

Appendix to Appropriate Assessment Report

Appendix A6: Hen Harrier Fieldwork & Survey Results

The data and descriptions in this appendix have informed the cumulative evaluations in the Appropriate Assessment Report.

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AA6.1 Fieldwork - Hen Harrier

Following scoping and formal consultation with NPWS for the previous UWF Grid Connection planning application (2018) it was established that, based on likely sensitivities, and source-pathways linkages in respect of disturbance and displacement, the primary objective of Hen Harrier surveys should be to identify all Hen Harrier breeding sites (confirmed nest site or centre point of observed evidence of breeding behaviour identified during the breeding season) and winter roosting sites in suitable habitat within a 2km radius of proposed works (i.e. any likely source stimulus in terms of disturbance or displacement –with the distance of 2km being the radius stipulated by SNH guidance). This approach was formulated in consultations with NPWS and is supported in SNH guidance.

Further to the above, in 2019 (July 2nd and 3rd), in the field ground truthing was carried out in support of the evaluation of suitable habitat within 2km of identified nest sites in terms of its suitability for breeding and/or foraging Hen Harrier. See also Section AA6.1.7 of this appendix.

As no breeding habitat is present at the Mountphilips Substation site location, then this was scoped out as a likely source of disturbance/displacement to nesting birds. The new substation was also scoped out as a likely source of collision mortality due to the absence of nesting habitat, the distance to nearest Hen Harrier habitat and absence of records of collision mortality with buildings/structures such as sub-stations.

Survey effort therefore in 2019 was concentrated on the UWF Grid Connection 110kV UGC route, in particular areas of high habitat suitability (as per SNH Guidance) within 2km, and which by default coincide with the SPA designation present.

Accordingly, the methodology selected was that published by SNH in respect of breeding raptor surveys (Hardey *et al.*, 2013), which describes the survey techniques to establish breeding occupancy by Hen Harrier. This method corresponds to that utilized to date in National Surveys for the species in the republic (e.g. Ruddock *et al.*, 2012, 2015) and also research into the species (Irwin *et al.*, 2015 and Wilson *et al.*, 2015).

Existing records of Hen Harrier usage of the area, dating back to 2003, were collated to establish suitable nesting or roosting habitat. Satellite imagery was additionally reviewed to identify areas of potentially suitable breeding habitat. NPWS Conservation Rangers and local bird experts with knowledge of existing and historical Hen Harrier nest record locations were consulted for further information.

For breeding season surveys to establish nesting attempts in 2016 and 2017, 12 vantage points were ground-truthed (for visibility) and fixed. These vantage points were used during the 2016 (March to June inclusive) and 2017 (March to August inclusive) breeding seasons. Additional effort in the months of July and August was added to surveys in 2017 as some nesting attempts occurred later than the previous year.

Further surveys in April, June and July 2019 utilised suitable vantage points as applicable to determine the occupancy status of those nesting territories within 2km of the revised UWF Grid Connection.

For winter roost surveys 7 of the preceding 12 vantage points were employed during the winter 2016/17 period. The rationale for decreasing the number of VPs from 12 in the breeding period to 7 during the winter period was based on the requirement to focus survey efforts on suitable roosting habitat within the study area – of which there is less. Additional Survey effort was carried out in September, October, and November 2017 and January 2018.

In terms of collision mortality there are no source impact pathways identified as the substation element of the UWF Grid Connection is not considered to pose a collision risk with remaining parts of the UWF Grid Connection (110kV UGC, Ancillary works at Mountphilips Substation Site) at ground level or below. Although

therefore not a formal flight activity survey to inform a collision risk model; as an approach to standardise effort, each Fixed Vantage Point (VP and UVP) received six hours of survey effort per month as per Best Practice (SNH, 2014).

Additionally in 2019, flight activity surveys of Upperchurch Wind Farm (UWF), utilising 10 no. vantage points (VP's) were carried out in April and July of 2019.

Results of Hen Harrier surveys are presented in Section A8-4.2 below.

2019 Breeding Season Vantage Points

In order to identify potentially active Hen Harrier nesting territories and triangulate nesting locations within the vicinity of the UWF Grid Connection, breeding activity appraisals utilised nineteen different Vantage Points (VPs) focussed on suitable nesting habitat or near historically used territories, during April, June and July 2019. The location of these VPs is presented in the table below.

Table 1: Vantage point locations utilised during UWF Grid Connection Hen Harrier nest triangulation surveys (2019)

Nest Triangulation Vantage Point	ITM Grid Reference
Mauherslieve NTVP1	589725 662514
Curreeny NTVP2	590588 663561
Forkeala NTVP3	580311 661509
Gleno NTVP4	578863 660541
Fanit NTVP5	577158 659170
Cummer NTVP6	590681 658439
Tooreenbrien NTVP7	578581 661444
Bleanbeg NTVP8	578854 663809
Goulmore NTVP9	588441 657850
Knockalough NTVP10	598854 659799
Cullaun (north) NTVP11	582869 659164
Reisk NTVP12	592191 663122
Cullaun (south) NTVP13	585063 656764
Glenstal NTVP14	577464 656872
Knockastanna NTVP15	583762 657254
Tooreenbrien NTVP16	580917 659766
Bealaclave NTVP17	584700 661573
Gleno NTVP18	579184 660902
Toorlougher NTVP19	577832 660611

2016 and 2017 Breeding Season Vantage Points

All 12 vantage points focused on suitable nesting habitat and historical nest locations within 2km of the previous 2018 UWF Grid Connection. These surveys remain relevant to the current application as some of the historical nest locations and territories which were the focus of the 2016 and 2017 surveys occur also within 2km of the new UWF Grid Connection- and are included for completeness. The grid references for VP locations (ITM) are presented in the below Table.

Table 2: Fixed vantage point locations UWF Grid Connection(2016 and 2017)

Vantage Point	ITM Grid Reference
1	590503 E 659845 N
2	590263 E 663064 N
3	588454 E 657845 N
4	585164 E 659385 N
5	584216 E 660366 N
6	584744 E 661484 N
7	583015 E 662754 N
8	580275 E 661364 N
9	580495 E 662744 N
10	579726 E 664434 N
11	576626 E 664763 N
12	575976 E 662474 N

2016/2017 and 2017/2018 Winter Roost Vantage Points

Grid references of vantage points utilised during winter surveys are provided in the table below.

Table 3: Fixed vantage points selected for UWF Grid Connection winter roost surveys (2016/2017, 2017/2018)

Vantage Point	ITM Grid Reference
2	590263 E 663064 N
3	588454 E 657845 N
5	584216 E 660366 N
6	584744 E 661484 N
10	579726 E 664434 N
11	576626 E 664763 N
12	575976 E 662474 N

Upperchurch Wind Farm (UWF) Flight Activity Surveys 2019

To identify possible Hen Harrier flight activity at Upperchurch Wind Farm (UWF), in line with SNH methods, ten Vantage Points (VP's) were used for flight activity surveys in April and July 2019. The viewshed (i.e. area visible to the observer) covered by the 10 selected VP's combined covered the consented turbine locations plus a 500m buffer, and included the 2013 WF EIS study area and the entirety of the area covered by Related Works.

Table 4: Vantage points selected for 2019 UWF Hen Harrier VP Surveys

Upperchurch Vantage Point	ITM Grid Reference
UVP 1	596303 E 660414 N
UVP 2	595759 E 660170 N
UVP 3	593478 E 658806 N
UVP 4	594104 E 659964 N
UVP 5	591679 E 660120 N
UVP 6	592650 E 662020 N
UVP 7	594219 E 662115 N
UVP 8	597320 E 663592 N
UVP 9	599149 E 661800 N
UVP 10	597281 E 658689 N

Data Recorded During Vantage Point Surveys

For each vantage point watch (both breeding and winter period) the following parameters were recorded:

- Vantage Point number;
- Date of watch;
- Watch period;
- Weather conditions including visibility, wind-force and direction and precipitation;
- Notes – any notes on other birds of prey or potentially disturbing activity etc.

When a Hen Harrier was observed, the following information was recorded:

- Sighting number during that watch;
- Time of sighting;
- Sex of Hen Harrier;
- Approximate height of flight (in meters);
- Habitat over which bird was flying – see Table 5 for habitat codes used;
- The activity of the bird – see Table 6 for activity codes used;
- The duration of the activity;
- Notes – any more information on behaviour of bird(s) (in particular breeding season territorial display, such as skydancing, food passes, nuptial flights etc), nesting location estimates, roosting location estimates.

Table 5: Habitat codes recorded during VP watches

Code	Habitats
G	Grazing
RG	Rough Grazing
HB	Heath or bog
DE	Deciduous woodland or scrub
GO	Gorse
CF	Clear fell
NF2	New forestry plantation trees 20-30cm high
NF3	New forestry plantation trees c 1m high
NF4	New forestry plantation trees > 2m high
2 nd F1/F2	Second rotation forestry plantation trees 20-30cm high
2 nd F3	Second rotation forestry plantation trees c 1m high
2 nd F4	Second rotation forestry plantation trees > 2m high
F	Post thicket forestry

Table 6: Activity and behaviour codes recorded during watches

Code	Behaviour or activity
S	Soaring
D	Displaying
H	Hunting
Fl	Flying
C	Circling
P	Perching

Details of Timing, Duration and Weather Conditions for UWF GC Vantage Point Surveys 2019

Table 7: Details of timing, duration and weather conditions for nest triangulation vantage point surveys undertaken undertaken April, June and July 2019

VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
NTVP1	12/04/19	GP	none	7	5	2	SE	10	12:00	15:00	7200
NTVP2	12/04/19	GP	none	7	5	2	SE	10	15:10	18:10	10800
NTVP3	16/04/19	GP	none	3	10	1	E	9	09:00	11:00	7200
NTVP4	16/04/19	GP	none	3	10	1	E	12	11:00	12:00	3600
NTVP5	16/04/19	GP	none	4	10	2	SE	15	14:00	17:00	10800
NTVP6	17/04/19	GP	none	8	5	1	E	9	08:20	11:20	10800
NTVP7	18/04/19	GP	none	4	5	2	E	16	09:15	12:15	10800
NTVP8	18/04/19	GP	none	4	5	3	E	18	13:30	16:30	10800
NTVP9	19/04/19	GP	none	4	5	2	SE	20	14:00	16:00	7200
NTVP10	20/04/19	GP	none	4	5	1	SE	16	09:10	11:10	7200
NTVP11	21/04/19	GP	none	1	5	1	SE	14	10:00	12:00	7200
NTVP12	21/04/19	GP	none	3	10	3	S	19	14:00	17:00	10800
NTVP13	22/04/19	GP	none	0	10	2	S	19	08:00	11:00	10800
NTVP14	23/04/19	GP	none	5	10	2	E	18	14:00	16:00	7200
NTVP17	23/04/19	GP	none	5	10	2	E	18	16:30	18:30	7200
NTVP18	29/06/19	GP	none	7	10	2	S	13	08:30	11:30	10800
NTVP17	29/06/19	GP	none	6	10	2	S	15	17:00	20:00	10800
NTVP1	02/07/19	GP	none	7	10	1	NW	13	08:00	11:00	10800
NTVP15	02/07/19	GP	none	8	10	13	NW	13	11:15	14:15	10800
NTVP16	04/07/19	GP	none	1	10	1	N	13	08:00	11:00	10800
NTVP14	04/07/19	GP	none	2	10	1	N	18	12:00	15:00	10800
NTVP8	05/07/19	GP	none	8	10	1	NW	16	08:20	11:20	10800
NTVP17	05/07/19	GP	none	8	10	1	NW	16	12:30	15:30	10800
NTVP3	08/07/19	GP	none	8	10	1	W	15	10:30	13:30	10800
NTVP11	08/07/19	GP	none	8	10	1	W	15	14:00	17:00	10800

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VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
NTVP18	09/07/19	GP	none	8	10	0		13	08:00	09:00	3600
NTVP19	09/07/19	GP	none	7	5	1	W	18	09:10	11:10	3600

Details of Timing, Duration and Weather Conditions for UWF Grid Connection Vantage Point Surveys 2016 - 2017

Table 8: Details of timing, duration and weather conditions for vantage point surveys undertaken during the breeding season in 2016

VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
1	11/03/2016	GP	None	8	10	1	SW	10	09:10	12:10	10800
1	15/03/2016	GP	None	2	10	2	E	10	13:40	16:40	10800
2	15/03/2016	GP	None	2	10	3	E	9	10:30	13:30	10800
2	21/03/2016	GP	None	8	5	1	NW	11	14:30	17:30	10800
3	11/03/2016	GP	None	8	10	2	SW	13	13:15	16:15	10800
3	13/03/2016	GP	None	8	10	1	SE	13	15:15	18:15	10800
4	12/03/2016	GP	None	6	10	2	S	10	08:15	11:15	10800
4	21/03/2016	GP	None	8	5	1	NW	9	11:30	14:30	10800
5	12/03/2016	GP	Light	8	10	2	S	11	11:30	14:30	10800
5	13/03/2016	GP	None	7	10	2	SE	15	12:00	15:00	10800
6	12/03/2016	GP	None	8	10	2	S	12	14:35	17:35	10800
6	21/03/2016	GP	Mist	8	2	1	NW	8	08:00	11:00	10800
7	13/03/2016	GP	None	8	10	2	SE	9	08:45	11:45	10800
7	14/03/2016	GP	None	2	10	2	E	14	14:40	17:40	10800
8	15/03/2016	RMD	None	7	5	1	SE	10	15:30	18:30	10800
8	16/03/2016	RMD	None	5	2	1	SE	7	09:30	12:30	10800
9	16/03/2016	RMD	None	8	2	1	SE	11	12:30	18:30	21600
10	14/03/2016	RMD	None	0	5	3	E	5	07:45	14:15	21600
11	15/03/2016	GP	None	1	5	1	SE	8	09:30	15:30	21600
12	14/03/2016	RMD	None	0	5	1	SE	10	11:00	17:00	21600
1	04/04/2016	GP	light	6	5	1	SW	12	09:45	12:45	10800
1	21/04/2016	GP	none	7	10	1	E	12	10:10	13:10	10800
2	07/04/2016	GP	none	3	10	1	NW	9	07:15	10:50	16800
2	09/04/2016	GP	light	4	10	1	SE	12	14:00	17:00	10800
3	08/04/2016	GP	light	6	5	3	SW	9	07:15	10:50	16800
3	04/04/2016	GP	light	7	5	1	SW	15	13:45	16:45	10800
4	05/04/2016	GP	light	6	10	1	W	11	11:30	17:30	21600
5	05/04/2016	GP	light	8	2	1	W	10	08:15	11:15	10800
5	17/04/2016	GP	none	6	10	2	SW	10	10:35	13:35	10800

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VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
6	06/04/2016	GP	showers	8	5	4	SW	9	08:15	11:15	10800
6	07/04/2016	GP	light	6	5	3	W	13	14:20	17:20	10800
6	25/04/2016	GP	none	3	10	3	NW	14	16:40	19:40	10800
7	07/04/2016	GP	light	8	5	3	W	11	11:10	14:10	10800
7	25/04/2016	GP	light	8	10	3	N	12	09:15	12:15	10800
8	06/04/2016	RMD	showers	8	8	2	W	6	12:35	18:35	21600
9	06/04/2016	RMD	showers	8	8	2	W	7	09:30	12:30	10800
9	07/04/2016	RMD	showers	8	10	1	NW	7	09:30	12:30	10800
10	17/04/2016	RMD	none	5	10	2	SW	10	14:00	17:30	12600
10	25/04/2016	RMD	none	8	10	3	NW	12	13:30	16:30	10800
11	05/04/2016	GP	showers	7	10	1	SW	7	10:15	16:15	21600
12	04/04/2016	RMD	showers	7	3	1	S	9	11:30	17:30	21600
1	06/05/2016	GP	none	3	10	1	N	15	11:30	14:30	10800
1	10/05/2016	GP	mist	8	2	1	E	12	09:50	12:50	10800
2	06/05/2016	GP	none	4	10	1	N	10	08:15	11:15	10800
2	18/05/2016	GP	mist	6	10	1	N	12	10:00	13:00	10800
3	04/05/2016	GP	none	8	10	3	S	11	14:00	17:00	10800
3	06/05/2016	GP	none	1	10	1	N	17	14:45	17:45	10800
4	04/05/2016	GP	none	8	10	3	S	11	07:30	10:30	10800
4	19/05/2016	GP	none	4	10	3	W	15	12:40	15:40	10800
5	04/05/2016	GP	none	8	10	3	S	11	10:45	13:45	10800
5	12/05/2016	GP	mist	8	1	2	NE	12	08:30	11:30	10800
6	05/05/2016	GP	none	7	10	1	S	15	15:10	18:10	10800
6	13/05/2016	GP	none	1	10	2	NE	15	13:20	16:20	10800
7	05/05/2016	GP	none	7	10	2	S	11	12:00	15:00	10800
7	19/05/2016	GP	showers	7	10	3	W	10	08:30	12:30	10800
8	20/05/2016	RMD	showers	8	10	1	SE	12	10:15	16:15	10800
9	13/05/2016	RMD	none	0	16	1	NE	13	09:30	15:30	10800
9	13/05/2016	RMD	none	0	16	1	NE	13	09:30	15:30	10800
10	05/05/2016	RMD	none	1	10	3	S	10	07:25	10:30	10800
10	13/05/2016	RMD	none	0	10	2	NE	13	08:15	12:15	10800
11	09/05/2016	GP	showers	8	16	1	NE	17	09:30	15:30	21600

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VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
12	11/05/2016	RMD	none	8	5	1	NE	13	09:30	15:30	21600
1	07/06/2016	GP	none	7	5	2	SW	17	14:30	16:30	10800
1	09/06/2016	GP	none	7	10	1	SW	16	08:40	11:40	10800
2	09/06/2016	GP	none	8	10	1	SW	17	15:00	18:00	10800
2	15/06/2016	GP	none	7	10	2	NW	14	07:50	10:50	10800
3	07/06/2016	GP	none	7	5	1	SW	17	10:10	13:10	10800
3	15/06/2016	GP	light	7	10	2	NW	15	11:00	14:00	10800
4	08/06/2016	GP	none	8	5	1	E	13	09:15	12:15	10800
4	13/06/2016	GP	light	7	5	3	W	15	15:00	18:00	10800
5	03/06/2016	GP	none	3	10	1	E	15	10:15	13:15	10800
5	13/06/2016	GP	light	1	10	1	W	14	08:40	11:40	10800
6	11/06/2016	GP	none	8	10	1	SW	15	10:00	13:00	10800
6	13/06/2016	GP	none	7	10	1	W	13	11:45	14:45	10800
7	03/06/2016	GP	none	5	10	1	E	19	13:30	16:30	10800
7	08/06/2016	GP	none	8	5	1	E	13	12:30	15:30	10800
8	10/06/2016	RMD	light	8	4	1	NE	15	09:20	15:20	21600
9	03/06/2016	RMD	none	2	16	1	SE	16	10:30	16:30	10800
10	11/06/2016	RMD	none	7	10	2	SE	18	13:45	16:45	10800
10	17/06/2016	RMD	none	8	10	2	NW	13	08:00	12:00	14400
11	09/06/2016	GP	none	7	16	1	SE	15	09:30	15:30	21600
12	08/06/2016	RMD	none	8	16	1	SE	17	09:30	15:30	21600

Table 9: Details of timing, duration and weather conditions for UWF Grid Connection vantage point surveys undertaken during the non-breeding season in 2016/2017

VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
1	13/09/2016	GP	Misty	5/8	2	F2	NW	9	06:10	08:30	10800
6	13/07/2017	RMD	Light	8/8	5	F1	SW	16	10:00	16:00	21600
7	14/07/2017	RMD	None	7/8	5	F1	W	15	10:30	16:30	21600
8	12/07/2017	RMD	None	1/4	20	F1	E	16	10:00	16:00	21600
10	18/07/2017	KOC	None	7/8	>20	F2	W	19	12:00	15:00	10800
10	18/07/2017	KOC	None	3/4	15	F3	SE	19	15:30	18:30	10800
11	20/07/2017	KOC	Occasional showers	1/2	10	F3	S	15	15:10	18:10	10800
11	24/07/2017	KOC	None	3/4	10	F2	NW	21	17:30	20:30	10800
12	20/07/2017	KOC	Occasional showers	3/4	10	F3	SW	16	11:40	14:40	10800
12	24/07/2017	KOC	None	3/8	>20	F3	W	22	14:00	17:00	10800
2	07/08/2017	KOC	Dry	7/8	15	F3	W	16	12:15	15:15	10800
2	07/08/2017	KOC	Dry	5/8	12	F3	W	17	15:45	18:45	10800
3	08/08/2017	KOC	Occasional showers	3/4	10	F2	N	12	12:00	15:00	10800
3	08/08/2017	KOC	Occasional showers	5/8	15	F3	N	15	15:30	18:30	10800
1	19/09/2016	GP	None	08-Aug	2	F1	W	11	17:10	20:10	10800
1	15/10/2016	GP	Misty	3/4	2	F1	SE	4	07:30	10:30	10800
1	20/10/2016	GP	None	08-Aug	5	F1	E	8	07:10	10:10	10800
1	28/11/2016	SI	None	08-Aug	5	F1	E	6	07:19	10:19	10800
1	28/11/2016	SI	None	08-Aug	5	F1	E	8	13:58	16:58	10800
2	17/09/2016	GP	Misty	1/2	2	F1	SW	10	06:30	09:30	10800
2	17/09/2016	GP	None	08-Aug	2	F1	S	14	17:30	20:30	10800
2	16/10/2016	GP	Light	08-Aug	5	F2	S	10	16:15	19:15	10800
2	29/10/2016	GP	None	3/8	2	F1	SE	11	15:45	18:45	10800
2	29/11/2016	SI	None	7/8	10	F1	SE	4	07:21	10:21	10800

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VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
2	29/11/2016	SI	None	7/8	10	F1	SE	4	14:00	17:10	10800
2	15/12/2016	SI	None	1/8	10	F1	NW	8	07:43	10:45	10800
2	15/12/2016	SI	None	1/8	10	F1	NW	8	14:30	17:30	10800
2	29/01/2017	MD	Light	08-Aug	6	F1	E	6	07:35	10:35	10800
2	29/01/2017	MD	Light	08-Aug	5	F1	SE	4	14:45	17:45	10800
2	10/02/2017	GP	None	08-Aug	2	F1	E	1	07:30	10:30	10800
2	23/02/2017	GP	None	1/4	5	F2	NW	8	15:30	18:30	10800
3	15/09/2016	GP	None	3/8	2	F1	S	14	17:20	20:20	10800
3	20/09/2016	GP	None	08-Aug	1	F1	SW	10	06:15	09:15	10800
3	18/10/2016	GP	Light	1/2	2	F1	NW	8	16:00	19:05	10800
3	25/10/2016	GP	None	3/8	1	F1	NE	4	07:30	10:30	10800
3	22/11/2016	GP	None	3/8	10	F1	NE	2	14:00	17:10	10800
3	30/11/2016	GP	None	0/8	5	F1	E	0	07:30	10:30	10800
3	27/01/2017	RMD	None	5/8	15	F1	SW	8	14:45	17:45	10800
3	31/01/2017	RMD	Light	08-Aug	4	F1	SW	4	07:40	10:40	10800
3	12/02/2017	GP	None	08-Aug	1	F2	NE	3	15:15	18:15	10800
3	15/02/2017	GP	Light	7/8	2	F2	SW	6	07:15	10:15	10800
4	14/09/2016	GP	None	1/2	2	F3	NW	10	06:30	09:30	10800
4	20/09/2016	GP	None	08-Aug	2	F1	W	12	17:00	20:00	10800
4	18/10/2016	GP	None	1/4	2	F1	SW	6	07:30	10:30	10800
4	22/10/2016	GP	None	5/8	5	F1	E	10	16:00	19:00	10800
4	23/11/2016	GP	None	1/4	5	F2	NE	5	14:10	17:10	10800
4	28/11/2016	GP	None	08-Aug	5	F1	E	6	07:30	10:30	10800
5	16/09/2016	GP	None	5/8	2	F1	W	11	06:30	09:30	10800
5	18/09/2016	GP	None	3/8	2	F1	W	14	17:15	20:15	10800
5	16/10/2016	GP	Light	08-Aug	1	F3	S	8	07:15	10:15	10800
5	21/10/2016	GP	None	7/8	5	F1	SE	10	16:15	19:00	10800
5	21/11/2016	GP	None	08-Aug	5	F1	NE	0	07:30	10:30	10800
5	28/11/2016	GP	None	08-Aug	5	F1	E	5	14:10	17:10	10800

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VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
5	16/12/2016	RMD	None	0/8	15	F1	NW	8	14:00	17:00	10800
5	21/12/2016	RMD	Light	08-Aug	15	F1	SW	5	08:00	11:00	10800
5	18/01/2017	RMD	Single shower	08-Aug	15	F1	S	8	14:30	17:30	10800
5	19/01/2017	RMD	None	1/8	15	F1	SE	2	08:00	11:00	10800
5	10/02/2017	GP	None	08-Aug	5	F2	E	3	15:10	18:10	10800
5	13/02/2017	GP	Misty	08-Aug	1	F3	E	5	07:15	10:15	10800
6	16/09/2016	GP	None	1/2	2	F2	W	12	17:30	20:30	10800
6	19/09/2016	GP	None	08-Aug	2	F1	W	10	06:15	09:15	10800
6	19/10/2016	GP	None	08-Aug	2	F1	NW	7	07:30	10:30	10800
6	20/10/2016	GP	None	7/8	2	F1	E	10	16:00	19:00	10800
6	21/11/2016	GP	None	7/8	5	F3	NE	2	14:10	17:10	10800
6	24/11/2016	GP	None	0/8	5	F1	NE	0	07:30	10:30	10800
6	19/12/2016	RMD	None	1/4	20	F1	NW	8	14:00	17:00	10800
6	20/12/2016	RMD	None	1/2	15	F1	SE	0	08:00	11:00	10800
6	25/01/2017	RMD	Occasional showers	08-Aug	15	F3	SE	8	07:50	10:50	10800
6	31/01/2017	RMD	None	3/4	10	F1	SE	10	14:45	17:45	10800
6	11/02/2017	GP	None	1/8	5	F1	NE	0	07:30	10:30	10800
6	16/02/2017	GP	None	08-Aug	2	F1	SW	7	15:20	18:20	10800
7	22/09/2016	TG	None	1/2	15	F1	SE	5	06:45	09:45	10800
7	22/09/2016	TG	Light	08-Aug	1	F1	SE	12	17:11	20:11	10800
7	17/10/2016	GP	Light	5/8	5	F2	SW	11	16:10	19:10	10800
7	21/10/2016	GP	None	08-Aug	2	F1	SE	7	07:00	10:00	10800
7	30/11/2016	SI	None	3/4	10	F1	E	3	07:25	10:25	10800
7	30/11/2016	SI	None	3/4	10	F1	E	3	14:00	17:00	10800
8	27/09/2016	TG	None	08-Aug	1	F1	SW	11	06:55	09:55	10800
8	27/09/2016	TG	None	3/4	3	F1	SW	11	16:54	19:54	10800
8	26/10/2016	RMD	Light	08-Aug	4	F1	SW	13	15:42	18:42	10800

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VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
8	27/10/2016	RMD	Misty	08-Aug	10	F1	SW	11	07:45	10:45	10800
8	22/11/2016	GP	None	1/4	5	F3	NW	4	07:30	10:30	10800
8	25/11/2016	GP	None	1/4	5	F1	E	5	14:10	17:10	10800
9	28/09/2016	TG	None	08-Aug	5	F1	S	12	06:57	09:57	10800
9	28/09/2016	TG	Heavy Showers	3/4	1	F1	S	14	16:52	19:52	10800
9	27/10/2016	RMD	None	08-Aug	15	F1	SE	16	15:40	18:40	10800
9	28/10/2016	RMD	Misty	08-Aug	4	F1	SW	12	07:50	10:50	10800
9	20/11/2016	GP	None	3/8	1	F1	NE	5	14:15	17:15	10800
9	23/11/2016	GP	None	0/8	5	F1	NE	5	07:30	14:30	10800
10	13/09/2016	GP	None	5/8	2	F1	NW	10	18:00	20:30	10800
10	18/09/2016	GP	Misty	08-Aug	1	F3	S	13	06:10	09:10	10800
10	15/10/2016	GP	None	7/8	5	F1	NW	10	16:00	19:00	10800
10	24/10/2016	GP	None	1/8	2	F1	NE	5	07:30	10:30	10800
10	30/11/2016	JD	None	0/8	15	F1	E	3	07:20	10:20	10800
10	30/11/2016	JD	None	0/8	15	F1	E	6	14:30	17:30	10800
10	21/12/2016	RMD	Light	5/8	15	F1	SW	6	14:00	17:00	10800
10	22/12/2016	RMD	None	3/8	5	F1	SW	5	08:00	11:00	10800
10	25/01/2017	RMD	None	7/8	15	F3	SE	9	14:45	17:45	10800
10	27/01/2017	RMD	Heavy Showers	08-Aug	5	F1	SE	6	07:50	10:50	10800
10	14/02/2017	GP	None	5/8	5	F2	SE	10	15:15	18:15	10800
10	24/02/2017	GP	Misty	7/8	<1	F2	SW	5	07:00	10:00	10800
11	21/09/2016	TG	Misty	08-Aug	5	F2	SE	11	06:42	09:42	10800
11	21/09/2016	TG	None	3/4	15	F1	SE	10	17:13	20:13	10800
11	24/10/2016	RMD	None	5/8	15	F1	NE	12	15:52	18:52	10800
11	25/10/2016	RMD	None	3/4	5	F1	SE	3	07:45	10:45	10800
11	29/11/2016	JD	None	1/4	15	F1	E	6	07:20	10:20	10800
11	29/11/2016	JD	None	1/8	15	F3	SE	6	14:20	17:25	10800

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VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
11	19/12/2016	RMD	None	08-Aug	<1	F1	NW	8	08:00	11:00	10800
11	22/12/2016	RMD	Single shower	7/8	15	F1	SW	8	14:00	17:00	10800
11	17/01/2017	RMD	Misty	08-Aug	3	F1	SW	8	08:00	11:00	10800
11	17/01/2017	RMD	None	08-Aug	15	F1	SW	10	14:30	17:30	10800
11	08/02/2017	GP	None	7/8	5	F2	S	7	15:10	18:10	10800
11	16/02/2017	GP	Light	08-Aug	1	F1	SW	7	07:15	10:15	10800
12	20/09/2016	TG	None	08-Aug	10	F1	SE	11	06:40	09:40	10800
12	20/09/2016	TG	None	08-Aug	15	F1	SE	14	17:15	20:15	10800
12	25/10/2016	RMD	None	7/8	9	F1	N	11	15:50	18:50	10800
12	26/10/2016	RMD	None	08-Aug	15	F1	S	11	07:45	10:45	10800
12	28/11/2016	JD	None	08-Aug	10	F1	NE	6	07:15	10:19	10800
12	28/11/2016	JD	None	08-Aug	10	F1	NW	6	14:25	17:25	10800
12	16/12/2016	RMD	None	08-Aug	15	F1	NW	5	08:00	11:00	10800
12	20/12/2016	RMD	Constant	08-Aug	4	F1	SE	5	14:00	17:00	10800
12	18/01/2017	RMD	None	08-Aug	15	F1	SE	8	08:00	11:00	10800
12	19/01/2017	RMD	None	0/8	15	F1	SE	11	14:30	17:30	10800
12	09/02/2017	GP	None	08-Aug	2	F2	E	5	15:10	18:10	10800
12	22/02/2017	GP	Misty	08-Aug	<1	F1	SW	9	07:00	10:00	10800
Casual	23/12/2016	RMD	Heavy Showers	5/8	10	F3	SW	11	14:10	14:10	10800

Table 10: Details of timing, duration and weather conditions for UWF Grid Connection vantage point surveys undertaken during the breeding season in 2017

VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
1	15/03/2017	GP	None	0/8	10	F2	SW	7	08:15	14:15	21600
1	10/04/2017	GP	None	08-Aug	5	F2	NW	8	08:45	11:45	10800
1	12/04/2017	GP	None	08-Aug	2	F2	NW	9	07:45	10:45	10800
1	05/05/2017	GP	None	3/8	10	F2	E	13	11:30	14:30	10800
1	08/05/2017	GP	None	0/8	10	F1	E	11	06:45	09:45	10800
1	16/06/2017	GP	Misty	08-Aug	2	F1	W	13	08:00	11:00	10800
1	17/06/2017	GP	None	1/4	10	F1	SW	22	13:30	16:30	10800
1	14/07/2017	GP	None	7/8	10	F2	W	12	07:50	13:30	21600
1	04/08/2017	RMD	Light	1/2	5	F1	W	15	10:50	16:50	21600
2	24/03/2017	GP	None	0/8	10	F1	NE	5	07:15	10:15	10800
2	27/03/2017	GP	None	1/8	5	F1	E	8	07:15	10:15	10800
2	06/04/2017	GP	None	08-Aug	5	F1	NW	8	07:00	10:00	10800
2	11/04/2017	GP	None	08-Aug	10	F2	NW	7	07:45	10:45	10800
2	05/05/2017	GP	None	3/8	10	F3	E	14	14:40	17:40	10800
2	20/05/2017	GP	None	7/8	10	F3	S	13	10:15	13:15	10800
2	18/06/2017	GP	None	0/8	10	F1	SW	15	08:30	12:30	14400
2	20/06/2017	GP	None	1/2	10	F1	NE	15	08:00	11:00	10800
2	17/07/2017	GP	None	1/8	10	F1	SE	14	07:10	10:10	10800
2	20/07/2017	GP	Occasional showers	3/4	5	F2	SW	11	08:30	11:30	10800
2	07/08/2017	KOC	Dry	7/8	15	F3	W	16	12:15	15:15	10800
3	12/03/2017	GP	None	1/2	10	F3	W	11	13:00	16:00	10800
3	14/03/2017	GP	None	1/2	10	F3	W	11	13:10	16:10	10800
3	05/04/2017	GP	None	08-Aug	10	F1	NW	10	08:15	11:15	10800
3	17/04/2017	GP	None	08-Aug	10	F1	NW	9	09:40	12:40	10800
3	08/05/2017	GP	None	3/8	5	F2	NE	18	13:30	16:30	10800
3	18/05/2017	GP	None	5/8	10	F1	SW	9	09:10	12:10	10800
3	16/06/2017	GP	None	08-Aug	5	F1	W	16	12:30	18:30	21600
3	14/07/2017	GP	None	1/2	10	F2	W	20	14:30	17:30	10800
3	16/07/2017	GP	None	1/2	10	F1	NW	14	09:00	12:00	10800

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VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
3	08/08/2017	KOC	Occasional showers	3/4	10	F2	N	12	12:00	15:00	10800
4	24/03/2017	GP	None	0/8	10	F2	NE	9	10:30	16:30	21600
4	09/04/2017	GP	None	08-Aug	5	F1	NW	10	10:50	13:50	10800
4	19/04/2017	GP	None	7/8	5	F1	SW	14	14:00	16:30	10800
4	08/05/2017	GP	None	0/8	5	F1	E	17	09:50	12:50	10800
4	09/05/2017	GP	None	3/8	5	F1	E	9	11:30	14:30	10800
4	17/06/2017	GP	None	0/8	10	F2	SW	16	09:00	12:00	10800
4	19/06/2017	GP	None	3/8	10	F1	NE	17	08:00	11:00	10800
4	17/07/2017	GP	None	0/8	10	F1	SE	20	10:30	16:30	21600
4	15/08/2017	GP	Occasional showers	07-Aug	10	F2	SW	12	07:15	10:15	10800
4	17/08/2017	GP	Occasional showers	07-Aug	10	F2	S	14	07:30	10:30	10800
5	16/03/2017	RMD	None	1/4	20	F1	NW	9	15:50	16:50	3600
5	21/03/2017	RMD	Light	1/2	16	F1	SW	1	10:00	15:00	18000
5	10/04/2017	GP	None	7/8	10	F2	NW	10	12:00	15:00	10800
5	17/04/2017	GP	None	08-Aug	10	F1	NW	9	13:00	16:00	10800
5	09/05/2017	GP	None	0/8	10	F1	SE	8	08:00	11:00	10800
5	18/05/2017	GP	None	1/2	10	F2	SW	14	13:30	16:30	10800
5	19/06/2017	JD	None	1/4	10	F1	SE	20	10:15	16:45	21600
5	16/07/2017	GP	None	7/8	10	F1	NW	17	12:15	15:15	10800
5	24/07/2017	GP	None	1/4	10	F1	NW	15	08:30	11:30	10800
5	11/08/2017	GP	none	04-Aug	10	F2	NW	17	14:30	17:30	10800
5	15/08/2017	GP	Occasional showers	06-Aug	10	F2	SW	15	10:30	13:30	10800
6	21/03/2017	RMD	Light	08-Aug	16	F1	SW	5	15:15	17:15	7200
6	22/03/2017	RMD	None	08-Aug	15	F2	N	2	09:50	13:50	14400
6	12/04/2017	GP	Light	1/4	1	F2	NW	8	11:00	14:00	10800
6	19/04/2017	GP	None	7/8	5	F1	SW	13	10:45	13:45	10800
6	06/05/2017	GP	None	08-Aug	5	F3	E	10	14:30	17:30	10800
6	20/05/2017	GP	None	1/2	10	F3	S	13	13:45	16:45	10800
6	26/06/2017	KOC	None	08-Aug	15	F2	SE	15	09:15	12:15	10800

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VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
6	26/06/2017	KOC	Misty	08-Aug	5	F2	SE	14	12:45	15:45	10800
6	09/08/2017	GP	none	02-Aug	10	F2	NW	18	14:45	17:45	10800
6	15/08/2017	GP	none	04-Aug	10	F2	SW	16	14:00	17:00	10800
7	23/03/2017	RMD	Misty	08-Aug	15	F1	N	5	09:40	15:40	21600
7	09/04/2017	GP	None	08-Aug	5	F1	NW	8	07:45	10:45	10800
7	10/04/2017	GP	None	1/2	10	F2	NW	12	15:10	18:10	10800
7	22/05/2017	KOC	None	7/8	15	F3	SW	15	18:45	20:15	4800
7	23/05/2017	KOC	None	08-Aug	10	F3	W	15	09:50	11:20	4800
7	24/05/2017	KOC	None	5/8	10	F2	SW	18	10:50	13:50	10800
7	26/06/2017	KOC	Misty	08-Aug	3	F3	SE	14	16:15	17:15	3600
7	28/06/2017	KOC	None	08-Aug	15	F2	NW	17	11:50	14:50	10800
7	28/06/2017	KOC	None	08-Aug	15	F2	NW	16	15:25	17:25	7200
7	11/08/2017	GP	none	07-Aug	5	F2	NW	15	08:00	14:00	21600
8	16/03/2017	RMD	Light	08-Aug	5	F2	SW	6	09:40	15:40	21600
8	05/04/2017	GP	None	08-Aug	10	F1	NW	10	13:30	16:30	10800
8	18/04/2017	GP	None	08-Aug	10	F1	NW	10	08:00	11:00	10800
8	19/05/2017	KOC	Light	7/8	15	F3	SW	12	10:40	13:40	10800
8	19/05/2017	KOC	Light	7/8	5	F3	SW	12	14:10	17:10	10800
8	25/06/2017	KOC	None	7/8	15	F3	W	16	14:05	17:05	10800
8	25/06/2017	KOC	None	08-Aug	10	F2	NW	15	17:35	20:35	10800
8	10/08/2017	GP	none	08-Aug	5	F2	SW	13	09:30	12:30	10800
8	17/08/2017	GP	Occasional showers	07-Aug	10	F2	S	15	11:00	14:30	10800
9	13/03/2017	RMD	None	7/8	8	F2	SW	9	09:30	15:30	21600
9	18/04/2017	GP	None	7/8	10	F1	S	12	11:00	17:00	21600
9	22/05/2017	KOC	None	3/4	20	F3	SW	15	11:10	14:10	10800
9	22/05/2017	KOC	None	3/4	20	F3	SW	17	14:40	17:40	10800
9	27/06/2017	KOC	None	7/8	15	F3	S	18	10:40	13:40	10800
9	27/06/2017	KOC	None	3/4	15	F3	S	18	14:10	17:10	10800
9	10/08/2017	GP	none	05-Aug	10	F2	SW	17	13:00	16:00	10800
9	17/08/2017	GP	Occasional showers	06-Aug	10	F3	SW	18	15:00	18:00	10800
10	15/03/2017	RMD	None	08-Aug	16	F1	SE	11	14:00	17:00	10800

