

## **Appendix to Chapter 8: Biodiversity**

### **Appendix 8.6: Milestone & Inchivara Wind Farm Hen Harrier Survey 2015 2017**

The data and descriptions in this appendix have informed the cumulative evaluations in the EIA Main Report.

*Table of Contents, overleaf*



**MILESTONE & INCHIVARA  
WIND FARM DEVELOPMENT**

**PRE-CONSTRUCTION HEN HARRIER SURVEY  
2015**

**DECEMBER 2015**

*Prepared for*

**ABO Wind Ltd.**

*by*

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## CONTENTS

1.0 Introduction	3
1.1 General description of sites	3
1.2 Slieve Felim to Silvermine Mountains SPA	3
2.0 Survey Methods	4
3.0 Results and Discussion	5
3.1 Results of 2015 Survey	5
3.2 Discussion	6
3.3 Other bird species recorded	6
4.0 Conclusion and Recommendation	6
5.0 References	7

## APPENDICES

Appendix 1. Hen Harrier survey : Classification of habitat types & Categories for activity and behaviour of observed birds.

Appendix 2. Hen Harrier Survey 2015: details of Vantage Point watches, April and May

## **1.0 INTRODUCTION**

BioSphere Environmental Services (BES) was commissioned by ABO Wind Ireland Ltd. to carry out a Hen Harrier breeding survey in 2015 at the sites of the Milestone and Inchivara wind farm developments. The survey was focused on the area within a 500 m radius (approximately) of the construction works which will be carried out at these sites for wind farm development.

It is noted that BES had previously carried out bird surveys at the two sites in 2012, with a further survey at Inchivara in 2013.

### **1.1 General description of sites**

#### **Milestone**

The majority of the Milestone site is improved grassland that is managed intensively for agriculture and is of little or no value for foraging hen harriers. Part of the grassland on the Knockcurraghbola Crowlands hill (north-west sector of site) has been reclaimed from heath relatively recently and has a wet character. However, this offers limited foraging potential for hen harriers as the sward is managed intensively through mowing and lacks a tussocky character.

Conifer plantation of two main ages occurs in the north-east sector of the site. Part of this is mature closed canopy forest (planted in 1993) and provides negligible foraging opportunities for harriers. The remainder was planted in 1998 and similarly offers low foraging potential. One small stand of young pre-thicket plantation (planted circa 2009), which provides potential foraging habitat for harriers, occurs in the central area of the site. A strip of immature deciduous woodland (WS2) in the central area of the site offers some foraging potential though is small in extent.

Further conifer plantations occur to the north and east of the site (all now beyond the canopy closure stage), with recent plantings on Shevry Hill.

#### **Inchivara**

The majority of the Inchivara site is improved grassland and is of little or no value for foraging hen harriers. The few areas of wet or rough grassland offer some potential for foraging. The plantation on site is now closed canopy and offers low potential for foraging.

The site is adjacent to areas of heath/bog, rough pasture and young plantation to the south and west (mostly within the SPA).

### **1.2 Slieve Felim to Silvermine Mountains SPA**

The Milestone site is located approximately 1 kilometre east of the south-east boundary of the Slieve Felim to Silvermine Mountains SPA (code 04165), while the Inchivara site partially overlaps with the south-east boundary of the SPA.

The SPA is an extensive upland site, much of which is over 200 metres in altitude, rising to 694 m at Keeper Hill. Several important rivers rise within the site, including the Mulkear, Bilboa and Clare rivers.

The site consists of a variety of upland habitats, though approximately half is afforested. The coniferous forests include first and second rotation plantations, with both pre-thicket and

*Milestone & Inchivara Wind Farms: Hen Harrier Survey 2015*

post-thicket stands present. Substantial areas of clearfell are also present at any one time. Roughly one-quarter of the site is unplanted blanket bog and heath, with both wet and dry heath present. The remainder of the site is largely rough grassland that is used for hill farming.

