

## **APPENDIX V2-5.3 – ORNITHOLOGY TECHNICAL REPORT JANUARY TO AUGUST 2021**

2021

Fort Augustus to Skye Overhead Line Project  
Report on Ornithological Surveys  
January to August 2021

n r p NATURAL RESEARCH  
PROJECTS LIMITED



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## Introduction

1. This report details the results of ornithological survey work undertaken on the route of the LT91 Fort Augustus to Skye Overhead Line Project by Natural Research (Projects) Ltd (NRP) between January and August 2021.
2. The objectives of the study were to:
  - Map the distribution of breeding birds, including scarce breeding species listed in Annex 1 of the EU Birds Directive (2009/147/EEC) on the Conservation of Wild Birds ('the Birds Directive') or Schedule 1 of the Wildlife and Countryside Act 1981 (as amended);
  - Quantify the level of bird flight activity by selected breeding and foraging birds of high conservation importance; and
  - Record the presence and abundance of selected other birds of conservation importance (those listed on the Red List of Birds of Conservation Concern (Eaton *et al.*, 2015)<sup>1</sup> or in Biodiversity Action Plans (BAPs)).
3. Field surveyors were Stephen Bentall (SB), Fiona Leckie (FL), Ian Gordon (IG), Kevin Cuthbert (KC), Andy Williams (AW) and Blair Urquhart (BU). All field surveyors are trained ornithologists with extensive experience in surveying birds. Field surveyors received training prior to and during survey work to maintain professional standards.

## Moorland Bird Survey

4. Moorland breeding bird territories were surveyed within the survey boundaries shown in **Figures 1 and 4**. The Brown & Shepherd (1993)<sup>2</sup> method for upland waders was modified to also provide reliable breeding estimates for moorland passerines by undertaking some surveys during the first few hours of daylight. All target bird species were surveyed.
5. Fieldwork was not undertaken in conditions considered likely to affect bird detection, for example strong winds (greater than Beaufort Scale Force 4), persistent precipitation, poor visibility (less than 300 m), or in unusually hot or cold temperatures.

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<sup>1</sup> Eaton, M.A., Aebischer, N.J., Brown, A.F., Hearn, R.D., Lock, L., Musgrove, A.J., Noble, D.G., Stroud, D.A. & Gregory, R.D. (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.

<sup>2</sup> Brown, A.F. & Shepherd, K.B. (1993). A method for censusing upland breeding waders. *Bird study* 40: 3 pp189-195.

6. The survey aimed to cover the ground systematically with a constant search effort. All suitable ground within survey boundary was approached closely, typically to within 100 m. Water bodies, patches of scrub, and isolated trees were examined carefully. Ditches, streams and the edges of water bodies were followed. Surveyors paused at regular intervals to scan and listen for calling and singing birds.
7. Careful attention was given to recording behaviour indicative of breeding and care was taken to avoid counting the same individual more than once. Where necessary, surveyors retraced their steps in order to check the continued presence of previously recorded birds.
8. The location and activity of birds were mapped onto enlarged 1:25,000 scale OS maps using standard BTO codes (Marchant, 1983)<sup>3</sup>. The position of each bird was mapped at the point it was first detected. The flight lines of birds seen flying over the survey area were recorded.

### Section 0

9. Moorland breeding bird territories were surveyed between April and July 2021, within the proposed route corridor plus 500 m buffer (**Figure 1**). Details of surveys undertaken are shown in **Table 1**.

Table 1. Details of Moorland Bird Surveys in Section 0, April to July 2021.											
Date	Start time	End time	Duration (hrs)	Observer	Cloud cover (10 <sup>ths</sup> )	Cloud base (m)	Wind direction	Wind force	Precip*	Visibility (km)	Visit No.
12/04/2021	0900	1500	6.00	FL	0	-	-	0	nil	20	1
17/05/2021	0915	1415	5.00	IG	8	500	S	2	nil	20	2
17/05/2021	0915	1415	5.00	FL	8	500	SE	2	nil	20	2
23/06/2021	0930	1400	4.50	FL	10	200	NE	2	ILR	2	3
23/06/2021	0930	1300	3.50	IG	10	200	SW	2	ILR	2	3
11/07/2021	0915	1415	5.00	FL	10	500	E	2	nil	20	4
11/07/2021	0915	1415	5.00	IG	10	300	NE	3	nil	5	4

\*Precipitation codes: Continuous/Intermittent + Light/Heavy + Rain/Snow/Hail/Fog

### Section 1

10. Moorland breeding bird territories were surveyed between May and July 2021, within the proposed route corridor plus 500 m buffer (**Figure 4**). Details of surveys undertaken are shown in **Table 2**.

<sup>3</sup> Marchant, J.H. (1983). BTO Common Birds Census Instructions. British Trust for Ornithology, Thetford

**Table 2.** Details of Moorland Bird Surveys in Section 1, May to July 2021.

Date	Start time	End time	Duration (hrs)	Observer	Cloud cover (10 <sup>ths</sup> )	Cloud base (m)	Wind direction	Wind force	Precip*	Visibility (km)	Visit No.
15/05/2021	0700	1300	6.00	AW	4	1500	SE	4	nil	7	1
16/05/2021	0820	1420	6.00	AW	5	1200	NE	3	nil	10	1
17/05/2021	0830	1130	3.00	AW	7	900	SW	3	nil	7	1
17/05/2021	1130	1330	2.00	AW	7	1000	SW	4	ILR	7	1
17/05/2021	1440	1620	1.67	AW	5	1000	SSW	4	nil	7	1
21/06/2021	0915	1345	4.50	IG	8	500	NNE	3	nil	10	2
21/06/2021	0915	1415	5.00	FL	5	1000	NE	3	nil	20	2
21/06/2021	1630	1800	1.50	FL	4	1000	NW	3	nil	20	2
21/06/2021	1630	1800	1.50	IG	3	500	NW	4	nil	10	2
22/06/2021	0850	1200	3.17	IG	4	500	SW	4	nil	10	2
22/06/2021	0850	1220	3.50	FL	6	1000	S	3	nil	20	2
22/06/2021	1230	1400	1.50	IG	10	500	SW	4	nil	10	2
25/06/2021	0945	1130	1.75	IG	9	500	NE	4	ILR	5	2
25/06/2021	0945	1130	1.75	FL	10	400	NE	3	nil	5	2
12/07/2021	0845	1015	1.50	IG	8	500	NE	1	nil	5	3
12/07/2021	0915	1615	7.00	FL	8	1000	NE	1	nil	10	3
12/07/2021	1045	1430	3.75	IG	4	500	NE	1	nil	5	3
13/07/2021	0900	1400	5.00	IG	10	300	NNW	1	nil	2	3
13/07/2021	0900	1400	5.00	FL	10	300	NNW	1	nil	2	3
15/07/2021	1620	1720	1.00	IG	8	500	W	3	nil	5	3
15/07/2021	1620	1720	1.00	FL	6	700	SW	3	nil	20	3

\*Precipitation codes: Continuous/Intermittent + Light/Heavy + Rain/Snow/Hail/Eog

## Scarce Breeding Bird Survey

### Section 0

11. Priority was given to detecting the species considered most likely to occur such as merlin (ML), hen harrier (HH), short-eared owl (SE) and corncrake (CE). The methods employed are based on those described in Hardey *et al.* (2013)<sup>4</sup> and Gilbert *et al.* (1998)<sup>5</sup>. The survey area for scarce breeding birds consists of the proposed route corridor plus a buffer of 500 m and was surveyed between April and July (**Figure 2**). Details of surveys undertaken are included in **Table 3**.
12. Corncrake surveys were undertaken between 15 May and 30 June, in dry, calm weather. The methods employed are those described in Gilbert *et al.* (1998) and were undertaken between 0000hrs and 0300hrs. The survey area for corncrake consists of all suitable habitats within a 500 m buffer of the proposed route corridor centre around Trumpan (**Figure 2**). The aim of these

<sup>4</sup> Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. & Thompson, D. (2013). Raptors, a field guide to survey and monitoring. The Stationery Office, Edinburgh.

<sup>5</sup> Gilbert, G., Gibbons, D.W. & Evans, J. (1998) Bird monitoring methods. RSPB Sandy, Bedfordshire.

surveys is to count the maximum number of calling males and to map the location of each male.

Details of surveys undertaken are included in **Table 3**.

<b>Table 3.</b> Details of Scarce Breeding Bird Surveys in Section 0, April to July 2021.											
Date	Start time	End time	Duration (hrs)	Observer	Cloud cover (10 <sup>ths</sup> )	Cloud base (m)	Wind direction	Wind force	Precip*	Visibility (km)	Target species
16/04/2021	0840	1310	4.50	FL	10	1000	S	5	nil	5	HH ML SE
16/04/2021	0845	1215	3.50	IG	10	1000	S	5	nil	5	HH ML SE
18/05/2021	0000	0300	3.00	IG	5	500	SE	1	nil	n/a	CE
18/05/2021	0005	0255	2.83	FL	5	500	SE	1	nil	n/a	CE
19/05/2021	1000	1400	4.00	IG	6	500	E	2	nil	10	HH ML SE
19/05/2021	1015	1415	4.00	FL	5	500	E	3	nil	20	HH ML SE
20/06/2021	0000	0130	1.50	IG	10	500	-	0	nil	n/a	CE
20/06/2021	0030	0200	1.50	FL	8	500	-	0	nil	n/a	CE
20/06/2021	1530	1930	4.00	IG	4	500	NW	4	nil	10	HH ML SE
20/06/2021	1535	1935	4.00	FL	4	700	NW	3	nil	20	HH ML SE
26/06/2021	0030	0200	1.50	IG	8	500	NE	2	nil	n/a	CE
26/06/2021	0030	0200	1.50	FL	9	400	NE	2	nil	n/a	CE
15/07/2021	0900	1300	4.00	IG	10	500	WSW	3	nil	5	HH ML SE
15/07/2021	0920	1320	4.00	FL	10	700	SW	2	nil	10	HH ML SE
*Precipitation codes: <u>C</u> ontinuous/ <u>I</u> ntermittent + <u>L</u> ight/ <u>H</u> eavy + <u>R</u> ain/ <u>S</u> now/ <u>H</u> ail/ <u>F</u> og											

### Section 1

13. In January and February priority was given to locating and checking known golden eagle (EA) and white-tailed eagle (WE) breeding sites. The methods employed are based on those described in Hardey *et al.* (2013). Searches for new or unknown breeding locations for white-tailed eagle and golden eagle have been supplemented by flight activity watches to help locate areas of high activity that may indicate a breeding location (see Flight Activity Survey – Section 1 below) (**Figure 5**). Details of surveys undertaken are shown in **Table 4**.

<b>Table 4.</b> Details of Scarce Breeding Bird Surveys in Section 1.											
Date	Start time	End time	Duration (hrs)	Observer	Cloud cover (10 <sup>ths</sup> )	Cloud base (m)	Wind direction	Wind force	Precip*	Visibility (km)	Target species
20/01/2021	1015	1615	6.00	SB	0	-	NW	3	nil	5	EA WE
24/02/2021	1155	1255	1.00	SB	10	700	SW	8	nil	4	WE
*Precipitation codes: <u>C</u> ontinuous/ <u>I</u> ntermittent + <u>L</u> ight/ <u>H</u> eavy + <u>R</u> ain/ <u>S</u> now/ <u>H</u> ail/ <u>F</u> og											

## Flight Activity Survey

### Section 1

14. Surveys were undertaken between February and July. The survey area consists of an area of commercial forestry at Glen Tungadal within 500 m of the proposed route corridor. The purpose of this survey was to help locate breeding sites of white-tailed eagle and golden eagle and to gather flight activity data. Information on bird flight activity was collected during timed watches from strategic Generic Vantage Points (GVPs) using the methods described by Band *et al.* (2007)<sup>6</sup> (Figure 7). Details of surveys undertaken are shown in Table 5.

