



RECEIVED: 08/10/2023

Bird Activity Summary Report

Breeding Season 2023

Site. Moanmore, Co. Clare

Client. Greensource

Date. 30.10.2023

Moanmore

Clare Planning Authority - Inspection Purposes Only

1. INTRODUCTION	3
2. METHODOLOGY	4
2.1. Specifying target species	4
2.2. Vantage point surveys.....	4
2.3. Transect survey	4
2.4. Breeding wader surveys	5
2.5. Breeding woodcock surveys	5
2.6. Breeding Raptor Surveys	5
2.7. Hen harrier surveys	5
2.8. Incidental observations	5
2.9. Waterbird Surveys	5
3. RESULTS	6
3.1. Vantage point surveys.....	6
3.2. Transect surveys	7
3.3. Breeding wader Surveys	7
3.4. Breeding woodcock surveys	7
3.4. Breeding raptor surveys.....	8
3.5. Hen harrier surveys	9
3.6. Incidental observations	10
3.7. Waterbird Surveys	11
4. SUMMARY OF RESULTS.....	12
5. BIBLIOGRAPHY	13
APPENDIX 1 - SURVEY EFFORT	14
APPENDIX 2 – TARGET SPECIES OBSERVATIONS.....	17
APPENDIX 3 – NON-TARGET SPECIES OBSERVATIONS	21
APPENDIX 4 – MAPS	23

1. INTRODUCTION

This report is a compilation of the bird activity recorded at the Moanmore site for the period April to September 2023 inclusive. It describes the methodologies and guidance followed, results, and a summary of the main findings. This report is supported by Appendix 1 - 4.

Appendix 1 contains the survey effort which shows all surveys carried out, their timings, weather conditions, surveyor and survey types undertaken during this study period.

Appendix 2 contains a table of all target species observations. This includes a map reference number for each target species observed. The data includes details of species, number of birds, activity, and flight height data.

Appendix 3 lists all non-target species recorded within 500m of the site boundary.

Appendix 4 shows all mapped data from all survey types as well as site and survey locations. Species maps include observations of target species only, and is relevant to the data contained in Appendix 2.

The site area is made up of a mixture of conifer plantation, rough grassland, cutover bog, and intensive farmland. The site is flanked by the River Shannon and River Fergus Estuaries SPA as designated by the National Parks and Wildlife Service (NPWS). The Estuaries SPA is located approximately 1km from the site boundary at its nearest point. Also of note is the Mid-Clare Coast SPA, located 8km to the north of the site.

The reliability of survey work is dependent on the use of appropriately skilled and experienced observers. As such, surveys were carried out by the following members of the Irish Ornithological Survey Group (IOSG). John N Murphy (Environmental Manager & Lead Ornithologist), Stan Nugent (Field Ecological Surveyor/ Ornithologist & BSc (Hon) Environmental Studies), Padraig Cullinan (Field Ecological Surveyor/ Ornithologist) and Austin Cooney (Field Ecological Surveyor/ Ornithologist).

This report was prepared by Tom Ryan BSc. (Field Ecologist/Ornithologist) and reviewed by John N Murphy (Environmental Manager & Lead Ornithologist).

2. METHODOLOGY

2.1. Specifying target species

Target species were considered to be those listed on Annex I of the EU Birds Directive (2009/147/EC) species listed on the Red List of Birds of Conservation Concern in Ireland (Gilbert et al., 2021), species listed on Schedule 4 of the Wildlife Acts 1976-2018 (39/1976) and species that are a Qualifying Interest (QI) of a Special Protection Area (SPA) designated under the EU Habitats Directive (92/43/EEC) Natura 2000 network within 15km of the proposed development site. A select number of species which fall outside these categories and are deemed noteworthy from an ecological perspective are also included as target species in this report. Passerines are not included as target species as they are not considered to be adversely affected by wind energy developments (SNH, 2017).

2.2. Vantage point surveys

Vantage point surveys were carried out in accordance with SNH guidance (SNH, 2017). Two vantage point locations (VPs) were chosen and surveyed for 6 hours per month throughout the winter period. The locations were chosen to give an adequate view of the site out to 500m. Each vantage point was surveyed by scanning a two-kilometre radius overlooking the study area.

Set height bands were used to categorize each flightline. These were chosen based on modern turbine heights and to aid data input into collision risk analysis. Height bands used were 0-20m, 20-50m, 50-100m, 100-200m and >200m.

To achieve maximum visibility vantage points were selected on elevated areas of land, where possible, or in other areas which provide clear views over the entire study area. The study area is defined as the site boundary up to and including 500m that extends from the site boundary, hereafter referred to as the 500m study area. Survey effort for VPs is included in Appendix 1. Summary results are in table format in Section 3.1 and in full format in Appendix 2, Table 1. VP locations are mapped in Appendix 4, Figure 1.

