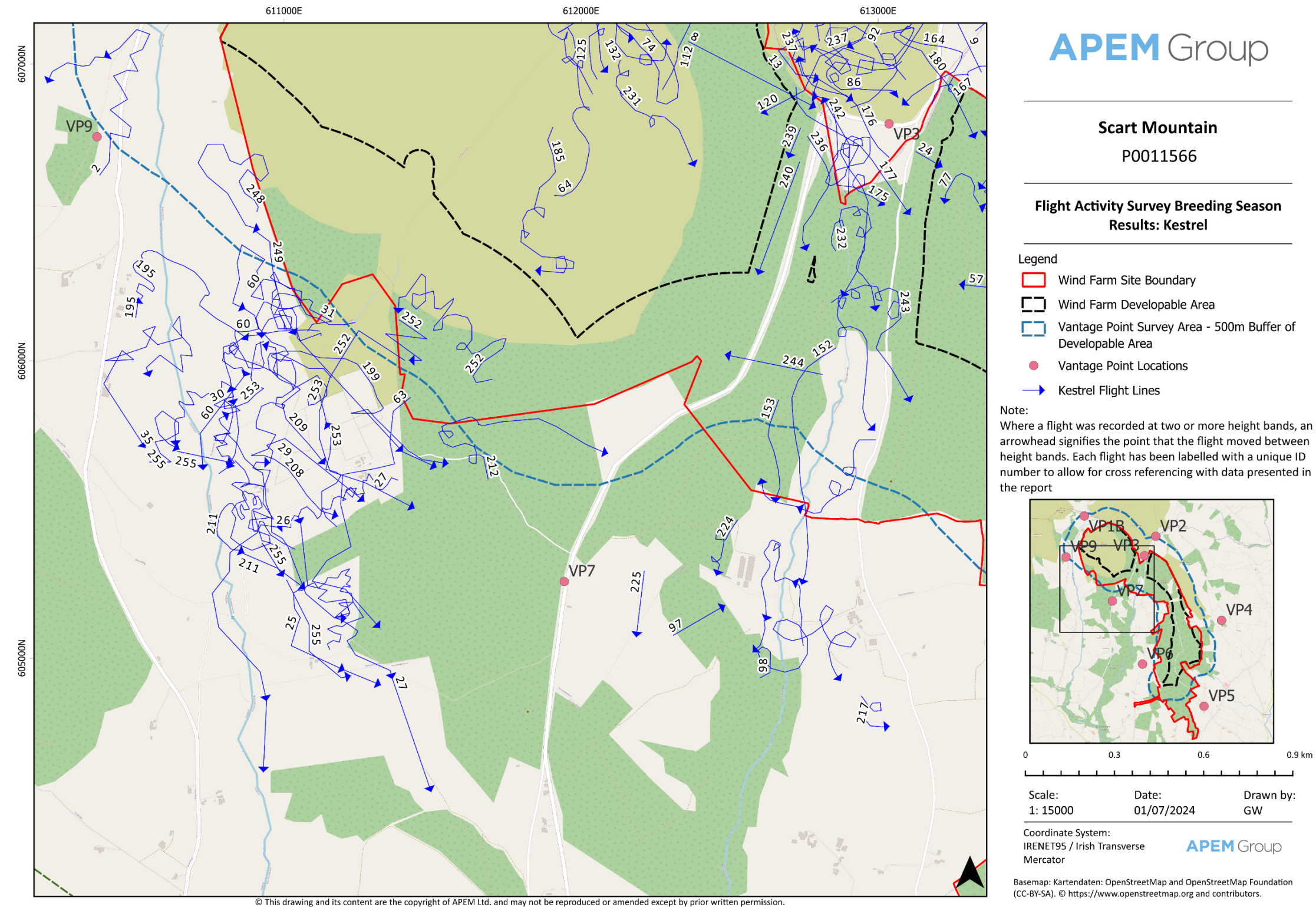


Figure 7. Breeding Season FAS results for kestrel. Part 2

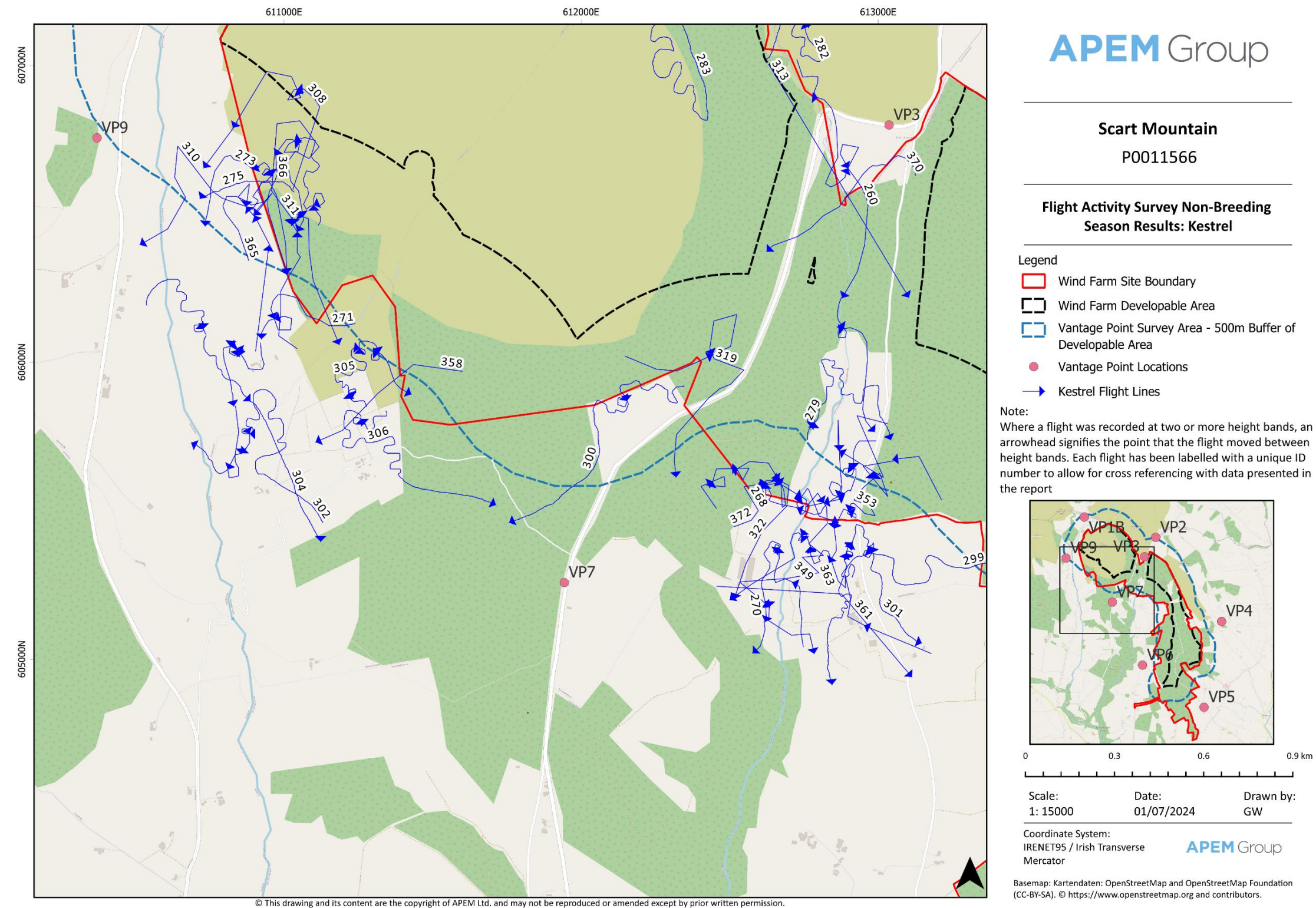


Figure 8. Non-Breeding Season FAS results for kestrel. Part 2

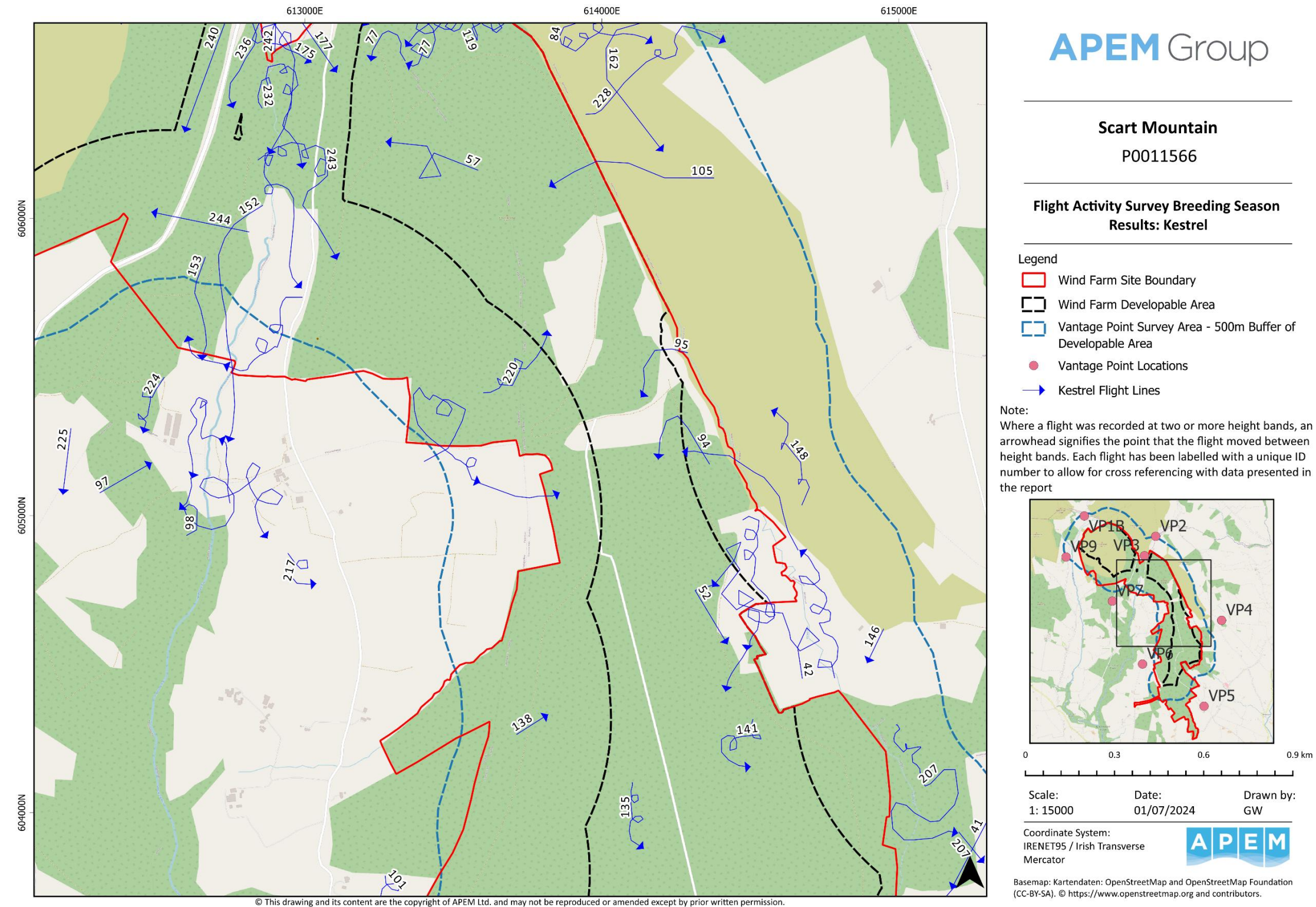


Figure 9. Breeding Season FAS results for kestrel. Part 3

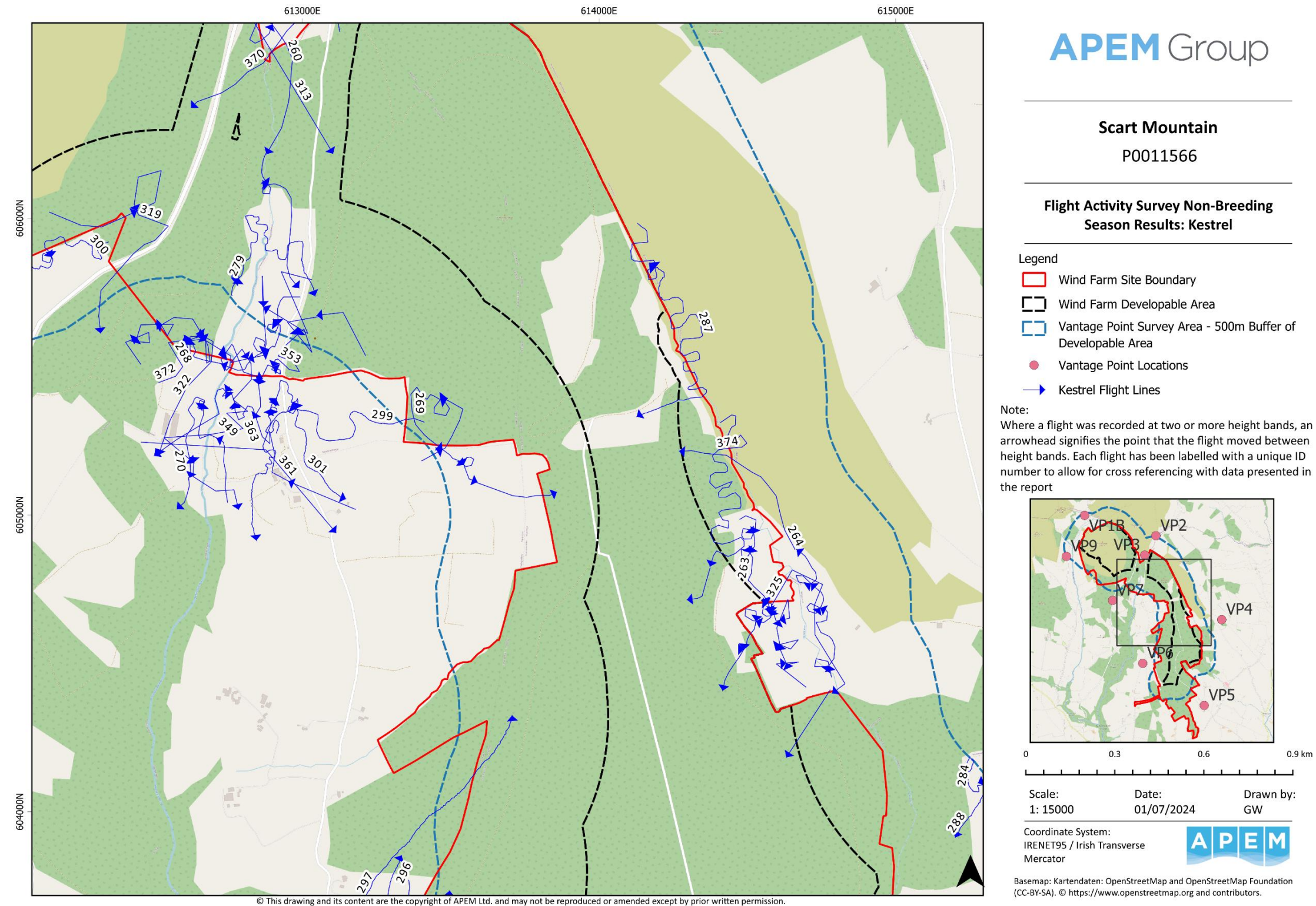