Table 5. Details of Flight Activity Surveys in Section 1, February to July 2021.					
Date	GVP No.	Start time	End time	Duration (hrs)	Observer
20/02/2021	T3	0950	1250	3.00	SB
22/02/2021	M5	0900	1200	3.00	SB
15/03/2021	T4	0915	1215	3.00	SB
15/03/2021	T4	1220	1520	3.00	SB
24/03/2021	M5	1125	1425	3.00	SB
26/03/2021	M5	1225	1525	3.00	SB
13/04/2021	T3	1120	1420	3.00	SB
21/04/2021	T3	1230	1530	3.00	SB
21/04/2021	M5	0830	1130	3.00	SB
30/04/2021	M5	0920	1220	3.00	SB
18/05/2021	T3	0820	1120	3.00	SB
20/05/2021	T4	0920	1220	3.00	SB
02/07/2021	T3	1055	1255	2.00	SB
05/07/2021	T3	0815	1015	2.00	SB
05/07/2021	T3	1015	1215	2.00	SB
08/07/2021	T3	1330	1530	2.00	SB
08/07/2021	T3	1530	1730	2.00	SB
09/07/2021	T3	1420	1720	3.00	SB
19/07/2021	T3	1250	1450	2.00	BU
19/07/2021	M5	1500	1800	3.00	BU
20/07/2021	T3	0800	1100	3.00	BU
20/07/2021	M5	1120	1420	3.00	BU
20/07/2021	M5	1420	1720	3.00	BU
21/07/2021	M5	0940	1240	3.00	BU
21/07/2021	M5	1240	1430	1.83	BU
21/07/2021	T3	1445	1745	3.00	BU
22/07/2021	T3	0850	1150	3.00	BU
29/07/2021	M5	1330	1630	3.00	SB

<sup>6</sup> Band, W., Madders, M. & Whitfield, D.P. (2007) Developing field and analytical methods to assess avian collision risk at wind farms. In de Lucas, M, Janss, G.F.E. and Ferrer, M. (Eds.) Birds and Wind Farms: Risk assessment and Mitigation, pp. 259 - 275. Quercus, Madrid.

## Section 2

15. Surveys were undertaken between February and July to gather species-specific data on SPA golden eagle movements on an area of ground between Loch Ainort and Loch Sligachan. In total 34 hours of GVP watches were undertaken. The purpose of this survey was to inform the potential re-routing of the OHL outside of the Cullins SPA. Information on bird flight activity was collected during timed watches from strategic Generic Vantage Points (GVPs) using the methods described by Band *et al.* (2007) (**Figure 9**). Details of surveys undertaken are shown in **Table 6**.

<b>Table 6.</b> Details of Flight Activity Surveys in Section 2, February to July 2021.					
Date	GVP No.	Start time	End time	Duration (hrs)	Observer
17/02/2021	LA1	1240	1540	3.00	SB
21/02/2021	LA2	0825	1125	3.00	SB
01/03/2021	LA2	1430	1730	3.00	SB
04/03/2021	LA1	0855	1155	3.00	SB
13/04/2021	LA1	0740	1040	3.00	SB
13/04/2021	LA2	1550	1850	3.00	SB
07/05/2021	LA2	0845	1145	3.00	SB
11/05/2021	LA1	1040	1140	1.00	SB
10/06/2021	LA1	1330	1630	3.00	SB
11/06/2021	LA2	1030	1330	3.00	SB
05/07/2021	LA2	1315	1615	3.00	SB
06/07/2021	LA1	0920	1220	3.00	SB

## Section 5

16. Surveys were undertaken between May and August to gather species-specific data on SPA black-throated diver and common scoter movements between component SPA lochs. The purpose of this survey is to inform the potential risk of collision with the OHL. Information on bird flight activity was collected during timed watches from strategic Generic Vantage Points (GVPs) using the methods described by Band *et al.* (2007) (**Figure 11**). Details of surveys undertaken are shown in **Table 7**.

<b>Table 7.</b> Details of Flight Activity Surveys in Section 5, May to August 2021.					
Date	GVP No.	Start time	End time	Duration	Observer
28/05/2021	LG3	1330	1630	3.00	BU
28/05/2021	LG3	1700	1830	1.50	BU
29/05/2021	LG1	1100	1400	3.00	BU
29/05/2021	LG1	1430	1730	3.00	BU
29/05/2021	LG3	0805	0935	1.50	BU
30/05/2021	LG2	0845	1145	3.00	BU
21/06/2021	LG3	1430	1730	3.00	KC
22/06/2021	LG2	1310	1610	3.00	KC

**Table 7.** Details of Flight Activity Surveys in Section 5, May to August 2021.

Date	GVP No.	Start time	End time	Duration	Observer
22/06/2021	LG3	0915	1215	3.00	KC
23/06/2021	LG1	1150	1450	3.00	KC
23/06/2021	LG1	1520	1650	1.50	KC
23/06/2021	LG2	0815	1115	3.00	KC
24/06/2021	LG1	0905	1035	1.50	KC
24/06/2021	LG2	1100	1400	3.00	KC
19/07/2021	LG2	1215	1515	3.00	KC
19/07/2021	LG2	1545	1745	2.00	KC
20/07/2021	LG1	0755	1055	3.00	KC
20/07/2021	LG1	1715	2015	3.00	KC
20/07/2021	LG3	1150	1450	3.00	KC
21/07/2021	LG2	0540	0840	3.00	KC
21/07/2021	LG2	0900	1000	1.00	KC
22/07/2021	LG3	1245	1545	3.00	KC
24/08/2021	LG1	0820	1120	3.00	KC
25/08/2021	LG1	1130	1430	3.00	KC
25/08/2021	LG2	1445	1745	3.00	KC
26/08/2021	LG2	0810	1110	3.00	KC
26/08/2021	LG3	1200	1500	3.00	KC
26/08/2021	LG3	1530	1830	3.00	KC

## Field Survey Results

### Section 0

#### *Moorland Bird Survey*

17. No notable species were recorded as breeding within the survey boundary (**Figure 1**).

#### *Scarce Breeding Bird Survey*

18. No breeding sites of scarce raptors or owls were located during the study period.

19. A single male **corncrake** (Annex 1 and Schedule 1) was recorded holding territory at Trumpan during May (**Table 8; Figure 2**). However, no further records of corncrake were made during dedicated surveys.

20. Flights by **white-tailed eagle**, **peregrine**, **hen harrier**, **merlin** and **red-throated diver** were made during surveys (**Table 8; Figure 2**).

**Table 8.** Scarce Breeding Bird Survey results, Section 0.

Date	Time	Species	Num.	Sex	Age	Behaviour	Comments
16/04/2021	0910	White-tailed eagle	1			Flying	Outside defined survey buffer
16/04/2021	0953	White-tailed eagle	1		SUB	Flying	
16/04/2021	0952	White-tailed eagle	1		A	Flying	

**Table 8.** Scarce Breeding Bird Survey results, Section 0.

Date	Time	Species	Num.	Sex	Age	Behaviour	Comments
16/04/2021	1039	Merlin	1	M	A	Flying	
16/04/2021	1157	White-tailed eagle	1		SUB	Flying	
18/05/2021	0005	Corncrake	1	M	A	Sing	Calling throughout survey period
19/05/2021	1150	Peregrine	1	M	A	Flying	
20/06/2021	1537	Hen harrier	1	M	A	Hunt/feed	
15/07/2021	1101	Red-throated diver	2		2A	Flying, Vocalise	2 flew over calling
15/07/2021	1055	Red-throated diver	2		2A	Flying, Vocalise	Seen circling away into Loch Losait
15/07/2021	1104	Red-throated diver	2		2A	Flying, Vocalise	Flew towards Loch Bay

### *Incidental Records*

21. Incidental records included two flights by **peregrine** and flights by **white-tailed eagle**, **golden plover** and **red-throated diver**. A male **corncrake** was heard calling during the course of a Moorland Bird Survey (**Table 9; Figure 3**).

**Table 9.** Incidental records, Section 0.

Date	Time	Species	Num.	Sex	Age	Behaviour	Comments
12/04/2021	1220	White-tailed eagle	1		A	Flying	Very high
16/04/2021	1330	Peregrine	1		A	Flying	Trumpan
16/04/2021	1335	Peregrine	2	MF	A	Flying	Trumpan
16/04/2021	1332	Golden plover	15	Mix	A	Flying	Trumpan
17/05/2021	1630	Corncrake	1	M	A	Sing	Trumpan
11/07/2021	0930	Red-throated diver	2			Flying, Vocalise	Loch Bay

### Section 1

#### *Moorland Bird Survey*

22. Three wader species of conservation concern were recorded during baseline surveys: **greenshank** (*Tringa nebularia*), **golden plover** (*Pluvialis apricaria*) and **curlew** (*Numenius arquata*) (**Table 10; Figure 4**).
23. A maximum of two **greenshank** (Annex 1 and Schedule 1) territories were recorded within 500 m of the proposed route corridor.
24. Two pairs of **golden plover** (Annex 1) were recorded in flight during the study period, however records did not suggest that golden plover had bred in the study area.
25. One **curlew** (Red list) territory was recorded within 500 m of the proposed route corridor.
26. On 25 June an adult male **hen harrier** (Annex 1 and Schedule 1) was observed catching prey.



Table 10. Moorland Bird Survey results, Section 1.				
Date	Time	Species	Number	Behaviour
15/05/2021	0755	Greenshank	2	Sing, Vocalise
15/05/2021	0840	Greenshank	1	Sing
16/05/2021	1006	Golden plover	3	Vocalise
17/05/2021	0920	Golden plover	2	Flying, Vocalise
17/05/2021	1010	Greenshank	1	Flying, Vocalise
17/05/2021	1025	Greenshank	1	Vocalise
17/05/2021	1050	Golden plover	2	Flying, Vocalise
17/05/2021	1241	Curlew	2	Flying, Display, Vocalise
21/06/2021	1700	Curlew	1	Vocalise
21/06/2021	1735	Curlew	1	Vocalise
22/06/2021	0857	Greenshank	1	Flying
22/06/2021	0857	Greenshank	1	Flying, Vocalise
25/06/2021	1101	Hen harrier	1	Hunt/feed
25/06/2021	1018	Curlew	1	Flying, Vocalise
13/07/2021	1250	Greenshank	1	Agitated/alarm, Vocalise
13/07/2021	1140	Greenshank	1	Flying, Vocalise

### Scarce Breeding Bird Survey

27. The known **white-tailed eagle** (Annex 1 and Schedule 1) breeding sites at Mugeary and Glen Vic Askill have both collapsed since surveys conducted in 2018. It is suspected the pair at Mugeary have moved into Tungadal Forest at a distance greater than 500 m from the proposed route corridor. The pair at Glen Vic Askill have built a new nest in the same location, near their old nest (**Table 11; Figure 5**).

28. In January, a new **golden eagle** breeding site was located at Mugeary. However, although the eyrie had a small amount of fresh material added the pair attempted to breed at a different location (**Table 11; Figure 5**).

Table 11. Scarce Breeding Bird Survey results, Section 1.									
Date	Time	Species	Num.	Sex	Age	Behaviour	Signs	Comments	Location
20/01/2021	1015	White-tailed eagle	0				Old nest (prev. yr)	Collapsed	Glen Vic Askill
20/01/2021	1030	Golden eagle	2	MF	2A	Perch			
20/01/2021	1044	White-tailed eagle	0				Old nest (prev. yr)	Collapsed	Mugearay
20/01/2021	1240	Golden eagle	0				Used nest (this yr)	Alternative site for Mugearay pair	Stroc-bheinn
20/01/2021	1508	Golden eagle	0				Old nest (prev. yr)	Small amount of fresh material added	Mugearay
20/01/2021	1514	Golden eagle	1	M	A	Roost, Flying		Flying into roost at next crag. Full crop.	
24/02/2021	1215	White-tailed eagle	0				Used nest (this yr)	Close to old nest	Glen Vic Askill

**Table 11.** Scarce Breeding Bird Survey results, Section 1.

Date	Time	Species	Num.	Sex	Age	Behaviour	Signs	Comments	Location
24/02/2021	1226	White-tailed eagle	1			Roost, Flying		Possibly flying to roost	
24/02/2021	1234	Golden eagle	1			Flying			

### Flight Activity Survey

29. Forty-three flights by **white-tailed eagle** (Annex 1 and Schedule 1) were recorded between February and July 2021 (**Table 12; Figure 8**). The majority of aged birds were of immature individuals.

