

PEN MARCH WIND FARM

Non-Breeding Season Bird Surveys 2019-20
Prepared for: **Innogy Renewables UK Ltd**

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1.0 Introduction

1.1 Background

SLR was commissioned by Innogy Renewables UK Ltd in March 2019 to undertake baseline ornithology surveys at the proposed Pen March Wind Farm (the Site).

1.2 Site Description

The Site is located approximately 1km north-east of the suburb of Dowlais Top on the north-eastern fringe of Merthyr Tydfil and 2km north-west of Rhymney town centre. The southern boundary of the survey area lies approximately 90m north of the A465 Heads of the Valleys Road. The survey area comprises a broadly sloping area of purple moor grass *Molinia caerulea* dominated grassland, with small scattered areas of dense scrub, exposed rock, dry heath and standing open water habitats. The survey area rises from approximately 370m above sea level at the southern extent of the survey area (adjacent to the A465 road) up to approximately 530m in the north of the survey area.

The wider landscape around the survey area is typified by grazed moorland habitats, with frequent scattered areas of industrial and residential development to the south, south-east and south-west of the survey area and the Brecon Beacons National Park lying to the north of the survey area.

1.3 Scope of Work

The scope of survey work was based on existing knowledge of the area and took into account current Scottish Natural Heritage (SNH) Guidance¹ (which is also applicable to Wales). The scope of survey work undertaken during the 2019-20 non-breeding season is provided in Table 1-1.

Table 1-1
Scope of Ornithological Survey Work, Non-breeding Season 2019-20

Survey Type	Summary Methodology (see Section 2 for further details)
Vantage Point (VP) surveys	Based on 36 hours of survey between September 2019 and February 2020 inclusive, from each of two VPs. Following modelling of areas of potential visibility and taking into consideration likely constraints on the areas in which turbines could be located, two VPs were considered to provide sufficient coverage of possible turbine locations (the developable area) under consideration at the time of survey, plus appropriate buffer zones.

1.4 Purpose of this Report

This report outlines the surveys undertaken and methods used. It goes on to summarise the raw field data obtained and provides descriptions of the legal and conservation status of the species recorded.

¹ Scottish Natural Heritage (2017). *Recommended Bird Survey Methods to Inform Impact Assessment Of Onshore Wind Farms V2*. Scottish Natural Heritage, Inverness.

The assessment of impacts resulting from the proposed development and the development of mitigation and compensation measures, if required, are beyond the scope of this report and will be covered in a separate Environmental Statement in due course.

1.5 Target Species

Target species for the surveys were defined by legal and/or conservation status and vulnerability to impacts caused by wind turbines, as defined in SNH Guidance¹.

1.5.1 Primary Target Species

All Annex 1² and/or Schedule 1³ raptor and owl species, including:

- Hen harrier *Circus cyaneus*
- Marsh harrier *Circus aeruginosus*
- Red kite *Milvus milvus*
- Merlin *Falco columbarius*
- Peregrine *Falco peregrinus*
- Kestrel *Falco tinnunculus*⁴
- Short-eared owl *Asio flammeus*

All wildfowl species excluding feral geese (e.g. Canada goose *Branta canadensis*) and all wader species, including:

- Curlew *Numenius arquata*
- Snipe *Gallinago gallinago*

1.5.2 Secondary Target Species

Non-Annex 1 and/or Schedule 1 raptor species, including:

- Buzzard *Buteo buteo*
- Sparrowhawk *Accipiter nisus*

Gulls *Larus* sp., raven *Corvus corax* and any other non-passerine species of conservation concern (it is generally considered that passerine species are not significantly impacted by wind farms¹).

² Annex 1 of The Birds Directive (Directive 2009/147/EC).

³ Schedule 1 of the Wildlife & Countryside Act 1981 (as amended).

⁴ Kestrel is not listed on Annex 1 or Schedule 1 but was included as a target species due to recent population declines and its potential vulnerability to impacts from wind turbines.

2.0 Survey Methodology

2.1 Survey Areas, Dates and Personnel

Surveys were undertaken by Martyn Owen MCIEEM (MO), from BiOME Consulting, an experienced ornithologist working as a sub-consultant to SLR Consulting.

Details of survey dates, times and observers are provided in Appendix 01 and a record of weather conditions during surveys is provided in Appendix 02.

2.2 Flight Activity Surveys

Thirty-six hours of standard flight activity surveys were conducted from both VP locations during the 2019-20 non-breeding season (September to February inclusive), as summarised in Table 2-1. The VP locations are shown on Figure 1 along with their associated areas of visibility at 15m above ground level, i.e. the lowest possible rotor swept height (the viewsheds).

In order to avoid possible complications during any subsequent collision risk modelling VP watches were timed such that surveys were not undertaken simultaneously from both VPs.

VP watches aimed to quantify the flight activity of primary and secondary target species (as defined in Section 1.5) within the study area.

The main purpose of VP watches is to collect data on primary target species that will enable estimates to be made of:

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

For each primary target species observation, the following details were recorded:

- Time of observation;
- Duration of flying bout;
- Species, age and sex (where determinable); and
- Time spent within each height band.

Taking into account the possible dimensions of the turbines likely to be used, the height bands used were as follows:

- 1 = <15m
- 2 = 15-30m
- 3 = 30-150m
- 4 = 150-200m
- 5 = >200m

In addition, a summary of observations of secondary target species was recorded at the end of each five-minute period during VP watches to provide an index of flight activity for secondary target species within the site, in accordance with current SNH guidance.

Table 2-1
VP Surveys undertaken at Pen March, Non-breeding Season 2019-20

VP Number	OS Grid Reference	Hours of Survey Completed						
		Sept	Oct	Nov	Dec	Jan	Feb	Total
1	SO 09017 11354	6	6	6	6	6	6	36
2	SO 07915 09699	6	6	6	6	6	6	36

2.3 Survey Limitations

With regard to viewshed coverage, there is a relatively small gap in the visibility apparent in the centre of the developable area, which was unavoidable due to the nature of the terrain (Figure 1). Any birds entering or leaving this area would have been recorded however and therefore despite this, it is considered that the vantage point data will be representative of the site as a whole and sufficient to inform a robust assessment of the proposed development.

3.0 Survey Results

3.1 Flight Activity Surveys

Flight activity was recorded for eight primary target species from VP1 and VP2 combined and is summarised in Table 3-1 with more detailed data provided in Appendix 03. Primary target species flights from both VPs are shown on Figures 2, 3, 4 and 5.

Table 3-1
Number of Primary Target Species Flights from VP1 and VP2 Combined, September 2019 – February 2020

Species	Number of flights by month						Total number of flights	Total number of flights potentially at risk height*	Total number of birds recorded in flight
	Sept	Oct	Nov	Dec	Jan	Feb			
Mallard	0	0	1	1	1	1	4	1	10
Tufted duck	0	0	0	0	1	0	1	1	3
Goosander	0	0	0	0	2	0	2	1	19
Red kite	1	4	5	3	2	4	19	10	19
Hen harrier	2	0	0	0	0	0	2	0	2
Kestrel	1	1	0	0	0	0	2	2	2
Peregrine	1	0	1	1	0	0	3	3	3
Golden plover	0	0	3	0	0	0	3	2	289
* precautionary risk height assumed to be between 15m – 200m									

3.1.1 Species accounts

A total of 36 flights by primary target species were recorded between September 2019 and February 2020. A breakdown of flight activity by species is presented below:

Mallard

Three mallard flights involving ten birds were recorded around the Blaen Rhymney reservoir, one of which briefly crossed the developable area at potential collision risk height (Figure 2). A fourth flight was recorded approaching the Jepson's Pond reservoir outside of the developable area.

