Technical Appendix 9.2: Additional Bird Surveys 2023

Windburn Wind Farm

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SLR Project No.: 428.V12959.00001

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Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
01	2 June 2025	R. McLeod	M. Austin	A. Smith

Executive Summary

The purpose of this report is to present the results of the additional ornithology surveys undertaken between March and July 2023 to cover the additional development area in Perth and Kinross plus the proposed access route, which were not previously surveyed.

The aim of these surveys was to provide baseline data on the breeding bird populations within the proposed development site and species-specific survey buffers, in order to inform an Ecological Impact Assessment (EcIA). This report does not provide advice of potential impacts and mitigation for the proposed development.

Surveys conducted consisted of the following:

- Breeding wader surveys were completed between April and July 2023 with one curlew, one oystercatcher and two snipe territories recorded within the survey buffer of 500m.
- Species-specific raptor surveys were undertaken within 2km of the site (completed during April – July 2023). A kestrel breeding territory was recorded within the turbine envelope area and a short-eared owl breeding territory was recorded within the access track survey area. Red kite, buzzard and raven were recorded flying over, displaying or hunting on site or within 2km.
- Black grouse surveys were undertaken in 2023 with no records of black grouse returned.

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Acronyms and Abbreviations

BTO	British Trust for Ornithology
SLR	SLR Consulting
SNH	Scottish Natural Heritage
VPs	Vantage Points

1.0 Introduction

The purpose of this report is to show the results of the additional ornithology surveys in 2023 to cover the additional development area in Perth and Kinross (on the Blackford estate) plus the proposed access route, which were not previously surveyed. Details of the site and proposed development can be found in **Technical Appendix 9.1: Ornithological Surveys 2021-23.**

1.1 Scope of Work

Further breeding wader, breeding raptor and black grouse surveys were carried out in the 2023 breeding season to cover the additional development area in Perth and Kinross plus the proposed access route, which were not previously surveyed.

Table 1-1: Survey Type and Methodology

Survey Type	Summary Methodology (see Section 2.0 for further details)
Moorland Breeding Wader	Four visits were carried out between April and July 2023 within the development area (within Perth & Kinross only in addition to the surveys carried out in 2021 and 2022 in Clackmannanshire) and proposed access route plus a 250m buffer using an adapted Brown and Shepherd (1993)[1] methodology.
Breeding Raptor Surveys	Four visits were carried out between April and July 2023. Species-specific surveys were undertaken for all raptors likely to occur, following methods outlined in Hardey *et al.* (2013)[2], within 2km of the site development area (within Perth & Kinross only in addition to the surveys carried out in 2021 and 2022 in Clackmannanshire). Data collected during moorland breeding bird surveys were also used to define territories within the survey buffer.
Black Grouse Lek Surveys	Two visits to habitats suitable for lekking birds within the development area to assess suitability and usage. Methods based on Etheridge and Baines (1995)[3]. The visits were in March and April 2023.

[1] A. F. Brown & K. B. Shepherd (1993). A method for censusing upland breeding waders. Bird Study, 40:3, 189-195, DOI: 10.1080/00063659309477182

[2] Hardey, J., Crick, H.Q.P., Wernham, C., Riley, H., Etheridge, B., Thompson, D. (2013). *Raptors: A field guide for surveys and monitoring* (3rd Edition).

[3] Etheridge, B. & Baines, D. (1995). *Instructions for the Black Grouse Survey 1995/6: a Joint RSPB/GCT/JNCC/SNH Project.* Unpublished.

1.2 Purpose of Report

This report outlines the surveys undertaken and methods used during the baseline ornithology surveys. It summarises the survey data obtained and provides descriptions of the legal and conservation status of the species recorded.

1.2.1 Target Species

The following species were considered as target species:

- All raptor and owl species
- Breeding and migratory wildfowl; and
- Breeding and migratory waders

2.0 Survey Methodology

2.1 Survey Personnel

The ornithological field surveys were undertaken as described by SLR field surveyors and trusted sub-agents. All surveyors involved either held or were agents on appropriate Schedule 1 licences issues by NatureScot.

Full details of survey visits, including survey dates, start and finish times, observers and weather conditions are provided in **Annexes A** and **B**. The ornithology survey areas are shown on **Figure 9.2.1**.