This SPA is one of the strongholds for Hen Harriers in the country with a population of national importance. During the 2010 national survey, six confirmed pairs and one possible pair were recorded within the SPA (Ruddock et al. 2012). The mix of forestry and open areas provides optimum habitat conditions for this rare bird, which is listed in Annex I of the Birds Directive.

The SPA site is also a traditional breeding site for a pair of Peregrines. Merlin has been recorded within the site but further survey is required to determine its status. Both of these species are listed on Annex I of the EU Birds Directive. Red Grouse is found on some of the unplanted areas of bog and heath – this is a species that has declined in Ireland and is now Red-listed.

## 2.0 SURVEY METHODS

The survey is based on the methodology of Scottish Natural Heritage (2013). However, as the objective was merely to establish the presence of breeding birds on site (or strictly within 500 m of construction areas) there was no need for monthly surveys through the entire season (which is a requirement for collision risk modelling). Two rounds of surveying were carried out in the early part of the season, i.e. April to May. After early to mid June there is no real prospect of a breeding territory being established although a further short visit to the Milestone site was made in late June.

Surveys were carried out in the following periods:

28<sup>th</sup> to 29<sup>th</sup> April

13<sup>th</sup> to 14<sup>th</sup> May

23<sup>rd</sup> June

In previous surveys (as detailed in the relevant EIS reports), two vantage points had been used to provide complete coverage over the Milestone site and one for the Inchivara site. These were used again in 2015 and are described below:

### **Milestone**

- **VP 1** (grid ref. 9583 6024) is located on the road at Shevry just east of the site. This gives commanding views over Knockcurraghbola Commons towards the peak of Knockmaroe, and also views of the north side of the 377 m hill to the south-west of Shevry.
- **VP 2** is located within the site on the mid-slope of Knockcurraghbola Crowlands (grid ref. 9444 5980). This gives views of the internal valley and adjoining slopes extending west of the R497 and to the western slope of Shevry Hill.

## **Inchivara**

- **VP 1** (grid ref. 9304 5754) is located on the mid-slope (350 m) of the hill to the south-southeast of the site. This gives a commanding view over the site, the rising ground to the north and east, and the lower land to the west (latter within SPA).

From the VPs, watches of approximately 6 hrs duration (broken into 3 hr sessions) were undertaken in each of the survey months (i.e. 12 hrs coverage from each VP). All surveys were carried out in suitable weather conditions. Observations were conducted between 07.30 and 18.00 hrs GMT. The following variables were recorded for sightings of hen harriers:

- Watch period
- Time of sighting
- Sex of bird
- Behaviour
- Habitat(s) below flight path
- Heights of flight (<10 m, 10-50 m, 50-100m, 100-150m, >150 m)

Where sightings of harriers were made, activity and behaviour of birds observed was identified and differentiated into various standard categories (see Appendix 1). Flight lines (if any) were plotted in the field on a 1:25,000 scale map, with direction of flight indicated.

The habitat or habitats over which the birds passed were classified using the standard categories recommended for hen harrier survey (see Appendix 1).

## **Other species of conservation importance**

As well as Hen Harrier, any other bird species of conservation interest was recorded.

## **3.0 RESULTS AND DISCUSSION**

### **3.1 Results of 2015 survey**

#### **Milestone**

One Hen Harrier was recorded from VP1 over the strip of conifer plantation to the northeast of WTG4 (within site) and then the adjoining forest to the east of site boundary (Knockcurraghbola Commons) on 13<sup>th</sup> May 2015. This was an adult female which was foraging over and through the conifers (NF4) at a height of less than 10 m for approximately 90 seconds. Less than 1 hour later it was seen over conifers to northeast of site and then rose steadily in a northwest direction towards Knockmaroe (eventually high in sky, c.200 m, and lost sight off) (see sighting 1, Figure 1).

#### **Inchivara**

There were no sightings within the site during the vantage point watches.

However, a male bird was seen briefly (c.30 sec) flying low (presumably hunting) over rough ground approximately 1 km west of the Inchivara site on 29<sup>th</sup> April 2015. (see sighting 2, Figure 1).