Tufted duck

One tufted duck flight, involving three birds, was recorded overflying the Jepson's Pond reservoir outside of the developable area in height band 2 (Figure 2).

Goosander

Two goosander flights, involving 19 birds, were recorded approaching the Jepson's Pond reservoir outside of the potential development area during surveys in January (Figure 2). One of the flights was at potential collision risk height.

Red kite

Red kite was the most frequently recorded primary target species recorded during the non-breeding flight activity surveys. Out of 19 recorded flights, all involved single birds with ten flights at potential collision risk height. There were flights by red kites in all months with a maximum of five in November. Flights were recorded throughout the survey area, with a discernible cluster near VP2 (Figure 3).

Hen harrier

Two hen harrier flights were recorded during the flight activity surveys, both involving an adult male (presumed to be the same bird), observed from VP2 on 23 September and VP1 on 25 September. Flights crossed the developable area in north to south and south to north directions (Figure 4). All flight time was recorded below possible collision risk height.

Kestrel

Two kestrel flights were recorded during the flight activity surveys, both concerning single female birds hunting around the periphery of the site (Figure 4). Flights were observed from VP1 on 25 September and VP2 on 18 October. Both flights involved time at potential collision risk height.

Peregrine

Three peregrine flights were recorded during the flight activity surveys, involving single male birds in September, November and December. Two of the flights were within the developable area (Figure 4). All three flights observed were at least partially at a height considered to be potentially at risk of collision.

Golden plover

Three golden plover flights were recorded during flight activity surveys (Figure 5). All flights were observed from VP2 on 26 November, with a maximum flock size of 220 birds. Two flights, involving 62 and 220 birds, were observed at potential collision risk height within the developable area.

Secondary Species

Four secondary species were recorded: herring gull *Larus argentatus*, buzzard, sparrowhawk and raven. Buzzard was recorded frequently but with a maximum of only one bird at any one time. The next most frequently recorded secondary species was raven, with a maximum of four birds at any one time. The species breakdown is provided below:

- Herring gull: recorded in 15 five-minute periods, with a maximum of two birds;
- Buzzard: recorded in 49 five-minute periods, with a maximum of one bird;
- Sparrowhawk: recorded in two five-minute periods, with a maximum of one bird;
- Raven: recorded in 32 five-minute periods, with a maximum of four birds.

4.0 Summary and Conclusions

Flight activity (VP) surveys were carried out at the site of the proposed Pen March Wind Farm during the 2019-20 non-breeding season (September 2019 to February 2020 inclusive).

The following primary target species were recorded during flight activity surveys:

- Mallard;
- Goosander;
- Tufted duck;
- Red kite;
- Hen harrier;
- Kestrel;
- Peregrine; and
- Golden plover.

The most frequent flight activity was by red kite (19 flights recorded), with other target species flight activity less frequent. All other target species were recorded four times or less. Amongst these other species, golden plover was notably present on one date (26 November) with a maximum flock size of 220 birds.

Secondary target species recorded included buzzard, sparrowhawk, herring gull and raven.

4.1 Legal and Conservation Status of Target Species Recorded

Table 4-1 summarises the legal and conservation status of the primary target species recorded during the surveys.

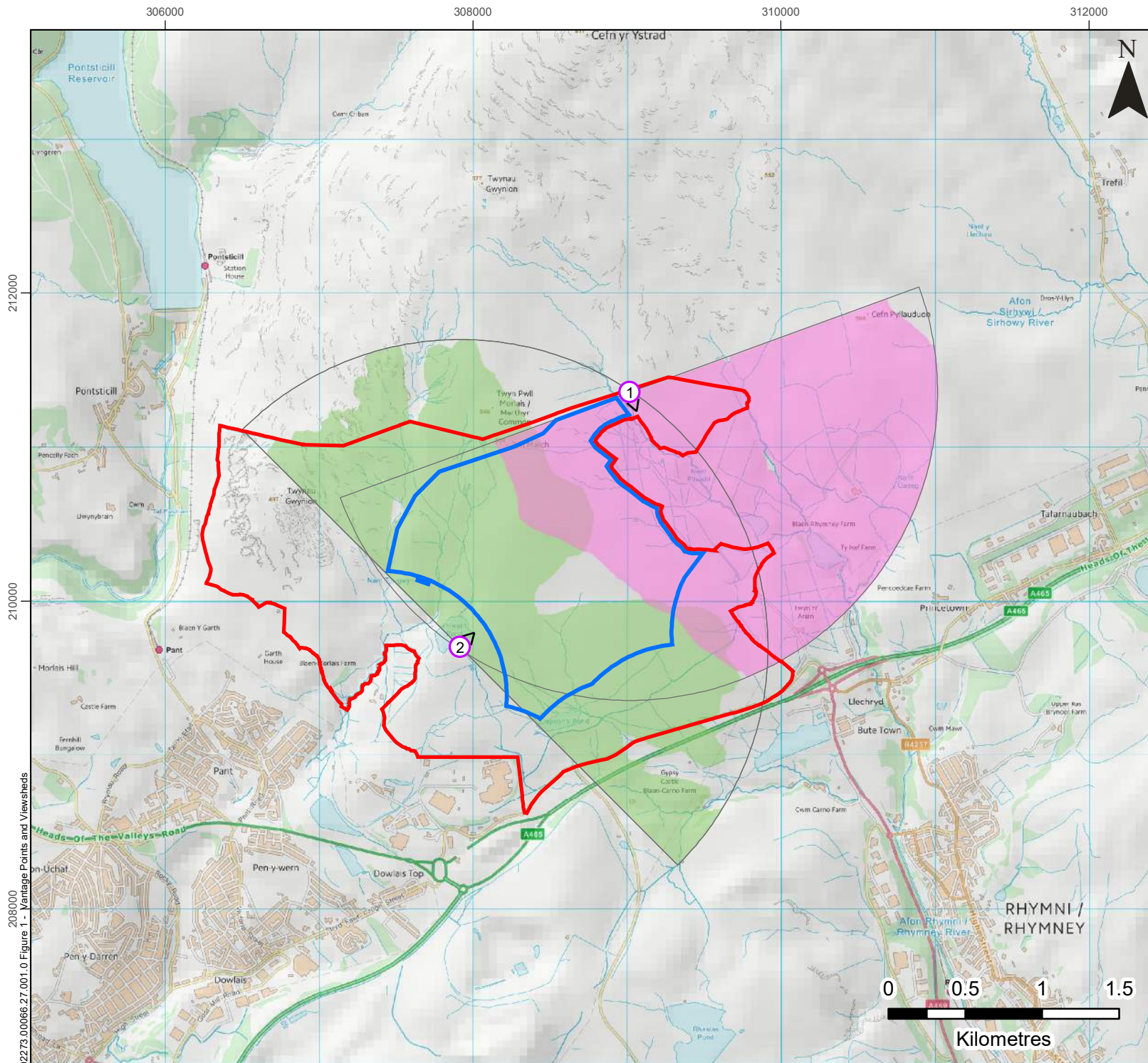
Table 4-1
Legal and Conservation Status of Target Species

Species	Legal & Conservation Status in Wales
Mallard	General WCA; BoCC4 Amber; BoCC W3 Amber
Goosander	General WCA; BoCC4 Green; BoCC W3 Green
Tufted duck	General WCA; BoCC4 Green; BoCC W3 Green
Red kite	Schedule 1 & 1A; Annex 1; BoCC4 Green; BoCC W3 Amber
Hen harrier	Schedule 1 & 1A; Annex 1; BoCC4 Red; BoCC W3 Red; Sec7
Kestrel	General WCA; BoCC4 Amber; BoCC W3 Red; Sec7
Peregrine	Schedule 1; Annex 1; BoCC4 Green; BoCC W3 Green
Golden plover	Annex 1; BoCC4 Green; BoCC W3 Red; Sec7
	Key: • Annex 1 - the species is listed in Annex 1 of The Birds Directive; • General WCA - the species is afforded general protection by the Wildlife and Countryside Act 1981 (as amended); • Schedule 1 & 1A - the species is listed in Schedule 1 or 1A of the Wildlife and Countryside Act 1981 (as amended); • BoCC4 status (green, amber or red) – indicates the current Birds of Conservation Concern UK list status category⁵; • BoCC W3 status (green, amber or red) – indicates the current Birds of Conservation Concern Welsh list status category⁶ • Sec7 – listed as a species of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales (Section 7 of the Environment (Wales) Act 2016).