2.3. Transect survey

Set transect routes were selected at the beginning of the survey period. The study area for these surveys was the wind farm site and out to a 500m survey radius of the wind farm site. The transects were selected to encompass different habitats within the 500m survey radius, where access allowed. Survey methods were adapted from the Countryside Bird Survey (CBS) (Birdwatch Ireland, 2012) and aimed to locate any target species within the study area. Survey effort for transects is included in Appendix 1. Results are summarized in section 3.2. Transect routes are mapped in Appendix 4, Figure 2

2.4. Breeding wader surveys

Wader surveys were carried out in April, May and June within the 500m study area. There were three visits made to the most suitable areas for these species. These visits were made in addition to the standard transect surveys described in section 2.3. The survey method is adapted from the O'Brien and Smith methodology for censusing lowland breeding wader populations as described in Gilbert et al (1998). Wader transects are displayed in Appendix 4, Figure 3.

2.5. Breeding woodcock surveys

Woodcock surveys were carried out to detect the presence of displaying males over areas of suitable habitat within the 500m study area. The transects surveyed are displayed in Appendix 4, Figure 3. The survey method followed is as described in Gilbert et al (1998) and the British Trust for Ornithology (BTO) (2013).

2.6. Breeding Raptor Surveys

Bird of prey species were surveyed in accordance with the methods described by Hardey et al (2013). Suitable breeding habitat areas out to 2km from the development boundary were visited during the core breeding season. The study area for breeding raptors is displayed in Appendix 4, Figure 4.

2.7. Hen harrier surveys

Nearby suitable hen harrier breeding areas were surveyed for the presence of breeding behaviour during the core breeding season. Methods followed were those described in Hardey et al (2013). Set areas surveyed are displayed in Appendix 4, Figure 5.

2.8. Incidental observations

Incidental observations of target species which were recorded outside survey times or during surveys not covered in this report are summarised in Table 5.

2.9. Waterbird Surveys

The nearby Poulmasherry Bay was surveyed in September to monitor the distribution and abundance of wintering wildfowl populations within the broader hinterland of the site. The survey methodology was based on the birdwatch Ireland's IWEBS methodology (Bibby et al, 2000). Table 6 below lists and counts all species recorded. Survey effort for waterbird surveys is included in Appendix 1. The counted sections are mapped in Appendix 4, Figure 19.

3. RESULTS

3.1. Vantage point surveys

Table 1 below shows a summary of observations for the target species listed above that were recorded during VP surveys between April and September 2023. Any activity recorded in relation to species of highest conservation significance have been summarised in this table. A full list of all target species recorded during VP surveys is displayed in Appendix 2, Table 1.

Table 1. Vantage Point Survey Summary Results

Conservation Status	Species	Total number of observations recorded during VP watches	Number of observations on site/within 500m	Activity of note	Figure
Annex 1	Hen Harrier	13	13	Observed hunting the site area. Two separate birds observed on site in May.	Appendix 4 – Fig. 6
Annex 1	Merlin	1	1	Hunting on site in April.	Appendix 4 – Fig. 7
Annex 1	Kestrel	7	7	Flying and hunting on site. Male and female birds present.	Appendix 4 – Fig. 8

3.2. Transect surveys

Transect surveys were carried out in the period May and July at Transects A-C. All target species recorded are summarised in Table 2 below. Full results of all non-target species recorded are listed in Appendix 3, Tables 1-3.

Table 2. Transect Survey Summary Results

Conservation Status	Species	Total number of observations during transect surveys	Flock Size Range	Number of observations on site/ within 500m	Activity of note	Figure
BoCCI Red List1	Kestrel	2	1	1	Observed from transect B and transect C.	Appendix 4 – Fig. 2
BoCCI Amber List	Herring Gull	2	2-3	2	Flying over site at transect A and B.	Appendix 4 – Fig. 2
BoCCI Amber List	Lesser Black-backed Gull	1	1	1	One bird on site in July.	Appendix 4 – Fig. 2
BoCCI Green List	Mallard	1	1	1	One bird on site in May.	Appendix 4 – Fig. 2

3.3. Breeding wader Surveys

Breeding wader surveys were carried out in May and June 2023. No wader observations were recorded during breeding wader surveys.

3.4. Breeding woodcock surveys

Breeding woodcock surveys were carried out in April and May 2023. No woodcock observations were recorded during breeding woodcock surveys.

3.4. Breeding raptor surveys

Observations recorded during bird of prey surveys are listed in Table 3 below. Mapped observations are included in Appendix 4, Figure 17.

Table 3. Breeding Raptor Survey Results

Map Ref GIS	Date	Species	No. of Birds	Age	Sex	Flight Path Notes
HH 001	12/06/23	Hen Harrier	1	Adult	M	Hunting low over rough grassland for 4 minutes. Went out of view to the north.
HH 002	09/07/23	Hen Harrier	1	Adult	M	Travelling south in flight
K 001	12/06/23	Kestrel	1	Adult	F	Perched on pole
K 002	09/07/23	Kestrel	2			Hunting over bog at 70-90m
BZ 001	26/05/23	Buzzard	1	Adult		Hovering, dropped to ground
BZ 002	09/07/23	Buzzard	1			Soaring over rough grassland

3.5. Hen harrier surveys

Breeding survey observations are listed in Table 4 below. The surveyed areas are mapped and included in Appendix 4, Figure 5. No breeding behaviour was recorded during the study period.

Table 4. Hen Harrier Survey Results

HH AREA	Flight Reference Number GIS Maps	Date	Time	Species Common Name	No. of Birds	Age	Sex	Activity	Flight Path Notes
B - North east of site	HH 001	25/05/23	11:06	Hen Harrier	1	Immature	M	Flying	4 km northeast of the site in May. Hunted for 3 minutes then went northwards over plantation.