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VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
10	22/03/2017	RMD	Light	7/8	15	F1	N	5	14:15	17:15	10800
10	08/04/2017	GP	None	08-Aug	5	F3	S	16	10:20	16:20	21600
10	23/05/2017	KOC	None	08-Aug	10	F3	W	15	12:00	15:00	10800
10	23/05/2017	KOC	None	5/8	10	F4	W	15	15:30	18:30	10800
10	19/06/2017	GP	None	1/2	5	F1	NE	22	12:30	15:30	10800
10	21/06/2017	GP	None	7/8	5	F1	S	18	08:20	12:30	14400
10	09/08/2017	GP	none	06-Aug	10	F3	N	14	08:15	14:15	21600
11	14/03/2017	RMD	None	3/8	16	F1	W	13	14:00	16:00	7200
11	15/03/2017	RMD	None	1/4	16	F1	SE	11	09:35	13:35	14400
11	22/04/2017	GP	None	08-Aug	10	F1	NE	13	12:30	15:30	10800
11	27/04/2017	GP	None	5/8	10	F2	NW	11	13:00	16:00	10800
11	24/05/2017	GP	None	08-Aug	2	F1	S	16	11:00	14:00	10800
11	26/05/2017	GP	None	08-Aug	10	F2	SE	17	08:00	11:00	10800
11	20/06/2017	JD	None	0/8	10	F1	S	21	10:30	17:00	21600
11	10/08/2017	RMD	None	08-Aug	10	F1	W	14	11:00	14:00	10800
11	17/08/2017	RMD	None	3/4	5	F1	SW	17	10:00	13:00	10800
12	13/03/2017	RMD	None	08-Aug	10	F1	SW	14	15:50	16:50	3600
12	14/03/2017	RMD	Misty	08-Aug	2	F1	SW	12	09:40	13:40	14400
12	14/03/2017	RMD	None	5/8	16	F1	SE	11	16:10	17:10	3600
12	22/04/2017	GP	None	1/4	5	F1	NE	8	08:30	11:30	10800
12	27/04/2017	GP	None	08-Aug	10	F2	NW	9	09:50	12:50	10800
12	24/05/2017	GP	None	3/8	2	F1	S	20	14:30	17:30	10800
12	26/05/2017	GP	None	7/8	2	F2	SE	21	11:30	14:30	10800
12	21/06/2017	JD	None	08-Aug	10	F1	SW	23	10:30	17:00	21600
12	10/08/2017	RMD	None	08-Aug	10	F1	W	15	14:15	16:15	7200
12	17/08/2017	RMD	Occasional showers	3/4	5	F1	SW	17	13:15	17:15	14400

Table 11: Details of timing, duration and weather conditions for UWF Grid Connection vantage point surveys undertaken during the non-breeding season in 2017/2018 (September 2017 to February 2018 inclusive)

VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
1	05/09/2017	GP	Light drizzle	08-Aug	2	F1	W	13	10:20	13:20	10800
1	06/09/2017	GP	dry	08-Aug	2	F2	SW	15	15:15	18:15	10800
1	12/10/2017	GP	dry	06-Aug	10	F1	SW	7	07:30	10:30	10800
1	17/10/2017	GP	dry	03-Aug	10	F1	SW	11	11:15	14:15	10800
1	08/11/2017	GP	Occasional showers	04-Aug	5	F1	SW	4	07:00	13:00	21600
1	01/12/2017	GP	dry	01-Aug	10	F1	NW	3	11:00	17:00	21600
1	03/01/2018	OOG	Misty	3/4	3	F4	W	5	09:40	15:40	21600
1	06/02/2018	OOG	None	7/8	10	F2	N	3	13:05	16:05	10800
1	07/02/2018	OOG	Light	08-Aug	5	F1	SW	4	13:30	16:30	10800
2	05/09/2017	GP	dry	3/4	10	F2	SW	16	14:00	17:00	10800
2	13/09/2017	GP	Occasional showers	7/8	10	F2	W	11	13:30	16:30	10800
2	12/10/2017	GP	dry	05-Aug	10	F3	SW	12	11:00	14:00	10800
2	22/10/2017	GP	dry	08-Aug	5	F2	SW	10	10:00	13:00	10800
2	09/11/2017	GP	dry	02-Aug	10	F1	NW	9	11:30	17:30	21600
2	21/12/2017	GP	Occasional showers	08-Aug	1	F1	SW	10	11:00	17:00	21600
2	05/01/2018	SD	None	5/8	3	F1	SW	2	09:00	15:00	21600
2	06/02/2018	SD	None	01-Apr	10	F1	SE	1	10:30	16:30	21600
3	06/09/2017	GP	dry	7/8	2	F2	W	14	12:00	15:00	10800
3	07/09/2017	GP	Light drizzle	08-Aug	5	F3	W	14	14:30	17:30	10800
3	14/10/2017	GP	dry	08-Aug	2	F3	SE	15	16:20	19:20	10800
3	18/10/2017	GP	dry	08-Aug	10	F2	E	9	10:00	13:00	10800
3	15/11/2017	GP	misty	08-Aug	2	F1	SE	7	07:15	13:15	21600
3	07/12/2017	GP	dry	04-Aug	5	F1	W	5	11:00	17:00	21600
3	03/01/2018	GP	Occasional showers	08-Aug	1	F4	W	6	11:00	17:00	21600

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VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
3	01/02/2018	GP	Occasional showers	1/2	10	F3	NW	5	12:00	18:00	21600
4	06/09/2017	GP	dry	1/2	5	F2	W	12	08:30	11:30	10800
4	08/09/2017	GP	Occasional showers	7/8	5	F2	W	14	12:30	15:30	10800
4	13/10/2017	GP	dry	08-Aug	5	F2	SW	16	08:10	11:10	10800
4	20/10/2017	GP	dry	08-Aug	5	F1	SW	6	10:10	13:10	10800
4	22/11/2017	KOC	Light	08-Aug	2	F2	N	7	13:30	16:30	10800
4	23/11/2017	KOC	None	01-Aug	15	F3	W	5	10:00	13:00	10800
4	05/12/2017	GP	dry	08-Aug	10	F1	SW	8	11:00	17:00	21600
4	19/01/2018	OOG	snow showers	7/8	2	F2	W	4	10:05	16:05	21600
4	06/02/2018	OOG	None	1/8	10	F2	NW	1	09:50	12:50	10800
4	07/02/2018	OOG	Light	08-Aug	5	F1	SW	0	10:00	13:00	10800
5	08/09/2017	GP	Occasional showers	1/2	10	F2	W	13	09:10	12:10	10800
5	13/09/2017	GP	Occasional showers	1/2	10	F3	W	9	10:00	13:00	10800
5	13/10/2017	GP	dry	08-Aug	2	F2	SW	17	12:30	15:30	10800
5	23/10/2017	GP	Occasional showers	07-Aug	5	F1	S	13	13:00	16:00	10800
5	22/11/2017	KOC	Occasional showers	08-Aug	4	F1	NE	11	10:00	13:00	10800
5	23/11/2017	KOC	None	03-Apr	15	F2	W	6	13:30	16:30	10800
5	06/12/2017	OOG	Misty	08-Aug	2	F1	S	10	10:05	16:05	21600
5	02/01/2018	OOG	Misty	7/8	2	F1	W	9	10:15	16:15	21600
5	02/02/2018	OOG	None	1/4	10	F1	W	6	10:40	16:40	21600
6	11/09/2017	OOG	None	03-Apr	5	F2	W	13	11:20	17:20	21600
6	23/10/2017	GP	dry	08-Aug	2	F1	SW	14	16:15	19:15	10800
6	25/10/2017	GP	dry	08-Aug	5	F1	SW	13	16:15	19:15	10800
6	13/11/2017	GP	drizzle	08-Aug	5	F1	SW	7	11:15	17:15	21600
6	03/12/2017	GP	dry	07-Aug	10	F1	W	7	10:30	13:30	10800
6	09/12/2017	GP	dry	08-Aug	10	F1	SW	4	14:00	17:00	10800

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VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
6	05/01/2018	GP	Occasional showers	3/4	5	F2	SW	5	11:00	17:00	21600
6	02/02/2018	GP	dry	1/2	10	F1	NW	3	07:30	13:30	21600
7	28/11/2017	OOG	None	05-Aug	5	F2	N	6	03:00	05:00	7200
7	29/11/2017	SD	None	01-Apr	4	F3	N	3	07:00	09:15	7200
8	29/11/2017	OOG	None	01-Apr	2	F1	N	1	07:15	09:15	7200
8	28/11/2017	SD	None	05-Aug	4	F3	N	4	15:00	17:00	7200
9	29/11/2017	OOG	None	03-Apr	2	F1	N	5	15:00	17:30	7200
9	30/11/2017	OOG	None	07-Aug	2	F1	NW	3	07:15	09:15	7200
11	05/12/2017	OOG	None	07-Aug	2	F1	S	10	15:20	17:20	7200
11	06/12/2017	OOG	Heavy Showers	08-Aug	2	F1	S	10	07:30	09:30	7200
12	30/11/2017	SD	None	01-Apr	3	F3	N	2	07:00	09:14	7200
12	29/11/2017	SD	None	01-Apr	3	F3	N	4	15:12	17:12	7200
7	11/09/2017	RMD	Occasional showers	08-Aug	20	F2	W	13	11:05	17:05	21600
7	14/10/2017	HW	dry	08-Aug	2	F3	SE	15	08:00	14:00	21600
7	28/11/2017	OOG	None	05-Aug	5	F2	N	6	03:00	05:00	7200
7	29/11/2017	SD	None	01-Apr	4	F3	N	3	07:00	09:15	7200
7	07/12/2017	SD	Dry	1/8	3	F1	NW	4	08:30	16:30	21600
7	04/01/2018	SD	Light	08-Aug	2	F3	SW	5	09:00	15:00	21600
7	05/02/2018	SD	None	01-Feb	10	F1	SE	2	10:30	16:30	21600
8	12/09/2017	RMD	Light	5/8	15	F2	S	11	10:10	16:10	21600
8	17/10/2017	HW	dry	03-Aug	10	F1	SW	11	08:00	14:00	21600
8	29/11/2017	OOG	None	01-Apr	2	F1	N	1	07:15	09:15	7200
8	28/11/2017	SD	None	05-Aug	4	F3	N	4	15:00	17:00	7200
8	06/12/2017	SD	Light	08-Aug	2	F4	SW	8	08:30	16:30	21600
8	15/01/2018	OOG	Heavy Showers	7/8	4	F2	W	8	10:05	16:05	21600
8	01/02/2018	SD	None	03-Apr	10	F1	NW	3	09:30	16:00	21600
9	05/09/2017	OOG	None	05-Aug	10	F1	SW	18	10:00	13:00	10800
9	06/09/2017	OOG	None	05-Aug	5	F2	SW	19	13:50	16:50	10800
9	18/10/2017	HW	dry	08-Aug	10	F2	E	9	09:00	15:00	21600

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VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
9	29/11/2017	OOG	None	03-Apr	2	F1	N	5	15:00	17:30	7200
9	30/11/2017	OOG	None	07-Aug	2	F1	NW	3	07:15	09:15	7200
9	08/12/2017	SD	Dry	1/8	4	F1	NW	1	08:30	16:30	21600
9	03/01/2018	SD	Light	08-Aug	1	F4	SW	6	09:00	15:00	21600
9	02/02/2018	SD	None	01-Aug	10	F1	NW	2	10:00	16:00	21600
10	04/09/2017	OOG	None	08-Aug	2	F2	S	16	13:30	15:30	7200
10	12/09/2017	OOG	None	05-Aug	5	F2	S	15	11:30	17:30	21600
10	20/10/2017	HW	dry	08-Aug	5	F1	SW	6	09:00	15:00	21600
10	07/11/2017	GP	dry	03-Aug	5	F2	W	5	07:00	13:00	21600
10	03/12/2017	GP	dry	06-Aug	10	F1	W	8	14:00	17:00	10800
10	09/12/2017	GP	dry	08-Aug	10	F1	SW	4	09:00	12:00	10800
10	06/01/2018	GP	dry	3/8	10	F2	NE	4	09:30	12:30	10800
10	22/01/2018	GP	dry	7/8	2	F1	SW	6	10:30	13:30	10800
10	04/02/2018	GP	dry	0	10	F1	NW	1	07:30	13:30	21600
11	05/09/2017	OOG	None	05-Aug	10	F2	SW	19	13:50	16:50	10800
11	06/09/2017	OOG	None	05-Aug	5	F1	W	17	09:50	12:50	10800
11	22/10/2017	HW	dry	08-Aug	5	F2	SW	10	09:00	15:00	21600
11	07/11/2017	GP	Occasional showers	05-Aug	2	F2	W	6	14:30	17:30	10800
11	16/11/2017	GP	dry	01-Aug	10	F1	NW	8	14:15	17:15	10800
11	05/12/2017	OOG	None	07-Aug	2	F1	S	10	15:20	17:20	7200
11	06/12/2017	OOG	Heavy Showers	08-Aug	2	F1	S	10	07:30	09:30	7200
11	06/01/2018	GP	dry	1/2	10	F2	NE	4	14:00	17:00	10800
11	06/01/2018	GP	dry	1/2	10	F2	NE	4	14:00	17:00	10800
11	22/01/2018	GP	dry	7/8	2	F1	SW	7	14:30	17:30	10800
11	04/02/2018	GP	dry	1/2	10	F2	NE	6	15:00	18:00	10800
11	06/02/2018	GP	dry	1/2	10	F2	NW	3	10:00	13:00	10800
12	07/09/2017	OOG	Light	08-Aug	2	F2	W	14	09:45	12:45	10800
12	07/09/2017	OOG	None	07-Aug	5	F2	W	15	13:15	16:15	10800
12	30/11/2017	SD	None	01-Apr	3	F3	N	2	07:00	09:14	7200
12	29/11/2017	SD	None	01-Apr	3	F3	N	4	15:12	17:12	7200

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VP Name	Date	Observer	Rain	Cloud 0/8 = no cloud 8/8 = fully overcast	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (Deg C)	Start Time	End Time	Duration of survey (s)
12	05/12/2017	OOG	None	08-Aug	5	F1	S	8	09:05	15:05	21600
12	02/01/2018	SD	Light	08-Aug	2	F3	SW	8	10:00	16:00	21600
12	05/02/2018	OOG	None	3/4	10	F2	SE	4	10:10	16:10	21600
12	23/10/2017	HW	Occasional showers	07-Aug	5	F1	S	13	09:00	15:00	21600

Table 12: Details of timing, duration and weather conditions for vantage point flight activity surveys undertaken at Upperchurch Windfarm during the breeding season in 2019 (April and July)

VP Name	Date	Observer	Rain	Cloud (Oktas)	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (°C)	Start Time	End Time	Duration of survey (s)
UVP1	12/04/2019	TK	Dry	03-Aug	3	2	SE	9	10:40	13:40	10800
UVP 1	12/04/2019	TK	Dry	03-Aug	3	2	SE	12	14:10	17:10	10800
UVP 1	31/07/2019	JP	Dry	07-Aug	15	F2	W	14	09:16	12:16	10800
UVP 1	31/07/2019	JP	Dry	08-Aug	15	F3	SW	17	12:46	15:46	10800
UVP 2	18/04/2019	TK	Dry	03-Aug	3	2	SE	14	10:40	13:40	10800
UVP 2	18/04/2019	TK	Dry	03-Aug	3	2	SE	18	14:10	17:10	10800
UVP 2	10/07/2019	JP	Dry	08-Aug	5	F2	S	17	09:16	12:16	10800
UVP 2	10/07/2019	JP	Dry	08-Aug	5	F3	SW	21	12:46	15:46	10800
UVP 3	08/04/2019	TK	Dry	05-Aug	3	1	E	13	10:50	13:50	10800
UVP 3	08/04/2019	TK	Dry	05-Aug	3	1	E	13	14:20	17:20	10800
UVP 3	24/07/2019	TK	None	05-Aug	3	F2	SE	17	09:10	12:10	10800
UVP 3	24/07/2019	TK	None	05-Aug	3	F2	SE	20	12:40	15:40	10800
UVP 4	19/04/2019	TK	Dry	02-Aug	3	2	SE	13	10:55	13:55	10800
UVP 4	19/04/2019	TK	Dry	02-Aug	3	2	SE	19	14:25	17:25	10800
UVP 4	31/07/2019	TK	Dry	05-Aug	3	F2	W	14	08:10	11:10	10800
UVP 4	31/07/2019	TK	Dry	05-Aug	3	F2	W	17	11:40	14:40	10800
UVP 5	20/04/2019	TK	Dry	02-Aug	3	1	W	12	10:50	13:50	10800
UVP 5	20/04/2019	TK	Dry	02-Aug	3	1	W	19	14:20	15:20	10800
UVP 5	29/07/2019	TK	None	07-Aug	3	F2	NW	18	11:00	14:00	10800
UVP 5	29/07/2019	TK	None	07-Aug	3	F2	NW	18	14:30	17:30	10800
UVP 6	27/04/2019	TK	Dry	05-Aug	3	3	W	8	11:05	14:05	10800
UVP 6	27/04/2019	TK	Dry	05-Aug	3	2	W	11	14:35	17:35	10800
UVP 6	19/07/2019	DOC	Heavy showers	07-Aug	15	3	SW	19	10:38	13:38	10800
UVP 6	19/07/2019	DOC	Heavy showers	07-Aug	15	3	SW	19	14:08	17:08	10800
UVP 7	25/04/2019	TK	Dry	07-Aug	2	2	SE	12	11:00	14:00	10800
UVP 7	25/04/2019	TK	Dry	07-Aug	2	2	SW	15	14:30	17:30	10800
UVP 7	17/07/2019	DOC	Heavy showers	08-Aug	15	4	SW	20	10:58	13:58	10800
UVP 7	17/07/2019	DOC	Heavy showers	08-Aug	15	4	SW	20	14:28	17:28	10800
UVP 8	17/04/2019	TK	None	08-Aug	2	2	SE	11	10:30	13:30	10800

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VP Name	Date	Observer	Rain	Cloud (Oktas)	Visibility (km)	Wind Speed (Bft)	Wind Direction	Temp (°C)	Start Time	End Time	Duration of survey (s)
UVP 8	17/04/2019	TK	None	07-Aug	2	2	SE	14	14:00	17:00	10800
UVP 8	25/07/2019	TK	Single shower	08-Aug	3	F3	SE	18	08:55	11:55	10800
UVP 8	25/07/2019	TK	Single shower	08-Aug	3	F3	SE	21	12:30	15:30	10800
UVP 9	11/04/2019	TK	Dry	04-Aug	3	2	SE	12	10:45	13:45	10800
UVP 9	11/04/2019	TK	Dry	04-Aug	3	2	SE	12	14:15	17:15	10800
UVP 9	26/07/2019	TK	Single shower	07-Aug	3	F3	SW	17	09:05	12:05	10800
UVP 9	26/07/2019	TK	None	07-Aug	3	F3	SW	18	12:50	15:50	10800
UVP 9	26/07/2019	TK	None	07-Aug	3	F3	SW	18	12:50	15:50	10800
UVP 10	26/04/2019	TK	Single shower	08-Aug	2	3	W	9	09:15	12:15	10800
UVP 10	26/04/2019	TK	Occasional showers	08-Aug	2	3	W	11	12:45	15:45	10800
UVP 10	11/07/2019	JP	Dry	07-Aug	10	F3	W	18	12:39	15:39	10800
UVP 10	11/07/2019	JP	Misty	08-Aug	5	F3	W	16	09:09	12:09	10800

Hen Harrier Habitat Suitability Mapping 2019

In order to determine the availability of nesting and foraging habitats for Hen Harriers, all habitats within 2km of each nest location recorded since 2016 were evaluated in terms of suitability for breeding and/or foraging Hen Harrier. This was followed by in the field ground truthing carried out on the 2nd and 3rd of July 2019.

Methods

Habitats were initially identified using shapefiles provided from existing habitat information arising the Hen Harrier SPA Mapping Project undertaken by NPWS (Moran & Wilson-Parr, 2015). However, these only relate to habitats within the SPA, so an additional mapping exercise was undertaken to extend the coverage to include non-SPA habitat within 2km of each nest. In addition to mapping non-SPA habitat within 2km of nest sites, all habitats within 2km of the UWF Grid Connection were mapped and classified in respect of Hen Harrier suitability. Habitats were initially identified from aerial photos. Where the identification of habitats from aerial photos could not be confirmed, a ground-truthing exercise was undertaken to check the habitats actually present. As well as identifying unknown habitats, the ground-truthing exercise also sampled a variety of the identified habitats to ensure the habitats identification process was accurate and robust.