**Table 12.** Flight activity of white-tailed eagles observed during GVP watches, February to July 2021. Records shown in red were observed outside the 500 m buffer.

Date	GVP No.	Number	Sex	Age	Time first seen	Duration (s)	Height band							
							<10m	10-30m	30-50m	50-100m	100-150m	>150m		
20/02/2021	T3	1	F?	A	1237	37	✓							
26/03/2021	M5	1		A	1307	115	✓	✓	✓					
26/03/2021	M5	2		A+IMM	1313	70		✓	✓					
26/03/2021	M5	1		A	1315	385			✓	✓	✓	✓	✓	
26/03/2021	M5	1		IMM	1315	385			✓	✓	✓	✓		
26/03/2021	M5	1		A	1328	365			✓	✓	✓	✓	✓	
26/03/2021	M5	1		IMM	1328	795		✓	✓	✓	✓	✓	✓	✓
26/03/2021	M5	1	M	SUB	1338	132	✓	✓	✓	✓				
13/04/2021	T3	1		IMM	1128	625		✓	✓	✓	✓	✓	✓	✓
21/04/2021	T3	1		A	1421	382		✓	✓	✓	✓	✓		
30/04/2021	M5	1		IMM	0924	196		✓	✓	✓				
30/04/2021	M5	1		3CY	0948	176								✓
18/05/2021	T3	1		A	0850	159	✓	✓	✓					
18/05/2021	T3	1		IMM	0909	78	✓	✓						
18/05/2021	T3	1		IMM	0935	48	✓							
18/05/2021	T3	1		A	1001	153	✓	✓	✓	✓				
18/05/2021	T3	1		IMM	1105	537	✓	✓	✓	✓	✓	✓	✓	✓
20/05/2021	T4	1		3CY	0938	239		✓	✓	✓	✓	✓		
20/05/2021	T4	1		3CY	1001	257		✓	✓	✓	✓			
20/05/2021	T4	1		4CY	1056	340		✓	✓	✓	✓	✓		
08/07/2021	T3	1		IMM	1341	42								
08/07/2021	T3	1	F	A	1726	92								
19/07/2021	M5	1			1528	60	✓							
19/07/2021	M5	1		SUB	1528	646	✓							
19/07/2021	M5	1		SUB	1614	131	✓							
20/07/2021	T3	1	M	A	0912	37						✓	✓	
20/07/2021	M5	3			1126	154				✓				
20/07/2021	M5	2		2JUV	1131	42				✓	✓	✓	✓	✓
20/07/2021	M5	1		JUV	1136	53		✓	✓					
20/07/2021	M5	1		A	1211	199		✓						
20/07/2021	M5	1		JUV	1314	31		✓						

**Table 12.** Flight activity of white-tailed eagles observed during GVP watches, February to July 2021. Records shown in red were observed outside the 500 m buffer.

Date	GVP No.	Number	Sex	Age	Time first seen	Duration (s)	Height band					
							<10m	10-30m	30-50m	50-100m	100-150m	>150 m
20/07/2021	M5	1		SUB	1355	347		✓				
21/07/2021	M5	1	F	SUB	1054	40				✓	✓	✓
21/07/2021	M5	1	F	SUB	1055	158	✓					
21/07/2021	M5	1	F	SUB	1154	551			✓	✓	✓	✓
21/07/2021	M5	1			1222	423	✓					
21/07/2021	M5	1	M	SUB	1233	368		✓	✓	✓	✓	✓
21/07/2021	M5	1		A	1240	81				✓	✓	✓
21/07/2021	M5	1			1246	428	✓	✓	✓	✓	✓	✓
21/07/2021	M5	1			1307	211				✓	✓	✓
21/07/2021	M5	1		A	1340	276		✓	✓			
22/07/2021	T3	1	M	A	1128	432			✓	✓	✓	
29/07/2021	M5	1		2CY	1423	98						✓

30. Twelve flights were recorded from GVP T3; six were within 500 m of the proposed route corridor and of these four had some duration at less than 50 m elevation a.g.l.

31. Three flights were recorded from GVP T4; none were within 500 m of the proposed route corridor.

32. Twenty-eight flights were recorded from GVP M5; 21 were within 500 m of the proposed route corridor and of these 16 had some duration at less than 50 m elevation a.g.l.

33. Twelve flights by **golden eagle** (Annex 1 and Schedule 1) were recorded between February and July 2021 (**Table 13; Figure 8**). All records were of adult birds and suspected to be the territory holding pair.

**Table 13.** Flight activity of golden eagles observed during GVP watches, February to July 2021. Records shown in red were observed outside the 500 m buffer.

Date	GVP No.	Number	Sex	Age	Time first seen	Duration (s)	Height band					
							<10m	10-30m	30-50m	50-100m	100-150m	>150 m
22/02/2021	M5	1		A	1148	5	✓					
26/03/2021	M5	1		A	1236	37		✓	✓			
26/03/2021	M5	1	M	A	1336	260	✓	✓	✓			
21/04/2021	M5	1	M	A	0844	108	✓	✓	✓			
30/04/2021	M5	1	M	A	1128	595			✓	✓	✓	✓
20/07/2021	M5	1		A	1211	199				✓	✓	✓
20/07/2021	M5	2	MF	2A	1514	310						✓
20/07/2021	M5	1		A	1626	201		✓	✓	✓	✓	✓
20/07/2021	M5	1		A	1649	617					✓	✓
20/07/2021	M5	1		A	1654	340					✓	✓
21/07/2021	M5	2	MF	2A	1246	86	✓	✓				

**Table 13.** Flight activity of golden eagles observed during GVP watches, February to July 2021. Records shown in red were observed outside the 500 m buffer.

Date	GVP No.	Number	Sex	Age	Time first seen	Duration (s)	Height band					
							<10m	10-30m	30-50m	50-100m	100-150m	>150m
21/07/2021	M5	1	M	A	1318	438		✓	✓	✓	✓	✓

34. All **golden eagle** flights were recorded from GVP M5. Of the twelve flights, nine of these were within 500 m of the proposed route corridor and six had some duration at less than 50 m elevation a.g.l.

35. Other notable species recorded in flight included **hen harrier** (Annex 1 and Schedule 1), **merlin** (Annex 1 and Schedule 1) and **curlew** (Red List) (**Table 14; Figure 8**).

**Table 14.** Flight activity of other species observed during GVP watches, February to July 2021. Records shown in red were observed outside the 500 m buffer.

Date	Species	GVP No.	Number	Sex	Age	Time first seen	Duration (s)	Height band					
								<10m	10-30m	30-50m	50-100m	100-150m	>150m
09/07/2021	Hen harrier	T3	1	M	A	1548	223	✓					
20/07/2021	Curlew	T3	1		A	1011	191	✓	✓	✓	✓		
20/07/2021	Hen harrier	T3	1	M	A	1050	122	✓					
20/07/2021	Hen harrier	T3	1	M	A	1055	24	✓					
21/07/2021	Merlin	M5	1	F	A	1019	57	✓*					
22/07/2021	Curlew	T3	1		A	0929	186	✓	✓	✓	✓	✓	
22/07/2021	Hen harrier	T3	1	M	A	1019	23		✓				

\*Flew below existing powerline

*Incidental Records*

36. Incidental records include 22 flights by **white-tailed eagle**, two flights by **golden eagle**, three flights by **hen harrier**, three flights by **red-throated diver**, three flights by **greenshank** and a single flight by **curlew**. **White-tailed eagle** was recorded perched or roosting on six occasions (**Table 15; Figure 6**).

**Table 15.** Incidental records, Section 1.

Date	Time	Species	Number	Sex	age	Behaviour	Comments
20/02/2021	1251	White-tailed eagle	2	MF	A+SUB		In area approx 4mins (soaring)
26/03/2021	1145	White-tailed eagle	1		A		
26/03/2021	1527	Golden eagle	1		A	Territorial	
26/03/2021	1527	White-tailed eagle	1		A	Territorial	
30/04/2021	0847	White-tailed eagle	1		A	Flying	Commuting
30/04/2021	0849	White-tailed eagle	1		IMM	Hunt/feed	
30/04/2021	0849	White-tailed eagle	1		IMM	Hunt/feed	
15/05/2021	0725	Red-throated diver	2	MF?		Flying, Vocalise	Above c. 150m

**Table 15.** Incidental records, Section 1.

Date	Time	Species	Number	Sex	age	Behaviour	Comments
15/05/2021	0815	Red-throated diver	2	MF?		Flying, Vocalise	Above c. 120m
16/05/2021	1025	White-tailed eagle	5		5A	Flying, Vocalise	All circling/soaring >500m up
16/05/2021	1028	White-tailed eagle	2		2A	Flying	Soaring c. 700m up above group of 5
16/05/2021	1059	White-tailed eagle	1		A	Flying	c. 70m above ground
16/05/2021	1211	White-tailed eagle	1		IMM	Flying	On ground - flew over ridge
16/05/2021	1323	White-tailed eagle	2		2A	Flying, Vocalise	Very high >600m drifted east
21/06/2021	1638	White-tailed eagle	1		SUB	Flying	
22/06/2021	0921	White-tailed eagle	1		A	Flying	Transit
22/06/2021	0930	White-tailed eagle	1		SUB	Flying	Transit
22/06/2021	1136	White-tailed eagle	1		SUB	Flying	Circling high
22/06/2021	0930	White-tailed eagle	1		SUB	Flying	
22/06/2021	0857	Greenshank	1			Flying	Transit
22/06/2021	0857	Greenshank	1		A	Flying, Vocalise	
25/06/2021	1100	Hen harrier	1	M	A	Hunt/feed	
25/06/2021	1107	Hen harrier	1	M	A	Flying	
26/06/2021	1018	Curlew	1			Flying, Vocalise	Flew over calling
12/07/2021	0945	White-tailed eagle	2		2SUB	Flying	
12/07/2021	1148	Golden eagle	2		SUB+IMM	Flying	Circling low on ridge
12/07/2021	1109	White-tailed eagle	1		SUB	Flying	
12/07/2021	1237	White-tailed eagle	1		SUB	Flying	Circled, gained height, moved off
13/07/2021	1243	Red-throated diver	1		A	Flying, Vocalise	Calling, flew out to sea
13/07/2021	1217	White-tailed eagle	1		SUB	Flying	
13/07/2021	1140	Greenshank	1		A	Flying, Vocalise	Flew over calling, landed near river
15/07/2021	1629	Hen harrier	1	F	A	Flying, Hunting	Flew over, then landed
20/07/2021	0824	White-tailed eagle	2	MF	A+JUV	Perch	Still present @1100, A=M, JUV=F
20/07/2021	0912	White-tailed eagle	1	F	A	Perch	Still present @1100
21/07/2021	1000	White-tailed eagle	1			Perch, Roost	
21/07/2021	1008	White-tailed eagle	1			Perch, Roost	
21/07/2021	1042	White-tailed eagle	2		A+SUB	Perch, Roost	
21/07/2021	1043	White-tailed eagle	1			Perch, Roost	

## Section 2

### *Flight Activity Survey*

37. Six flights by **white-tailed eagle** (Annex 1 and Schedule 1), two flights by **golden eagle** (Annex 1 and Schedule 1) and a single flight by a **peregrine** (Annex 1 and Schedule 1) were recorded between February and July 2021 (**Table 16; Figure 8**). All flights recorded were greater than 500m from the proposed route corridor.

**Table 16.** Flight activity observed during GVP watches in Section 2, February to July 2021. Records shown in red were observed outside the 500 m buffer.