3.6. Incidental observations

Incidental records are listed in Table 5 below. Observations are mapped and included in Appendix 4, Figure 18.

Table 5. Incidental Observations

Map Ref GIS	Date	Species Common Name	No. of Birds	Notes
HH 001	06/05/2023	Hen Harrier	1	Adult male hunting at southwest of 500m study area between 14.06 - 14.09. Had spent 30 minutes hunting Poulmasherry bay and fields to the west of the site before coming on site.
ET 001	19/06/2023	Little Egret	1	Flying south through site at 08.50
K 001	10/05/2023	Kestrel	1	Hunting beside road north of VP2

3.7. Waterbird Surveys

Waterbird survey counts from Poulnasherry Bay are listed in Table 6 below. Survey points are mapped in Appendix 4, Figure 19.

Table 6. Waterbird Survey - Poulnasherry Bay

Waterbird Survey	18/09/2023		
Poulnasherry Bay	PC1	PC2	PC3
Species	No.	No.	No.
Bar - tailed Godwit		1	46
Black-headed Gull	1	34	70
Common Gull		42	10
Cormorant		7	3
Curlew	27	77	85
Dunlin		10	100
Gadwall	5		
Great Black-backed Gull	1	3	
Great Crested Grebe		2	2
Greenshank	12		19
Grey Heron	1	3	1
Grey Plover			6
Herring Gull	40	12	15
Knot			40
Lesser Black-backed Gull	1		2
Little Egret	3	8	16
Little Grebe	1		
Mallard	56		30
Oystercatcher		38	21
Redshank	39	61	104
Ringed Plover		6	32
Shelduck			1
Snipe		5	4
Teal			25
Wigeon	149		5

4. SUMMARY OF RESULTS

Overall, there were twelve target species observed within the core 500m study area during the summer season 2023 at Moanmore.

Hen harrier recorded on many occasions hunting on site during the study period. In addition to the on-site records, hen harrier was also recorded hunting the nearby Poulmasherry Bay at the west of the site as well as the surrounding rough grassland. One bird was recorded in flight approximately 4km to the northeast of the site during breeding hen harrier surveys. No breeding activity was recorded within the broader hinterland of the site.

A single merlin was recorded hunting on site in April. No further observations of this species were subsequently recorded.

A single little egret was recorded passing through the site going south in June.

Kestrel adults were recorded on site and within the broader hinterland, no breeding behaviour was recorded.

In addition to the above, a number of waterbird species were recorded in the nearby Poulmasherry Bay in September.

5. BIBLIOGRAPHY

Bibby, C.J., Burgess, N.D., Hill, D.A., and Mustoe, S. (2000) Bird Census Techniques. Academic Press, London.

Birdwatch Ireland & National Parks and Wildlife Service (NPWS) (2012) CBS Manual: Guidelines for Countryside Bird Survey participants, available: CBS Counter Manual - Birdwatch Ireland [accessed 30 August 2022].

Council Directive (EU) 2009/147/EC of 30 November 2009 on the conservation of wild birds.

Gilbert et al. (1998) Bird Monitoring Methods. Pelagic Publishing.

Gilbert G, Stanbury A and Lewis L (2021), "Birds of Conservation Concern in Ireland 2020 –2026". Irish Birds 9: 523—544.

Hardy et al. (2013) Raptors. A field Guide for Surveys and Monitoring. The Stationary Office, Edinburgh.

National Parks and Wildlife Service (NPWS) (2023) Download Boundary Data [online], available: Download Boundary Data | National Parks & Wildlife Service (npws.ie) [accessed 01/05/2023].

O Donoghue, B. (2019) Irish Hen Harrier Winter Survey – Survey Guide [online], available: Irish Hen Harrier Winter Survey (ihhws.ie) [accessed 01/10/2022].

Scottish Natural Heritage (SNH) (2016) Assessing Connectivity with Special Protection Areas (SPAs) – Version 3, June 2016. Scottish Natural Heritage.

Scottish Natural Heritage (SNH) (2017) Recommended bird survey methods to inform impact assessment of onshore wind farms – Version 2, March 2017. Scottish Natural Heritage.

Wildlife Act 1976 - 2012, No 39/1976, S. 22, Dublin: Office of the Attorney General.

British Trust for Ornithology (BTO) (2013) Breeding Woodcock Monitoring Survey Instructions [online], available: [Annual breeding woodcock monitoring instructions Final.pdf \(bto.org\)](#) [accessed 20/03/2023].