Figure 10. Non-Breeding Season FAS results for kestrel. Part 3

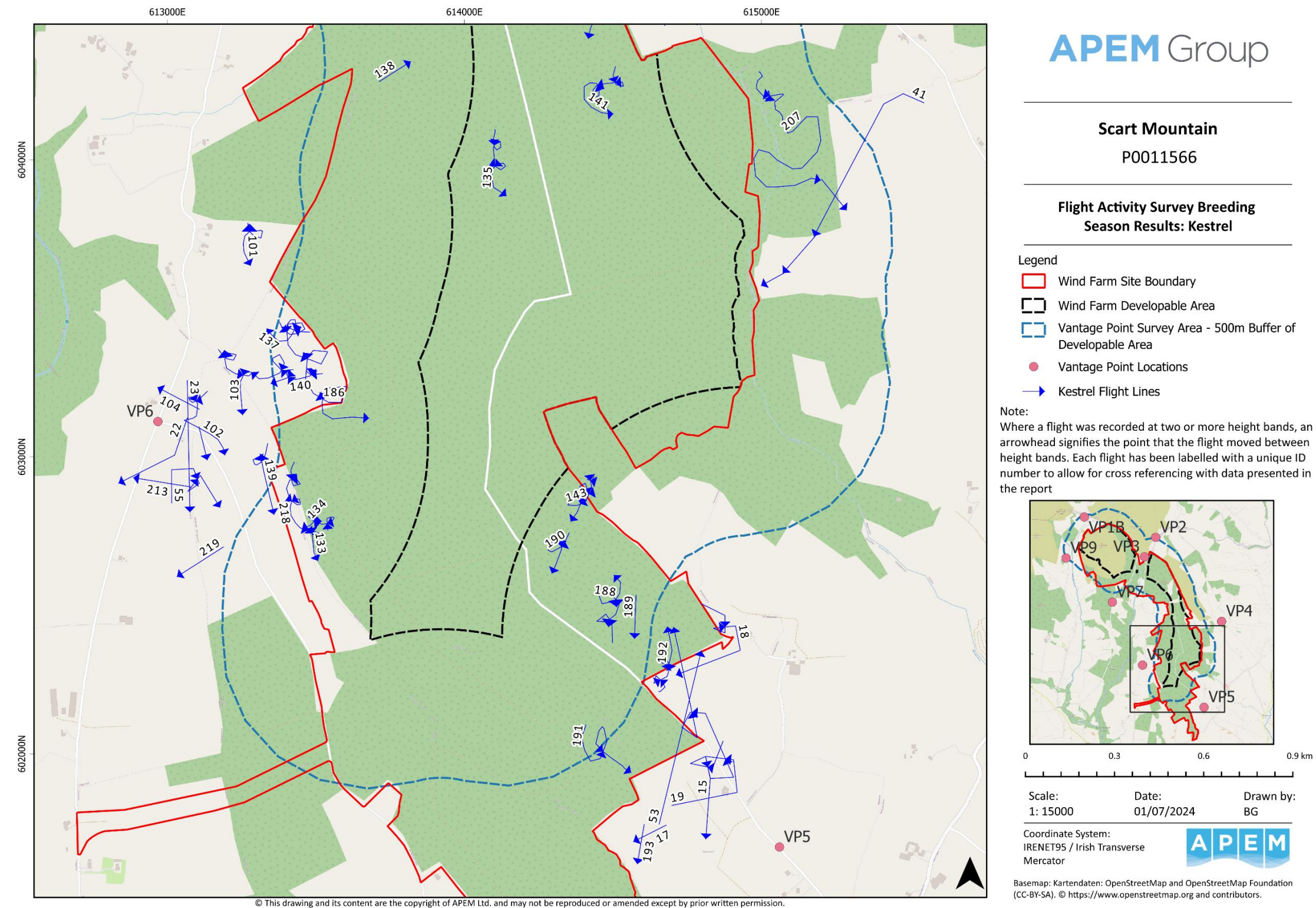


Figure 11. Breeding Season FAS results for kestrel. Part 4

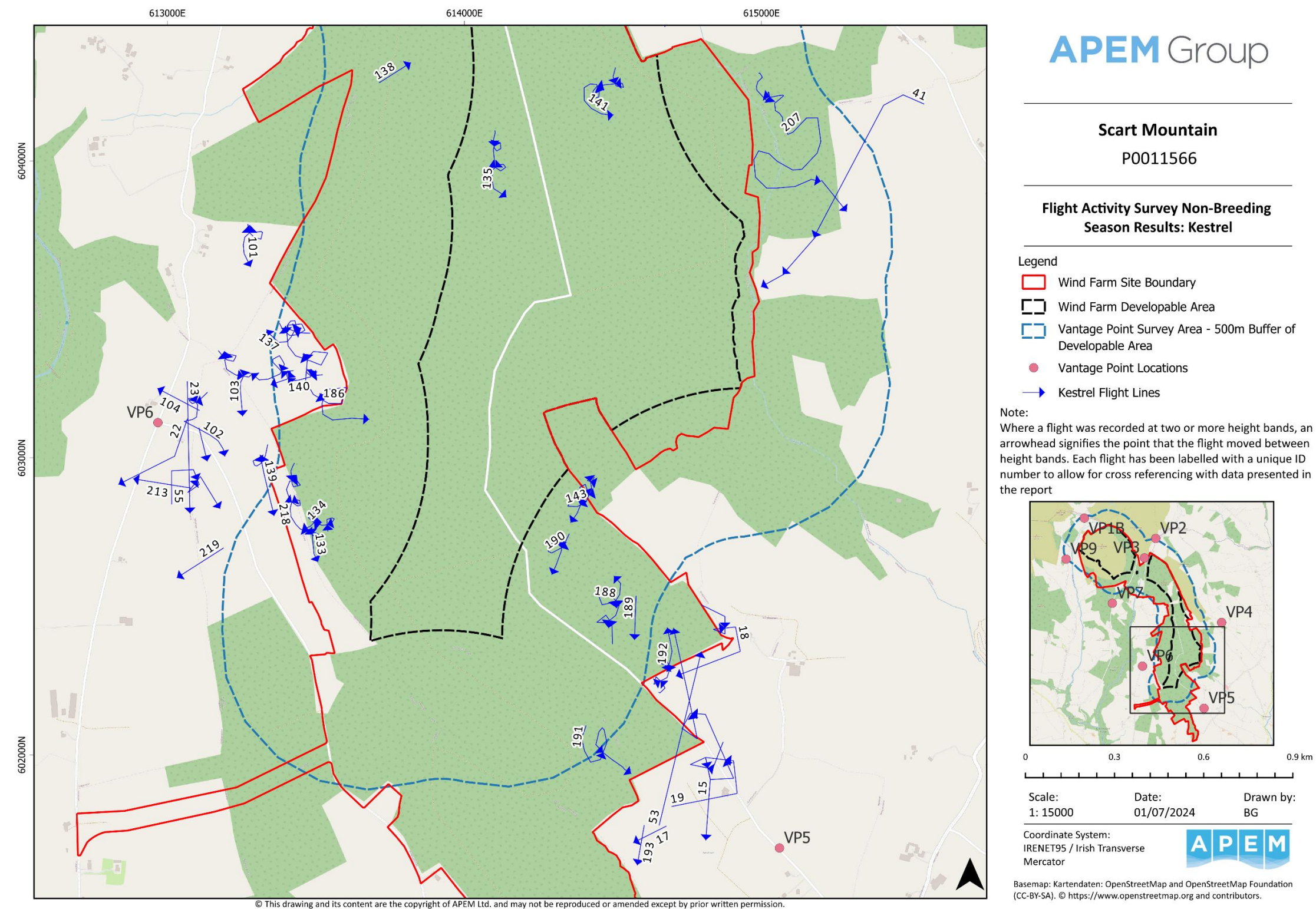


Figure 12. Non-Breeding Season FAS results for kestrel. Part 4

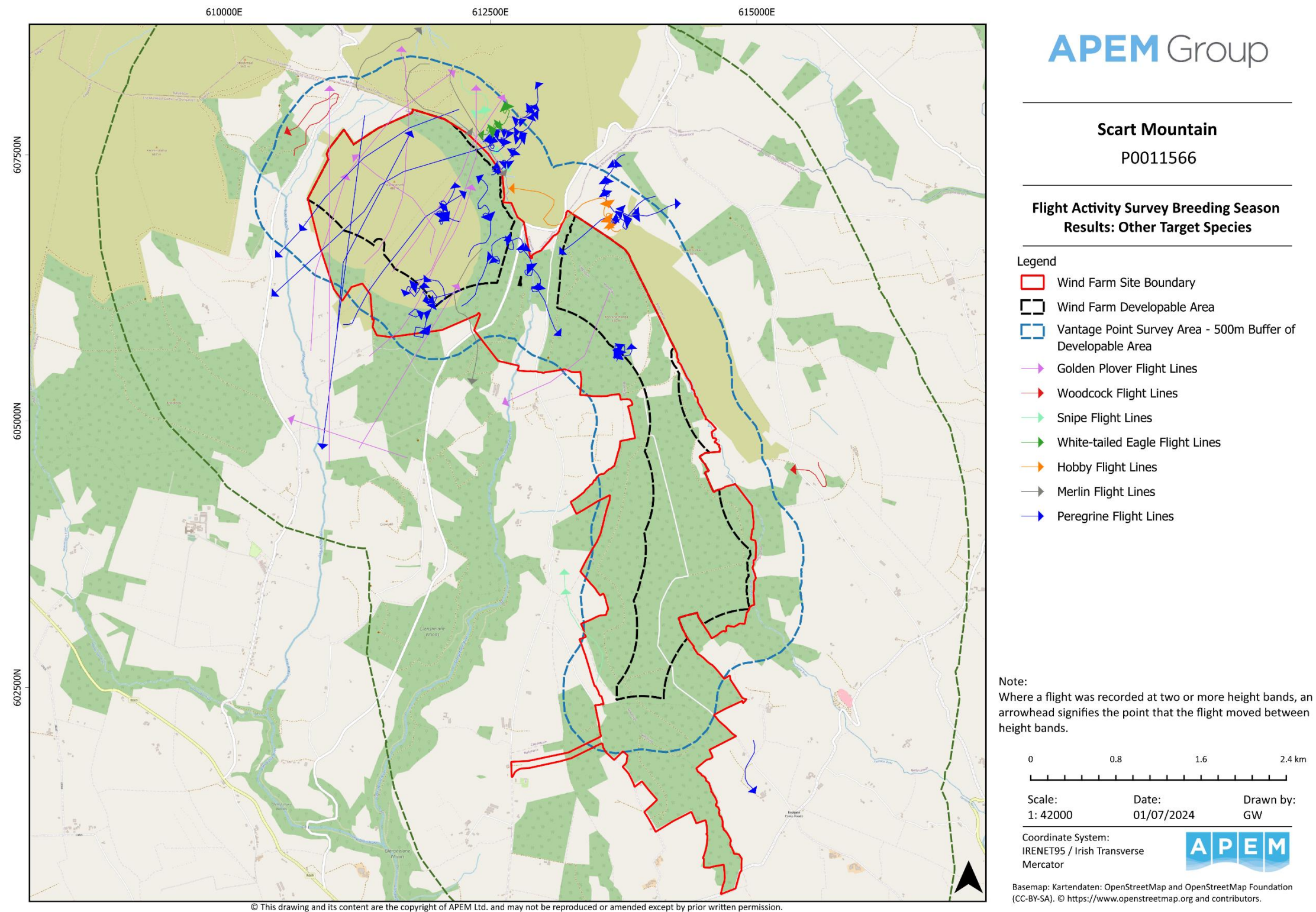


Figure 13. An overview of breeding season results for all other target species recorded during FAS