Date	Species	GVP No.	Num.	Sex	Age	Time first seen	Dur. (s)	Height band					
								<10m	10-30m	30-50m	50-100m	100-150m	>150m
01/03/2021	White-tailed eagle	LA2	2	MF	2SUB	1535	9	✓					
01/03/2021	White-tailed eagle	LA2	1		SUB	1648	2	✓					
01/03/2021	White-tailed eagle	LA2	1		SUB	1707	2	✓					
04/03/2021	White-tailed eagle	LA1	2	MF	2SUB	0956	3	✓					
04/03/2021	White-tailed eagle	LA1	1		A	1038	46		✓				
04/03/2021	White-tailed eagle	LA1	2	MF	2SUB	1038	325		✓	✓	✓	✓	✓
13/04/2021	Golden eagle	LA2	1		IMM	1713	14	✓					
13/04/2021	Golden eagle	LA2	1		IMM	1714	159	✓	✓	✓	✓		
06/07/2021	Peregrine	LA1	1			1130	43		✓	✓			

## Section 5

### Flight Activity Survey

38. Flights by **golden eagle** (Annex 1 and Schedule 1), **white-tailed eagle** (Annex 1 and Schedule 1), **osprey** (Annex 1 and Schedule 1), **common scoter** (Annex 1 and Schedule 1), greylag goose and **greenshank** (Annex 1 and Schedule 1) were recorded during the study period. Of these, three flights by **osprey** and two flights by greylag geese passed over the proposed route corridor. All flights by **common scoter** and **black-throated diver** were on Loch Garry and none passed over the proposed route corridor (**Table 17; Figure 12**).

**Table 17.** Flight activity observed during GVP watches in Section 2, February to July 2021. Records shown in red were observed outside the 500 m buffer.

Date	Species	GVP No.	Num.	Sex	Age	Time first seen	Dur. (s)	Height band					
								<5m	5-10m	10-20m	20-30m	30-40m	>40m
28/05/2021	Greylag goose	LG3	38			1813							✓*
29/05/2021	Greenshank	LG1	1		A	1223	30	✓					
29/05/2021	Common scoter	LG1	2	MF	2A	1228	14	✓					
29/05/2021	Greenshank	LG1	3		3A	1436	26	✓					
29/05/2021	Osprey	LG1	1		A	1513	134	✓	✓	✓	✓		
29/05/2021	Greenshank	LG1	2		2A	1616	119	✓					
29/05/2021	Greylag goose	LG3	3		3A	0859							✓*
30/05/2021	Greylag goose	LG2	3		3A	0913		✓					

**Table 17.** Flight activity observed during GVP watches in Section 2, February to July 2021. Records shown in red were observed outside the 500 m buffer.

Date	Species	GVP No.	Num.	Sex	Age	Time first seen	Dur. (s)	Height band						
								<5m	5-10m	10-20m	20-30m	30-40m	>40m	
30/05/2021	Common scoter	LG2	1	M	A	0938	61	✓						
30/05/2021	Common scoter	LG2	1	M	A	1024	6	✓						
30/05/2021	Osprey	LG2	1		A	1049	70					✓		
30/05/2021	Osprey	LG2	2	MF	2A	1053	148						✓*	
21/06/2021	White-tailed eagle	LG3	1		A	1703	127					✓	✓	
22/06/2021	Common scoter	LG2	2	MF	2A	1600	71	✓						
23/06/2021	Black-throated diver	LG1	1		A	1203	33	✓						
20/07/2021	Osprey	LG1	1		A	0859	125				✓			
20/07/2021	Osprey	LG1	1	M	A	0919	534				✓			
20/07/2021	Osprey	LG1	1	M	A	1721	1503						✓	
20/07/2021	Osprey	LG1	1	M	A	1901	15				✓*			
20/07/2021	Osprey	LG1	1	M	A	1947	2				✓*			
20/07/2021	White-tailed eagle	LG3	1		A	1301	130						✓	
20/07/2021	White-tailed eagle	LG3	1	M	A	1328	33		✓					
20/07/2021	White-tailed eagle	LG3	1	M	A	1342	62						✓	
26/08/2021	Golden eagle	LG3	1			1559	575						✓	

\*Flew over existing power line

*Incidental Records*

39. Incidental records were made of a minimum of three pairs of **common scoter** and three individual males (all on Loch Garry), three pairs of **black-throated diver** (two pairs on Loch Garry and one pair on Loch Lundie) and a pair of **greenshank** and **ringed plover** (both at Loch Garry) (**Figure 13**).

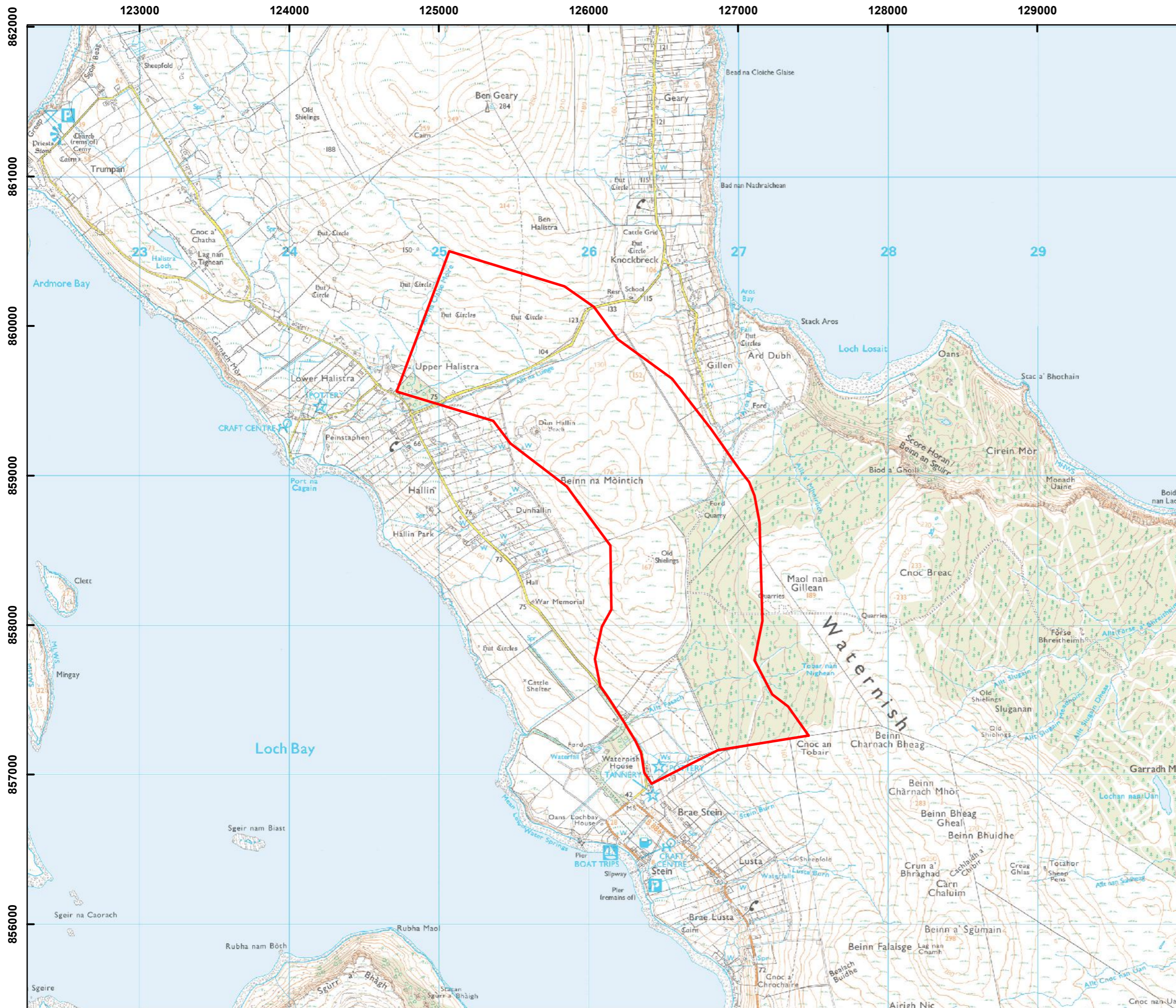
**Table 18.** Incidental records, Section 5.

Date	Time	Species	Number	Sex	Age	Behaviour	Signs	Comments
28/05/2021	1636	Black-throated diver	2		2A	Hunt/feed, Display		Brief display
29/05/2021	0810	Black-throated diver	3		3A	Hunt/feed, Territorial		
29/05/2021	0810	Greylag goose	4		4A			
29/05/2021	0810	Canada goose	4		4A			
29/05/2021	1101	Black-throated diver	4		4A	Hunt/feed, Loafing		Present throughout
29/05/2021	1124	Common scoter	2	MF	2A	Hunt/feed, Territorial		
29/05/2021	1139	Greenshank	2		2A	Hunt/feed, Territorial, Display		
29/05/2021	1142	Ringed plover	4		4A	Hunt/feed, Territorial		

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29/05/2021	1300	Common scoter	2	MF	2A	Hunt/feed		
30/05/2021	0845	Common scoter	2	MF	2A	Territorial, Hunt/feed, Loafing		Territorial pair
30/05/2021	0845	Common scoter	2	MF	2A	Territorial, Hunt/feed, Loafing		Territorial pair
30/05/2021	0848	Common scoter	1	M	A			Lone male
30/05/2021	0949	Common scoter	2	MF	2A	Territorial, Hunt/feed, Loafing		Territorial pair
30/05/2021	1029	Common scoter	1	M	A			Lone male
30/05/2021	0900	Greylag goose	4	2M 2F	4A	Chick tend		Plus 9 chicks
22/06/2021	0920	Black-throated diver	2			Loafing		Still on loch @1120
22/06/2021	0930	Greenshank	1					On loch side
23/06/2021	1245	Black-throated diver	1					Loafing, still on loch @1345
23/06/2021	1230	Osprey	0				Used nest (this yr)	
23/06/2021	1530	Black-throated diver	1					Still on loch @1600
23/06/2021	1610	Black-throated diver	2					Still on loch @1650
23/06/2021	0820	Common scoter	2	2F		Loafing		Swam OOS @0950
24/06/2021	1120	Common scoter	2	MF		Loafing		Still loafing in same area @1235
24/06/2021	1255	Black-throated diver	1					
24/06/2021	1335	Common scoter	2	MF				
19/07/2021	1310	Black-throated diver	2					On loch
21/07/2021	0600	Common scoter	4	4F		Hunt/feed, Loafing		Feeding and loafing til 0720, flushed by a speedboat