APPENDIX 1 - SURVEY EFFORT

Table 1. Survey Effort

Date	Survey Type	Survey Location	Start Time	Survey Duration	Visibility	Cloud Cover Okta s	Rain	Wind Speed (Bft.)	Wind	Temperature °C	Observer
07/04/2023	Vantage Point	1	14:00	03:00	Good	3	Dry	4	S	13	SN
07/04/2023	Vantage Point	2	14:00	03:00	Good	3	Dry	4	S	13	AC
07/04/2023	Vantage Point	1	17:30	03:00	Good	6	Dry	4	S	10	SN
07/04/2023	Vantage Point	2	17:30	03:00	Good	6	Dry	4	S	10	AC
03/05/2023	Vantage Point	1	06:15	03:00	Good	8	Dry	4	S	10	AC
03/05/2023	Vantage Point	2	06:15	03:00	Good	8	Dry	4	S	10	SN
03/05/2023	Vantage Point	1	09:45	03:00	Good	8	Dry	4	SE	16	AC
03/05/2023	Vantage Point	2	09:45	03:00	Good	8	Dry	4	SE	16	SN
06/06/2023	Vantage Point	1	07:30	03:00	Good	1	Dry	3	E	15	SN
06/06/2023	Vantage Point	2	07:30	03:00	Good	1	Dry	3	E	15	AC
06/06/2023	Vantage Point	1	11:00	03:00	Good	1	Dry	3	E	15	SN
06/06/2023	Vantage Point	2	11:00	03:00	Good	1	Dry	3	E	15	AC
07/07/2023	Vantage Point	2	06:50	03:00	Good	8	Light Showers	3	S	16	SN
07/07/2023	Vantage Point	1	07:00	03:00	Good	8	Light Showers	3	S	16	AC
07/07/2023	Vantage Point	2	10:20	03:00	Good	7	Dry	4	S	20	SN
07/07/2023	Vantage Point	1	10:30	03:00	Good	7	Dry	4	S	20	AC
04/08/2023	Vantage Point	2	06:45	03:00	Good	4	Dry	2	NW	12	AC
04/08/2023	Vantage Point	1	07:00	03:00	Good	4	Dry	2	NW	12	SN
04/08/2023	Vantage Point	2	10:15	03:00	Good	8	Dry	3	NW	16	AC
04/08/2023	Vantage Point	1	10:30	03:00	Good	8	Dry	3	NW	16	SN
05/09/2023	Vantage Point	1	06:50	03:00	Good	3	Dry	3	E	17	AC
05/09/2023	Vantage Point	2	07:00	03:00	Good	3	Dry	3	E	17	SN
05/09/2023	Vantage Point	1	10:20	03:00	Good	7	Dry	4	E	21	AC

Date	Survey Type	Survey Location	Start Time	Survey Duration	Visibility	Cloud Cover Okta s	Rain	Wind Speed (Bft.)	Wind	Temperature °C	Observer
05/09/2023	Vantage Point	2	10:30	03:00	Good	7	Dry	4	E	21	SN
17/05/2023	Transect	A-C	08:20	02:45	Good	1	Dry	3	W	12	AC
04/07/2023	Transect	A-C	08:30	04:00	Good	8	Light Showers	4	W	13	SN
18/09/2023	Poulnasherry Bay	PC1	13:00	02:00	Good	6	Light Showers	5	W	14	SN
18/09/2023	Poulnasherry Bay	PC2	13:00	02:00	Good	6	Light Showers	5	W	14	PC
18/09/2023	Poulnasherry Bay	PC3	13:00	02:00	Good	6	Light Showers	5	W	14	JNM
03/04/2023	Hen Harrier Nest Survey	Within 500m & N of 5km hinterland	12:50	04:40	Good	8	Dry	4	S	11	AC
05/04/2023	Hen Harrier Nest Survey	N & E of 5km hinterland	11:30	06:00	Moderate - Good	5	Heavy Showers	4	W	12	JNM
05/05/2023	Hen Harrier Nest Survey	Within 500m & N of 5km hinterland	09:00	04:55	Moderate - Good	4	Dry	3	W	12	JNM
25/05/2023	Hen Harrier Nest Survey	N & E of 5km hinterland	08:00	07:00	Good	2	Dry	3	W	15	JNM
07/06/2023	Hen Harrier Nest Survey	N & E of 5km hinterland	14:00	04:30	Good	4	Dry	3	SE	20	JNM
30/06/2023	Hen Harrier Nest Survey	Within 500m & N of 5km hinterland	08:30	08:20	Moderate	8	Heavy Showers	5	W	15	JNM
05/07/2023	Hen Harrier Nest Survey	Within 500m & N of 5km hinterland	13:30	05:00	Good	4	Dry	5	NW	17	JNM

Date	Survey Type	Survey Location	Start Time	Survey Duration	Visibility	Cloud Cover Okta s	Rain	Wind Speed (Bft.)	Wind	Temperature °C	Observer
08/07/2023	Hen Harrier Nest Survey	N & E of 5km hinterland	08:10	05:10	Good	7	Light Showers	5	SW	18	AC
11/04/2023	Breeding Woodcock Survey	500m Study Area	17:00	04:00	Moderate	6	Heavy Showers	5	W	6	JNM
10/05/2023	Wader/Woodcock Survey	500m Study Area	16:30	05:30	Good	2	Drizzle	5	W	14	JNM
06/05/2023	Breeding Wader Survey	500m Study Area	08:00	07:00	Good	5	Dry	3	S	18	JNM
19/06/2023	Breeding Wader Survey	500m Study Area	07:00	03:00	Good	2	Dry	1	S	19	PC
20/06/2023	Breeding Wader Survey	500m Study Area	07:00	05:00	Moderate	4	Dry	3	S	17	JNM
26/05/2023	Breeding Raptor Survey	2km hinterland	08:00	04:00	Good	1	Dry	3	NE	12	SN
12/06/2023	Breeding Raptor Survey	2km hinterland	08:35	05:15	Good	8	Light Showers	3	NW	22	AC
09/07/2023	Breeding Raptor Survey	2km hinterland	08:15	04:55	Good	7	Light Showers	4	SW	18	AC

