

Appendix 8-1- Baseline Ornithological Surveys – Derryadd Wind Farm, Summer 2021 (Fehily Timoney, 2022b)



CONSULTANTS IN ENGINEERING, ENVIRONMENTAL SCIENCE & PLANNING

# DERRYADD, CO. LONGFORD WIND FARM ORNITHOLOGICAL SURVEY

BASELINE ORNITHOLOGICAL SURVEYS – DERRYADD WIND FARM, SUMMER 2021

Prepared for: Bord na Móna

## Bord na Móna

Date: February 2022

Core House, Pouladuff Road, Cork, T12 D773, Ireland

T: +353 21 4964 133 | E: info@ftco.ie

**CORK | DUBLIN | CARLOW** 

www.fehilytimoney.ie



## BASELINE ORNITHOLOGICAL SURVEYS – DERRYADD WIND FARM, SUMMER 2021

## REVISION CONTROL TABLE, CLIENT, KEYWORDS AND ABSTRACT User is responsible for Checking the Revision Status of This Document

Rev. No.	Description of Changes	Prepared by:	Checked by:	Approved by:	Date:
0	Draft	KM	BOD/JK	JH	02/02/2021

Client: Bord na Móna

Keywords: Baseline, Ornithological Surveys, Wind Farm, Derryadd, Co. Longford

**Abstract:** This document outlines a baseline ornithological survey during summer 2021 at the potential Derryadd Wind Farm, Co. Longford. This ornithology report is required to assess the impacts of the proposed development on bird species within and surrounding the site.

P21-119 www.fehilytimoney.ie —



## **TABLE OF CONTENTS**

EXECU	EXECUTIVE SUMMARY		
1. INTE	RODUCTION	2	
1.1	Study Area	2	
2. SUR	RVEY METHODOLOGY	6	
2.1	Vantage Point Surveys	6	
2.2	Hinterland Surveys	9	
2.3	Breeding Waders Survey	13	
2.4	Breeding Bird Surveys	15	
2.5	Barn Owl Surveys	18	
3. RESI	GULTS	19	
0			
3.1	Avian usage of the Study Area – Vantage point		
	3.1.1 Summary Results Summer 2021	19	
3.2	Target species observations during VP surveys	22	
	3.2.1 Black-Headed Gull	22	
	3.2.2 Black-Tailed Godwit	22	
	3.2.3 Buzzard	22	
	3.2.4 Common Gull	22	
	3.2.5 Common tern	22	
	3.2.6 Cormorant	22	
	3.2.7 Curlew	22	
	3.2.8 Grey Heron	23	
	3.2.9 Kestrel	23	
	3.2.10Lapwing	23	
	3.2.11Lesser Black-Backed Gull	23	
	3.2.12Little Egret	23	
	3.2.13Mallard	23	
	3.2.14Moorhen	24	
	3.2.15Mute Swan	24	
	3.2.16Peregrine	24	
	3.2.17Snipe	24	



	3.2.18Sparrowhawk	24
	3.2.19Teal	24
	3.2.20Whimbrel	25
	3.2.21Wigeon	25
3.3	Hinterland Survey	25
	3.3.1 Black-Headed Gull	26
	3.3.2 Buzzard	26
	3.3.3 Common Gull	26
	3.3.4 Common Sandpiper	26
	3.3.5 Common Tern	26
	3.3.6 Curlew	27
	3.3.7 Common Coot	27
	3.3.8 Cormorant	27
	3.3.9 Gadwall	27
	3.3.10Great Black-Backed Gull	27
	3.3.11Great Crested Grebe	27
	3.3.12Great White Egret	28
	3.3.13Grey Heron	28
	3.3.14Grey Wagtail	28
	3.3.15Greylag Goose	28
	3.3.16Kingfisher	28
	3.3.17Lapwing	28
	3.3.18Lesser Black-Backed Gull	29
	3.3.19Little Egret	29
	3.3.20Little Grebe	29
	3.3.21Mallard	29
	3.3.22Moorhen	29
	3.3.23Mute Swan	30
	3.3.24Oystercatcher	30
	3.3.25Pink-footed Goose	30
	3.3.26Pochard	30
	3.3.27Snipe	30
	3.3.28Teal	30



		3.3.29Tufted Duck	31
		3.3.30Water Rail	31
		3.3.31Whimbrel	31
		3.3.32Wigeon	31
	3.4	Breeding Waders Survey	33
		3.4.1 Lapwing	33
		3.4.2 Ringed Plover	33
		3.4.3 Snipe	33
		3.4.4 Woodcock	34
	3.5	General Breeding Bird Survey	34
	3.6	Barn Owl Surveys	34
4.	DISC	USSION	.40
5.	REFE	RENCES	.41

#### **LIST OF APPENDICES**

A 1: 4	\/D.C. D. : 'I	
Appendix 1:	VP Survey Details	Summer 2021

Appendix 2: Vantage Point Observations Summer 2021

Appendix 3: Target Species Flightline Maps

Appendix 4: Hinterland Survey Results

Appendix 5: Transect Survey Schedule and Conditions



## **LIST OF FIGURES**

		<u>Page</u>
Figure 1.1	Proposed Wind Farm Site Boundary and Location	5
Figure 2.1	Vantage point locations and viewsheds	8
Figure 2.2	Hinterland survey sites	
Figure 2.3:	Breeding/Wintering Bird and Wader Survey Transects	17
LIST OF T	ABLES	
Table 1.1:	Designated sites within a 15km radius of the proposed Derryadd Wind Farm	3
Table 2.2:	Hinterland survey locations	9
Table 2.3:	Target Species and Associated Suitable Breeding Habitat	13
Table 2.4:	Count units for each wading species	14
Table 2.5:	Breeding waders survey details	14
Table 2.6:	Breeding bird summer transect survey details	15
Table 3.1	Bird species recorded during VP surveys 2021	20
Table 3.2:	Bird species recorded during hinterland surveys in summer 2021	32
Table 3.3:	Bird species recorded during breeding wader surveys in summer 2021	33
Table 3.4:	Results of breeding bird transects surveys at Derryadd (TR1-TR21) in May 2021	35
Table 3.5:	Results of breeding bird transects surveys at Derryadd (TR1-TR21) in June 2021	37

PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report



#### **EXECUTIVE SUMMARY**

Ornithological surveys for the summer 2021 season at Derryadd Wind Farm searched for and recorded all bird species, focusing primarily on the wind farm site but also taking in the surrounding hinterland.

The methodology for the 2021 vantage point surveys at Derryadd adhered to Scottish Natural Heritage guidance (SNH, 2017) for assessing the impact of proposed wind farm developments on target species' breeding and wintering populations. Two timed watches of three hours duration were carried out from each VP every month from April to September 2021 inclusive, totalling 36 hours of observation time at each VP over the survey period. Breeding bird transect surveys, hinterland surveys and wader surveys were also undertaken during this period.

During vantage point surveys a total of 60 bird species were recorded. Of these species, eight are of Red-list status under the Birds of Conservation Concern in Ireland (BoCCI) (Gilbert et al., 2021): black-tailed godwit, curlew, grey wagtail, kestrel, lapwing, meadow pipit, snipe and swift. A total of 18 are Amber-listed and the remaining 34 are Green-listed. Of the species noted, four are protected under Annex I of the EU Birds Directive: common tern, kingfisher, little egret and peregrine.

During hinterland surveys surrounding the proposed site a total of 31 species were noted. Of these species, five are of Red-list status under the BoCCI (Gilbert et al., 2021): grey wagtail, lapwing, oystercatcher, pochard and snipe. A further 16 Amber-listed species were observed: common tern, kingfisher, black-headed gull, common gull, common sandpiper, coot, cormorant, gadwall, great crested grebe, lesser black-backed gull, mallard, mute swan, greylag goose, teal, tufted duck and wigeon. A total of three Annex I species were recorded during hinterland surveys: common tern, kingfisher and little egret.

During breeding wader surveys, four wader species were found to be breeding on site. Of these species, three are Red-listed (lapwing, snipe and woodcock). The fourth species (ringed plover) is Amber-listed.

During general breeding transects a total of 58 species were detected. Of these, four species are Red listed: lapwing, meadow pipit, snipe and swift. A total of 15 amber-listed species were recorded.

P21-119 www.fehilytimoney.ie — Page 1 of 41

PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report



#### 1. INTRODUCTION

Fehily Timoney & Company (FT) was appointed by Bord na Móna to undertake summer ornithological surveys at the proposed Derryadd Wind Farm in 2021. This report presents the results of these ornithological surveys and summarises the activity of specific target bird species during summer survey period in 2021. The study area of the proposed Derryadd Wind Farm is near Lanesborough, Co. Longford.

This ornithological assessment for surveys completed during summer 2021 includes the assessment of bird species occurring within the proposed site boundary, and surveys of surrounding habitats of value to birds. Surveys adhered to Scottish Natural Heritage guidance (SNH, 2017). The following surveys were carried out:

- Vantage Point survey
- Hinterland survey
- Breeding wader survey
- Breeding bird transect survey
- Barn Owl Surveys

#### 1.1 Study Area

The proposed Derryadd wind farm is located c. 3 km east of Lanesborough, Co. Longford, 4km west of Killashee, Co. Longford and 8km north of Newtowncashel, Co. Longford. The proposed wind farm is located on the Mountdillon group of peat extraction bogs in Co. Longford (Figure 1.1).

Habitats on the proposed site consist of cutover bog, recolonising cutover bog, remnant raised bog, colonising birch woodland and large ponds/lakes on cutover bog. Surrounding habitats and land uses are described by Corine 2018<sup>1</sup> as: Peat bogs (412), Pastures (code 231), Mixed Forests (313), Coniferous Forests (312), Transitional woodland scrub (324), Broad-leaved forests (311), and Discontinuous urban fabric (112).

Designated Sites within a 15km radius of the proposed wind farm are detailed in Table 1.1.

P21-119 www.fehilytimoney.ie — Page 2 of 41

\_

<sup>1</sup> https://gis.epa.ie/EPAMaps/. Accessed 06/12/21

PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report

Designated sites within a 15km radius of the proposed Derryadd Wind Farm. **Table 1.1:** 

Site	Site Code	Туре
Lough Ree	004064/000440/000440	SPA/SAC/pNHA
Fortwilliam Turlough	000448/000448	SAC/pNHA
Ballykenny-Fisherstown Bog	004101	SPA
Lough Forbes Complex	001818/001818	SAC/pNHA
Brown Bog	002346/000442	SAC/pNHA
Corbo Bog	002349/000602	SAC/pNHA
Annaghmore Lough	001626	SAC
Clooneen Bog	002348/000445	SAC/pNHA
Mount Jessop Bog	001450	SAC/NHA
Forthill Bog	001448	NHA
Derrycanan Bog	000605	NHA
Aghnamona Bog	000422	NHA
Cloonageeher Bog	001423	NHA
Lisnanarriagh Bog	002072	NHA
River Finn	002301	NHA
Lough Bawn	001819	pNHA
Lough Bannow	00449	pNHA
Royal Canal	002103	pNHA
Cordara Turlough	001821	pNHA
Derry Lough	001444	pNHA
Lough Slawn	001443	pNHA
Kilglass and Grange Loughs	000608	pNHA
Carrickglass Demesne	001822	pNHA

P21-119 - www.fehilytimoney.ie ----- Page 3 of 41

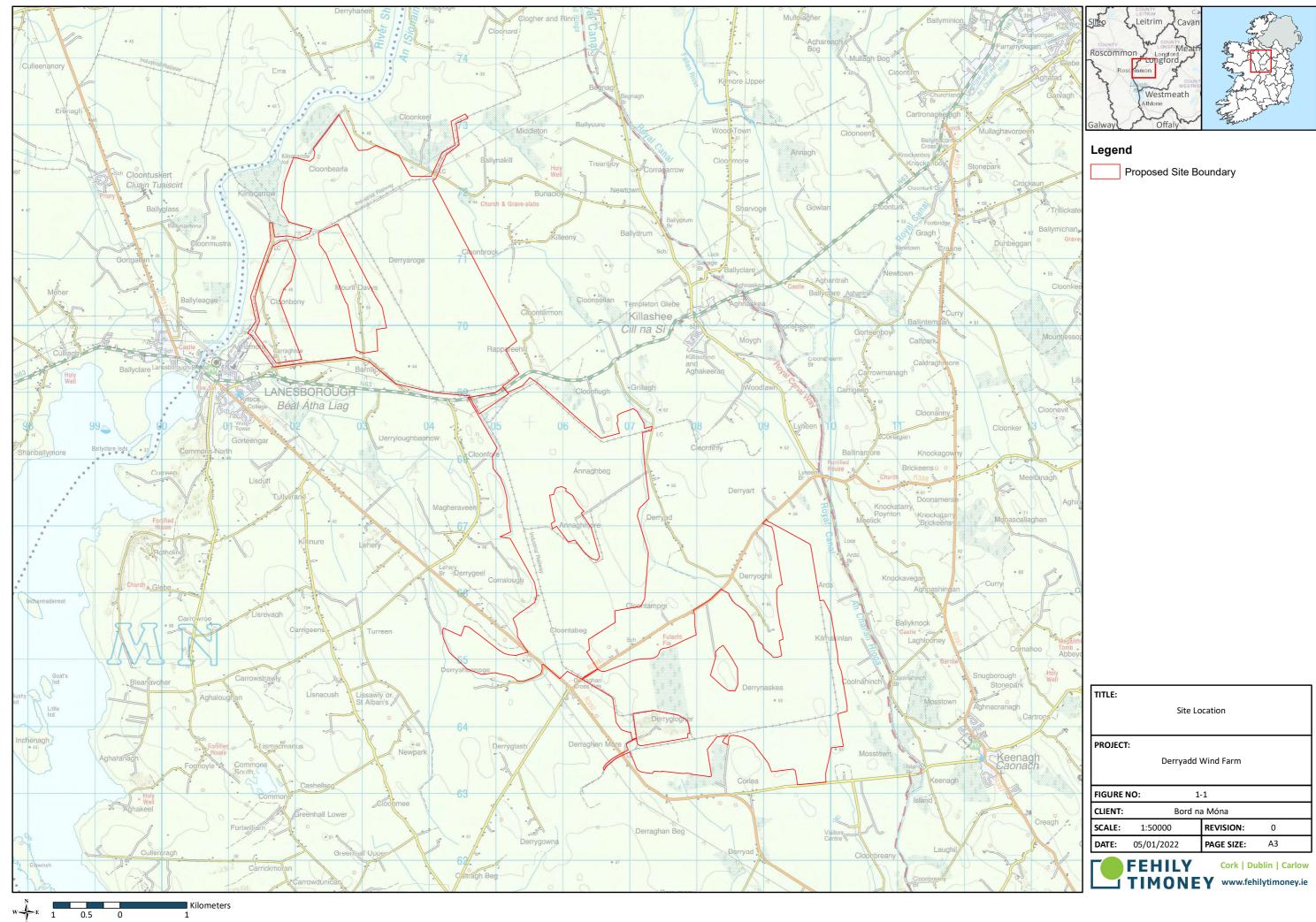
PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report



Site	Site Code	Туре
Lough Boderg and Lough Bofin	001642	pNHA
Annaghmore Lough (Roscommon)	001626	pNHA
Ardnakilla Lough	001617	pNHA

Note: \*SPA = Special Protected Area (European site), SAC = Special Area of Conservation (European site), NHA = Natural Heritage Area (Nationally Designated Site), pNHA = proposed Natural Heritage Area

P21-119 www.fehilytimoney.ie — Page 4 of 41



Derryadd, Co. Longford Wind Farm Ornithological Report



#### 2. SURVEY METHODOLOGY

The following surveys were carried out:

- Vantage point survey (breeding and non-breeding season)
- Hinterland survey
- Breeding wader survey
- Breeding bird transect survey
- Barn owl Survey

Methodologies for these surveys are detailed under the following headings:

#### 2.1 Vantage Point Surveys

The main purposes of vantage point survey watches are to collect data on *target species* that will enable estimates to be made of:

- a. The time spent flying over the defined survey area
- b. The relative use of different parts of the defined survey area
- c. The proportion of flying time spent within the upper and lower height limits as determined by the rotor diameter and rotor hub height

Vantage Point (VP) surveys were carried out at the proposed Derryadd Wind Farm site from April 2021 to September 2021 (covering the breeding season), in accordance with the Scottish Natural Heritage Methodology for assessing onshore wind farms (SNH, 2017). A total of 11 fixed VP locations overlooking the study area were used during the VP surveys (see Figure 2.1 for VP locations), each with specific viewsheds chosen to provide coverage of the proposed Wind Farm in addition to a 500m buffer around the site boundary.

Vantage point locations were based on observations from walkover/reconnaissance surveys, viewshed analysis (using GIS) and collated information on known feeding and roosting sites from both desktop review and consultation. The number and location of vantage points was selected to achieve visibility of the entire study area and important features for birds in close proximity to the site (e.g., lakes, wetlands).

In line with recommended best practice (SNH, 2017 and Band *et al.* 2007), viewshed analysis was undertaken using ARCMAP 10.4.1, to calculate a theoretical zone of visibility from each vantage point. Visibility is calculated from each vantage point along an invisible layer suspended at the predicted lowermost height passed through by the rotor blade tips, using an observer height of 1.5 m. We note the following from SNH guidance in respect of priority areas for viewshed analysis (emphasis added):

P21-119 www.fehilytimoney.ie — Page 6 of 41

PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report



"Where the key purpose is to estimate the risk of collision with turbines, it is the visibility of the airspace to be occupied by the turbine rotors (the collision risk volume) that is of prime importance. Therefore, it is recommended that visibility be calculated using the least visible part of this airspace, i.e. an imaginary layer suspended at the lowermost height passed through by the rotor blade tips (typically about 20-30m above ground level). Predicting visibility at this level is a simple task using GIS, however it should be noted that the baseline should take account of any forestry or other features that will potentially obstruct the view. For example, forestry may be 10-30m high and if viewshed height is taken as 20-30m ground level the visible area could be overestimated if there is forestry within the viewshed. Being able to view all or most of the site to ground level can be helpful in gauging overall bird activity and usage of the site but is not as important as being able to view the collision risk volume"

Following SNH guidance (2017), watches were conducted to sample diurnal activity of target species, fulfilling the required effort from SNH. Vantage Point (VP) surveys involved carrying out 2 x 3-hour VPs at each VP every month. As per SNH guidance (2017), 36 hours of vantage point effort was carried out at each vantage point during the breeding period.

Data recorded included flight activity of target species (flight height, duration, directionality) in addition to metrics such as flock size (per recorded transit) and relative time of observation. Detailed notes of each observation of a target bird species were recorded including behaviour, sex (where possible), numbers, flight height, associated habitat and the period spent within the study area. Successful foraging events were also noted if they arose. Other bird species seen or heard during the VP surveys were also recorded and were considered separately in the analysis as additional species. Flight activity was annotated onto field maps. Total numbers of birds present both on arrival at the VP and on departure is noted. Details of each flight-path observation are provided in Section 3. Binoculars were used to scan for target species. Dictaphones were utilised to dictate bird heights whilst tracking flight events.

Flight heights are estimated visually as allowed for in SNH (2017) guidance. Flight height estimation using a clinometer or rangefinder is accepted as an *alternative* means of determining flight height however this is often not practicable (equipment may be clumsy and birds may be lost from view whilst trying to focus additional equipment on a target species rapidly moving out of sight); it should be noted that in practice many flocks of swans do not fly close enough to a surveyor for a rangefinder to be used, resulting in most flights heights being estimated in any case. As is often the case an experienced observer will be able to record accurate observations at a higher frequency.

The proportion of survey time that activity was recorded inside and outside the 500m turbine buffer was used as part of the overall analysis and assessment of target species usage of the study area. All surveys were conducted during suitable weather conditions.

P21-119 www.fehilytimoney.ie — Page 7 of 41

■ Kilometers

0

0.5

1

2

3

Cork | Dublin | Carlow

www.fehilytimoney.ie



#### 2.2 Hinterland Surveys

The methodology used for wetland sites during hinterland surveys followed I-WeBS (Irish Wetland Bird Survey) methodology (Lewis *et al*, 2019), whereby each location was surveyed for the duration necessary to identify and obtain a count for all target species present. The same approach was adapted for non-wetland sites. A hinterland survey for raptors was conducted in accordance with Hardey *et al*. (2013) to assess hen harrier and other raptor activity over the winter and breeding periods in the greater surroundings.

The surveys were carried out in suitable woodland and wetland habitats in the area surrounding the proposed wind farm site. This comprised of 25 sites within 10 km from the proposed wind farm site. These sites were chosen as they had suitable habitat for the following target species: raptors, waders, waterfowl and barn owl. Surveys were carried out between April and September 2021. The sites detailed in Table 2.2 were checked regularly across this period:

Table 2.1: Hinterland survey locations

Cada	Location	ITM Coordinates		Dates
Code	Location	Easting	Northing	Visited
HVP1	Pake Bridge, Royal Canal	612898.185	759486.712	12/06/2021, 17/07/2021, 05/08/2021, 14/08/2021, 09/09/2021
HVP2	Foygh Bridge, Royal Canal	612023.763	760522.067	12/05/2021, 12/06/2021, 17/07/2021, 05/08/2021, 09/09/2021
HVP3	Derrymacar Lough	608506.111	758389.783	12/05/2021, 12/06/2021,
HVP4	Fortwilliam Turlough	601465.614	763206.551	12/05/2021, 12/06/2021, 17/07/2021, 05/08/2021, 14/08/2021, 09/09/2021
HVP5	Incharmadermot Island, Lough Ree	598015.731	765839.47	12/05/2021, 12/06/2021, 17/07/2021, 05/08/2021, 14/08/2021, 09/09/2021
HVP6	Cureen, Lough Ree	599770.446	767832.499	12/05/2021, 12/06/2021, 17/07/2021, 05/08/2021,

P21-119 www.fehilytimoney.ie — Page 9 of 41

PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report



		ITM Coordina	Dates	
Code	Location	Easting	Northing	Visited
				14/08/2021,
				09/09/2021
				12/05/2021,
				12/06/2021,
HVP7	Lanesborough Bridge, Lough Ree	600495.231	769387.084	17/07/2021,
				14/08/2021,
				09/09/2021
				14/05/2021,
				12/06/2021,
HVP8	Cullaghy, Lough Ree	598739.475	769573.953	17/07/2021,
				5/08/2021,
				14/08/2021,
				09/09/2021
				14/05/2021, 12/06/2021,
				17/07/2021,
HVP9	Gardenstown, Lough Ree	597396.711	767345.703	5/08/2021,
				14/08/2021,
				09/09/2021
				12/05/2021,
				12/06/2021,
	Cloonmustra, River Shannon		772340.698	17/07/2021,
HVP10		600807.323		5/08/2021,
				14/08/2021,
				9/09/2021
				13/05/2021,
				11/06/2021,
HVP11	Erra & Derryhanee, River Shannon	603635.518	7.944911	17/07/2021,
	2.7.4 & Serrymanee, ruver smarmen	003033.310	7.544511	5/08/2021,
				14/08/2021,
				9/09/2021
				13/05/2021,
				11/06/2021,
HVP12	Derrycashel, River Shannon	603185.029	776452.94	17/07/2021, 5/08/2021,
				14/08/2021,
				9/09/2021
				13/05/2021,
				11/06/2021,
HVP13	Feorish River	603428.885	777430.82	17/07/2021,
				9/09/2021
				13/05/2021,
				11/06/2021,
HVP14	Tarmonbarry Bridge	605449.722	776948.108	17/07/2021,
UALTA		605449.722		5/08/2021,
				14/08/2021,
				9/09/2021

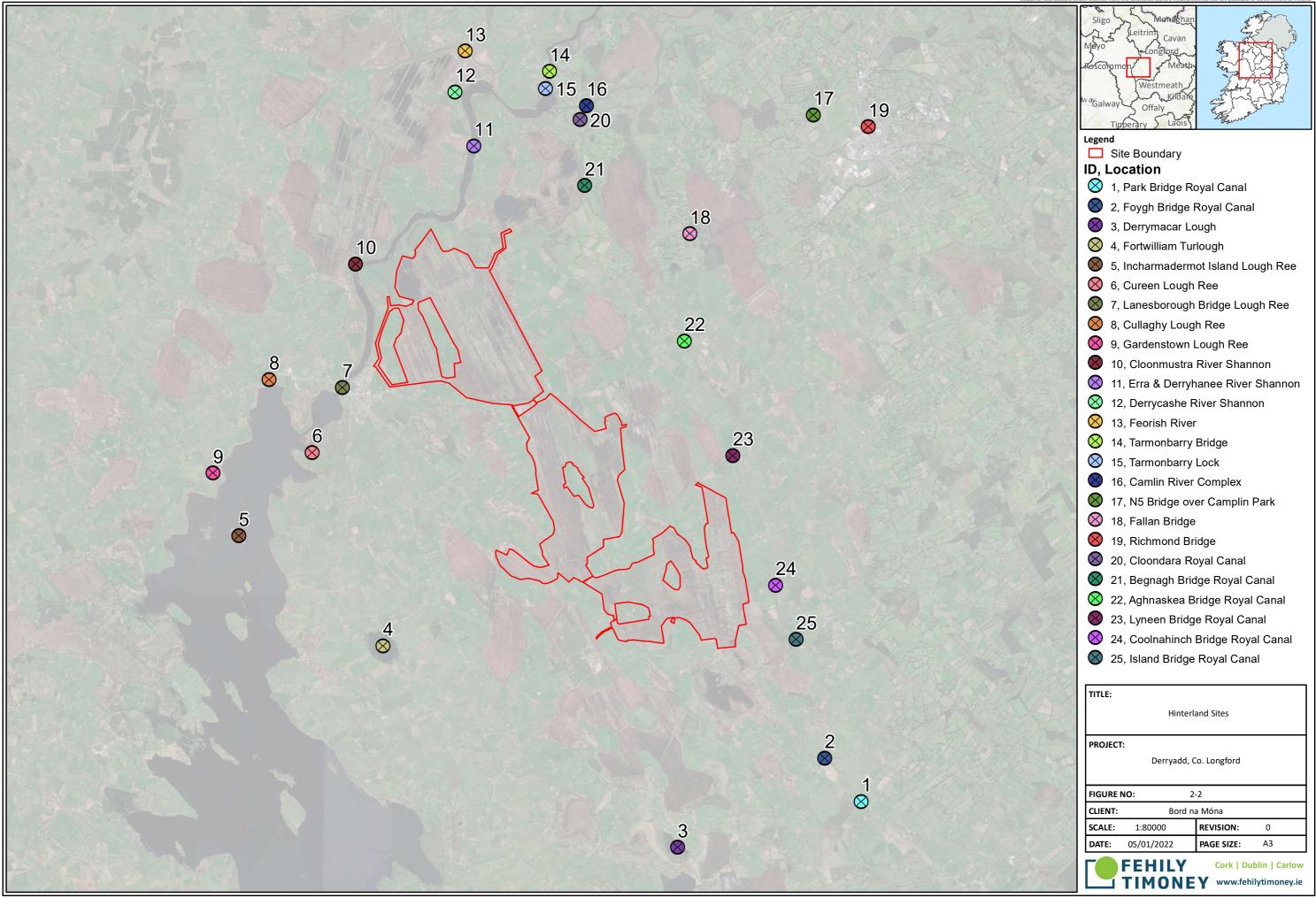
P21-119 www.fehilytimoney.ie — Page 10 of 41

PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report



		ITM Coordinates		Dates
Code	Location	Easting	Northing	Visited
				13/05/2021,
				11/06/2021,
HVP15	Tarmonbarry Lock	605352.886	776538.819	17/07/2021,
	, , , , ,			5/08/2021,
				14/08/2021, 9/09/2021
				13/05/2021,
				11/06/2021,
HVP16	Camlin River Complex	606330.588, -	776126.409	17/07/2021,
				9/09/2021
				13/05/2021,
HVP17	N5 Bridge over Camlin Park	611752.094	775901.951	11/06/2021,
				17/07/2021,
				14/08/2021
				14/05/2021, 11/06/2021,
HVP18	Fallan Bridge	608801.086	773065.52	14/07/2021,
				5/08/2021
				14/05/2021,
HVP19	Richmond Bridge	613068.179	775627.344	11/06/2021,
HVP19	Kichinona Bhage	013006.179	773027.344	14/07/2021,
				9/09/2021
				14/05/2021,
HVP20	Cloondara, Royal Canal	606176.505	775790.583	11/06/2021,
				14/07/2021, 5/08/2021
				14/05/2021,
HVP21	Begnagh Bridge, Royal Canal	606287.094	774216.229	11/06/2021,
				14/07/2021
				14/05/2021,
				11/06/2021,
HVP22	Aghnaskea Bridge, Royal Canal	608672.728	770495.836	14/07/2021,
				14/08/2021,
				9/09/2021
HVP23	Lyneen Bridge, Royal Canal	609831.385	767761.094	14/05/2021, 11/06/2021,
HVF23	Lyneen Bridge, Noyal Callai	003031.303	707701.094	14/07/2021,
				14/05/2021,
HVP24	Coolnahinch Bridge, Royal Canal	610855.924	764658.67	11/06/2021,
				14/07/2021
				14/05/2021,
HVP25	Island Bridge, Royal Canal	611337.847	763361.965	11/06/2021,
1.1.23		311337.047	, 55551.565	14/07/2021,
				05/08/2021

P21-119 www.fehilytimoney.ie — Page 11 of 41



 $W \stackrel{\longleftarrow}{\underset{S}{\longrightarrow}} E = 0 \quad 0.5 \quad 1 \qquad 2$  Kilometers



#### 2.3 Breeding Waders Survey

Survey transects to assess the presence of breeding wader populations were completed during the months of May and June 2021. A number of methods were combined from published literature including Bibby *et al*, (2000), Gilbert *et al*, (1998), O'Brien & Wilson (2011) and SNH (2017) to estimate numbers of target species breeding within this envelope.