*Milestone & Inchivara Wind Farms: Hen Harrier Survey 2015*

### **3.2 Discussion**

From the 2015 survey, it can be concluded with full certainty that Hen Harriers did not attempt to nest within the Milestone or Inchivara sites (or within 500 m of the future construction work areas).

The female recorded foraging just outside the Milestone site was probably from one of the territories in the hinterland though the nearest regular territory to Milestone is at a distance of almost 3 km. As the female would be expected to be sitting on the nest in mid May and only making short feeding forays from the nest location, this may suggest that the nesting attempt failed early in the season.

The male recorded in late April to the west of Inchivara (within the SPA) is not unexpected and this bird could be associated with any of the traditional territories (no. 3) within a 5 km radius of Inchivara.

The 2015 results concur with the findings of the 2012 and 2013 surveys, when several birds were recorded foraging within and around the Milestone site and in the vicinity of the Inchivara site but with local nesting not suspected.

### **3.3 Other bird species recorded**

There were no records from within the two wind farm sites of any other species of high conservation importance.

Kestrel (*Falco tinnunculus*), however, was recorded regularly (1-2 birds) within and around the Milestone site and on two occasions at Inchivara and probably breeds locally.

## **4.0 CONCLUSION AND RECOMMENDATION**

The present survey provides conclusive proof that there were no nesting attempts by Hen Harriers within the Milestone and Inchivara wind farm sites in the 2015 season. This is in line with the previous surveys at these two sites and also reflects the absence of any historic records of nesting within or close to the sites.

While it is likely that the situation (i.e. no nesting within sites) will not change in the 2016 season, a similar survey focused on the early part of the breeding season would be required to confirm this. Should a survey in 2016 prove negative for nesting birds, it follows that there would be no restrictions on construction activities within the sites due to Hen Harriers during 2016.

The sightings of two hunting birds in the area during the April and May 2015 surveys indicate that nesting is still occurring at some of the traditional territories within the hinterland of the wind farm sites and foraging birds can be expected in the Milestone and Inchivara area.



*Milestone & Inchivara Wind Farms: Hen Harrier Survey 2015*

## 5.0 REFERENCES

Barton, C., Pollack, C., Norriss, D.W., Nagle, T.A., Oliver, G.A. & Newton, S. (2006) The second national survey of breeding Hen Harriers *Circus cyaneus* in Ireland 2005. *Irish Birds* 8: 1-20

Colhoun, K. & Cummins, S. (2013) Birds of conservation concern in Ireland 2014-2019. *Irish Birds* 9 (4): 523-544.

Ruddock, M, Dunlop, B.J., O'Toole, L., Mee, A., & Nagle, T. (2012) *Republic of Ireland National Hen Harrier Survey 2010*. Irish Wildlife Manual No. 59. NPWS, Dublin.

Scottish Natural Heritage (May 2013). Survey Methods for Use in Assessing the Impacts of Onshore Wind Farms on Bird Communities

## APPENDIX 1

### Hen Harrier Survey

#### Classification of habitat types

NF 2	New forestry plantation, trees 20-30 cm high
NF 3	New forestry plantation, trees c 1m in height
NF 4	New forestry plantation, trees >2m in height, patchy thickets
2nd F 1 & 2	2nd rotation forestry plantation, trees 20-30 cm high
2nd F 3	New forestry plantation, trees c 1m in height
2nd F 4	New forestry plantation, trees >2m in height, patchy thickets
F	Post thicket plantation
G	Grazing
RG	Rough Grazing & rushy pasture
HB	Heath / Bog
DE	Deciduous woodland & scrub
GO	Gorse
CF	Clearfell
H	Hedgerow

#### Categories for activity and behaviour of observed birds

c - circling  
d - displaying  
fl - flying  
fp - foodpass  
g - on ground  
gl - gliding  
h - hunting  
p - perching  
s - soaring  
wp - with prey  
fp - foodpass