⁵ Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds* 108, 708–746.

⁶ Johnstone and Bladwell (2016). Birds of Conservation in Wales 3: the population status of birds in Wales.

FIGURES



LEGEND	
	Site Boundary
	Developable Area
	Area Visible from VP01
	Area Visible from VP02
	Area Visible from both VP01 and VP02
	Vantage Point

Note
Visibility has been shown from 15m
(the lowest possible rotor swept height)

4/5 LOCHSIDE VIEW
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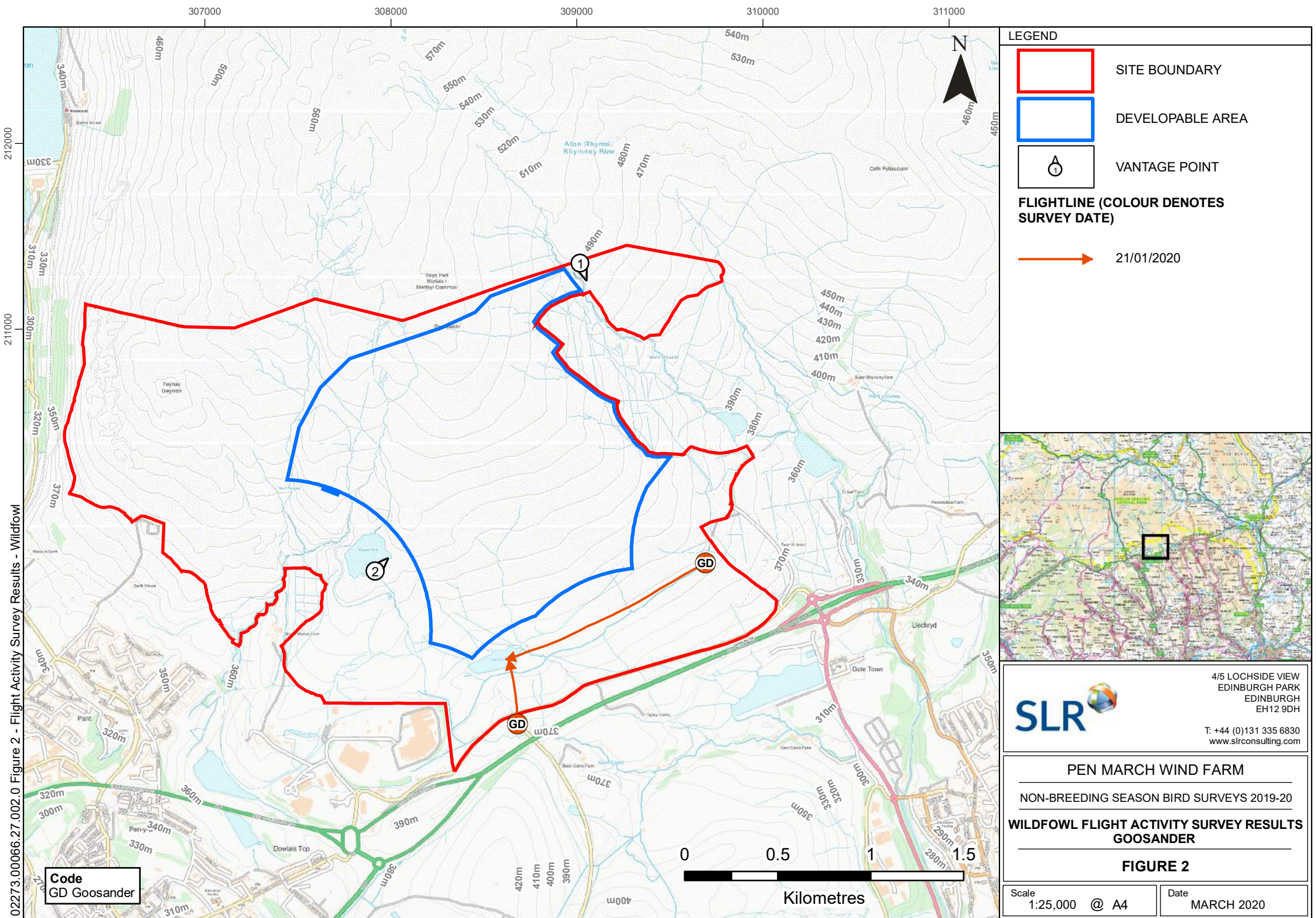
PEN MARCH WIND FARM

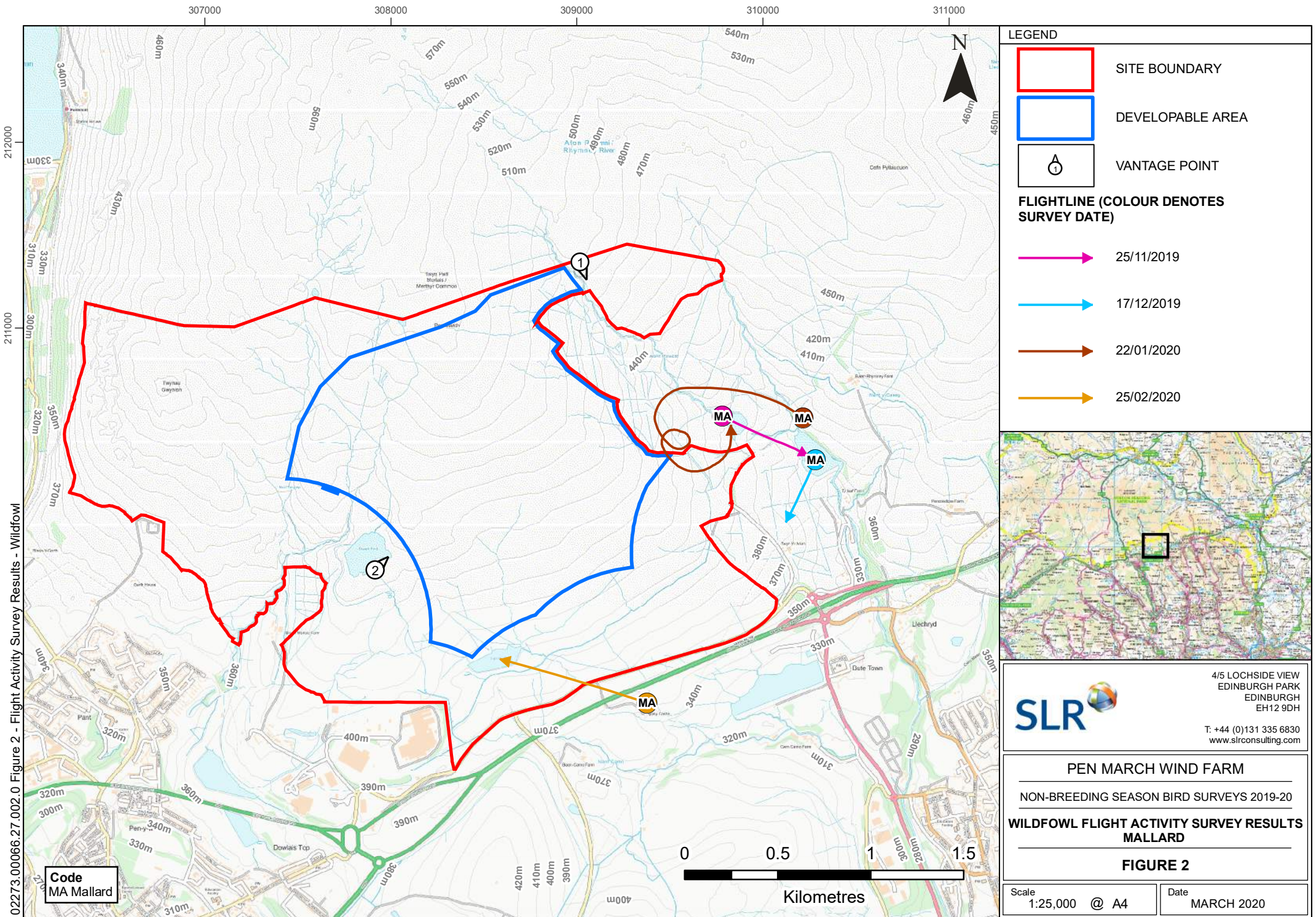
NON-BREEDING SEASON BIRD SURVEYS 2019-20