2.2 Moorland Breeding Wader Surveys

Surveys for breeding waders were carried out within:

1. The survey area defined by a 500m buffer of the additional turbine layout on the Blackford Estate in Perth and Kinross, within the option area; and
2. The survey area defined by a 250m buffer of the centre line of the proposed access route.

Survey methods followed SNH (2017)[4] which includes recommendations set out in Calladine *et al*. (2009)[5], requiring an adapted Brown & Shepherd (1993)[1] method with four survey visits at least seven days apart between mid-April and mid-July. Due to the scale of the combined survey areas the surveys were phased over a period of three days.

The four survey visits were carried out as follows:

2023 Breeding Season

Turbine Area

- Visit 1: 28th April;
- Visit 2: 19th May;
- Visit 3: 29th June; and
- Visit 4: 24th July.

Access Track

- Visit 1: 17th and 21st April;
- Visit 2: 3rd and 4th May;
- Visit 3: 9th and 12th June; and
- Visit 4: 20th and 26th July.

While waders were the main focus of the survey all bird species encountered were recorded during each visit. Registrations were marked onto 1:25,000 scale survey maps using standard British Trust for Ornithology (BTO) species and activity codes for use in post-survey analysis.

[4] Scottish Natural Heritage (2017). *Recommended Bird Survey Methods to Inform Impact Assessment of Onshore Wind Farms V2.* Scottish Natural Heritage, Inverness.

[5] Calladine, J., Garner, G., Wernham, C. & Thiel, A. (2009) The influence of survey frequency on population estimates of moorland breeding birds. *Bird Study*, 56: 3, 381-388.

2.3 Breeding Raptor Surveys

Species-specific surveys were undertaken for all raptors likely to occur, following methods outlined within Hardey *et al.* (2013)[2]. The survey area was defined by 2km buffer of additional turbine layout, clipped to the option area (beyond which there was no access).

During surveys all accessible suitable raptor breeding habitat within this area, including open moorland/rough grassland, moorland/forest edge, rock crags and outcrops, was covered. Data collected during moorland breeding bird surveys were also used to define territories within the survey buffer.

The surveys were carried out as follows:

2023 Breeding Season

- April: 24th May;
- May:19th May (two surveyors);
- June: 5th and 28th ; and
- July: 24th and 25th .

2.4 Black Grouse Surveys

Dedicated black grouse surveys were carried out following based on the methodology written for the 1995-96 national black grouse survey by Etheridge and Baines (1995)[3], and described by Gilbert *et al.* (1998)[6]. The survey area was defined by a 1.5km buffer of additional turbine layout, clipped to the option area (beyond which there was no access).

All habitats considered suitable for lekking birds (e.g., heavily grazed upland pasture and heather moorland), within the site were surveyed within two to three hours of sunrise. Surveys were conducted on foot, with frequent stops to listen for the 'bubbling' calls of displaying birds, which are audible up to 1km away.

The Lek surveys were carried out as follows:

- Visit 1: 27th March – survey started at sunrise to determine of black grouse. Areas of suitable habitat already determined from the baseline surveys in 2021; and
- Visit 2: 24th April – a repeat of visit 1, survey starting at sunrise to determine presence of black grouse as no black grouse were observed on visit 1.

After the first two visits it was determined that black grouse were not present within the survey area.

2.5 Survey Limitations

Surveys were carried out within the parameters of current guidelines (both in terms of timings and weather conditions).

[6] Gilbert, G., Gibbons, D.W. and Evans, J. (1998). *Bird Monitoring Methods*. RSPB, Sandy.

3.0 Survey Results

3.1 Breeding Wader Surveys

3.1.1 Turbine area

Within the turbine envelope and 500m buffer, one snipe breeding territory was recorded north of Sauchanwood Hill (shown on **Figure 9.2.2)**.

3.1.2 Access track

Within the access track and 500m buffer, oystercatcher, snipe and curlew breeding territories were recorded. One oystercatcher breeding territory was recorded south of the A9, one curlew and one snipe breeding territories were found near the Sheriffmuir road, both shown on **Figure 9.2.2**.

A full list of birds recorded on site is provided in **Table 4-1**, Section 4.0. Non-wader species recorded holding territories include meadow pipit and skylark. Other species which are red-listed BoCC5 such as swift, tree pipit, common linnet and lesser redpoll, were recorded as commuting over the site.

3.2 Breeding Raptor Surveys

During the 2023 breeding raptor surveys red kite, buzzard, short-eared owl, kestrel and raven were recorded. Of these, only short-eared owl and kestrel had confirmed territories (**Figure 9.2.3**).