## APPENDIX 2

### Hen Harrier Survey 2015: details of Vantage Point watches, April and May

#### MILESTONE

#### 3-hour Vantage Point Watches

VP ID	Observer	Date	Watch Period	Details	Notes	Weather
1	BM	28 April	09:30-12:30	-	No HH sighted Cuckoo calling ; Male Kestrel hunting on & off site – seen several times;	Vis: good; Prec.: dry; Wind: SW F2-3
2	BM	28 April	14:00 - 17:00	-	Kestrel - 1 NW of wind farm	Vis: good; Prec.: dry; Wind: SW F3
1	BM	29 April	08.15-11.15	-	No HH sighted 2 Cuckoos Pair Kestrels	Vis: good; Prec.: dry; Wind: SW F2
2	BM	29 April	12.30-15.30	-	No HH sighted	Vis: good; Prec.: dry; Wind: SW F3
1	BM	13 May	09.45-12:45	Female Hen Harrier flew over conifers to NE of WTG4 & conifers to east at 10.50 hrs. Height <10 m; Duration 90 sec. At 11.35 hrs, same bird flew up from conifers and rose n a NW direction towards Knockmaroe, to a height of c.200 m & out of sight		Vis: good; Prec.: dry; Wind: W F2
2	BM	13 May	14:30-17:30	-	No HH sighted 1 Kestrel hunting in site	Vis: good; Prec.: dry; Wind: W F2+
1	BM	14 May	08.30-11.30	-	No HH sighted Buzzard drifted over north end of site	Vis: good; Prec.: mostly dry (a few showers); Wind: SW F3
2	BM	14 May	13.00-16.00	-	No HH sighted 4 Ravens in area	Vis: good; Prec.: dry; Wind: SW F3

#### INCHIVARA

#### 3-hour Vantage Point Watches

VP ID	Observer	Date	Watch Period	Details	Notes	Weather
1	GP	28 April	09:00-12:00	-	No HH sighted Cuckoo pair; Kestrel to west	Vis: good; Prec.: dry; Wind: SW F2-3
1	GP	29 April	08:00 - 11:00	Male HH close to forest c.1km west of wind farm – foraging mode, c.10 m high. Seen for 30 sec	No HH sighted;	Vis: good; Prec.: dry; Wind: SW F2
1	GP	13 May	08.15-11.15	-	No HH sighted Kestrel off site	Vis: good; Prec.: dry; Wind: W F2

*Milestone & Inchivara Wind Farms: Hen Harrier Survey 2015*

<b>VP ID</b>	<b>Observer</b>	<b>Date</b>	<b>Watch Period</b>	<b>Details</b>	<b>Notes</b>	<b>Weather</b>
1	GP	13 May	14.30- 17.30	-	No HH sighted	Vis: good; Prec.: dry; Wind: W F2-3

**MILESTONE  
WIND FARM DEVELOPMENT  
PRE-CONSTRUCTION HEN HARRIER SURVEY,  
2017**

**FINAL REPORT**

**MAY 2017**

*Prepared for*

**ABO Wind Ireland Ltd.**

*by*

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## **CONTENTS**

1.0 Introduction	3
1.1 General description of site	
1.2 Slieve Felim to Silvermine Mountains SPA	3
2.0 Survey Methods	4
3.0 Results and Discussion	6
4.0 Conclusion	6
5.0 References	7

## **APPENDICES**

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Appendix 2. Hen Harrier Survey 2017: details of Vantage Point watches, April and May

## **1.0 INTRODUCTION**

BioSphere Environmental Services (BES) was commissioned by ABO Wind Ireland Ltd. to carry out a Hen Harrier breeding survey in 2017 at the site of the Milestone and Inchivara wind farm development. The survey was focused on the area within a 500 m radius (approximately) of the construction works which will be carried out at the site for wind farm development.

It is noted that BES had previously carried out bird surveys at the site in 2015, 2013 and 2012.