Key

Moorland Bird Survey area

Date produced: 28/10/2021

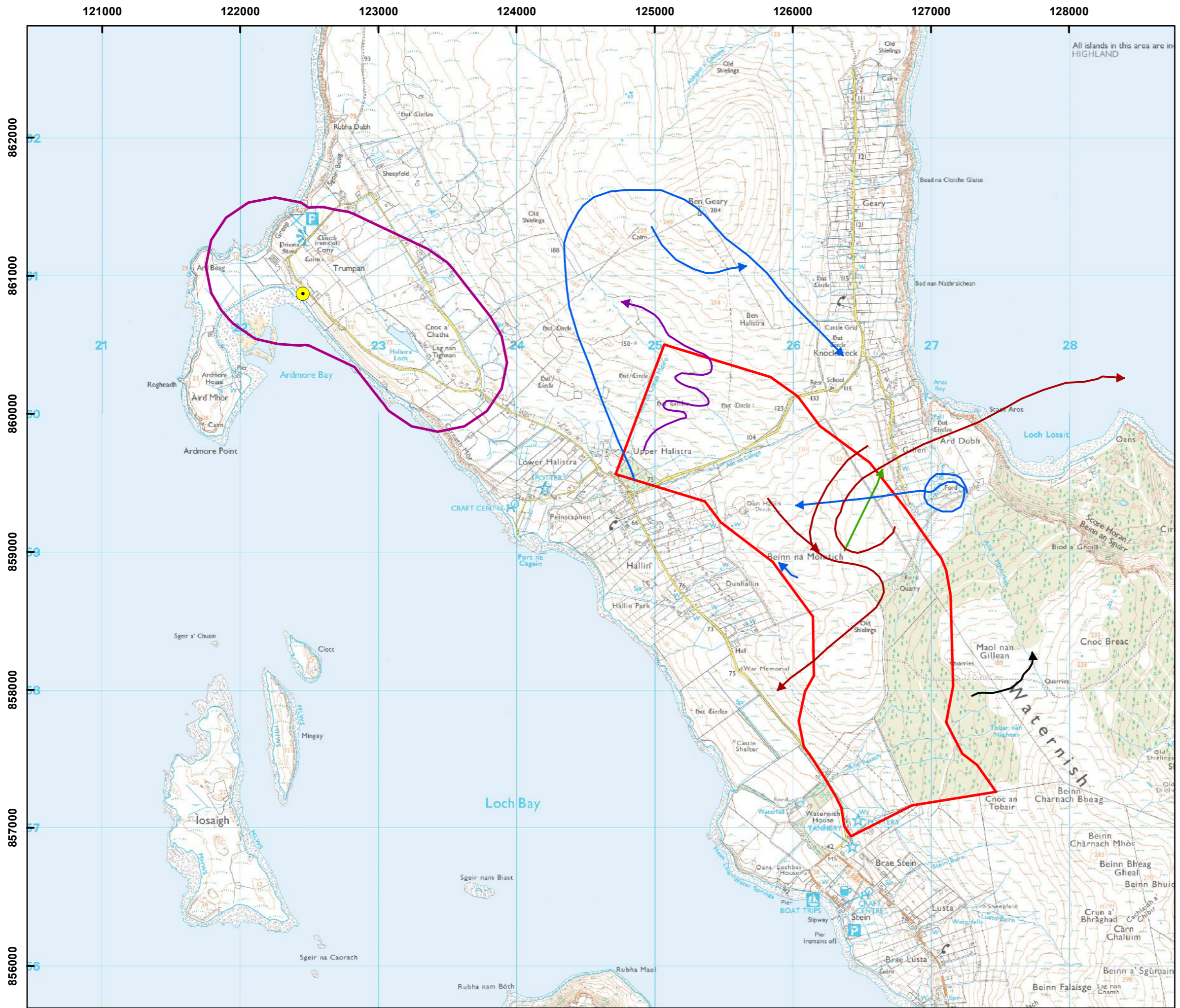
Source: NRP LTD



Figure 1  
**Moorland Bird Survey area and results - Section 0**

Skye Interconnector





**Key**

- Scarce Breeding Bird Survey area
- Comcrake Survey area

**Flight lines**

- Hen harrier
- Merlin
- Peregrine
- Red-throated diver
- White-tailed eagle

**Point records**

- Comcrake craking

Date produced: 28/10/2021  
Source: NRP LTD

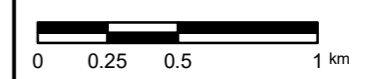
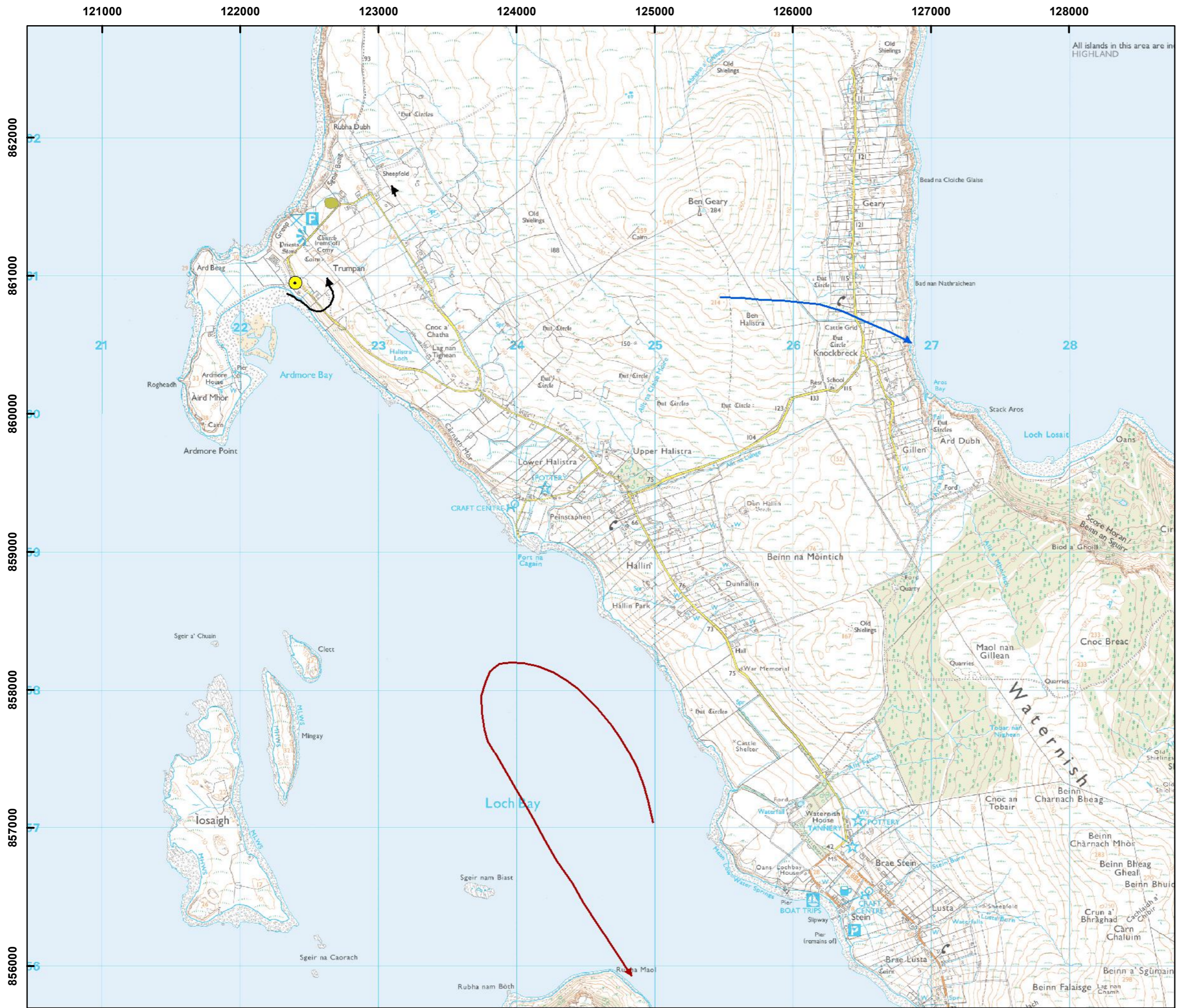


Figure 2  
**Scarce Breeding Bird Survey area and results - Section 0**




Skye Interconnector





**Key**


**Flight lines**

-  Peregrine
-  Red-throated diver
-  White-tailed eagle

**Flight areas**

-  Golden plover

**Point records**

-  Corncrake craking

Date produced: 28/10/2021  
Source: NRP LTD

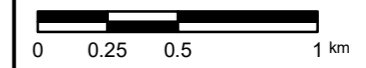
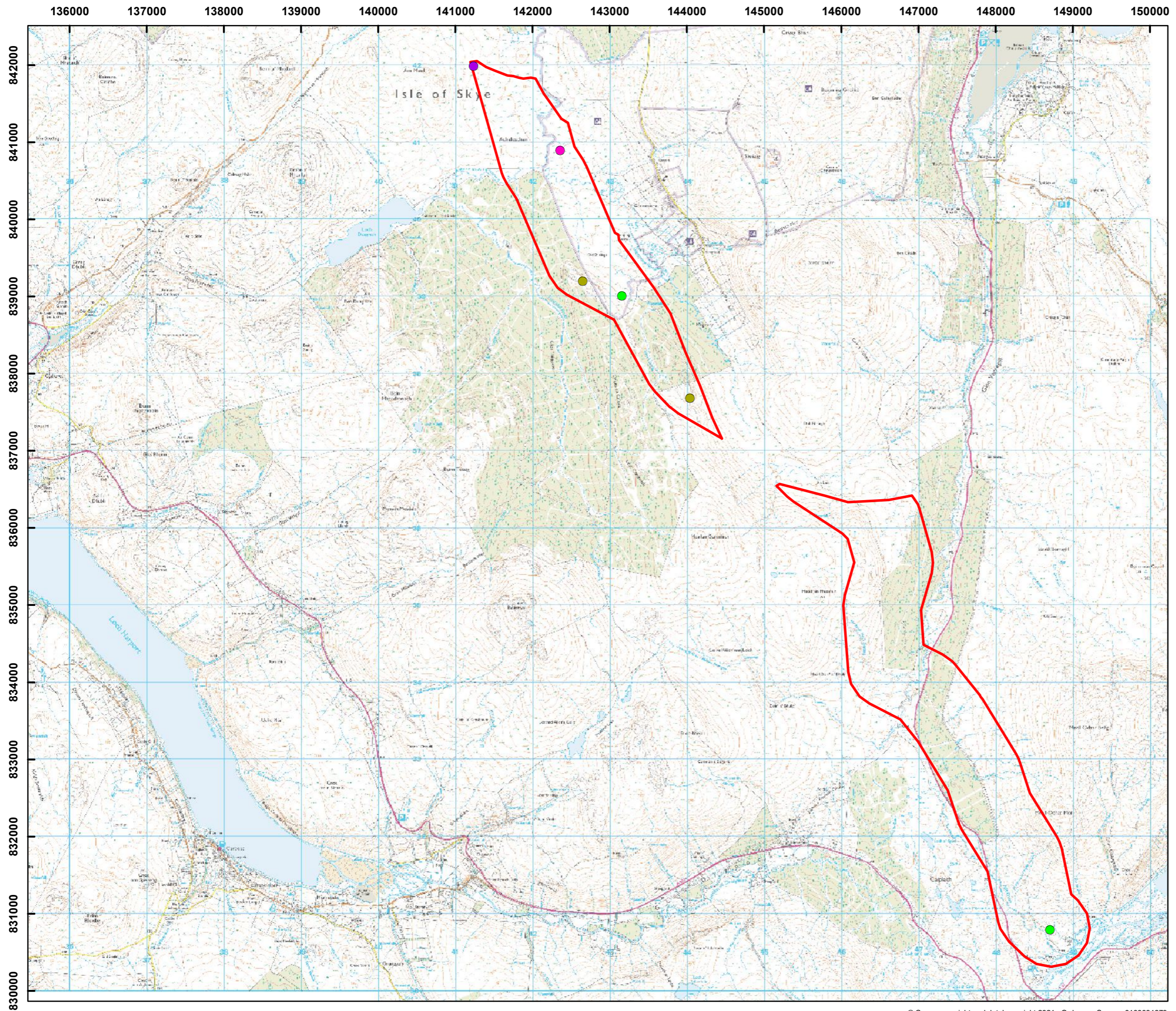



Figure 3  
**Incidental records - Section 0**

Skye Interconnector









**Key**

 Moorland Bird Survey area

**Point records**

-  Curlew (Nominal territory centre)
-  Golden plover (Flying, Vocalising)
-  Greenshank (Nominal territory centre)
-  Hen harrier (Caught prey)