3.2.1 Turbine area

A likely kestrel breeding territory was identified on Core Hill between Fin Glen and Glen MacDuff, four individuals left a perch in craggy area, feeding remains, feathers and unidentified pellets were found.

A pair of buzzards were seen circling and displaying over Scadlaw and Sauchanwood Hill, however, no further breeding behaviour or field signs were recorded. Likely to be breeding within the wider area as the site offers limited nesting site potential.

Two observations were made of red kite displaying within the turbine area between Blairdenon Hill and Sauchanwood Hill.

3.2.2 Access track

A probable short-eared owl breeding territory was recorded to the west of Carim Burn near the Sheriffmuir road with a pair observed in suitable nesting habitat on two survey visits in June.

One observation was made of red kite displaying within the access track survey area near Carim Lodge

3.3 Black Grouse Surveys

No black grouse were recorded during black grouse surveys in 2023. The site has poor potential for black grouse leks, as although there is abundant open ground available there is an absence of optimal breeding habitat nearby.

Subsequently, there has been an incidental record during an ecology walkover survey of a single female black grouse flying west over site between Sauchanwood Hill and Mickle

Corum, on 16 October 2023, approximately 1km from the nearest proposed turbine location. This indicates that black grouse are present in the wider area.

4.0 Legal, Conservation and Site Status of Bird Species

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

Table 4-1 Legal, Conservation and Site Status of Bird Species Recorded in Addition 2023 Bird Surveys.

Common Name	Scientific Name	Territories	Legal/ Conservation Status	Summary of Site Status
Black grouse	*Lyrurus tetrix*	No	General WCA; BoCC5: Red; SBL	Single incidental record during ecology walkover surveys.
Swift	*Apus apus*	No	General WCA; BoCC5: Red SBL	Incidentally recorded during MBWS.
Eurasian oystercatcher	*Haematopus ostralegus*	Yes	General WCA; BoCC5: Amber	One breeding territory recorded in 2023 during MBWS.
Curlew	*Numenius arquata*	Yes	General WCA; BoCC5: Red; SBL	One breeding territory recorded in 2023 during MBWS.
Snipe	*Gallinago gallinago*	Yes	General WCA; BoCC5: Amber	Two breeding territory recorded in 2023 during MBWS.
Great black-backed gull	*Larus marinus*	No	General WCA; BoCC5: Amber	Incidentally recorded during MBWS.
Lesser black-backed gull	*Larus fuscus*	No	General WCA; BoCC5: Amber	Incidentally recorded during MBWS.
Red kite	*Milvus milvus*	No	Annex I; Schedule 1; SBL	Frequently recorded during raptor and MBWS, maximum of two birds noted. Birds recorded displaying on three occasions near Sauchanwood Hill.
Common buzzard	*Buteo buteo*	No	General WCA	Frequently recorded during raptor and MBWS surveys, maximum six birds noted. Birds recorded commuting, foraging, displaying and soaring in thermals throughout the survey area.
Short-eared owl	*Asio flammeus*	Yes	Annex I; BoCC5: Amber; SBL	Observed in suitable breeding habitat.
Common kestrel	*Falco tinnunculus*	Yes	General WCA; BoCC5: Amber SBL	Frequently recorded during raptor and MBWS surveys, maximum four birds