### **1.1 General description of site**

#### **Milestone component**

The majority of the Milestone site is improved grassland that is managed intensively for agriculture and is of little or no value for foraging hen harriers. Part of the grassland on the Knockcurraghbola Crowlands hill (north-west sector of site) has been reclaimed from heath relatively recently and has a wet character. However, this offers limited foraging potential for hen harriers as the sward is managed intensively through mowing and lacks a tussocky character.

Conifer plantation of two main ages occurs in the north-east sector of the site. Part of this is mature closed canopy forest (planted in 1993) and is not of significant value to harriers for nesting or foraging purposes. The remainder was planted in 1998 and similarly offers low potential for nesting or foraging. One small stand of young pre-thicket plantation (planted circa 2009), which provides potential foraging habitat for harriers, occurs in the central area of the site. A strip of immature deciduous woodland (WS2) in the central area of the site offers some foraging potential though is small in extent.

Further conifer plantations occur to the north and east of the site, including Shevry Hill, though all of these are now at or beyond the canopy closure stage.

#### **Inchivara component**

The Inchivara component of the site is improved grassland and is of little or no value for foraging hen harriers. Locally there are a few areas of wet or rough grassland which offer marginal potential for foraging. A nearby conifer plantation is now closed canopy and offers negligible potential for foraging. The site is adjacent to areas of heath/bog, rough pasture and some young plantation to the south and west – these habitats provide useful foraging habitats for Hen Harriers and are mostly within the SPA. \_

### **1.2 Slieve Felim to Silvermine Mountains SPA**

The Milestone site is located approximately 1 kilometre east of the south-east boundary of the Slieve Felim to Silvermine Mountains SPA (code 04165), while the turbine location at

Inchivara is approximately 300 m from the SPA boundary.

The SPA is an extensive upland site, much of which is over 200 metres in altitude, rising to 694 m at Keeper Hill. Several important rivers rise within the site, including the Mulkear, Bilboa and Clare rivers.

The site consists of a variety of upland habitats, though approximately half is afforested. The coniferous forests include first and second rotation plantations, with both pre-thicket and post-thicket stands present. Substantial areas of clearfell are also present at any one time. Roughly one-quarter of the site is unplanted blanket bog and heath, with both wet and dry heath present. The remainder of the site is largely rough grassland that is used for hill farming.

The SPA is an important stronghold for Hen Harriers (Barton *et al.* 2006, Ruddock *et al.* 2012, Ruddock *et al.* 2016). Survey in the 2005 national survey recorded 5 pairs (4 confirmed, 1 possible). Numbers had increased to six confirmed pairs and one possible pair in the 2010 national survey, though this may have been due to increased survey coverage (Ruddock *et al.* 2012). Further increase to 10 breeding pairs (4 confirmed, 6 possible) was recorded in the 2015 national survey (Ruddock *et al.* 2016).

The SPA site is also a traditional breeding site for a pair of Peregrines. Merlin has been recorded within the site but further survey is required to determine its status. Both of these species are listed on Annex I of the EU Birds Directive. Red Grouse is found on some of the unplanted areas of bog and heath – this is a species that has declined in Ireland and is now Red-listed.

## 2.0 SURVEY METHODS

The survey is based on the methodology used in the Irish Hen Harrier Survey 2015 (Ruddock *et al.* 2016) to detect breeding territories (see ‘Survey and recording guidelines for contributors’). Two rounds of site visits are required between late-March and mid-May to establish territorial occupancy. Should these visits indicate that there is a territory present, further visits are required between late-May and July. However, if no birds are detected by mid-May, it can be assumed that the establishment of a new territory after that is highly unlikely.

The surveys were carried out on the following dates:

12<sup>th</sup> and 19<sup>th</sup> April

18<sup>th</sup> and 19<sup>th</sup> May

In previous surveys (as detailed in the relevant EIS reports), two vantage points had been used to provide complete coverage over the Milestone site and one for the Inchivara site. These were used again in 2017 and are described below:

### **Milestone**

- **VP 1** (grid ref. 9583 6024) is located on the road at Shevry just east of the site. This gives commanding views over Knockcurraghbola Commons towards the peak of



*Milestone Wind Farm - Hen Harrier Survey 2017*

Knockmaroe, and also views of the north side of the 377 m hill to the south-west of Shevry.