All habitat parcels, including both polygon's for fields (or areas-based habitats) and lines for linear habitats (such as hedgerows and treelines) were digitised, allowing accurate measurement of area or length.

The identified habitats were classed as suitable or unsuitable for both nesting and foraging (see Table 12 below). Habitats identified as suitable for nesting by Hen Harriers were wet grassland, peatland habitats (including heath), scrub, dense bracken and both pre- and post-thicket forestry (as per Ruddock *et al.*, 2016). Habitats considered unsuitable for nesting included agricultural grasslands (including improved grasslands and rough grazing), clearfell, hedgerows and treelines (Ruddock *et al.*, 2016).

The habitat mapping results comprising the extent of suitable and unsuitable foraging habitats within 2km of identified Hen Harrier nests are presented in Table 13.

Table 13: Habitat classification and suitability for Hen Harrier nesting and foraging

NPWS Habitat ¹ (habitats present within the SPA)	NPWS Code ²	Habitats (as mapped outside of the SPA)	Code	Suitability for:	
				Foraging	Nesting
Improved agricultural grassland	GA1	Improved grassland	GA1	N	N
Amenity grassland/buildings and artificial surfaces	BL3/GA2	(Not included) ³		N	N
Marsh	GM1	(Not recorded) ⁴		Y	N
Dry humid-acid grassland	GS3	Heath	HH	Y	Y
Heath	HH			Y	Y
Mosaic grassland; Clustered Juncus 30-39%	MG_C3	Rough Grassland	RG	Y	N
Mosaic grassland; Clustered Juncus 40-49%	MG_C4			Y	N
Mosaic grassland; Dispersed Juncus 30-39%	MG_D3			Y	N
Mosaic grassland; Dispersed Juncus 40-49%	MG_D4			Y	N
Rough Grassland	RG			Y	N
Upland blanket bog	PB2	Bogs	PB	Y	Y
Cutover bog	PB4			Y	Y
Bracken	HD1	Bracken	HD1	Y	Y
Scrub	WS1	Scrub	WS1	Y	Y
Mixed broadleaved woodland	WD1	Mixed broadleaved woodland	WD1	N	N
Riparian woodland	WN5	Riparian woodland	WN5	N	N
Conifer plantation (unknown age)	FOR_UNK	(Not recorded)		Unknown	Unknown
Unproductive sparse conifer plantation	FOR_UNPRO	Pre-thicket conifer plantation	PRE	Y	Y
Conifer plantation (<3 yrs old)	FOR<3YR			Y	Y
Conifer plantation (4-8 yrs old)	FOR4_8			Y	Y
Conifer plantation (9-12 yrs old)	FOR9_12			Y	Y
Conifer plantation (13-14 yrs old)	FOR13_14	Post-thicket conifer plantation	POST	N	Y
Conifer plantation (>15 yrs old)	FOR>15yr			N	Y
Clear-fell conifer plantation	FOR_CL	Clear-fell	CF	Y	N

Results of the Surveys are presented below .

¹ Based on Moran & Wilson-Parr (2015)

² Derived from Fossit (2000) within Moran & Wilson-Parr (2015)

³ Recorded within the SPA but not included in the areas mapped outside of the SPA due to being unsuitable for Hen Harrier nesting and foraging

⁴ Not recorded in areas outside of the SPA during mapping and ground truthing exercises

AA6.2 Survey Results Hen Harrier

Table 14 Extent of suitable and unsuitable foraging habitats within 2km of identified Hen Harrier nests (conducted in May 2019)

Nest	Foraging			Nesting	
	Suitable Habitat (ha)	Unsuitable Habitat (ha)	Linear Habitats (m)	Suitable Habitat (ha)	Unsuitable Habitat (ha)
A	420	836	76,999	460	796
B	491	765	34,021	932	324
C	474	782	23,094	873	383
D	646	610	30,679	921	335
E	681	575	13,471	966	290
F	646	610	36,713	803	453
G1	566	690	40,971	701	555
G2	572	684	37,485	714	542
G3	555	701	36,297	701	555
H1	644	612	24,112	935	321
H2	636	620	22,961	872	384
I	442	814	13,050	1,091	165
J	475	781	25,908	922	334
G1 + G2 + G3	583	847	42,853	726	704
H1 + H2	696	777	28,288	1,015	458
All nests	3,580	4,763	255,011	3,580	4,763

Table 15: Distance of Hen Harrier roost sites recorded in the non-breeding season of 2016/17 to the nearest construction area boundaries

Roost Location	Habitat Type	Distance (m) from nearest construction area boundaries	Year
1	HB	3322	2016/2017
2	HB	2109	2016/2017
3	HB	3634	2016/2017

AA6.2.1 Nest Triangulation Vantage Point Surveys UWF Grid Connection - 2019

Table 16: Details of Hen Harrier sightings and the habitats over which the birds were observed from nest triangulation vantage point surveys undertaken April, June and July 2019

G = Grazing; RG = Rough Grazing; HB = Heath or bog; DE = Deciduous woodland or scrub; GO = Gorse; CF = Clear fell; NF2 = New forestry plantation trees 20-30cm high; NF3 = New forestry plantation trees c 1m high; NF4 = New forestry plantation trees > 2m high; 2nd F1/F2 = Second rotation forestry plantation trees 20-30cm high; 2nd F3 = Second rotation forestry plantation trees c 1m high; 2nd F4 = Second rotation forestry plantation trees > 2m high; F= Post thicket forestry

VP Name	Date	Species	Sex	Time of sighting	G	R G	HB	D E	G O	C F	NF 1	NF 2	NF 3	NF 4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
NTVP1	12/04/19	Hen Harrier	Male/ Female	15:00			130												130
NTVP2	12/04/19	Nil Sightings																	
NTVP3	16/04/19	Hen Harrier	Male/ Female	10:12			120							20					140
NTVP4	16/04/19	Hen Harrier	Male/ Female	11:30			300							30 0					330
NTVP5	16/04/19	Nil Sightings																	
NTVP6	17/04/19	Nil Sightings																	
NTVP7	18/04/19	Hen Harrier	Male/ Female	09:15			40												40
NTVP8	18/04/19	Hen Harrier	Male	13:30			350												350
NTVP9	19/04/19	Hen Harrier	Male	14:28			60											60	60
NTVP10	20/04/19	Nil Sightings																	

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VP Name	Date	Species	Sex	Time of sighting	G	R G	HB	D E	G O	C F	NF 1	NF 2	NF 3	NF 4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
NTVP11	21/04/19	Hen Harrier	Male/ Female	11:05			45							15					60
NTVP12	21/04/19	Nil Sight-ings																	
NTVP13	22/04/19	Nil Sight-ings																	
NTVP14	23/04/19	Hen Harrier	Male/ Female	14:15														42 0	420
NTVP17	23/04/19	Hen Harrier	Male/ Female	17:45			80												80
NTVP4	29/06/19	Hen Harrier	Male	09:30												20			20
NTVP18	29/06/19	Hen Harrier	Female	09:45			30							20					50
NTVP17	29/06/19	Hen Harrier	Female	17:45			60												
NTVP1	02/07/19	Hen Harrier	Male/ Female/ Juv	08:20			437 0												4370
NTVP15	02/07/19	Hen Harrier	Male	11:00			240												240
NTVP16	04/07/19	Hen Harrier	Male/ Female	10:50			30												30
NTVP14	04/07/19	Nil Sight-ings																	
NTVP8	05/07/19	Hen Harrier	Male	10:25			70											10 0	220

VP Name	Date	Species	Sex	Time of sighting	G	R G	HB	D E	G O	C F	NF 1	NF 2	NF 3	NF 4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
NTVP17	05/07/19	Nil Sightings																	
NTVP3	08/07/19	Nil Sightings																	
NTVP11	08/07/19	Nil Sightings																	
NTVP18	09/07/19	Hen Harrier	Male	08:30			x												
NTVP18	09/07/19	Hen Harrier	Female	08:45			x												
NTVP19	09/07/19	Nil Sightings																	

Table 17: Details of UWF Grid Connection Hen Harrier behaviour which the birds were exhibiting during each observation and associated notes for nest triangulation vantage point surveys undertaken April, June and July 2019

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
NTVP1	12/04/19	Hen Harrier	Male/ Female		130						130	Male and female Hen Harrier courting around traditional nest site in failed forestry/heather
NTVP2	12/04/19	Nil Sightings										
NTVP3	16/04/19	Hen Harrier	Male/ Female		140						140	Male and female Hen Harrier courting around traditional nest site in failed forestry/heather
NTVP4	16/04/19	Hen Harrier	Male/ Female		300	30					330	Male and female Hen Harrier courting around traditional nest site in failed forestry/heather
NTVP5	16/04/19	Nil Sightings										
NTNTVP6	17/04/19	Nil Sightings										
NTVP7	18/04/19	Hen Harrier	Male/ Female		40						40	Male and female Hen Harrier courting around traditional nest site in failed forestry/heather bog.
NTVP8	18/04/19	Hen Harrier	Male		40		250	50	10		350	Male hunting/circling around traditional nest site in heather bog, no sightings of female.
NTVP9	19/04/19	Hen Harrier	Male	40				20			60	No Hen Harrier sightings at Goulmore, but male seen rising from Mauher Slieve and flying south east.
NTVP10	20/04/19	Nil Sightings										

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
NTVP11	21/04/19	Hen Harrier	Male/ Female	10	20		30				60	Male and female Hen Harrier courting around traditional nest site in heather bog.
NTVP12	21/04/19	Nil Sightings										
NTVP13	22/04/19	Nil Sightings										
NTVP14	23/04/19	Hen Harrier	Male/ Female	300		100		20			420	Male and female Hen Harrier courting around traditional nest site in failed forestry/heather, female skydancing.
NTVP17	23/04/19	Hen Harrier	Male/ Female		80						80	Male and female Hen Harrier courting around traditional nest site in failed forestry/heather
NTVP4	29/06/19	Hen Harrier	Male				20				20	Male hunting.
NTVP18	29/06/19	Hen Harrier	Female					50			50	Female with prey to nest.
NTVP17	29/06/19	Hen Harrier	Female				60					Female hunting around traditional territory but no evidence of breeding.
NTVP1	02/07/19	Hen Harrier	Male/ Female/J uvenile				4300	70			4370	Male , female and at least one juvenile, flying/hunting around area where seen courting in spring; traditional territory.
NTVP15	02/07/19	Hen Harrier	Male				240				240	Male hunting but no evidence of a nest.
NTVP16	04/07/19	Hen Harrier	Male/ Female							30	30	Male to Female foodpass.

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VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
NTVP14	04/07/19	Nil Sightings										
NTVP8	05/07/19	Hen Harrier	Male	100			50	60		10	220	Flew south 5km to Toorlougher, food pass to female.
NTVP17	05/07/19	Nil Sightings										
NTVP3	08/07/19	Nil Sightings										
NTVP11	08/07/19	Nil Sightings										
NTVP18	09/07/19	Hen Harrier	Male	120			120					
NTVP18	09/07/19	Hen Harrier	Female	210				210				Female flying around nest site.
NTVP19	09/07/19	Nil Sightings										

AA6.2.2 Hen Harrier Surveys – Breeding Season 2016

Table 18: Details of UWF Grid Connection Hen Harrier sightings and the habitats over which the birds were observed from vantage point surveys undertaken during the breeding season in 2016

G = Grazing; RG = Rough Grazing; HB = Heath or bog; DE = Deciduous woodland or scrub; GO = Gorse; CF = Clear fell; NF2 = New forestry plantation trees 20-30cm high; NF3 = New forestry plantation trees c 1m high; NF4 = New forestry plantation trees > 2m high; 2nd F1/F2 = Second rotation forestry plantation trees 20-30cm high; 2nd F3 = Second rotation forestry plantation trees c 1m high; 2nd F4 = Second rotation forestry plantation trees > 2m high; F= Post thicket forestry

VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
1	11/03/16	Nil Sightings																	
1	15/03/16	Nil Sightings																	
2	15/03/16	Nil Sightings																	
2	21/03/16	Nil Sightings																	
3	11/03/16	Nil Sightings																	
3	13/03/16	Nil Sightings																	
4	12/03/16	Nil Sightings																	
4	21/03/16	Hen Harrier	M	13:40														F	30
4	21/03/16	Hen Harrier	F	13:50															300
5	12/03/16	Nil Sightings																	
5	13/03/16	Nil Sightings																	
6	12/03/16	Nil Sightings																	
6	21/03/16	Hen Harrier	M	11:39		RG													558
6	21/03/16	Hen Harrier	M	11:48														F	240
6	21/03/16	Hen Harrier	M	11:48			HB												50

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VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
6	21/03/16	Hen Harrier	M	11:49			HB												20
6	21/03/16	Hen Harrier	F	11:49			HB												40
7	13/03/16	Nil Sightings																	
7	14/03/16	Nil Sightings																	
8	15/03/16	Hen Harrier	M	17:35		RG				CF									3
8	16/03/16	Hen Harrier	M	10:35		RG				CF									10
9	16/03/16	Hen Harrier	F	12:53				DE		CF									28
9	16/03/16	Hen Harrier	F	14:03		RG		DE											10
10	14/03/16	Hen Harrier	M	14:03			HB												30
11	15/03/16	Nil Sightings																	
12	14/03/16	Hen Harrier	M	12:07						CF									13
12	14/03/16	Hen Harrier	F	12:07						CF									13
1	04/04/16	Hen Harrier	M	11:05							NF1								8
1	04/04/16	Hen Harrier	M	11:05				DE											20
1	04/04/16	Hen Harrier	M	11:05							NF1								10
1	04/04/16	Hen Harrier	M	11:05														F	10
1	21/04/16	Nil Sightings																	
2	07/04/16	Hen Harrier	M	08:53			HB											F	420
2	07/04/16	Hen Harrier	M	09:00			HB												2100
2	07/04/16	Hen Harrier	M	09:35			HB											F	1140
2	07/04/16	Hen Harrier	M	09:55		RG	HB											F	360

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VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
2	07/04/16	Hen Harrier	F+M	10:01			HB											F	240
2	07/04/16	Hen Harrier	F	10:05		RG	HB											F	180
2	09/04/16	Hen Harrier	F	15:10			HB											F	10
2	09/04/16	Hen Harrier	F	15:45														F	180
2	09/04/16	Hen Harrier	F	17:10		RG												F	270
3	08/04/16	Hen Harrier	F	10:05		RG	HB											F	180
3	04/04/16	Hen Harrier	M+2 F's	14:50														F	270
4	05/04/16	Hen Harrier	F	12:13			HB												20
4	05/04/16	Hen Harrier	F	13:47			HB												20
5	05/04/16	Hen Harrier	F	10:27			HB												2100
5	05/04/16	Hen Harrier	M	09:00			HB												1140
5	05/04/16	Hen Harrier	M	09:35			HB											F	40
5	05/04/16	Hen Harrier	M	09:55		RG	HB											F	360
5	17/04/16	Nil Sightings																	
6	06/04/16	Hen Harrier	F	10:50			HB												90
6	07/04/16	Hen Harrier	F+M	16:26			HB					NF2							120
6	07/04/16	Hen Harrier	M+M	16:46			HB												40
6	07/04/16	Hen Harrier	M+M	16:48														F	300
6	25/04/16	Hen Harrier	1 st y M	17:00			HB											F	1200
6	25/04/16	Hen Harrier	F	17:00			HB											F	120

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VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
6	25/04/16	Hen Harrier	F+ad M	18:10			HB											F	1800
6	25/04/16	Hen Harrier	2ad M's	18:40														F	30
7	07/04/16	Nil Sightings																	
7	25/04/16	Nil Sightings																	
8	06/04/16	Nil Sightings																	
9	06/04/16	Nil Sightings																	
9	07/04/16	Nil Sightings																	
10	17/04/16	Hen Harrier	3xM's	15:35														F	1200
10	25/04/16	Hen Harrier	M+F	13:30			HB											F	1800
11	05/04/16	Nil Sightings																	
12	04/04/16	Hen Harrier	M	12:15				DE										F	60
12	04/04/16	Hen Harrier	F	13:15														F	35
12	04/04/16	Hen Harrier	M	14:10														F	57
12	04/04/16	Hen Harrier	M	14:35														F	3
12	04/04/16	Hen Harrier	M	16:20														F	20
1	06/05/16	Nil Sightings																	
1	10/05/16	Nil Sightings																	
2	06/05/16	Hen Harrier	F	09:05			HB											F	45
2	06/05/16	Hen Harrier	M	09:05			HB											F	60
2	18/05/16	Hen Harrier	M	12:45			HB											F	130

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VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
3	04/05/16	Nil Sightings																	
3	06/05/16	Nil Sightings																	
4	04/05/16	Nil Sightings																	
4	19/05/16	Nil Sightings																	
5	04/05/16	Hen Harrier	M	14:05			HB												15
5	12/05/16	Hen Harrier	M	10:05		RG													13
6	05/05/16	Hen Harrier	F	15:30														F	250
6	13/05/16	Hen Harrier	M	13:25			HB											F	1020
6	13/05/16	Hen Harrier	M	13:25			HB											F	1500
7	05/05/16	Nil Sightings																	
7	19/05/16	Nil Sightings																	
8	20/05/16	Hen Harrier	M	13:40	G														6
9	13/05/16	Hen Harrier	F	10:55		RG		DE											20
9	13/05/16	Hen Harrier	F	15:03		RG		DE											187
10	05/05/16	Hen Harrier	M	08:10														F	180
10	05/05/16	Hen Harrier	F	09:05														F	70
10	05/05/16	Hen Harrier	M	10:15			HB												20
10	05/05/16	Hen Harrier	F	10:20														F	600
10	13/05/16	Hen Harrier	M	09:36														F	660
10	13/05/16	Hen Harrier	M	09:40														F	500
11	09/05/16	Nil Sightings																	

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VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
12	11/05/16	Nil Sightings																	
1	07/06/16	Nil Sightings																	
1	09/06/16	Hen Harrier	M	11:15				DE											14
2	09/06/16	Hen Harrier	M	17:15			HB											F	55
2	09/06/16	Hen Harrier	F	17:15			HB											F	30
2	15/06/16	Hen Harrier	M	08:40			HB												20
2	15/06/16	Hen Harrier	F	08:40			HB												30
2	15/06/16	Hen Harrier	M	10:15			HB												30
2	15/06/16	Hen Harrier	F	10:15			HB												30
3	07/06/16	Nil Sightings																	
3	15/06/16	Hen Harrier	M	13:25			HB												175
4	08/06/16	Hen Harrier	M	11:05			HB												20
4	13/06/16	Hen Harrier	M	16:10			HB												30
5	03/06/16	Nil Sightings																	
5	13/06/16	Hen Harrier	M	11:20			HB												25
6	11/06/16	Nil Sightings																	
6	13/06/16	Hen Harrier	M	14:30			HB											F	30
6	13/06/16	Hen Harrier	F	14:30			HB											F	20
7	03/06/16	Nil Sightings																	
7	08/06/16	Nil Sightings																	
8	10/06/16	Hen Harrier	M	11:18	G	RG													21

VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/ F2	2nd F3	2nd F4	F	Duration (s)
9	03/06/16	Nil Sightings																	
10	11/06/16	Hen Harrier	M	14:30														F	15
10	11/06/16	Hen Harrier	M	15:50			HB												45
10	17/06/16	Hen Harrier	F	10:55														F	10
11	09/06/16	Nil Sightings																	
12	08/06/16	Hen Harrier	M	10:05														F	4
12	08/06/16	Hen Harrier	M	12:20														F	11
12	08/06/16	Hen Harrier	M	13:55														F	476

Table 19: Details of UWF Grid Connection Hen Harrier behaviour which the birds were exhibiting during each observation and associated notes for vantage point surveys undertaken during the breeding season in 2016