Common Name	Scientific Name	Territories	Legal/ Conservation Status	Summary of Site Status
				noted. One breeding territory recorded.
Jackdaw	*Corvus monedula*	No	General WCA	Incidentally recorded during MBWS.
Carrion crow	*Corvus corone*	No	General WCA	Incidentally recorded during MBWS.
Raven	*Corvus corax*	No	General WCA	Frequently recorded during surveys. Maximum seven birds noted.
Skylark	*Alauda arvensis*	Yes	General WCA; BoCC5: Red; SBL	Incidentally recorded during MBWS.
Willow warbler	*Phylloscopus trochilus*	No	General WCA; Bocc5: Amber	Incidentally recorded during MBWS.
Sedge warbler	*Acrocephalus schoenobaenus*	No	General WCA; BoCC5: Amber	Incidentally recorded during MBWS.
Goldcrest	*Regulus regulus*	No	General WCA	Incidentally recorded during MBWS.
Wren	*Troglodytes troglodyes*	No	General WCA; Bocc5: Amber	Incidentally recorded during MBWS.
Song thrush	*Turdus philomelos*	No	General WCA; BoCC5: Amber SBL	Incidentally recorded during MBWS.
European Stonechat	*Saxicola rubicola*	No	General WCA	Incidentally recorded during MBWS.
Wheatear	*Oenanthe oenanthe*	No	General WCA BoCC5: Amber	Incidentally recorded during MBWS.
Dunnock	*Prunella modularis*	No	General WCA; Bocc5: Amber	Incidentally recorded during MBWS.
Grey wagtail	*Motacilla cinerea*	No	General WCA; Bocc5: Amber	Incidentally recorded during MBWS.
Pied wagtail	*Motacilla alba*	No	General WCA	Incidentally recorded during MBWS.
Meadow Pipit	*Anthus pratensis*	Yes	General WCA BoCC5: Amber	Incidentally recorded during MBWS.
Tree pipit	*Anthus trivialis*	No	General WCA; BoCC5: Red	Incidentally recorded during MBWS.
Eurasian chaffinch	*Fringilla coelebs*	No	General WCA	Incidentally recorded during MBWS.
Common linnet	*Linaria cannabina*	No	General WCA; BoCC5: Red SBL	Incidentally recorded during MBWS.
Redpoll (Lesser)	*Acanthis cabaret*	No	General WCA BoCC5: Red SBL	Incidentally recorded during MBWS.

Common Name	Scientific Name	Territories	Legal/ Conservation Status	Summary of Site Status
Common reed bunting	*Emberiza schoeniclus*	No	General WCA; BoCC5: Amber SBL	Incidentally recorded during MBWS.
Key	Annex I - the species is listed in Annex I of the EC Birds Directive[7]; General WCA - the species is afforded general protection by the Wildlife and Countryside Act 1981 (as amended) [8]; Schedule 1 & 1A - the species is listed in Schedule 1, A1 or 1A of the Wildlife and Countryside Act 1981 (as amended), Schedule 1.2 applies to greylag goose by providing protection in the close season (Feb 01 – Aug 31); BoCC5 status (green, amber or red) – indicates the current Birds of Conservation Concern status category[9]; and SBL – Listed on the Scottish Biodiversity List[10].			

[7] Since the UK's exit from the EU, the Scottish Parliament have passed legislation to ensure that Scotland's nature will remain protected to the same standard as before (https://www.nature.scot/eu-exit-brexit-information)

[8] For any wild bird species listed on Schedule 1, it is an offence to disturb: 1) any bird while it is building a nest any bird while is in, on, or near a nest containing eggs or young; 2) any bird while lekking; and 3) the dependent young of any bird. For any wild bird species listed on Schedule 1A, it is an offence to intentionally or recklessly harass any bird. For eagle species on Schedule A1, nests and nest sites are protected throughout the year.

[9] Stanbury, A., Eaton, M., Aebischer, N, Balmer, D., Brown AF, Douse, A., Lindley, P., McCulloch, N., Noble DG., and Win I. (2021) Birds of Conservation Concern 5: The status of our bird populations: the Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds* 114: 723–747.

[10] Scottish Biodiversity List (webarchive.org.uk)

Figures

Additional Bird Surveys 2023

Windburn Wind Farm

Wind 2 Limited

SLR Project No.: 428.V12959.00001

2 June 2025

282000 284000 286000 288000 290000 292000 294000

708000 706000 704000 702000

LEGEND

- Application Boundary
- Rhodders Estate Proposed Turbine Location
- Blackford Estate Proposed Turbine Location
- Breeding Bird Survey Area (Proposed Access Route Moorland Bird Survey 250 m Buffer)
- Black Grouse Lek Survey Area (Blackford Estate Proposed Turbine Location 1.5 km Buffer Clipped to Blackford Estate Option Area)
- Breeding Wader Survey Area (Blackford Estate Proposed Turbine Location 500 m Buffer Clipped to Blackford Estate Option Area)
- Breeding Raptor Survey Area (Blackford Estate Proposed Turbine Location 2 km Buffer Clipped to Blackford Estate Option Area)

N

0 1 2 Kilometres

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ADDITIONAL BIRD SURVEYS 2023