Methods utilised were grouped into two categories; those for breeding lapwing *Vanellus vanellus* and those for other species such as curlew *Numenius arquata*, common snipe *Gallinago gallinago*, redshank *Tringa totanus*, woodcock *Scolopax rusticola*, common sandpiper *Actitis hypoleucos* and ringed plover *Charadrius hiaticula*. For each species, a pre-defined matrix of suitable habitats was created and used to select target habitats for survey (Table 2.3).

Table 2.2: Target Species and Associated Suitable Breeding Habitat

Target Species	Suitable Breeding Habitat
Lapwing	Lowland wet grassland, arable farmland, cutover bog with pools and wet grassland
Snipe	Wet pastures, marsh, bogs (intact and cutover) and fens
Redshank	Bog
Curlew	Bog
Common Sandpiper	Streams/rivers in bog
Woodcock	Woodland, bog woodland
Ringed Plover	Cutover bog, milled peat with exposed gravel

Survey methods for lapwing followed those in Bibby *et al.* (2000) where the primary count unit for breeding birds is defined as an incubating female. In addition, displaying birds, birds standing guard near nests or distraction displays were also recorded as indications of occupied territories. Extensive areas of open ground were covered from roads, farm tracks or roadsides (where possible); larger areas of open ground not visible from easily accessible vantage points were walked using transects.

Surveys were carried out during the time periods recommended in Bibby *et al.* (2000) although territorial behaviour noted outside these periods was also utilised in the assessment. For all additional species of wader, the employed method was the same and utilised transects walked through suitable habitat within three hours of dawn or dusk. Count units (Table 2.4) were predefined for each target species and included in the method statement provided to surveyors.

P21-119 www.fehilytimoney.ie — Page 13 of 41



Table 2.3: Count units for each wading species

Species	Count Unit	
Lapwing	Incubating Bird	
Common Snipe	Drumming or Chipping Bird	
Redshank	Alarming Bird	
Woodcock	Displaying Male	
Ringed Plover	Presence or Absence/ Fledged Young late in season	
Common Sandpiper	Presence or Absence/ Fledged young late in season	
Curlew	Territorial Activity	

All suitable habitats for waders were visited, during the months of May and June 2021. Observations from each visit were annotated onto maps (locations of territories or breeding attempts) and a final, summary map produced at the end of the survey season using ARCMAP 10.4.1. Breeding wader summary sheets were also compiled at the end of the breeding season, indicating in each case the minimum number of breeding pairs/occupied territories known to occur.

All species encountered (seen or heard) were recorded and their abundance, behaviour, sex/age and breeding status noted. Any species occurring more than 100 m from the observer, or flying over the site and not using it, were recorded as 'additional' species to further inform the baseline survey. Table 2.5 details the survey dates and weather conditions.

Table 2.4: Breeding waders survey details

Date	Cloud (Okta)	Precipitation	Visibility	Wind
21/05/2021	7/8	Very light showers	Very good	F1
19/05/2021	6/8	Dry	Very good	F1
01/06/2021	7/8	Dry	Very good	F1
03/06/2021	6/8	Dry	Very good	F1
16/06/2021	7/8	Dry	Very good	F1
17/06/2021	8/8	Dry	Very good	F1

P21-119 www.fehilytimoney.ie — Page 14 of 41



#### 2.4 Breeding Bird Surveys

For general breeding birds the method utilised was based on the existing British Trust for Ornithology (BTO) Breeding Bird Survey (BBS or CBS; Bibby et al. 2000). The study area for this survey comprised a total of 21 no. c. 1 km transects which were selected and centred on different habitats present within the subject sites (See Table 2-5). Birds were counted over two visits, each timed to coincide with the early part of the breeding season (April to mid-May 2021) and later part of the season (mid-May to late June 2021) with visits at least four weeks apart. Surveyors recorded all birds seen or heard as they walked methodically along the transect routes.

Birds were noted in three distance categories, measured at right angles to the transect line (within 25 m, between 25 m-100 m and over 100 m from the transect line) and those seen in flight only. Recording birds in distance bands gives a measure of bird detectability and allows relative population densities to be estimated if required (BTO, 2018).

SNH guidance on recommended bird survey methods to inform impact assessment of onshore wind farms states:

"Surveys of farmland passerines especially on more intensive arable habitat are generally not required" (SNH, 2017).

The summer breeding bird transect schedule is detailed in Table 2.6, with further details including weather and survey times indicated in Appendix 5.

Table 2.5: Breeding bird summer transect survey details

Transect	Month		
	May	June	
1	12/05/2021	11/06/2021	
2	13/05/2021	13/06/2021	
3	12/05/2021	11/06/2021	
4	12/05/2021	11/06/2021	
5	12/05/2021	11/06/2021	
6	12/05/2021	11/06/2021	
7	12/05/2021	11/06/2021	
8	12/05/2021	11/06/2021	
9	12/05/2021	11/06/2021	
10	12/05/2021	11/06/2021	
11	14/05/2021	12/06/2021	
12	14/05/2021	12/06/2021	

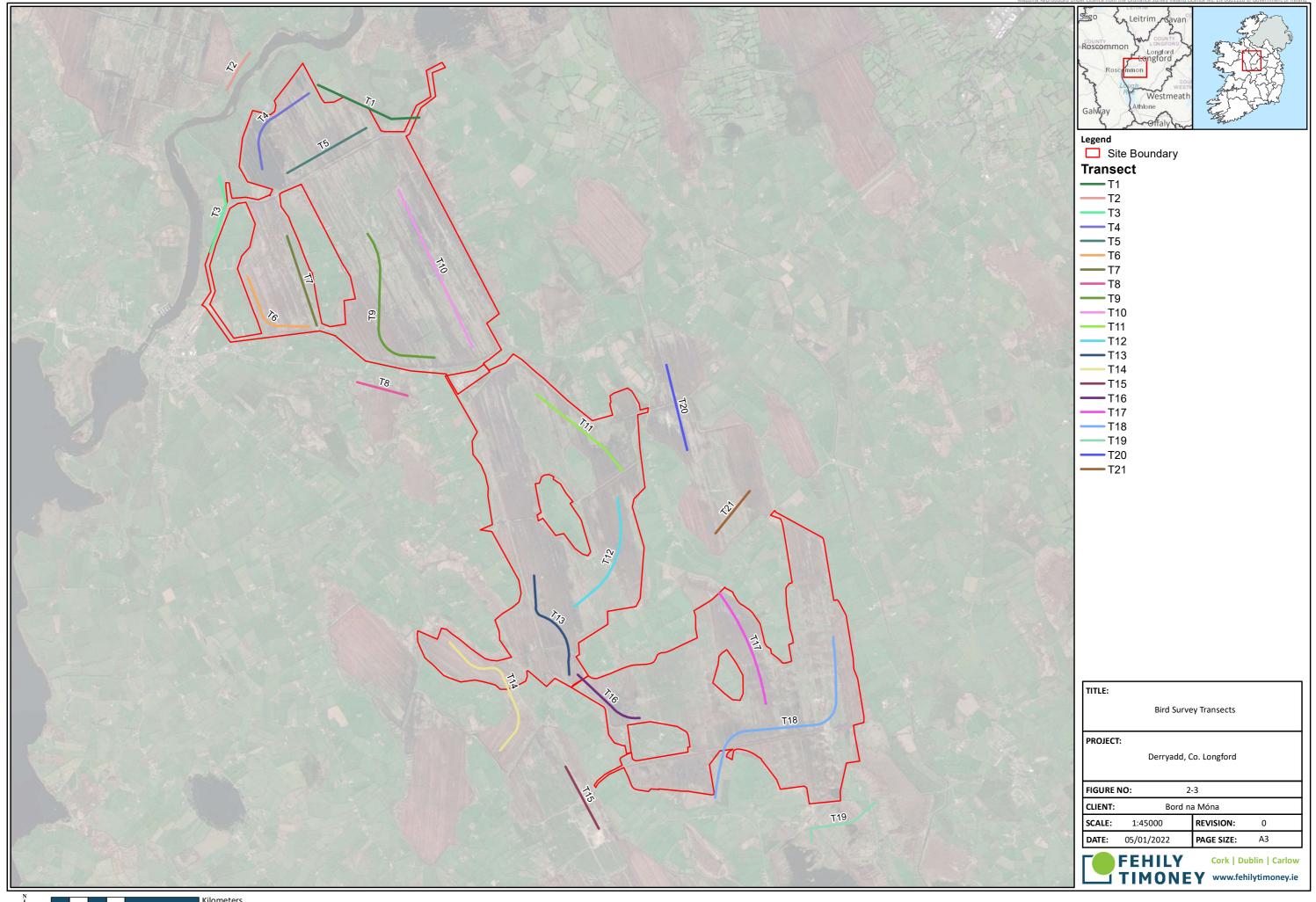
P21-119 www.fehilytimoney.ie — Page 15 of 41

PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report



Transect	Month		
	May	June	
13	13/05/2021	12/06/2021	
14	13/05/2021	12/06/2021	
15	13/05/2021	12/06/2021	
16	13/05/2021	12/06/2021	
17	13/05/2021	13/06/2021	
18	14/05/2021	13/06/2021	
19	14/05/2021	13/06/2021	
20	14/05/2021	13/06/2021	
21	14/05/2021	13/06/2021	

P21-119 www.fehilytimoney.ie — Page 16 of 41



PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report



#### 2.5 Barn Owl Surveys

The barn owl survey focused on visiting all old structures within 2km of the site with potential suitability for barn owls. The surveyor also remained vigilant for barn owl activity when travelling to/from and between the survey sites. Enquiries were also made with local birdwatchers to confirm any nest sites in the area.

The TII guidance document 'Survey and Mitigation Standards for Barn Owls to inform the Planning, Instruction and Operation of National Road Projects' (TII, 2021) was considered in determining Barn Owl survey Methodology; however, the methodology selected aligned with Shawyer (2012) 'Barn Owl *Tyto alba* Survey Methodology and Techniques for use in Ecological Assessment'.

www.fehilytimoney.ie — Page 18 of 41

CLIENT: B

Bord na Móna

PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report



#### 3. RESULTS

#### 3.1 Avian usage of the Study Area – Vantage point

A total of two timed watches of three hours duration each were carried out at each of the 11 vantage points on a monthly basis from April 2021 to September 2021 inclusive. This surveying effort totals 36 hours of observation time at each VP over the survey period (Appendix 2). Bird activity was recorded from the VPs during each survey. Table 3-1 shows all the species recorded during surveys. In total there were 1,187 individual flight lines of 21 target species observed during the survey period.

In total, 60 species of bird were noted. Of these species, eight are of Red-list status under the BoCCI (Gilbert *et al.*, 2021): black-tailed godwit, curlew, grey wagtail, kestrel, lapwing, meadow pipit, snipe and swift. A total of 18 are Amber-listed and the remaining 34 are Green-listed. Of the species noted, four are protected under Annex I of the EU Birds Directive: common tern, kingfisher, little egret and peregrine. Table 3.1 details the conservation status of all 60 species.

#### 3.1.1 Summary Results Summer 2021

Target species observed during this survey period at Derryadd were black-headed gull, black-tailed godwit, buzzard, common gull, common tern, cormorant, curlew, grey heron, kestrel, lapwing, lesser black-backed gull, little egret, mallard, moorhen, mute swan, peregrine, snipe, sparrowhawk, teal, whimbrel and wigeon.

P21-119 www.fehilytimoney.ie — Page 19 of 41



Table 3.1 Bird species recorded during VP surveys 2021<sup>2</sup>

Common name (BTO code)	Scientific name	*BoCCI status	**Annex I status
Blackcap	Sylvia atricapilla	Green	No
Black-headed Gull	Chroicocephalus ridibundus	Amber	No
Black-tailed Godwit	Limosa limosa	Red	No
Blue Tit	Cyanistes caeruleus	Green	No
Bullfinch	Pyrrhula pyrrhula	Green	No
Buzzard	Buteo buteo	Green	No
Chaffinch	Fringilla coelebs	Green	No
Chiffchaff	Phylloscopus collybita	Green	No
Common Gull	Larus canus	Amber	No
Common Tern	Sterna hirundo	Amber	Yes
Cormorant	Phalacrocorax carbo	Amber	No
Cuckoo	Cuculus canorus	Green	No
Curlew	Numenius arquata	Red	No
Dunnock	Prunella modularis	Green	No
Goldcrest	Regulus regulus	Amber	No
Goldfinch	Carduelis carduelis	Green	No
Great Tit	Parus major	Green	No
Green Sandpiper	Tringa ochropus	Green	No
Grey Heron	Ardea cinerea	Green	No
Grey Wagtail	Motacilla cinerea	Red	No
Hooded Crow	Corvus cornix	Green	No
House Martin	Delichon urbicum	Amber	No
Jackdaw	Corvus monedula	Green	No
Kestrel	Falco tinnunculus	Red	No
Kingfisher	Alcedo atthis	Amber	Yes
Lapwing	Vanellus vanellus	Red	No
Lesser Black-backed Gull	Larus fuscus	Amber	No
Lesser Redpoll	Carduelis cabaret	Green	No
Linnet	Carduelis cannabina	Amber	No
Little Egret	Egretta garzetta	Green	Yes
Little Grebe	Tachybaptus ruficollis	Green	No
Long-tailed Tit	Aegithalos caudatus	Green	No
Mallard	Anas platyrhynchos	Amber	No
Meadow Pipit	Anthus pratensis	Red	No
Mistle Thrush	Turdus viscivorus	Green	No
Moorhen	Gallinula chloropus	Green	No
Mute Swan	Cygnus olor	Amber	No
Peregrine	Falco peregrinus	Green	Yes

 $<sup>^2 \ \</sup>text{Colours refer to the conservation status of the species according to Birds of Conservation Concern in Ireland.} \\$ 

P21-119 www.fehilytimoney.ie — Page 20 of 41

PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report



Common name (BTO code)	Scientific name	*BoCCI status	**Annex I status
Pheasant	Phasianus colchicus	Green	No
Raven	Corvus corax	Green	No
Reed Bunting	Emberiza schoeniclus	Green	No
Robin	Erithacus rubecula	Green	No
Sand Martin	Riparia riparia	Amber	No
Siskin	Carduelis spinus	Green	No
Snipe	Gallinago gallinago	Red	No
Sparrowhawk	Accipiter nisus	Green	No
Spotted Flycatcher	Muscicapa striata	Amber	No
Starling	Sturnus vulgaris	Amber	No
Stonechat	Saxicola torquatus	Green	No
Swallow	Hirundo rustica	Amber	No
Swift	Apus apus	Red	No
Teal	Anas crecca	Amber	No
Treecreeper	Certhia familiaris	Green	No
Water Rail	Rallus aquaticus	Green	No
Whimbrel	Numenius phaeopus	Green	No
Whitethroat	Sylvia communis	Green	No
Wigeon	Anas penelope	Amber	No
Willow Warbler	Phylloscopus trochilus	Amber	No
Woodpigeon	Columba palumbus	Green	No
Wren	Troglodytes troglodytes	Green	No

<sup>\*</sup> Refers to the conservation status of the species according to Birds of Conservation Concern in Ireland

<sup>\*\*</sup>refers to species listed on Annex I of the EU Birds Directive.

Bord na Móna

**PROJECT NAME:** 

Derryadd, Co. Longford Wind Farm Ornithological Report



#### 3.2 Target species observations during VP surveys

#### 3.2.1 Black-Headed Gull

The Amber-listed black-headed gull was recorded 71 times during the summer VP surveys. This species was observed 22 times in May, 28 times in June, 20 times in July and once in September, and was observed at all 11 VP locations. This species was recorded in all height bands, with the exception of >185m. Quantities observed ranged from a minimum of one to a maximum of 51. The average quantity of black-headed gulls observed was five birds.

#### 3.2.2 Black-Tailed Godwit

Black-tailed godwit, a Red listed species was recorded once, at VP2 on the 29<sup>th</sup> of April 2021. A total of five birds were recorded during this observation. This group flew at a height of 30-50m for 109 seconds.

#### 3.2.3 Buzzard

Green-listed buzzard was observed on 281 occasions. Observations were distributed across all VPs and months. Buzzard was observed flying through all height bands, most frequently at the 30-50m band. Observations were usually of individual birds, but up to five individuals were recorded on occasion.

#### 3.2.4 Common Gull

Common gull, an Amber-listed Species, was observed once from VP2 on the 29<sup>th</sup> of April 2021. This observation was of a single bird flying in the 50-185m height band.

#### 3.2.5 <u>Common tern</u>

Common tern, an Amber-listed, Annex I species was recorded twice during the summer survey period, on the 7<sup>th</sup> of July 2021. Both observations were of a single individual, observed flying in the 0-30m height band at VP2. Common tern may breed on inland lakes, and breeding may occur in this area. However, no evidence of breeding onsite was recorded.

#### 3.2.6 Cormorant

The Amber-listed cormorant was observed on 67 occasions. Observations occurred in all months. Cormorant was observed at VPs 1, 2, 3, 4, 5, 6, 8, and 11. This species was observed flying at all height bands, but most frequently at 50-185m. Activity of cormorants was concentrated along the River Shannon and to the northern part of the proposed site.

#### 3.2.7 <u>Curlew</u>

Red-listed Curlew was observed four times, flying in the 50-185m height band on all occasions. At VP1, individual curlews were observed on 18<sup>th</sup> August and 6<sup>th</sup> September. A single individual flew through VP4 with four whimbrel on the 13<sup>th</sup> of August 2021. A single individual was also observed at VP6 on the 19<sup>th</sup> of August 2021. No evidence was noted of curlew breeding on site.

P21-119 www.fehilytimoney.ie — Page 22 of 41

PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report



#### 3.2.8 Grey Heron

The Green-listed Grey Heron was observed 94 times during the summer surveys. Observations of this species were made during all surveyed months. This species generally flew at the 0-30m height band and was observed at higher bands on 18 occasions. This species was observed at all VP locations. Observations were generally of single birds, but two individuals were noted on four occasions and three individuals on another occasion.

#### 3.2.9 Kestrel

Kestrel (Red-listed) was observed 91 times during the summer survey period. This species was observed at all VPs except for VP1. Kestrel was observed in all months except April. Observations were made at all height bands, most frequently between 30-50m, and least frequently above 185m. Generally, only one bird was noted per observation, but two to three birds were occasionally observed.

#### 3.2.10 Lapwing

A total of 28 observations were made of Red-listed lapwing at VP1, VP3, VP4, VP5, VP6 and VP10. Lapwing were recorded in all months except April, and only single observations were made in both August and September. This species most frequently flew at the lower height band (0-30m) and was not observed flying above 185m. An average of five birds were recorded during each observation, ranging from one individual to a flock of 63 birds. The majority of flight activity was concentrated over the bog at the north of the site.

#### 3.2.11 Lesser Black-Backed Gull

Amber-listed lesser black-backed gull was the most frequently recorded species, with 355 flightlines mapped across all VPs. 6 observations across all VPs This species was observed in all months except April. Most observations were in July and August (116 and 111 respectively) with fewer in May, June and September (73, 46 and 8 observations respectively). The number of individuals observed ranged from one to 74, with an average of four birds per observation.

#### 3.2.12 Little Egret

A total of 61 observations of Green-listed/Annex I little egret were recorded. This species was recorded from all VPs except VP11. Observations were made in all months but were most frequent in May (30 observations). This species was most frequently observed flying within the 0-30m height band and was not observed flying above 185m. The numbers of individuals per observation ranged from one to twelve, but most frequently a single bird was observed.

#### 3.2.13 Mallard

Amber-listed mallard was recorded on 51 occasions. It was observed at VP1, VP2, VP3, VP4, VP5, VP9 and VP11 and observations occurred during all months surveyed. Mallard was observed flying most frequently between 0-30m and was not observed above 185m. The numbers of individuals recorded ranged from one to eight, with an average of two per observation.

P21-119 www.fehilytimoney.ie — Page 23 of 41

PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report



#### 3.2.14 Moorhen

A single observation of two Green-listed moorhen was made from VP2 on 29<sup>th</sup> of April 2021. These individuals were observed flying for 11 seconds within the 0-30m height band.

#### 3.2.15 Mute Swan

Mute swan (Amber-listed) was recorded five times. Four of these observations were from VP1 (May, June and August), each of one individual bird within the 0-30m height band. An observation from VP2 (29<sup>th</sup> of April 2021) recorded two birds flying in the 0-30m and 30-50m height bands. Mute swan activity did not occur on site, with all observed flightlines associated with the River Shannon.

#### 3.2.16 Peregrine

Peregrine (Green-listed, Annex I) was observed three times during the summer VP surveys. On 5<sup>th</sup> of May a single individual was observed from VP4, flying in height bands 30-50m, 50-185m and >185m. On 1<sup>st</sup> June, a single individual was observed flying between 0-30m. The final observation was on the 6<sup>th</sup> of July, with a single individual observed flying in height bands 30-50m, 50-185m and >185m. Each of these observations occurred on the proposed site, with two observations involving birds circling over the site.

#### 3.2.17 **Snipe**

Red-listed snipe was observed 23 times. This species was observed from VP1, VP3, VP4, VP5, VP6 and VP8. Observations were made in June, July and September. This species was recorded flying at height bands 0-30m, 30-50m and 50-185m. There were 18 observations of single individuals, and five observations of two individuals.

#### 3.2.18 Sparrowhawk

Sparrowhawk (Green-listed) was observed 38 times during the summer survey season. This species was observed from all VPs except VP8. Observations of sparrowhawk were made in all months. Sparrowhawk was observed in all height bands, but most frequently between 0-30m. The number of individuals per observation ranged from one to three, with a one individual per sighting being the most frequent.

#### 3.2.19 Teal

Amber-listed teal was observed twice during VP surveys. The first observation occurred from VP3 on the  $4^{th}$  of May. On this occasion, one female was observed flying for 23 seconds in the 0-30m height band. The second observation occurred from VP1 on the  $6^{th}$  of July. On this occasion, four birds were observed flying for 119s in the 50-185m height band.

P21-119 www.fehilytimoney.ie — Page 24 of 41

PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report



#### 3.2.20 Whimbrel

Whimbrel, a Green-listed species was observed four times flying at the 50-185m height band on all occasions. Two observations were made in May, from VP4 and VP8, of 41 and 147 individuals respectively. From VP4, on the 13<sup>th</sup> of August, 4 individuals were recorded. Finally, on the 6<sup>th</sup> of September three individuals (one flightline) was made from VP8. Whimbrel is a passage migrant, moving through Ireland to Iceland from the African continent via Europe in spring and back again in autumn.

#### 3.2.21 Wigeon

Two observations were made of wigeon (Amber-listed) from VP1. The first observation occurred on  $6^{th}$  May, with one male observed flying along a drain at a height of 0-30m for seven seconds. The second observation, again of a male, occurred on the  $1^{st}$  of June for 10 seconds at a height of 0-30m. Wigeon are considered to breed in Ireland in small numbers (< 10 pairs).

#### 3.3 Hinterland Survey

Hinterland surveys to establish breeding occupancy within a 10 km radius of the site were carried out over ten dates across summer 2021. The survey schedule and locations of the Hinterland watches are shown in Table 2-1.

For site-specific Hinterland survey results see Appendix 4 of this report.

A total of three Annex I species were recorded during hinterland surveys: common tern, kingfisher, and little egret. A total of five Red-listed species were observed: grey wagtail, lapwing, oystercatcher, pochard and snipe. A further 16 Amber-listed species were observed: common tern, kingfisher, black-headed gull, common gull, common sandpiper, coot, cormorant, gadwall, great crested grebe, lesser black-backed gull, mallard, mute swan, greylag goose, teal, tufted duck and wigeon. All observed species, including green listed species are included in Table 3-2.

For site-specific Hinterland survey results see Appendix 4 of this report.

Species of conservation concern that are known to be potentially vulnerable to wind farm developments will be discussed in more detail in this section. Species have been selected for detailed discussion based on conservation status, vulnerability to wind farm developments and if species sightings have been confirmed on or near the proposed Wind Farm site, which will indicate potential links between species recorded at the proposed site and the surrounding environment.

P21-119 www.fehilytimoney.ie — Page 25 of 41

PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report



#### 3.3.1 Black-Headed Gull

This Amber-listed species was seen 35 times during hinterland surveys, with observations made during all survey months. Observations were made from the following hinterland vantage points (HVPs): HVP4 (Fortwilliam Turlough, 3.4km west), HVP5 (Incharmadermot Island, Lough Ree, 5.1km west), HVP6 (Cureen, Lough Ree, 2.4km west), HVP7 (Lanesborough Bridge, Lough Ree, 0.9 km west), HVP8 (Cullaghy, Lough Ree, 2.5km west), HVP9 (Gardenstown, Lough Ree, 4.6km west), HVP11 (Erra & Derryhanee, River Shannon, 2.2km north), , HVP10 (Cloonmustra, River Shannon, 1km north-west), HVP 11 (Erra and Derryhanee, River Shannon, 2.2km north), HVP12 (Derrycashel, River Shannon, 3.3km north), HVP15 (Tarmonbarry Lock, 3.5km north), HVP16 (Camlin River Complex, 3.5km north), and HVP20 (Cloondara, Royal Canal, 3.1km north). These HVPs are to the west, north and northeast of the proposed site, in the vicinity of Lough Ree and the River Shannon. The quantity of birds counted in these observations ranged from one to 290, with an average of 22.

#### 3.3.2 Buzzard

Buzzard (Green-listed) was observed on eight occasions during the hinterland surveys. In May 2021, buzzard was observed from HVP21 (Begnagh Bridge, Royal Canal), c. 2.1 km north of the site. Buzzard was observed in June from HVP13 (Feorish River, 3.4km north) and HVP18 (Fallan Bridge, 4.3km north-east), in July from HVP4 (Fortwilliam Turlough, 3.4 km west), in August from HVP18 (Fallan Bridge, 4.3km north-east), HVP6 (Cureen, Lough Ree 2.4 km west) and HVP8 (Cullaghy, Lough Ree, 0.9km west), and again in September from HVP4. All observations were of individuals, except for the sighting at HVP4 on the 17th of July, where six buzzards were seen together.

#### 3.3.3 Common Gull

There were six observations of common gull (Amber-listed) through the hinterland surveys. In May, this species was observed at HVP6 (Incharmadermot Island, Lough Ree, 5.1km W), HVP8 (Cullaghy, Lough Ree, 0.9km west) and HVP12 (Derrycashel, River Shannon, 3.3km north). In July, common gull was observed at HVP9 (Gardenstown, Lough Ree, 4.6km west) and HVP14 (Tarmonbarry Bridge, 3.9km north). Common gull was also observed at HVP9 in August. The quantity of this species observed ranged from one to nine.

#### 3.3.4 Common Sandpiper

One observation was noted of a single common sandpiper (Amber-listed species). This record occurred on 14<sup>th</sup> August 2021 from HVP8 (Cullagh, Lough Ree, 0.9km north), located 2.5km to the west of the proposed site.

#### 3.3.5 Common Tern

Common tern (Amber-listed, Annex I) was observed on four occasions. In May and June, two individuals were observed on each occasion from HVP5 (Incharmadermot Island, Lough Ree, 5.1km west). In June and July, individuals were observed from HVP8 (Cullaghy, Lough Ree, 2.5km west) and HVP9 (Gardenstown, Lough Ree, 4.6km west) respectively. These HVPs all surround Lough Ree SPA (004064), which is a protected site for common tern.

P21-119 www.fehilytimoney.ie — Page 26 of 41

PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report



#### 3.3.6 Curlew

Curlew (Red-listed) was observed on one occasion during the hinterland surveys. On the 9<sup>th</sup> of September 2021, two curlew were observed from HVP8 (Cullaghy, Lough Ree SPA (004064).