APPENDIX 2 – TARGET SPECIES OBSERVATIONS

Table 1. VP Flights

Species Reference Number GIS Maps	Date	Time	VP	Species Common Name	No. of Birds	Activity	Flight Height Band 0 -20m	Flight Height Band 20-50m	Flight Height Band 50-100m	Flight Height Band 100 - 200m	Flight Height Band >200 m	Total Duration (s)
BZ 001	06/06/23	09:22	1	Buzzard	1	Hunting			330			330
BZ 002	05/09/23	09:51	2	Buzzard	1	Flying		60				60
BZ 003	05/09/23	12:34	1	Buzzard	1	Soaring				240		240
GB 001	07/04/23	15:26	2	Great Black-backed Gull	1	Flying			90			90
H 001	07/04/23	17:03	2	Grey Heron	1	Flying		36				36
H 002	03/05/23	08:16	1	Grey Heron	1	Flying		130				130
H 003	07/07/23	09:11	1	Grey Heron	1	Flying	75					75
H 004	07/07/23	10:10	2	Grey Heron	1	Flying		7				7
HG 001	07/04/23	14:15	1	Herring Gull	2	Flying	11					11
HG 002	07/04/23	16:12	1	Herring Gull	1	Flying		7				7
HG 003	07/04/23	17:36	1	Herring Gull	1	Flying		14				14
HG 004	03/05/23	08:50	1	Herring Gull	1	Flying	10					10
HG 005	03/05/23	10:45	2	Herring Gull	1	Flying		9				9
HG 006	06/06/23	07:48	1	Herring Gull	2	Flying		10				10
HG 007	06/06/23	09:49	1	Herring Gull	1	Flying			7			7
HG 008	07/07/23	08:30	2	Herring Gull	2	Flying		3				3
HG 009	07/07/23	11:20	1	Herring Gull	1	Flying		110				110
HG 010	07/07/23	12:00	2	Herring Gull	1	Flying	12					12
HG 011	04/08/23	07:05	1	Herring Gull	3	Flying			7			7
HG 012	04/08/23	08:20	1	Herring Gull	1	Flying		15				15
HG 013	04/08/23	10:36	1	Herring Gull	1	Flying		16				16
HG 014	05/09/23	07:52	1	Herring Gull	1	Flying		30				30

Species Reference Number GIS Maps	Date	Time	VP	Species Common Name	No. of Birds	Activity	Flight Height Band 0 -20m	Flight Height Band 20-50m	Flight Height Band 50-100m	Flight Height Band 100 - 200m	Flight Height Band >200 m	Total Duration (s)
HH 001	03/05/23	07:54	1	Hen Harrier	2	Hunting	100	20	80			200
HH 002	03/05/23	07:57	2	Hen Harrier	1	Flying			30			30
HH 003	03/05/23	07:57	2	Hen Harrier	1	Flying	12					12
HH 004	03/05/23	09:15	2	Hen Harrier	1	Hunting	9					9
HH 005	03/05/23	10:56	2	Hen Harrier	1	Hunting	30					30
HH 006	06/06/23	08:30	1	Hen Harrier	1	Hunting	25					25
HH 007	06/06/23	09:29	2	Hen Harrier	1	Hunting	40					40
HH 008	06/06/23	12:18	2	Hen Harrier	1	Hunting	20					20
HH 009	06/06/23	12:20	1	Hen Harrier	1	Hunting	300					300
HH 010	06/06/23	12:29	2	Hen Harrier	1	Hunting	30					30
HH 011	07/07/23	07:56	2	Hen Harrier	1	Hunting	20					20
HH 012	07/07/23	09:15	1	Hen Harrier	1	Hunting	600					600
HH 013	05/09/23	12:20	1	Hen Harrier	1	Hunting	50					50
K 001	03/05/23	08:12	2	Kestrel	1	Hunting		7				7
K 002	07/07/23	08:13	1	Kestrel	1	Hunting			360			360
K 003	07/07/23	08:47	2	Kestrel	1	Hunting			25			25
K 004	07/07/23	08:48	2	Kestrel	1	Flying			8			8
K 005	04/08/23	08:01	1	Kestrel	1	Flying		12				12
K 006	05/09/23	07:14	2	Kestrel	1	Hunting		10				10
K 007	05/09/23	08:10	2	Kestrel	2	Flying		10				10
LB 001	07/04/23	18:30	1	Lesser Black-backed Gull	2	Flying			9			9
LB 002	07/04/23	18:41	1	Lesser Black-backed Gull	1	Circling				22		22
LB 003	03/05/23	07:06	1	Lesser Black-backed Gull	3	Flying		80				80