ORNITHOLOGY SURVEY AREAS 2023

FIGURE 9.2.1

Scale 1:40,000 @ A3

Date APRIL 2025

12959.00001.0296.0 Ornithology Survey Areas 2023

282000 284000 286000 288000 290000 292000 294000

708000 706000 704000 702000

LEGEND

- Application Boundary
- Rhodders Estate Proposed Turbine Location
- Blackford Estate Proposed Turbine Location
- Breeding Wader Survey Area (Blackford Estate Proposed Turbine Location 500 m Buffer Clipped to Blackford Estate Option Area)

Wader Territory

- CU Curlew
- OC Oystercatcher
- SN Snipe

N

0 1 2 Kilometres

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ADDITIONAL BIRD SURVEYS 2023

WADER TERRITORIES 2023

FIGURE 9.2.2

Scale 1:40,000 @ A3

Date APRIL 2025

12959.00001.0297.0 Wader Territories 2023

282000 284000 286000 288000 290000 292000 294000

708000 706000 704000 702000

LEGEND

- Application Boundary
- Rhodders Estate Proposed Turbine Location
- Blackford Estate Proposed Turbine Location
- Breeding Raptor Survey Area (Blackford Estate Proposed Turbine Location 2 km Buffer Clipped to Blackford Estate Option Area)

Raptor Territory

- Kestrel
- Short-Eared Owl

N

0 1 2 Kilometres

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ADDITIONAL BIRD SURVEYS 2023

RAPTOR TERRITORIES 2023

FIGURE 9.2.3

Scale 1:40,000 @ A3

Date APRIL 2025

12959.00001.0298.0 Raptor Territories 2023

Annex A: Survey Dates, Times and Observers

Technical Appendix 9.2: Additional Bird Surveys 2023

Windburn Wind Farm

Windburn Wind Farm Limited

SLR Project No.: 428.V12959.00001

2 June 2025

Surveyors: KH – Kirstie Hazelwood, RM – Rachel McLeod and FM – Frazer MacFarlane.

A.1 Raptor, Breeding Wader and Black Grouse Surveys, Survey Dates, Times and Observers

Table 1: Details of raptor, breeding wader and black grouse surveys, April 2023 – July 2023

Date	Survey Type	Surveyor	Survey Start (Hr:Min)	Survey End (hr:min)	Survey Time (hr:min)
27/03/2023	BK	KH	05:00	08:00	03:00
17/04/2023	MBS	FM	06:00	12:30	06:30
21/04/2023	MBS	FM	08:05	16:00	07:55
24/04/2023	BK	RM	04:50	07:20	02:30
24/04/2023	BK	FM	04:50	07:20	02:30
24/04/2023	RAPTOR	FM	07:20	09:05	01:45
28/04/2023	MBS	FM	12:05	16:00	03:55
03/05/2023	MBS	FM	07:35	11:50	04:15
04/05/2023	MBS	FM	08:50	15:50	07:00
19/05/2023	MBS	FM	10:10	12:55	02:45
19/05/2023	MBS	RM	10:00	12:15	02:15
19/05/2023	RAPTOR	FM	13:00	15:00	02:00
19/05/2023	RAPTOR	RM	12:15	14:45	02:30
05/06//2023	RAPTOR	RM	12:30	15:00	02:30
09/06/2023	MBS	FM	06:55	12:50	05:55
12/06/2023	MBS	FM	07:20	13:15	05:55
28/06/2023	RAPTOR	FM	14:25	20:00	05:35
29/06/2023	MBS	FM	07:20	13:50	06:30
20/07/2023	MBS	RM	10:45	15:30	04:45
24/07/2023	MBS	RM	10:50	12:30	01:40

Date	Survey Type	Surveyor	Survey Start (Hr:Min)	Survey End (hr:min)	Survey Time (hr:min)
24/07/2023	RAPTOR	RM	12:30	16:00	03:30
25/07/2023	RAPTOR	RM	10:40	15:00	04:20
26/07/2023	MBS	RM	09:30	14:00	04:30

Annex B: Weather Data

Technical Appendix 9.2: Additional Bird Surveys 2023

Windburn Wind Farm

Windburn Wind Farm Limited

SLR Project No.: 428.V12959.00001

2 June 2025

A.2 Weather Data Collected During Raptor, Breeding Bird and Black Grouse Surveys April – July 2023

Table 1: Weather data of raptor, breeding wader and black grouse surveys, April 2023 – July 2023