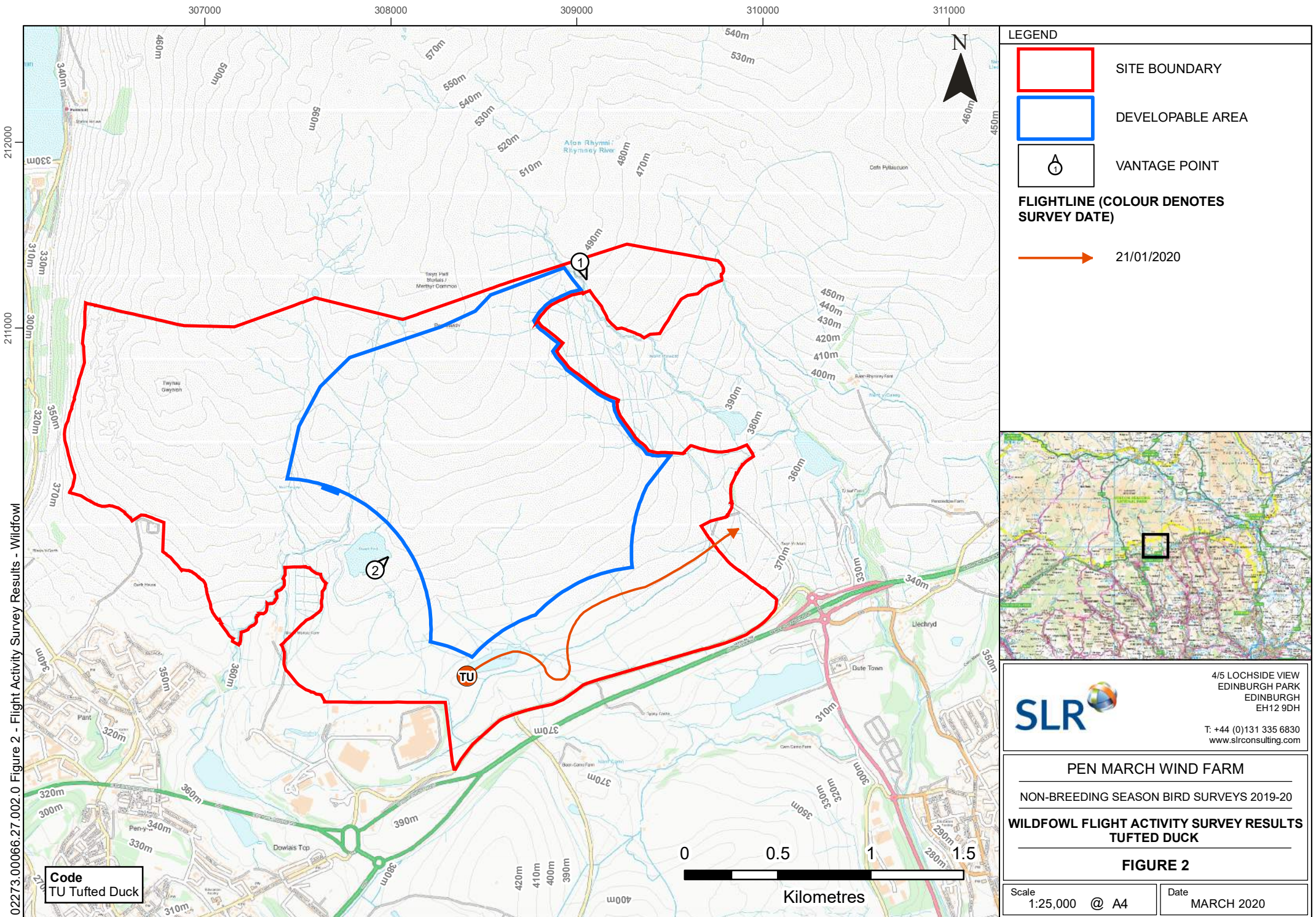
VANTAGE POINTS AND VIEWSHEDS

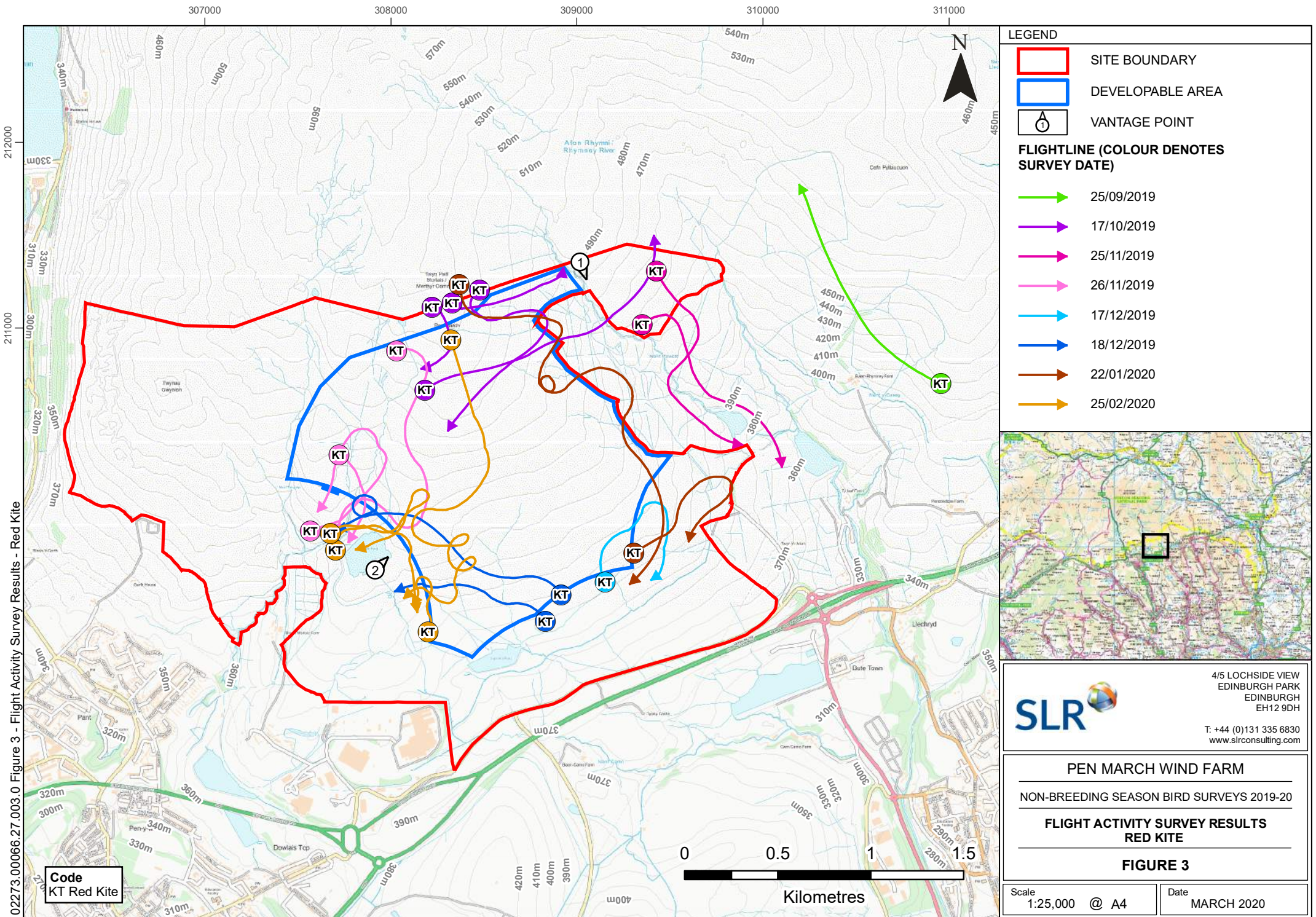
FIGURE 1