#### 3.3.7 Common Coot

Coot (Amber-listed) was observed 16 times during the hinterland surveys. Quantities ranged from 2 to 20, averaging 16 individuals. Observations of coot occurred from May to September, and were recorded from HVP4 (Fortwilliam Turlough, 3.4km W), HVP5 (Incharmadermot Island, Lough Ree, 5.1km west), HVP8 (Cullaghy, Lough Ree, 2.5km west), and HVP9 (Gardenstown, Lough Ree, 4.6km west). These Hinterland Vantage Points (HVPs) all surround Lough Ree SPA (004064), which is a protected site for coot

#### 3.3.8 Cormorant

Cormorant (Amber-listed) were recorded 22 times during the hinterland surveys, with groups ranging from 24 to 114 individuals, noted especially from HVP5 (Incharmadermot Island, Lough Ree, 5.1 km west). Smaller groups and individual birds were more frequently recorded. This species was observed during all survey months. Sighting occurred at the following hinterland vantage points: HVP5, HVP6 (Cureen, Lough Ree, 2.4km west), HVP7 (Lanesborough Bridge, Lough Ree, 0.9km west), HVP8 (Cullaghy, Lough Ree, 2.5km west), HVP9 (Gardenstown, Lough Ree, 4.6 km west), HVP10 (Cloonmustra, River Shannon, 1km north-west), HVP11 (Erra and Derryhanee, River Shannon, 2.2km north), HVP12(Derrycash, River Shannon 3.3km north) and HVP15 (Tarmonbarry Lock, 3.5km north). These hinterland sites are in the vicinity of either Lough Ree or the River Shannon

#### 3.3.9 Gadwall

Amber-listed gadwall was observed on five occasions. In May (2 birds), June (1 bird) and July (2 birds) were observed at HVP 5 (Incharmadermot Island, Lough Ree, 5.1 km west). In July, 31 gadwall were observed at HVP8 (Cullaghy, Lough Ree, 2.5km west). Additionally, eight gadwall were observed at HVP9 in July 2021.

#### 3.3.10 Great Black-Backed Gull

One observation of great black-backed gull (Green-listed) was made from HVP8 (Cullaghy, Lough Ree, 2.5km west) on the 9<sup>th</sup> of September. A single bird was observed.

#### 3.3.11 Great Crested Grebe

Over the survey period, 20 observations were made of great-crested grebe. Sightings of this species occurred in all months and numbers per observation ranged from 1 to 12 (average = 5). These observations were made from HVP5 (Incharmadermot Island, Lough Ree, 5.1km west), HVP8 (Cullaghy, Lough Ree, 2.5km west), HVP9 (Gardenstown, Lough Ree, 4.6km west), HVP11 (Erra & Derryhanee, River Shannon, 2.2km north), and HVP12 (Derrycashel, River Shannon, 3.3km north).

P21-119 www.fehilytimoney.ie — Page 27 of 41

CLIENT: Bord

PROJECT NAME:

Bord na Móna

Derryadd, Co. Longford Wind Farm Ornithological Report



#### 3.3.12 Great White Egret

A single observation of great white egret was made on 13<sup>th</sup> May 2021. This observation occurred from HVP11 (Erra & Derryhanee, River Shannon, 2.2km north). The observed bird was a non-breeding bird with winter plumage.

#### 3.3.13 Grey Heron

During hinterland surveys, grey heron (Green-listed) was observed 23 times. The observations occurred in all months. Observations of this species were made from HVP1 (Pake Bridge, Royal Canal, 4.8km south-east), HVP2 (Foygh Bridge, Royal Canal, 3.4km south-east), HVP4 (Fortwilliam Turlough, 3.4km west), HVP5 (Incharmadermot Island, Lough Ree, 5.1km west), HVP7 (Lanesborough Bridge, Lough Ree, 0.9 km west), HVP8 (Cullaghy, Lough Ree, 2.5km west), HVP9 (Gardenstown, Lough Ree, 4.6km west), HVP10 (Cloonmustra, River Shannon, 1km north-west), HVP11 (Erra & Derryhanee, River Shannon, 2.2km north), HVP12 (Derrycashel, River Shannon, 3.3km N), HVP15 (Tarmonbarry Lock, 3.5km N), HVP16 (Camlin River Complex, 3.5kmnorth), HVP19 (Richmond Bridge, 8.9km north-east) and HVP21 (Begnagh Bridge, Royal Canal, 2.1km north). The majority of observations (17) were of individuals, but groups of 2-9 were also observed.

#### 3.3.14 Grey Wagtail

Red-listed grey wagtail was observed on 12 occasions during VP surveys. This species was sighted in all months (May to September). Quantities observed ranged from one to 3 (average=1.3). Sightings occurred at HVP1 (Pake Bridge, Royal Canal, 4.8km south-east), HVP7 (Lanesborough Bridge, Lough Ree, 0.9 km west), HVP8 (Cullaghy, Lough Ree, 2.5km west), HVP15 (Tarmonbarry Lock, 3.5km north), HVP16 (Camlin River Complex, 3.5km north), HVP19 (Richmond Bridge, 8.9km north-east), HVP20 (Cloondara, Royal Canal, 3.1km north), HVP23 (Lyneen Bridge, Royal Canal, 1km east) and HVP25 (Island Bridge, Royal Canal, 1.2km east).

#### 3.3.15 Greylag Goose

On the 12<sup>th</sup> of May2021, two Amber-Listed greylag geese were observed from HVP5 (Incharmadermot Island, Lough Ree, 5.1km west).

#### 3.3.16 Kingfisher

During the hinterland surveys, kingfisher (Amber-listed, Annex I) was observed on three occasions. A single individual was seen on each occasion. Sightings occurred in May, August and September from HVP8 (Cullaghy, Lough Ree, 2.5km west), HVP20 (Cloondara, Royal Canal, 3.1km north) and HVP2 (Foygh Bridge, Royal Canal, 3.4km south-east) respectively.

#### 3.3.17 <u>Lapwing</u>

Overall, six sightings of Red-listed lapwing were made during the hinterland surveys. In May and July, single birds were observed at HVP12 (Derrycashel, River Shannon, 3.3km north) and HVP4 (Fortwilliam Turlough, 3.4km west). Groups ranging from 16 to 38 (mean=22) were observed from HVP8 (Cullaghy, Lough Ree, 2.5km west) during July, August and September. This Hinterland sites is at Lough Ree SPA (004064), which is a protected site for lapwing.

P21-119 www.fehilytimoney.ie — Page 28 of 41

PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report



#### 3.3.18 Lesser Black-Backed Gull

During the hinterland surveys, 44 observations were made of lesser black-backed gull (Amber-listed). Counts ranged from one individual to 1400 (mean=145). Sightings occurred during all surveyed months. Observations occurred at all HVP sites with the exception of HVP2 (Foygh Bridge, Royal Canal, 3.4km south-east), HVP3 (Derrymacar Lough, 4.9km south), HVP13 (Feorish River, 4.3km north), HVP16 (Camlin River Complex, 3.5km north), HVP10 (Cloonmustra, River Shannon, 1km north-west), HVP20 (Cloondara, Royal Canal, 3.1km north) and HVP24 (Coolnahinch Bridge, Royal Canal, 0.7km east).

#### 3.3.19 Little Egret

Little egret (Green-listed, Annex I) was recorded 18 times. Observations occurred during all survey months from the following hinterland sites: HVP4 (Fortwilliam Turlough, 3.4km west), HVP5 (Incharmadermot Island, Lough Ree, 5.1km west), HVP6 (Cureen, Lough Ree, 2.4km west), HVP8 (Cullaghy, Lough Ree, 2.5km west), HVP9 (Gardenstown, Lough Ree, 4.6km west), HVP11 (Erra & Derryhanee, River Shannon, 2.2km north), and HVP15 (Tarmonbarry Lock, 3.5km north).

#### 3.3.20 Little Grebe

Little grebe (Green-listed) was observed 8 times, in quantities of 2-12 (mean=5). This species was observed in May, August and September, and observations occurred from HVP4 (Fortwilliam Turlough, 3.4km west), HVP5 (Incharmadermot Island, Lough Ree, 5.1km west), HVP8 (Cullaghy, Lough Ree, 2.5km west), and HVP9 (Gardenstown, Lough Ree, 4.6km west). These hinterland sites are all in the vicinity of Lough Ree SPA, which lists little grebe as a Special Conservation Interest.

#### 3.3.21 Mallard

Mallard (Amber-listed) was observed on 39 occasions. Sightings were made during all surveyed months. Mallard was observed from HVP1 (Pake Bridge, Royal Canal, 4.8km south-east), HVP2 (Foygh Bridge, Royal Canal, 3.4km SE), HVP4 (Fortwilliam Turlough, 3.4km west), HVP5 (Incharmadermot Island, Lough Ree, 5.1km west), HVP6 (Cureen, Lough Ree, 2.4km west), HVP7 (Lanesborough Bridge, Lough Ree, 0.9 km west), HVP8 (Cullaghy, Lough Ree, 2.5km west), HVP9 (Gardenstown, Lough Ree, 4.6km west), HVP10 (Cloonmustra, River Shannon, 1km north-west), HVP11 (Erra & Derryhanee, River Shannon, 2.2km north), HVP12 (Derrycashel, River Shannon, 3.3km north), HVP13 (Feorish River, 4.3km north), HVP15 (Tarmonbarry Lock, 3.5km north), and HVP20 (Cloondara, Royal Canal, 3.1km north). A number of these HVPs are located on the shores of Lough Ree SPA, which is designated for mallard. Counts of this species ranged from 1 to 44, with an average count of 7.5.

#### 3.3.22 Moorhen

Moorhen (Green-listed) was observed 18 times, from June to September. Sightings occurred from HVP1 (Pake Bridge, Royal Canal, 4.8km south-east), HVP4 (Fortwilliam Turlough, 3.4km west), HVP5 (Incharmadermot Island, Lough Ree, 5.1km west), HVP8 (Cullaghy, Lough Ree, 2.5km west), HVP9 (Gardenstown, Lough Ree, 4.6km west), HVP 11 (Erra & Derryhanee, River Shannon, 2.2km north), HVP12 (Derrycashel, River Shannon, 3.3km north), and HVP15 (Tarmonbarry Lock, 3.5km north). Counts ranged from 1 to 10, with an average count of 2 birds per observation.

P21-119 www.fehilytimoney.ie — Page 29 of 41

CLIENT: PROJECT NAME:

Bord na Móna

Derryadd, Co. Longford Wind Farm Ornithological Report



#### 3.3.23 <u>Mute Sw</u>an

Mute swan (Amber-listed) was the most frequently observed species, noted 49 times during the hinterland surveys. Observations occurred in all months and were evenly distributed across those months. Counts ranged from 1 to 66, with an average count of 11 per observation. Sightings occurred at the following HVPs: HVP3 (Derrymacar Lough, 4.9km south), HVP4 (Fortwilliam Turlough, 3.4km W), HVP5 (Incharmadermot Island, Lough Ree, 5.1km west), HVP6 (Cureen, Lough Ree, 2.4km west), HVP7 (Lanesborough Bridge, Lough Ree, 0.9 km west), HVP8 (Cullaghy, Lough Ree, 2.5km west), HVP9 (Gardenstown, Lough Ree, 4.6km west), HVP10 (Cloonmustra, River Shannon, 1km north west), HVP11 (Erra & Derryhanee, River Shannon, 2.2km N), HVP12 (Derrycashel, River Shannon, 3.3km north), HVP13 (Feorish River, 4.3km north), HVP14 (Tarmonbarry Bridge, 3.9km north) and HVP15 (Tarmonbarry Lock, 3.5km north). No sightings were observed from the southeast of the proposed wind farm.

#### 3.3.24 Oystercatcher

A single observation of Red-listed oystercatcher was made from HVP8 (Cullaghy, Lough Ree, 2.5km west) on the 12<sup>th</sup> of June. This sighting involved a single individual.

#### 3.3.25 Pink-footed Goose

A single observation of the Green-listed pink-footed goose was made from HVP8 (Cullaghy, Lough Ree, 2.5km west) on the 14<sup>th</sup> of May. This sighting involved a single individual.

# 3.3.26 Pochard

A single observation of the Red-Listed pochard was made from HVP8 (Cullaghy, Lough Ree, 2.5km west) on the 17<sup>th</sup> of July. This sighting involved a single individual.

#### 3.3.27 Snipe

Snipe (Red-listed) was recorded on four occasions during the hinterland surveys. Each observation consisted of one individual. Two observations occurred from HVP4 (Fortwilliam Turlough, 3.4km west), on 12<sup>th</sup> June and 7<sup>th</sup> July. A sighting occurred from HVP 11 (Erra & Derryhanee, River Shannon, 2.2km north) on 13<sup>th</sup> May and from HVP 13 (Feorish River, 4.3km north) on the 9<sup>th</sup> of September.

#### 3.3.28 <u>Teal</u>

Amber-listed teal was observed once from HVP8 (Cullaghy, Lough Ree, 2.5km west) on the 9<sup>th</sup> of September 2021. This HVP site is within the Lough Ree SPA, which lists teal as a Special Conservation Interest. A single bird was recorded on this occasion.

P21-119 www.fehilytimoney.ie — Page 30 of 41

CLIENT: Bord na Móna

PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report



#### 3.3.29 Tufted Duck

A total of 15 observations were made of the Amber-listed tufted duck. Observations were made at the following HVPs, which are in the vicinity of Lough Ree SPA, which is designated for tufted duck: HVP4 (Fortwilliam Turlough, 3.4km west), HVP5 (Incharmadermot Island, Lough Ree, 5.1km west), HVP8 (Cullaghy, Lough Ree, 2.5km west) and HVP9 (Gardenstown, Lough Ree, 4.6km west). Counts for this species ranged from 2 to 124 individuals, averaging at 21 birds. Observations occurred from May to August.

#### 3.3.30 Water Rail

Green-listed water rail was observed six times. Four times from HVP4 (Fortwilliam Turlough, 3.4km west) and twice from HVP12 (Derrycashel, River Shannon, 3.3km north). Each observation consisted of a single individual, and observations occurred from July to September.

#### 3.3.31 Whimbrel

Whimbrel (Green-listed) was observed twice, with each observation involving a single individual. The first observation was on the 13<sup>th</sup> of May from HVP12 (Derrycashel, River Shannon, 3.3km N). The second observation occurred the following day (14<sup>th</sup> of May) from HVP8 (Cullaghy, Lough Ree, 2.5km W). This species occurs as a passage migrant in Ireland.

#### 3.3.32 Wigeon

There were two observations of single wigeon (Red-listed) during the hinterland surveys. The first observation was on the 6<sup>th</sup> of June from HVP4 (Fortwilliam Turlough, 3.4km west). The second observation occurred on the 14<sup>th</sup> of August from HVP5 (Incharmadermot Island, Lough Ree, 5.1km west). These hinterland vantage points are near or within Lough Ree SPA, which lists wigeon as a Special Conservation Interest.

P21-119 www.fehilytimoney.ie — Page 31 of 41



# Table 3.2: Bird species recorded during hinterland surveys in summer 2021<sup>3</sup>

Common Name	Colombisio Name	Conservati	on Status
Common Name	Scientific Name	BoCCI*	Annex I**
Black-headed Gull	Chroicocephalus ridibundus	Amber	No
Buzzard	Buteo buteo	Green	No
Common Gull	Larus canus	Amber	No
Common Sandpiper	Actitis hypoleucos	Amber	No
Common Tern	Sterna hirundo	Amber	Yes
Coot	Fulica atra	Amber	No
Cormorant	Phalacrocorax carbo	Amber	No
Gadwall	Anas strepera	Amber	No
Great Black-backed Gull	Larus marinus	Green	No
Great Crested Grebe	Podiceps cristatus	Amber	No
Great White Egret	Ardea alba	Green	Yes
Grey Heron	Ardea cinerea	Green	No
Grey Wagtail	Motacilla cinerea	Red	No
Greylag Goose	Anser anser	Amber	No
Kingfisher	Alcedo atthis	Amber	Yes
Lapwing	Vanellus vanellus	Red	No
Lesser Black-backed Gull	Larus fuscus	Amber	No
Little Egret	Egretta garzetta	Green	Yes
Little Grebe	Tachybaptus ruficollis	Green	No
Mallard	Anas platyrhynchos	Amber	No
Moorhen	Gallinula chloropus	Green	No
Mute Swan	Cygnus olor	Amber	No
Oystercatcher	Haematopus ostralegus	Red	No
Pink-footed Goose	Anser brachyrhynchus	Green	No
Pochard	Aythya ferina	Red	No
Snipe	Gallinago gallinago	Red	No
Teal	Anas crecca	Amber	No
Tufted Duck	Aythya fuligula	Amber	No
Water Rail	Rallus aquaticus	Green	No
Whimbrel	Numenius phaeopus	Green	No
Wigeon	Anas penelope	Amber	No

<sup>\*</sup> refers to the conservation status of the species according to Birds of Conservation Concern in Ireland

P21-119 www.fehilytimoney.ie — Page 32 of 41

<sup>\*\*</sup>refers to species listed on Annex I of the EU Birds Directive

<sup>&</sup>lt;sup>3</sup> Colours refers to the conservation status of the species according to Birds of Conservation Concern in Ireland. Species in bold refers to species listed on Annex I of the EU Birds Directive.



#### 3.4 Breeding Waders Survey

A total of four wader species were observed during the Breeding Waders survey, with all observed waders detailed in Table 3.3. Of the observed wading species, three are Red-listed (lapwing, snipe and woodcock). The remaining species, ringed plover, is Amber-listed. Details of their breeding status are included under the subheadings below.

Other species were also recorded during the breeding wader survey. Amber-listed lesser black-backed gull and mallard were observed. Additionally, the following Green-listed species were noted: long-eared owl, little egret and grey heron. Long eared owl was not observed in the other surveys.

Table 3.3: Bird species recorded during breeding wader surveys in summer 2021 <sup>4</sup>

Common Name	Scientific Name	Conserv	ation Status
Common Name	Scientific Name	BoCCI*	Annex I**
Lapwing	Vanellus vanellus	Red	No
Ringed Plover	Charadrius hiaticula	Amber	No
<u>Snipe</u>	Gallinago gallinago	Red	No
<u>Woodcock</u>	Scolopax rusticola	Red	No

<sup>\*</sup> refers to the conservation status of the species according to Birds of Conservation Concern in Ireland

#### 3.4.1 Lapwing

Observations of breeding lapwing (occupied territory) occurred on 12 occasions between May and June 2021 (separate observations to the VP surveys) Quantities ranged from two to 14 lapwing. Confirmed breeding was noted twice. On 16<sup>th</sup> May, an adult was observed with recently fledged young. On the 17<sup>th</sup> of May, within a group of 14 lapwing, adults were observed with at least two recently fledged young. Lapwing breeding activity was concentrated on peat bog in the north of the site.

# 3.4.2 Ringed Plover

Occupied territories for breeding ringed plover were noted eight times during May and June 2021. Counts of birds ranged from one to two. Breeding was recorded on peat bog in the north of the site, and the middle section of the site.

### 3.4.3 <u>Snipe</u>

Snipe was the most frequently observed wader recorded during breeding wader surveys, with 14 observations in total. Breeding records of snipe were distributed across the entire site. Each of these observations were of occupied territories, and snipe were observed drumming on several occasions. Counts of snipe ranged from one to three.

P21-119 www.fehilytimoney.ie — Page 33 of 41

<sup>\*\*</sup>refers to species listed on Annex I of the EU Birds Directive

<sup>4</sup> Wading species are underlined and species in bold indicate a species is listed on Annex 1 of the EU Birds Directive

CLIENT: Bord na Móna

PROJECT NAME: Derryadd, Co. Longford Wind Farm Ornithological Report



#### 3.4.4 Woodcock

Woodcock was observed roding in occupied territory on seven occasions in June 2021. All observations were of individual birds, with the exception of two individuals noted on the 1<sup>st</sup> of June, in the north-west of the site. The remainder of observations originated from mixed woodland in the south-west of the site. A woodcock was also observed in flight on 1<sup>st</sup> June but its breeding status was not determined.

# 3.5 General Breeding Bird Survey

For the summer (breeding) season 2021, a total of 21 transects were chosen (Table 2.6). The results of the summer breeding bird transect survey at Derryadd are shown in Table 3.4 and Table 3.5. A total of 58 species were recorded along the transects over the summer season.

A total of four Red-listed species were recorded: lapwing, meadow pipit, snipe and swift.

Lapwing were recorded in both May (15 records) and June (14 records). In May, it was observed from Transect TR5, TR9, TR10, TR11, and TR20. In June this species was observed from TR3, TR5, TR9, TR10, TR11 and TR20.

In May, 46 meadow pipit records were observed from all transects with the exception of TR1, TR9, TR10 and TR21. In June, 102 meadow pipit records were observed from all transects except TR1, TR6, TR9, TR16 and TR21. Of these observations, 70 originated from the 0-25m distant band, indicating that breeding is occurring onsite. Note, due to the high number of transects, it was not possible to include distance bands in Table 3.4 and Table 3.5.

Snipe were observed twice in May, with a single individual each observed at TR1 and TR14. In June, a total of 12 observations of snipe occurred from TR3, TR5, TR9, TR10. TR16, TR19 AND TR20.

Swift was recorded once in June from TR7. No structures are available within the site boundary that are suitable for swift breeding.

A total of 15 Amber-listed species were recorded: black-headed gull, cormorant, goldcrest, great crested grebe, house martin, lesser black-backed gull, linnet, mallard, ringed plover, sand martin, skylark, starling, swallow, willow warbler and wheatear. Skylark and goldcrest are considered to be breeding onsite.

# 3.6 Barn Owl Surveys

Searches for barn owl within 2km of the site boundary concluded that there is no evidence of barn owl in the area. No known nest sites were identified in the area.

P21-119 www.fehilytimoney.ie — Page 34 of 41



Table 3.4: Results of breeding bird transects surveys at Derryadd (TR1- TR21) in May 2021<sup>5</sup>

Species	TR1	TR2	TR3	TR4	TR5	TR6	TR7	TR8	TR9	TR10	TR11	TR12	TR13	TR14	TR15	TR16	TR17	TR18	TR19	TR20	TR21
Species Blackbird	4	3	10	2	3	3	5	2	5	3	1	5	3	4	7	3	3	6	2	5	4
Blackcap	3	5	2	2	2	2	0	2	1	3	0	3	0	3	0	3	1	2	0	0	3
Black-headed Gull	1	3	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Blue Tit	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0
Bullfinch	3	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buzzard	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
Chaffinch	2	1	7	1	1	2	1	4	2	7	1	2	3	2	1	4	4	2	3	1	4
Chiffchaff	4	0	2	0	0	0	3	0	1	1	0	0	0	0	1	1	2	0	1	0	1
Coal Tit	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cormorant	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cuckoo	4	0	2	0	1	1	4	0	2	4	1	0	1	4	1	0	2	4	1	0	0
Dunnock	0	1	1	0	0	0	0	0	0	0	0	1	0	1	1	0	1	1	0	1	1
Goldcrest	2	0	5	0	0	1	0	0	1	0	0	0	0	0	0	1	0	4	1	0	3
Goldfinch	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Grasshopper Warbler	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Great Crested Grebe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Great Tit	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grey Heron	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0
Hooded Crow	2	0	1	4	0	2	1	2	1	5	1	0	0	0	0	2	2	2	0	3	1
Jackdaw	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Lapwing	0	0	0	0	1	0	0	0	1	6	5	0	0	0	0	0	0	0	0	2	0
Lesser Black-backed Gull	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	1	0	3	1	1	0
Lesser Redpoll	3	4	0	0	1	0	3	5	1	4	2	3	3	4	2	6	2	4	3	1	1
Linnet	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Little Egret	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	1	0	0
Little Grebe	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0

<sup>&</sup>lt;sup>5</sup> Colours refers to the conservation status of the species according to Birds of Conservation Concern in Ireland. Species in bold refers to species listed on Annex I of the EU Birds Directive

P21-119 www.fehilytimoney.ie Page 35 of 41

CLIENT:

Bord na Móna

PROJECT NAME:

Derryadd, Co. Longford Wind Farm Ornithological Survey



Constant	TR1	TR2	TR3	TR4	TR5	TR6	TR7	TR8	TR9	TR10	TR11	TR12	TR13	TR14	TR15	TR16	TR17	TR18	TR19	TR20	TR21
Species  Magpie	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	01	0	0	0	0	0
Mallard	1	1	0	3	1	1	0	0	0	3	2	0	1	0	0	0	0	1	0	0	0
Meadow Pipit	0	2	1	6	1	1	1	3	0	0	2	2	2	8	5	0	2	5	2	2	0
Mistle Thrush	1	3	1	0	1	2	0	2	1	0	0	0	0	2	0	0	0	2	0	1	2
Moorhen	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0
Pheasant	3	1	1	2	2	2	5	0	2	5	3	1	1	0	0	0	3	3	1	0	1
Pied/White Wagtail	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	1
Raven	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Reed Bunting	0	3	0	0	0	3	3	1	2	5	0	0	1	5	0	2	1	2	4	1	2
Ringed Plover	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0
Robin	5	5	10	4	4	4	0	4	1	1	2	3	1	2	5	4	5	6	3	5	8
Rook	1	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sand Martin	0	6	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0
Sedge Warbler	0	1	0	0	1	0	0	0	3	8	2	0	0	0	0	0	0	0	0	1	0
Siskin	0	0	2	0	2	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2	0
Skylark	0	0	0	0	4	2	3	0	0	1	0	3	2	1	0	1	0	6	0	2	0
Snipe	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Song Thrush	2	5	1	0	1	6	4	2	2	2	2	6	0	5	4	5	7	3	2	3	3
Starling	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Stonechat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0
Swallow	1	0	1	2	1	0	0	3	0	1	0	0	0	1	0	1	1	3	0	2	3
Treecreeper	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Rail	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Wheatear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Whitethroat	2	6	0	1	4	1	7	2	6	5	6	5	3	7	3	7	2	7	5	4	3
Willow Warbler	4	0	1	7	5	6	4	3	9	4	7	4	3	4	5	3	3	6	5	9	6
Woodpigeon	1	0	1	1	0	2	1	1	0	0	1	0	1	0	0	2	1	2	0	3	3
Wren	6	8	5	4	8	5	6	4	4	4	3	4	2	1	2	8	7	6	4	3	6

P21-119 www.fehilytimoney.ie Page 36 of 41

PROJECT NAME:

Derryadd, Co. Longford Wind Farm Ornithological Survey



# Table 3.5: Results of breeding bird transects surveys at Derryadd (TR1- TR21) in June 2021<sup>6</sup>

Species	TR1	TR2	TR3	TR4	TR5	TR6	TR7	TR8	TR9	TR10	TR11	TR12	TR13	TR14	TR15	TR16	TR17	TR18	TR19	TR20	TR21
Blackbird	7	3	11	9	11	1	5	5	3	1	3	3	4	2	4	5	5	8	2	4	6
Blackcap	5	7	5	7	5	1	2	0	1	2	0	3	0	1	1	2	1	0	0	3	5
Black-headed Gull	1	2	0	1	0	0	0	0	0	4	0	1	0	0	0	1	0	2	1	0	0
Blue Tit	1	0	1	1	1	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Bullfinch	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
Buzzard	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Chaffinch	3	0	0	5	0	1	0	1	2	1	0	2	1	0	1	1	2	5	0	0	0
Chiffchaff	1	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1
Cormorant	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cuckoo	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Dunnock	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
Goldcrest	1	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Great Crested Grebe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Grey Heron	0	0	0	1	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	2	0
Hooded Crow	2	0	1	1	1	0	1	0	0	2	2	0	0	0	0	0	0	3	0	0	1
House Martin	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackdaw	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Jay	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lapwing	0	0	1	0	1	0	0	0	1	4	5	0	0	0	0	0	0	0	0	2	0
Lesser Black-backed Gull	2	3	7	4	7	0	2	0	0	2	3	1	0	0	2	1	1	5	0	2	1
Lesser Redpoll	1	2	7	1	7	0	4	5	1	5	4	7	7	4	6	6	3	6	7	3	1
Linnet	0	0	1	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0

<sup>&</sup>lt;sup>6</sup> Colours refers to the conservation status of the species according to Birds of Conservation Concern in Ireland. Species in bold refers to species listed on Annex I of the EU Birds Directive

P21-119 www.fehilytimoney.ie Page 37 of 41

CLIENT:

Bord na Móna

PROJECT NAME:

Derryadd, Co. Longford Wind Farm Ornithological Survey



Species	TR1	TR2	TR3	TR4	TR5	TR6	TR7	TR8	TR9	TR10	TR11	TR12	TR13	TR14	TR15	TR16	TR17	TR18	TR19	TR20	TR21
Little Egret	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
Little Grebe	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Long-tailed Tit	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Magpie	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mallard	1	1	0	1	0	0	0	0	0	5	3	0	1	0	0	0	0	0	0	0	0
Meadow Pipit	0	1	6	2	6	0	4	3	0	2	1	2	3	7	2	0	5	6	5	2	0
Mistle Thrush	1	1	2	1	2	3	0	2	1	0	0	0	0	1	1	0	0	2	0	2	1
Moorhen	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pheasant	3	0	4	2	4	0	1	0	0	0	1	0	1	0	0	0	2	0	1	0	0
Pied/White Wagtail	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Reed Bunting	0	4	1	1	1	2	6	2	3	4	0	0	0	1	0	4	0	3	6	1	2
Ringed Plover	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Robin	2	2	0	3	0	1	1	1	1	1	0	1	1	3	2	3	1	5	2	1	5
Sand Martin	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5	0	0
Sedge Warbler	0	1	0	2	0	0	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0
Siskin	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	1	0
Skylark	0	0	1	1	1	1	4	0	0	4	0	3	1	1	0	2	0	6	1	2	0
Snipe	0	0	2	0	2	0	0	0	1	4	0	0	0	0	0	1	0	0	1	1	0
Song Thrush	5	3	4	3	4	2	1	1	3	0	1	0	1	5	4	3	4	3	0	3	2
Starling	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stonechat	0	0	0	1	0	2	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0
Swallow	8	2	2	0	2	0	2	2	0	4	0	0	0	0	0	0	0	2	0	2	1
Swift	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Rail	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Whitethroat	3	5	8	1	7	2	5	2	5	4	5	4	2	3	4	4	0	5	3	3	4
Willow Warbler	0	0	7	5	7	5	6	4	8	4	3	5	1	4	5	2	2	6	5	4	6
Woodpigeon	1	0	1	2	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

P21-119 www.fehilytimoney.ie Page 38 of 41

CLIENT:

Bord na Móna

PROJECT NAME:

Derryadd, Co. Longford Wind Farm Ornithological Survey



Species	TR1	TR2	TR3	TR4	TR5	TR6	TR7	TR8	TR9	TR10	TR11	TR12	TR13	TR14	TR15	TR16	TR17	TR18	TR19	TR20	TR21
Wren	13	6	5	10	5	4	6	5	6	3	2	4	2	4	5	4	4	5	6	2	9

P21-119 www.fehilytimoney.ie Page 39 of 41

CLIENT: Bord na Móna

PROJECT NAME:

Derryadd, Co. Longford Wind Farm Ornithological Report

# 4. DISCUSSION

In conclusion, FT carried out ornithological surveys at the proposed Derryadd Windfarm during summer 2021. Surveys took place between May and September inclusive. The following surveys were undertaken: vantage point surveys, breeding bird transect surveys, hinterland surveys, and breeding wader surveys.