Date	Survey Start	Survey End	Hr	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Snow	Frost	Temp (°c)
27/03/2023	05:00	08:00	1	2	NW	0	7	2	2	0	1	1
27/03/2023	05:00	08:00	2	1	NW	0	8	2	2	0	1	1
27/03/2023	05:00	08:00	2	2	NW	0	8	2	2	0	1	2
17/04/2023	06:00	12:30	1	1	E		8			0	0	10 to 13
17/04/2023	06:00	12:30	2	1	E		8			0	0	10 to 13
17/04/2023	06:00	12:30	3	1	E		8			0	0	10 to 13
17/04/2023	06:00	12:30	4	1	E		8			0	0	10 to 13
17/04/2023	06:00	12:30	5	1	E		8			0	0	10 to 13
17/04/2023	06:00	12:30	6	1	E		8			0	0	10 to 13
21/04/2023	08:05	16:00	1	2 to 3	NE	0	1			0	0	11 to 15
21/04/2023	08:05	16:00	2	2 to 3	NE	0	1			0	0	11 to 15
21/04/2023	08:05	16:00	3	2 to 3	NE	0	1			0	0	11 to 15
21/04/2023	08:05	16:00	4	2 to 3	NE	0	1			0	0	11 to 15
21/04/2023	08:05	16:00	5	2 to 3	NE	0	1			0	0	11 to 15
21/04/2023	08:05	16:00	6	2 to 3	NE	0	1			0	0	11 to 15
21/04/2023	08:05	16:00	7	2 to 3	NE	0	1			0	0	11 to 15

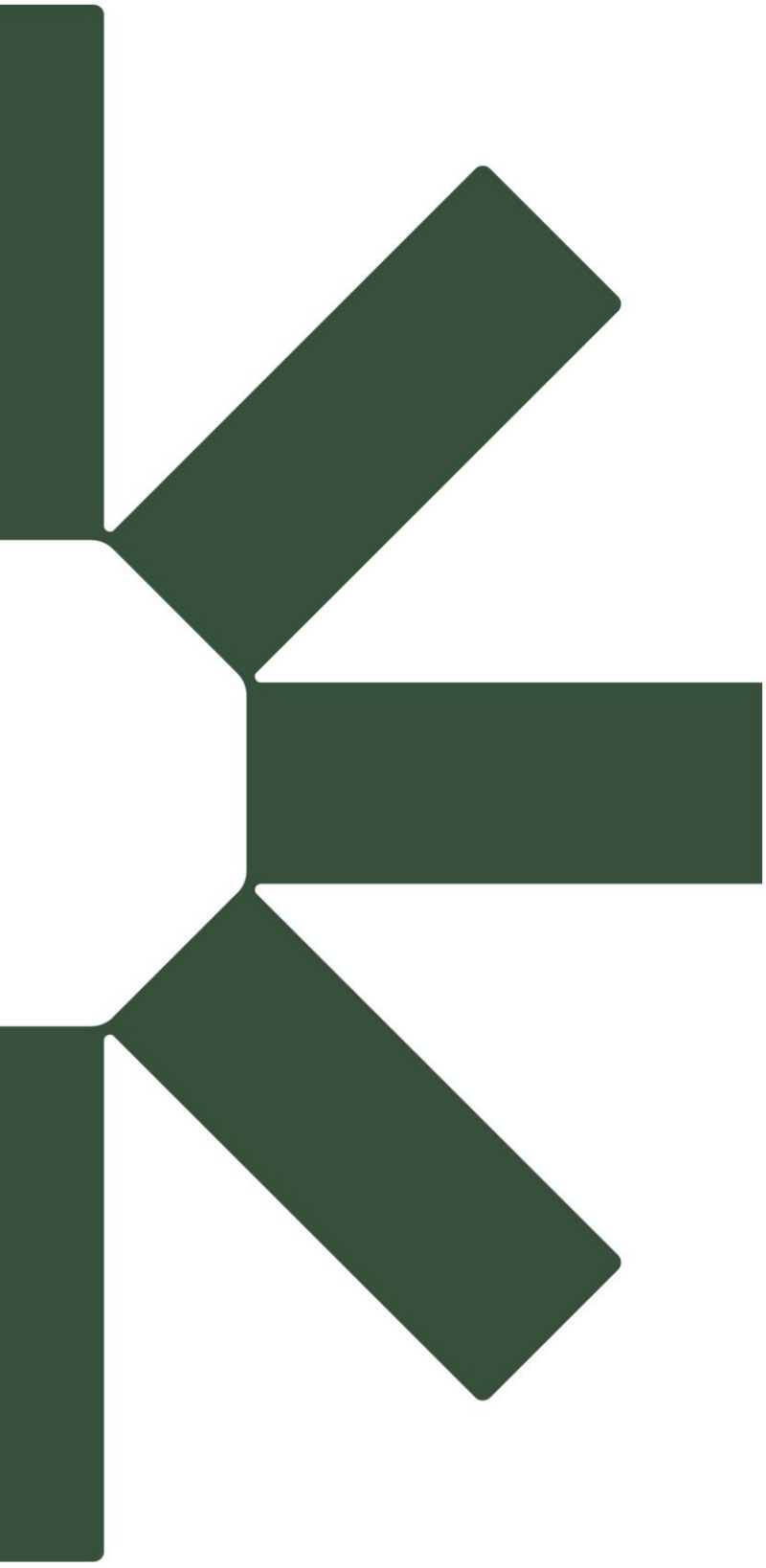
Date	Survey Start	Survey End	Hr	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Snow	Frost	Temp (°c)
24/04/2023	07:20	09:05	1	1	N	0	3		2	0	0	3
24/04/2023	07:20	09:05	2	3	N	2	4			0	0	4
24/04/2023	04:50	07:20	1	1 to 2	N	0	1 to 3	2	2	0	0	3
24/04/2023	04:50	07:20	2	1 to 2	N	0	1 to 3	2	2	0	0	3
24/04/2023	04:50	07:20	3	1 to 2	N	0	1 to 3	2	2	0	0	4
24/04/2023	04:50	07:20	1	2	N	0	2	2	2	0	1	1
24/04/2023	04:50	07:20	2	2	N	0	3	2	2	0	1	1
24/04/2023	04:50	07:20	3	3	N	0	4	2	2	0	1	2
28/04/2023	12:05	16:00	1	1 to 3	W	0	4 to 8		1	0	0	11 to 13
28/04/2023	12:05	16:00	2	1 to 3	W	0	4 to 8		1	0	0	11 to 13
28/04/2023	12:05	16:00	3	1 to 3	W	0	4 to 8		1	0	0	11 to 13
28/04/2023	12:05	16:00	4	1 to 3	W	0	4 to 8		1	0	0	11 to 13
03/05/2023	07:35	11:50	1	1	E	0	7					
03/05/2023	07:35	11:50	2	1	E	0	7					
03/05/2023	07:35	11:50	3	2	E	0	7					
03/05/2023	07:35	11:50	4	2	E	0	8					
03/05/2023	07:35	11:50	5	2	E	0	8					
04/05/2023	08:50	15:50	1	2	E	0	3					
04/05/2023	08:50	15:50	2	2	E	0	3					