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
1	11/03/16	Nil Sightings										
1	15/03/16	Nil Sightings										
2	15/03/16	Nil Sightings										
2	21/03/16	Nil Sightings										
3	11/03/16	Nil Sightings										
3	13/03/16	Nil Sightings										
4	12/03/16	Nil Sightings										
4	21/03/16	Hen Harrier	M			DI					30	1x male and 1x female HH over traditional nest site
4	21/03/16	Hen Harrier	F	S							300	
5	12/03/16	Nil Sightings										
5	13/03/16	Nil Sightings										
6	12/03/16	Nil Sightings										
6	21/03/16	Hen Harrier	M				H				558	1x male and 1 x female HH circling together.
6	21/03/16	Hen Harrier	M					FL			240	
6	21/03/16	Hen Harrier	M				H				50	
6	21/03/16	Hen Harrier	M		C						20	
6	21/03/16	Hen Harrier	F		C						40	
7	13/03/16	Nil Sightings										
7	14/03/16	Nil Sightings										

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
8	15/03/16	Hen Harrier	M					FI			3	1x male HH seen at 17:35 flying over RG and CF
8	16/03/16	Hen Harrier	M					FI			10	1x male HH seen at 10:35 flying over RG and gorse
9	16/03/16	Hen Harrier	F					FI			28	1x female HH seen at 12:53 flying over CF & DE,
9	16/03/16	Hen Harrier	F					FI			10	
10	14/03/16	Hen Harrier	M	S							30	2 Golden Plover
11	15/03/16	Nil Sightings										
12	14/03/16	Hen Harrier	M		C						13	1x male HH and 1x female HH seen at 12:07 circling each other high over CF
12	14/03/16	Hen Harrier	F		C						13	
1	04/04/16	Hen Harrier	M				H				8	
1	04/04/16	Hen Harrier	M				H				20	
1	04/04/16	Hen Harrier	M				H				10	
1	04/04/16	Hen Harrier	M				H				10	
1	21/04/16	Nil Sightings										
2	07/04/16	Hen Harrier	M		C						420	1x male and 1 x female HH over traditional nest site
2	07/04/16	Hen Harrier	M						P		2100	
2	07/04/16	Hen Harrier	M			DI					1140	
2	07/04/16	Hen Harrier	M			DI					360	
2	07/04/16	Hen Harrier	F+M		C						240	
2	07/04/16	Hen Harrier	F	S							180	

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
2	09/04/16	Hen Harrier	F	S							10	
2	09/04/16	Hen Harrier	F		C						180	
2	09/04/16	Hen Harrier	F	S							270	
3	08/04/16	Hen Harrier	F	S							180	
3	04/04/16	Hen Harrier	M+2F's	S							270	1x male and 1 x female HH over traditional nest site
4	05/04/16	Hen Harrier	F		C						20	
4	05/04/16	Hen Harrier	F				H				20	
5	05/04/16	Hen Harrier	F				H				2100	
5	05/04/16	Hen Harrier	M						P		1140	
5	05/04/16	Hen Harrier	M			DI					40	
5	05/04/16	Hen Harrier	M			DI					360	
5	17/04/16	Nil Sightings										
6	06/04/16	Hen Harrier	F				H				90	
6	07/04/16	Hen Harrier	F+M		C						120	1x male and 1 x female HH courting over suitable nesting habitat
6	07/04/16	Hen Harrier	M+M	S							40	
6	07/04/16	Hen Harrier	M+M	S							300	
6	25/04/16	Hen Harrier	1 st y M			DI					1200	1x male HH (Ringtail) skydancing
6	25/04/16	Hen Harrier	F		C						120	
6	25/04/16	Hen Harrier	F+ad M	S	C			FL			1800	

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
6	25/04/16	Hen Harrier	2ad M's	S				FL			30	
7	07/04/16	Nil Sightings										
7	25/04/16	Nil Sightings										
8	06/04/16	Nil Sightings										
9	06/04/16	Nil Sightings										
9	07/04/16	Nil Sightings										
10	17/04/16	Hen Harrier	3xM's	S				FL			1200	
10	25/04/16	Hen Harrier	M+F	S	C	DI		FL			1800	1x male and 1x female HH courting over suitable nesting habitat
11	05/04/16	Nil Sightings										
12	04/04/16	Hen Harrier	M	S							60	1x male HH soaring both in a S-N and N-S directions.
12	04/04/16	Hen Harrier	F					FL			35	1x female HH flying over forestry in an East-West direction landing into forestry.
12	04/04/16	Hen Harrier	M					FL	P		57	1x male HH flying in an E-W direction over forestry and then perches in forestry.
12	04/04/16	Hen Harrier	M					FL			3	1x male HH flying in an E-W direction over forestry
12	04/04/16	Hen Harrier	M					FL			20	1x male HH flying in an E-W direction over forestry
1	06/05/16	Nil Sightings										
1	10/05/16	Nil Sightings										
2	06/05/16	Hen Harrier	F					FL	P		45	
2	06/05/16	Hen Harrier	M					FL	P		60	

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
2	18/05/16	Hen Harrier	M	S			H	FL			130	
3	04/05/16	Nil Sightings										
3	06/05/16	Nil Sightings										
4	04/05/16	Nil Sightings										
4	19/05/16	Nil Sightings										
5	04/05/16	Hen Harrier	M				H				15	
5	12/05/16	Hen Harrier	M				H				13	
6	05/05/16	Hen Harrier	F	S							250	
6	13/05/16	Hen Harrier	M		C			FL			1020	1x adult male HH
6	13/05/16	Hen Harrier	M		C			FL			1500	1 st year male HH; ringtail
7	05/05/16	Nil Sightings										
7	19/05/16	Nil Sightings										
8	20/05/16	Hen Harrier	M					FL			6	
9	13/05/16	Hen Harrier	F	S							20	
9	13/05/16	Hen Harrier	F	S				FL			187	
10	05/05/16	Hen Harrier	M		C	DI					180	
10	05/05/16	Hen Harrier	F		C						70	
10	05/05/16	Hen Harrier	M				H				20	
10	05/05/16	Hen Harrier	F		C						600	
10	13/05/16	Hen Harrier	M	S		DI		FL			660	2 adult male HH together
10	13/05/16	Hen Harrier	M	S				FL			500	

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
11	09/05/16	Nil Sightings										
12	11/05/16	Nil Sightings										
1	07/06/16	Nil Sightings										
1	09/06/16	Hen Harrier	M				H				14	
2	09/06/16	Hen Harrier	M					FL			55	1x female and male HH together, no food pass seen
2	09/06/16	Hen Harrier	F					FL			30	
2	15/06/16	Hen Harrier	M					FL		FP	20	
2	15/06/16	Hen Harrier	F					FL		FP	30	
2	15/06/16	Hen Harrier	M					FL		FP	30	Food pass
2	15/06/16	Hen Harrier	F					FL		FP	30	Food pass
3	07/06/16	Nil Sightings										Food pass
3	15/06/16	Hen Harrier	M				H				175	Food pass
4	08/06/16	Hen Harrier	M				H				20	
4	13/06/16	Hen Harrier	M				H				30	
5	03/06/16	Nil Sightings										
5	13/06/16	Hen Harrier	M				H				25	Begging calls from female HH heard
6	11/06/16	Nil Sightings										
6	13/06/16	Hen Harrier	M					FL		FP	30	Food pass
6	13/06/16	Hen Harrier	F					FL		FP	20	Food pass
7	03/06/16	Nil Sightings										

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
7	08/06/16	Nil Sightings										
8	10/06/16	Hen Harrier	M				H				21	1x male HH flew low from N-S hunting over RG and grazing
9	03/06/16	Nil Sightings										
10	11/06/16	Hen Harrier	M					FL			15	1x male HH carrying prey into dead ground food pass not seen
10	11/06/16	Hen Harrier	M				H				45	
10	17/06/16	Hen Harrier	F					FL		FP	10	Begging calls from female HH heard
11	09/06/16	Nil Sightings										
12	08/06/16	Hen Harrier	M		C			FL			4	1x male HH, 3 sightings. Possible Food pass
12	08/06/16	Hen Harrier	M					FL			11	
12	08/06/16	Hen Harrier	M	S				FL			476	

AA6.2.3 Hen Harrier Surveys – Non-Breeding Season 2016/2017

Table 20: Details of UWF Grid Connection Hen Harrier sightings and the habitats over which the birds were observed from vantage point surveys undertaken during the non - breeding season in 2016/17

G = Grazing; RG = Rough Grazing; HB = Heath or bog; DE = Deciduous woodland or scrub; GO = Gorse; CF = Clear fell; NF2 = New forestry plantation trees 20-30cm high; NF3 = New forestry plantation trees c 1m high; NF4 = New forestry plantation trees > 2m high; 2nd F1/F2 = Second rotation forestry plantation trees 20-30cm high; 2nd F3 = Second rotation forestry plantation trees c 1m high; 2nd F4 = Second rotation forestry plantation trees > 2m high; F= Post thicket forestry

VP ID	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF 1	NF 2	NF 3	NF 4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
1	13/09/16	Nil Sightings																	
10	13/09/16	Hen Harrier	Male	19:09			X												30
10	13/09/16	Hen Harrier	Male	19:15														X	10
4	14/09/16	Hen Harrier	Male	08:00			X												15
3	15/09/16	Hen Harrier	Juvenile	19:35		X													20
5	16/09/16	Nil Sightings																	
6	16/09/16	Hen Harrier	Juvenile	19:32			X												60
6	16/09/16	Hen Harrier	Male	19:38			X												30
2	17/09/16	Hen Harrier	Male	08:16			X												80
2	17/09/16	Nil Sightings																	
10	18/09/16	Hen Harrier	Immature Male	07:31			X												20
5	18/09/16	Nil Sightings																	
6	19/09/16	Hen Harrier	Juvenile	07:13			X												10
1	19/09/16	Nil Sightings																	
3	20/09/16	Hen Harrier	Juvenile	07:10		X	X												15

VP ID	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF 1	NF 2	NF 3	NF 4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
4	20/09/16	Hen Harrier	Male	18:28			X												70
4	20/09/16	Hen Harrier	Juvenile	19:28		X													20
12	20/09/16	Nil Sightings																	
12	20/09/16	Nil Sightings																	
11	21/09/16	Nil Sightings																	
11	21/09/16	Nil Sightings																	
7	22/09/16	Nil Sightings																	
7	22/09/16	Nil Sightings																	
8	27/09/16	Nil Sightings																	
8	27/09/16	Nil Sightings																	
9	28/09/16	Nil Sightings																	
9	28/09/16	Hen Harrier	Male	17:25		X													60
1	15/10/16	Nil Sightings																	
10	15/10/16	Hen Harrier	Male	17:45			X												20
10	15/10/16	Hen Harrier	Male	17:45			X												2820
10	15/10/16	Hen Harrier	Male	18:32			X												10
5	16/10/16	Nil Sightings																	
2	16/10/16	Nil Sightings																	
7	17/10/16	Nil Sightings																	
4	18/10/16	Nil Sightings																	
3	18/10/16	Nil Sightings																	

VP ID	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF 1	NF 2	NF 3	NF 4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
6	19/10/16	Nil Sightings																	
1	20/10/16	Nil Sightings																	
6	20/10/16	Hen Harrier	Male	18:44			X												30
7	21/10/16	Nil Sightings																	
5	21/10/16	Nil Sightings																	
4	22/10/16	Nil Sightings																	
10	24/10/16	Hen Harrier	Female	08:15			X												25
10	24/10/16	Hen Harrier	Male	08:17			X												40
10	24/10/16	Hen Harrier	Male	08:30			X												30
11	24/10/16	Hen Harrier	Male	16:29			X												10
11	24/10/16	Hen Harrier	Male	18:32			X												13
3	25/10/16	Nil Sightings																	
11	25/10/16	Nil Sightings																	
12	25/10/16	Nil Sightings																	
12	26/10/16	Nil Sightings																	
8	26/10/16	Nil Sightings																	
8	27/10/16	Hen Harrier	Male	09:50		X													13
9	27/10/16	Nil Sightings																	
9	28/10/16	Nil Sightings																	
2	29/10/16	Nil Sightings																	
9	20/11/16	Nil Sightings																	

VP ID	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF 1	NF 2	NF 3	NF 4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
5	21/11/16	Nil Sightings																	
6	21/11/16	Hen Harrier	Juvenile	16:18		X													40
8	22/11/16	Nil Sightings																	
3	22/11/16	Nil Sightings																	
9	23/11/16	Nil Sightings																	
4	23/11/16	Hen Harrier	Juvenile	15:20			X												10
6	24/11/16	Nil Sightings																	
8	25/11/16	Nil Sightings																	
4	28/11/16	Nil Sightings																	
5	28/11/16	Hen Harrier	Immature Male	15:09		X													360
1	28/11/16	Nil Sightings																	
1	28/11/16	Nil Sightings																	
12	28/11/16	Nil Sightings																	
12	28/11/16	Nil Sightings																	
2	29/11/16	Nil Sightings																	
2	29/11/16	Hen Harrier	Female	16:51		X	X												20
11	29/11/16	Nil Sightings																	
11	29/11/16	Hen Harrier	Female	16:24			X												12
11	29/11/16	Hen Harrier	Male	16:47			X												947
11	29/11/16	Hen Harrier	Male	16:52			X												11

VP ID	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF 1	NF 2	NF 3	NF 4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
3	30/11/16	Nil Sightings																	
7	30/11/16	Nil Sightings																	
7	30/11/16	Nil Sightings																	
10	30/11/16	Nil Sightings																	
10	30/11/16	Nil Sightings																	
2	15/12/16	Nil Sightings																	
2	15/12/16	Nil Sightings																	
12	16/12/16	Nil Sightings																	
5	16/12/16	Nil Sightings																	
11	19/12/16	Nil Sightings																	
6	19/12/16	Hen Harrier	Immature Female	16:08	X	X													20
6	20/12/16	Hen Harrier	Male	09:02	X	X												X	36
12	20/12/16	Nil Sightings																	
5	21/12/16	Nil Sightings																	
10	21/12/16	Nil Sightings																	
10	22/12/16	Nil Sightings																	
11	22/12/16	Hen Harrier	Male	16:00			X											X	642
11	22/12/16	Hen Harrier	Male	16:15			X											X	212
11	22/12/16	Hen Harrier	Female	16:21			X												7
	23/12/16	Hen Harrier	Male	14:10															

VP ID	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF 1	NF 2	NF 3	NF 4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
11	17/01/17	Hen Harrier	Male	08:55		X												X	18
11	17/01/17	Hen Harrier	Male	17:03			X												15
12	18/01/17	Nil Sightings																	
5	18/01/17	Nil Sightings																	
5	19/01/17	Nil Sightings																	
12	19/01/17	Nil Sightings																	
6	25/01/17	Nil Sightings																	
10	25/01/17	Nil Sightings																	
10	27/01/17	Nil Sightings																	
3	27/01/17	Nil Sightings																	
2	29/01/17	Nil Sightings																	
2	29/01/17	Nil Sightings																	
3	31/01/17	Nil Sightings																	
6	31/01/17	Nil Sightings																	
11	08/02/17	Hen Harrier	Male	17:25			X												14
11	08/02/17	Hen Harrier	Male	17:40			X												5
12	09/02/17	Nil Sightings																	
2	10/02/17	Hen Harrier	Male	10:10			X												15
5	10/02/17	Nil Sightings																	
6	11/02/17	Nil Sightings																	
3	12/02/17	Hen Harrier	Male	15:20		X													12

VP ID	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF 1	NF 2	NF 3	NF 4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
3	12/02/17	Hen Harrier	Male	15:35			X												10
3	12/02/17	Hen Harrier	Male	17:10			X												10
5	13/02/17	Nil Sightings																	
10	14/02/17	Hen Harrier	Male	16:00			X												6
10	14/02/17	Hen Harrier	Male	17:30			X												8
10	14/02/17	Hen Harrier	Ringtail	17:45														X	20
3	15/02/17	Nil Sightings																	
11	16/02/17	Hen Harrier	Ringtail	07:34			X												5
11	16/02/17	Hen Harrier	Male	07:34		X	X											X	30
6	16/02/17	Nil Sightings																	
12	22/02/17	Nil Sightings																	
2	23/02/17	Nil Sightings																	
10	24/02/17	Nil Sightings																	

Table 21: Details of UWF Grid Connection Hen Harrier behaviour which the birds were exhibiting during each observation and associated notes for vantage point surveys undertaken during the non - breeding season in 2016/17

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
1	13/09/16	Nil Sightings										
6	13/07/2017	Nil Sightings										
7	14/07/2017	Nil Sightings										
8	12/07/2017	Hen Harrier	Male	13:57:00		X						
10	18/07/2017	Hen Harrier	Female	12:07:00			X				210	
10	18/07/2017	Hen Harrier	Female	12:30:00			X				90	
10	18/07/2017	Hen Harrier	Female	12:36:00			X				80	
10	18/07/2017	Hen Harrier	Female	13:04:00			X				210	
10	18/07/2017	Hen Harrier	Male	13:25:00			X				120	
10	18/07/2017	Hen Harrier	Male	13:49:00			X				480	
10	18/07/2017	Hen Harrier	Female	13:56:00			X				70	
10	18/07/2017	Hen Harrier	Female	13:58:00			X				50	
10	18/07/2017	Hen Harrier	Female	14:56:00			X				50	
10	18/07/2017	Hen Harrier	Male	16:18:00			X				240	
10	18/07/2017	Hen Harrier	Male	16:49:00			X				155	
10	18/07/2017	Hen Harrier	Female	16:52:00			X				130	
10	18/07/2017	Hen Harrier	Female	17:03:00			X				410	
10	18/07/2017	Hen Harrier	Male	17:19:00			X				90	
10	18/07/2017	Hen Harrier	Female	17:25:00			X				300	
10	18/07/2017	Hen Harrier	Male	17:48:00		80	180				260	

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
10	18/07/2017	Hen Harrier	Female	18:00:00			X				320	
10	18/07/2017	Hen Harrier	Female	18:17:00			X				130	
11	20/07/2017	Hen Harrier	Male	16:13:00			X				25	
11	20/07/2017	Hen Harrier	Male	16:54:00			120	10			140	
11	24/07/2017	Hen Harrier	Female	18:42:00			X				90	
11	24/07/2017	Hen Harrier	Female	19:06:00			X				40	
2	07/08/2017	Nil Sightings										
3	08/08/2017	Nil Sightings										
10	13/09/16	Hen Harrier	Male				X				30	1x male HH hunting over bog habitat
10	13/09/16	Hen Harrier	Male					X			10	1x male HH flying over forestry east towards Bealaclave.
4	14/09/16	Hen Harrier	Male				X				15	1x male HH hunting over bog habitat
3	15/09/16	Hen Harrier	Juvenile					X			20	1x HH (Ringtail – prob. juv. Male) flying, lost from view
5	16/09/16	Nil Sightings										
6	16/09/16	Hen Harrier	Juvenile					X			60	1x HH (Ringtail) circling around then flying north to north slope of Mauherslieve
6	16/09/16	Hen Harrier	Male					X			30	1x male HH flying similar flight to previous bird then circling north slope of Mauherslieve
2	17/09/16	Hen Harrier	Male				X				80	1x male HH hunting
2	17/09/16	Nil Sightings										18 Golden Plover

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
10	18/09/16	Hen Harrier	Immature Male				X				20	1x male HH hunting over bog habitat
5	18/09/16	Nil Sightings										
6	19/09/16	Hen Harrier	Juvenile					X			10	1x female HH seen briefly over roost area
1	19/09/16	Nil Sightings										
3	20/09/16	Hen Harrier	Juvenile					X			15	1x female HH seen briefly over roost area
4	20/09/16	Hen Harrier	Male		X						70	1x male HH circling over bog habitat
4	20/09/16	Hen Harrier	Juvenile					X			20	1x HH (Ringtail) flying direct line toward roost. South of Mauherslieve
12	20/09/16	Nil Sightings										
12	20/09/16	Nil Sightings										
11	21/09/16	Nil Sightings										
11	21/09/16	Nil Sightings										
7	22/09/16	Nil Sightings										
7	22/09/16	Nil Sightings										
8	27/09/16	Nil Sightings										
8	27/09/16	Nil Sightings										
9	28/09/16	Nil Sightings										
9	28/09/16	Hen Harrier	Male				X				60	1x male HH came from the N hunting over rough grassland and then headed in a southerly direction.
1	15/10/16	Nil Sightings										

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
10	15/10/16	Hen Harrier	Male				X				20	1x male HH hunting then perched on tussock for 45 mins then flying west into dead ground at 18:32hrs .
10	15/10/16	Hen Harrier	Male					X			2820	
10	15/10/16	Hen Harrier	Male					X			10	
5	16/10/16	Nil Sightings										
2	16/10/16	Nil Sightings										
7	17/10/16	Nil Sightings										
4	18/10/16	Nil Sightings										
3	18/10/16	Nil Sightings										
6	19/10/16	Nil Sightings										
1	20/10/16	Nil Sightings										
6	20/10/16	Hen Harrier	Male					X			30	1x male HH landing on ground twice eventually settling to roost at 18:44 hrs
7	21/10/16	Nil Sightings										
5	21/10/16	Nil Sightings										
4	22/10/16	Nil Sightings										
10	24/10/16	Hen Harrier	Female				X				25	1x HH (Ringtail - probably female) hunting 08:15 hrs coming from west.
10	24/10/16	Hen Harrier	Male				X				40	1x HH (Sub ad M) hunting coming from west.
10	24/10/16	Hen Harrier	Male				X				30	1x male HH hunting coming from west.
11	24/10/16	Hen Harrier	Male				X				10	1x male HH hunting over HB, flying in an E-W direction.