In total 84 species of bird were noted across all surveys. Of these species 11 are of Red-list status under the BoCCI (Gilbert et al., 2021). A further 27 are Amber-listed and the remaining 46 are Green-listed. Of these species, four are protected under Annex I of the EU Birds Directive: little egret, peregrine, common tern and kingfisher.

Of these species, 74 were recorded as part of Vantage Point (VP) and transect surveys and can therefore be presumed as directly using or regularly transiting the site. Of these, four are protected under Annex 1 of the EU Birds directive: little egret, peregrine, common tern and kingfisher. Of the species recorded, nine are Red-listed in Ireland: meadow pipit, swift, grey wagtail, kestrel, lapwing, snipe, black-tailed godwit, curlew and woodcock. A further 22 of the recorded species are Amber-listed with the remaining 43 being Green-listed.

During vantage point surveys, there were 1,187 individual flight lines of 21 target species observed during the survey period.

Breeding was confirmed onsite for lapwing, ringed plover, snipe, woodcock, long-eared owl, mistle thrush, song thrush, robin, dunnock, stonechat, blackbird. A number of species are also suspected to be breeding on site, including, sedge warbler, wren, redpoll, reed bunting, grasshopper warbler, blackcap, blue tit, coal tit, great tit, chaffinch, cuckoo, meadow pipit, hooded crow, goldcrest, goldfinch skylark, woodpigeon and whitethroat. Additionally, the surveyor noted the possibility of reed warbler breeding onsite.

During hinterland surveys, 31 species of bird were noted. Of these, three species are protected under Annex I of the EU Birds directive: common tern, kingfisher and little egret. Five of the hinterland species are Red-listed: grey wagtail, lapwing, oystercatcher, pochard and snipe. Additionally, 16 of the hinterland species are Amberlisted with the remaining species being Green-listed.

The most important sites for wetland bird species of interest were HVP4 (Fortwilliam Turlough, 3.4km west), HVP5 (Incharmadermot Island, Lough Ree, 5.1km west), HVP8 (Cullaghy, Lough Ree, 2.5km west) and HVP9 (Gardenstown, Lough Ree, 4.6km west). These hinterland vantage points are near or within the Lough Ree SPA (004064). This SPA lists several Special Conservation Interests that were observed during on site during VP and transect surveys: little grebe, wigeon, teal, mallard, tufted duck, coot, lapwing and common tern.

Other hinterland sites which support a variety of species of conservation interest are: HVP11 (Erra & Derryhanee, River Shannon, 2.2km north), HVP12 (Derrycashel, River Shannon, 3.3km north), HVP15 (Tarmonbarry Lock, 3.5km north), HVP6 (Cureen, Lough Ree, 2.4km west) and HVP7 (Lanesborough Bridge, Lough Ree, 0.9 km west).

Ornithological surveys are ongoing at the site.

Derryadd, Co. Longford Wind Farm Ornithological Report



# 5. REFERENCES

Balmer, D.E., Gillings, S., Caffrey, B.J., Swann, R.L., Downie, I.S. & Fuller, R.J. 2013. *Bird Atlas 2007-11: the breeding and wintering birds of Britain and Ireland*. Thetford: BTO Books, 2013.

Band, W., Madders, M., Whitfield, D.P. 2007. *Developing Field and Analytical Methods to Assess Avian Collision Risk at Wind Farms*. Janss, G.F.E., Ferrer, M. (Editors) De Lucas. Birds and Wind Farms: Risk Assessment and Mitigation. Madrid: Quercus, 2007.

Bibby, C. J., Burgess, N. D., Hill, D. A. & Mustoe, S. H. 2000. *Bird census techniques (second edition)*. Academic Press, London.

British Trust for Ornithology. <a href="http://www.bto.org/volunteer-surveys/bbs/research-conservation/methodology">http://www.bto.org/volunteer-surveys/bbs/research-conservation/methodology</a> www.bto.org [Online] Accessed on the 26<sup>th</sup> of April 2019.

Fossitt, J. 2000. A Guide to Habitats in Ireland. The Heritage Council. Dublin.

Gilbert, G., Gibbons, D.W. & Evans, J., 1998. Bird Monitoring Methods – a manual of techniques for key UK species. RSPB, Sandy.

Gilbert, G., Stanbury, A., & Lewis, L., 2021 Birds of Conservation Concern in Ireland 4: 2020–2026 Bird Watch Ireland, Unit 20, Block D, Bullford Business Campus, Kilcoole, Greystones, Co. Wicklow, A63 RW83, Ireland

Grunkorn, T. 2011. *Proceedings: Conference on wind energy and wildlife impacts, 2-5 May 2011, Trondheim, Norway.* Trondheim: NINA.

Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. & Thompson, D. (2013). Raptors: a field guide to survey and monitoring (3rd Edition). The Stationery Office, Edinburgh.

Lewis, L. J., Burke, B., Fitzgerald, N., Tierney, T. D. & Kelly, S. (2019) Irish Wetland Bird Survey: Waterbird Status and Distribution 2009/10-2015/16. Irish Wildlife Manuals, No. 106. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland.

O'Brien, M., & Wilson, J.D. (2011). Population changes of breeding waders on farmland in relation to agrienvironment management. Bird Study, Vol. 58, pp. 399-408.

Scottish Natural Heritage. (2017). *Recommended bird survey methods to inform impact assessment of onshore wind farms*. Scottish Natural Heritage.

Shawyer (2012). Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment.

Transport Infrastructure Ireland (TII), (2021). Survey and Mitigation Standards for Barn Owls to inform the Planning, Instruction and Operation of National Road Project.

O' Donoghue, B. (2012) Guidelines for Winter Roost Watching 2012-13.



CONSULTANTS IN ENGINEERING, ENVIRONMENTAL SCIENCE & PLANNING

# **APPENDIX 1**

VP Survey Details
Summer 2021

VP	Date	Start Time	End Time	Cloud (Oktas)	Visibility	Rain	Survey Details
2	29/04/2021	09:38	12:38	5	Very Good	Dry	F1 E
2	29/04/2021	13:32	16:32	6	Very Good	Dry	F1 E
3	04/05/2021	07:26	10:26	5	Good	Heavy Showers	F2-3 WNW
3	04/05/2021	15:15	18:15	4	Good	Heavy Showers	F2 WNW
4	05/05/2021	08:15	11:15	4	Very Good	Light Showers	F2 SSE
4	05/05/2021	12:47	15:47	4	Very Good	Light Showers	F2 SSE
5	05/05/2021	16:35	19:35	7	Very Good	Dry	F1 NW
1	06/05/2021	12:33	15:33	7	Very Good	Dry	F2 NNW
1	06/05/2021	16:04	19:04	7	Very Good	Dry	F2 NNW
5	06/05/2021	08:25	11:25	7	Very Good	Dry	F2 WNW/NW
6	07/05/2021	09:42	12:42	5	Very Good	Dry	F1 SE
6	07/05/2021	13:16	16:16	6	Very Good	Dry	F1 SE
7	07/05/2021	16:50	19:50	5	Very Good	Dry	F1 SSE
7	11/05/2021	07:09	10:09	5	Very Good	Dry	F2 S
8	11/05/2021	17:02	20:02	7	Very Good	Dry	F1 SSE
8	19/05/2021	10:30	13:30	6	Very Good	Dry	F3 WNW
9	21/05/2021	09:15	12:15	8	Very Good	Dry	F2 NW
9	22/05/2021	10:31	13:31	5	Good	Heavy Showers	F2 NW
10	22/05/2021	14:05	17:05	5	Good	Dry	F2 W
10	27/05/2021	11:03	14:03	8	Good-Poor	Drizzle	F1 SE
11	28/05/2021	12:45	15:45	8	Very Good	Light Showers	F1 SSW
11	28/05/2021	16:22	19:22	8	Good	Light Showers	F1 SSW
2	31/05/2021	08:45	11:45	4	Very Good	Dry	F3 SSE
2	31/05/2021	17:31	20:31	4	Very Good	Dry	F3 SSE
1	01/06/2021	09:16	12:16	7	Very Good	Dry	F2 NNE
1	01/06/2021	12:57	15:57	8	Very Good	Dry	F1 ENE
3	01/06/2021	17:05	20:05	4	Good (Hazy)	Dry	F1 NW
3	02/06/2021	13:07	16:07	6	Very Good	Heavy Showers	F2 NE
4	10/06/2021	13:09	16:09	7	Very Good	Dry	F4 SW
4	10/06/2021	17:02	20:02	7	Very Good	Dry	F4 SW
5	16/06/2021	13:32	16:32	6	Very Good	Dry	F3 SW
5	16/06/2021	17:06	20:06	3	Very Good	Dry	F3 SW

VP	Date	Start Time	End Time	Cloud (Oktas)	Visibility	Rain	Survey Details
6	17/06/2021	10:45	13:45	6	Good (Hazy)	Dry	F3 NW
6	17/06/2021	14:30	17:30	7	Very Good	Light Showers	F3 NW
7	18/06/2021	09:05	12:05	7	Good (Hazy)	Dry	F1-2 N
7	18/06/2021	13:04	16:04	7	Good (Hazy)	Dry	F1-2 N
8	23/06/2021	10:05	13:05	8	Very Good	Dry	F2 WNW
8	23/06/2021	14:10	17:10	8	Very Good	Dry	F2 WNW
9	23/06/2021	18:10	21:10	7	Very Good	Dry	F2 WNW
9	24/06/2021	10:15	13:15	8	Good	Light Showers	F3 SW
10	24/06/2021	14:00	17:00	8	Poor	Heavy Showers	F3 W
10	24/06/2021	17:35	20:35	8	Poor	Constant Light Rain	F3 W
11	25/06/2021	11:00	14:00	7	Very Good	Dry	F4 N
11	25/06/2021	14:40	17:40	8	Very Good	Dry	F4 N
3	05/07/2021	16:05	19:05	8	Very Good	Very Light Showers	F2 W
1	06/07/2021	09:05	12:05	8	Good	Light Showers	F2 W
1	06/07/2021	13:00	16:00	8	Good	Showers	F3 NW
2	06/07/2021	14:45	17:45	8	Very Good	Dry	F3 WNW
3	06/07/2021	08:40	11:40	7	Very Good	Very Light Showers	F2 W
5	06/07/2021	16:55	19:55	8	Good-Poor	Light Showers	F3 WNW
2	07/07/2021	11:02	14:02	8	Very Good	Light Showers	F2-3 WNW
2	07/07/2021	14:45	17:45	8	Very Good	Dry	F3 WNW
4	07/07/2021	18:30	21:30	7	Very Good	Dry	F3 WNW
6	08/07/2021	11:10	14:10	8	Very Good	Dry	F2 WSW
6	08/07/2021	15:05	18:05	8	Very Good	Dry	F2 WSW
7	08/07/2021	18:45	21:45	8	Very Good	Dry	F1-2 WSW
4	09/07/2021	14:50	17:50	7	Very Good	Dry	F2 S
5	09/07/2021	18:30	21:30	7	Very Good	Dry	F2 S
7	09/07/2021	11:15	14:15	8	Very Good	Dry	F2 S
8	13/07/2021	07:35	10:35	5	Very Good	Dry	F1 WNW
8	13/07/2021	15:00	18:00	6	Very Good	Dry	F1 WNW
9	14/07/2021	07:50	10:50	4	Very Good	Dry	F1 W
9	15/07/2021	08:10	11:10	2	Very Good	Dry	F1 NW
10	15/07/2021	12:05	15:05	3	Very Good	Dry	F1 WNW

VP	Date	Start Time	End Time	Cloud (Oktas)	Visibility	Rain	Survey Details
10	15/07/2021	16:10	19:10	5	Very Good	Dry	F1 WNW
11	16/07/2021	08:30	11:30	3	Very Good	Dry	F1 W
11	16/07/2021	12:30	15:30	2	Very Good	Dry	F1 W
5	27/07/2021	09:05	12:05	6-8	Good	Light Showers	F1-2 WNW
5	27/07/2021	16:00	19:00	7	Good	Heavy Showers	F1-2 WNW
2	28/07/2021	09:17	12:17	7	Very Good	Dry	F3 W
2	28/07/2021	09:17	12:17	7	Very Good	Dry	F3 W
2	28/07/2021	13:05	16:05	8	Very Good	Light Showers	F3 W
3	28/07/2021	17:00	20:00	8	Good	Light Showers	F3-4 WNW
1	29/07/2021	10:10	13:10	8	Very Good	Dry	F3 W
1	29/07/2021	14:00	17:00	8	Very Good	Dry	F2-3 W
3	29/07/2021	17:40	20:40	8	Very Good	Dry	F1-2 NW
4	30/07/2021	10:45	13:45	8	Good-Poor	Heavy Showers	F2 WNW
4	30/07/2021	14:30	17:30	8	Good	Showers	F2-3 WNW
7	02/08/2021	09:35	12:35	7	Very Good	Showers	F1-2 SSW
7	02/08/2021	15:05	18:05	6	Very Good	Dry	F1-2 SSW
8	03/08/2021	17:30	20:30	5	Very Good	Dry	F1-2 S
9	03/08/2021	09:45	12:45	8	Very Good	Dry	F1 SSW
9	03/08/2021	13:45	16:45	6	Good (Hazy)	Dry	F2 S
6	04/08/2021	10:00	13:00	7-8	Good-Poor	Heavy Showers	F2-3 S
6	04/08/2021	13:50	16:50	8	Good	Showers	F2-3 S
8	04/08/2021	17:30	20:30	8	Good-Poor	Heavy Showers	F1 S/SE
10	05/08/2021	11:06	14:06	8	Poor	Heavy Showers	F2-3 S
10	11/08/2021	09:15	12:15	8	Good-Very Good	Showers	F3 W
11	11/08/2021	12:55	15:55	6	Very Good	Dry	F3-4 WSW
11	11/08/2021	16:40	19:40	2	Very Good	Dry	F3 SW
5	12/08/2021	10:25	13:25	8	Very Good	Showers	F4 S
5	12/08/2021	14:05	17:05	4	Very Good	Light Showers	F4-5 WSW
7	12/08/2021	17:45	20:45	3	Very Good	Dry	F3 SW
4	13/08/2021	10:31	13:01	6	Very Good	Light Showers	F4 SW
4	13/08/2021	14:05	17:05	7	Very Good	Very Light Showers	F4 SW
7	13/08/2021	17:40	20:40	7	Good	Showers	F3 SW

VP	Date	Start Time	End Time	Cloud (Oktas)	Visibility	Rain	Survey Details
8	14/08/2021	10:35	13:35	8	Good	Showers	F1 SSE
3	16/08/2021	08:47	11:47	8	Very Good	Dry	F3W
3	16/08/2021	12:30	15:30	8	Very Good	Very Light Showers	F3W
8	16/08/2021	16:20	19:20	8	Good-Poor	Very Light Showers	F3 W
2	17/08/2021	08:50	11:50	8	Very Good	Dry	F3-4WNW
2	17/08/2021	12:30	15:30	8	Very Good	Dry	F3-4WNW
9	17/08/2021	16:20	19:20	8	Good	Very Light Showers	F3 W
1	18/08/2021	08:56	11:56	8	Very Good	Dry	F3W
1	18/08/2021	12:42	15:42	8	Very Good	Dry	F2W
9	18/08/2021	16:18	19:18	8	Very Good	Dry	F2W
9	18/08/2021	16:18	19:18	8	Very Good	Dry	F2W
6	19/08/2021	09:10	12:10	8	Very Good	Dry	F1 E
6	19/08/2021	12:55	15:55	7	Very Good	Dry	F1 SW
10	19/08/2021	16:40	19:40	7	Very Good	Light Showers	F2 SW
10	20/08/2021	09:17	12:17	8	Very Good	Showers	F3 SE
11	20/08/2021	12:55	15:55	8	Good-Poor	Heavy Showers	F2 SE
11	20/08/2021	16:33	19:33	8	Good-Poor	Heavy Showers	F2 S/SE
3	02/09/2021	08:45	11:45	8	Very Good	Dry	F3 ENE
3	02/09/2021	12:24	15:24	8	Very Good	Dry	F3 ENE
5	02/09/2021	16:00	19:00	8	Good	Dry	F1-2 ENE
5	03/09/2021	08:53	11:53	8	Good	Dry	F2 E
7	03/09/2021	12:30	15:30	8	Good	Dry	F2 E
7	03/09/2021	16:05	19:05	8	Good	Dry	F2 E
1	06/09/2021	08:25	11:25	2	Very Good	Dry	F1 S
1	06/09/2021	12:00	15:00	3	Very Good	Dry	F1 S
8	06/09/2021	16:00	19:00	3	Very Good	Dry	F1SSW
4	07/09/2021	12:15	15:15	3	Very Good	Dry	F1 ESE/E
4	07/09/2021	15:55	18:55	3	Very Good	Dry	F1 E/ENE
8	07/09/2021	08:30	11:30	3	Very Good	Dry	F1 ESE
6	09/09/2021	08:35	11:35	6	Good	Showers	F2 SSE
2	12/09/2021	11:55	14:55	7	Very Good	Dry	F1 NNE
2	12/09/2021	15:30	18:30	7	Very Good	Dry	F1 NNE

VP	Date	Start Time	End Time	Cloud (Oktas)	Visibility	Rain	Survey Details
6	12/09/2021	08:20	11:20	6	Very Good	Dry	F1 N
9	13/09/2021	08:30	11:30	8	Very Good	Dry	F1 NE
9	13/09/2021	12:15	15:15	8	Very Good	Dry	F1 N
10	13/09/2021	16:00	19:00	8	Very Good	Light Showers	F1 SSE
10	14/09/2021	08:35	11:35	5	Very Good	Very Light Showers	F1 SE
11	14/09/2021	12:15	15:15	4	Very Good	Very Light Showers	F1 SE
11	14/09/2021	15:55	18:55	5	Very Good	Dry	F1 SE



CONSULTANTS IN ENGINEERING, ENVIRONMENTAL SCIENCE & PLANNING

# **APPENDIX 2**

Vantage Point Observations
Summer 2021



VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
2	29/04/2021	09:40	Cormorant	44	1	Cormorant 1
2	29/04/2021	09:53	Mute Swan	28	1	Mute Swan
2	29/04/2021	10:02	Mallard	12	1	Mallard 1
2	29/04/2021	10:11	Grey Heron	30	1	Grey Heron 1
2	29/04/2021	10:17	Buzzard	22	1	Buzzard 1
2	29/04/2021	10:24	Cormorant	45	2	Cormorant 1
2	29/04/2021	10:33	Grey Heron	9	2	Grey Heron 1
2	29/04/2021	10:46	Moorhen	11	1	Moorhen
2	29/04/2021	11:00	Mallard	17	2	Mallard 1
2	29/04/2021	11:14	Cormorant	47	3	Cormorant 1
2	29/04/2021	11:20	Little Egret	32	1	Little Egret 1
2	29/04/2021	11:34	Buzzard	139	2	Buzzard 1
2	29/04/2021	11:45	Little Egret	38	2	Little Egret 1
2	29/04/2021	11:56	Buzzard	189	3	Buzzard 1
2	29/04/2021	12:11	Black-tailed Godwit	76	72	Black-Tailed Godwit
2	29/04/2021	12:32	Buzzard	59	4	Buzzard 1
2	29/04/2021	13:39	Cormorant	45	4	Cormorant 1
2	29/04/2021	14:00	Cormorant	45	5	Cormorant 1
2	29/04/2021	14:26	Buzzard	229	5	Buzzard 1
2	29/04/2021	14:41	Mallard	18	3	Mallard 1
2	29/04/2021	14:49	Cormorant	27	6	Cormorant 1
2	29/04/2021	15:09	Buzzard	248	6	Buzzard 1
2	29/04/2021	15:13	Cormorant	23	7	Cormorant 1
2	29/04/2021	15:24	Buzzard	96	7	Buzzard 1
2	29/04/2021	15:45	Grey Heron	17	3	Grey Heron 1
2	29/04/2021	15:58	Little Egret	33	3	Little Egret 1
2	29/04/2021	16:14	Sparrowhawk	317	1	Sparrowhawk 1
2	29/04/2021	16:26	Common Gull	20	1	Common Gull
3	04/05/2021	07:31	Little Egret	190	4	Little Egret 1
3	04/05/2021	07:53	Black-headed Gull	114	1	Black Headed Gull 1
3	04/05/2021	08:07	Sparrowhawk	28	2	Sparrowhawk 1
3	04/05/2021	08:08	Little Egret	7	5	Little Egret 1
3	04/05/2021	08:20	Kestrel	78	1	Kestrel 1
3	04/05/2021	08:27	Mallard	210	4	Mallard 1
3	04/05/2021	08:36	Grey Heron	53	4	Grey Heron 1
3	04/05/2021	08:54	Lesser Black-backed Gull	183	1	Lesser Black-Backed Gull 1
3	04/05/2021	09:18	Sparrowhawk	16	3	Sparrowhawk 1
3	04/05/2021	09:40	Mallard	65	5	Mallard 1
3	04/05/2021	09:48	Kestrel	294	2	Kestrel 1
3	04/05/2021	10:15	Grey Heron	12	5	Grey Heron 1
3	04/05/2021	15:20	Grey Heron	32	6	Grey Heron 1
3	04/05/2021	15:22	Lapwing	95	1	Lapwing
3	04/05/2021	15:49	Little Egret	3	6	Little Egret 1

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
3	04/05/2021	16:07	Little Egret	24	7	Little Egret 1
3	04/05/2021	16:09	Mallard	187	6	Mallard 1
3	04/05/2021	16:23	Teal	23	1	Teal
3	04/05/2021	16:39	Mallard	133	7	Mallard 1
3	04/05/2021	16:49	Buzzard	34	8	Buzzard 1
3	04/05/2021	17:01	Black-headed Gull	54	2	Black Headed Gull 1
3	04/05/2021	17:15	Lesser Black-backed Gull	172	2	Lesser Black-Backed Gull 1
3	04/05/2021	17:23	Little Egret	2	8	Little Egret 1
3	04/05/2021	17:45	Lapwing	27	2	Lapwing
3	04/05/2021	17:59	Little Egret	223	9	Little Egret 1
3	04/05/2021	18:10	Buzzard	76	9	Buzzard 1
4	05/05/2021	08:21	Peregrine	427	1	Peregrine
4	05/05/2021	08:34	Little Egret	12	10	Little Egret 1
4	05/05/2021	08:44	Lesser Black-backed Gull	163	3	Lesser Black-Backed Gull 1
4	05/05/2021	08:50	Buzzard	319	10	Buzzard 1
4	05/05/2021	08:55	Little Egret	40	11	Little Egret 1
4	05/05/2021	09:03	Buzzard	410	11	Buzzard 1
4	05/05/2021	09:11	Black-headed Gull	43	3	Black Headed Gull 1
4	05/05/2021	09:22	Little Egret	28	12	Little Egret 1
4	05/05/2021	09:37	Grey Heron	124	7	Grey Heron 1
4	05/05/2021	09:46	Buzzard	414	12	Buzzard 1
4	05/05/2021	09:59	Little Egret	70	13	Little Egret 1
4	05/05/2021	10:10	Sparrowhawk	156	4	Sparrowhawk 1
4	05/05/2021	10:23	Lesser Black-backed Gull	15	4	Lesser Black-Backed Gull 1
4	05/05/2021	10:44	Buzzard	306	13	Buzzard 1
4	05/05/2021	10:52	Buzzard	96	14	Buzzard 1
4	05/05/2021	11:00	Buzzard	404	15	Buzzard 1
4	05/05/2021	11:11	Lapwing	14	3	Lapwing
4	05/05/2021	12:59	Little Egret	33	14	Little Egret 1
4	05/05/2021	13:06	Lesser Black-backed Gull	45	5	Lesser Black-Backed Gull 1
4	05/05/2021	13:19	Lesser Black-backed Gull	61	6	Lesser Black-Backed Gull 1
4	05/05/2021	13:34	Buzzard	642	16	Buzzard 1
4	05/05/2021	13:55	Grey Heron	2	8	Grey Heron 1
4	05/05/2021	14:01	Little Egret	34	15	Little Egret 1
4	05/05/2021	14:10	Buzzard	56	17	Buzzard 1
4	05/05/2021	14:22	Cormorant	136	8	Cormorant 1
4	05/05/2021	14:36	Mallard	16	8	Mallard 1
4	05/05/2021	14:44	Lesser Black-backed Gull	124	7	Lesser Black-Backed Gull 1
4	05/05/2021	14:53	Whimbrel	175	1	Whimbrel
4	05/05/2021	15:17	Little Egret	128	16	Little Egret 1
4	05/05/2021	15:20	Buzzard	271	18	Buzzard 1
4	05/05/2021	15:30	Kestrel	880	3	Kestrel 1
4	05/05/2021	15:45	Buzzard	45	19	Buzzard 1

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
5	05/05/2021	16:43	Buzzard	24	20	Buzzard 1
5	05/05/2021	16:49	Little Egret	17	17	Little Egret 1
5	05/05/2021	17:06	Cormorant	55	9	Cormorant 1
5	05/05/2021	17:17	Lapwing	3	4	Lapwing
5	05/05/2021	17:23	Black-headed Gull	65	4	Black Headed Gull 1
5	05/05/2021	17:30	Grey Heron	12	9	Grey Heron 1
5	05/05/2021	17:46	Little Egret	88	18	Little Egret 1
5	05/05/2021	17:55	Cormorant	81	10	Cormorant 1
5	05/05/2021	18:02	Buzzard	105	21	Buzzard 1
5	05/05/2021	18:06	Kestrel	421	4	Kestrel 1
5	05/05/2021	18:18	Lapwing	17	5	Lapwing
5	05/05/2021	18:25	Little Egret	125	19	Little Egret 1
5	05/05/2021	18:34	Mallard	10	9	Mallard 1
5	05/05/2021	18:54	Cormorant	86	11	Cormorant 1
5	05/05/2021	19:13	Lapwing	13	6	Lapwing
5	05/05/2021	19:27	Mallard	72	10	Mallard 1
5	06/05/2021	08:36	Lapwing	4	7	Lapwing
5	06/05/2021	08:51	Grey Heron	3	10	Grey Heron 1
5	06/05/2021	08:57	Cormorant	88	12	Cormorant 1
5	06/05/2021	09:05	Little Egret	24	20	Little Egret 1
5	06/05/2021	09:16	Lesser Black-backed Gull	125	8	Lesser Black-Backed Gull 1
5	06/05/2021	09:24	Black-headed Gull	42	5	Black Headed Gull 1
5	06/05/2021	09:30	Buzzard	427	22	Buzzard 1
5	06/05/2021	09:42	Sparrowhawk	272	5	Sparrowhawk 1
5	06/05/2021	09:51	Mallard	15	11	Mallard 1
5	06/05/2021	10:06	Buzzard	65	23	Buzzard 1
5	06/05/2021	10:38	Little Egret	23	21	Little Egret 1
5	06/05/2021	10:57	Buzzard	227	24	Buzzard 1
5	06/05/2021	11:15	Buzzard	22	25	Buzzard 1
1	06/05/2021	12:55	Wigeon	7	1	Wigeon
1	06/05/2021	13:10	Cormorant	96	13	Cormorant 1
1	06/05/2021	13:20	Buzzard	114	26	Buzzard 1
1	06/05/2021	13:42	Grey Heron	15	11	Grey Heron 1
1	06/05/2021	14:03	Cormorant	57	14	Cormorant 1
1	06/05/2021	14:18	Grey Heron	12	12	Grey Heron 1
1	06/05/2021	14:29	Buzzard	345	27	Buzzard 1
1	06/05/2021	14:40	Sparrowhawk	42	6	Sparrowhawk 1
1	06/05/2021	14:57	Mute Swan	8	2	Mute Swan
1	06/05/2021	15:21	Buzzard	134	28	Buzzard 1
1	06/05/2021	16:05	Cormorant	49	15	Cormorant 1
1	06/05/2021	16:17	Lesser Black-backed Gull	107	9	Lesser Black-Backed Gull 1
1	06/05/2021	16:33	Mallard	39	12	Mallard 1
1	06/05/2021	16:45	Buzzard	375	29	Buzzard 1