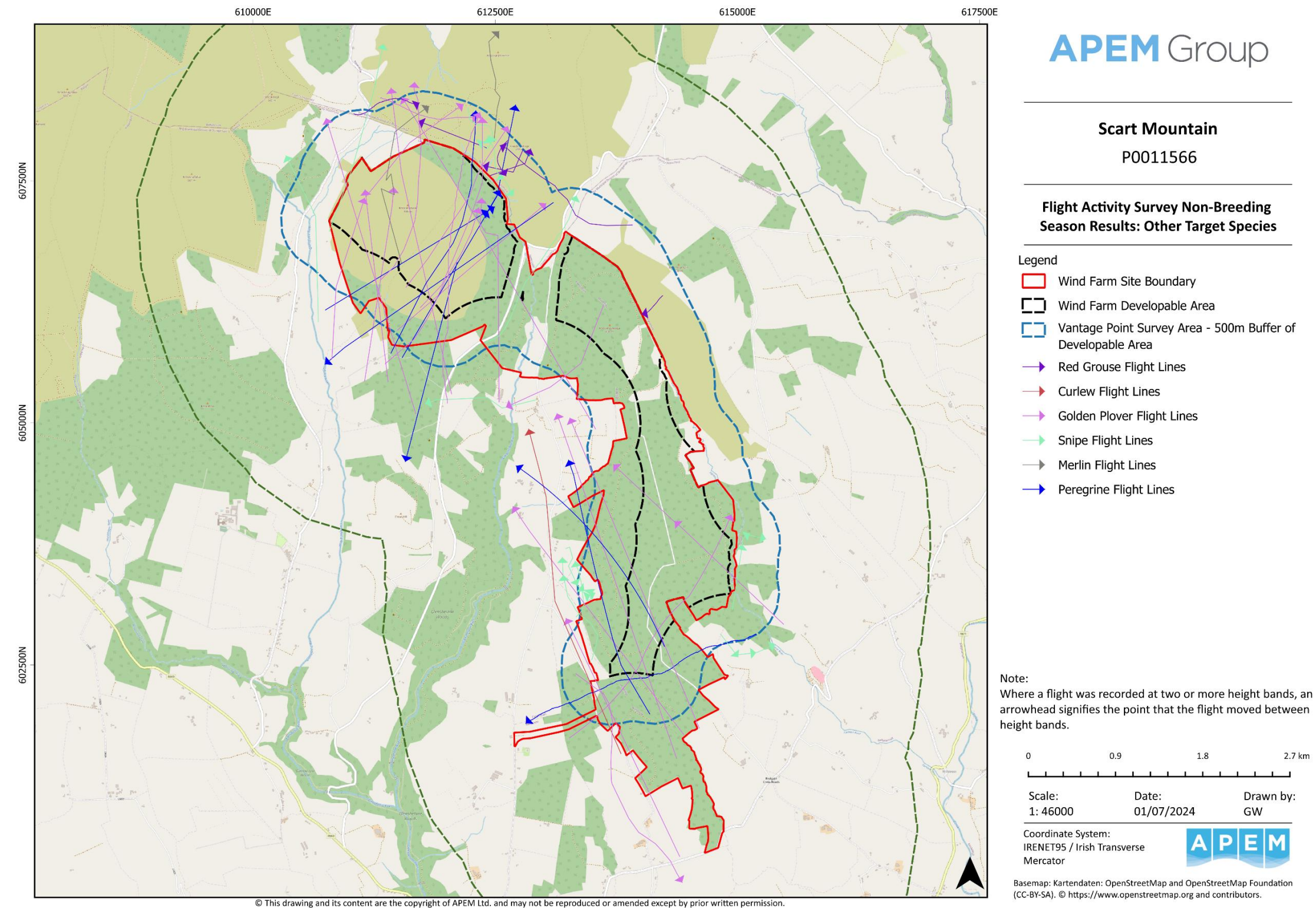


Figure 14. An overview of non-breeding season results for all other target species recorded during FAS

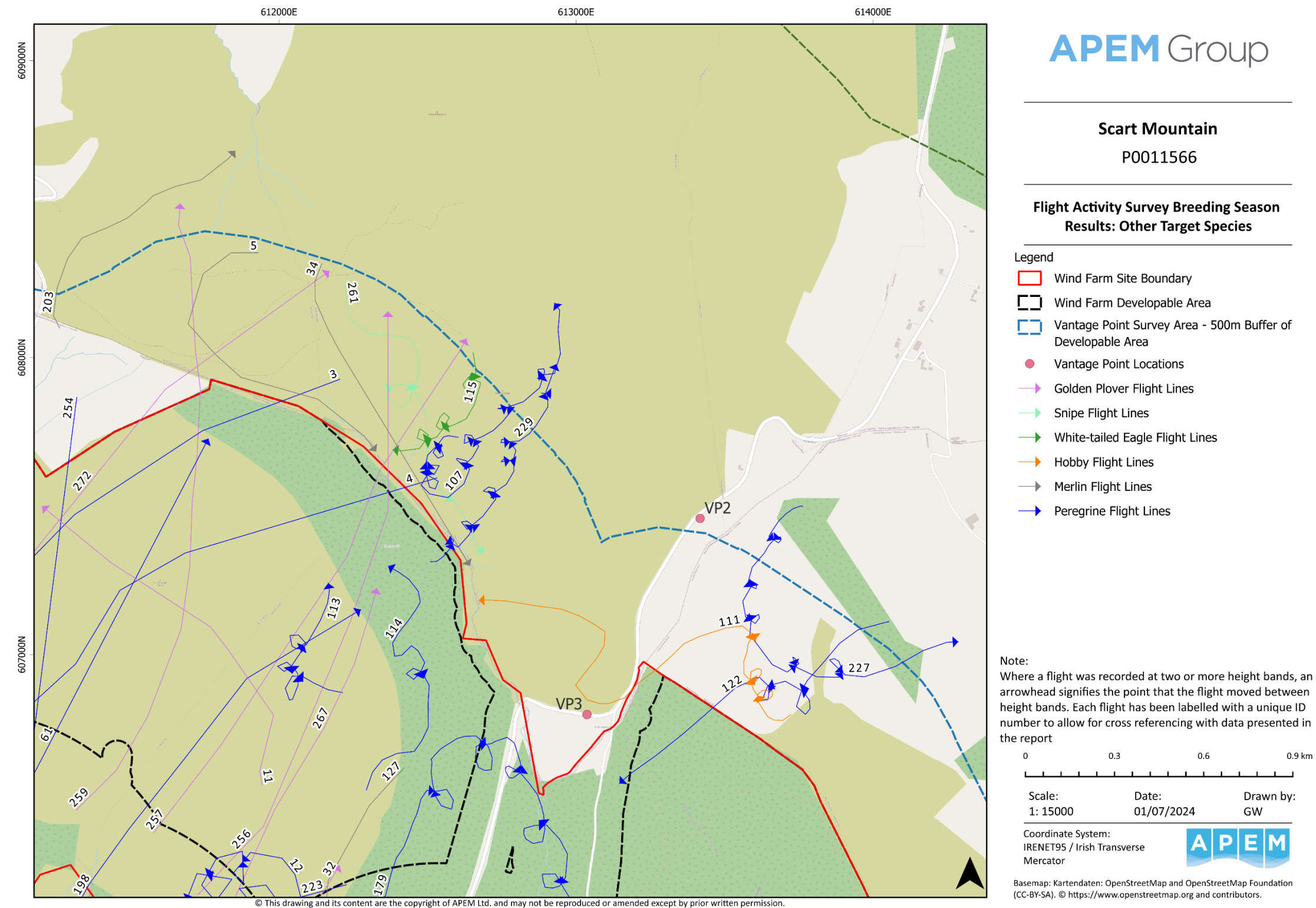


Figure 15. Breeding Season FAS results for all other target species recorded. Part 1

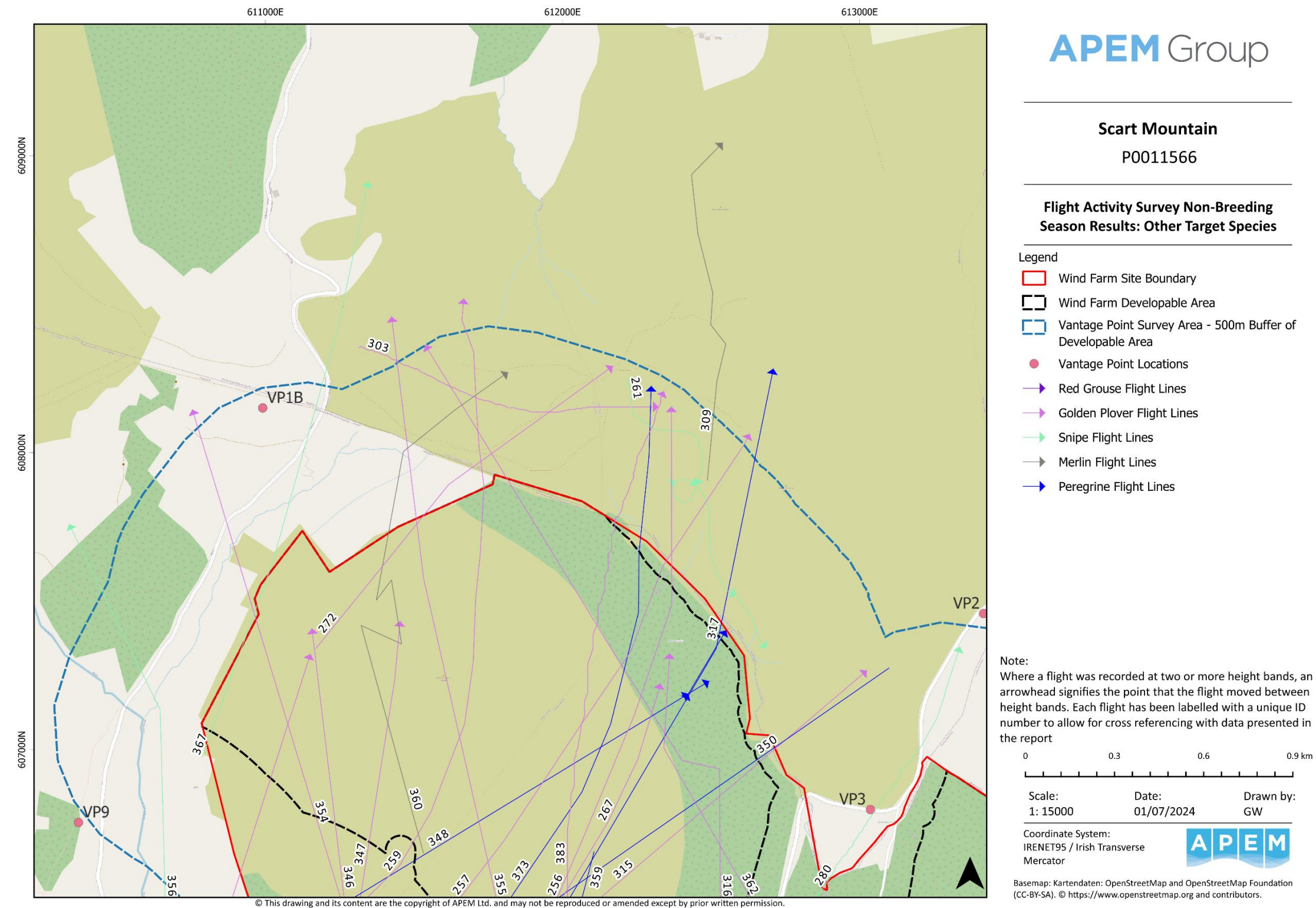


Figure 16. Non-Breeding Season FAS results for all other target species recorded. Part 1

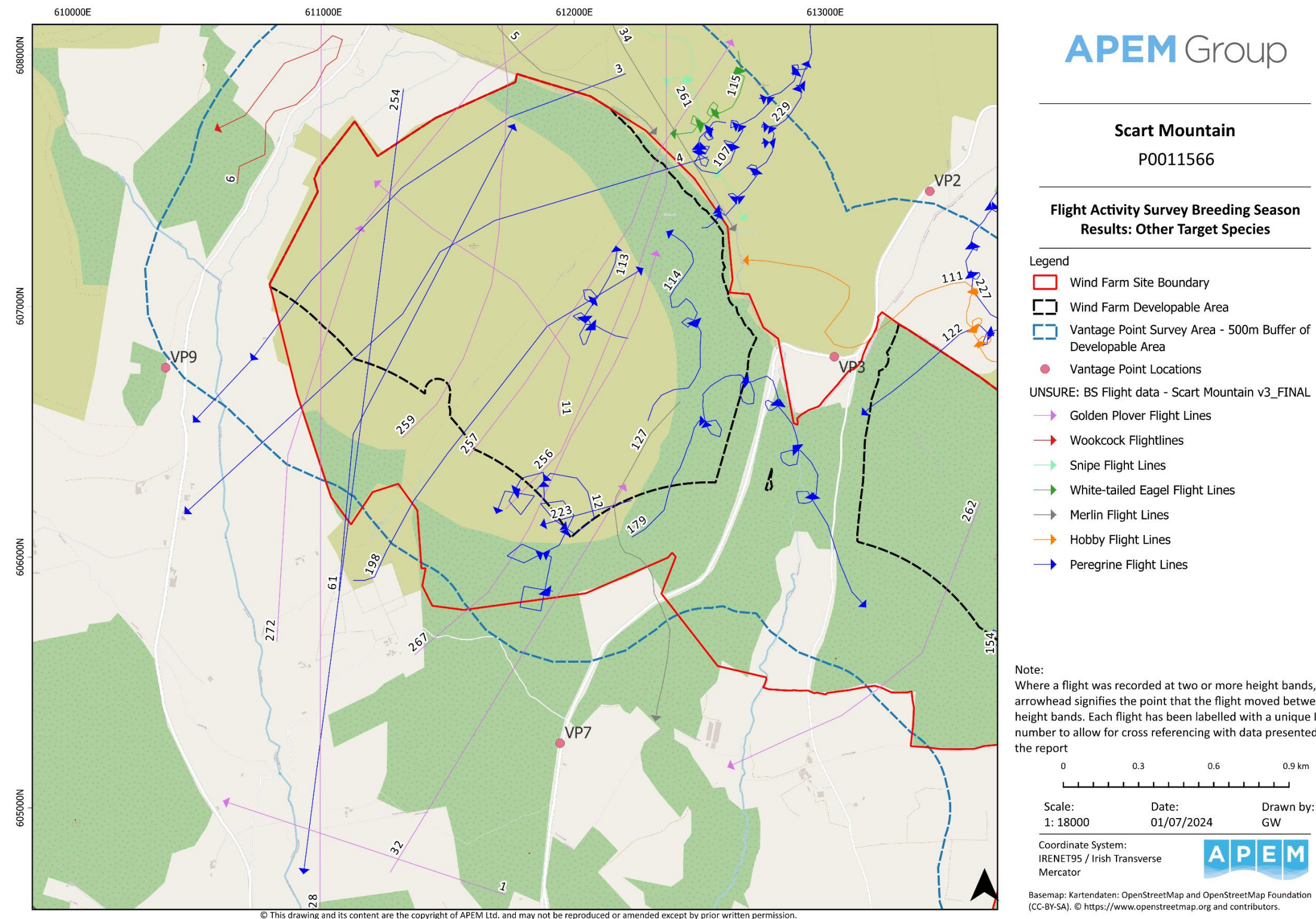


Figure 17. Breeding Season FAS results for all other target species recorded. Part 2