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
11	24/10/16	Hen Harrier	Male					X			13	1x male HH flying E-W over HB habitat and landing into heather 18:30.
3	25/10/16	Nil Sightings										
11	25/10/16	Nil Sightings										
12	25/10/16	Nil Sightings										
12	26/10/16	Nil Sightings										
8	26/10/16	Nil Sightings										
8	27/10/16	Hen Harrier	Male				X				13	1x male HH hunting over rough grassland flying in an E-W and then flew N, disappeared from view.
9	27/10/16	Nil Sightings										
9	28/10/16	Nil Sightings										
2	29/10/16	Nil Sightings										8 Golden Plover flying around top of Mauherslieve 18:20h
9	20/11/16	Nil Sightings										
5	21/11/16	Nil Sightings										7 Golden Plover flying around
6	21/11/16	Hen Harrier	Juvenile					X			40	1x HH (Ringtail -prob. male), flying north
8	22/11/16	Nil Sightings										
3	22/11/16	Nil Sightings										
9	23/11/16	Nil Sightings										
4	23/11/16	Hen Harrier	Juvenile				X				10	9 Golden Plover flying around
6	24/11/16	Nil Sightings										
8	25/11/16	Nil Sightings										

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
4	28/11/16	Nil Sightings										20 Golden Plover on rough grassland.
5	28/11/16	Hen Harrier	Immature Male				X				360	1x HH (Sub ad Male) hunting on RG for 6 minutes, 2 strikes on prey and then perched on fieldbank for 2 minutes.
1	28/11/16	Nil Sightings										
1	28/11/16	Nil Sightings										
12	28/11/16	Nil Sightings										
12	28/11/16	Nil Sightings										
2	29/11/16	Nil Sightings										
2	29/11/16	Hen Harrier	Female					X			20	1x female HH flew east over VP
11	29/11/16	Nil Sightings										
11	29/11/16	Hen Harrier	Female					X			12	1x female HH flew in from south low over bog, circled briefly and quickly dropped into heather
11	29/11/16	Hen Harrier	Male					X			947	1x male HH flew in from the south over bog, flying for 16 seconds and perched on fence post at edge of forestry. Perched on the post for 8 min 20 secs before flying a short distance onto a tree in the bog. Perched here for a further 5 mins 20 secs. Flew from tree and over bog for 78 seconds before perching briefly on the ground (22 seconds). Took off from ground and flew up towards area where female roosted and dropped into heather and out of sight

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
11	29/11/16	Hen Harrier	Male					X			11	1x male HH flew in from the south, flying low over bog, circled briefly before landing into heather.
3	30/11/16	Nil Sightings										
7	30/11/16	Nil Sightings										
7	30/11/16	Nil Sightings										
10	30/11/16	Nil Sightings										
10	30/11/16	Nil Sightings										
2	15/12/16	Nil Sightings										
2	15/12/16	Nil Sightings										
12	16/12/16	Nil Sightings										
5	16/12/16	Nil Sightings										
11	19/12/16	Nil Sightings										
6	19/12/16	Hen Harrier	Immature Female					X			20	1x HH (Imm. Female) flying from south to north in front of VP6, flying low over grassland and rough grassland and disappeared behind hill to north of VP. Possibly heading to a roost. C. 20 Golden Plover feeding in improved grassland field to north of the VP6.
6	20/12/16	Hen Harrier	Male				X				36	1x male HH came from the north over rough grassland and forestry, lifted the field full of JD and RO and flew over VP6 and headed south behind VP6.
12	20/12/16	Nil Sightings										
5	21/12/16	Nil Sightings										

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
10	21/12/16	Nil Sightings										
10	22/12/16	Nil Sightings										8 x Golden Plover flying over HB in a S-N direction.
11	22/12/16	Hen Harrier	Male					X	X		642	1x male HH; first male flew from the forestry to east of bog habitat, perched on a fence post on the bog habitat for around 630 seconds and then went to roost after the second male went to roost in a clump of heather on the bog.
11	22/12/16	Hen Harrier	Male					X	X		212	1x male HH; second male joined the first male on the fence post coming from the forestry to the east of the vp. Perched there for approx. 200 seconds and was the first to head to roost on the bog.
11	22/12/16	Hen Harrier	Female					X			7	1x female HH came from the west over the bog habitat and went straight into a roost near to the 2x male HH.
	23/12/16	Hen Harrier	Male									1x male HH flew from Knockmaroe towards Knocknabansha and then headed west towards Knockduff. He was flying over improved grassland and headed towards mature forestry on Knockduff.
11	17/01/17	Hen Harrier	Male					X			18	1x male HH flying east over mature forestry and then looped back and headed west over rough grassland and over the mature forestry again and disappeared behind forestry and out of sight.
11	17/01/17	Hen Harrier	Male					X			15	1x male HH flew east over hill across heath and then looped back over the hill and headed west. Possibly heading

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
												to roost but was disturbed by presence of three fallow deer.
12	18/01/17	Nil Sightings										
5	18/01/17	Nil Sightings										
5	19/01/17	Nil Sightings										
12	19/01/17	Nil Sightings										
6	25/01/17	Nil Sightings										
10	25/01/17	Nil Sightings										
10	27/01/17	Nil Sightings										
3	27/01/17	Nil Sightings										
2	29/01/17	Nil Sightings										
2	29/01/17	Nil Sightings										
3	31/01/17	Nil Sightings										
6	31/01/17	Nil Sightings										
11	08/02/17	Hen Harrier	Male				X				14	1x male HH hunting around roost at dusk
11	08/02/17	Hen Harrier	Male				X				5	
12	09/02/17	Nil Sightings										
2	10/02/17	Hen Harrier	Male				X				15	
5	10/02/17	Nil Sightings										
6	11/02/17	Nil Sightings										
3	12/02/17	Hen Harrier	Male				X				12	
3	12/02/17	Hen Harrier	Male				X				10	

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
3	12/02/17	Hen Harrier	Male				X				10	
5	13/02/17	Nil Sightings										
10	14/02/17	Hen Harrier	Male				X				6	
10	14/02/17	Hen Harrier	Male				X				8	
10	14/02/17	Hen Harrier	Ringtail					X			20	1x male HH and 1x HH (Ringtail – prob. male) near roost at dusk
3	15/02/17	Nil Sightings										
11	16/02/17	Hen Harrier	Ringtail					X			5	1x HH (Ringtail) leaving roost
11	16/02/17	Hen Harrier	Male					X			30	1x male HH flying from roost toward Keeper Hill.
6	16/02/17	Nil Sightings										
12	22/02/17	Nil Sightings										
2	23/02/17	Nil Sightings										
10	24/02/17	Nil Sightings										

AA62.4 Hen Harrier Surveys –Breeding Season 2017

Table 22: Details of UWF Grid Connection Hen Harrier sightings and the habitats over which the birds were observed from vantage point surveys undertaken during the breeding season in 2017

G = Grazing; RG = Rough Grazing; HB = Heath or bog; DE = Deciduous woodland or scrub; GO = Gorse; CF = Clear fell; NF2 = New forestry plantation trees 20-30cm high; NF3 = New forestry plantation trees c 1m high; NF4 = New forestry plantation trees > 2m high; 2nd F1/F2 = Second rotation forestry plantation trees 20-30cm high; 2nd F3 = Second rotation forestry plantation trees c 1m high; 2nd F4 = Second rotation forestry plantation trees > 2m high; F= Post thicket forestry

VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
3	12/03/17	Nil Sightings																	
9	13/03/17	Nil Sightings																	
12	13/03/17	Nil Sightings																	
12	14/03/17	Nil Sightings																	
11	14/03/17	Nil Sightings																	
12	14/03/17	Nil Sightings																	
3	14/03/17	Hen Harrier	Male	15:37			X												130
3	14/03/17	Hen Harrier	Female	15:37			X												280
11	15/03/17	Nil Sightings																	
10	15/03/17	Nil Sightings																	
1	15/03/17	Nil Sightings																	
8	16/03/17	Hen Harrier	Male	12:20		X												X	88
8	16/03/17	Hen Harrier	Male	15:29		X													37

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VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/ F2	2nd F3	2nd F4	F	Duration (s)
5	16/03/17	Nil Sightings																	
5	21/03/17	Nil Sightings																	
6	21/03/17	Hen Harrier	Male	16:28		X													7
6	21/03/17	Hen Harrier	Male	16:44	X	X												X	162
6	22/03/17	Nil Sightings																	
10	22/03/17	Nil Sightings																	
7	23/03/17	Nil Sightings																	
2	24/03/17	Hen Harrier	Male	09:54			X					X							90
4	24/03/17	Nil Sightings																	
2	27/03/17	Hen Harrier	Male	09:55								X							35
2	27/03/17	Hen Harrier	Female	09:55								X							35
3	05/04/17	Nil Sightings																	
8	05/04/17	Nil Sightings																	
2	06/04/17	Hen Harrier	Female	08:05			X											X	270
2	06/04/17	Hen Harrier	Male	08:05			X											X	510
10	08/04/17	Hen Harrier	Male	12:15			X											X	190
10	08/04/17	Hen Harrier	Male	15:00			X											X	30
7	09/04/17	Nil Sightings																	

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VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
4	09/04/17	Nil Sightings																	
1	10/04/17	Nil Sightings																	
5	10/04/17	Hen Harrier	Male	12:59			X												450
5	10/04/17	Hen Harrier	Female	13:05			X												300
5	10/04/17	Hen Harrier	Male	13:13			X												10
5	10/04/17	Hen Harrier	Female	13:13			X												10
5	10/04/17	Hen Harrier	Male	14:16			X												50
5	10/04/17	Hen Harrier	Female	14:20			X												2400
7	10/04/17	Hen Harrier	Male	15:30		X													10
2	11/04/17	Hen Harrier	Male	08:00		X	X											X	761
1	12/04/17	Nil Sightings																	
6	12/04/17	Hen Harrier	Male	11:47			X												30
6	12/04/17	Hen Harrier	Male	13:05			X					X							1957
6	12/04/17	Hen Harrier	Male	13:26								X							430
3	17/04/17	Nil Sightings																	
5	17/04/17	Hen Harrier	Male	14:45			X												17
8	18/04/17	Hen Harrier	Male	08:00			X											X	900
8	18/04/17	Hen Harrier	Female	08:00			X											X	800
9	18/04/17	Nil Sightings																	

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VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
6	19/04/17	Hen Harrier	Female	11:13			x											x	720
6	19/04/17	Hen Harrier	Male	11:20			x											x	100
4	19/04/17	Nil Sightings																	
12	22/04/17	Hen Harrier	Male	08:48														X	70
12	22/04/17	Hen Harrier	Female	08:49														X	80
11	22/04/17	Hen Harrier	Female	13:00			X											x	80
11	22/04/17	Hen Harrier	Female	13:40			X												60
11	22/04/17	Hen Harrier	Female	13:40			X												60
11	22/04/17	Hen Harrier	Male	13:40			X											X	380
12	27/04/17	Hen Harrier	Male	12:05														X	270
12	27/04/17	Hen Harrier	Male	12:05														X	80
12	27/04/17	Hen Harrier	Female	12:05														X	340
11	27/04/17	Hen Harrier	Male	15:00				X											470
11	27/04/17	Hen Harrier	Male	15:15															135
1	05/05/17	Nil Sightings																	
2	05/05/17	Hen Harrier	Male	14:50			X											X	384
2	05/05/17	Hen Harrier	Female	14:50			X											X	50
2	05/05/17	Hen Harrier	Male	15:00			X												330
6	06/05/17	Hen Harrier	Male	15:45			X												504
6	06/05/17	Hen Harrier	Female	15:45			X												610

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VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
1	08/05/17	Nil Sightings																	
4	08/05/17	Hen Harrier	Male	10:12			X												108
3	08/05/17	Hen Harrier	Female	15:50			X												30
3	08/05/17	Hen Harrier	Male	16:20			X											X	135
5	09/05/17	Hen Harrier	Male	09:46			X												70
4	09/05/17	Nil Sightings																	
3	18/05/17	Nil Sightings																	
5	18/05/17	Nil Sightings																	
8	19/05/17	Hen Harrier	Male	11:09		X	X							X					314
8	19/05/17	Nil Sightings																	
2	20/05/17	Hen Harrier	Male	12:53			X											X	80
6	20/05/17	Hen Harrier	Male	16:17		X	X											X	60
6	20/05/17	Hen Harrier	Female	16:17			X											X	10
9	22/05/17	Hen Harrier	Male	11:36			X											X	169
9	22/05/17	Hen Harrier	Male	12:03														X	8
9	22/05/17	Hen Harrier	Male	12:39		X													151
9	22/05/17	Hen Harrier	Male	14:04														X	53
9	22/05/17	Hen Harrier	Male	15:05			X							X				X	130
	22/05/17	Hen Harrier	Male	17:56		X													15

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VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/ F2	2nd F3	2nd F4	F	Duration (s)
7	22/05/17	Nil Sightings																	
7	23/05/17	Nil Sightings																	
10	23/05/17	Hen Harrier	Male	12:18			X												18
10	23/05/17	Hen Harrier	Male	13:29			X											X	342
10	23/05/17	Hen Harrier	Male	13:33			X											X	189
10	23/05/17	Hen Harrier	Male	13:57			X							X					34
10	23/05/17	Hen Harrier	Male	13:59			X												28
10	23/05/17	Hen Harrier	Male	14:11			X												27
10	23/05/17	Hen Harrier	Male	14:12			X							X					192
10	23/05/17	Hen Harrier	Male	14:54			X							X					605
	23/05/17	Hen Harrier	Male	15:12			X											X	180
10	23/05/17	Hen Harrier	Male	15:37			X												540
10	23/05/17	Hen Harrier	Male	16:14			X												131
10	23/05/17	Hen Harrier	Male	16:25			X												680
10	23/05/17	Hen Harrier	Male	17:00			X							X				X	2145
10	23/05/17	Hen Harrier	Male	17:45			X							X				X	1080
10	23/05/17	Hen Harrier	Male	18:24			X												582
11	24/05/17	Hen Harrier	Male	11:05			X											X	35
11	24/05/17	Hen Harrier	Male	12:20														X	60
12	24/05/17	Hen Harrier	Male	15:55			X											X	80
12	24/05/17	Hen Harrier	Male	15:55			X											X	120

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VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
12	24/05/17	Hen Harrier	Female	15:55			X											X	40
7	24/05/17	Hen Harrier	Male	12:28		X												X	420
7	24/05/17	Hen Harrier	Male	12:50		X								X				X	185
11	26/05/17	Nil Sightings																	
12	26/05/17	Nil Sightings																	
1	16/06/17	Nil Sightings																	
3	16/06/17	Hen Harrier	Male	14:57		X													150
4	17/06/17	Nil Sightings																	
1	17/06/17	Nil Sightings																	
2	18/06/17	Hen Harrier	Male	09:10			X											X	2449
2	18/06/17	Hen Harrier	Male	12:21		X													40
4	19/06/17	Hen Harrier	Male	08:30			X												90
4	19/06/17	Hen Harrier	Male	10:55			X												20
10	19/06/17	Hen Harrier	Male	14:38			X												60
10	19/06/17	Hen Harrier	Female	14:38			X											X	200
10	19/06/17	Hen Harrier	Male	15:10			X												30
5	19/06/17	Hen Harrier	Male	10:50			X												17
5	19/06/17	Hen Harrier	Male	10:51			X												46
5	19/06/17	Hen Harrier	Female	11:53			X												23

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VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/ F2	2nd F3	2nd F4	F	Duration (s)
5	19/06/17	Hen Harrier	Female	12:08			X											X	64
5	19/06/17	Hen Harrier	Male	12:55			X												76
5	19/06/17	Hen Harrier	Male	13:00			X												16
5	19/06/17	Hen Harrier	Male	13:02			X												7
5	19/06/17	Hen Harrier	Male	13:08			X												169
5	19/06/17	Hen Harrier	Male	14:16		X	X											x	55
5	19/06/17	Hen Harrier	Male	14:22			X											X	470
5	19/06/17	Hen Harrier	Female	14:25			X												171
5	19/06/17	Hen Harrier	Male	14:57														X	27
5	19/06/17	Hen Harrier	Female	15:51			X												37
5	19/06/17	Hen Harrier	Male	15:51		X	X												42
5	19/06/17	Hen Harrier	Female	15:59			X												23
5	19/06/17	Hen Harrier	Female	16:04			X												28
5	19/06/17	Hen Harrier	Male	16:10		X	X												31
5	19/06/17	Hen Harrier	Female	16:11			X												135
2	20/06/17	Hen Harrier	Male	10:47			X											X	130
11	20/06/17	Hen Harrier	Male	10:47			X											X	118
11	20/06/17	Hen Harrier	Male	12:39														X	13
11	20/06/17	Hen Harrier	Male	12:42			X											X	47
10	21/06/17	Hen Harrier	Male	08:50			X												75
10	21/06/17	Hen Harrier	Female	09:15			X												15

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VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
10	21/06/17	Hen Harrier	Male	09:44			X												20
12	21/06/17	Nil Sightings																	
8	25/06/17	Hen Harrier	Male	16:18	X	X		X											344
8	25/06/17	Nil Sightings																	
6	26/06/17	Hen Harrier	Male	11:55		X													25
6	26/06/17	Hen Harrier	Male	12:02		X													21
6	26/06/17	Nil Sightings																	
7	26/06/17	Nil Sightings																	
9	27/06/17	Nil Sightings																	
9	27/06/17	Nil Sightings																	
7	28/06/17	Nil Sightings																	
7	28/06/17	Nil Sightings																	
1	14/07/17	Nil Sightings																	
3	14/07/17	Nil Sightings																	
3	16/07/17	Nil Sightings																	
5	16/07/17	Hen Harrier	Male	13:00			X												100
2	17/07/17	Hen Harrier	Male	07:17			X												1764

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VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
2	17/07/17	Hen Harrier	Female	09:14			X												131
4	17/07/17	Hen Harrier	Female	15:18			X											X	5
2	20/07/17	Nil Sightings																	
5	24/07/17	Hen Harrier	Male	07:47			X												30
5	24/07/17	Hen Harrier	Female	09:43			X												70
5	24/07/17	Hen Harrier	Female	10:26			X												30
1	04/08/2017	Nil Sightings																	
11	10/08/2017	Nil Sightings																	
12	10/08/2017	Nil Sightings																	
10	09/08/2017	Hen Harrier	Female	09:55			X												60
10	09/08/2017	Hen Harrier	Juvenile Female	09:55			X												10
10	09/08/2017	Hen Harrier	Female	11:40			X												130
10	09/08/2017	Hen Harrier	Juvenile Female	11:40			X												20
10	09/08/2017	Hen Harrier	Female	13:15			X												60
10	09/08/2017	Hen Harrier	Juvenile Female	13:15			X												180

VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
10	09/08/2017	Hen Harrier	Juvenile Female	14:10			X												250
6	09/08/2017	Nil Sightings																	
8	10/08/2017	Hen Harrier	Female	11:48														X	140
9	10/08/2017	Nil Sightings																	
7	11/08/2017	Nil Sightings																	
5	11/08/2017	Nil Sightings																	
4	15/08/2017	Nil Sightings																	
5	15/08/2017	Nil Sightings																	
6	15/08/2017	Nil Sightings																	
4	17/08/2017	Nil Sightings																	
8	17/08/17	Nil Sightings																	
9	17/08/17	Nil Sightings																	

Table 23: Details of UWF Grid Connection Hen Harrier behaviour which the birds were exhibiting during each observation and associated notes for vantage point surveys undertaken during the breeding season in 2017

VP Name	Date	Species	Sex	Time of sighting	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
3	12/03/17	Nil Sightings											
9	13/03/17	Nil Sightings											
12	13/03/17	Nil Sightings											
12	14/03/17	Nil Sightings											
11	14/03/17	Nil Sightings											c. 200 Golden Plover
12	14/03/17	Nil Sightings											
3	14/03/17	Hen Harrier	Male	15:37					X			130	1x male HH and 1x female HH flying together.
3	14/03/17	Hen Harrier	Female	15:37					X			280	
11	15/03/17	Nil Sightings											
10	15/03/17	Nil Sightings											
1	15/03/17	Nil Sightings											
8	16/03/17	Hen Harrier	Male	12:20		X			X			88	1x male HH flying N-S over RG, circled over RG to south of VP and then flew over mature forestry and out of sight.
8	16/03/17	Hen Harrier	Male	15:29				X	X			37	1x male HH flying S-N over RG, and went behind farmhouse and out of sight.
5	16/03/17	Nil Sightings											
5	21/03/17	Nil Sightings											

VP Name	Date	Species	Sex	Time of sighting	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
6	21/03/17	Hen Harrier	Male	16:28					X			7	1x male HH hunting over RG north of VP. c.50 Golden Plover.
6	21/03/17	Hen Harrier	Male	16:44		X	X		X			162	1x male HH flew E-W over RG, circled back, displaying over grassland and forestry north of VP, flew and circled over and behind VP, across the road up onto the RG field south of vp and lost from sight behind hill.
6	22/03/17	Nil Sightings											
10	22/03/17	Nil Sightings											
7	23/03/17	Nil Sightings											
2	24/03/17	Hen Harrier	Male	09:54	X			X	X			90	1x male HH soaring over Mauher Slieve. 6 Golden Plover over Mauher Slieve.
4	24/03/17	Nil Sightings											
2	27/03/17	Hen Harrier	Male	09:55	X							35	1x male HH over traditional nest site
2	27/03/17	Hen Harrier	Female	09:55	X							35	1x male HH and 1x female HH flying together over traditional territory.
3	05/04/17	Nil Sightings											
8	05/04/17	Nil Sightings											
2	06/04/17	Hen Harrier	Female	08:05	X							270	
2	06/04/17	Hen Harrier	Male	08:05	X			X				510	
10	08/04/17	Hen Harrier	Male	12:15	X	X						190	1x male HH displaying high (c. 1km) over traditional territory.