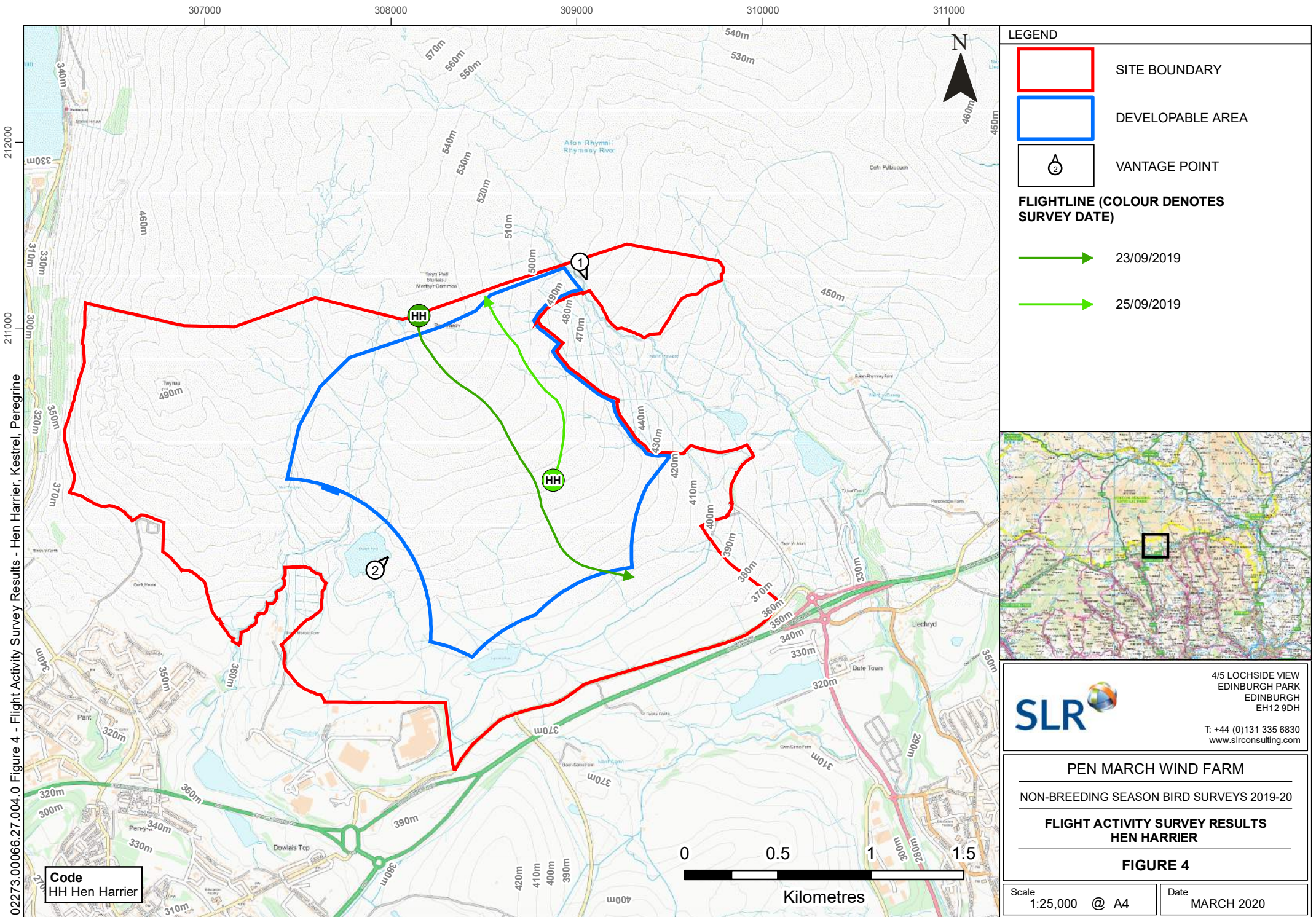
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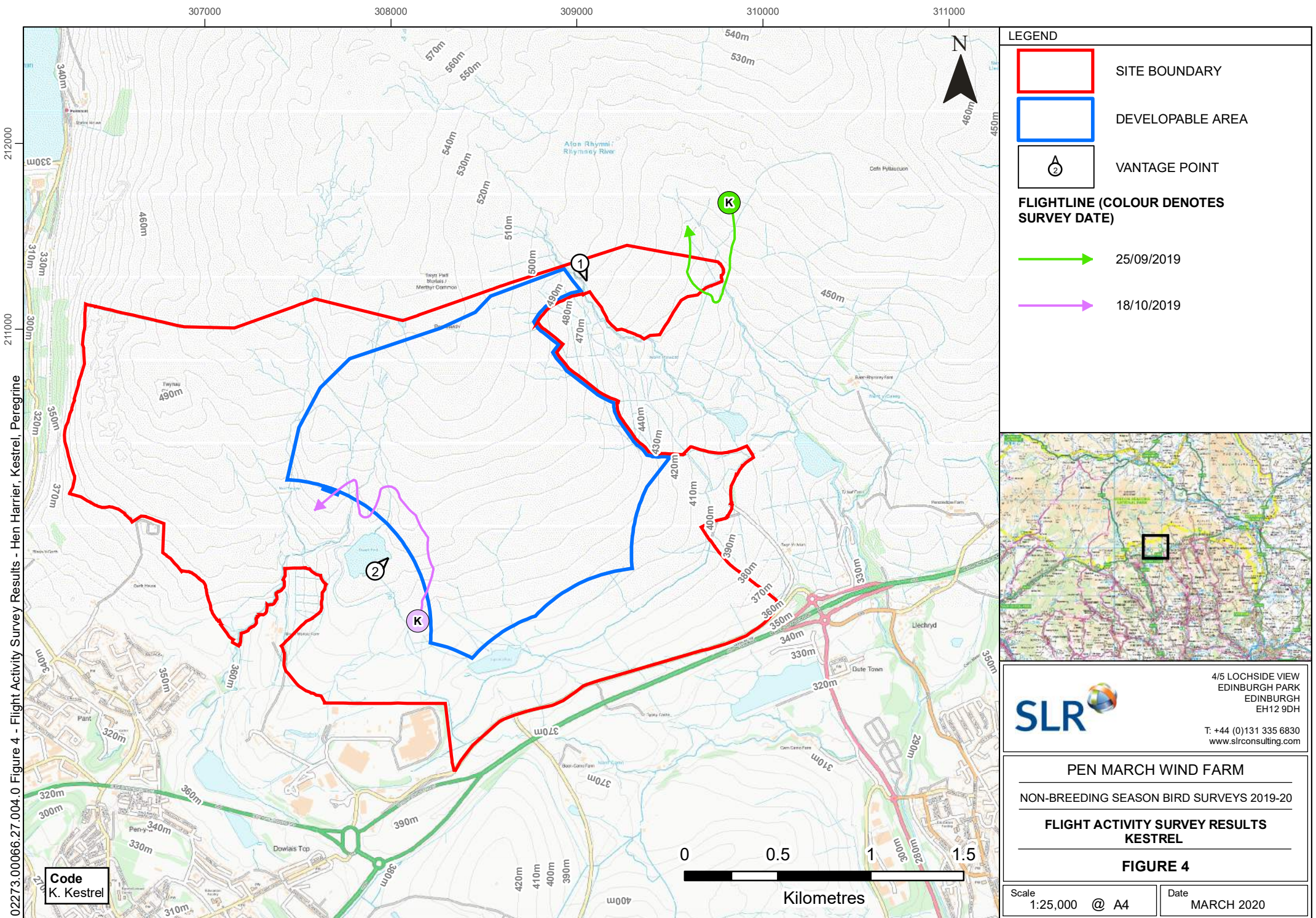