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
1	06/05/2021	17:18	Grey Heron	355	13	Grey Heron 1
1	06/05/2021	17:30	Mallard	24	13	Mallard 1
1	06/05/2021	17:42	Buzzard	36	30	Buzzard 1
1	06/05/2021	17:44	Sparrowhawk	44	7	Sparrowhawk 1
1	06/05/2021	17:49	Mallard	10	14	Mallard 1
1	06/05/2021	18:10	Buzzard	247	31	Buzzard 2
1	06/05/2021	18:32	Black-headed Gull	103	6	Black Headed Gull 1
6	07/05/2021	10:12	Black-headed Gull	22	7	Black Headed Gull 1
6	07/05/2021	10:30	Buzzard	26	32	Buzzard 2
6	07/05/2021	10:34	Little Egret	81	22	Little Egret 1
6	07/05/2021	10:43	Grey Heron	52	14	Grey Heron 1
6	07/05/2021	10:56	Little Egret	225	23	Little Egret 1
6	07/05/2021	11:02	Sparrowhawk	4	8	Sparrowhawk 1
6	07/05/2021	11:08	Kestrel	1076	5	Kestrel 1
6	07/05/2021	11:30	Buzzard	184	33	Buzzard 2
6	07/05/2021	11:35	Lesser Black-backed Gull	345	10	Lesser Black-Backed Gull 1
6	07/05/2021	11:45	Sparrowhawk	3	9	Sparrowhawk 1
6	07/05/2021	12:13	Buzzard	545	34	Buzzard 2
6	07/05/2021	13:20	Buzzard	123	35	Buzzard 2
6	07/05/2021	13:27	Lapwing	45	8	Lapwing
6	07/05/2021	13:30	Grey Heron	19	15	Grey Heron 1
6	07/05/2021	13:48	Buzzard	437	36	Buzzard 2
6	07/05/2021	14:13	Lesser Black-backed Gull	67	11	Lesser Black-Backed Gull 1
6	07/05/2021	14:22	Little Egret	17	24	Little Egret 1
6	07/05/2021	14:35	Kestrel	45	6	Kestrel 1
6	07/05/2021	14:50	Lesser Black-backed Gull	124	12	Lesser Black-Backed Gull 1
6	07/05/2021	14:59	Black-headed Gull	143	8	Black Headed Gull 1
6	07/05/2021	15:28	Little Egret	73	25	Little Egret 1
6	07/05/2021	15:42	Sparrowhawk	24	10	Sparrowhawk 1
7	07/05/2021	17:00	Black-headed Gull	42	9	Black Headed Gull 1
7	07/05/2021	17:23	Black-headed Gull	14	10	Black Headed Gull 1
7	07/05/2021	17:45	Buzzard	50	37	Buzzard 2
7	07/05/2021	17:49	Lesser Black-backed Gull	63	13	Lesser Black-Backed Gull 1
7	07/05/2021	18:10	Buzzard	245	38	Buzzard 2
7	07/05/2021	18:19	Grey Heron	128	16	Grey Heron 1
7	07/05/2021	18:31	Buzzard	33	39	Buzzard 2
7	07/05/2021	18:43	Kestrel	72	7	Kestrel 1
7	07/05/2021	19:01	Kestrel	628	8	Kestrel 1
7	07/05/2021	19:25	Black-headed Gull	74	11	Black Headed Gull 1
7	07/05/2021	19:44	Lesser Black-backed Gull	37	14	Lesser Black-Backed Gull 1
7	11/05/2021	13:09	Buzzard	895	40	Buzzard 2
7	11/05/2021	13:21	Grey Heron	122	17	Grey Heron 1
7	11/05/2021	13:28	Buzzard	127	41	Buzzard 2

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
7	11/05/2021	13:52	Sparrowhawk	138	11	Sparrowhawk 1
7	11/05/2021	14:12	Lesser Black-backed Gull	45	15	Lesser Black-Backed Gull 1
7	11/05/2021	14:30	Lesser Black-backed Gull	33	16	Lesser Black-Backed Gull 1
7	11/05/2021	14:44	Black-headed Gull	28	12	Black Headed Gull 1
7	11/05/2021	14:58	Lesser Black-backed Gull	103	17	Lesser Black-Backed Gull 1
7	11/05/2021	15:11	Lesser Black-backed Gull	141	18	Lesser Black-Backed Gull 1
7	11/05/2021	15:15	Buzzard	32	42	Buzzard 2
7	11/05/2021	15:23	Lesser Black-backed Gull	73	19	Lesser Black-Backed Gull 1
7	11/05/2021	15:44	Lesser Black-backed Gull	44	20	Lesser Black-Backed Gull 1
7	11/05/2021	16:03	Buzzard	55	43	Buzzard 2
7	11/05/2021	16:08	Little Egret	6	26	Little Egret 1
8	11/05/2021	17:13	Lesser Black-backed Gull	187	21	Lesser Black-Backed Gull 1
8	11/05/2021	17:32	Buzzard	360	44	Buzzard 2
8	11/05/2021	17:55	Whimbrel	543	2	Whimbrel
8	11/05/2021	18:08	Lesser Black-backed Gull	610	22	Lesser Black-Backed Gull 1
8	11/05/2021	18:20	Lesser Black-backed Gull	184	23	Lesser Black-Backed Gull 1
8	11/05/2021	18:39	Cormorant	284	16	Cormorant 1
8	11/05/2021	18:51	Buzzard	33	45	Buzzard 2
8	11/05/2021	19:06	Grey Heron	102	18	Grey Heron 1
8	11/05/2021	19:15	Grey Heron	30	19	Grey Heron 1
8	11/05/2021	19:22	Lesser Black-backed Gull	24	24	Lesser Black-Backed Gull 1
8	11/05/2021	19:25	Black-headed Gull	128	13	Black Headed Gull 1
8	11/05/2021	19:41	Little Egret	122	27	Little Egret 1
8	11/05/2021	19:53	Lesser Black-backed Gull	106	25	Lesser Black-Backed Gull 1
8	19/05/2021	10:43	Grey Heron	53	20	Grey Heron 1
8	19/05/2021	10:54	Lesser Black-backed Gull	124	26	Lesser Black-Backed Gull 1
8	19/05/2021	11:02	Black-headed Gull	40	14	Black Headed Gull 1
8	19/05/2021	11:21	Buzzard	144	46	Buzzard 2
8	19/05/2021	11:33	Black-headed Gull	182	15	Black Headed Gull 1
8	19/05/2021	11:45	Lesser Black-backed Gull	23	27	Lesser Black-Backed Gull 1
8	19/05/2021	12:00	Cormorant	295	17	Cormorant 1
8	19/05/2021	12:06	Buzzard	149	47	Buzzard 2
8	19/05/2021	12:29	Buzzard	240	48	Buzzard 2
8	19/05/2021	12:47	Little Egret	189	28	Little Egret 1
8	19/05/2021	13:02	Lesser Black-backed Gull	84	28	Lesser Black-Backed Gull 1
8	19/05/2021	13:09	Little Egret	44	29	Little Egret 1
8	19/05/2021	13:16	Lesser Black-backed Gull	62	29	Lesser Black-Backed Gull 1
9	21/05/2021	09:23	Lesser Black-backed Gull	48	30	Lesser Black-Backed Gull 1
9	21/05/2021	09:35	Lesser Black-backed Gull	72	31	Lesser Black-Backed Gull 2
9	21/05/2021	09:44	Lesser Black-backed Gull	24	32	Lesser Black-Backed Gull 2
9	21/05/2021	09:57	Buzzard	28	49	Buzzard 2
9	21/05/2021	10:16	Buzzard	107	50	Buzzard 2
9	21/05/2021	10:30	Lesser Black-backed Gull	189	33	Lesser Black-Backed Gull 2

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
9	21/05/2021	10:38	Sparrowhawk	3	12	Sparrowhawk 1
9	21/05/2021	10:44	Little Egret	136	30	Little Egret 1
9	21/05/2021	10:59	Buzzard	245	51	Buzzard 2
9	21/05/2021	11:01	Sparrowhawk	180	13	Sparrowhawk 1
9	21/05/2021	11:12	Lesser Black-backed Gull	74	34	Lesser Black-Backed Gull 2
9	21/05/2021	11:22	Buzzard	435	52	Buzzard 2
9	21/05/2021	11:28	Mallard	15	15	Mallard 1
9	21/05/2021	11:43	Black-headed Gull	62	16	Black Headed Gull 1
9	21/05/2021	12:06	Lesser Black-backed Gull	53	35	Lesser Black-Backed Gull 2
9	21/05/2021	12:10	Lesser Black-backed Gull	40	36	Lesser Black-Backed Gull 2
9	22/05/2021	10:53	Buzzard	424	53	Buzzard 2
9	22/05/2021	11:15	Lesser Black-backed Gull	83	37	Lesser Black-Backed Gull 2
9	22/05/2021	11:29	Kestrel	105	9	Kestrel 1
9	22/05/2021	11:42	Lesser Black-backed Gull	187	38	Lesser Black-Backed Gull 2
9	22/05/2021	12:00	Buzzard	15	54	Buzzard 2
9	22/05/2021	12:07	Lesser Black-backed Gull	44	39	Lesser Black-Backed Gull 2
9	22/05/2021	12:21	Lesser Black-backed Gull	60	40	Lesser Black-Backed Gull 2
9	22/05/2021	13:02	Buzzard	242	55	Buzzard 2
9	22/05/2021	13:23	Buzzard	186	56	Buzzard 2
10	22/05/2021	14:23	Lesser Black-backed Gull	87	41	Lesser Black-Backed Gull 2
10	22/05/2021	14:48	Lesser Black-backed Gull	72	42	Lesser Black-Backed Gull 2
10	22/05/2021	15:01	Buzzard	370	57	Buzzard 2
10	22/05/2021	15:09	Buzzard	18	58	Buzzard 2
10	22/05/2021	15:17	Lesser Black-backed Gull	64	43	Lesser Black-Backed Gull 2
10	22/05/2021	15:24	Lesser Black-backed Gull	103	44	Lesser Black-Backed Gull 2
10	22/05/2021	15:41	Buzzard	249	59	Buzzard 2
10	22/05/2021	15:50	Sparrowhawk	184	14	Sparrowhawk 1
10	22/05/2021	15:59	Lesser Black-backed Gull	173	45	Lesser Black-Backed Gull 2
10	22/05/2021	16:10	Little Egret	12	31	Little Egret 2
10	22/05/2021	16:22	Buzzard	543	60	Buzzard 2
10	22/05/2021	16:32	Lesser Black-backed Gull	21	46	Lesser Black-Backed Gull 2
10	22/05/2021	16:51	Buzzard	242	61	Buzzard 3
10	27/05/2021	11:20	Kestrel	122	10	Kestrel 1
10	27/05/2021	11:29	Lesser Black-backed Gull	108	47	Lesser Black-Backed Gull 2
10	27/05/2021	11:41	Black-headed Gull	41	17	Black Headed Gull 1
10	27/05/2021	12:05	Kestrel	256	11	Kestrel 1
10	27/05/2021	12:49	Lesser Black-backed Gull	77	48	Lesser Black-Backed Gull 2
10	27/05/2021	13:16	Lesser Black-backed Gull	110	49	Lesser Black-Backed Gull 2
10	27/05/2021	13:52	Grey Heron	18	21	Grey Heron 1
11	28/05/2021	13:02	Buzzard	289	62	Buzzard 3
11	28/05/2021	13:10	Lesser Black-backed Gull	45	50	Lesser Black-Backed Gull 2
11	28/05/2021	13:23	Cormorant	184	18	Cormorant 1
11	28/05/2021	13:32	Buzzard	120	63	Buzzard 3

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
11	28/05/2021	13:41	Lesser Black-backed Gull	74	51	Lesser Black-Backed Gull 2
11	28/05/2021	13:55	Lesser Black-backed Gull	192	52	Lesser Black-Backed Gull 2
11	28/05/2021	14:09	Lesser Black-backed Gull	33	53	Lesser Black-Backed Gull 2
11	28/05/2021	14:16	Buzzard	48	64	Buzzard 3
11	28/05/2021	14:40	Lesser Black-backed Gull	87	54	Lesser Black-Backed Gull 2
11	28/05/2021	14:56	Buzzard	63	65	Buzzard 3
11	28/05/2021	15:03	Lesser Black-backed Gull	101	55	Lesser Black-Backed Gull 2
11	28/05/2021	15:29	Lesser Black-backed Gull	44	56	Lesser Black-Backed Gull 2
11	28/05/2021	16:40	Lesser Black-backed Gull	82	57	Lesser Black-Backed Gull 2
11	28/05/2021	16:51	Lesser Black-backed Gull	96	58	Lesser Black-Backed Gull 2
11	28/05/2021	17:08	Lesser Black-backed Gull	109	59	Lesser Black-Backed Gull 2
11	28/05/2021	17:16	Lesser Black-backed Gull	77	60	Lesser Black-Backed Gull 2
11	28/05/2021	17:29	Lesser Black-backed Gull	122	61	Lesser Black-Backed Gull 2
11	28/05/2021	17:45	Mallard	48	16	Mallard 1
11	28/05/2021	18:07	Kestrel	129	12	Kestrel 1
11	28/05/2021	18:23	Lesser Black-backed Gull	87	62	Lesser Black-Backed Gull 2
11	28/05/2021	18:44	Lesser Black-backed Gull	138	63	Lesser Black-Backed Gull 2
11	28/05/2021	19:00	Mallard	7	17	Mallard 1
11	28/05/2021	19:08	Lesser Black-backed Gull	46	64	Lesser Black-Backed Gull 2
11	28/05/2021	19:10	Lesser Black-backed Gull	84	65	Lesser Black-Backed Gull 2
11	28/05/2021	19:19	Black-headed Gull	15	18	Black Headed Gull 1
2	31/05/2021	09:00	Mallard	31	18	Mallard 1
2	31/05/2021	09:03	Lesser Black-backed Gull	59	66	Lesser Black-Backed Gull 2
2	31/05/2021	09:16	Little Egret	45	32	Little Egret 2
2	31/05/2021	09:28	Buzzard	15	66	Buzzard 3
2	31/05/2021	09:39	Buzzard	103	67	Buzzard 3
2	31/05/2021	09:52	Lesser Black-backed Gull	37	67	Lesser Black-Backed Gull 2
2	31/05/2021	09:56	Buzzard	62	68	Buzzard 3
2	31/05/2021	10:04	Sparrowhawk	102	15	Sparrowhawk 1
2	31/05/2021	10:27	Buzzard	36	69	Buzzard 3
2	31/05/2021	10:43	Cormorant	98	19	Cormorant 1
2	31/05/2021	10:59	Cormorant	26	20	Cormorant 1
2	31/05/2021	11:11	Buzzard	131	70	Buzzard 3
2	31/05/2021	11:18	Little Egret	42	33	Little Egret 2
2	31/05/2021	11:30	Lesser Black-backed Gull	46	68	Lesser Black-Backed Gull 2
2	31/05/2021	11:35	Mallard	7	19	Mallard 1
2	31/05/2021	11:43	Lesser Black-backed Gull	29	69	Lesser Black-Backed Gull 2
2	31/05/2021	17:38	Cormorant	23	21	Cormorant 1
2	31/05/2021	17:55	Buzzard	189	71	Buzzard 3
2	31/05/2021	18:06	Black-headed Gull	127	19	Black Headed Gull 1
2	31/05/2021	18:17	Lesser Black-backed Gull	42	70	Lesser Black-Backed Gull 2
2	31/05/2021	18:22	Lesser Black-backed Gull	29	71	Lesser Black-Backed Gull 2
2	31/05/2021	18:40	Black-headed Gull	22	20	Black Headed Gull 1

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
2	31/05/2021	19:00	Lesser Black-backed Gull	100	72	Lesser Black-Backed Gull 2
2	31/05/2021	19:12	Buzzard	45	72	Buzzard 3
2	31/05/2021	19:21	Black-headed Gull	154	21	Black Headed Gull 1
2	31/05/2021	19:35	Buzzard	6	73	Buzzard 3
2	31/05/2021	19:52	Lesser Black-backed Gull	102	73	Lesser Black-Backed Gull 2
2	31/05/2021	20:02	Buzzard	73	74	Buzzard 3
2	31/05/2021	20:15	Mallard	27	20	Mallard 1
2	31/05/2021	20:27	Black-headed Gull	63	22	Black Headed Gull 1
1	01/06/2021	09:27	Cormorant	39	22	Cormorant 1
1	01/06/2021	09:43	Wigeon	10	2	Wigeon
1	01/06/2021	09:52	Lesser Black-backed Gull	124	74	Lesser Black-Backed Gull 2
1	01/06/2021	10:07	Buzzard	141	75	Buzzard 3
1	01/06/2021	10:14	Black-headed Gull	63	23	Black Headed Gull 1
1	01/06/2021	10:32	Mallard	35	21	Mallard 1
1	01/06/2021	10:53	Buzzard	413	76	Buzzard 3
1	01/06/2021	11:06	Lesser Black-backed Gull	96	75	Lesser Black-Backed Gull 2
1	01/06/2021	11:15	Lesser Black-backed Gull	48	76	Lesser Black-Backed Gull 2
1	01/06/2021	11:38	Cormorant	33	23	Cormorant 1
1	01/06/2021	11:39	Cormorant	97	24	Cormorant 1
1	01/06/2021	12:10	Little Egret	64	34	Little Egret 2
1	01/06/2021	13:11	Buzzard	189	77	Buzzard 3
1	01/06/2021	13:23	Cormorant	62	25	Cormorant 1
1	01/06/2021	13:30	Lesser Black-backed Gull	110	77	Lesser Black-Backed Gull 2
1	01/06/2021	13:48	Black-headed Gull	72	24	Black Headed Gull 1
1	01/06/2021	14:06	Mallard	51	22	Mallard 1
1	01/06/2021	14:22	Mute Swan	16	3	Mute Swan
1	01/06/2021	14:31	Cormorant	102	26	Cormorant 1
1	01/06/2021	14:44	Lesser Black-backed Gull	111	78	Lesser Black-Backed Gull 2
1	01/06/2021	15:00	Mallard	45	23	Mallard 1
1	01/06/2021	15:13	Grey Heron	33	22	Grey Heron 1
1	01/06/2021	15:20	Lesser Black-backed Gull	122	79	Lesser Black-Backed Gull 2
1	01/06/2021	15:33	Lesser Black-backed Gull	67	80	Lesser Black-Backed Gull 2
1	01/06/2021	15:51	Buzzard	106	78	Buzzard 3
3	01/06/2021	17:22	Buzzard	342	79	Buzzard 3
3	01/06/2021	17:31	Sparrowhawk	257	16	Sparrowhawk 1
3	01/06/2021	17:39	Buzzard	58	80	Buzzard 3
3	01/06/2021	17:55	Buzzard	62	81	Buzzard 3
3	01/06/2021	18:06	Grey Heron	154	23	Grey Heron 1
3	01/06/2021	18:23	Lesser Black-backed Gull	212	81	Lesser Black-Backed Gull 2
3	01/06/2021	18:35	Lesser Black-backed Gull	65	82	Lesser Black-Backed Gull 2
3	01/06/2021	18:42	Black-headed Gull	203	25	Black Headed Gull 1
3	01/06/2021	18:50	Black-headed Gull	127	26	Black Headed Gull 1
3	01/06/2021	19:07	Peregrine	6	2	Peregrine

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
3	01/06/2021	19:25	Little Egret	24	35	Little Egret 2
3	01/06/2021	19:41	Buzzard	60	82	Buzzard 3
3	02/06/2021	13:20	Kestrel	64	13	Kestrel 1
3	02/06/2021	13:32	Lapwing	135	9	Lapwing
3	02/06/2021	13:39	Buzzard	112	83	Buzzard 3
3	02/06/2021	13:55	Cormorant	191	27	Cormorant 1
3	02/06/2021	14:00	Lesser Black-backed Gull	245	83	Lesser Black-Backed Gull 2
3	02/06/2021	14:09	Black-headed Gull	107	27	Black Headed Gull 1
3	02/06/2021	14:21	Lesser Black-backed Gull	34	84	Lesser Black-Backed Gull 2
3	02/06/2021	14:42	Cormorant	208	28	Cormorant 1
3	02/06/2021	15:10	Black-headed Gull	50	28	Black Headed Gull 1
3	02/06/2021	15:23	Lesser Black-backed Gull	44	85	Lesser Black-Backed Gull 2
3	02/06/2021	15:35	Little Egret	94	36	Little Egret 2
3	02/06/2021	15:55	Snipe	155	1	Snipe
4	10/06/2021	13:21	Buzzard	63	84	Buzzard 3
4	10/06/2021	13:30	Lesser Black-backed Gull	257	86	Lesser Black-Backed Gull 2
4	10/06/2021	13:46	Buzzard	134	85	Buzzard 3
4	10/06/2021	13:52	Black-headed Gull	55	29	Black Headed Gull 1
4	10/06/2021	14:07	Lapwing	27	10	Lapwing
4	10/06/2021	14:15	Lesser Black-backed Gull	35	87	Lesser Black-Backed Gull 2
4	10/06/2021	14:23	Black-headed Gull	44	30	Black Headed Gull 1
4	10/06/2021	14:39	Cormorant	26	29	Cormorant 1
4	10/06/2021	15:00	Buzzard	189	86	Buzzard 3
4	10/06/2021	15:11	Buzzard	69	87	Buzzard 3
4	10/06/2021	15:25	Lapwing	45	11	Lapwing
4	10/06/2021	15:48	Lesser Black-backed Gull	82	88	Lesser Black-Backed Gull 2
4	10/06/2021	16:02	Black-headed Gull	20	31	Black Headed Gull 2
4	10/06/2021	17:21	Lapwing	34	12	Lapwing
4	10/06/2021	17:34	Buzzard	163	88	Buzzard 3
4	10/06/2021	17:49	Lesser Black-backed Gull	129	89	Lesser Black-Backed Gull 2
4	10/06/2021	17:55	Lapwing	12	13	Lapwing
4	10/06/2021	18:10	Lesser Black-backed Gull	144	90	Lesser Black-Backed Gull 2
4	10/06/2021	18:22	Black-headed Gull	56	32	Black Headed Gull 2
4	10/06/2021	18:33	Black-headed Gull	99	33	Black Headed Gull 2
4	10/06/2021	18:53	Buzzard	106	89	Buzzard 3
4	10/06/2021	19:06	Lapwing	25	14	Lapwing
4	10/06/2021	19:15	Buzzard	68	90	Buzzard 3
4	10/06/2021	19:34	Grey Heron	29	24	Grey Heron 1
4	10/06/2021	19:51	Little Egret	133	37	Little Egret 2
5	16/06/2021	13:48	Kestrel	114	14	Kestrel 1
5	16/06/2021	14:06	Buzzard	248	91	Buzzard 4
5	16/06/2021	14:15	Little Egret	4	38	Little Egret 2
5	16/06/2021	14:29	Buzzard	54	92	Buzzard 4

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
5	16/06/2021	14:52	Kestrel	44	15	Kestrel 1
5	16/06/2021	15:14	Little Egret	110	39	Little Egret 2
5	16/06/2021	15:22	Buzzard	128	93	Buzzard 4
5	16/06/2021	15:38	Lesser Black-backed Gull	67	91	Lesser Black-Backed Gull 3
5	16/06/2021	15:57	Buzzard	29	94	Buzzard 4
5	16/06/2021	16:12	Black-headed Gull	77	34	Black Headed Gull 2
5	16/06/2021	16:24	Cormorant	104	30	Cormorant 1
5	16/06/2021	16:30	Grey Heron	40	25	Grey Heron 1
5	16/06/2021	17:22	Cormorant	122	31	Cormorant 2
5	16/06/2021	17:31	Lapwing	16	15	Lapwing
5	16/06/2021	17:44	Buzzard	109	95	Buzzard 4
5	16/06/2021	17:58	Lesser Black-backed Gull	47	92	Lesser Black-Backed Gull 3
5	16/06/2021	18:10	Buzzard	54	96	Buzzard 4
5	16/06/2021	18:17	Black-headed Gull	113	35	Black Headed Gull 2
5	16/06/2021	18:34	Snipe	66	2	Snipe
5	16/06/2021	18:43	Kestrel	224	16	Kestrel 1
5	16/06/2021	18:50	Buzzard	22	97	Buzzard 4
5	16/06/2021	19:09	Kestrel	97	17	Kestrel 1
5	16/06/2021	19:24	Buzzard	49	98	Buzzard 4
5	16/06/2021	19:45	Grey Heron	15	26	Grey Heron 1
5	16/06/2021	20:00	Little Egret	10	40	Little Egret 2
6	17/06/2021	10:53	Buzzard	22	99	Buzzard 4
6	17/06/2021	11:22	Buzzard	210	100	Buzzard 4
6	17/06/2021	11:30	Lesser Black-backed Gull	79	93	Lesser Black-Backed Gull 3
6	17/06/2021	11:49	Buzzard	65	101	Buzzard 4
6	17/06/2021	12:02	Snipe	72	3	Snipe
6	17/06/2021	12:09	Black-headed Gull	109	36	Black Headed Gull 2
6	17/06/2021	12:24	Snipe	227	4	Snipe
6	17/06/2021	12:48	Buzzard	42	102	Buzzard 4
6	17/06/2021	13:10	Lapwing	86	16	Lapwing
6	17/06/2021	13:27	Kestrel	177	18	Kestrel 1
6	17/06/2021	13:40	Cormorant	94	32	Cormorant 2
6	17/06/2021	14:55	Snipe	83	5	Snipe
6	17/06/2021	15:06	Buzzard	40	103	Buzzard 4
6	17/06/2021	15:19	Buzzard	104	104	Buzzard 4
6	17/06/2021	15:38	Lesser Black-backed Gull	85	94	Lesser Black-Backed Gull 3
6	17/06/2021	15:44	Black-headed Gull	99	37	Black Headed Gull 2
6	17/06/2021	16:03	Grey Heron	34	27	Grey Heron 1
6	17/06/2021	16:27	Buzzard	133	105	Buzzard 4
6	17/06/2021	16:49	Lesser Black-backed Gull	166	95	Lesser Black-Backed Gull 3
6	17/06/2021	17:23	Kestrel	222	19	Kestrel 1
6	17/06/2021	17:28	Cormorant	66	33	Cormorant 2
7	18/06/2021	09:29	Lesser Black-backed Gull	86	96	Lesser Black-Backed Gull 3

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
7	18/06/2021	09:54	Buzzard	124	106	Buzzard 4
7	18/06/2021	10:15	Black-headed Gull	60	38	Black Headed Gull 2
7	18/06/2021	10:48	Kestrel	178	20	Kestrel 1
7	18/06/2021	11:07	Buzzard	192	107	Buzzard 4
7	18/06/2021	11:36	Kestrel	56	21	Kestrel 1
7	18/06/2021	11:53	Black-headed Gull	201	39	Black Headed Gull 2
7	18/06/2021	12:01	Grey Heron	15	28	Grey Heron 1
7	18/06/2021	13:42	Lesser Black-backed Gull	77	97	Lesser Black-Backed Gull 3
7	18/06/2021	13:56	Buzzard	89	108	Buzzard 4
7	18/06/2021	14:20	Kestrel	122	22	Kestrel 1
7	18/06/2021	14:37	Buzzard	145	109	Buzzard 4
7	18/06/2021	15:15	Buzzard	209	110	Buzzard 4
7	18/06/2021	15:54	Black-headed Gull	80	40	Black Headed Gull 2
8	23/06/2021	10:37	Buzzard	193	111	Buzzard 4
8	23/06/2021	10:57	Lesser Black-backed Gull	88	98	Lesser Black-Backed Gull 3
8	23/06/2021	11:22	Black-headed Gull	124	41	Black Headed Gull 2
8	23/06/2021	11:45	Little Egret	73	41	Little Egret 2
8	23/06/2021	12:03	Black-headed Gull	204	42	Black Headed Gull 2
8	23/06/2021	12:14	Lesser Black-backed Gull	157	99	Lesser Black-Backed Gull 3
8	23/06/2021	12:29	Lesser Black-backed Gull	58	100	Lesser Black-Backed Gull 3
8	23/06/2021	12:48	Black-headed Gull	83	43	Black Headed Gull 2
8	23/06/2021	14:32	Buzzard	213	112	Buzzard 4
8	23/06/2021	14:44	Buzzard	149	113	Buzzard 4
8	23/06/2021	15:02	Lesser Black-backed Gull	94	101	Lesser Black-Backed Gull 3
8	23/06/2021	15:27	Kestrel	168	23	Kestrel 1
8	23/06/2021	15:38	Lesser Black-backed Gull	100	102	Lesser Black-Backed Gull 3
8	23/06/2021	15:55	Black-headed Gull	66	44	Black Headed Gull 2
8	23/06/2021	16:31	Buzzard	82	114	Buzzard 4
8	23/06/2021	16:52	Grey Heron	78	29	Grey Heron 1
9	23/06/2021	18:34	Lesser Black-backed Gull	122	103	Lesser Black-Backed Gull 3
9	23/06/2021	18:57	Lesser Black-backed Gull	39	104	Lesser Black-Backed Gull 3
9	23/06/2021	19:11	Buzzard	200	115	Buzzard 4
9	23/06/2021	19:26	Black-headed Gull	111	45	Black Headed Gull 2
9	23/06/2021	19:39	Kestrel	309	24	Kestrel 1
9	23/06/2021	20:14	Buzzard	45	116	Buzzard 4
9	23/06/2021	20:48	Lesser Black-backed Gull	66	105	Lesser Black-Backed Gull 3
9	24/06/2021	10:33	Lesser Black-backed Gull	102	106	Lesser Black-Backed Gull 3
9	24/06/2021	10:49	Buzzard	327	117	Buzzard 4
9	24/06/2021	11:10	Lesser Black-backed Gull	91	107	Lesser Black-Backed Gull 3
9	24/06/2021	11:22	Black-headed Gull	55	46	Black Headed Gull 2
9	24/06/2021	11:37	Kestrel	310	25	Kestrel 1
9	24/06/2021	12:04	Buzzard	228	118	Buzzard 4
9	24/06/2021	12:12	Buzzard	73	119	Buzzard 4