VP Name	Date	Species	Sex	Time of sighting	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
10	08/04/17	Hen Harrier	Male	15:00					X			30	
7	09/04/17	Nil Sightings											
4	09/04/17	Nil Sightings											
1	10/04/17	Nil Sightings											
5	10/04/17	Hen Harrier	Male	12:59			X					450	1x male HH displaying over traditional territory. Food pass between male and female HH.
5	10/04/17	Hen Harrier	Female	13:05					X			300	
5	10/04/17	Hen Harrier	Male	13:13							X	10	
5	10/04/17	Hen Harrier	Female	13:13							X	10	
5	10/04/17	Hen Harrier	Male	14:16	X							50	
5	10/04/17	Hen Harrier	Female	14:20				X				2400	
7	10/04/17	Hen Harrier	Male	15:30					X			10	1x male HH hunting
2	11/04/17	Hen Harrier	Male	08:00			X		X	X		761	1x male HH flying from Knockfune then displaying and perched on ground at traditional territory Mauher Slieve.
1	12/04/17	Nil Sightings											
6	12/04/17	Hen Harrier	Male	11:47					X			30	1x male HH over traditional nest site
6	12/04/17	Hen Harrier	Male	13:05					X	X		1957	
6	12/04/17	Hen Harrier	Male	13:26					X			430	2nd male HH flying, then both males fly away to north, one returning.

APPENDIX A6: Hen Harrier Fieldwork & Survey Results
AA 2019, Appropriate Assessment Report

VP Name	Date	Species	Sex	Time of sighting	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
3	17/04/17	Nil Sightings											
5	17/04/17	Hen Harrier	Male	14:45				X				17	
8	18/04/17	Hen Harrier	Male	08:00			X					900	1x male HH and 1x female HH displaying over traditional territory.
8	18/04/17	Hen Harrier	Female	08:00					X			800	
9	18/04/17	Nil Sightings											
6	19/04/17	Hen Harrier	Female	11:13		X						720	1x male HH and 1x female HH circling traditional territory.
6	19/04/17	Hen Harrier	Male	11:20		X						100	
4	19/04/17	Nil Sightings											
12	22/04/17	Hen Harrier	Male	08:48		X				X		70	1x male HH and 1x female HH circling traditional territory.
12	22/04/17	Hen Harrier	Female	08:49		X						80	
11	22/04/17	Hen Harrier	Female	13:00		X			X			80	1x female HH over traditional nest site.
11	22/04/17	Hen Harrier	Female	13:40	X							60	
11	22/04/17	Hen Harrier	Female	13:40	X							60	2x female HH and 1x male HH soaring between two traditional nest sites.
11	22/04/17	Hen Harrier	Male	13:40	X							380	
12	27/04/17	Hen Harrier	Male	12:05					270			270	2x male HH and 1x female HH over traditional territory
12	27/04/17	Hen Harrier	Male	12:05					80			80	
12	27/04/17	Hen Harrier	Female	12:05					340			340	

VP Name	Date	Species	Sex	Time of sighting	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
11	27/04/17	Hen Harrier	Male	15:00				X				470	1x male HH over traditional territory
11	27/04/17	Hen Harrier	Male	15:15			X					135	
1	05/05/17	Nil Sightings											
2	05/05/17	Hen Harrier	Male	14:50			X	X	X			384	1x male HH and 1x female HH over traditional territory
2	05/05/17	Hen Harrier	Female	14:50					X			50	
2	05/05/17	Hen Harrier	Male	15:00				X				330	
6	06/05/17	Hen Harrier	Male	15:45		X						504	1x male HH and 1x female HH over traditional territory
6	06/05/17	Hen Harrier	Female	15:45		X						610	
1	08/05/17	Nil Sightings											
4	08/05/17	Hen Harrier	Male	10:12	X							108	
3	08/05/17	Hen Harrier	Female	15:50	X							30	
3	08/05/17	Hen Harrier	Male	16:20			X		X			135	
5	09/05/17	Hen Harrier	Male	09:46	X							70	
4	09/05/17	Nil Sightings											
3	18/05/17	Nil Sightings											
5	18/05/17	Nil Sightings											
8	19/05/17	Hen Harrier	Male	11:09		X	X		X			314	1x male HH flying, circling and skydancing the last 15s over heath, rough grazing and young plantation (>2m).

VP Name	Date	Species	Sex	Time of sighting	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
8	19/05/17	Nil Sightings											
2	20/05/17	Hen Harrier	Male	12:53	X							80	1x male HH over traditional territory.
6	20/05/17	Hen Harrier	Male	16:17				X	X		X	60	Food pass at same site as 2016.
6	20/05/17	Hen Harrier	Female	16:17							X	10	
9	22/05/17	Hen Harrier	Male	11:36		x						169	1x male HH circling over heath and mature plantation
9	22/05/17	Hen Harrier	Male	12:03					X			8	1x male HH flying over mature plantation
9	22/05/17	Hen Harrier	Male	12:39					X			151	1x male HH flying over rough grazing
9	22/05/17	Hen Harrier	Male	14:04					X			53	1x male HH flying over mature plantation
9	22/05/17	Hen Harrier	Male	15:05		X						130	1x male HH circling over heath, mature plantation and young plantation (>2m).
CS	22/05/17	Hen Harrier	Male	17:56					X			15	1x male HH flying over rough grazing
7	22/05/17	Nil Sightings											
7	23/05/17	Nil Sightings											
10	23/05/17	Hen Harrier	Male	12:18					X			18	1x male HH flying over heath
10	23/05/17	Hen Harrier	Male	13:29		X			X			342	1x male HH flying, circling over heath and mature plantation, second male HH joins later
10	23/05/17	Hen Harrier	Male	13:33					X			189	1x male HH flying over mature plantation, joins another male HH
10	23/05/17	Hen Harrier	Male	13:57				X				34	1x male HH hunting in heath and over young plantation (>2m)

VP Name	Date	Species	Sex	Time of sighting	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
10	23/05/17	Hen Harrier	Male	13:59					X			28	1x male HH flying over heath
10	23/05/17	Hen Harrier	Male	14:11	X				X			27	1x male HH flying, soaring over heath
10	23/05/17	Hen Harrier	Male	14:12				X				192	1x male HH hunting in heath and over young plantation (>2m)
10	23/05/17	Hen Harrier	Male	14:54				X	X	X		605	1x male HH hunting, flying over heath and young plantation (>2m), keeps coming back to the same spot in heath
CS	23/05/17	Hen Harrier	Male	15:12				X	X			180	1x male HH flying hunting over heath and mature plantation
10	23/05/17	Hen Harrier	Male	15:37				x	X	X		540	1x male HH flying, hunting and perching in heath
10	23/05/17	Hen Harrier	Male	16:14					X			131	1x male HH flying over heath
10	23/05/17	Hen Harrier	Male	16:25					X	X		680	1x male HH flying over heath, perching and then flying away
10	23/05/17	Hen Harrier	Male	17:00				X	X	X		2145	1x male HH flying over heath and into young plantation (>2m), and then keeps coming back to perch in the same spot in heath. Doing the same circle many times
10	23/05/17	Hen Harrier	Male	17:45			X		X			1080	1x male HH flying, later skydancing for 4min over heath, young plantation (>2m) and mature plantation, later chasing away a HC.
10	23/05/17	Hen Harrier	Male	18:24					X	X		582	1x male HH perching for almost 10min then flying away
11	24/05/17	Hen Harrier	Male	11:05	X				X			35	1x male HH with prey flying south.
11	24/05/17	Hen Harrier	Male	12:20			X					60	

VP Name	Date	Species	Sex	Time of sighting	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
12	24/05/17	Hen Harrier	Male	15:55			X					80	2x male HH and 1x female HH over traditional territory
12	24/05/17	Hen Harrier	Male	15:55			X					120	
12	24/05/17	Hen Harrier	Female	15:55	X							40	
7	24/05/17	Hen Harrier	Male	12:28	X	X						420	1x male HH soaring and circling higher and higher, over rough grazing and mature plantation
7	24/05/17	Hen Harrier	Male	12:50		X	X		X			185	1x male HH flying, circling and skydancing over rough grazing, young plantation (>2m) and mature plantation
11	26/05/17	Nil Sightings											
12	26/05/17	Nil Sightings											
1	16/06/17	Nil Sightings											
3	16/06/17	Hen Harrier	Male	14:57				X				150	
4	17/06/17	Nil Sightings											
1	17/06/17	Nil Sightings											
2	18/06/17	Hen Harrier	Male	09:10				X		X		2449	1x male HH had a successful strike. No evidence of nesting after 4 hour survey. 1x male HH was hunting for 183 seconds, 1x male HH with prey for 441 seconds. The male then perched for 1711 seconds. Then started to hunt again for 114 seconds.
2	18/06/17	Hen Harrier	Male	12:21	X							40	1x male HH soaring and headed NE

VP Name	Date	Species	Sex	Time of sighting	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
4	19/06/17	Hen Harrier	Male	08:30				X				90	
4	19/06/17	Hen Harrier	Male	10:55					X			20	1x male HH flying
10	19/06/17	Hen Harrier	Male	14:38		X						60	
10	19/06/17	Hen Harrier	Female	14:38					X		X	200	Probable food pass; 1x female HH flying from bog to edge of forestry perched on ground for 3 mins then returned to bog.
10	19/06/17	Hen Harrier	Male	15:10					X			30	1x male HH flying over same area as previously.
5	19/06/17	Hen Harrier	Male	10:50				X				17	1x male HH hunting low over heather bog/wet heath habitat, flew north behind ridge line and out of sight
5	19/06/17	Hen Harrier	Male	10:51	X	X						46	1x male HH circling and soaring over heather/bog/ wet heath habitat, circled off to NE behind hill top and out of view.
5	19/06/17	Hen Harrier	Female	11:53	X							23	1x female HH soaring over heather bog and forestry, flew north out of sight
5	19/06/17	Hen Harrier	Female	12:08	X	X						64	1x female HH soaring and flying over heather bog, flew north out of sight.
5	19/06/17	Hen Harrier	Male	12:55	X							76	1x male HH soaring over heather bog and forestry
5	19/06/17	Hen Harrier	Male	13:00					X			16	1x male HH chasing Raven east over heather bog, dropped down behind hill and out of sight
5	19/06/17	Hen Harrier	Male	13:02					X			7	1 x HH male flying over heather bog

VP Name	Date	Species	Sex	Time of sighting	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
5	19/06/17	Hen Harrier	Male	13:08	X							169	1 x HH male soaring high over heather bog
5	19/06/17	Hen Harrier	Male	14:16				X				55	1 x HH male hunting over heather bog, RG, MF, along ridge of hill from east to west.
5	19/06/17	Hen Harrier	Male	14:22	X	X						470	1x male HH circling and soaring over heather bog, started low but quickly gained altitude beyond 100m. Dropped down to circle close to 1x female HH and gained altitude again and lost sight of him.
5	19/06/17	Hen Harrier	Female	14:25	X	X						171	1x female HH flew in from north and circled / soared up to ~50m, interacted with 1x female HH and dropped down
5	19/06/17	Hen Harrier	Male	14:57					X			27	1x male HH flying from west to east over forestry.
5	19/06/17	Hen Harrier	Female	15:51	X				X			37	1x female HH flying and then soaring over heather bog, soared only to ~50m, flew off to north
5	19/06/17	Hen Harrier	Male	15:51				X	X			42	1x male HH flying close over heather bog, flew off west hunting along forestry edge over rough grassland.
5	19/06/17	Hen Harrier	Female	15:59		X			X			23	1x female HH circling and then hunting over heather bog up on hill
5	19/06/17	Hen Harrier	Female	16:04	X	X			X			28	1x female HH circling and soaring over heather bog, gradually glided off north and out of sight

VP Name	Date	Species	Sex	Time of sighting	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
5	19/06/17	Hen Harrier	Male	16:10					X		X	31	1x male HH flew in from west carrying prey, directly towards heather bog on hill
5	19/06/17	Hen Harrier	Female	16:11					X	X	X	135	1x female HH flew from behind hill for food pass, landed on heather bog on south side of hill. Took off after 97 secs later and flew over hill to north and out of sight. Possibly ate food while on the ground - No sign of carrying prey on flight over hill.
2	20/06/17	Hen Harrier	Male	10:47				X				130	No evidence of nesting.
11	20/06/17	Hen Harrier	Male	10:47	X	X			X			118	1x male HH flew over heather bog at Bleanbeg, up and over mature forestry to north, circled and soared over forestry before dropping and flying east/northeast. Lost from sight behind crest of hill
11	20/06/17	Hen Harrier	Male	12:39				X	X			13	1x male HH seen briefly flying and hunting in forestry canopy and rides. Dipped out of sight behind trees
11	20/06/17	Hen Harrier	Male	12:42	X							47	1x male HH hunting along forestry edge on western boundary of bog, flew up over forestry and soared up over 100m. Descended and flew off to NE.
10	21/06/17	Hen Harrier	Male	08:50				X				75	
10	21/06/17	Hen Harrier	Female	09:15					X			15	1x female HH gathering nesting material. Male was carrying prey.

VP Name	Date	Species	Sex	Time of sighting	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
10	21/06/17	Hen Harrier	Male	09:44					X			20	
12	21/06/17	Nil Sightings											
8	25/06/17	Hen Harrier	Male	16:18	X				X			344	1x male HH flying, hunting and circling over rough grazing, grazing and scrub.
8	25/06/17	Nil Sightings											
6	26/06/17	Hen Harrier	Male	11:55					X			25	1x male HH flying over rough grazing.
6	26/06/17	Hen Harrier	Male	12:02	X							21	1x male HH soaring over rough grazing, moving down the hill.
6	26/06/17	Nil Sightings											
7	26/06/17	Nil Sightings											
9	27/06/17	Nil Sightings											
9	27/06/17	Nil Sightings											
7	28/06/17	Nil Sightings											
7	28/06/17	Nil Sightings											
1	14/07/17	Nil Sightings											
3	14/07/17	Nil Sightings											
3	16/07/17	Nil Sightings											
5	16/07/17	Hen Harrier	Male	13:00				X				100	1x male HH hunting
2	17/07/17	Hen Harrier	Male	07:17	X	X		X		X		1764	1x male HH hunting, perched on ground, circling, soaring.
2	17/07/17	Hen Harrier	Female	09:14	X			X				131	1x female HH around traditional territory no evidence of active nest.

VP Name	Date	Species	Sex	Time of sighting	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
4	17/07/17	Hen Harrier	Female	15:18					X			5	1x female HH flying toward other side of hill.
2	20/07/17	Nil Sightings											
5	24/07/17	Hen Harrier	Male	07:47				X				30	1x male HH hunting
5	24/07/17	Hen Harrier	Female	09:43	X			X				70	1x female HH hunting
5	24/07/17	Hen Harrier	Female	10:26				X	X			30	1x female HH interacting with Sparrowhawk.
1	04/08/17	Nil Sightings											
11	10/08/17	Nil Sightings											
12	10/08/17	Nil Sightings											
10	09/08/17	Hen Harrier	Female	09:55			X		X			60	Food pass female to juvenile.
10	09/08/17	Hen Harrier	Juvenile Female	09:55					X			10	Food pass female to juvenile.
10	09/08/17	Hen Harrier	Female	11:40			X	X	X			130	Food pass female to juvenile.
10	09/08/17	Hen Harrier	Juvenile Female	11:40					X			20	Food pass female to juvenile.
10	09/08/17	Hen Harrier	Female	13:15			X		X			60	Food pass female to juvenile.
10	09/08/17	Hen Harrier	Juvenile Female	13:15			X		X			180	Food pass female to juvenile.