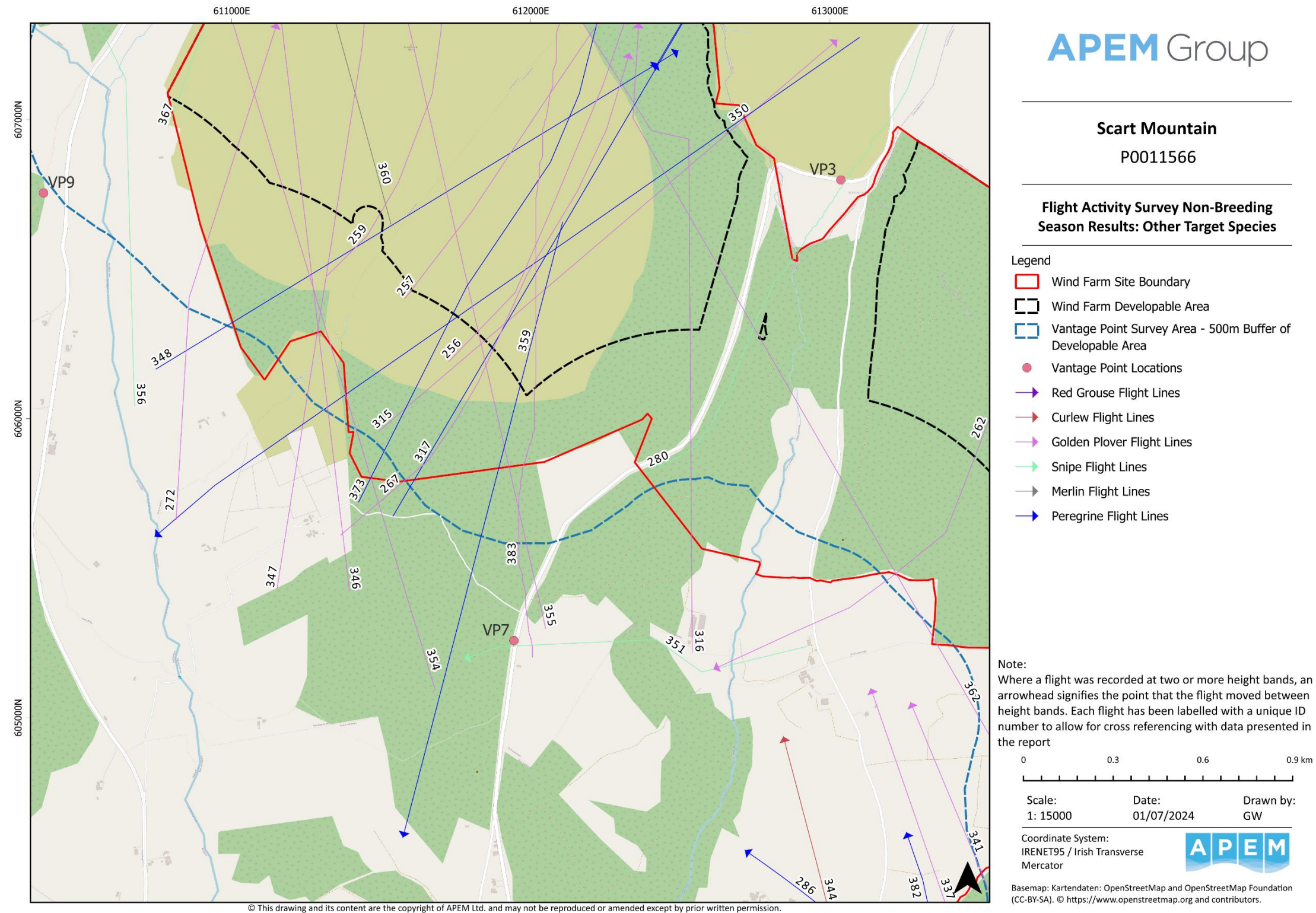


Figure 18. Non-Breeding Season FAS results for all other target species recorded. Part 2

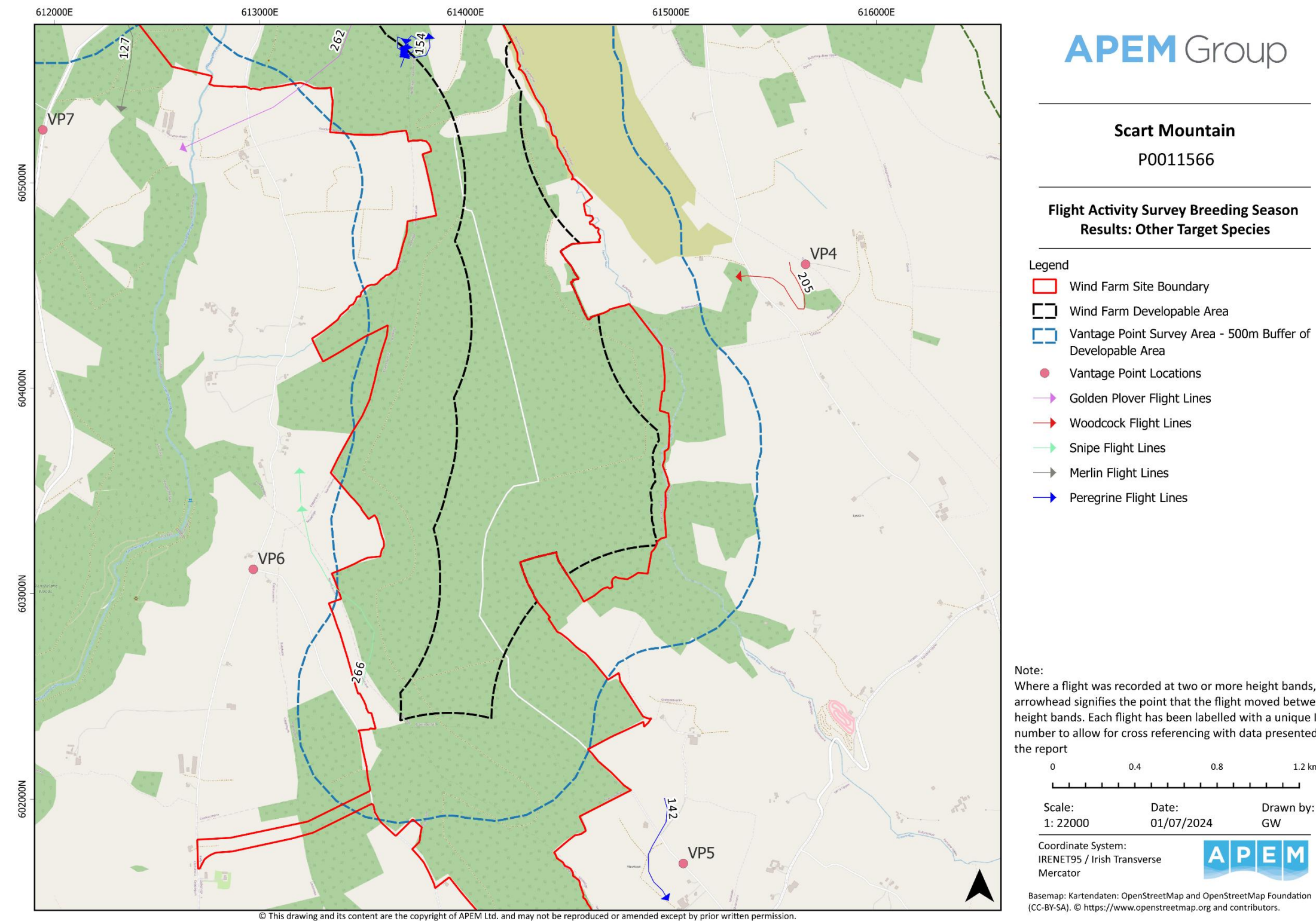


Figure 19. Breeding Season FAS results for all other target species recorded. Part 3

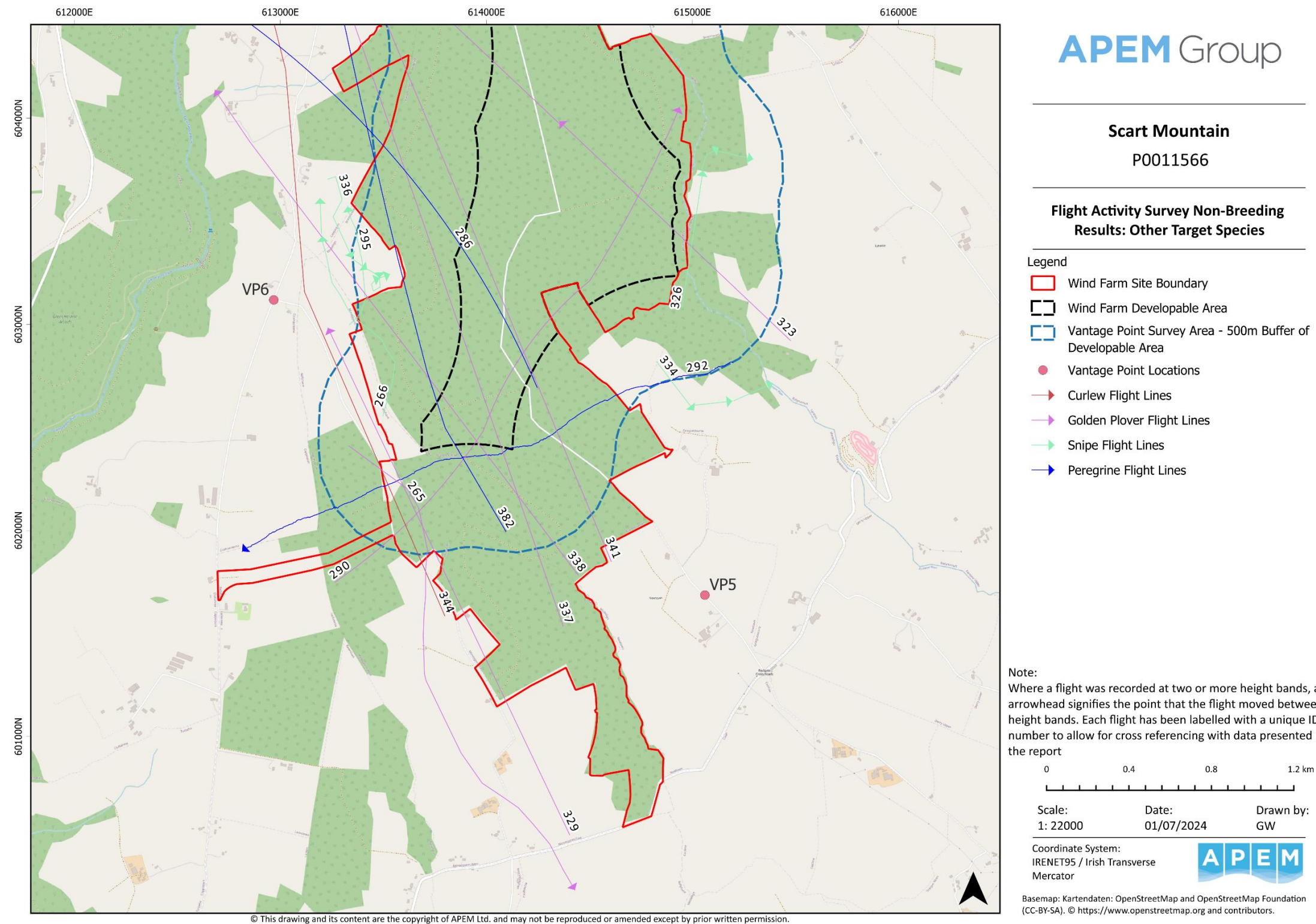


Figure 20. Non-Breeding Season FAS results for all other target species recorded. Part 3

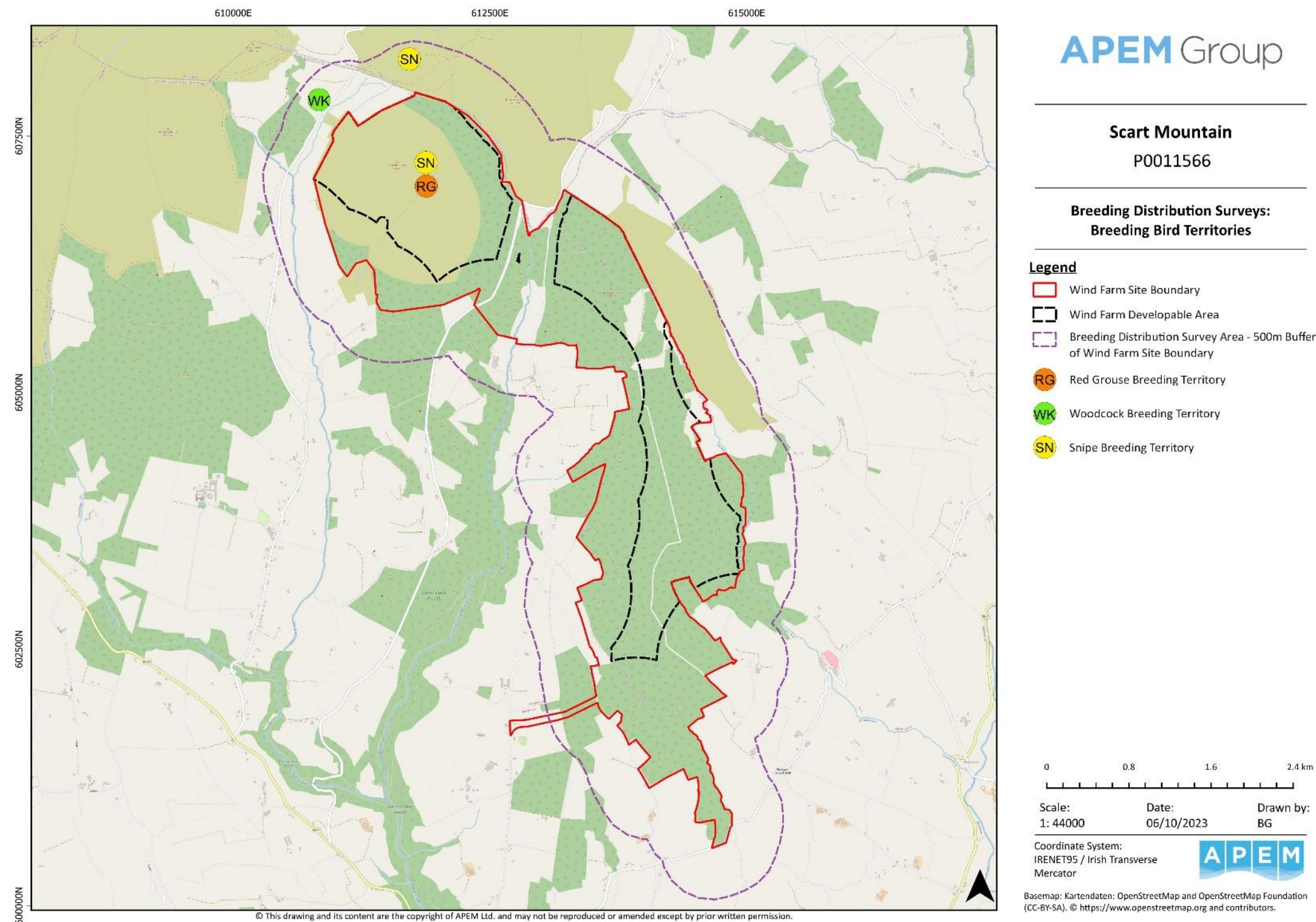


Figure 21. Breeding territories for all species recorded breeding during the 2023 BDS