Species Reference Number GIS Maps	Date	Time	VP	Species Common Name	No. of Birds	Activity	Flight Height Band 0 -20m	Flight Height Band 20- 50m	Flight Height Band 50- 100m	Flight Height Band 100 - 200m	Flight Height Band >200 m	Total Duration (s)
LB 004	03/05/23	07:40	2	Lesser Black-backed Gull	1	Flying		12				12
LB 005	06/06/23	08:36	1	Lesser Black-backed Gull	1	Flying	10					10
LB 006	06/06/23	08:37	2	Lesser Black-backed Gull	1	Flying		50				50
LB 007	06/06/23	10:35	1	Lesser Black-backed Gull	1	Flying			12			12
LB 008	07/07/23	08:43	2	Lesser Black-backed Gull	1	Flying			12			12
LB 009	07/07/23	10:00	2	Lesser Black-backed Gull	2	Flying		20				20
LB 010	04/08/23	10:28	2	Lesser Black-backed Gull	1	Flying			70			70
LB 011	05/09/23	07:04	2	Lesser Black-backed Gull	1	Flying		15				15
LB 012	05/09/23	08:01	2	Lesser Black-backed Gull	3	Flying		25				25
LB 013	05/09/23	08:46	2	Lesser Black-backed Gull	1	Flying		25				25
LB 014	05/09/23	10:07	2	Lesser Black-backed Gull	1	Flying		17				17
LB 015	05/09/23	10:08	1	Lesser Black-backed Gull	2	Flying			60			60
MA 001	07/04/23	18:51	2	Mallard	1	Flying	20					20
MA 002	06/06/23	11:39	2	Mallard	1	Flying		16				16
ML 001	07/04/23	16:41	1	Merlin	1	Hunting		16				16
SN 001	05/09/23	10:24	1	Snipe	4	Flying			15			15

Species Reference Number GIS Maps	Date	Time	VP	Species Common Name	No. of Birds	Activity	Flight Height Band 0 -20m	Flight Height Band 20- 50m	Flight Height Band 50- 100m	Flight Height Band 100 - 200m	Flight Height Band >200 m	Total Duration (s)
WM 001	03/05/23	10:10	2	Whimbrel	21	Circling		12				12
WM 002	03/05/23	10:13	1	Whimbrel	5	Flying	6					6
WM 003	05/09/23	07:14	1	Whimbrel	1	Flying			16			16

APPENDIX 3 – NON-TARGET SPECIES OBSERVATIONS

Table 1. Transect A- Non-target species

Moanmore Transect A Species Count	17/05/2023	04/07/2023
Species	No.	No.
Blackbird	4	4
Blue Tit		2
Chaffinch	2	2
Coal Tit		1
Cuckoo	1	
Dunnock		1
Great Tit		4
Hooded Crow	4	4
Jackdaw		5
Magpie	1	4
Meadow pipit	6	2
Pied wagtail	2	
Reed Bunting		4
Robin	2	4
Rook	6	22
Skylark	3	
Song Thrush		1
Starling (Common)	6	22
Swallow	2	25
Woodpigeon		5
Wren	5	7

Table 2. Transect B – Non-target species

Moanmore Transect B Species Count	17/05/2023	04/07/2023
	No.	No.
Blackbird	3	2
Blackcap	2	
Bullfinch		2
Chaffinch	3	
Coal Tit		2
Cuckoo	2	
Dunnock		3
Goldfinch	2	
Grasshopper Warbler		1
Great Tit		2
Hooded Crow	4	
Magpie	3	
Meadow pipit	4	6

Moanmore Transect B Species Count	17/05/2023	04/07/2023
	No.	No.
Pied wagtail	1	
Raven	1	
Reed Bunting		2
Rook		2
Sand Martin		1
Sedge Warbler	2	
Starling (Common)		2
Swallow	2	2
Swift (Common)		3
Willow Warbler	5	4
Woodpigeon		2
Wren	4	4

Table 3. Transect C Non-target species

Moanmore Transect C Species Count	17/05/2023	04/07/2023
	No.	No.
Blackbird	3	3
Blackcap	2	1
Blue Tit		2
Chaffinch	2	
Chiffchaff		2
Coal Tit		1
Cuckoo	3	
Duncock	2	
Goldfinch		4
Long-tailed Tit		20
Meadow pipit	11	7
Pheasant	1	
Raven		1
Reed Bunting		2
Robin	3	2
Rook		4
Sedge Warbler	2	
Skylark	6	
Song Thrush	1	2
Starling (Common)	2	2
Stonechat	4	2
Swallow	4	
Willow Warbler	2	
Wren	4	6

APPENDIX 4 – MAPS

Clare Planning Authority - Inspection Purposes Only!