VP Name	Date	Species	Sex	Time of sighting	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
10	09/08/17	Hen Harrier	Juvenile Female	14:10:00								250	Juvenile circling
6	09/08/17	Nil Sightings											
8	10/08/17	Hen Harrier	Female	11:48:00			X					140	1x female HH soaring then flying west.
9	10/08/17	Nil Sightings											
7	11/08/17	Nil Sightings											
5	11/08/17	Nil Sightings											
4	15/08/17	Nil Sightings											
5	15/08/17	Nil Sightings											
6	15/08/17	Nil Sightings											
4	17/08/17	Nil Sightings											
8	17/08/17	Nil Sightings											
9	17/08/17	Nil Sightings											

AA6.2.5 Hen Harrier Surveys –Non Breeding Season 2017/2018

Table 24: Details of UWF Grid Connection Hen Harrier sightings and the habitats over which the birds were observed from vantage point surveys undertaken during the Non-breeding season 2017/2018

G = Grazing; RG = Rough Grazing; HB = Heath or bog; DE = Deciduous woodland or scrub; GO = Gorse; CF = Clear fell; NF2 = New forestry plantation trees 20-30cm high; NF3 = New forestry plantation trees c 1m high; NF4 = New forestry plantation trees > 2m high; 2nd F1/F2 = Second rotation forestry plantation trees 20-30cm high; 2nd F3 = Second rotation forestry plantation trees c 1m high; 2nd F4 = Second rotation forestry plantation trees > 2m high; F= Post thicket forestry

VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/F2	2nd F3	2nd F4	F	Duration (s)
1	05/09/17	Nil Sightings																	
2	05/09/17	Nil Sightings																	
4	06/09/17	Nil Sightings																	
3	06/09/17	Hen Harrier	Ring-tail	14:55:00			10												10
1	06/09/17	Nil Sightings																	
3	07/09/17	Nil Sightings																	
5	08/09/17	Nil Sightings																	
4	08/09/17	Nil Sightings																	
5	13/09/17	Nil Sightings																	
2	13/09/17	Hen Harrier	Male	13:49:00			35												35
7	11/09/17	Raven_RN		11:40:00	x													x	21
7	11/09/17	Raven_RN		11:40:00	x													x	21
7	11/09/17	Kestrel_K.		11:55:00	x													x	14
7	11/09/17	Raven_RN		13:14:00	x			x										x	20
8	12/09/17	Kestrel_K.		14:22:00	x	x			x										115
10	04/09/17	Nil Sightings																	

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VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/ F2	2nd F3	2nd F4	F	Duration (s)
9	05/09/17	Nil Sightings																	
11	05/09/17	Nil Sightings																	
11	06/09/17	Nil Sightings																	
9	06/09/17	Nil Sightings																	
12	07/09/17	Nil Sightings																	
12	07/09/17	Nil Sightings																	
6	11/09/17	Nil Sightings																	
10	12/09/17	Nil Sightings																	
1	12/10/17	Nil Sightings																	
2	12/10/17	Hen Harrier	Fe-male	13:20			50												50
4	13/10/17	Nil Sightings																	
5	13/10/17	Hen Harrier	Ring-tail	12:30			120												10
3	14/10/17	Nil Sightings																	
1	17/10/17	Nil Sightings																	
3	18/10/17	Nil Sightings																	
4	20/10/17	Nil Sightings																	
2	22/10/17	Nil Sightings																	
5	23/10/17	Nil Sightings																	
6	23/10/17	Hen Harrier	Male	18:28			7												7
6	25/10/17	Hen Harrier	Male	18:34			4												4
10	07/11/17	Hen Harrier	Male	09:18			348												348

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VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/ F2	2nd F3	2nd F4	F	Duration (s)
11	07/11/17	Hen Harrier	Female	17:05			30												30
11	07/11/17	Hen Harrier	Male	17:08			30												30
1	08/11/17	Nil Sightings																	
2	09/11/17	Nil Sightings																	
6	13/11/17	Nil Sightings																	
3	15/11/17	Nil Sightings																	
11	16/11/17	Hen Harrier	Male	16:42			1080												1080
11	16/11/17	Hen Harrier	Male	16:56			60												60
5	22/11/17	Nil Sightings																	
4	22/11/17	Nil Sightings																	
4	23/11/17	Nil Sightings																	
5	23/11/17	Nil Sightings																	
7	28/11/17	Nil Sightings																	
7	29/11/17	Nil Sightings																	
8	28/11/17	Nil Sightings																	
8	29/11/17	Nil Sightings																	
9	29/11/17	Nil Sightings																	
9	30/11/17	Nil Sightings																	
3	29/11/17	Nil Sightings																	
8	28/11/17	Nil Sightings																	
12	30/11/17	Nil Sightings																	

APPENDIX A6: Hen Harrier Fieldwork & Survey Results
AA 2019, Appropriate Assessment Report

VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/ F2	2nd F3	2nd F4	F	Duration (s)
12	29/11/17	Nil Sightings																	
7	29/11/17	Nil Sightings																	
8	06/12/17	Nil Sightings																	
7	07/12/17	Nil Sightings																	
9	08/12/17	Nil Sightings																	
12	05/12/17	Nil Sightings																	
11	05/12/17	Hen Harrier_HH	Male	16:05:00			6												6
11	06/12/17	Nil Sightings																	
5	06/12/17	Nil Sightings																	
5	06/12/17	Nil Sightings																	
1	01/12/17	Nil Sightings																	
6	03/12/17	Nil Sightings																	
10	03/12/17	Hen Harrier	Male	16:10			80												80
10	03/12/17	Hen Harrier	Male	16:11			50												50
4	05/12/17	Nil Sightings																	
3	07/12/17	Hen Harrier	Male	15:57		20													20
10	09/12/17	Hen Harrier	Male	11:14			130												130
6	09/12/17	Nil Sightings																	
2	21/12/17	Nil Sightings																	
12	02/01/18	Nil Sightings																	
9	03/01/18	Nil Sightings																	

APPENDIX A6: Hen Harrier Fieldwork & Survey Results
AA 2019, Appropriate Assessment Report

VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/ F2	2nd F3	2nd F4	F	Duration (s)
7	04/01/18	Nil Sightings																	
2	05/01/18	Nil Sightings																	
5	02/01/18	Nil Sightings																	
8	15/01/18	Nil Sightings																	
4	19/01/18	Nil Sightings																	
3	03/01/18	Nil Sightings																	
6	05/01/18	Nil Sightings																	
10	06/01/18	Nil Sightings																	
11	06/01/18	Hen Harrier	Male	16:27			2220												2220
11	06/01/18	Hen Harrier	Male	16:27			2220												2220
11	06/01/18	Hen Harrier	Male	16:27			2220												2220
11	06/01/18	Hen Harrier	Male	16:30			2040												2040
11	06/01/18	Hen Harrier	Female	16:35			1740												1740
10	22/01/18	Hen Harrier	Male	12:10			20											20	40
11	22/01/18	Hen Harrier	Male	16:58			1320												1320
11	22/01/18	Hen Harrier	Male	17:00			1200												1200
11	22/01/18	Hen Harrier	Male	17:12			600												600
3	01/02/18	Hen Harrier	Male	12:05			25												25
6	02/02/18	Hen Harrier	Male	10:50			30												30

APPENDIX A6: Hen Harrier Fieldwork & Survey Results
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VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/ F2	2nd F3	2nd F4	F	Duration (s)
10	04/02/18	Hen Harrier	Male	08:13			70												70
11	04/02/18	Hen Harrier	Male	17:34			720												720
11	04/02/18	Hen Harrier	Male	17:44			120												120
11	04/02/18	Hen Harrier	Male	17:44			120												120
11	06/02/18	Nil Sightings																	
5	02/02/18	Nil Sightings																	
12	05/02/18	Nil Sightings																	
4	06/02/18	Nil Sightings																	
1	06/02/18	Hen Harrier		15:02:00	33				10										43
1	07/02/18	Nil Sightings																	
8	01/02/18	Hen Harrier	m	11:13		x													8s
8	01/02/18	Hen Harrier	m	15:10		x													180s
8	01/02/18	Hen Harrier																	40mins
8	01/02/18	Hen Harrier	m	15:12		x													24s
8	01/02/18	Hen Harrier	m	15:50		x													3s
9	02/02/18	Nil Sightings																	
7	05/02/18	Nil Sightings																	
2	06/02/18	Nil Sightings																	

Table 25: Details of UWF Grid Connection Hen Harrier behaviour which the birds were exhibiting during each observation and associated notes for vantage point surveys undertaken during the non-breeding season in September 2017 to February 2018 (inclusive)

VP Name	Date	Species	Sex	Time of sightings	Soaring	Circling	Displaying	Hunting	Flying	Precising	Food Pass	Duration (s)	Birds Notes
1	05/09/2017	Nil Sightings											
2	05/09/2017	Nil Sightings											
4	06/09/2017	Nil Sightings											
3	06/09/2017	Hen Harrier	Ring-tail	14:55:00				x				10	Ringtail seen briefly hunting upper slopes of Mauher Slieve.
1	06/09/2017	Nil Sightings											
3	07/09/2017	Nil Sightings											
5	08/09/2017	Nil Sightings											
4	08/09/2017	Nil Sightings											
5	13/09/2017	Nil Sightings											
2	13/09/2017	Hen Harrier	Male	13:49:00				x				35	Adult male Hen Harrier hunting off site
7	11/09/2017	Nil Sightings											
7	11/09/2017	Nil Sightings											
7	11/09/2017	Nil Sightings											

VP Name	Date	Species	Sex	Time of sightings	Soaring	Circling	Displaying	Hunting	Flying	Precising	Food Pass	Duration (s)	Birds Notes
7	11/09/2017	Nil Sightings											
8	12/09/2017	Nil Sightings											
10	04/09/2017	Nil Sightings											
9	05/09/2017	Nil Sightings											
11	05/09/2017	Nil Sightings											
11	06/09/2017	Nil Sightings											
9	06/09/2017	Nil Sightings											
12	07/09/2017	Nil Sightings											
12	07/09/2017	Nil Sightings											
6	11/09/2017	Nil Sightings											
10	12/09/2017	Nil Sightings											
6	23/10/17	Nil Sightings											
7	25/10/17	Nil Sightings											
8	14/10/17	Nil Sightings											
9	17/10/17	Nil Sightings											
10	18/10/17	Nil Sightings											
11	20/10/17	Nil Sightings											

VP Name	Date	Species	Sex	Time of sightings	Soaring	Circling	Displaying	Hunting	Flying	Precing	Food Pass	Duration (s)	Birds Notes
1	12/10/17	Nil Sightings											
2	12/10/17	Hen Harrier	Female	13:20					x			50	
4	13/10/17	Nil Sightings											
5	13/10/17	Hen Harrier	Ring-tail	12:30					x			10	Ringtail hunting.
3	14/10/17	Nil Sightings											
1	17/10/17	Nil Sightings											
3	18/10/17	Nil Sightings											
4	20/10/17	Nil Sightings											
2	22/10/17	Nil Sightings											
5	23/10/17	Nil Sightings											
6	23/10/17	Hen Harrier	Male	18:28					x			7	Dusk watch at possible roost site, (single adult male Hen Harrier here 2016), male going to roost at 18:28hrs
6	25/10/17	Hen Harrier	Male	18:34					x			4	Dusk watch at possible roost site, (single adult male Hen Harrier here 2016), male going to roost at 18:34hrs
10	07/11/2017	Hen Harrier	Male	09:18				x				348	ad male hunting Heather Bog, 4 snipe on site.
11	07/11/2017	Hen Harrier	Female	17:05				x				30	Female going to roost.
11	07/11/2017	Hen Harrier	Male	17:08				x				30	Male going to roost.
1	08/11/2017	Nil Sightings											

VP Name	Date	Species	Sex	Time of sightings	Soaring	Circling	Displaying	Hunting	Flying	Precing	Food Pass	Duration (s)	Birds Notes
2	09/11/2017	Nil Sightings											
6	13/11/2017	Nil Sightings											
3	15/11/2017	Nil Sightings											
11	16/11/2017	Hen Harrier	Male	16:42				x		x		1080	Dusk watch at roost site, adult male perched on fence post for 20 mins before flying to nearby roost site in heather at 1707hrs.
11	16/11/2017	Hen Harrier	Male	16:56					x			60	2 nd adult male going to roost in heather at 16:56hrs
5	22/11/2017	Nil Sightings											
5	22/11/2017	Nil Sightings											
4	22/11/2017	Nil Sightings											
4	23/11/2017	Nil Sightings											
4	23/11/2017	Nil Sightings											
4	23/11/2017	Nil Sightings											
4	23/11/2017	Nil Sightings											
5	23/11/2017	Nil Sightings											
5	23/11/2017	Nil Sightings											

VP Name	Date	Species	Sex	Time of sightings	Soaring	Circling	Displaying	Hunting	Flying	Precising	Food Pass	Duration (s)	Birds Notes
5	23/11/2017	Nil Sightings											
5	23/11/2017	Nil Sightings											
5	23/11/2017	Nil Sightings											
7	28/11/17	Nil Sightings											
8	29/11/17	Nil Sightings											
9	29/11/17	Nil Sightings											
9	30/11/17	Nil Sightings											
8	28/11/17	Nil Sightings											
8	28/11/17	Nil Sightings											
12	30/11/2017	Nil Sightings											
12	29/11/2017	Nil Sightings											
7	29/11/17	Nil Sightings											
12	05/12/2017	Nil Sightings											
11	05/12/2017	Hen Harrier	Male	16:05					X			6	HH male flew E - W over bog/heath towards the conifer plantation at c. 10 - 15m.
11	06/12/2017	Nil Sightings										111	
5	06/12/2017	Nil Sightings										90	
5	06/12/2017	Nil Sightings										50	

VP Name	Date	Species	Sex	Time of sightings	Soaring	Circling	Displaying	Hunting	Flying	Precising	Food Pass	Duration (s)	Birds Notes
1	01/12/2017	Nil Sightings											
6	03/12/2017	Nil Sightings											
10	03/12/2017	Hen Harrier	Male	16:10				X				80	Ad male hunting Heather Bog heading toward roost site.
10	03/12/2017	Hen Harrier	Male	16:11				X				50	2 nd Ad male hunting Heather Bog heading toward roost site.
4	05/12/2017	Nil Sightings											
3	07/12/2017	Hen Harrier	Male	15:57				X				20	Ad male hunting Heather Bog.
10	09/12/2017	Hen Harrier	Male	11:14				X				130	Ad male hunting Heather Bog.
6	09/12/2017	Nil Sightings											
2	21/12/2017	Nil Sightings											
8	06/12/2017	Nil Sightings										20	
8	06/12/2017	Nil Sightings										20	
8	06/12/2017	Nil Sightings										10	
8	06/12/2017	Nil Sightings										5	
8	06/12/2017	Nil Sightings										300	
8	06/12/2017	Nil Sightings										20	

VP Name	Date	Species	Sex	Time of sightings	Soaring	Circling	Displaying	Hunting	Flying	Precising	Food Pass	Duration (s)	Birds Notes
7	07/12/2017	Nil Sightings										20	
7	07/12/2017	Nil Sightings										10	
7	07/12/2017	Nil Sightings											
9	08/12/2017	Nil Sightings											
9	08/12/2017	Nil Sightings										240	
9	08/12/2017	Nil Sightings										300	
9	08/12/2017	Nil Sightings										5	
12	02/01/2018	Nil Sightings											
9	03/01/2018	Nil Sightings											
7	04/01/2018	Nil Sightings											
2	05/01/2018	Nil Sightings											
5	02/01/2018	Nil Sightings											
1	03/01/2018	Nil Sightings											
1	03/01/2018	Nil Sightings											
8	15/01/2018	Nil Sightings											

VP Name	Date	Species	Sex	Time of sightings	Soaring	Circling	Displaying	Hunting	Flying	Precing	Food Pass	Duration (s)	Birds Notes
4	19/01/2018	Nil Sightings											
4	19/01/2018	Nil Sightings											
3	03/01/18	Nil Sightings											
6	05/01/18	Nil Sightings											
10	06/01/18	Nil Sightings											
11	06/01/18	Hen Harrier	Male	16:27					X	X		2220	
11	06/01/18	Hen Harrier	Male	16:27					X	X		2220	3 males sitting on fence posts before going to roost.
11	06/01/18	Hen Harrier	Male	16:27					X	X		2220	Ad male and female flying around roost site at before going to roost.
11	06/01/18	Hen Harrier	Male	16:30					X			2040	
11	06/01/18	Hen Harrier	Female	16:35					X			1740	All going to roost at about 17:04hrs.
10	22/01/18	Hen Harrier	Male	12:10				X	X			40	Ad male hunting Heather Bog and flying over Forestry.
11	22/01/18	Hen Harrier	Male	16:58					X	X		1320	Ad male flying in to roost site perched on fence post before going to roost at 17:20hrs.
11	22/01/18	Hen Harrier	Male	17:00					X	X		1200	2 nd ad male flying in to roost site perched on fence post before going to roost at 17:20hrs.
11	22/01/18	Hen Harrier	Male	17:12					X			600	3 rd ad male flying around roost site at before going to roost 17:22hrs
3	01/02/18	Hen Harrier	Male	12:05				X				25	Ad male hunting Heather Bog around last year's nest site.
6	02/02/18	Hen Harrier	Male	10:50				X				30	Ad male hunting Heather Bog

VP Name	Date	Species	Sex	Time of sightings	Soaring	Circling	Displaying	Hunting	Flying	Precising	Food Pass	Duration (s)	Birds Notes
10	04/02/18	Hen Harrier	Male	08:13				X				70	Ad male hunting Heather Bog
1	04/02/18	Hen Harrier	Male	17:34					X	X		720	Ad male perched on fence post before going to roost at 1746hrs.
11	04/02/18	Hen Harrier	Male	17:44					X			120	2 nd ad male going to roost 17:46hrs.
11	04/02/18	Hen Harrier	Male	17:44					X			120	3 rd ad male going to roost 17:46hrs; different location to last months roost site; all three birds flew over skyline out of site.
11	06/02/18	Nil Sightings											
5	02/02/18	Nil Sightings											
12	05/02/18	Nil Sightings											
4	06/02/18	Nil Sightings											
1	06/02/18	Nil Sightings											
1	06/02/18	Hen Harrier	-	15:02					X			43	HH female flew N - S over gorse and grassland being mobbed by hooded crows
1	06/02/18	Nil Sightings											
4	07/02/18	Nil Sightings											
1	07/02/18	Nil Sightings											
8	01/02/18	Hen Harrier	Male	11:13				X	X			8	Male Hen Harrier first seen hunting close to drainage channel, flew behind dip in the land and was not seen emerging. Later in afternoon, assumed same adult male HH is observed hunting along hedgelines

VP Name	Date	Species	Sex	Time of sightings	Soaring	Circling	Displaying	Hunting	Flying	Precising	Food Pass	Duration (s)	Birds Notes
8	01/02/18	Nil Sightings											
8	01/02/18	Hen Harrier	Male	15:10				X	X			180	
8	01/02/18	Hen Harrier								X		2400	
8	01/02/18	Hen Harrier	Male	15:12					X			24	
8	01/02/18	Hen Harrier	Male	15:50					X			3	
9	02/02/18	Nil Sightings											
7	05/02/18	Nil Sightings											
2	06/02/18	Nil Sightings											
2	06/02/18	Nil Sightings											
2	06/02/18	Nil Sightings											
2	06/02/18	Nil Sightings											

AA6.2.6 Hen Harrier Surveys –Breeding Season 2019

Table 26: Details of Hen Harrier sightings and the habitats over which the birds were observed from vantage point surveys undertaken during the breeding season in April and July 2019 on Upperchurch Windfarm (UWF)

VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/ F2	2nd F3	2nd F4	F	Duration (s)
UVP3	08/04/2019	Nil Sightings																	
UVP 9	11/04/2019	Nil Sightings																	
UVP 1	12/04/2019	Nil Sightings																	
UVP 8	17/04/2019	Nil Sightings																	
UVP 2	18/04/2019	Nil Sightings																	
UVP 4	19/04/2019	Nil Sightings																	
UVP 5	20/04/2019	Nil Sightings																	
UVP 7	25/04/2019	Nil Sightings																	
UVP 10	26/04/2019	Hen Harrier	Male	10:26		35													35
UVP 6	27/04/2019	Hen Harrier	Male	12:33		156													156
UVP 2	10/07/2019	Nil Sightings																	
UVP 10	11/07/2019	Nil Sightings																	
UVP 7	17/09/2019	Nil Sightings																	

VP Name	Date	Species	Sex	Time of sighting	G	RG	HB	DE	GO	CF	NF1	NF2	NF3	NF4	2nd F1/ F2	2nd F3	2nd F4	F	Duration (s)
UVP 6	19/07/2019	Nil Sightings																	
UVP 3	24/07/2019	Nil Sightings																	
UVP 8	25/07/2019	Nil Sightings																	
UVP 9	26/07/2019	Nil Sightings																	
UVP 5	29/07/2019	Nil Sightings																	
UVP 1	31/07/2019	Hen Harrier	Female	09:41	9														9
UVP 4	31/07/2019	Nil Sightings																	

Table 27: Details of Hen Harrier behaviour which the birds were exhibiting during each observation and associated notes for vantage point flight activity surveys undertaken April and July 2019 on Upperchurch Windfarm (UWF)

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
UVP 2	18/04/2019	Nil Sightings										
UVP 3	08/04/2019	Nil Sightings										
UVP 9	11/04/2019	Nil Sightings										
UVP 1	12/04/2019	Nil Sightings										
UVP 8	17/04/2019	Nil Sightings										
UVP 2	18/04/2019	Nil Sightings										
UVP 4	19/04/2019	Nil Sightings										
UVP 5	20/04/2019	Nil Sightings										
UVP 7	25/04/2019	Nil Sightings										
UVP 10	26/04/2019	Hen Harrier	Male					35			35	
UVP 6	27/04/2019	Hen Harrier	Male				156				156	Male Hen Harrier hunting, quartering the ground on hillside of rough grassland/bog.
UVP 2	10/07/2019	Nil Sightings										
UVP 10	11/07/2019	Nil Sightings										

VP Name	Date	Species	Sex	Soaring	Circling	Displaying	Hunting	Flying	Perching	Food Pass	Duration (s)	Bird Notes
UVP 7	17/09/2019	Nil Sightings										
UVP 6	19/07/2019	Nil Sightings										
UVP 3	24/07/2019	Nil Sightings										
UVP 8	25/07/2019	Nil Sightings										
UVP 9	26/07/2019	Nil Sightings										
UVP 5	29/07/2019	Nil Sightings										
UVP 1	31/07/2019	Hen Harrier	Female					9			9	
UVP 4	31/07/2019	Nil Sightings										