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
9	24/06/2021	12:41	Grey Heron	22	30	Grey Heron 1
9	24/06/2021	13:00	Mallard	12	24	Mallard 1
10	24/06/2021	14:36	Lesser Black-backed Gull	47	108	Lesser Black-Backed Gull 3
10	24/06/2021	14:45	Black-headed Gull	69	47	Black Headed Gull 2
10	24/06/2021	15:06	Lesser Black-backed Gull	125	109	Lesser Black-Backed Gull 3
10	24/06/2021	15:33	Buzzard	34	120	Buzzard 4
10	24/06/2021	15:50	Lapwing	63	17	Lapwing
10	24/06/2021	16:09	Lapwing	36	18	Lapwing
10	24/06/2021	16:44	Lesser Black-backed Gull	110	110	Lesser Black-Backed Gull 3
10	24/06/2021	16:57	Grey Heron	10	31	Gery Heron 2
10	24/06/2021	18:06	Lesser Black-backed Gull	50	111	Lesser Black-Backed Gull 3
10	24/06/2021	18:15	Black-headed Gull	66	48	Black Headed Gull 2
10	24/06/2021	18:43	Lapwing	25	19	Lapwing
10	24/06/2021	18:59	Lesser Black-backed Gull	102	112	Lesser Black-Backed Gull 3
10	24/06/2021	19:37	Lesser Black-backed Gull	33	113	Lesser Black-Backed Gull 3
10	24/06/2021	20:03	Lesser Black-backed Gull	37	114	Lesser Black-Backed Gull 3
10	24/06/2021	20:20	Kestrel	184	26	Kestrel 1
11	25/06/2021	11:09	Lesser Black-backed Gull	77	115	Lesser Black-Backed Gull 3
11	25/06/2021	11:21	Black-headed Gull	55	49	Black Headed Gull 2
11	25/06/2021	11:33	Buzzard	128	121	Buzzard 5
11	25/06/2021	11:47	Lesser Black-backed Gull	22	116	Lesser Black-Backed Gull 3
11	25/06/2021	12:14	Buzzard	229	122	Buzzard 5
11	25/06/2021	12:30	Lesser Black-backed Gull	90	117	Lesser Black-Backed Gull 3
11	25/06/2021	12:52	Mallard	5	25	Mallard 1
11	25/06/2021	13:06	Buzzard	57	123	Buzzard 5
11	25/06/2021	13:23	Kestrel	155	27	Kestrel 1
11	25/06/2021	13:40	Lesser Black-backed Gull	66	118	Lesser Black-Backed Gull 3
11	25/06/2021	13:56	Lesser Black-backed Gull	100	119	Lesser Black-Backed Gull 3
11	25/06/2021	15:02	Kestrel	105	28	Kestrel 1
11	25/06/2021	15:20	Buzzard	225	124	Buzzard 5
11	25/06/2021	15:35	Buzzard	50	125	Buzzard 5
11	25/06/2021	15:43	Lesser Black-backed Gull	111	120	Lesser Black-Backed Gull 3
11	25/06/2021	16:27	Black-headed Gull	63	50	Black Headed Gull 2
11	25/06/2021	16:48	Lesser Black-backed Gull	28	121	Lesser Black-Backed Gull 4
11	25/06/2021	17:09	Kestrel	77	29	Kestrel 1
11	25/06/2021	17:32	Buzzard	10	126	Buzzard 5
3	05/07/2021	09:44	Snipe	197	6	Snipe
3	05/07/2021	10:00	Snipe	99	7	Snipe
3	05/07/2021	10:03	Lesser Black-backed Gull	66	122	Lesser Black-Backed Gull 4
3	05/07/2021	10:17	Black-headed Gull	40	51	Black Headed Gull 2
3	05/07/2021	11:20	Black-headed Gull	110	52	Black Headed Gull 2
3	05/07/2021	11:33	Lesser Black-backed Gull	130	123	Lesser Black-Backed Gull 4
3	05/07/2021	11:37	Buzzard	36	127	Buzzard 5

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
3	05/07/2021	16:20	Lesser Black-backed Gull	73	124	Lesser Black-Backed Gull 4
3	05/07/2021	16:34	Buzzard	108	128	Buzzard 5
3	05/07/2021	16:45	Kestrel	47	30	Kestrel 1
3	05/07/2021	16:53	Lapwing	13	20	Lapwing
3	05/07/2021	17:07	Lesser Black-backed Gull	94	125	Lesser Black-Backed Gull 4
3	05/07/2021	17:31	Black-headed Gull	112	53	Black Headed Gull 2
3	05/07/2021	17:52	Buzzard	37	129	Buzzard 5
3	05/07/2021	18:06	Grey Heron	30	32	Grey Heron 2
3	05/07/2021	18:27	Cormorant	182	34	Cormorant 2
3	05/07/2021	18:52	Kestrel	50	31	Kestrel 2
3	06/07/2021	08:52	Kestrel	44	32	Kestrel 2
3	06/07/2021	09:12	Snipe	222	8	Snipe
1	06/07/2021	09:19	Snipe	111	9	Snipe
3	06/07/2021	09:19	Buzzard	148	130	Buzzard 5
1	06/07/2021	09:30	Lapwing	208	21	Lapwing
1	06/07/2021	09:44	Lesser Black-backed Gull	75	126	Lesser Black-Backed Gull 4
1	06/07/2021	09:49	Snipe	97	10	Snipe
1	06/07/2021	10:11	Cormorant	195	35	Cormorant 2
1	06/07/2021	10:23	Mallard	60	26	Mallard 1
3	06/07/2021	10:38	Lesser Black-backed Gull	179	127	Lesser Black-Backed Gull 4
1	06/07/2021	10:49	Sparrowhawk	11	17	Sparrowhawk 1
3	06/07/2021	10:55	Peregrine	576	3	Peregrine
1	06/07/2021	11:03	Lapwing	36	22	Lapwing
3	06/07/2021	11:15	Snipe	73	11	Snipe
1	06/07/2021	11:20	Black-headed Gull	62	54	Black Headed Gull 2
1	06/07/2021	11:30	Buzzard	144	131	Buzzard 5
1	06/07/2021	11:47	Snipe	68	12	Snipe
1	06/07/2021	12:01	Lesser Black-backed Gull	15	128	Lesser Black-Backed Gull 4
1	06/07/2021	13:11	Lesser Black-backed Gull	92	129	Lesser Black-Backed Gull 4
1	06/07/2021	13:30	Buzzard	75	132	Buzzard 5
1	06/07/2021	13:46	Snipe	86	13	Snipe
1	06/07/2021	13:58	Lesser Black-backed Gull	50	130	Lesser Black-Backed Gull 4
1	06/07/2021	14:07	Mallard	42	27	Mallard 1
1	06/07/2021	14:29	Black-headed Gull	67	55	Black Headed Gull 2
1	06/07/2021	14:55	Cormorant	45	36	Cormorant 2
1	06/07/2021	15:06	Teal	119	2	Teal
1	06/07/2021	15:34	Lapwing	79	23	Lapwing
1	06/07/2021	15:50	Buzzard	128	133	Buzzard 5
2	06/07/2021	16:00	Common Tern	93	2	Common Tern
5	06/07/2021	17:06	Lesser Black-backed Gull	247	131	Lesser Black-Backed Gull 4
5	06/07/2021	17:15	Kestrel	116	33	Kestrel 2
5	06/07/2021	17:23	Snipe	322	14	Snipe
5	06/07/2021	17:39	Buzzard	145	134	Buzzard 5

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
5	06/07/2021	17:58	Cormorant	21	37	Cormorant 2
5	06/07/2021	18:24	Grey Heron	84	33	Grey Heron 2
5	06/07/2021	18:44	Kestrel	109	34	Kestrel 2
5	06/07/2021	18:55	Kestrel	144	35	Kestrel 2
5	06/07/2021	18:58	Kestrel	32	36	Kestrel 2
5	06/07/2021	19:43	Black-headed Gull	117	56	Black Headed Gull 2
5	06/07/2021	19:50	Lesser Black-backed Gull	74	132	Lesser Black-Backed Gull 4
5	06/07/2021	20:03	Lesser Black-backed Gull	94	133	Lesser Black-Backed Gull 4
2	07/07/2021	11:21	Lesser Black-backed Gull	38	134	Lesser Black-Backed Gull 4
2	07/07/2021	11:40	Cormorant	108	38	Cormorant 2
2	07/07/2021	12:19	Black-headed Gull	124	57	Black Headed Gull 2
2	07/07/2021	12:36	Lesser Black-backed Gull	229	135	Lesser Black-Backed Gull 4
2	07/07/2021	12:55	Buzzard	43	135	Buzzard 5
2	07/07/2021	13:02	Cormorant	111	39	Cormorant 2
2	07/07/2021	13:16	Cormorant	11	40	Cormorant 2
2	07/07/2021	13:20	Grey Heron	201	34	Grey Heron 2
2	07/07/2021	13:31	Lesser Black-backed Gull	57	136	Lesser Black-Backed Gull 4
2	07/07/2021	13:45	Black-headed Gull	55	58	Black Headed Gull 2
2	07/07/2021	13:59	Cormorant	124	41	Cormorant 2
2	07/07/2021	15:01	Buzzard	45	136	Buzzard 5
2	07/07/2021	15:15	Lesser Black-backed Gull	70	137	Lesser Black-Backed Gull 4
2	07/07/2021	15:28	Cormorant	33	42	Cormorant 2
2	07/07/2021	15:50	Mallard	51	28	Mallard 1
2	07/07/2021	16:22	Cormorant	20	43	Cormorant 2
2	07/07/2021	16:38	Buzzard	115	137	Buzzard 5
2	07/07/2021	16:47	Buzzard	96	138	Buzzard 5
2	07/07/2021	16:57	Lesser Black-backed Gull	88	138	Lesser Black-Backed Gull 4
2	07/07/2021	17:23	Grey Heron	27	35	Grey Heron 2
2	07/07/2021	17:38	Black-headed Gull	185	59	Black Headed Gull 2
2	07/07/2021	17:43	Common Tern	25	3	Common Tern
4	07/07/2021	18:50	Buzzard	90	139	Buzzard 5
4	07/07/2021	19:02	Lesser Black-backed Gull	87	139	Lesser Black-Backed Gull 4
4	07/07/2021	19:11	Black-headed Gull	78	60	Black Headed Gull 2
4	07/07/2021	19:28	Lesser Black-backed Gull	255	140	Lesser Black-Backed Gull 4
4	07/07/2021	19:53	Buzzard	313	140	Buzzard 5
4	07/07/2021	20:15	Grey Heron	17	36	Grey Heron 2
4	07/07/2021	20:26	Mallard	33	29	Mallard 1
4	07/07/2021	20:49	Buzzard	162	141	Buzzard 5
4	07/07/2021	20:58	Lesser Black-backed Gull	70	141	Lesser Black-Backed Gull 4
4	07/07/2021	21:08	Cormorant	69	44	Cormorant 2
4	07/07/2021	21:25	Lesser Black-backed Gull	88	142	Lesser Black-Backed Gull 4
6	08/07/2021	11:33	Lesser Black-backed Gull	83	143	Lesser Black-Backed Gull 4
6	08/07/2021	11:50	Buzzard	165	142	Buzzard 5

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
6	08/07/2021	12:07	Black-headed Gull	70	61	Black Headed Gull 3
6	08/07/2021	12:29	Sparrowhawk	224	18	Sparrowhawk 1
6	08/07/2021	12:45	Buzzard	49	143	Buzzard 5
6	08/07/2021	13:11	Lesser Black-backed Gull	111	144	Lesser Black-Backed Gull 4
6	08/07/2021	13:42	Lesser Black-backed Gull	84	145	Lesser Black-Backed Gull 4
6	08/07/2021	13:50	Kestrel	37	37	Kestrel 2
6	08/07/2021	14:03	Black-headed Gull	92	62	Black Headed Gull 3
6	08/07/2021	15:09	Lesser Black-backed Gull	80	146	Lesser Black-Backed Gull 4
6	08/07/2021	15:20	Kestrel	1763	38	Kestrel 2
6	08/07/2021	16:05	Buzzard	107	144	Buzzard 5
6	08/07/2021	16:12	Black-headed Gull	74	63	Black Headed Gull 3
6	08/07/2021	16:28	Lesser Black-backed Gull	110	147	Lesser Black-Backed Gull 4
6	08/07/2021	16:51	Buzzard	15	145	Buzzard 5
6	08/07/2021	16:59	Grey Heron	22	37	Grey Heron 2
6	08/07/2021	17:10	Lesser Black-backed Gull	99	148	Lesser Black-Backed Gull 4
6	08/07/2021	17:33	Grey Heron	55	38	Grey Heron 2
6	08/07/2021	17:46	Lesser Black-backed Gull	106	149	Lesser Black-Backed Gull 4
6	08/07/2021	18:00	Lesser Black-backed Gull	23	150	Lesser Black-Backed Gull 4
7	08/07/2021	19:03	Lesser Black-backed Gull	94	151	Lesser Black-Backed Gull 5
7	08/07/2021	19:23	Buzzard	147	146	Buzzard 5
7	08/07/2021	19:47	Lesser Black-backed Gull	42	152	Lesser Black-Backed Gull 5
7	08/07/2021	20:30	Kestrel	90	39	Kestrel 2
7	08/07/2021	20:55	Lesser Black-backed Gull	75	153	Lesser Black-Backed Gull 5
7	08/07/2021	21:09	Buzzard	63	147	Buzzard 5
7	08/07/2021	21:22	Grey Heron	18	39	Grey Heron 2
7	08/07/2021	21:40	Black-headed Gull	100	64	Black Headed Gull 3
7	09/07/2021	11:20	Black-headed Gull	96	65	Black Headed Gull 3
7	09/07/2021	11:37	Buzzard	174	148	Buzzard 5
7	09/07/2021	11:52	Lesser Black-backed Gull	73	154	Lesser Black-Backed Gull 5
7	09/07/2021	12:23	Grey Heron	25	40	Grey Heron 2
7	09/07/2021	12:46	Lesser Black-backed Gull	183	155	Lesser Black-Backed Gull 5
7	09/07/2021	13:00	Lesser Black-backed Gull	55	156	Lesser Black-Backed Gull 5
7	09/07/2021	13:17	Lesser Black-backed Gull	33	157	Lesser Black-Backed Gull 5
7	09/07/2021	13:44	Lesser Black-backed Gull	70	158	Lesser Black-Backed Gull 5
7	09/07/2021	14:06	Lesser Black-backed Gull	66	159	Lesser Black-Backed Gull 5
4	09/07/2021	15:00	Buzzard	124	149	Buzzard 5
4	09/07/2021	15:17	Cormorant	95	45	Cormorant 2
4	09/07/2021	15:36	Lesser Black-backed Gull	147	160	Lesser Black-Backed Gull 5
4	09/07/2021	15:43	Lesser Black-backed Gull	67	161	Lesser Black-Backed Gull 5
4	09/07/2021	16:08	Buzzard	34	150	Buzzard 5
4	09/07/2021	16:30	Mallard	20	30	Mallard 1
4	09/07/2021	16:49	Black-headed Gull	73	66	Black Headed Gull 3
4	09/07/2021	17:02	Buzzard	100	151	Buzzard 6

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
4	09/07/2021	17:15	Grey Heron	29	41	Grey Heron 2
4	09/07/2021	17:35	Lesser Black-backed Gull	92	162	Lesser Black-Backed Gull 5
4	09/07/2021	17:48	Lesser Black-backed Gull	36	163	Lesser Black-Backed Gull 5
5	09/07/2021	18:47	Buzzard	110	152	Buzzard 6
5	09/07/2021	19:20	Lesser Black-backed Gull	93	164	Lesser Black-Backed Gull 5
5	09/07/2021	19:36	Snipe	50	15	Snipe
5	09/07/2021	20:19	Grey Heron	15	42	Grey Heron 2
5	09/07/2021	20:45	Lesser Black-backed Gull	66	165	Lesser Black-Backed Gull 5
5	09/07/2021	20:55	Lesser Black-backed Gull	118	166	Lesser Black-Backed Gull 5
5	09/07/2021	21:14	Buzzard	97	153	Buzzard 6
5	09/07/2021	21:23	Cormorant	106	46	Cormorant 2
8	13/07/2021	08:03	Buzzard	135	154	Buzzard 6
8	13/07/2021	08:27	Lesser Black-backed Gull	120	167	Lesser Black-Backed Gull 5
8	13/07/2021	08:35	Buzzard	73	155	Buzzard 6
8	13/07/2021	09:02	Buzzard	66	156	Buzzard 6
8	13/07/2021	09:18	Black-headed Gull	96	67	Black Headed Gull 3
8	13/07/2021	09:46	Lesser Black-backed Gull	102	168	Lesser Black-Backed Gull 5
8	13/07/2021	10:10	Cormorant	103	47	Cormorant 2
8	13/07/2021	10:22	Lesser Black-backed Gull	29	169	Lesser Black-Backed Gull 5
8	13/07/2021	15:05	Lesser Black-backed Gull	100	170	Lesser Black-Backed Gull 5
8	13/07/2021	15:31	Buzzard	73	157	Buzzard 6
8	13/07/2021	15:40	Buzzard	62	158	Buzzard 6
8	13/07/2021	15:58	Black-headed Gull	112	68	Black Headed Gull 3
8	13/07/2021	16:27	Lesser Black-backed Gull	53	171	Lesser Black-Backed Gull 5
8	13/07/2021	16:43	Buzzard	97	159	Buzzard 6
8	13/07/2021	17:02	Lesser Black-backed Gull	112	172	Lesser Black-Backed Gull 5
8	13/07/2021	17:18	Lesser Black-backed Gull	68	173	Lesser Black-Backed Gull 5
8	13/07/2021	17:39	Lesser Black-backed Gull	70	174	Lesser Black-Backed Gull 5
9	14/07/2021	08:12	Buzzard	79	160	Buzzard 6
9	14/07/2021	08:27	Lesser Black-backed Gull	103	175	Lesser Black-Backed Gull 5
9	14/07/2021	09:00	Grey Heron	26	43	Grey Heron 2
9	14/07/2021	09:53	Kestrel	206	40	Kestrel 2
9	14/07/2021	10:15	Buzzard	110	161	Buzzard 6
9	14/07/2021	10:27	Lesser Black-backed Gull	48	176	Lesser Black-Backed Gull 5
9	14/07/2021	10:44	Kestrel	72	41	Kestrel 2
9	15/07/2021	08:27	Buzzard	79	162	Buzzard 6
9	15/07/2021	08:46	Lesser Black-backed Gull	113	177	Lesser Black-Backed Gull 5
9	15/07/2021	08:55	Buzzard	100	163	Buzzard 6
9	15/07/2021	09:23	Buzzard	93	164	Buzzard 6
9	15/07/2021	09:40	Black-headed Gull	36	69	Black Headed Gull 3
9	15/07/2021	10:17	Lesser Black-backed Gull	69	178	Lesser Black-Backed Gull 5
9	15/07/2021	10:48	Lesser Black-backed Gull	124	179	Lesser Black-Backed Gull 5
9	15/07/2021	11:00	Lesser Black-backed Gull	148	180	Lesser Black-Backed Gull 5

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
10	15/07/2021	12:47	Buzzard	147	165	Buzzard 6
10	15/07/2021	13:06	Lesser Black-backed Gull	65	181	Lesser Black-Backed Gull 6
10	15/07/2021	13:33	Sparrowhawk	32	19	Sparrowhawk 1
10	15/07/2021	13:59	Kestrel	323	42	Kestrel 2
10	15/07/2021	14:40	Lesser Black-backed Gull	104	182	Lesser Black-Backed Gull 6
10	15/07/2021	14:52	Buzzard	91	166	Buzzard 6
10	15/07/2021	16:30	Lesser Black-backed Gull	98	183	Lesser Black-Backed Gull 6
10	15/07/2021	16:47	Buzzard	77	167	Buzzard 6
10	15/07/2021	17:15	Kestrel	202	43	Kestrel 2
10	15/07/2021	17:52	Buzzard	60	168	Buzzard 6
10	15/07/2021	18:13	Lesser Black-backed Gull	91	184	Lesser Black-Backed Gull 6
10	15/07/2021	18:43	Sparrowhawk	43	20	Sparrowhawk 1
10	15/07/2021	19:00	Lesser Black-backed Gull	144	185	Lesser Black-Backed Gull 6
10	15/07/2021	19:08	Grey Heron	27	44	Grey Heron 2
11	16/07/2021	09:06	Buzzard	37	169	Buzzard 6
11	16/07/2021	09:43	Lesser Black-backed Gull	64	186	Lesser Black-Backed Gull 6
11	16/07/2021	10:09	Kestrel	304	44	Kestrel 2
11	16/07/2021	10:54	Buzzard	105	170	Buzzard 6
11	16/07/2021	11:11	Lesser Black-backed Gull	90	187	Lesser Black-Backed Gull 6
11	16/07/2021	11:26	Lesser Black-backed Gull	177	188	Lesser Black-Backed Gull 6
11	16/07/2021	13:02	Kestrel	207	45	Kestrel 2
11	16/07/2021	13:28	Buzzard	120	171	Buzzard 6
11	16/07/2021	13:46	Buzzard	73	172	Buzzard 6
11	16/07/2021	14:24	Lesser Black-backed Gull	113	189	Lesser Black-Backed Gull 6
11	16/07/2021	15:00	Lesser Black-backed Gull	84	190	Lesser Black-Backed Gull 6
11	16/07/2021	15:07	Black-headed Gull	39	70	Black Headed Gull 3
11	16/07/2021	15:23	Lesser Black-backed Gull	209	191	Lesser Black-Backed Gull 6
5	27/07/2021	09:22	Lesser Black-backed Gull	109	192	Lesser Black-Backed Gull 6
5	27/07/2021	09:45	Buzzard	208	173	Buzzard 6
5	27/07/2021	09:57	Lesser Black-backed Gull	54	193	Lesser Black-Backed Gull 6
5	27/07/2021	10:10	Lesser Black-backed Gull	91	194	Lesser Black-Backed Gull 6
5	27/07/2021	10:33	Buzzard	34	174	Buzzard 6
5	27/07/2021	10:49	Lesser Black-backed Gull	119	195	Lesser Black-Backed Gull 6
5	27/07/2021	11:00	Lapwing	263	24	Lapwing
5	27/07/2021	11:12	Little Egret	78	42	Little Egret 2
5	27/07/2021	11:48	Lesser Black-backed Gull	24	196	Lesser Black-Backed Gull 6
5	27/07/2021	11:59	Buzzard	205	175	Buzzard 6
5	27/07/2021	16:06	Buzzard	205	176	Buzzard 6
5	27/07/2021	16:30	Lesser Black-backed Gull	108	197	Lesser Black-Backed Gull 6
5	27/07/2021	16:49	Lesser Black-backed Gull	93	198	Lesser Black-Backed Gull 6
5	27/07/2021	17:11	Little Egret	44	43	Little Egret 2
5	27/07/2021	17:42	Buzzard	129	177	Buzzard 6
5	27/07/2021	18:02	Lesser Black-backed Gull	50	199	Lesser Black-Backed Gull 6

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
5	27/07/2021	18:14	Lapwing	72	25	Lapwing
5	27/07/2021	18:33	Buzzard	87	178	Buzzard 6
5	27/07/2021	18:55	Lesser Black-backed Gull	26	200	Lesser Black-Backed Gull 6
2	28/07/2021	09:33	Lesser Black-backed Gull	58	201	Lesser Black-Backed Gull 6
2	28/07/2021	09:43	Cormorant	67	48	Cormorant 2
2	28/07/2021	10:06	Lesser Black-backed Gull	42	202	Lesser Black-Backed Gull 6
2	28/07/2021	10:47	Grey Heron	14	45	Grey Heron 2
2	28/07/2021	10:58	Lesser Black-backed Gull	196	203	Lesser Black-Backed Gull 6
2	28/07/2021	11:09	Little Egret	53	44	Little Egret 2
2	28/07/2021	11:26	Kestrel	75	46	Kestrel 2
2	28/07/2021	11:55	Buzzard	49	179	Buzzard 6
2	28/07/2021	11:59	Lesser Black-backed Gull	77	204	Lesser Black-Backed Gull 6
2	28/07/2021	12:10	Buzzard	48	180	Buzzard 6
2	28/07/2021	12:14	Lesser Black-backed Gull	19	205	Lesser Black-Backed Gull 6
2	28/07/2021	13:30	Cormorant	97	49	Cormorant 2
2	28/07/2021	13:44	Lesser Black-backed Gull	66	206	Lesser Black-Backed Gull 6
2	28/07/2021	14:02	Lesser Black-backed Gull	88	207	Lesser Black-Backed Gull 6
2	28/07/2021	14:16	Kestrel	248	47	Kestrel 2
2	28/07/2021	14:57	Lesser Black-backed Gull	111	208	Lesser Black-Backed Gull 6
2	28/07/2021	15:19	Little Egret	21	45	Little Egret 2
2	28/07/2021	15:42	Lesser Black-backed Gull	163	209	Lesser Black-Backed Gull 6
2	28/07/2021	16:03	Lesser Black-backed Gull	36	210	Lesser Black-Backed Gull 6
3	28/07/2021	17:07	Sparrowhawk	12	21	Sparrowhawk 1
3	28/07/2021	17:32	Lesser Black-backed Gull	63	211	Lesser Black-Backed Gull 7
3	28/07/2021	17:38	Buzzard	28	181	Buzzard 7
3	28/07/2021	17:51	Sparrowhawk	546	22	Sparrowhawk 1
3	28/07/2021	18:20	Lesser Black-backed Gull	72	212	Lesser Black-Backed Gull 7
3	28/07/2021	18:40	Buzzard	200	182	Buzzard 7
3	28/07/2021	18:58	Lesser Black-backed Gull	27	213	Lesser Black-Backed Gull 7
3	28/07/2021	19:03	Grey Heron	14	46	Grey Heron 2
3	28/07/2021	19:15	Lesser Black-backed Gull	111	214	Lesser Black-Backed Gull 7
3	28/07/2021	19:29	Buzzard	50	183	Buzzard 7
3	28/07/2021	19:50	Lesser Black-backed Gull	25	215	Lesser Black-Backed Gull 7
1	29/07/2021	10:15	Cormorant	48	50	Cormorant 2
1	29/07/2021	10:29	Cormorant	107	51	Cormorant 2
1	29/07/2021	10:47	Mallard	50	31	Mallard 2
1	29/07/2021	11:04	Buzzard	208	184	Buzzard 7
1	29/07/2021	11:32	Lesser Black-backed Gull	143	216	Lesser Black-Backed Gull 7
1	29/07/2021	11:50	Lesser Black-backed Gull	40	217	Lesser Black-Backed Gull 7
1	29/07/2021	12:03	Mallard	33	32	Mallard 2
1	29/07/2021	12:22	Lapwing	37	26	Lapwing
1	29/07/2021	12:42	Lesser Black-backed Gull	41	218	Lesser Black-Backed Gull 7
1	29/07/2021	13:01	Buzzard	97	185	Buzzard 7