- **VP 2** is located within the site on the mid-slope of Knockcurraghbola Crowlands (grid ref. 9444 5980). This gives views of the internal valley and adjoining slopes extending west of the R497 and to the western slope of Shevry Hill.

**Inchivara**

- **VP 1** (grid ref. 9304 5754) is located on the mid-slope (350 m) of the hill to the south-southeast of the site. This gives a commanding view over the site, the rising ground to the north and east, and the lower land to the west (latter within SPA).

From the VPs, watches of approximately 6 hrs duration (broken into 3 hr sessions) were undertaken in each of the survey sessions (i.e. 12 hrs coverage from each VP). All surveys were carried out in suitable weather conditions (winds <F4). Observations were conducted between 07.00 and 19.00 hrs GMT. The following variables were recorded for sightings (if any) of hen harriers:

- Watch period
- Time of sighting
- Sex of bird
- Behaviour
- Habitat(s) below flight path
- Heights of flight (<10 m, 10-50 m, 50-100m, 100-150m, >150 m)

Where sightings of harriers were made, activity and behaviour of birds observed was identified and differentiated into various standard categories (see Appendix 1). Flight lines (if any) were plotted in the field on a 1:25,000 scale map, with direction of flight indicated. The habitat or habitats over which the birds passed were classified using the standard categories recommended for hen harrier survey (see Appendix 1).

**Other species of conservation importance**

As well as Hen Harrier, any other bird species of conservation interest was recorded.

### **3.0 RESULTS AND DISCUSSION**

#### **Results of the 2017 survey**

Information on the vantage point watches is presented in Appendix 2.

There were no sightings of Hen Harriers within the wind farm site during the vantage point surveys in April and May 2017.

On 19<sup>th</sup> May, a male bird was seen off-site, approximately 2 km northwest of the Inchivara component – this bird was passing west over forestry and bog on the southern slope of Knocknabansha (approx. location R 914593) and within the area of the SPA.

The results confirm that there was no attempt by a Hen Harrier pair to establish a breeding territory within the wind farm study area. The single sighting of a male bird to the northwest could have been from any one of several traditional territories to the north and west of Milestone (male harriers can travel up to 5 km from the nest site when foraging).

The absence of sightings is not surprising as habitats on site are of low value for Hen Harriers (both for nesting and foraging purposes). The plantation forestry that is present is now within the closed canopy stage which is not of significant value for Hen Harriers (see Plates 1 & 2). It is noted that the sightings of Hen Harriers in previous surveys were at a time when open canopy plantation existed which provided suitable foraging habitat.

#### **Other bird species recorded**

There were two records of Kestrel on site in April and one just north of site in May. The April records were both male birds and probably referred to the same individual (sex of May bird not determined). It is likely that Kestrel nests locally (but not on site).

There was one record of Sparrowhawk on site in April and this species is expected to breed locally.

Raven nested off-site in a small quarry to the east of Shevry Hill.

### **4.0 CONCLUSION**

The 2017 survey did not record any sighting of Hen Harrier within or around the wind farm site (the only sighting during the study was of a single bird off-site at a distance of c.2 km from the development area). This conclusively demonstrates that Hen Harrier did not attempt to nest within the site or in the surrounding areas.

Taking into account that there are no records of harriers nesting in this area in the past, and considering the low potential the habitats on site presently have for supporting Hen Harriers, the absence of birds in the study area is not surprising.

## 5.0 REFERENCES

Barton, C., Pollack, C., Norriss, D.W., Nagle, T.A., Oliver, G.A. & Newton, S. (2006) The second national survey of breeding Hen Harriers *Circus cyaneus* in Ireland 2005. *Irish Birds* 8: 1-20

Colhoun, K. & Cummins, S. (2013) Birds of conservation concern in Ireland 2014-2019. *Irish Birds* 9 (4): 523-544.