Date produced: 28/10/2021

Source: NRP LTD

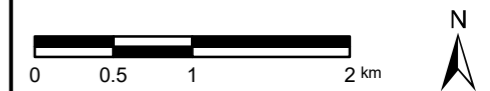
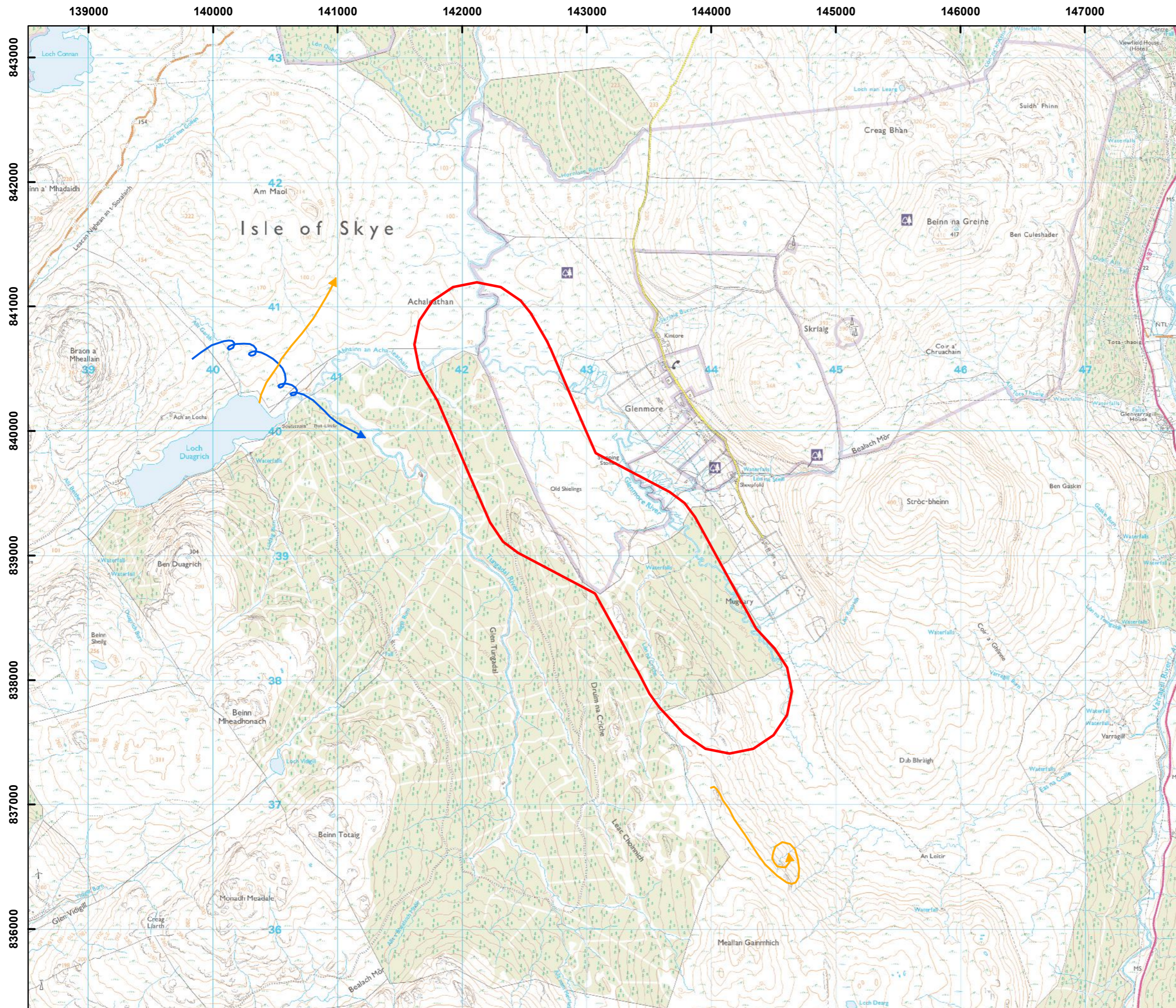



Figure 4  
**Moorland Bird Survey area and results - Section 1**

Skye Interconnector






**Key**

 Scarce Breeding Bird Survey area

**Flight lines**

 Golden eagle

 White-tailed eagle

Date produced: 05/09/2022

Source: NRP LTD

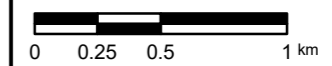
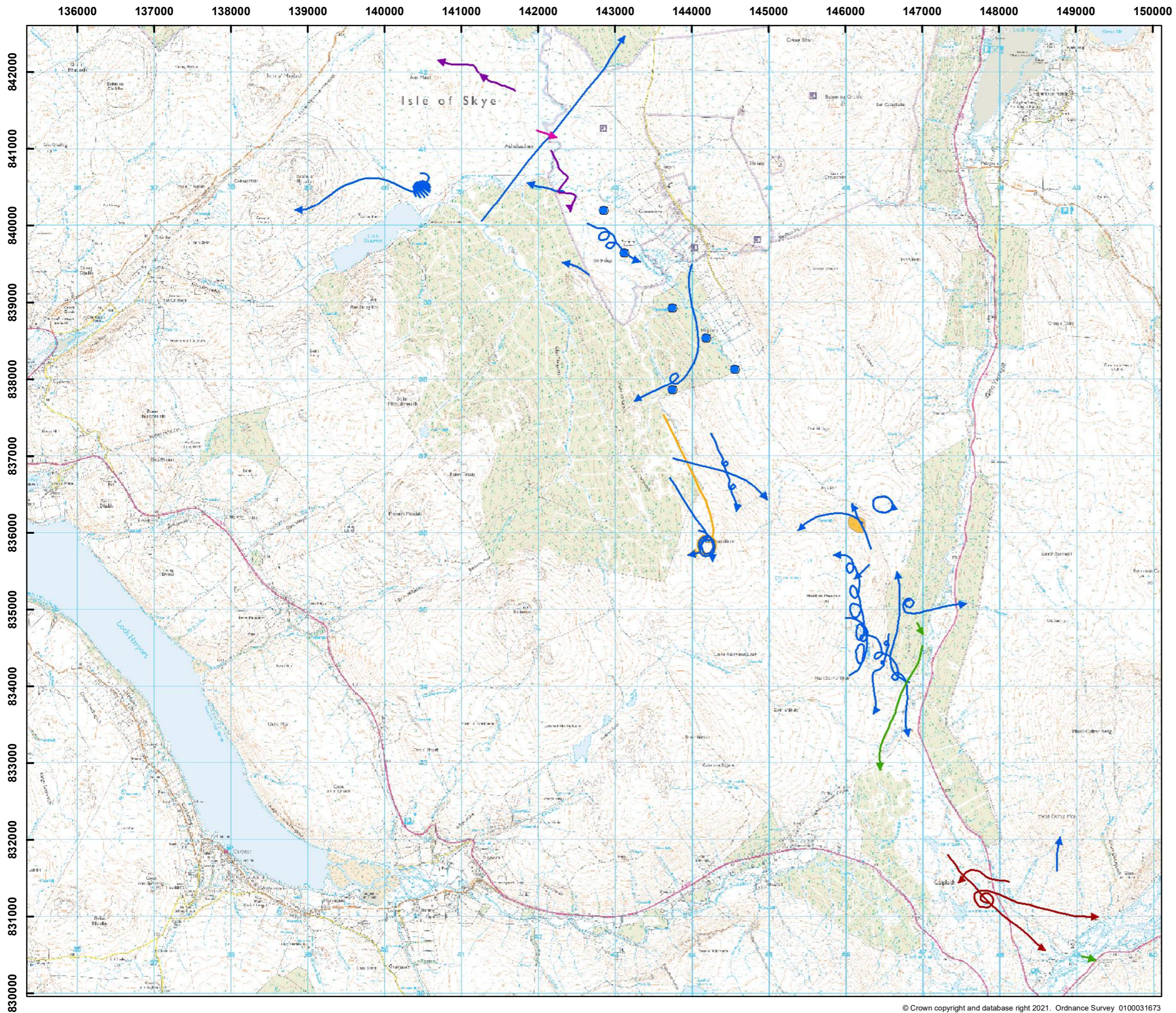


Figure 5

**Scarce Breeding Bird Survey area and results - Section 1**







Skye Interconnector





**Key**


**Flight lines**

-  Curlew
-  Golden eagle
-  Greenshank
-  Hen harrier
-  Red-throated diver
-  White-tailed eagle

**Flight areas**

-  Golden eagle

**Point records**

-  White-tailed eagle (Perched)

Date produced: 29/10/2021

Source: NRP LTD

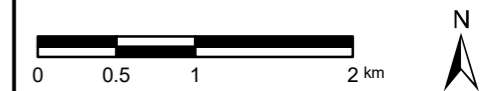
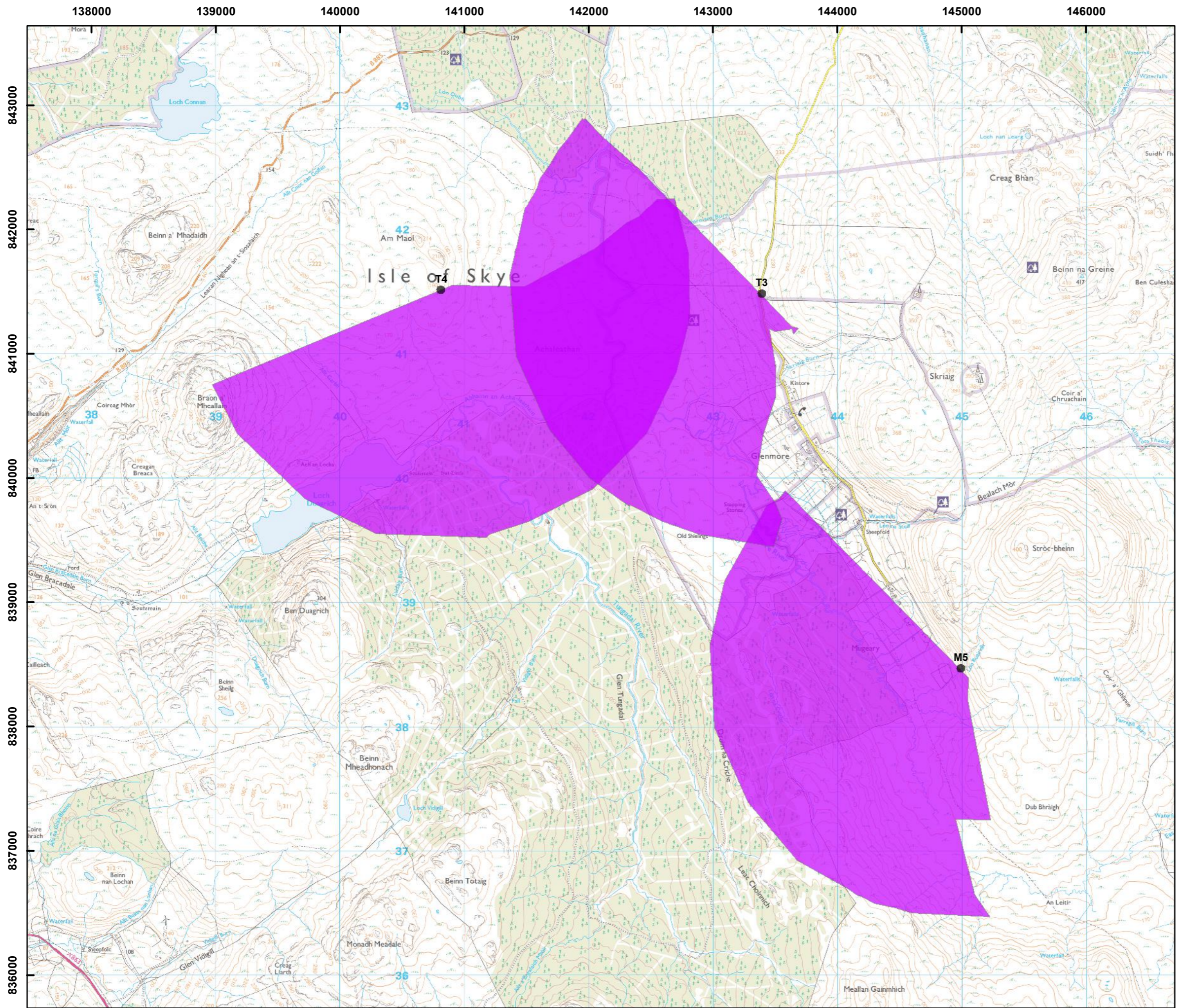