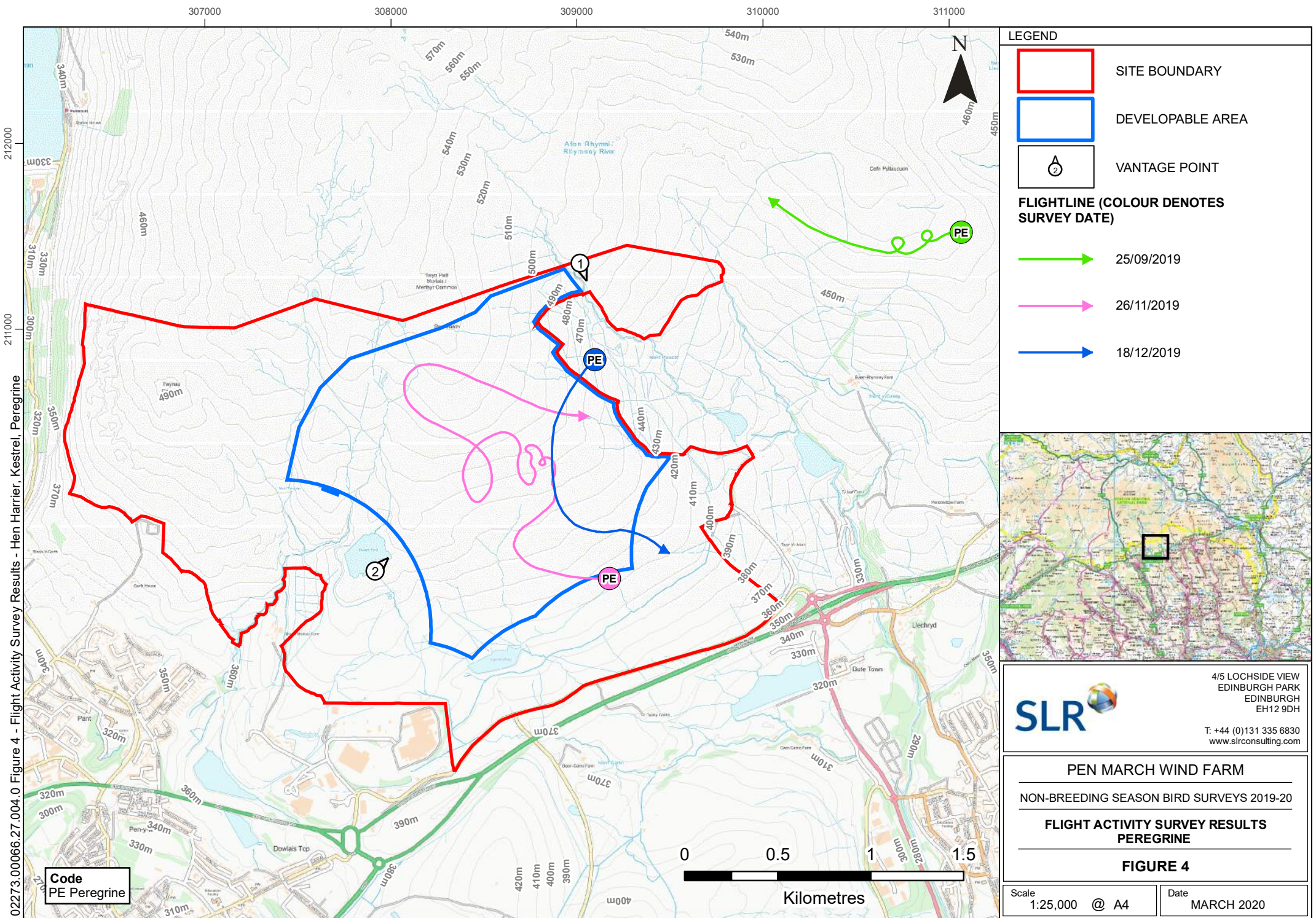


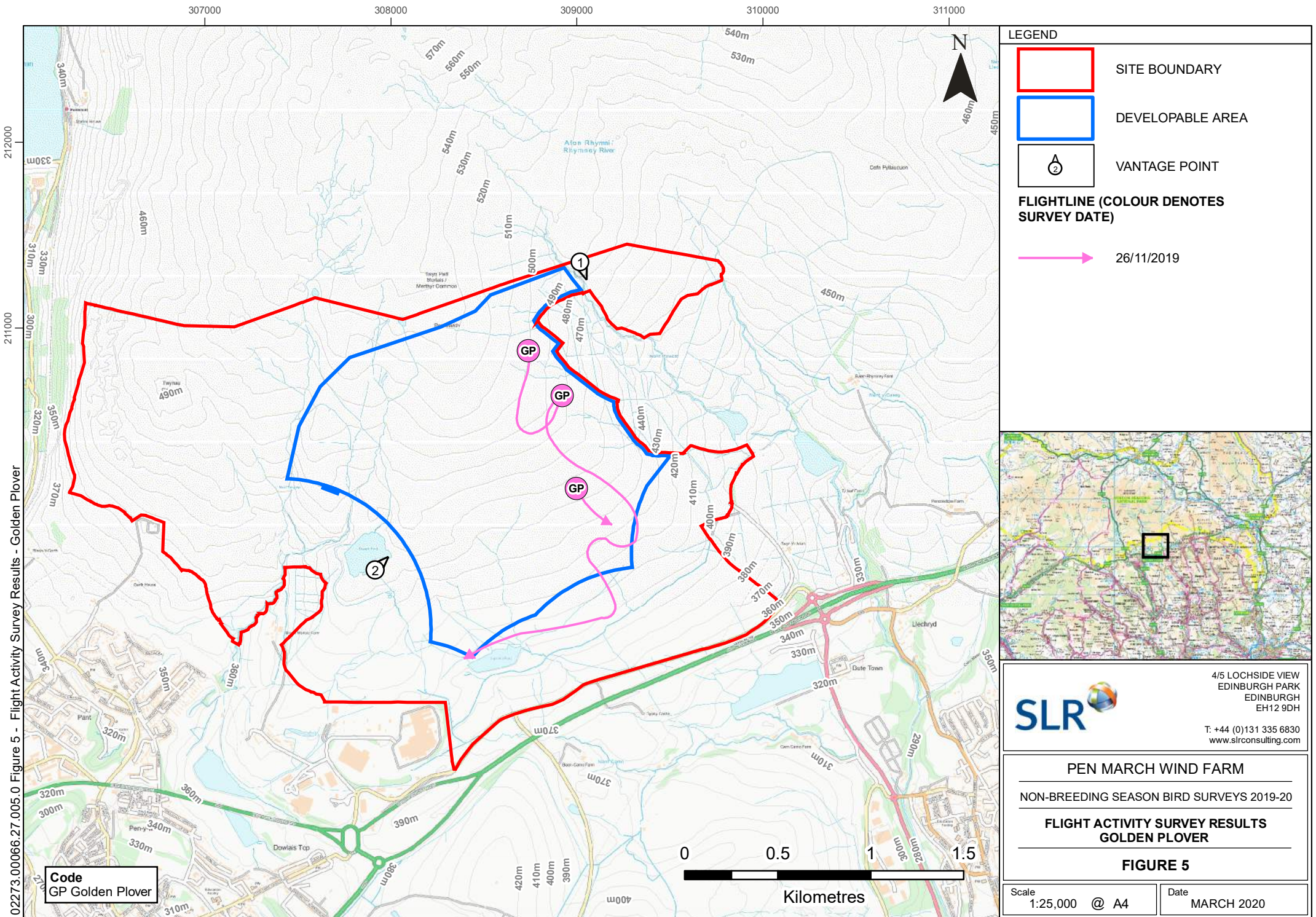












APPENDIX 01

Survey dates, times and observers

Table A1-1
Details of VP surveys undertaken from Vantage Point 1

Date	Start Time	End Time	No. hours	Surveyor (s)
25/09/2019	08:10	11:10	3	MO
25/09/2019	11:40	14:40	3	MO
17/10/2019	10:45	13:45	3	MO
17/10/2019	14:15	17:15	3	MO
25/11/2019	10:00	13:00	3	MO
25/11/2019	13:30	16:30	3	MO
17/12/2019	10:45	13:45	3	MO
17/12/2019	14:15	17:15	3	MO
22/01/2020	07:50	10:50	3	MO
22/01/2020	11:20	14:20	3	MO
24/02/2020	09:15	12:15	3	MO
24/02/2020	12:45	15:45	3	MO
TOTAL HOURS			36	

Table A1-2
Details of VP surveys undertaken from Vantage Point 2

Date	Start Time	End Time	No. hours	Surveyor (s)
23/09/2019	12:25	15:25	3	MO
23/09/2019	16:25	19:25	3	MO
18/10/2019	07:40	10:40	3	MO
18/10/2019	11:15	14:15	3	MO
26/11/2019	08:30	11:30	3	MO
26/11/2019	12:00	15:00	3	MO
18/12/2019	08:15	11:15	3	MO
18/12/2019	11:45	14:45	3	MO
21/01/2020	10:45	13:45	3	MO
21/01/2020	14:15	17:15	3	MO
25/02/2020	08:55	11:55	3	MO
25/02/2020	12:40	15:40	3	MO
TOTAL HOURS			36	

APPENDIX 02

Weather data

Table A2-1
Weather data collected during flight activity surveys undertaken at VP1

Date	Survey start	Survey end	Hour	Wind Speed	Wind Direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost	Temp (°C)
25/09/2019	08:10	11:10	1	4	W	1	8	1	2	0	0	14
25/09/2019	08:10	11:10	2	4	W	1	8	2	2	0	0	14
25/09/2019	08:10	11:10	3	3	W	0	8	2	2	0	0	15
25/09/2019	11:40	14:40	1	3	W	0	8	2	2	0	0	15
25/09/2019	11:40	14:40	2	3	W	0	7	2	2	0	0	15
25/09/2019	11:40	14:40	3	3	W	0	7	2	2	0	0	16
17/10/2019	10:45	13:45	1	4	S	0	2	2	2	0	0	11
17/10/2019	10:45	13:45	2	4	S	0	3	2	2	0	0	12
17/10/2019	10:45	13:45	3	3	S	1	7	2	2	0	0	12