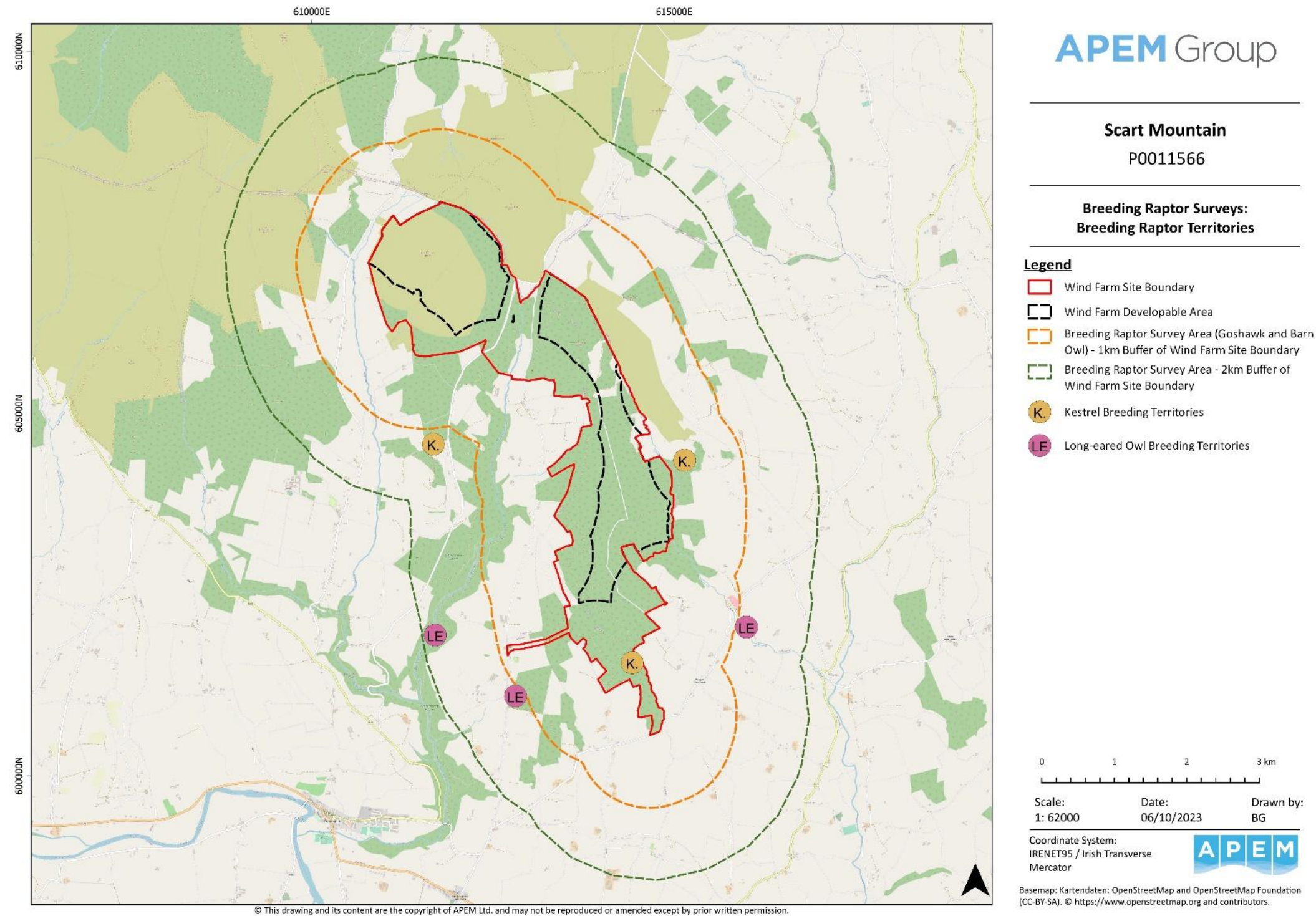


Figure 22. Breeding territories for all species recorded during 2023 Breeding Raptor Surveys

Appendix 2 Species List

Table 5 provides English vernacular and scientific names for all bird species named within this report. Taxonomic order is based on the Irish List by IRBC.

Table 5. List of Species mentioned within this report

English common name*	IRBC Species Name	Scientific name	Annex I Listing*	BoCCI Conservation Status***
Mallard	Mallard	<i>Anas platyrhynchos</i>		Amber
Red grouse	Red grouse	<i>Lagopus lagopus scotica</i>		Red
Stock dove	Stock dove	<i>Columba oenas</i>		Red
Golden plover	European golden plover	<i>Pluvialis apricaria</i>	Ann I	Red
Curlew	Curlew	<i>Numenius arquata</i>		Red
Woodcock	Eurasian woodcock	<i>Scolopax rusticola</i>		Red
Snipe	Common snipe	<i>Gallinago gallinago</i>		Red
Lesser black-backed gull	Lesser black-backed gull	<i>Larus fuscus</i>		Amber
Grey heron	Grey heron	<i>Ardea cinerea</i>		Green
Osprey	Osprey	<i>Pandion haliaetus</i>	Ann I	N/A
Sparrowhawk	Eurasian sparrowhawk	<i>Accipiter nisus</i>		Green
Goshawk	Northern goshawk	<i>Accipiter gentilis</i>		Amber
Hen harrier	Hen harrier	<i>Circus cyaneus</i>	Ann I	Amber
Red kite	Red Kite	<i>Milvus milvus</i>	Ann I	Red
White-tailed eagle	White-tailed eagle	<i>Haliaeetus albicilla</i>	Ann I	Red
Buzzard	Common buzzard	<i>Buteo buteo</i>		Green
Kestrel	Common kestrel	<i>Falco tinnunculus</i>		Red
Merlin	Merlin	<i>Falco columbarius</i>	Ann I	Amber
Hobby	Eurasian hobby	<i>Falco subbuteo</i>		N/A
Peregrine	Peregrine falcon	<i>Falco peregrinus</i>	Ann I	Green
Hooded crow	Hooded crow	<i>Corvus cornix</i>		Green
Raven	Raven	<i>Corvus corax</i>		Green
* Species order follow the Irish List maintained by the IRBC. **Ann I = listed on Annex I of the Bird's Directive; ***Green = Bird of Conservation Concern Ireland Green-listed species; Amber = Bird of Conservation Concern Ireland Amber-listed species; Red = Bird of Conservation Concern Ireland Red-listed species.				

Appendix 3 Weather Data

Table 6. Survey times and weather conditions during 2023-24 FAS

Survey	Date	Time	Temperature (Celsius)	Wind (Beaufort scale and direction)	Visibility	Precipitation	Cloud Cover (oktas)
VP 1							
1	27/03/2023	09:55-12:55	8	BF2 SE	>2km	Light rain	6
1	28/03/2023	06:44-09:44	10	BF2 WSW	>2km	Light drizzle	6
1	31/03/2023	13:35-16:35	10	BF3 NW	>2km	Dry	5
1	31/03/2023	17:31-20:31	10	BF3 WNW	>2km	Dry	6
2	24/04/2023	06:02-09:02	2	BF3 NNE	>2km	Showers	6
2	25/04/2023	05:42-08:42	6	BF2 SE	>2km	Dry	0
3	23/05/2023	08:20-11:20	15	BF1 SSW	>2km	Dry	0
3	30/05/2023	08:45-11:45	17	BF2 ENE	>2km	Dry	1
4	13/06/2023	04:40-7:40	16	BF1 SE	>2km	Dry	0
4	26/06/2023	06:40-09:40	13	BF1 S	>2km	Showers	5
5	07/07/2023	13:50-16:50	17	BF4 SSE	>2km	Dry	7
5	24/07/2023	14:00-17:00	17	BF1 NNW	>2km	Dry	2
6	16/08/2023	10:35-13:35	19	BF2 ESE	>2km	Dry	0
6	22/08/2023	05:56-08:56	14	BF2 WSW	>2km	Dry	3
7	12/12/2023	12:40-15:40	5	BF2 N	>2km	Dry	3
7	16/12/2023	08:55-11:55	10	BF4 SW	>2km	Drizzle	2
8	07/01/2024	13:45-16:45	0	BF2 NNE	>2km	Dry	1

Survey	Date	Time	Temperature (Celsius)	Wind (Beaufort scale and direction)	Visibility	Precipitation	Cloud Cover (oktas)
8	09/01/2024	11:30-14:30	-1	BF3 NE	>2km	Dry	1
9	17/01/2024	13:40-16:40	0	BF2 N	>2km	Dry	1
9	30/01/2024	14:00-17:00	0	BF1 NNE	>2km	Dry	2
10	02/02/2024	10:50-13:50	10	BF2 WSW	>2km	Dry	2
10	02/02/2024	14:20-17:20	11	BF2 WSW	>2km	Dry	3
11	19/02/2024	12:10-15:10	9	BF2 WSW	>2km	Dry	1
11	20/02/2024	15:20-18:20	7	BF4 W	>2km	Showers	8
12	04/03/2024	14:05-17:05	6	BF4 WNW	>2km	Mist	5
12	06/03/2024	12:05-15:05	10	BF3 SSE	>2km	Showers	8
VP 2							
1	27/03/2023	10:00-13:00	9	BF 4 SE	>2km	Light shower	6
1	07/04/2023	12:30-15:30	11	SSE	>2km	Dry	7
2	22/04/2023	11:00-14:00	13	BF1 E	>2km	Dry	8
2	22/04/2023	14:30-17:30	10	BF1 SE	>2km	Light rain	8
3	29/05/2023	07:30-10:30	16	BF1 E	>2km	Dry	1
3	29/05/2023	11:00-14:00	18	BF1 E	>2km	Dry	2
4	28/06/2023	19:30-22:30	18	BF2 NW	>2km	Dry	3
4	29/06/2023	04:30-07:30	10	BF1 W	>2km	Dry	2
5	28/07/2023	16:00-19:00	18	BF3 SSW	>2km	Drizzle to heavy showers	8
5	05/08/2023	08:30-11:30	12	BF5 NW	>2km	Light showers	8
6	01/09/2023	10:30-13:30	18	BF1 E	>2km	Light showers	4
6	02/09/2023	13:00-16:00	20	BF1 SE	>2km	Dry	4
7	07/12/2023	09:30-12:30	10	BF3 WSW	>2km	Dry	5

Survey	Date	Time	Temperature (Celsius)	Wind (Beaufort scale and direction)	Visibility	Precipitation	Cloud Cover (oktas)
7	13/12/2023	09:30-12:30	7	BF2 NNW	>2km	Dry	0
8	07/01/2024	10:15-13:15	-2	BF1 N	>2km	Dry	2
8	12/01/2024	08:05-11:05	4	BF1 ENE	>2km	Dry	6
9	17/01/2024	10:10-13:10	-2	BF1 N	>2km	Dry	0
9	23/01/2024	10:40-13:40	10	BF4 SW	>2km	Showers	5
10	03/02/2024	08:50-11:50	10	BF3 WSW	>2km	Mist and drizzle	8
10	03/02/2024	12:20-15:20	11	BF3 W	>2km	Light drizzle	7
11	17/02/2024	07:10-10:10	10	BF3 SSW	>2km	Light rain	8
11	20/02/2024	11:30-14:30	9	BF4 WSW	>2km	Intermittent rain	8
12	05/03/2024	11:45-14:45	6	BF2 WSW	>2km	Dry	1
12	06/03/2024	08:35-11:35	9	BF3 SSE	>2km	Rain (stopped at 09:15)	8
VP 3							
1	27/03/2023	13:30-16:30	7	BF3 SE	>2km	Drizzle	8
1	27/03/2023	17:25-20:25	8	BF3 SE	>2km	Dry	7
2	21/04/2023	13:00-16:00	12	BF 3 NE	>2km	Drizzle	8
2	21/04/2023	16:30-19:30	11	BF2 NE	>2km	Light showers	8
3	25/05/2023	12:30-15:30	19	BF3 NE	>2km	Dry	0
3	25/05/2023	16:00-19:00	19	BF3 NE	>2km	Dry	3
4	29/06/2023	08:00-11:00	14	BF1 W	>2km	Dry	6
4	29/06/2023	11:30-14:30	17	BF1 W	>2km	Dry	6
5	29/07/2023	11:00-14:00	17	BF4 WSW	>2km	Light showers	6
5	05/08/2023	12:00-15:00	16	BF4 NW	>2km	Light showers	6
6	01/09/2023	14:00-17:00	18	BF1 SE	>2km	Light showers	6