Figure 6

**Incidental records - Section 1**

Skye Interconnector





**Key**

- Vantage Points
- Viewsheds

Date produced: 28/10/2021  
 Source: NRP LTD



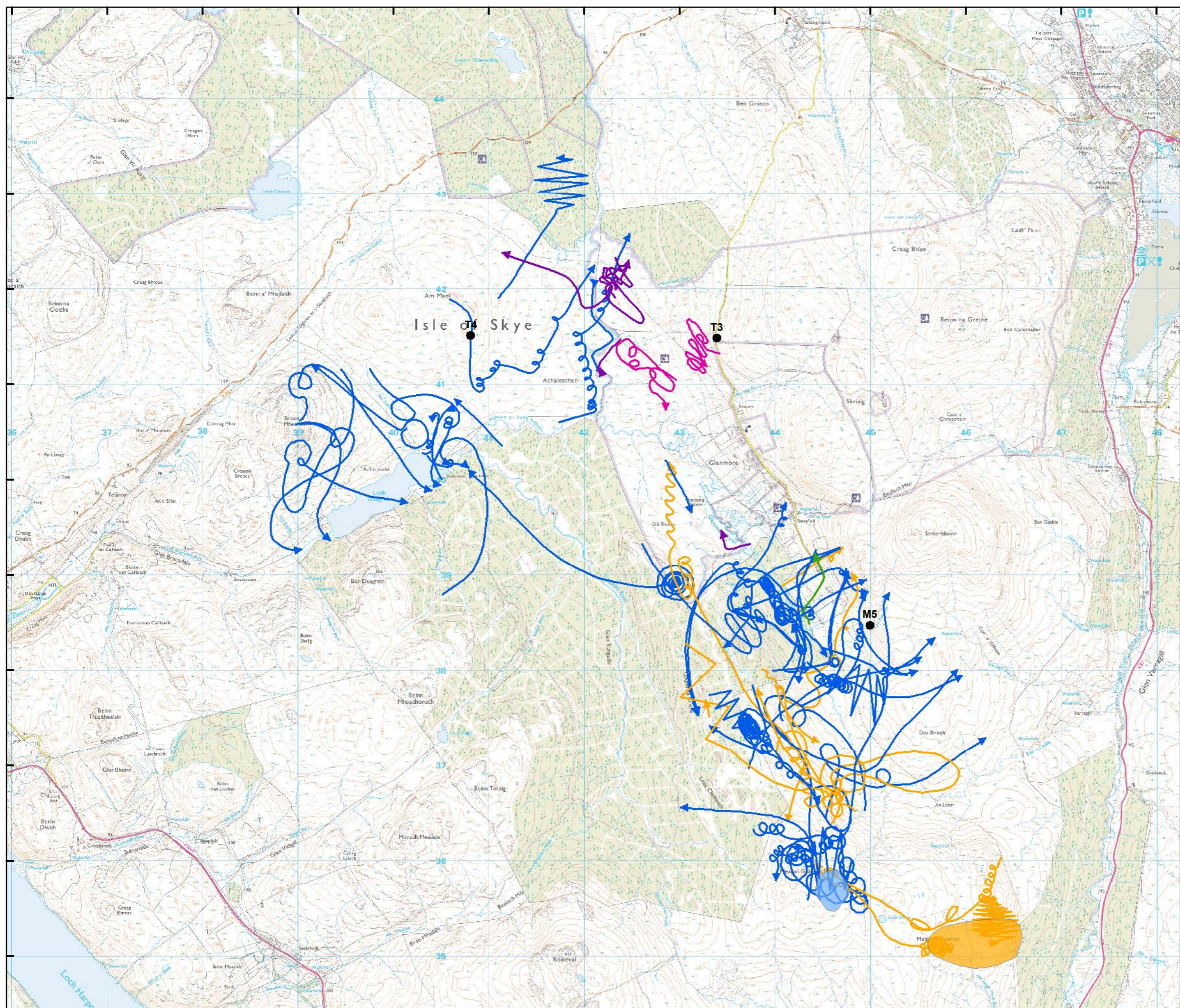
Figure 7  
**Vantage Points and viewsheds - Section 1**

Skye Interconnector



136000 137000 138000 139000 140000 141000 142000 143000 144000 145000 146000 147000 148000

844000  
843000  
842000  
841000  
840000  
839000  
838000  
837000  
836000  
835000



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**Key**

● Vantage Points

**Flight lines**

- Curlew
- Golden eagle
- Hen harrier
- Merlin
- White-tailed eagle

**Flight areas**

- Golden eagle
- White-tailed eagle

Date produced: 28/10/2021  
Source: NRP LTD

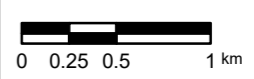
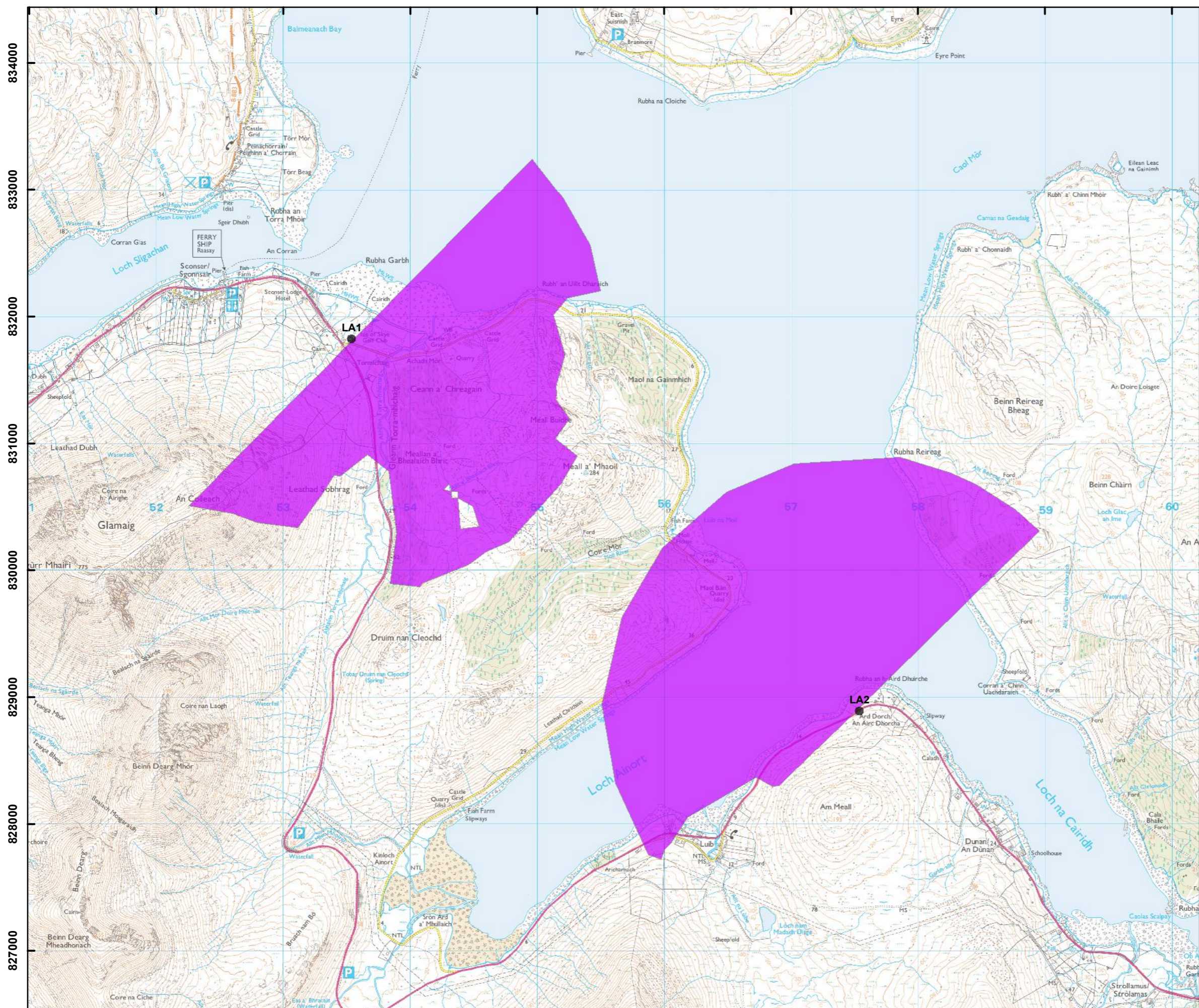


Figure 8  
**Flights recorded from VPs  
- Section 1**

Skye Interconnector



151000 152000 153000 154000 155000 156000 157000 158000 159000 160000



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Key

- Vantage Points
- Viewsheds

Date produced: 28/10/2021

Source: NRP LTD

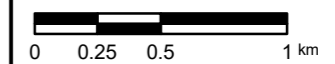
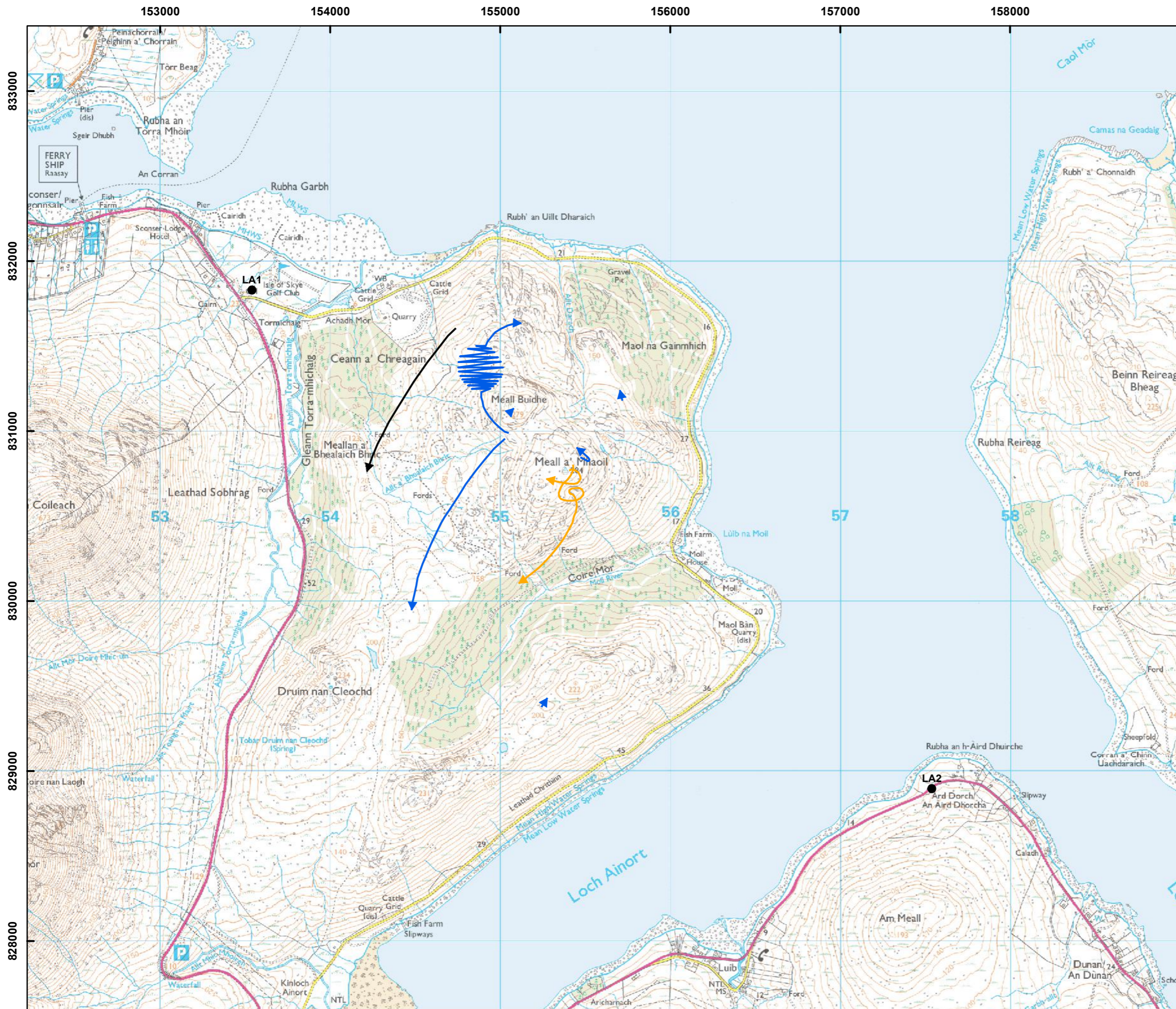