17/10/2019	14:15	17:15	1	3	S	2	8	2	2	0	0	11
17/10/2019	14:15	17:15	2	4	S	2	8	2	2	0	0	12
17/10/2019	14:15	17:15	3	4	S	3	8	2	2	0	0	11
25/11/2019	10:00	13:00	1	1	SS W	1	8	2	1	0	0	7
25/11/2019	10:00	13:00	2	1	SS W	1	8	2	2	0	0	7
25/11/2019	10:00	13:00	3	2	SS W	2	8	2	1	0	0	8
25/11/2019	13:30	16:30	1	1	SS W	1	8	2	1	0	0	9
25/11/2019	13:30	16:30	2	1	SS W	0	8	2	2	0	0	9
25/11/2019	13:30	16:30	3	1	SS W	0	8	2	2	0	0	9
17/12/2019	09:15	12:15	1	1	W	0	3	2	2	0	1	2
17/12/2019	09:15	12:15	2	0		0	3	2	2	0	1	2
17/12/2019	09:15	12:15	3	1	W	0	4	2	2	0	1	3
17/12/2019	12:45	15:45	1	1	W	0	6	2	2	0	0	5
17/12/2019	12:45	15:45	2	1	W	0	3	2	2	0	0	6

Date	Survey start	Survey end	Hour	Wind Speed	Wind Direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost	Temp (°C)
17/12/2019	12:45	15:45	3	2	W	0	4	2	2	0	0	5
22/01/2020	07:50	10:50	1	1	NN E	0	4	1	1	0	0	6
22/01/2020	07:50	10:50	2	2	NN E	1	4	2	2	0	0	6
22/01/2020	07:50	10:50	3	1	NN E	0	5	1	1	0	0	7
22/01/2020	11:20	14:20	1	1	NE	0	6	2	2	0	0	7
22/01/2020	11:20	14:20	2	1	NE	0	7	2	2	0	0	8
22/01/2020	11:20	14:20	3	2	NE	0	7	2	2	0	0	7
24/02/2020	09:15	12:15	1	6		3	8	1	1	0	0	8
24/02/2020	09:15	12:15	2	6		3	8	2	1	0	0	8
24/02/2020	09:15	12:15	3	5		3	8	2	1	0	0	9
24/02/2020	12:45	15:45	1	5	W	4	8	1	1	0	0	9
24/02/2020	12:45	15:45	2	5	W	3	8	2	1	0	0	10
24/02/2020	12:45	15:45	3	6	W	3	8	1	1	0	0	10
Rain/ Precipitation None 0 Drizzle 1 Light showers/snow 2 Heavy showers/snow 3 Heavy rain/snow 4			Cloud Cover Expressed in oktas (n/8) Cloud Height Height of cloud above average height of viewshed <150m 0 150-500m 1 >500m 2			Visibility Poor (<1km) 0 Moderate (1-3km) 1 Good (>3km) 2			Lying Snow None 0 On site 1 On higher ground 2		Frost None 0 Ground 1 All day 2	