Survey	Date	Time	Temperature (Celsius)	Wind (Beaufort scale and direction)	Visibility	Precipitation	Cloud Cover (oktas)
6	02/09/2023	16:30-19:30	21	BF1 SE	>2km	Dry	4
7	07/12/2023	13:00-16:00	9	BF4 WSW	>2km	Dry	4
7	13/12/2023	13:00-16:00	8	BF1 NNW	>2km	Dry	0
8	08/01/2024	08:20-11:20	-1	BF1 E	>2km	Dry	8
8	14/01/2024	10:50-13:50	1	BF1 N	>2km	Showers	4
9	18/01/2024	11:55-14:55	1	NNE BF2	>2km	Dry	3
9	23/01/2024	14:10-17:10	11	BF4 SSW	>2km	Showers	6
10	14/02/2024	14:30-17:30	8	BF2 SSW	>2km	Dry	6
10	17/02/2024	10:40-13:40	8	BF4 SSW	>2km	Rain	8
10	21/02/2024	10:35-13:35	8	BF4 WSW	>2km	Showers	6
10	21/02/2024	14:05-17:05	6	BF4 NW	>2km	Showers	6
11	05/03/2024	15:15 - 18:15	7	BF2 WSW	>2km	Dry	2
11	06/03/2024	15:35 - 18:35	9	BF2 SSW	>2km	Showers	7
VP 4							
1	28/04/2023	08:35-11:35	13	BF1 SSW	>2km	Dry	4
1	28/04/2023	12:05-15:05	15	BF2 SW	>2km	Dry	3
2	29/04/2023	05:35-08:35	13	BF2 SW	>2km	Dry	6
2	29/04/2023	09:05-12:05	15	BF2 SSW	>2km	Dry	5
3	14/05/2023	14:00-17:00	14	F6 NW	>2km	Dry	6
3	25/05/2023	15:30-18:30	18	F NE	>2km	Dry	3
4	30/06/2023	08:30-11:30	15	BF4 WSW	>2km	Dry	8
4	30/06/2023	05:00-08:00	15	BF3 WSW	>2km	Drizzle	8
5	21/07/2023	05:05-08:05	15	BF1 Variable	>2km	Dry	3

Survey	Date	Time	Temperature (Celsius)	Wind (Beaufort scale and direction)	Visibility	Precipitation	Cloud Cover (oktas)
5	21/07/2023	08:35-11:35	18	BF1 WSW	>2km	Light showers	6
6	17/08/2023	14:50-17:50	20	E	>2km	Dry	0
6	17/08/2023	18:22-21:22	18	BF2 ENE	>2km	Dry	1
7	08/12/2023	11:30-14:30	8	BF3 W	>2km	Dry	4
7	08/12/2023	08:00-11:00	9	BF3 WSW	>2km	Dry	3
8	11/01/2024	12:20-15:20	6	BF2 ENE	>2km	Dry	3
8	11/01/2024	08:40-11:40	5	BF2 NNE	>2km	Dry	6
9	19/01/2024	09:30-12:30	-2	BF1 NW	>2km	Dry	1
9	19/01/2024	13:00-16:00	0	BF2 NW	>2km	Dry	3
10	10/02/2024	11:30-14:30	8	BF2 WNW	>2km	Showers	6
10	10/02/2024	15:00-18:00	9	BF2 WNW	>2km	Showers	8
11	19/02/2024	08:30-11:30	9	BF1 W	>2km	Dry	0
11	20/02/2024	07:30-10:30	8	BF4 WSW	>2km	Light showers	7
12	08/03/2024	09:30-12:30	6	BF4 E	>2km	Dry	6
12	08/03/2024	13:00 - 16:00	7	BF4 E	>2km	Dry	5
VP 5							
1	27/03/2023	13:30-16:30	9	SE	>2km	Dry	8
1	03/04/2023	12:00-15:00	10	SSE	>2km	Dry	8
2	17/04/2023	14:00-17:00	12	BF5 SE	>2km	Dry	6
2	21/04/2023	15:00-18:00	10	BF5 NE	>2km	Dry	8
3	12/05/2023	06:30-13:00	11	BF5 NW	>2km	Dry	6
3	14/05/2023	09:00-12:00	10	W	>2km	Light rain	8
4	20/06/2023	09:30-12:30	18	BF3 S	>2km	Dry	6

Survey	Date	Time	Temperature (Celsius)	Wind (Beaufort scale and direction)	Visibility	Precipitation	Cloud Cover (oktas)
4	20/06/2023	04:45-07:45	15	BF3 S	>2km	Dry	7
5	24/07/2023	15:00-18:00	17	BF5 NW	>2km	Dry	7
5	27/07/2023	18:45-21:45	18	BF5 SW	>2km	Dry	8
6	01/09/2023	07:30-14:00	16	BF2 SE	>2km	Heavy rain	8
7	09/12/2023	08:10-11:10	8	BF4 WNW	>2km	Light showers	6
7	15/12/2023	10:10-13:10	9	BF2 SW	>2km	Dry	2
8	09/01/2024	08:00-11:00	-3	BF3 ENE	>2km	Dry	3
8	14/01/2024	14:20-17:20	3	BF2 NNE	>2km	Dry	2
9	18/01/2024	08:25-11:25	-3	BF1 NNE	>2km	Dry	8
9	25/01/2024	09:20-12:20	10	BF3 SW	>2km	Drizzle	5
10	14/02/2024	11:00-14:00	10	BF2 SW	>2km	Dry	4
10	14/02/2024	07:30-10:30	11	BF3 SW	>2km	Low level mist	6
11	21/02/2024	07:05-10:05	8	BF3 WNW	>2km	Dry	1
11	22/02/2024	13:30-16:30	4	BF2 NW	>2km	Dry	7
12	04/03/2024	07:00-10:00	7	BF4 SE	>2km	Light showers	3
12	07/03/2024	09:20-11:20	8	BF4 ESE	>2km	Dry	8
VP 6							
1	27/03/2023	10:00-13:00	8	SE	>2km	Dry	8
1	07/04/2023	07:45-10:45	7	S	>2km	Dry	7
2	21/04/2023	08:00-11:00	9	BF6 ENE	>2km	Dry	8
2	22/04/2023	11:00-14:00	10	BF3 NE	>2km	Dry	8
3	05/05/2023	10:00-12:00	13	BF5 SW	>2km	Dry	8
3	05/05/2023	06:00-09:00	22	BF6 SSW	>2km	Light showers	6

Survey	Date	Time	Temperature (Celsius)	Wind (Beaufort scale and direction)	Visibility	Precipitation	Cloud Cover (oktas)
4	05/06/2023	19:20-22:20	18	BF4 NE	>2km	Dry	3
4	05/06/2023	15:30-18:30	20	BF4 NE	>2km	Dry	7
5	24/07/2023	05:00-11:30	15	BF5 N	>2km	Dry	8
6	28/08/2023	14:00-20:30	16	NW	>2km	Dry	8
7	09/12/2023	11:40-14:40	8	BF4 NW	>2km	Light showers	5
7	15/12/2023	13:40-16:40	8	BF2 WSW	>2km	Dry	0
8	10/01/2024	08:50-11:50	-2	BF2 NNE	>2km	Dry	1
8	10/01/2024	14:20-17:20	-4	BF1 N	>2km	Dry	6
9	22/01/2024	08:45-11:45	6	BF3 WSW	>2km	Light showers	0
9	30/01/2024	10:30-13:30	-2	BF1 NNE	>2km	Dry	1
10	16/02/2024	08:15-11:15	8	BF2 WSW	>2km	Dry	2
10	16/02/2024	15:15-18:15	2	BF3 WSW	>2km	Dry	0
11	22/02/2024	10:00-13:00	4	BF1 WNW	>2km	Dry	5
11	26/02/2024	15:35-18:35	1	BF3 NNE	>2km	Snow flurries	8
12	04/03/2024	10:30-13:30	7	BF4 ESE	>2km	Showers	7
12	09/03/2024	11:30-14:30	7	BF4 ENR	>2km	Showers	8
VP 7							
1	03/04/2023	08:30-11:30	9	BF4 SE	>2km	Dry	8
2	22/04/2023	11:30-14:30	10	BF6 NE	>2km	Dry	7
2	22/04/2023	07:30-10:30	7	BF3 E	>2km	Dry	8
3	14/05/2023	07:00-13:30	10	W	>2km	Drizzle	8
4	23/06/2023	19:30-22:30	16	BF4 SW	>2km	Light showers	8
4	23/06/2023	16:00-19:00	18	BF4 SW	>2km	Light showers	8

Survey	Date	Time	Temperature (Celsius)	Wind (Beaufort scale and direction)	Visibility	Precipitation	Cloud Cover (oktas)
5	27/07/2023	05:30-12:00	16	BF3 WSW	>2km	Dry	8
6	26/08/2023	14:00-20:30	16	BF5 NNW	>2km	Heavy rain	5
7	12/12/2023	09:10-12:10	5	BF2 NNW	>2km	Dry	6
7	20/12/2023	10:15-13:15	8	BF4 WNW	>2km	Dry	1
8	10/01/2024	12:20-15:20	0	BF2 ENE	>2km	Dry	0
8	16/01/2024	10:50-13:50	-6	BF1 Variable	>2km	Dry	8
9	22/01/2024	12:15-15:15	8	BF4 WSW	>2km	Showers then rain	0
9	24/01/2024	09:40-12:40	8	BF1 Variable	>2km	Dry	5
10	13/02/2024	07:40-10:40	7	BF1 SE	>2km	Dry	6
10	13/02/2024	11:10-14:10	9	BF1 ESE	>2km	Drizzle	4
11	23/02/2024	12:00-15:00	3	BF2 NW	>2km	Dry	1
11	26/02/2024	07:20-10:20	0	BF3 N	>2km	Dry	1
12	05/03/2024	08:15-11:15	5	BF2 W	>2km	Dry	6
12	09/03/2024	08:00-11:00	7	BF4 ENE	>2km	Light rain	7
VP 8							
1	27/03/2023	13:25-16:25	7	BF2 ESE	>2km	Light rain	6
1	27/03/2023	17:25-20:25	8	BF4 ESE	>2km	Dry	8
VP 9							
1	30/03/2023	17:29-20:29	11	BF4 SSE	>2km	Dry	6
1	31/03/2023	09:15-12:15	10	BF3 WNW	>2km	Dry	5
2	24/04/2023	09:35-12:35	4	BF3 NNE	>2km	Showers	1
2	25/04/2023	09:40-12:40	12	BF2 SSE	>2km	Dry	1
3	23/05/2023	11:50-14:50	17	BF2 SSW	>2km	Dry	0

Survey	Date	Time	Temperature (Celsius)	Wind (Beaufort scale and direction)	Visibility	Precipitation	Cloud Cover (oktas)
3	30/05/2023	04:48-07:48	13	BF3 ENE	>2km	Dry	6
4	12/06/2023	19:21-22:21	21	BF2 ESE	>2km	Dry	0
4	26/06/2023	10:20-13:20	14	BF2 WSW	>2km	Dry	4
5	07/07/2023	10:15-13:15	16	BF3 SSE	>2km	Dry	6
5	24/07/2023	10:15-13:15	17	BF1 NNW	>2km	Dry	2
6	16/08/2023	05:46-08:46	14	BF1 E	>2km	Dry	0
6	22/08/2023	10:05-13:05	19	BF3 WSW	>2km	Dry	5
8	16/12/2023	12:25-15:25	9	BF3 W	>2km	Drizzle	8
8	20/12/2023	13:45-16:45	8	BF3 WNW	>2km	Showers	7
9	08/01/2024	11:50-14:50	0	BF2 ENE	>2km	Dry	7
9	12/01/2024	11:35-14:35	6	BF2 NE	>2km	Dry	8
9	24/01/2024	13:20-16:10	9	BF1 WSW	>2km	Dry	2
9	25/01/2024	12:50-15:50	11	BF4 SSW	>2km	Drizzle	8
10	13/02/2024	14:40-17:40	8	BF1 E	>2km	Drizzle	6
10	16/02/2024	11:45-14:45	9	BF3 WSW	>2km	Dry	1
11	23/02/2024	15:30-18:30	2	BF3 N	>2km	Sleet, showers	6
11	26/02/2024	10:50-13:50	1	BF3 NNE	>2km	Dry	1
12	07/03/2024	11:50-14:50	9	BF4 ESE	>2km	Dry	2
12	07/03/2024	15:20-18:20	9	BF3 SE	>2km	Dry	3

Appendix 4 Details of Target Species Flight Lines

Details of target species flight lines recorded during 2023-24 FAS are presented below in **Table 7**. The Flight ID allows for cross-referencing of flights shown on Figure 3 to Figure 20, Appendix 1. Details of confidential raptor species are detailed in the Confidential Annex.