Figure 9

Vantage Points and viewsheds - Section 2

Skye Interconnector





**Key**

- Vantage Points
- Golden eagle
- Peregrine
- White-tailed eagle

Date produced: 28/10/2021

Source: NRP LTD

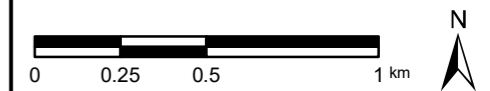
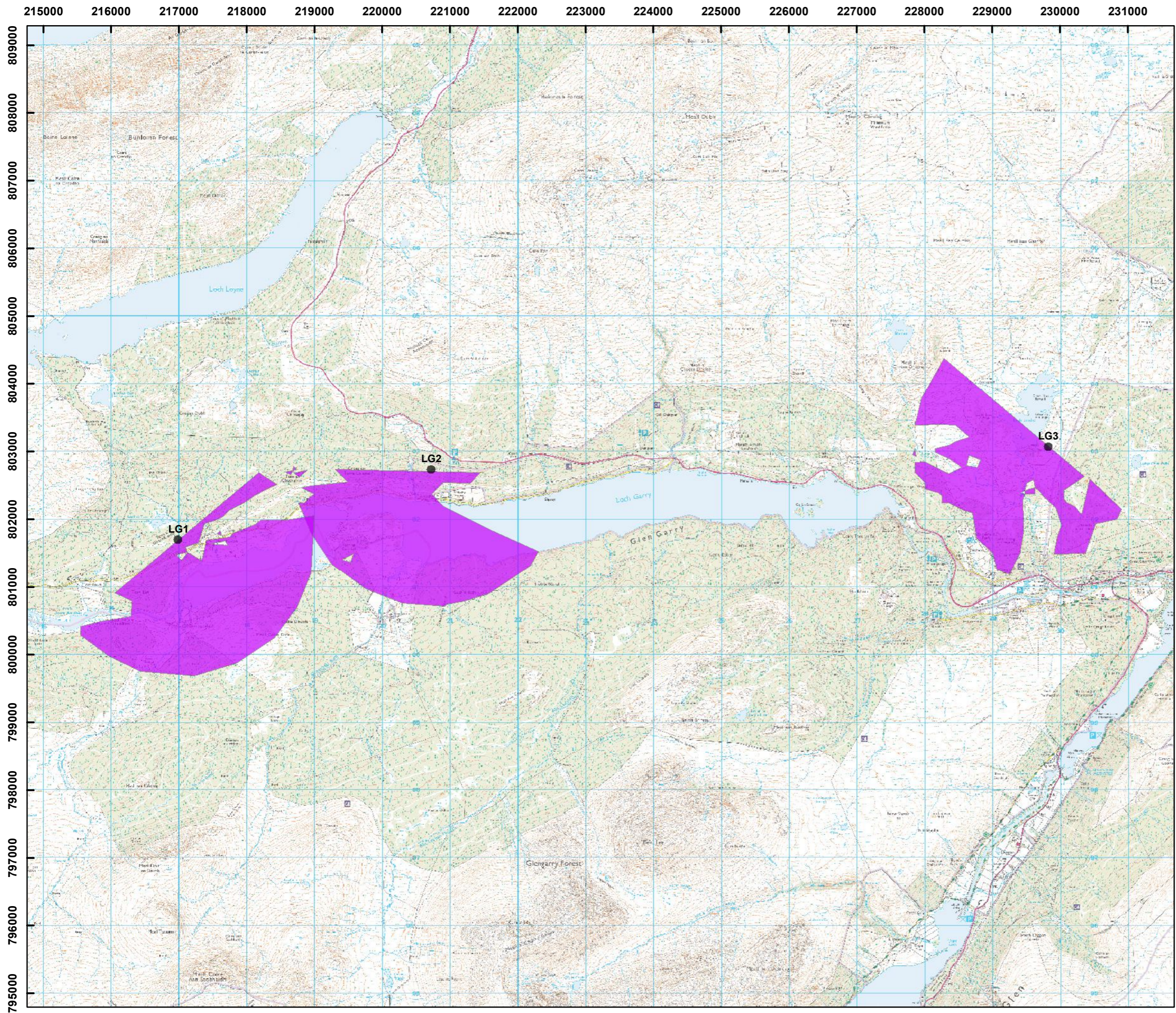


Figure 10  
**Flights recorded from VPs  
 - Section 2**

Skye Interconnector





**Key**

- Vantage Points
- Viewsheds

Date produced: 28/10/2021

Source: NRP LTD

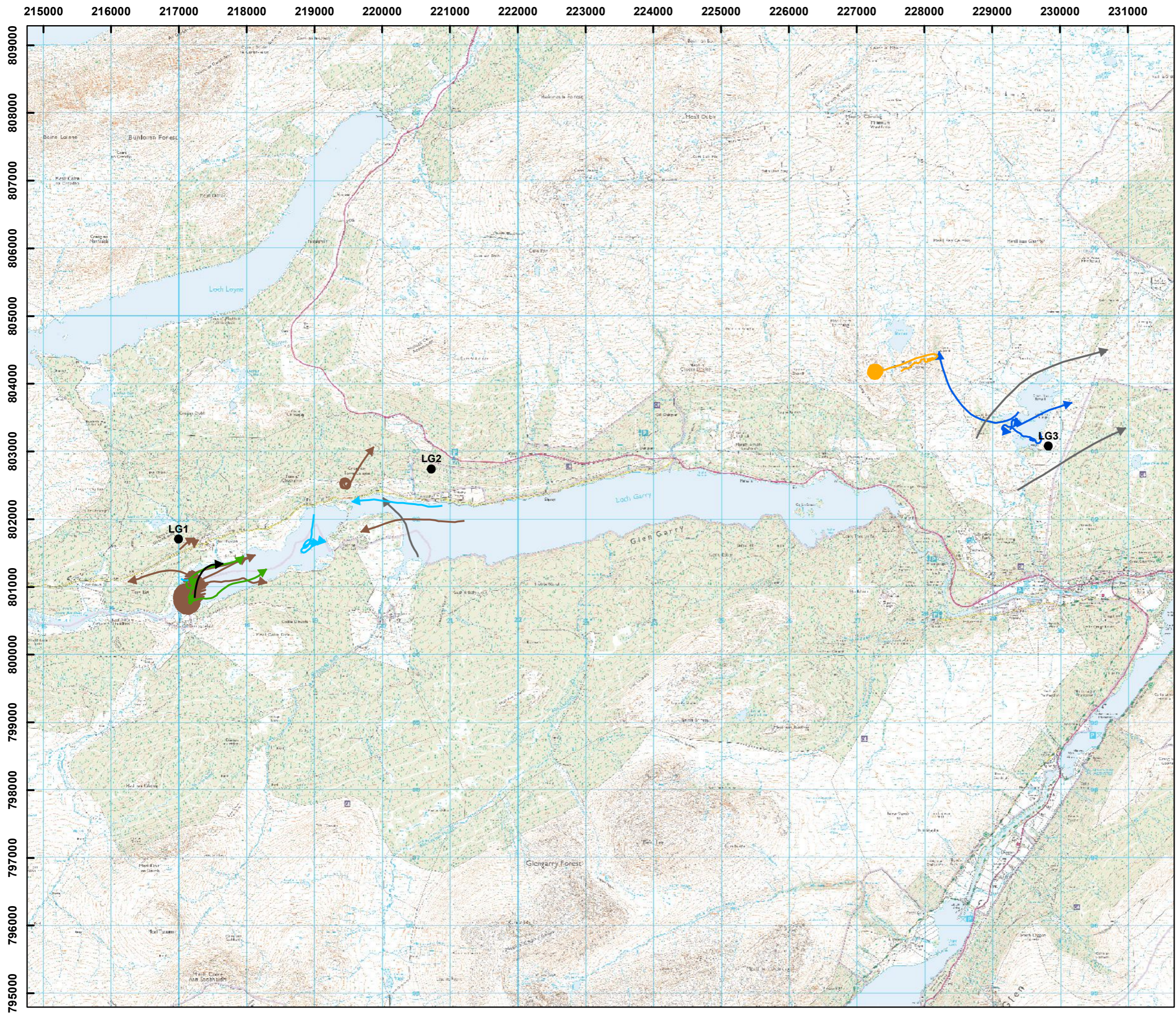


Figure 11

**Vantage Points and viewsheds  
- Section 5**

Skye Interconnector





**Key**

● Vantage Points

**Flight lines**

- Black-throated diver
- Common scoter
- Golden eagle
- Greenshank
- Greylag goose
- Osprey
- White-tailed eagle

Date produced: 28/10/2021

Source: NRP LTD

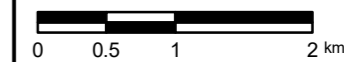
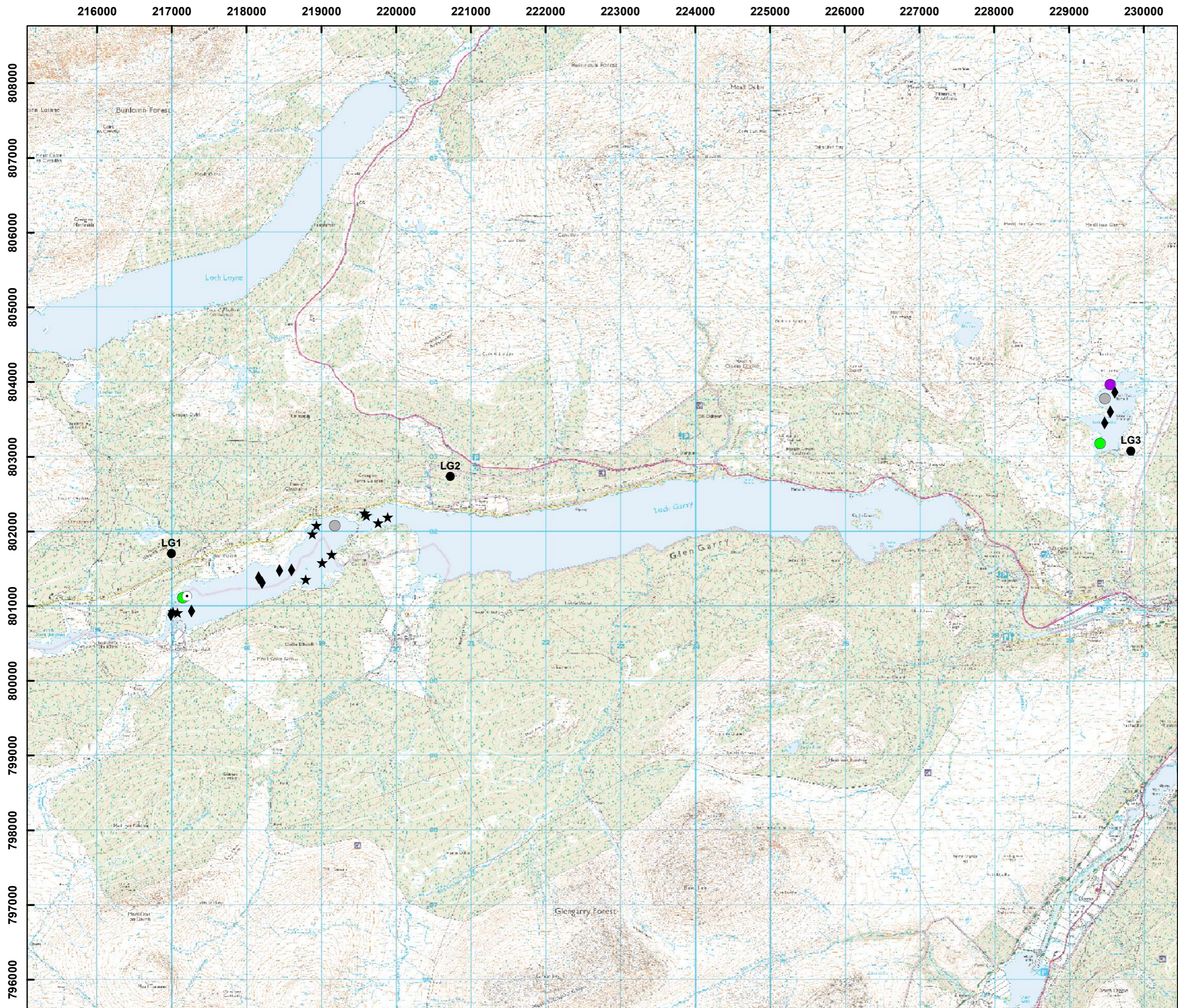


Figure 12

**Flights recorded from VPs  
- Section 5**

Skye Interconnector





**Key**

● Vantage Points

**Point records**

◆ Black-throated diver

● Canada goose

★ Common scoter

● Greenshank

● Greylag goose

○ Ringed plover

Date produced: 05/09/2022

Source: NRP LTD



Figure 13

**Incidental records observed from VPs - Section 5**

Skye Interconnector