Table A2-2
Weather data from flight activity surveys undertaken at VP2

Date	Survey start	Survey end	Hour	Wind Speed	Wind Direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost	Temp (°C)
23/09/2019	12:25	15:25	1	3	SW	1	8	2	2	0	0	16
23/09/2019	12:25	15:25	2	3	SW	2	8	2	2	0	0	16
23/09/2019	12:25	15:25	3	3	SW	3	8	2	2	0	0	15
23/09/2019	16:25	19:25	1	3	SW	3	8	2	2	0	0	15
23/09/2019	16:25	19:25	2	2	SW	2	8	1	1	0	0	15
23/09/2019	16:25	19:25	3	3	SW	3	8	1	1	0	0	14
18/10/2019	07:40	10:40	1	3	SW	2	8	2	2	0	0	8
18/10/2019	07:40	10:40	2	4	SW	3	8	2	2	0	0	9
18/10/2019	07:40	10:40	3	4	SW	2	8	2	2	0	0	9
18/10/2019	11:15	14:15	1	4	SW	2	8	2	2	0	0	8
18/10/2019	11:15	14:15	2	3	SW	3	8	1	2	0	0	8
18/10/2019	11:15	14:15	3	3	SW	3	8	2	2	0	0	8
26/11/2019	08:30	11:30	1	5	S	3	8	2	2	0	0	9
26/11/2019	08:30	11:30	2	6	S	2	8	2	2	0	0	10
26/11/2019	08:30	11:30	3	5	S	1	8	2	2	0	0	10
26/11/2019	12:00	15:00	1	4	S	2	8	2	2	0	0	11
26/11/2019	12:00	15:00	2	4	S	1	8	2	2	0	0	10
26/11/2019	12:00	15:00	3	4	S	0	7	2	2	0	0	10
18/12/2019	08:15	11:15	1	2	SE	0	8	1	2	0	0	6
18/12/2019	08:15	11:15	2	2	SE	0	8	1	2	0	0	6
18/12/2019	08:15	11:15	3	4	SE	0	8	2	2	0	0	6
18/12/2019	11:45	14:45	1	5	SE	0	8	2	2	0	0	6
18/12/2019	11:45	14:45	2	5	SE	0	8	2	2	0	0	6
18/12/2019	11:45	14:45	3	4	SE	2	8	2	2	0	0	5
21/01/2020	10:45	13:45	1	1	NE	0	0	2	2	0	2	3
21/01/2020	10:45	13:45	2	2	NE	0	0	2	2	0	2	4

Date	Survey start	Survey end	Hour	Wind Speed	Wind Direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost	Temp (°C)
21/01/2020	10:45	13:45	3	1	NE	0	0	2	2	0	0	5
21/01/2020	14:15	17:15	1	0		0	0	2	2	0	0	5
21/01/2020	14:15	17:15	2	1	NW	0	0	2	2	0	0	5
21/01/2020	14:15	17:15	3	1	NW	0	1	2	2	0	0	4
25/02/2020	08:55	11:55	1	4	W	1	8	1	2	0	0	6
25/02/2020	08:55	11:55	2	5	W	2	8	1	2	0	0	8
25/02/2020	08:55	11:55	3	5	W	2	8	2	2	0	0	9
25/02/2020	12:40	15:40	1	3	W	0	8	2	2	0	0	10
25/02/2020	12:40	15:40	1	4	W	2	8	2	2	0	0	10
25/02/2020	12:40	15:40	1	4	W	2	8	2	2	0	0	9
Rain/ Precipitation		Cloud Cover			Visibility			Lying Snow		Frost		
None 0		Expressed in oktas (n/8)			Poor (<1km) 0			None 0		None 0		
Drizzle 1		Cloud Height			Moderate (1-3km) 1			On site 1		Ground 1		
Light showers/snow 2		Height of cloud above average height of viewshed			Good (>3km) 2			On higher ground 2		All day 2		
Heavy showers/snow 3		<150m 0										
Heavy rain/snow 4		150-500m 1										
		>500m 2										

APPENDIX 03

Flight activity survey data

Table A3-1
Flight activity data from VP surveys Sept 2019- Feb 2020

Date	VP code	Surveyor	FlightID	Species	Num Birds	Obs Time	Flight time (s)	At Collision Potential Height (PCH) (Y/N)	Comments
23/09/2019	2	MO	85	Hen harrier	1	13:56	22	N	
25/09/2019	1	MO	86	Kestrel	1	09:58	86	Y	
25/09/2019	1	MO	87	Hen harrier	1	10:24	25	N	
25/09/2019	1	MO	88	Red kite	1	13:09	50	Y	
25/09/2019	1	MO	89	Peregrine	1	13:14	27	Y	
17/10/2019	1	MO	90	Red kite	1	10:59	33	N	
17/10/2019	1	MO	91	Red kite	1	11:45	50	N	
17/10/2019	1	MO	92	Red kite	1	12:14	11	N	
17/10/2019	1	MO	93	Red kite	1	12:25	21	Y	
18/10/2019	2	MO	94	Kestrel	1	09:36	63	Y	
25/11/2019	1	MO	95	Mallard	2	11:02	6	N	Transit
25/11/2019	1	MO	96	Red kite	1	12:10	49	Y	
25/11/2019	1	MO	97	Red kite	1	13:41	36	Y	
26/11/2019	2	MO	98	Red kite	1	09:26	48	Y	
26/11/2019	2	MO	99	Peregrine	1	10:02	129	Y	Soaring, then rapidly north
26/11/2019	2	MO	100	Golden plover	62	10:06	7	Y	Likely pushed by PE
26/11/2019	2	MO	101	Red kite	1	11:09	22	N	

Date	VP code	Surveyor	FlightID	Species	Num Birds	Obs Time	Flight time (s)	At Collision Potential Height (PCH) (Y/N)	Comments
26/11/2019	2	MO	102	Golden plover	220	12:26	51	Y	
26/11/2019	2	MO	103	Red kite	1	13:42	28	Y	
26/11/2019	2	MO	104	Golden plover	7	14:00	4	N	Flushed by walker
17/12/2019	1	MO	105	Canada goose	12	09:24	7	N	
17/12/2019	1	MO	106	Red kite	1	09:49	25	N	
17/12/2019	1	MO	107	Mallard	2	10:35	4	N	Part of flock of 32 on lake
17/12/2019	1	MO	108	Canada goose	136	15:29	5	N	Flushed from field
18/12/2019	2	MO	109	Red kite	1	10:56	38	N	
18/12/2019	2	MO	110	Red kite	1	12:16	75	Y	
18/12/2019	2	MO	111	Peregrine	1	13:56	45	Y	
21/01/2020	2	MO	112	Tufted duck	3	15:35	17	Y	
21/01/2020	2	MO	113	Goosander	7	15:56	6	N	Presume to roost
21/01/2020	2	MO	114	Goosander	12	16:03	16	Y	
22/01/2020	1	MO	115	Red kite	1	10:02	71	Y	
22/01/2020	1	MO	116	Mallard	4	12:44	18	Y	On to pond

Date	VP code	Surveyor	FlightID	Species	Num Birds	Obs Time	Flight time (s)	At Collision Potential Height (PCH) (Y/N)	Comments
22/01/2020	1	MO	117	Red kite	1	13:42	30	Y	
25/02/2020	2	MO	118	Mallard	2	09:26	7	N	On to Pond
25/02/2020	2	MO	119	Red kite	1	10:42	28	N	
25/02/2020	2	MO	120	Red kite	1	14:06	80	Y	
25/02/2020	2	MO	121	Red kite	1	14:20	26	N	
25/02/2020	2	MO	122	Red kite	1	15:31	41	N	

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