Table 7. Details of non-confidential target species flight lines recorded during FAS

Species	Flight ID	Date	VP	Count	Time	Flight Duration	Height Bd	Age*	Sex	Notes
Red Grouse	274	09/01/2024	1	1	13:41	23	A		M	Flew low then lost to view
	285	11/01/2024	4	2	10:56	28	A			1 male and 1 female, landed
	276	30/01/2024	1	1	14:02	39	A		M	Landed
	307	02/02/2024	1	1	15:07	39	A		M	Flew and landed
	312	17/02/2024	2	1	07:31	19	A		M	Male short flight, called from ground
	320	17/02/2024	3	1	11:18	16	A		M	
	369	05/03/2024	2	1	14:10	62	A		M	Male called, flushed
Golden plover	1	27/03/2023	1	24	12:09	68	D			Flew NNW
	11	27/03/2023	2	40	11:01	10	B			
	28	27/03/2023	8	38	19:38	265	D			
	32	30/03/2023	9	28	20:06	107	C			
	256	07/12/2023	2	26	11:23	71	C			
	257	07/12/2023	2	18	11:56	65	C			
	259	07/12/2023	3	18	14:37	58	C			
	262	08/12/2023	4	26	13:18	49	C			
	267	12/12/2023	7	19	09:56	75	C			

Species	Flight ID	Date	VP	Count	Time	Flight Duration	Height Bd	Age*	Sex	Notes
	265	15/12/2023	5	12	00:00	138	C			
	272	16/12/2023	9	8	15:11	41	C			
	272	16/12/2023	9	8	15:11	35	D			
	303	08/01/2024	9	6	14:07	38	D			Flying N
	290	14/01/2024	5	8	17:01	98	E			
	383	24/01/2024	9	7	16:04	138	E			Flying NNE over mountain
	323	10/02/2024	4	26	11:44	62	C			
	323	10/02/2024	4	26	11:44	43	D			Lost to view
	346	13/02/2024	7	22	08:05	81	C			Flying NNW
	347	13/02/2024	7	34	08:16	88	C			Flying NNE
	354	13/02/2024	9	17	15:11	64	D			Flew NNW
	355	13/02/2024	9	23	15:13	70	D			Flew NNW
	316	14/02/2024	3	35	16:04	106	D			Flying NNW
	329	14/02/2024	5	27	11:42	85	E			
	337	16/02/2024	6	23	17:04	90	C			Flying N
	338	16/02/2024	6	41	17:01	82	C			Flying N
	315	20/02/2024	2	14	14:03	104	B			Flying NNE
	341	22/02/2024	6	14	12:40	128	D			Flying N
	362	05/03/2024	7	22	10:26	64	C			Flying NNW
Curlew	344	26/02/2024	6	7	17:27	135	C			Flying N
Woodcock	6	31/03/2023	1	1	20:19	68	B			
	205	21/07/2023	4	1	04:56	28	A/B			5 seconds at height band A, 23 at height band B
Snipe	266	09/12/2023	6	1	13:26	32	B			Called twice then dropped into wet field, lost view
	266	09/12/2023	6	1	13:26	5	A			

Species	Flight ID	Date	VP	Count	Time	Flight Duration	Height Bd	Age*	Sex	Notes
	261	13/12/2023	3	2	15:46	8	C			
	261	13/12/2023	3	2	15:46	11	B			
	261	13/12/2023	3	2	15:46	6	A			Flushed by walker.
	280	08/01/2024	3	2	11:02	82	C			Flew NNE called 3/4 times, lost to view
	280	08/01/2024	3	2	11:02	11	B			Flew NNE called 3/4 times, lost to view
	295	22/01/2024	6	2	09:02	5	A			2 flushed, took off and landed
	295	22/01/2024	6	2	09:02	23	B			2 flushed, took off and landed
	295	22/01/2024	6	2	09:02	5	A			2 flushed, took off and landed
	351	13/02/2024	7	2	13:35	57	C			
	356	13/02/2024	9	1	16:21	58	C			Flew NNW
	336	16/02/2024	6	1	08:26	31	C			called
	336	16/02/2024	6	1	08:26	4	B			
	336	16/02/2024	6	1	08:26	8	A			Dropped into wet field
	326	19/02/2024	4	1	10:46	46	C			Flew N, then dropped then lost to view
	326	19/02/2024	4	1	10:46	5	B			Flew N, then dropped then lost to view
	326	19/02/2024	4	1	10:46	5	A			Lost to view
	334	22/02/2024	5	1	14:36	12	C			Flew and called
	334	22/02/2024	5	1	14:36	13	B			
	334	22/02/2024	5	1	14:36	5	A			Dropped out of view
	367	06/03/2024	1	2	12:05	71	D			High direct flight
White-tailed eagle	115	29/05/2023	2	1	13:16	25	C			
Kestrel	2	27/03/2023	1	1	12:31	135	A		M	Hunting
	2	27/03/2023	1	1	12:31	26	B		M	Hunting

Species	Flight ID	Date	VP	Count	Time	Flight Duration	Height Bd	Age*	Sex	Notes
	10	27/03/2023	2	1	10:56	55	B			
	13	27/03/2023	2	1	12:34	85	B		M	
	13	27/03/2023	2	1	12:34	15	A		M	
	17	27/03/2023	5	1	15:13	10	C		M	Hunting
	18	27/03/2023	5	1	15:20	60	C		F	Hunting
	19	27/03/2023	5	1	15:30	40	B		M	Carrying prey
	19	27/03/2023	5	1	15:30	40	C		M	Carrying prey
	22	27/03/2023	6	1	11:26	10	B		M	
	25	27/03/2023	8	1	14:08	235	B	Adult	M	Hunting
	25	27/03/2023	8	1	14:08	20	A	Adult	M	Hunting
	26	27/03/2023	8	1	15:32	16	A		M	
	26	27/03/2023	8	1	15:32	38	B		M	
	26	27/03/2023	8	1	15:32	12	C		M	
	27	27/03/2023	8	1	18:12	86	A		F	Hunting
	27	27/03/2023	8	1	18:12	105	B		F	Hunting
	27	27/03/2023	8	1	18:12	32	C		F	Hunting
	31	30/03/2023	9	1	18:25	68	B		K.	Hunting
	31	30/03/2023	9	1	18:25	11	A		M	Hunting
	29	31/03/2023	9	1	10:37	48	C		M	
	29	31/03/2023	9	1	10:37	19	B		M	
	30	31/03/2023	9	1	11:30	52	B		M	Hunting
	30	31/03/2023	9	1	11:30	35	A		M	Hunting
	30	31/03/2023	9	1	11:30	108	B		M	Hunting
	15	03/04/2023	5	1	13:55	60	C		M	Hunting

Species	Flight ID	Date	VP	Count	Time	Flight Duration	Height Bd	Age*	Sex	Notes
	24	03/04/2023	7	1	09:36	30	C			Hunting
	7	07/04/2023	2	1	13:06	40	B		M	Hunting
	7	07/04/2023	2	1	13:06	20	C		M	Hunting
	9	07/04/2023	2	1	13:29	20	A		F	Hunting
	8	07/04/2023	2	1	15:13	30	B		M	Hunting
	23	07/04/2023	6	1	08:12	60	B		M	
	53	17/04/2023	5	1	15:59	30	C		M	Mobbing buzzard
	64	21/04/2023	3	0	13:06	170	A		M	Hunting
	70	21/04/2023	3	1	17:15	140	A			Hunting
	72	21/04/2023	3	1	18:32	35	A			Hunting
	74	21/04/2023	3	1	18:47	50	B			Hunting
	55	21/04/2023	6	1	10:23	60	C		M	Hunting
	57	21/04/2023	7	1	12:28	60	C			Hunting
	77	22/04/2023	2	1	11:46	380	B			Hunting
	77	22/04/2023	2	1	11:46	20	A			Hunting
	80	22/04/2023	2	2	12:22	120	C		M+F	
	81	22/04/2023	2	1	12:30	35	A		M	Hunting
	65	22/04/2023	2	1	13:29	69	A		M	Hunting
	82	22/04/2023	2	1	13:31	40	A		M	Hunting
	84	22/04/2023	2	1	13:52	40	A			Hunting
	86	22/04/2023	2	1	14:36	60	B		M	Hunting
	88	22/04/2023	2	1	14:55	15	A		M	
	90	22/04/2023	2	1	15:39	20	B		M	
	91	22/04/2023	2	1	15:58	240	A		M	Hunting

Species	Flight ID	Date	VP	Count	Time	Flight Duration	Height Bd	Age*	Sex	Notes
	92	22/04/2023	2	1	16:36	40	A		M	
	93	22/04/2023	2	2	17:11	80	B		M+F	
	60	24/04/2023	9	1	09:58	41	A		M	Hunting
	60	24/04/2023	9	1	09:58	26	B		M	Hunting
	60	24/04/2023	9	1	09:58	18	C		M	Hunting
	35	25/04/2023	1	1	08:34	58	C		F	Hunting
	35	25/04/2023	1	1	08:34	19	B		F	Hunting
	63	25/04/2023	9	1	12:01	49	B		F	Non-hunting dive flight mobbed by hooded crow
	41	29/04/2023	4	1	11:09	24	B		M	
	41	29/04/2023	4	1	11:09	10	C		M	
	41	29/04/2023	4	1	11:09	8	B		M	
	42	29/04/2023	4	1	11:42	105	B		M	Hunting
	52	29/04/2023	4	1	11:42	18	A		M	Hunting
	104	05/05/2023	6	1	07:26	10	A		M	
	101	05/05/2023	6	1	11:20	40	C		M	Hunting
	102	05/05/2023	6	1	11:32	40	C		M	Hunting
	103	05/05/2023	6	1	11:49	60	C		M	Hunting
	94	14/05/2023	4	1	14:25	30	B		F	
	95	14/05/2023	4	1	15:03	20	B		M	Hunting
	97	14/05/2023	7	1	09:56	10	B			
	98	14/05/2023	7	1	11:22	120	B		M	
	195	23/05/2023	1	1	10:26	5	A		M	
	195	23/05/2023	1	1	10:26	106	B		M	
	123	25/05/2023	3	1	14:02	30	B			Hunting

Species	Flight ID	Date	VP	Count	Time	Flight Duration	Height Bd	Age*	Sex	Notes
	124	25/05/2023	3	1	14:21	140	B		M	Hunting
	125	25/05/2023	3	1	15:04	60	B			
	126	25/05/2023	3	1	15:09	40	A			Hunting
	128	25/05/2023	3	1	16:49	55	A		M	Hunting
	129	25/05/2023	3	1	17:34	240	A		M	Hunting
	130	25/05/2023	3	1	18:09	50	A			Hunting
	131	25/05/2023	3	1	18:17	40	A		M	Hunting
	132	25/05/2023	3	1	18:20	250	A		M	Hunting
	105	29/05/2023	2	1	11:03	25	A		F	
	108	29/05/2023	2	1	12:15	80	B		M	Hunting
	109	29/05/2023	2	1	12:22	65	B		F	Hunting
	112	29/05/2023	2	1	12:52	140	B			
	116	29/05/2023	2	1	13:19	40	A		M	Hunting
	118	29/05/2023	2	1	13:31	80	B		M	
	119	29/05/2023	2	1	13:42	60	B		M	Hunting
	120	29/05/2023	2	1	13:49	20	A			
	121	29/05/2023	2	1	13:53	50	A			Hunting
	199	30/05/2023	9	1	07:16	142	B/C/B/A		M	105 seconds at height band B, 22 seconds at height band C, 10 seconds at height band B, 5 seconds at height band A./2
	137	05/06/2023	6	1	15:37	90	B		M	Hunting
	138	05/06/2023	6	1	16:02	40	B			
	139	05/06/2023	6	1	16:13	40	B		F	Hunting
	140	05/06/2023	6	1	17:19	60	C		M	Hunting
	141	05/06/2023	6	1	18:02	60	C		F	Hunting

Species	Flight ID	Date	VP	Count	Time	Flight Duration	Height Bd	Age*	Sex	Notes
	133	05/06/2023	6	1	19:29	40	B		M	Hunting
	134	05/06/2023	6	1	19:46	60	C		M	Hunting
	135	05/06/2023	6	1	20:19	120	C		M	Hunting
	143	20/06/2023	5	1	11:28	120	C	Adult	M	Hunting
	153	23/06/2023	7	1	16:38	40	C		M	Hunting
	152	23/06/2023	7	1	20:09	120	C		M	
	146	30/06/2023	4	1	09:46	20	B		M	
	148	30/06/2023	4	1	10:19	60	C		M	Hunting
	208	07/07/2023	9	1	11:04	85	B	Adult	F	Hunting
	209	07/07/2023	9	3	11:06	60	B	Juv		
	207	21/07/2023	4	1	11:22	134	B		N	Hunting
	207	21/07/2023	4	1	11:22	9	A		M	
	188	24/07/2023	5	1	15:23	40	C		M	Hunting
	190	24/07/2023	5	1	16:42	120	C		M	Hunting
	191	24/07/2023	5	1	17:11	60	C		M	Hunting
	186	24/07/2023	6	1	09:15	90	C		F	Hunting
	211	24/07/2023	9	1	11:08	141	B		M	Hunting
	211	24/07/2023	9	1	11:08	15	A		M	
	212	24/07/2023	9	1	12:40	62	C		M	
	192	27/07/2023	5	1	19:07	60	C		M	Hunting
	193	27/07/2023	5	1	19:27	10	B		M	
	160	28/07/2023	2	1	16:02	25	A			Hunting
	162	28/07/2023	2	1	16:29	30	A		M	
	164	28/07/2023	2	2	17:16	60	A	Juv		Hunting

Species	Flight ID	Date	VP	Count	Time	Flight Duration	Height Bd	Age*	Sex	Notes
	165	28/07/2023	2	1	18:10	120	A		M	Hunting
	167	28/07/2023	2	1	18:44	100	A	Imm	M	Hunting
	168	28/07/2023	2	1	18:51	40	A		M	Hunting
	173	29/07/2023	3	1	11:02	35	A	Juv		Hunting
	174	29/07/2023	3	1	11:16	140	B		M	Hunting
	174	29/07/2023	3	1	11:16	30	A		M	Hunting
	175	29/07/2023	3	1	11:37	80	C	Juv		Hunting
	176	29/07/2023	3	1	11:56	25	A	Juv		With prey
	177	29/07/2023	3	1	12:29	30	A	Juv		
	178	29/07/2023	3	1	12:48	65	A	Juv		Hunting
	180	29/07/2023	3	0	13:29	120	A		M	Hunting
	171	05/08/2023	2	1	10:43	25	A	Imm	M	
	172	05/08/2023	2	1	10:59	110	A		F	Hunting
	184	05/08/2023	3	1	13:52	80	A		M	Hunting
	185	05/08/2023	3	1	14:25	130	A			Hunting
	248	16/08/2023	1	1	13:16	38	B		F	
	249	16/08/2023	1	1	13:16	12	A		F	
	252	16/08/2023	9	1	07:34	128	A		M	
	252	16/08/2023	9	1	07:34	15	B		M	
	252	16/08/2023	9	1	07:34	23	A		M	
	253	16/08/2023	9	1	08:04	45	A		M	
	253	16/08/2023	9	1	08:04	65	B		M	
	253	16/08/2023	9	1	08:04	82	A		M	
	255	22/08/2023	9	1	12:02	32	B		F	