Date	Survey Start	Survey End	Hr	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Snow	Frost	Temp (°c)
04/05/2023	08:50	15:50	3	2	E	0	3					
04/05/2023	08:50	15:50	4	3	E	0	4					
04/05/2023	08:50	15:50	5	3	E	0	4					
04/05/2023	08:50	15:50	6	4	E	0	5					
04/05/2023	08:50	15:50	7	5	E	0	5					
19/05/2023	13:00	15:00	1	3	NW	0	4	2	2	0	0	14
19/05/2023	13:00	15:00	2	3	NW	0	5	2	2	0	0	14
19/05/2023	10:10	12:55	1	2	NW	0	6	2	2	0	0	12
19/05/2023	10:10	12:55	2	2	NW	0	4	2	2	0	0	14
19/05/2023	10:10	12:55	3	2	NW	0	3	2	2	0	0	14
19/05/2023	12:15	14:45	1	1	W	0	5	2	2	0	0	14
19/05/2023	12:15	14:45	2	2	W	0	4	2	2	0	0	14
19/05/2023	12:15	14:45	3	2	W	0	5	2	2	0	0	14
19/05/2023	10:00	12:15	1	1	W	0	6	2	2	0	0	12
19/05/2023	10:00	12:15	2	2	W	0	4	2	2	0	0	13
19/05/2023	10:00	12:15	3	1	W	0	4	2	2	0	0	14
05/06/2023	12:30	15:00	1	2	W	0	6	2	2	0	0	
05/06/2023	12:30	15:00	2	2	W	0	7	2	2	0	0	
05/06/2023	12:30	15:00	3	1	W	0	4	2	2	0	0	