RECEIVED: 08/05/2025



Moanmore Bird Surveys

Summer 2023



-  Moanmore Study Area
-  Moanmore 500m Study Area
-  Moanmore VP Locations

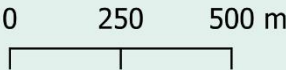
**Figure 1:
Site Layout**

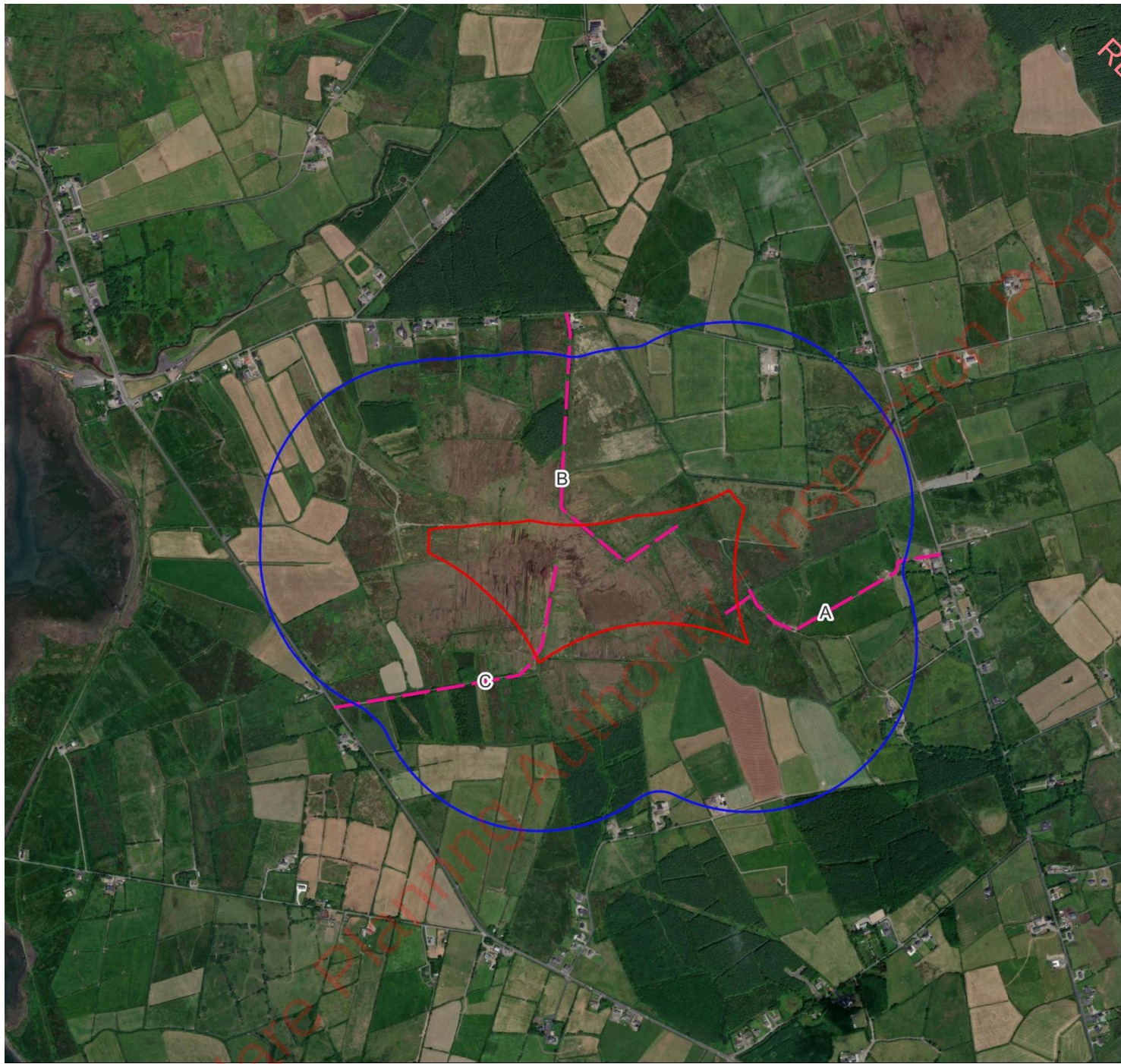
Author: Tom Ryan

Reviewed By: John Murphy

02/11/2023

Scale: 1:15,000





Moanmore Bird Surveys

Summer 2023



-  Moanmore Study Area
-  Moanmore 500m Study Area
-  Transects

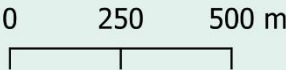
Figure 2:
Transect Locations

Author: Tom Ryan

Reviewed By: John Murphy

02/11/2023

Scale: 1:15,000





Moanmore Bird Surveys

Summer 2023



-  Moanmore Study Area
-  Moanmore 500m Study Area
-  Breeding wader transects

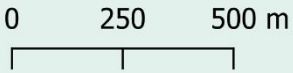
Figure 3:
Breeding Wader /
Woodcock Survey
Transects