Species	Flight ID	Date	VP	Count	Time	Flight Duration	Height Bd	Age*	Sex	Notes
	255	22/08/2023	9	1	12:02	12	C		F	
	255	22/08/2023	9	1	12:02	55	B		F	
	255	22/08/2023	9	1	12:02	15	A		F	
	220	26/08/2023	7	2	15:18	60	C			
	224	26/08/2023	7	1	18:52	40	B			Hunting
	225	26/08/2023	7	1	19:42	20	B			
	213	28/08/2023	6	1	15:17	5	A			
	215	28/08/2023	6	1	16:58	90	C			
	217	28/08/2023	6	2	18:11	60	C			
	218	28/08/2023	6	1	19:24	120	B			Hunting
	219	28/08/2023	6	1	19:42	10	A			
	228	02/09/2023	2	1	13:24	80	C			
	228	02/09/2023	2	1	14:22	130	A			Hunting
	231	02/09/2023	2	1	15:39	110	A			Hunting
	238	02/09/2023	3	1	14:01	30	B			Hunting
	239	02/09/2023	3	1	14:09	10	A			
	240	02/09/2023	3	1	14:11	30	A			
	241	02/09/2023	3	1	14:15	20	B			
	242	02/09/2023	3	1	15:21	20	A			
	243	02/09/2023	3	1	15:37	80	A			
	244	02/09/2023	3	1	16:09	10	A			
	244	02/09/2023	3	1	16:27	130	A			
	232	02/09/2023	3	1	16:35	80	A	Juv		
	233	02/09/2023	3	1	17:14	120	A			Hunting

Species	Flight ID	Date	VP	Count	Time	Flight Duration	Height Bd	Age*	Sex	Notes
	234	02/09/2023	3	1	17:52	30	A			
	235	02/09/2023	3	1	18:14	80	B			Hunting
	235	02/09/2023	3	1	18:14	10	A			
	236	02/09/2023	3	1	18:32	15	A			
	237	02/09/2023	3	1	19:10	60	B			
	237	02/09/2023	3	1	19:10	20	C			
	263	08/12/2023	4	1	10:01	185	B		M	
	263	08/12/2023	4	1	10:01	15	A		M	Hunting, lost view to woodland
	264	08/12/2023	4	1	10:38	210	B		M	Hunting
	264	08/12/2023	4	1	10:38	36	A		M	Hunting, lost view to woodland
	268	12/12/2023	7	1	11:40	110	B		F	Hunting
	268	12/12/2023	7	1	11:40	6	A		F	
	260	13/12/2023	3	1	14:03	26	B		M	
	260	13/12/2023	3	1	14:03	40	A		M	
	260	13/12/2023	3	1	14:03	18	B		M	
	271	16/12/2023	9	1	14:06	29	B		M	Hunting, then lost to view
	271	16/12/2023	9	1	14:06	26	C		M	
	271	16/12/2023	9	1	14:06	14	B		M	
	269	20/12/2023	7	1	11:28	175	C		F	Hunting
	269	20/12/2023	7	1	11:28	9	B		F	
	270	20/12/2023	7	1	12:19	26	B		F	Hunting
	270	20/12/2023	7	1	12:19	140	C		F	Hunting
	270	20/12/2023	7	1	12:19	15	B		F	Hunting
	273	07/01/2024	1	1	14:53	152	B		F	Hunting, then lost to view

Species	Flight ID	Date	VP	Count	Time	Flight Duration	Height Bd	Age*	Sex	Notes
	273	07/01/2024	1	1	14:53	32	C		F	Hunting, then lost to view
	279	08/01/2024	3	1	09:54	215	B		M	Hunting
	279	08/01/2024	3	1	09:54	8	A		M	
	302	08/01/2024	9	1	12:26	195	C		M	Hunting, lost to view
	302	08/01/2024	9	1	12:26	41	B		M	Hunting, lost to view
	275	09/01/2024	1	1	14:10	31	C		F	Direct flight, lost to view
	294	10/01/2024	6	1	10:20	93	C		M	
	294	10/01/2024	6	1	11:05	5	B		M	Direct flight, lost to view
	294	10/01/2024	6	1	11:05	5	A		M	Direct flight, lost to view
	299	10/01/2024	7	1	14:05	64	C		F	Hunting, lost to view
	299	10/01/2024	7	1	14:05	104	B		F	
	284	11/01/2024	4	1	09:51	186	C		M	Hunting, lost view to hillside
	284	11/01/2024	4	1	09:51	11	B		M	Hunting, lost view to hillside
	304	12/01/2024	9	1	13:11	205	C		F	Hunting, lost to view
	304	12/01/2024	9	1	13:11	25	B		F	Hunting, lost to view
	305	12/01/2024	9	1	13:05	190	C		F	Hunting
	289	14/01/2024	5	1	14:37	163	B		F	Hunting
	278	17/01/2024	2	1	11:14	263	C		F	Hunting N side, lost to woodland
	281	18/01/2024	3	1	13:09	10	B		F	Hunting
	281	18/01/2024	3	1	13:09	97	C		F	Hunting
	291	18/01/2024	5	1	09:51	172	B		F	Hunting
	291	18/01/2024	5	1	09:51	9	A		F	Hunting
	287	19/01/2024	4	1	12:01	185	B		M	Hunting, lost to view
	287	19/01/2024	4	1	12:01	12	A		M	Hunting, lost to view

Species	Flight ID	Date	VP	Count	Time	Flight Duration	Height Bd	Age*	Sex	Notes
	288	19/01/2024	4	1	13:18	65	C		F	Direct flight
	296	22/01/2024	6	1	10:18	11	B		M	Direct flight, lost to view
	296	22/01/2024	6	1	10:18	29	C		M	Direct flight, lost to view
	296	22/01/2024	6	1	10:18	10	B		M	Direct flight, lost to view
	300	22/01/2024	7	1	12:36	190	C		M	Hunting, lost to view
	300	22/01/2024	7	1	12:36	16	B		M	Hunting, lost to view
	301	22/01/2024	7	1	14:07	72	B		F	Hunting, lost to view
	301	22/01/2024	7	1	14:07	125	C		F	Hunting, lost to view
	301	22/01/2024	7	1	14:07	10	B		F	Hunting, lost to view
	282	23/01/2024	3	1	14:38	10	C		M	Hunting
	282	23/01/2024	3	1	14:38	105	B		M	Hunting
	283	23/01/2024	3	1	15:10	78	C		M	Woodland hillside, lost to view
	283	23/01/2024	3	1	15:10	7	B		M	Woodland hillside, lost to view
	306	24/01/2024	9	1	14:08	178	C		F	Hunting
	293	25/01/2024	5	1	09:58	75	C		M	
	277	30/01/2024	1	1	15:34	141	C		M	Hunting, then lost to view
	297	30/01/2024	6	1	11:42	81	C		M	Direct flight
	298	30/01/2024	6	1	12:55	68	C		M	Hunting, lost to view
	308	02/02/2024	1b	1	15:45	74	A		M	Hunting, lost to view
	308	02/02/2024	1b	1	15:45	13	B		M	Hunting, lost to view
	311	03/02/2024	2	1	12:41	35	B		M	Hunting
	311	03/02/2024	2	1	12:41	11	A		M	
	311	03/02/2024	2	1	12:41	10	B		M	Lost to view
	324	10/02/2024	4	1	13:07	160	B		F	Hunting

Species	Flight ID	Date	VP	Count	Time	Flight Duration	Height Bd	Age*	Sex	Notes
	324	10/02/2024	4	1	13:07	12	A		F	Lost to view
	349	13/02/2024	7	1	09:41	165	B		F	Hunting
	349	13/02/2024	7	1	09:41	18	A		F	
	318	14/02/2024	3	1	16:39	165	B		M	Hunting
	318	14/02/2024	3	1	16:39	5	A		M	Successful hunting
	318	14/02/2024	3	1	16:39	28	C		M	Carrying prey
	327	14/02/2024	5	1	09:16	72	B		M	Hunting
	327	14/02/2024	5	1	09:16	11	A		M	Hunting
	328	14/02/2024	5	1	10:02	34	B		M	Hunting
	328	14/02/2024	5	1	10:02	25	C		M	
	328	14/02/2024	5	1	10:02	20	B		M	Lost to view
	330	14/02/2024	5	1	13:00	93	C		M	Hunting
	330	14/02/2024	5	1	13:00	24	B		M	Lost to view
	335	16/02/2024	6	1	08:26	29	C		M	Direct flight
	339	16/02/2024	6	1	17:44	37	C		M	Direct flight
	313	17/02/2024	2	1	08:44	46	B		M	
	319	17/02/2024	3	1	11:06	49	B		F	Hunting
	310	19/02/2024	1b	1	14:19	23	B		M	Hunting, lost to view
	310	19/02/2024	1b	1	14:19	75	C		M	Hunting, lost to view
	325	19/02/2024	4	1	09:22	91	B		F	Hunting
	325	19/02/2024	4	1	09:22	10	A		F	Lost to view
	311	20/02/2024	1b	1	16:01	113	B		M	Hunting
	322	21/02/2024	3	1	13:04	49	C		M	
	331	21/02/2024	5	1	09:36	40	C		M	Direct flight

Species	Flight ID	Date	VP	Count	Time	Flight Duration	Height Bd	Age*	Sex	Notes
	331	21/02/2024	5	1	09:36	32	B		M	
	331	21/02/2024	5	1	09:36	36	C		M	Lost to view
	333	22/02/2024	5	1	14:11	31	C		F	Lost to view
	342	22/02/2024	6	1	10:24	5	B		M	
	342	22/02/2024	6	1	10:24	68	C		M	
	342	22/02/2024	6	1	10:24	12	B		M	Lost to view
	343	22/02/2024	6	1	11:09	106	C		M	Hunting
	343	22/02/2024	6	1	11:09	23	B		M	
	353	23/02/2024	7	1	12:52	10	B		F	Hunting
	353	23/02/2024	7	1	12:54	68	C		F	
	353	23/02/2024	7	1	12:54	15	B		F	Lost to view
	365	04/03/2024	1	1	16:18	47	B		F	Lost to view
	379	04/03/2024	6	1	11:52	185	B		M	Hunting
	379	04/03/2024	6	1	11:52	28	C		M	
	379	04/03/2024	6	1	11:52	5	B		M	Lost to view
	380	04/03/2024	6	1	13:04	210	C		M	Hunting
	381	04/03/2024	6	1	12:46	31	C		F	
	363	05/03/2024	7	1	09:34	17	C			
	363	05/03/2024	7	1	09:34	88	B			
	363	05/03/2024	7	1	09:34	27	A			
	372	05/03/2024	3	1	15:29	109	C		M	Displaying
	366	06/03/2024	1	1	12:05	94	B		M	Hunting
	366	06/03/2024	1	1	12:05	23	C		M	Lost to view
	370	06/03/2024	2	1	09:23	35	C		F	Lost to view

Species	Flight ID	Date	VP	Count	Time	Flight Duration	Height Bd	Age*	Sex	Notes
	358	07/03/2024	9	1	16:03	41	C		F	Direct flight
	377	07/03/2024	5	1	11:12	72	C		M	
	377	07/03/2024	5	1	11:12	15	B		M	Lost to view
	378	07/03/2024	5	1	10:03	68	B		F	Hunting
	378	07/03/2024	5	1	10:03	13	C		F	
	374	08/03/2024	4	1	11:04	235	B		M	Hunting
	374	08/03/2024	4	1	11:04	15	C		M	Hunting
	375	08/03/2024	4	1	09:54	82	C		M	
	361	09/03/2024	7	1	09:44	34	C		M	Direct flight
	189	24/07/2024	5	1	15:29	30	B	1CY		
	187	24/07/2024	6	1	09:40	10	B	1CY		
Merlin	5	31/03/2023	1	1	15:48	59	A		M	Hunting
	34	24/04/2023	1	1	09:00	46	A		M	Hunting
	127	25/05/2023	3	1	15:25	25	A			Hunting
	111	29/05/2023	2	1	12:41	30	B			Hunting
	203	24/07/2023	1	1	16:52	107	A		M	Hunting
	309	19/02/2024	1	1	12:51	107	A		F	Hunting
	360	07/03/2024	9	1	13:04	126	C		M	Hunting
Hobby	3	28/03/2023	1	1	08:41	41	C	Adult		
	111	29/05/2023	2	1	12:41	190	C			Hunting
Peregrine	12	27/03/2023	2	1	12:24	80	D			
	3	28/03/2023	1	1	08:41	109	D	Adult		
	4	31/03/2023	1	1	14:34	97	C		M	
	61	24/04/2023	9	1	11:02	84	C		M	

Species	Flight ID	Date	VP	Count	Time	Flight Duration	Height Bd	Age*	Sex	Notes
	198	23/05/2023	9	1	12:18	59	C/B		M	47 seconds at height band C, 12 seconds at height band B
	107	29/05/2023	2	1	12:02	380	C			
	113	29/05/2023	2	1	12:56	80	B			
	114	29/05/2023	2	1	13:01	120	B			
	122	29/05/2023	2	1	13:58	80	C			
	142	20/06/2023	5	1	10:52	90	C	Adult	F	
	154	23/06/2023	7	1	16:54	60	C	Adult		
	179	29/07/2023	3	1	13:13	195	C			
	254	22/08/2023	9	1	10:44	68	C	Adult	F	
	254	22/08/2023	9	1	10:44	68	C	Adult	F	
	223	26/08/2023	7	1	18:17	20	C			
	227	02/09/2023	2	1	13:21	18	C	Juv		
	229	02/09/2023	2	1	14:35	140	C			
	292	18/01/2024	5	1	10:24	92	C			Direct flight, lost view
	286	19/01/2024	4	1	10:20	63	C			Direct flight, lost view
	348	13/02/2024	7	1	10:14	73	C	Adult	M	Hunting
	348	13/02/2024	7	1	10:14	8	B	Adult	M	Flying ENE, lost to view
	350	13/02/2024	7	1	12:23	80	C			Flying SSW, direct flight
	317	14/02/2024	3	1	17:28	103	C		M	Direct flight carrying item (food or material)
	382	04/03/2024	6	1	14:03	78	C			Flying N
	373	05/03/2024	3	1	17:06	58	C		M	Direct flight
	359	07/03/2024	9	1	17:40	62	C		F	Direct flight

Species	Flight ID	Date	VP	Count	Time	Flight Duration	Height Bd	Age*	Sex	Notes
*Imm = immature, Juv – juvenile, CY = calendar year										



Confidential Annex:

A confidential annex can be made available to An Bord Pleanála or the Development Applications Unit on request, however due to the sensitive nature of the information from a conservation perspective, they have not been included in this publicly available document.