Date	Survey Start	Survey End	Hr	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Snow	Frost	Temp (°c)
09/06/2023	06:55	12:50	1	2	E	0	1	2	2	0	0	15
09/06/2023	06:55	12:50	2	2	E	0	1	2	2	0	0	15
09/06/2023	06:55	12:50	3	1	E	0	2	2	2	0	0	16
09/06/2023	06:55	12:50	4	2	E	0	2	2	2	0	0	17
09/06/2023	06:55	12:50	5	2	E	0	2	2	2	0	0	18
09/06/2023	06:55	12:50	6	2	E	0	1	2	2	0	0	20
12/06/2023	07:20	13:15	1	1	E	0	2	2	2	0	0	17
12/06/2023	07:20	13:15	2	2	E	0	2	2	2	0	0	18
12/06/2023	07:20	13:15	3	2	E	0	1	2	2	0	0	17
12/06/2023	07:20	13:15	4	2	E	0	2	2	2	0	0	21
12/06/2023	07:20	13:15	5	2	E	0	1	2	2	0	0	23
12/06/2023	07:20	13:15	6	2	E	0	1	2	2	0	0	24
28/06/2023	14:25	20:00	1	1	W	0	7	2	2	0	0	15
28/06/2023	14:25	20:00	2	2	W	0	6	2	2	0	0	16
28/06/2023	14:25	20:00	3	3	W	0	7	2	2	0	0	16
28/06/2023	14:25	20:00	4	2	W	0	6	2	2	0	0	16
28/06/2023	14:25	20:00	5	2	W	0	5	2	2	0	0	17
28/06/2023	14:25	20:00	6	2	W	0	4	2	2	0	0	16
28/06/2023	14:25	20:00	7	2	W	0	3	2	2	0	0	15

Date	Survey Start	Survey End	Hr	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Snow	Frost	Temp (°c)
29/06/2023	07:20	13:50	1	2	W	0	4	2	2	0	0	16
29/06/2023	07:20	13:50	2	2	W	0	6	2	2	0	0	16
29/06/2023	07:20	13:50	3	3	W	0	7	2	2	0	0	16
29/06/2023	07:20	13:50	4	2	W	0	6	2	2	0	0	16
29/06/2023	07:20	13:50	5	2	W	0	5	2	2	0	0	16
29/06/2023	07:20	13:50	6	2	W	0	7	2	2	0	0	16
29/06/2023	07:20	13:50	7	2	W	0	8	2	2	0	0	17
20/07/2023	10:45	15:30	1	2	W	0	5	2	2	0	0	18
20/07/2023	10:45	15:30	2	3	W	0	7	2	2	0	0	18
20/07/2023	10:45	15:30	3	3	W	0	7	2	2	0	0	19
20/07/2023	10:45	15:30	4	3	W	0	8	2	2	0	0	19
20/07/2023	10:45	15:30	5	3	W	0	8	2	2	0	0	19
24/07/2023	10:50	12:30	1	3	NW	0	7	2	2	0	0	12
24/07/2023	10:50	12:30	2	3	NW	0	8	2	2	0	0	13
24/07/2023	12:30	16:00	1	3	NW	0	8	2	2	0	0	13
24/07/2023	12:30	16:00	2	2	NW	0	8	2	2	0	0	14
24/07/2023	12:30	16:00	3	3	NW	0	8	2	2	0	0	14
24/07/2023	12:30	16:00	4	2	NW	0	8	2	2	0	0	15
25/07/2023	10:40	15:00	1	2	W	2	7	2	2	0	0	13

Date	Survey Start	Survey End	Hr	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Snow	Frost	Temp (°c)
25/07/2023	10:40	15:00	2	2	W	0	7	2	2	0	0	14
25/07/2023	10:40	15:00	3	3	W	0	7	2	2	0	0	16
25/07/2023	10:40	15:00	4	2	W	0	6	2	2	0	0	16
25/07/2023	10:40	15:00	5	2	W	0	4	2	2	0	0	16
26/07/2023	09:30	14:00	1	2	W	2	8	2	2	0	0	16
26/07/2023	09:30	14:00	2	3	W	2	8	1	1	0	0	16
26/07/2023	09:30	14:00	3	2	W	1	7	2	2	0	0	19
26/07/2023	09:30	14:00	4	2	W	2	8	2	2	0	0	21
26/07/2023	09:30	14:00	5	1	W	0	6	2	2	0	0	22



Making Sustainability Happen