Author: Tom Ryan

Reviewed By: John Murphy

02/11/2023

Scale: 1:15,000





Moanmore Bird Surveys

Summer 2023



-  Moanmore Study Area
-  Moanmore 500m Study Area
-  2km hinterland

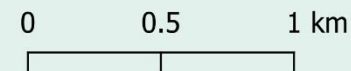
Figure 4:
Breeding Raptor Survey
Area

Author: Tom Ryan

Reviewed By: John Murphy

02/11/2023

Scale: 1:20,000





Moanmore Bird Surveys

Summer 2023



-  Moanmore Study Area
-  Moanmore 500m Study Area
-  Hen Harrier Survey Areas

Figure 5:
Hen Harrier Survey
Locations

Author: Tom Ryan

Reviewed By: John Murphy

02/11/2023

Scale: 1:55,000





Moanmore Bird Surveys

Summer 2023



-  Moanmore Study Area
-  Moanmore 500m Study Area
-  Hen Harrier

Figure 6:
VP Hen Harrier Flights

Author: Tom Ryan

Reviewed By: John Murphy

02/11/2023

Scale: 1:15,000

0 250 500 m



Moanmore Bird Surveys

Summer 2023



-  Moanmore Study Area
-  Moanmore 500m Study Area
-  Merlin

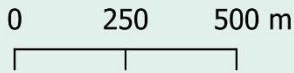
Figure 7:
VP Merlin Flights

Author: Tom Ryan

Reviewed By: John Murphy

02/11/2023

Scale: 1:15,000





Moanmore Bird Surveys

Summer 2023

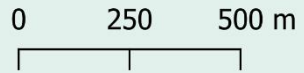


- Moanmore Study Area
- Moanmore 500m Study Area
- Kestrel

Figure 8:
VP Kestrel Flights

Author: Tom Ryan
Reviewed By: John Murphy
02/11/2023

Scale: 1:15,000





Moanmore Bird Surveys

Summer 2023



-  Moanmore Study Area
-  Moanmore 500m Study Area
-  Snipe

Figure 9:
VP Snipe Flights

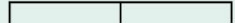
Author: Tom Ryan

Reviewed By: John Murphy

02/11/2023

Scale: 1:15,000

0 250 500 m





Moanmore Bird Surveys

Summer 2023



- Moanmore Study Area
- Moanmore 500m Study Area
- Buzzard

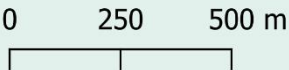
Figure 10:
VP Buzzard Flights

Author: Tom Ryan

Reviewed By: John Murphy

02/11/2023

Scale: 1:15,000





Moanmore Bird Surveys

Summer 2023



- Moanmore Study Area
- Moanmore 500m Study Area
- Whimbrel

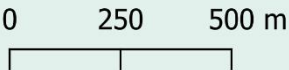
Figure 11:
VP Whimbrel Flights

Author: Tom Ryan

Reviewed By: John Murphy

02/11/2023

Scale: 1:15,000





Moanmore Bird Surveys

Summer 2023

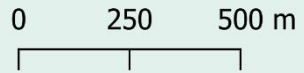


- Moanmore Study Area
- Moanmore 500m Study Area
- Great Black-backed Gull

Figure 12:
VP Great Black-backed
Gull Flights

Author: Tom Ryan
Reviewed By: John Murphy
02/11/2023

Scale: 1:15,000





Moanmore Bird Surveys

Summer 2023



-  Moanmore Study Area
-  Moanmore 500m Study Area
-  Grey Heron

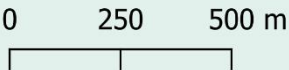
Figure 13:
VP Grey Heron Flights

Author: Tom Ryan

Reviewed By: John Murphy

02/11/2023

Scale: 1:15,000





Moanmore Bird Surveys

Summer 2023



- Moanmore Study Area
- Moanmore 500m Study Area
- Herring Gull

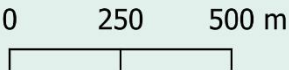
Figure 14:
VP Herring Gull Flights

Author: Tom Ryan

Reviewed By: John Murphy

02/11/2023

Scale: 1:15,000





Moanmore Bird Surveys

Summer 2023



-  Moanmore Study Area
-  Moanmore 500m Study Area
-  Lesser Black-backed Gull

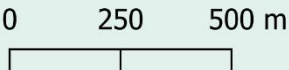
Figure 15:
VP Lesser Black-backed
Gull Flights

Author: Tom Ryan

Reviewed By: John Murphy

02/11/2023

Scale: 1:15,000





Moanmore Bird Surveys

Summer 2023



- Moanmore Study Area
- Moanmore 500m Study Area
- Mallard

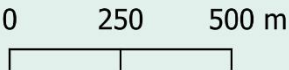
Figure 16:
VP Mallard Flights

Author: Tom Ryan

Reviewed By: John Murphy

02/11/2023

Scale: 1:15,000





Moanmore Bird Surveys

Summer 2023



- Moanmore Study Area
- Moanmore 500m Study Area
- Breeding raptor survey obs.

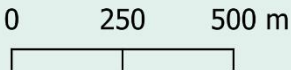
Figure 17:
Breeding Raptor Survey
Observations

Author: Tom Ryan

Reviewed By: John Murphy

02/11/2023

Scale: 1:15,000





Moanmore Bird Surveys

Summer 2023



-  Moanmore Study Area
-  Moanmore 500m Study Area
-  Incidental Observations

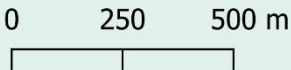
Figure 18:
Incidental Observations

Author: Tom Ryan

Reviewed By: John Murphy

02/11/2023

Scale: 1:15,000





Moanmore Bird Surveys

Summer 2023



-  Moanmore Study Area
-  Moanmore 500m Study Area
-  Waterbird Survey Points

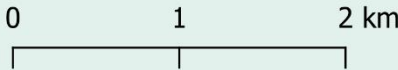
Figure 19:
Waterbird Survey
Points
- Poulnasherry Bay

Author: Tom Ryan

Reviewed By: John Murphy

02/11/2023

Scale: 1:40,000





Moanmore Bird Surveys

Summer 2023



-  Moanmore Study Area
-  Moanmore 500m Study Area
-  HH Survey Observations

Figure 20:
Hen Harrier Survey
Observations

Author: Tom Ryan

Reviewed By: John Murphy

08/01/2024

Scale: 1:40,000