Ruddock, M., Dunlop, B.J., O'Toole, L., Mee, A., & Nagle, T. (2012) *Republic of Ireland National Hen Harrier Survey 2010*. Irish Wildlife Manual No. 59. NPWS, Dublin.

Ruddock, M., Mee, A., Lusby, J., Nagle, T., O'Neill, S. & O'Toole, L. (2016) *The 2015 National Survey of Breeding Hen Harriers in Ireland*. Irish Wildlife Manual No. 93. NPWS, Dublin.

Scottish Natural Heritage (May 2014). Survey Methods for Use in Assessing the Impacts of Onshore Wind Farms on Bird Communities

*Milestone Wind Farm - Hen Harrier Survey 2017*



Plate 1. View of Milestone Wind Farm from Vantage Point A, looking westwards across site towards Knockcurraghbola Hill. Note closed canopy conifer plantations.



Plate 2. View of Milestone Wind Farm from Vantage Point B, looking eastwards across site towards Shevry Hill (centre of photo). Note improved pasture grassland and closed canopy conifer plantations.

## APPENDIX 1

### Hen Harrier Survey

#### Classification of habitat types

NF 2	New forestry plantation, trees 20-30 cm high
NF 3	New forestry plantation, trees c 1m in height
NF 4	New forestry plantation, trees >2m in height, patchy thickets
2nd F 1 & 2	2nd rotation forestry plantation, trees 20-30 cm high
2nd F 3	New forestry plantation, trees c 1m in height
2nd F 4	New forestry plantation, trees >2m in height, patchy thickets
F	Post thicket plantation
G	Grazing
RG	Rough Grazing & rushy pasture
HB	Heath / Bog
DE	Deciduous woodland & scrub
GO	Gorse
CF	Clearfell
H	Hedgerow

#### Categories for activity and behaviour of observed birds

c - circling  
d - displaying  
fl - flying  
fp - foodpass  
g - on ground  
gl - gliding  
h - hunting  
p - perching  
s - soaring  
wp - with prey  
fp - foodpass

**APPENDIX 2**

**Hen Harrier Survey 2017: details of Vantage Point watches, April and May**

**MILESTONE 3 hour Vantage Point Watches**

VP ID	Date	Watch Period	Observation Details	Weather
1	12 April	08.30-11.30	No HHs Kestrel at Shevry (off-site); Ravens active in area	Dry Wind: SW F2 Visibility: good
2	12 April	12.15-15:15	No HHs	Showers Wind: SW F2-3 Visibility: mod-good
1	19 April	07.45-10.45	No HHs Male kestrel flew through site	Dry Wind: W F2 Visibility: good
2	19 April	12.00-15.00	No HHs Sparrowhawk hunting along edge of conifer plantation Swallows (20+)	Dry Wind: W F2 Visibility: good
2	18 May	10.30-13:30	No HHs Cuckoo calling; Kestrel hunting just north of site	Dry Wind: S F2 Visibility: good
1	18 May	14.30-17:70	No HHs	Dry Wind: S F2 Visibility: good
2	19 May	07.00-10.00	No HHs Ravens (2) overhead	Dry Wind: SW F2 Visibility: good
1	19 May	11.00-14.00	No HHs 2 cuckoos	Occ. showers Wind: SW F2 Visibility: good

**INCHIVARA 3 hour Vantage Point Watches**

VP ID	Date	Watch Period	Observation Details	Weather
1	12 April	16.00-19.00	No HHs	Dry Wind: SW F2 Visibility: good
1	19 April	15.45-18.45	No HHs	Dry Wind: W F2 Visibility: good
1	18 May	07.00-10:00	No HHs Cuckoo calling;	Dry Wind: S F2 Visibility: good
1	19 May	15.00-18.00	Hen Harrier – male c. 2km NW of site – hunting on slope of Knocknabansha	Dry Wind: SW F2 Visibility: good