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
1	29/07/2021	14:05	Lesser Black-backed Gull	83	219	Lesser Black-Backed Gull 7
1	29/07/2021	14:11	Cormorant	44	52	Cormorant 2
1	29/07/2021	14:28	Buzzard	122	186	Buzzard 7
1	29/07/2021	15:02	Lesser Black-backed Gull	93	220	Lesser Black-Backed Gull 7
1	29/07/2021	15:41	Sparrowhawk	37	23	Sparrowhawk 1
1	29/07/2021	15:51	Lesser Black-backed Gull	78	221	Lesser Black-Backed Gull 7
1	29/07/2021	16:00	Mallard	55	33	Mallard 2
1	29/07/2021	16:14	Cormorant	33	53	Cormorant 2
1	29/07/2021	16:43	Buzzard	117	187	Buzzard 7
3	29/07/2021	17:52	Lesser Black-backed Gull	164	222	Lesser Black-Backed Gull 7
3	29/07/2021	17:59	Snipe	180	16	Snipe
3	29/07/2021	18:27	Grey Heron	93	47	Grey Heron 2
3	29/07/2021	18:45	Lesser Black-backed Gull	205	223	Lesser Black-Backed Gull 7
3	29/07/2021	19:03	Lesser Black-backed Gull	47	224	Lesser Black-Backed Gull 7
3	29/07/2021	19:14	Buzzard	88	188	Buzzard 7
3	29/07/2021	19:29	Lesser Black-backed Gull	55	225	Lesser Black-Backed Gull 7
3	29/07/2021	19:50	Buzzard	33	189	Buzzard 7
3	29/07/2021	20:00	Sparrowhawk	242	24	Sparrowhawk 1
3	29/07/2021	20:11	Lesser Black-backed Gull	28	226	Lesser Black-Backed Gull 7
3	29/07/2021	20:32	Cormorant	100	54	Cormorant 2
3	29/07/2021	20:37	Lesser Black-backed Gull	202	227	Lesser Black-Backed Gull 7
4	30/07/2021	11:00	Grey Heron	23	48	Grey Heron 2
4	30/07/2021	11:17	Lesser Black-backed Gull	142	228	Lesser Black-Backed Gull 7
4	30/07/2021	11:22	Lesser Black-backed Gull	33	229	Lesser Black-Backed Gull 7
4	30/07/2021	11:48	Lesser Black-backed Gull	79	230	Lesser Black-Backed Gull 7
4	30/07/2021	12:12	Mallard	48	34	Mallard 2
4	30/07/2021	12:30	Lesser Black-backed Gull	262	231	Lesser Black-Backed Gull 7
4	30/07/2021	12:52	Buzzard	113	190	Buzzard 7
4	30/07/2021	12:59	Snipe	3	17	Snipe
4	30/07/2021	13:08	Cormorant	109	55	Cormorant 2
4	30/07/2021	13:13	Cormorant	83	56	Cormorant 2
4	30/07/2021	13:30	Grey Heron	15	49	Grey Heron 2
4	30/07/2021	13:41	Buzzard	12	191	Buzzard 7
4	30/07/2021	14:52	Lesser Black-backed Gull	133	232	Lesser Black-Backed Gull 7
4	30/07/2021	15:07	Mallard	155	35	Mallard 2
4	30/07/2021	15:23	Grey Heron	34	50	Grey Heron 2
4	30/07/2021	15:40	Lesser Black-backed Gull	21	233	Lesser Black-Backed Gull 7
4	30/07/2021	15:58	Buzzard	77	192	Buzzard 7
4	30/07/2021	16:10	Lesser Black-backed Gull	96	234	Lesser Black-Backed Gull 7
4	30/07/2021	16:24	Lesser Black-backed Gull	47	235	Lesser Black-Backed Gull 7
4	30/07/2021	16:53	Grey Heron	143	51	Grey Heron 2
4	30/07/2021	17:01	Mallard	7	36	Mallard 2
4	30/07/2021	17:15	Lesser Black-backed Gull	11	236	Lesser Black-Backed Gull 7

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
4	30/07/2021	17:23	Lesser Black-backed Gull	123	237	Lesser Black-Backed Gull 7
7	02/08/2021	10:02	Lesser Black-backed Gull	15	238	Lesser Black-Backed Gull 7
7	02/08/2021	10:15	Lesser Black-backed Gull	177	239	Lesser Black-Backed Gull 7
7	02/08/2021	10:41	Kestrel	190	48	Kestrel 2
7	02/08/2021	10:58	Lesser Black-backed Gull	28	240	Lesser Black-Backed Gull 7
7	02/08/2021	11:22	Lesser Black-backed Gull	149	241	Lesser Black-Backed Gull 8
7	02/08/2021	11:50	Sparrowhawk	72	25	Sparrowhawk 1
7	02/08/2021	12:05	Lesser Black-backed Gull	22	242	Lesser Black-Backed Gull 8
7	02/08/2021	12:28	Buzzard	212	193	Buzzard 7
7	02/08/2021	15:20	Lesser Black-backed Gull	50	243	Lesser Black-Backed Gull 8
7	02/08/2021	15:43	Lesser Black-backed Gull	180	244	Lesser Black-Backed Gull 8
7	02/08/2021	15:56	Lesser Black-backed Gull	48	245	Lesser Black-Backed Gull 8
7	02/08/2021	16:45	Sparrowhawk	57	26	Sparrowhawk 1
7	02/08/2021	17:19	Lesser Black-backed Gull	10	246	Lesser Black-Backed Gull 8
7	02/08/2021	17:34	Grey Heron	97	52	Grey Heron 2
7	02/08/2021	17:58	Lesser Black-backed Gull	15	247	Lesser Black-Backed Gull 8
9	03/08/2021	09:55	Kestrel	155	49	Kestrel 2
9	03/08/2021	10:05	Grey Heron	27	53	Grey Heron 2
9	03/08/2021	10:19	Grey Heron	39	54	Grey Heron 2
9	03/08/2021	10:42	Lesser Black-backed Gull	96	248	Lesser Black-Backed Gull 8
9	03/08/2021	10:59	Buzzard	405	194	Buzzard 7
9	03/08/2021	11:14	Kestrel	14	50	Kestrel 2
9	03/08/2021	11:27	Little Egret	59	46	Little Egret 2
9	03/08/2021	11:38	Sparrowhawk	78	27	Sparrowhawk 1
9	03/08/2021	11:54	Kestrel	110	51	Kestrel 2
9	03/08/2021	12:09	Kestrel	297	52	Kestrel 2
9	03/08/2021	12:30	Buzzard	480	195	Buzzard 7
9	03/08/2021	14:02	Kestrel	122	53	Kestrel 2
9	03/08/2021	14:35	Kestrel	103	54	Kestrel 2
9	03/08/2021	14:56	Grey Heron	245	55	Grey Heron 2
9	03/08/2021	15:19	Lesser Black-backed Gull	274	249	Lesser Black-Backed Gull 8
9	03/08/2021	15:35	Little Egret	212	47	Little Egret 2
9	03/08/2021	15:47	Buzzard	177	196	Buzzard 7
9	03/08/2021	16:03	Sparrowhawk	133	28	Sparrowhawk 1
9	03/08/2021	16:23	Buzzard	99	197	Buzzard 7
9	03/08/2021	16:37	Lesser Black-backed Gull	27	250	Lesser Black-Backed Gull 8
8	03/08/2021	17:54	Buzzard	209	198	Buzzard 7
8	03/08/2021	18:09	Lesser Black-backed Gull	79	251	Lesser Black-Backed Gull 8
8	03/08/2021	18:27	Lesser Black-backed Gull	179	252	Lesser Black-Backed Gull 8
8	03/08/2021	18:50	Lesser Black-backed Gull	249	253	Lesser Black-Backed Gull 8
8	03/08/2021	19:16	Buzzard	88	199	Buzzard 7
8	03/08/2021	19:25	Lesser Black-backed Gull	134	254	Lesser Black-Backed Gull 8
8	03/08/2021	19:49	Grey Heron	105	56	Grey Heron 2

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
8	03/08/2021	20:14	Lesser Black-backed Gull	112	255	Lesser Black-Backed Gull 8
6	04/08/2021	10:22	Lesser Black-backed Gull	15	256	Lesser Black-Backed Gull 8
6	04/08/2021	10:50	Lesser Black-backed Gull	101	257	Lesser Black-Backed Gull 8
6	04/08/2021	11:15	Buzzard	128	200	Buzzard 7
6	04/08/2021	11:46	Lesser Black-backed Gull	93	258	Lesser Black-Backed Gull 8
6	04/08/2021	12:03	Grey Heron	55	57	Grey Heron 2
6	04/08/2021	12:30	Buzzard	120	201	Buzzard 7
6	04/08/2021	12:42	Lesser Black-backed Gull	31	259	Lesser Black-Backed Gull 8
6	04/08/2021	12:50	Lesser Black-backed Gull	77	260	Lesser Black-Backed Gull 8
6	04/08/2021	14:02	Lesser Black-backed Gull	109	261	Lesser Black-Backed Gull 8
6	04/08/2021	14:19	Lesser Black-backed Gull	133	262	Lesser Black-Backed Gull 8
6	04/08/2021	14:37	Buzzard	311	202	Buzzard 7
6	04/08/2021	15:00	Lesser Black-backed Gull	204	263	Lesser Black-Backed Gull 8
6	04/08/2021	15:34	Lesser Black-backed Gull	63	264	Lesser Black-Backed Gull 8
6	04/08/2021	15:58	Lesser Black-backed Gull	34	265	Lesser Black-Backed Gull 8
6	04/08/2021	16:22	Lesser Black-backed Gull	164	266	Lesser Black-Backed Gull 8
6	04/08/2021	16:41	Grey Heron	20	58	Grey Heron 2
8	04/08/2021	17:50	Lesser Black-backed Gull	127	267	Lesser Black-Backed Gull 8
8	04/08/2021	18:13	Lesser Black-backed Gull	44	268	Lesser Black-Backed Gull 8
8	04/08/2021	18:42	Buzzard	208	203	Buzzard 7
8	04/08/2021	19:19	Lesser Black-backed Gull	112	269	Lesser Black-Backed Gull 8
8	04/08/2021	19:39	Buzzard	68	204	Buzzard 7
8	04/08/2021	20:00	Lesser Black-backed Gull	74	270	Lesser Black-Backed Gull 8
8	04/08/2021	20:22	Lesser Black-backed Gull	52	271	Lesser Black-Backed Gull 9
10	05/08/2021	11:52	Lesser Black-backed Gull	99	272	Lesser Black-Backed Gull 9
10	05/08/2021	12:34	Lesser Black-backed Gull	354	273	Lesser Black-Backed Gull 9
10	05/08/2021	13:05	Grey Heron	173	59	Grey Heron 2
10	05/08/2021	13:40	Lesser Black-backed Gull	97	274	Lesser Black-Backed Gull 9
10	11/08/2021	09:45	Lesser Black-backed Gull	31	275	Lesser Black-Backed Gull 9
10	11/08/2021	09:59	Grey Heron	200	60	Grey Heron 2
10	11/08/2021	10:06	Kestrel	310	55	Kestrel 2
10	11/08/2021	10:38	Buzzard	10	205	Buzzard 7
10	11/08/2021	11:00	Lesser Black-backed Gull	429	276	Lesser Black-Backed Gull 9
10	11/08/2021	11:22	Buzzard	122	206	Buzzard 7
10	11/08/2021	11:37	Lapwing	143	27	Lapwing
10	11/08/2021	11:44	Buzzard	117	207	Buzzard 7
10	11/08/2021	11:59	Kestrel	98	56	Kestrel 2
10	11/08/2021	12:08	Kestrel	105	57	Kestrel 2
11	11/08/2021	13:09	Sparrowhawk	12	29	Sparrowhawk 1
11	11/08/2021	13:23	Kestrel	217	58	Kestrel 2
11	11/08/2021	13:37	Lesser Black-backed Gull	156	277	Lesser Black-Backed Gull 9
11	11/08/2021	13:56	Buzzard	67	208	Buzzard 7
11	11/08/2021	14:45	Buzzard	333	209	Buzzard 7

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
11	11/08/2021	15:08	Lesser Black-backed Gull	15	278	Lesser Black-Backed Gull 9
11	11/08/2021	17:24	Lesser Black-backed Gull	75	279	Lesser Black-Backed Gull 9
11	11/08/2021	17:51	Buzzard	204	210	Buzzard 7
11	11/08/2021	18:09	Kestrel	27	59	Kestrel 2
11	11/08/2021	18:43	Buzzard	210	211	Buzzard 8
11	11/08/2021	19:06	Lesser Black-backed Gull	72	280	Lesser Black-Backed Gull 9
11	11/08/2021	19:30	Lesser Black-backed Gull	106	281	Lesser Black-Backed Gull 9
5	12/08/2021	10:40	Buzzard	94	212	Buzzard 8
5	12/08/2021	11:04	Lesser Black-backed Gull	24	282	Lesser Black-Backed Gull 9
5	12/08/2021	11:33	Lesser Black-backed Gull	244	283	Lesser Black-Backed Gull 9
5	12/08/2021	11:56	Buzzard	132	213	Buzzard 8
5	12/08/2021	12:42	Lesser Black-backed Gull	15	284	Lesser Black-Backed Gull 9
5	12/08/2021	13:00	Mallard	197	37	Mallard 2
5	12/08/2021	14:30	Buzzard	53	214	Buzzard 8
5	12/08/2021	14:56	Lesser Black-backed Gull	62	285	Lesser Black-Backed Gull 9
5	12/08/2021	15:27	Lesser Black-backed Gull	16	286	Lesser Black-Backed Gull 9
5	12/08/2021	15:59	Buzzard	203	215	Buzzard 8
5	12/08/2021	16:31	Grey Heron	29	61	Grey Heron 3
5	12/08/2021	16:47	Lesser Black-backed Gull	166	287	Lesser Black-Backed Gull 9
7	12/08/2021	18:40	Lesser Black-backed Gull	77	288	Lesser Black-Backed Gull 9
7	12/08/2021	19:11	Lesser Black-backed Gull	195	289	Lesser Black-Backed Gull 9
7	12/08/2021	19:23	Lesser Black-backed Gull	15	290	Lesser Black-Backed Gull 9
7	12/08/2021	20:02	Kestrel	184	60	Kestrel 2
7	12/08/2021	20:29	Lesser Black-backed Gull	90	291	Lesser Black-Backed Gull 9
4	13/08/2021	10:53	Buzzard	55	216	Buzzard 8
4	13/08/2021	11:09	Lesser Black-backed Gull	184	292	Lesser Black-Backed Gull 9
4	13/08/2021	11:40	Lesser Black-backed Gull	253	293	Lesser Black-Backed Gull 9
4	13/08/2021	11:58	Little Egret	201	48	Little Egret 2
4	13/08/2021	12:22	Mallard	94	38	Mallard 2
4	13/08/2021	12:45	Little Egret	15	49	Little Egret 2
4	13/08/2021	12:50	Cormorant	198	57	Cormorant 2
4	13/08/2021	12:58	Lesser Black-backed Gull	107	294	Lesser Black-Backed Gull 9
4	13/08/2021	14:10	Lesser Black-backed Gull	46	295	Lesser Black-Backed Gull 9
4	13/08/2021	14:42	Curlew	19	1	Curlew
4	13/08/2021	14:42	Whimbrel	49	3	Whimbrel
4	13/08/2021	15:05	Buzzard	183	217	Buzzard 8
4	13/08/2021	15:33	Mallard	177	39	Mallard 2
4	13/08/2021	15:57	Grey Heron	105	62	Grey Heron 3
4	13/08/2021	16:10	Lesser Black-backed Gull	105	296	Lesser Black-Backed Gull 9
4	13/08/2021	16:50	Lesser Black-backed Gull	76	297	Lesser Black-Backed Gull 9
4	13/08/2021	16:54	Little Egret	54	50	Little Egret 2
4	13/08/2021	17:03	Grey Heron	11	63	Grey Heron 3
7	13/08/2021	18:15	Lesser Black-backed Gull	109	298	Lesser Black-Backed Gull 9

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
7	13/08/2021	18:40	Lesser Black-backed Gull	150	299	Lesser Black-Backed Gull 9
7	13/08/2021	19:12	Lesser Black-backed Gull	10	300	Lesser Black-Backed Gull 9
7	13/08/2021	19:55	Buzzard	5	218	Buzzard 8
7	13/08/2021	20:24	Lesser Black-backed Gull	195	301	Lesser Black-Backed Gull 10
8	14/08/2021	11:17	Lesser Black-backed Gull	62	302	Lesser Black-Backed Gull 10
8	14/08/2021	11:51	Lesser Black-backed Gull	94	303	Lesser Black-Backed Gull 10
8	14/08/2021	12:22	Buzzard	52	219	Buzzard 8
8	14/08/2021	12:46	Lesser Black-backed Gull	210	304	Lesser Black-Backed Gull 10
8	14/08/2021	13:15	Lesser Black-backed Gull	224	305	Lesser Black-Backed Gull 10
3	16/08/2021	09:09	Buzzard	67	220	Buzzard 8
3	16/08/2021	09:29	Lesser Black-backed Gull	15	306	Lesser Black-Backed Gull 10
3	16/08/2021	09:47	Kestrel	193	61	Kestrel 3
3	16/08/2021	10:11	Lesser Black-backed Gull	100	307	Lesser Black-Backed Gull 10
3	16/08/2021	10:34	Buzzard	97	221	Buzzard 8
3	16/08/2021	10:55	Kestrel	222	62	Kestrel 3
3	16/08/2021	11:17	Kestrel	294	63	Kestrel 3
3	16/08/2021	11:39	Buzzard	180	222	Buzzard 8
3	16/08/2021	13:02	Buzzard	110	223	Buzzard 8
3	16/08/2021	13:27	Lesser Black-backed Gull	15	308	Lesser Black-Backed Gull 10
3	16/08/2021	13:48	Lesser Black-backed Gull	93	309	Lesser Black-Backed Gull 10
3	16/08/2021	14:21	Buzzard	47	224	Buzzard 8
3	16/08/2021	14:50	Kestrel	172	64	Kestrel 3
3	16/08/2021	15:00	Grey Heron	160	64	Grey Heron 3
3	16/08/2021	15:16	Lesser Black-backed Gull	256	310	Lesser Black-Backed Gull 10
8	16/08/2021	17:04	Lesser Black-backed Gull	62	311	Lesser Black-Backed Gull 10
8	16/08/2021	17:39	Lesser Black-backed Gull	99	312	Lesser Black-Backed Gull 10
8	16/08/2021	18:14	Lesser Black-backed Gull	10	313	Lesser Black-Backed Gull 10
8	16/08/2021	18:40	Lesser Black-backed Gull	53	314	Lesser Black-Backed Gull 10
8	16/08/2021	19:00	Buzzard	209	225	Buzzard 8
2	17/08/2021	09:14	Lesser Black-backed Gull	187	315	Lesser Black-Backed Gull 10
2	17/08/2021	09:42	Grey Heron	94	65	Grey Heron 3
2	17/08/2021	09:57	Buzzard	226	226	Buzzard 8
2	17/08/2021	10:08	Kestrel	45	65	Kestrel 3
2	17/08/2021	10:20	Grey Heron	110	66	Grey Heron 3
2	17/08/2021	10:34	Buzzard	18	227	Buzzard 8
2	17/08/2021	10:49	Lesser Black-backed Gull	198	316	Lesser Black-Backed Gull 10
2	17/08/2021	11:05	Kestrel	47	66	Kestrel 3
2	17/08/2021	11:26	Mallard	53	40	Mallard 2
2	17/08/2021	11:46	Grey Heron	81	67	Grey Heron 3
2	17/08/2021	12:32	Buzzard	33	228	Buzzard 8
2	17/08/2021	12:45	Lesser Black-backed Gull	122	317	Lesser Black-Backed Gull 10
2	17/08/2021	13:03	Kestrel	8	67	Kestrel 3
2	17/08/2021	13:24	Grey Heron	15	68	Grey Heron 3

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
2	17/08/2021	13:38	Buzzard	27	229	Buzzard 8
2	17/08/2021	14:09	Mallard	105	41	Mallard 2
2	17/08/2021	14:21	Lesser Black-backed Gull	110	318	Lesser Black-Backed Gull 10
2	17/08/2021	14:50	Grey Heron	11	69	Grey Heron 3
2	17/08/2021	15:00	Cormorant	17	58	Cormorant 2
2	17/08/2021	15:23	Lesser Black-backed Gull	23	319	Lesser Black-Backed Gull 10
9	17/08/2021	16:53	Lesser Black-backed Gull	207	320	Lesser Black-Backed Gull 10
9	17/08/2021	17:25	Lesser Black-backed Gull	193	321	Lesser Black-Backed Gull 10
9	17/08/2021	17:47	Buzzard	44	230	Buzzard 8
9	17/08/2021	18:34	Lesser Black-backed Gull	29	322	Lesser Black-Backed Gull 10
9	17/08/2021	19:01	Lesser Black-backed Gull	87	323	Lesser Black-Backed Gull 10
1	18/08/2021	09:09	Mallard	22	42	Mallard 2
1	18/08/2021	09:33	Curlew	47	2	Curlew
1	18/08/2021	09:48	Lesser Black-backed Gull	75	324	Lesser Black-Backed Gull 10
1	18/08/2021	10:07	Lesser Black-backed Gull	38	325	Lesser Black-Backed Gull 10
1	18/08/2021	10:17	Cormorant	167	59	Cormorant 2
1	18/08/2021	10:33	Lesser Black-backed Gull	194	326	Lesser Black-Backed Gull 10
1	18/08/2021	10:54	Grey Heron	24	70	Grey Heron 3
1	18/08/2021	11:12	Mute Swan	96	4	Mute Swan
1	18/08/2021	11:21	Buzzard	26	231	Buzzard 8
1	18/08/2021	11:40	Lesser Black-backed Gull	200	327	Lesser Black-Backed Gull 10
1	18/08/2021	11:52	Lesser Black-backed Gull	66	328	Lesser Black-Backed Gull 10
1	18/08/2021	13:00	Lesser Black-backed Gull	112	329	Lesser Black-Backed Gull 10
1	18/08/2021	13:14	Grey Heron	18	71	Grey Heron 3
1	18/08/2021	13:38	Lesser Black-backed Gull	35	330	Lesser Black-Backed Gull 10
1	18/08/2021	14:02	Mallard	21	43	Mallard 2
1	18/08/2021	14:22	Cormorant	162	60	Cormorant 2
1	18/08/2021	14:45	Buzzard	64	232	Buzzard 8
1	18/08/2021	14:57	Grey Heron	5	72	Grey Heron 3
1	18/08/2021	15:09	Lesser Black-backed Gull	94	331	Lesser Black-Backed Gull 11
1	18/08/2021	15:20	Cormorant	37	61	Cormorant 3
1	18/08/2021	15:34	Mallard	39	44	Mallard 2
9	18/08/2021	16:35	Buzzard	36	233	Buzzard 8
9	18/08/2021	16:56	Kestrel	17	68	Kestrel 3
9	18/08/2021	17:08	Lesser Black-backed Gull	195	332	Lesser Black-Backed Gull 11
9	18/08/2021	17:17	Lesser Black-backed Gull	143	333	Lesser Black-Backed Gull 11
9	18/08/2021	17:42	Sparrowhawk	384	30	Sparrowhawk 1
9	18/08/2021	18:10	Lesser Black-backed Gull	47	334	Lesser Black-Backed Gull 11
9	18/08/2021	18:39	Buzzard	55	234	Buzzard 8
9	18/08/2021	19:02	Grey Heron	24	73	Grey Heron 3
6	19/08/2021	09:34	Buzzard	15	235	Buzzard 8
6	19/08/2021	09:47	Lesser Black-backed Gull	100	335	Lesser Black-Backed Gull 11
6	19/08/2021	10:15	Lesser Black-backed Gull	186	336	Lesser Black-Backed Gull 11

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
6	19/08/2021	10:40	Kestrel	49	69	Kestrel 3
6	19/08/2021	11:06	Buzzard	55	236	Buzzard 8
6	19/08/2021	11:22	Curlew	163	3	Curlew
6	19/08/2021	11:35	Buzzard	300	237	Buzzard 8
6	19/08/2021	12:01	Lesser Black-backed Gull	44	337	Lesser Black-Backed Gull 11
6	19/08/2021	13:12	Buzzard	212	238	Buzzard 8
6	19/08/2021	13:27	Sparrowhawk	20	31	Sparrowhawk 2
6	19/08/2021	13:56	Lesser Black-backed Gull	134	338	Lesser Black-Backed Gull 11
6	19/08/2021	14:19	Buzzard	29	239	Buzzard 8
6	19/08/2021	14:45	Sparrowhawk	440	32	Sparrowhawk 2
6	19/08/2021	15:07	Kestrel	34	70	Kestrel 3
6	19/08/2021	15:38	Buzzard	153	240	Buzzard 8
10	19/08/2021	17:04	Buzzard	310	241	Buzzard 9
10	19/08/2021	17:24	Sparrowhawk	193	33	Sparrowhawk 2
10	19/08/2021	17:46	Buzzard	100	242	Buzzard 9
10	19/08/2021	18:15	Lesser Black-backed Gull	86	339	Lesser Black-Backed Gull 11
10	19/08/2021	18:52	Little Egret	77	51	Little Egret 2
10	19/08/2021	19:10	Lesser Black-backed Gull	165	340	Lesser Black-Backed Gull 11
10	19/08/2021	19:31	Buzzard	42	243	Buzzard 9
10	20/08/2021	09:44	Little Egret	15	52	Little Egret 2
10	20/08/2021	09:51	Buzzard	50	244	Buzzard 9
10	20/08/2021	10:30	Lesser Black-backed Gull	118	341	Lesser Black-Backed Gull 11
10	20/08/2021	10:49	Little Egret	43	53	Little Egret 2
10	20/08/2021	11:15	Lesser Black-backed Gull	227	342	Lesser Black-Backed Gull 11
10	20/08/2021	12:02	Grey Heron	25	74	Grey Heron 3
11	20/08/2021	13:40	Grey Heron	26	75	Grey Heron 3
11	20/08/2021	14:00	Lesser Black-backed Gull	211	343	Lesser Black-Backed Gull 11
11	20/08/2021	14:52	Kestrel	49	71	Kestrel 3
11	20/08/2021	15:33	Lesser Black-backed Gull	68	344	Lesser Black-Backed Gull 11
11	20/08/2021	17:16	Lesser Black-backed Gull	165	345	Lesser Black-Backed Gull 11
11	20/08/2021	18:05	Lesser Black-backed Gull	222	346	Lesser Black-Backed Gull 11
11	20/08/2021	18:49	Lesser Black-backed Gull	40	347	Lesser Black-Backed Gull 11
3	02/09/2021	09:12	Buzzard	19	245	Buzzard 9
3	02/09/2021	09:27	Kestrel	208	72	Kestrel 3
3	02/09/2021	09:50	Grey Heron	102	76	Grey Heron 3
3	02/09/2021	10:10	Buzzard	54	246	Buzzard 9
3	02/09/2021	10:22	Snipe	190	18	Snipe
3	02/09/2021	11:03	Kestrel	41	73	Kestrel 3
3	02/09/2021	11:19	Grey Heron	15	77	Grey Heron 3
3	02/09/2021	11:34	Kestrel	83	74	Kestrel 3
3	02/09/2021	12:59	Kestrel	122	75	Kestrel 3
3	02/09/2021	13:26	Buzzard	93	247	Buzzard 9
3	02/09/2021	13:45	Grey Heron	14	78	Grey Heron 3

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
3	02/09/2021	14:14	Kestrel	41	76	Kestrel 3
3	02/09/2021	15:05	Buzzard	152	248	Buzzard 9
3	02/09/2021	15:17	Lesser Black-backed Gull	74	348	Lesser Black-Backed Gull 11
5	02/09/2021	16:43	Buzzard	87	249	Buzzard 9
5	02/09/2021	16:57	Grey Heron	23	79	Grey Heron 3
5	02/09/2021	17:30	Little Egret	15	54	Little Egret 2
5	02/09/2021	18:05	Buzzard	108	250	Buzzard 9
5	02/09/2021	18:38	Kestrel	234	77	Kestrel 3
5	03/09/2021	09:46	Little Egret	27	55	Little Egret 2
5	03/09/2021	10:17	Buzzard	63	251	Buzzard 9
5	03/09/2021	10:47	Buzzard	15	252	Buzzard 9
5	03/09/2021	11:00	Kestrel	145	78	Kestrel 3
5	03/09/2021	11:22	Buzzard	108	253	Buzzard 9
5	03/09/2021	11:35	Kestrel	20	79	Kestrel 3
7	03/09/2021	13:22	Buzzard	163	254	Buzzard 9
7	03/09/2021	14:02	Grey Heron	17	80	Grey Heron 3
7	03/09/2021	14:47	Buzzard	22	255	Buzzard 9
7	03/09/2021	15:09	Kestrel	218	80	Kestrel 3
7	03/09/2021	17:14	Buzzard	124	256	Buzzard 9
7	03/09/2021	17:53	Kestrel	15	81	Kestrel 3
7	03/09/2021	18:22	Buzzard	166	257	Buzzard 9
1	06/09/2021	08:53	Mallard	15	45	Mallard 2
1	06/09/2021	09:11	Lesser Black-backed Gull	133	349	Lesser Black-Backed Gull 11
1	06/09/2021	09:28	Lapwing	27	28	Lapwing
1	06/09/2021	09:45	Cormorant	61	62	Cormorant 3
1	06/09/2021	10:10	Buzzard	64	258	Buzzard 9
1	06/09/2021	10:19	Lesser Black-backed Gull	107	350	Lesser Black-Backed Gull 11
1	06/09/2021	10:52	Sparrowhawk	10	34	Sparrowhawk 2
1	06/09/2021	11:03	Mute Swan	30	5	Mute Swan
1	06/09/2021	11:23	Grey Heron	12	81	Grey Heron 3
1	06/09/2021	12:15	Buzzard	60	259	Buzzard 9
1	06/09/2021	12:37	Black-headed Gull	22	71	Black Headed Gull 3
1	06/09/2021	13:06	Cormorant	105	63	Cormorant 3
1	06/09/2021	13:22	Mallard	47	46	Mallard 2
1	06/09/2021	13:30	Curlew	33	4	Curlew
1	06/09/2021	14:00	Sparrowhawk	28	35	Sparrowhawk 2
1	06/09/2021	14:19	Mallard	19	47	Mallard 2
1	06/09/2021	14:43	Lesser Black-backed Gull	201	351	Lesser Black-Backed Gull 11
8	06/09/2021	17:10	Lesser Black-backed Gull	166	352	Lesser Black-Backed Gull 11
8	06/09/2021	18:03	Whimbrel	109	4	Whimbrel
8	07/09/2021	09:35	Snipe	15	19	Snipe
8	07/09/2021	11:03	Buzzard	179	260	Buzzard 9
4	07/09/2021	12:40	Snipe	19	20	Snipe

VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
4	07/09/2021	12:53	Grey Heron	12	82	Grey Heron 3
4	07/09/2021	13:06	Little Egret	52	56	Little Egret 2
4	07/09/2021	13:36	Snipe	61	21	Snipe
4	07/09/2021	14:05	Buzzard	102	261	Buzzard 9
4	07/09/2021	14:11	Mallard	32	48	Mallard 2
4	07/09/2021	14:52	Grey Heron	27	83	Grey Heron 3
4	07/09/2021	15:00	Cormorant	111	64	Cormorant 3
4	07/09/2021	16:12	Buzzard	65	262	Buzzard 9
4	07/09/2021	16:31	Snipe	30	22	Snipe
4	07/09/2021	16:47	Snipe	5	23	Snipe
4	07/09/2021	17:23	Grey Heron	17	84	Grey Heron 3
4	07/09/2021	17:55	Mallard	71	49	Mallard 2
4	07/09/2021	18:09	Cormorant	105	65	Cormorant 3
4	07/09/2021	18:41	Little Egret	23	57	Little Egret 2
6	09/09/2021	09:03	Buzzard	97	263	Buzzard 9
6	09/09/2021	09:22	Kestrel	209	82	Kestrel 3
6	09/09/2021	10:10	Lesser Black-backed Gull	173	353	Lesser Black-Backed Gull 11
6	09/09/2021	10:51	Buzzard	258	264	Buzzard 9
6	09/09/2021	11:15	Sparrowhawk	111	36	Sparrowhawk 2
6	12/09/2021	09:08	Buzzard	207	265	Buzzard 9
6	12/09/2021	09:48	Kestrel	310	83	Kestrel 3
6	12/09/2021	10:33	Buzzard	125	266	Buzzard 9
6	12/09/2021	10:59	Kestrel	96	84	Kestrel 3
6	12/09/2021	11:15	Grey Heron	27	85	Grey Heron 3
2	12/09/2021	12:11	Mallard	53	50	Mallard 2
2	12/09/2021	12:27	Cormorant	37	66	Cormorant 3
2	12/09/2021	12:46	Kestrel	207	85	Kestrel 3
2	12/09/2021	13:30	Grey Heron	15	86	Grey Heron 3
2	12/09/2021	13:52	Kestrel	69	86	Kestrel 3
2	12/09/2021	14:12	Buzzard	103	267	Buzzard 9
2	12/09/2021	14:41	Grey Heron	22	87	Grey Heron 3
2	12/09/2021	15:43	Cormorant	65	67	Cormorant 3
2	12/09/2021	16:02	Kestrel	126	87	Kestrel 3
2	12/09/2021	16:30	Buzzard	77	268	Buzzard 9
2	12/09/2021	16:45	Grey Heron	26	88	Grey Heron 3
2	12/09/2021	17:10	Cormorant	104	68	Cormorant 3
2	12/09/2021	17:32	Grey Heron	44	89	Grey Heron 3
2	12/09/2021	18:00	Mallard	32	51	Mallard 2
2	12/09/2021	18:21	Grey Heron	17	90	Grey Heron 3
9	13/09/2021	09:11	Buzzard	112	269	Buzzard 9
9	13/09/2021	09:19	Kestrel	225	88	Kestrel 3
9	13/09/2021	09:55	Buzzard	50	270	Buzzard 9
9	13/09/2021	10:33	Grey Heron	43	91	Grey Heron 4

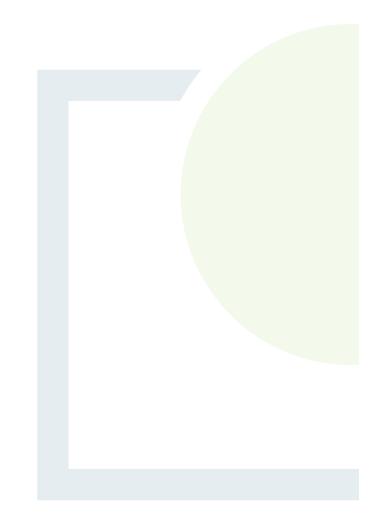
VP No.	Date	Time	Species	Duration (s)	Flightline No	Flightline Map Title
9	13/09/2021	11:00	Lesser Black-backed Gull	97	354	Lesser Black-Backed Gull 11
9	13/09/2021	13:05	Buzzard	69	271	Buzzard 10
9	13/09/2021	13:44	Kestrel	117	89	Kestrel 3
9	13/09/2021	14:07	Buzzard	44	272	Buzzard 10
9	13/09/2021	14:58	Sparrowhawk	15	37	Sparrowhawk 2
10	13/09/2021	16:40	Little Egret	44	58	Little Egret 2
10	13/09/2021	17:21	Buzzard	219	273	Buzzard 10
10	13/09/2021	17:38	Grey Heron	18	92	Grey Heron 4
10	13/09/2021	18:03	Buzzard	55	274	Buzzard 10
10	13/09/2021	18:44	Little Egret	23	59	Little Egret 2
10	14/09/2021	09:20	Little Egret	24	60	Little Egret 2
10	14/09/2021	09:48	Buzzard	73	275	Buzzard 10
10	14/09/2021	10:22	Kestrel	153	90	Kestrel 3
10	14/09/2021	10:59	Buzzard	122	276	Buzzard 10
11	14/09/2021	13:11	Grey Heron	33	93	Grey Heron 4
11	14/09/2021	13:59	Lesser Black-backed Gull	187	355	Lesser Black-Backed Gull 11
11	14/09/2021	14:22	Buzzard	84	277	Buzzard 10
11	14/09/2021	16:10	Grey Heron	14	94	Grey Heron 4
11	14/09/2021	17:25	Buzzard	102	278	Buzzard 10
11	14/09/2021	18:14	Kestrel	80	91	Kestrel 4

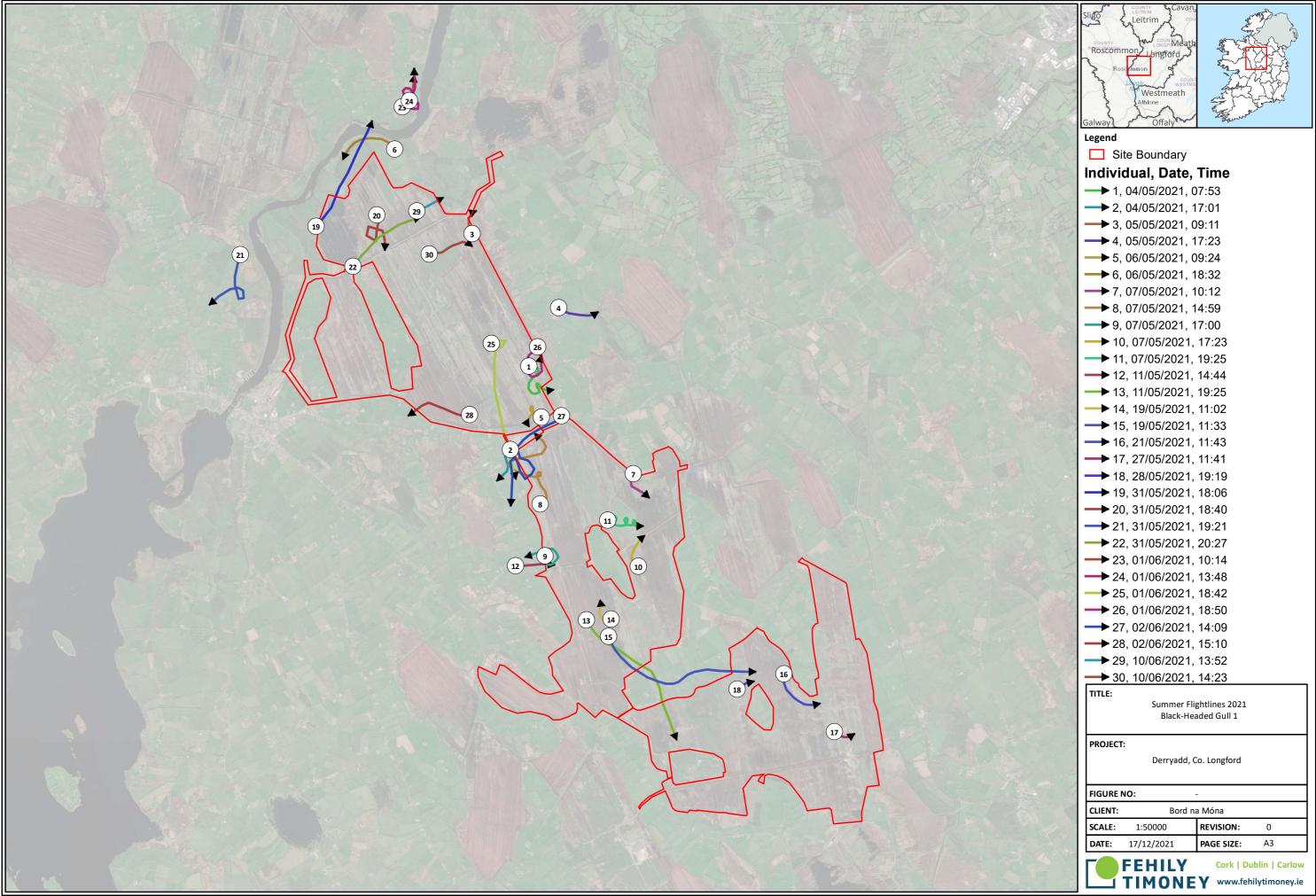


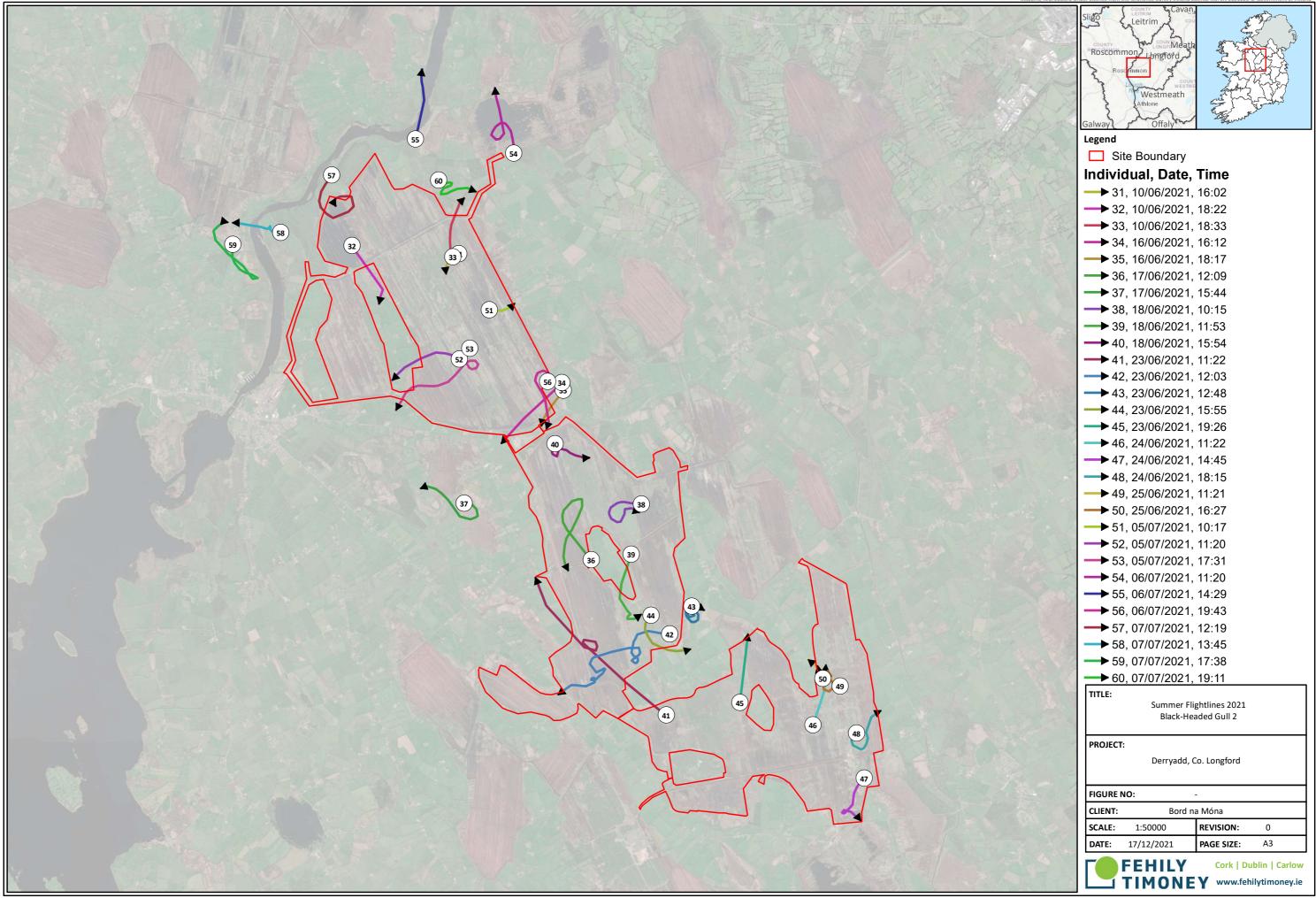
CONSULTANTS IN ENGINEERING, ENVIRONMENTAL SCIENCE & PLANNING

## **APPENDIX 3**

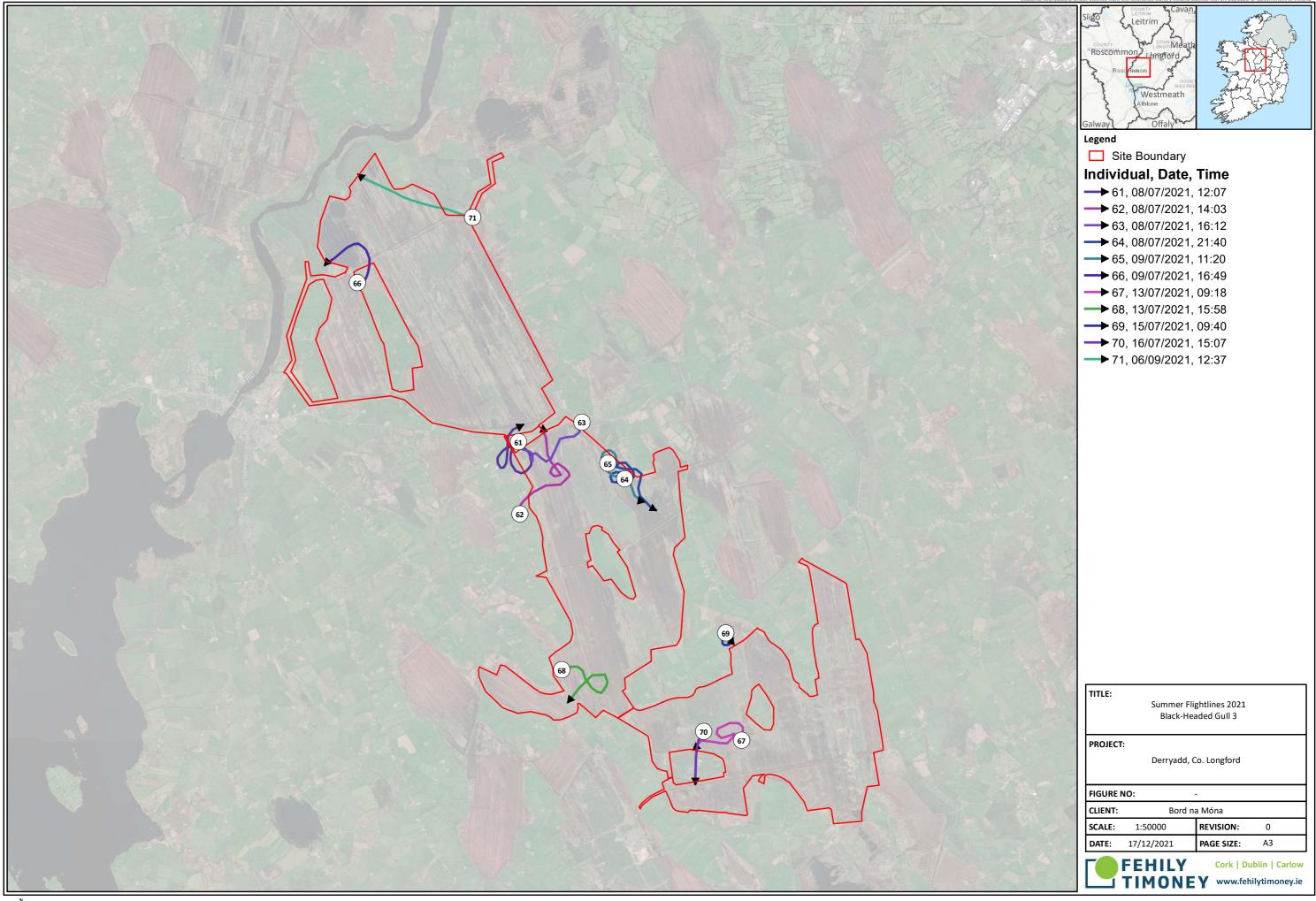
Target Species Flight Line Maps

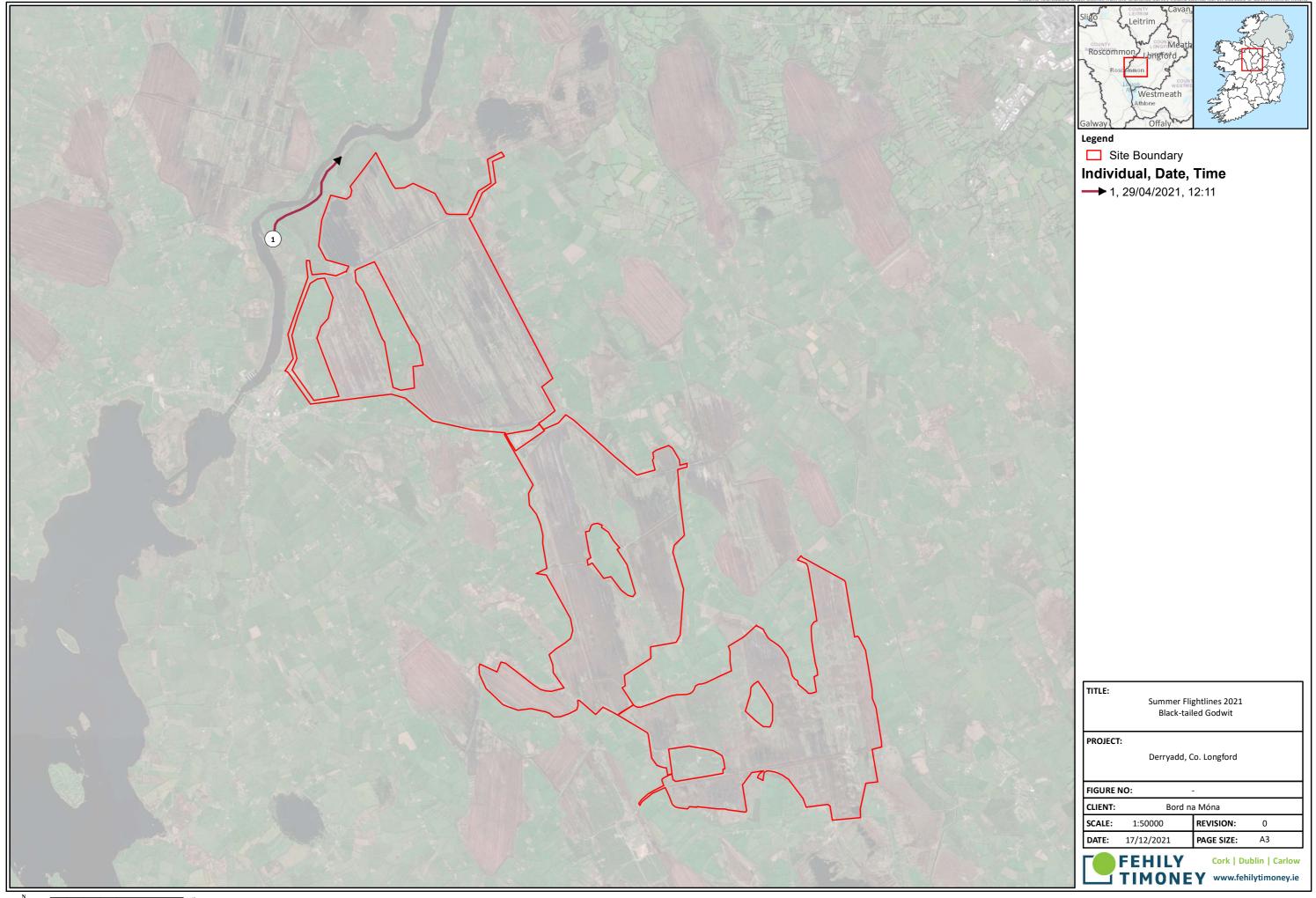


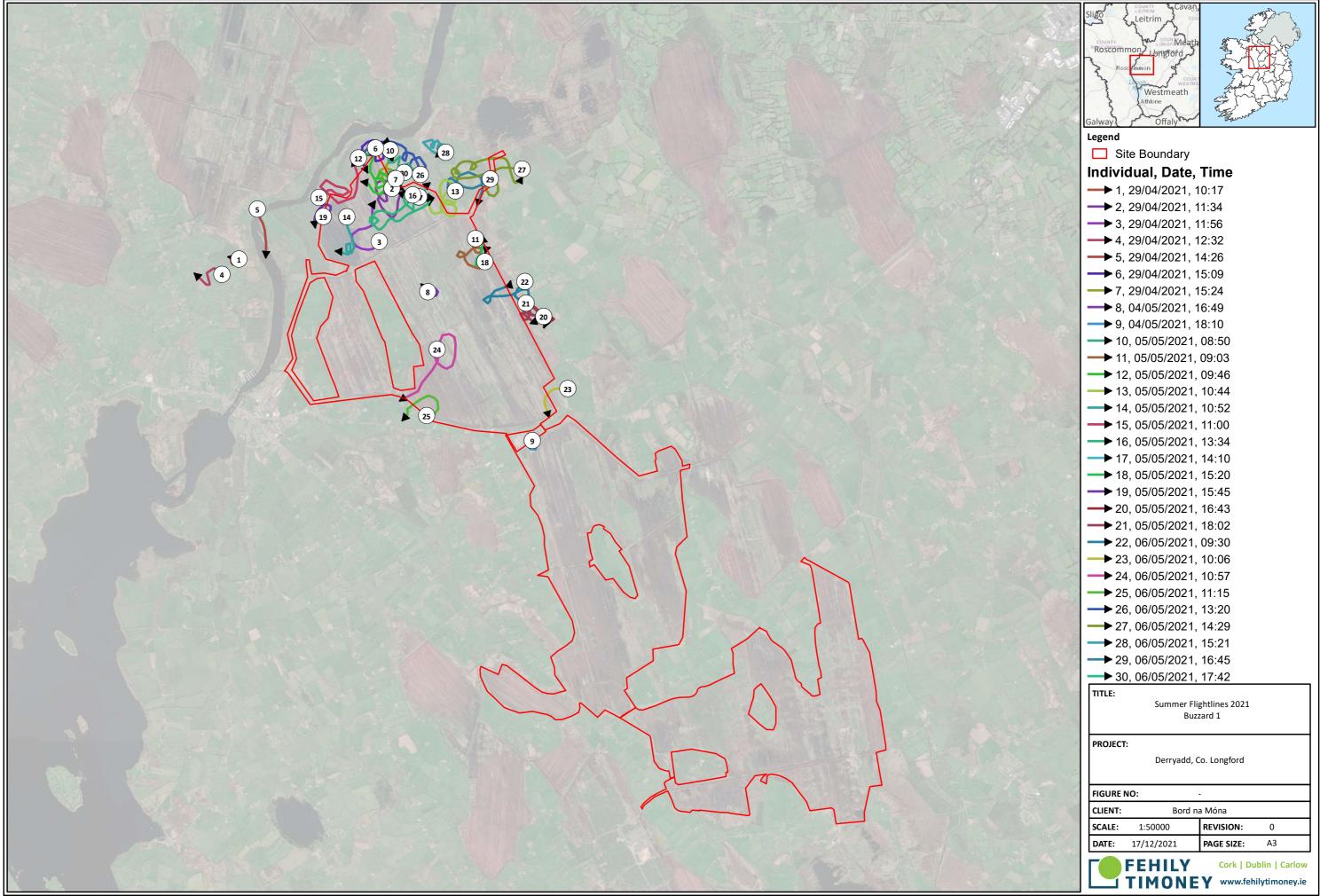


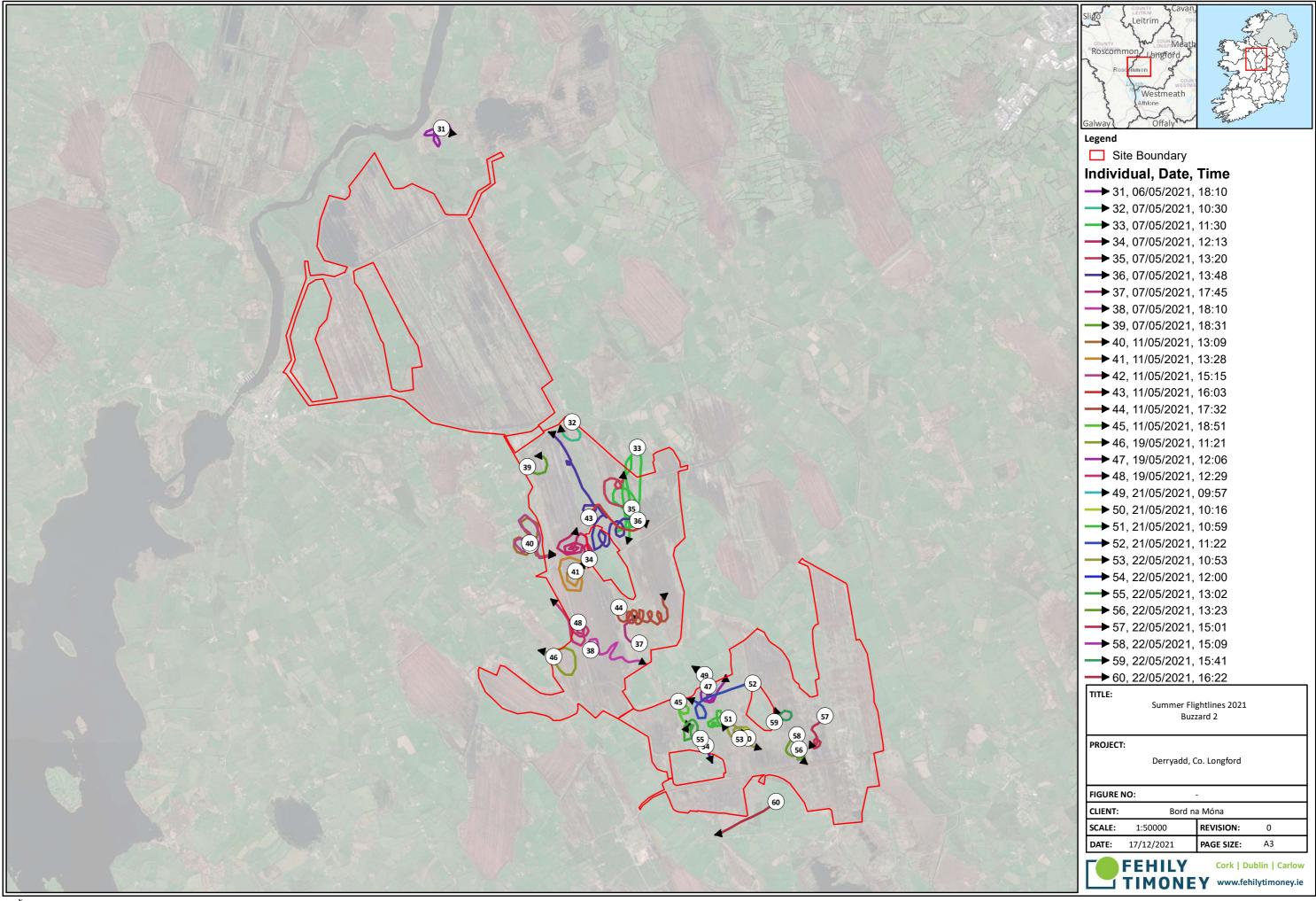


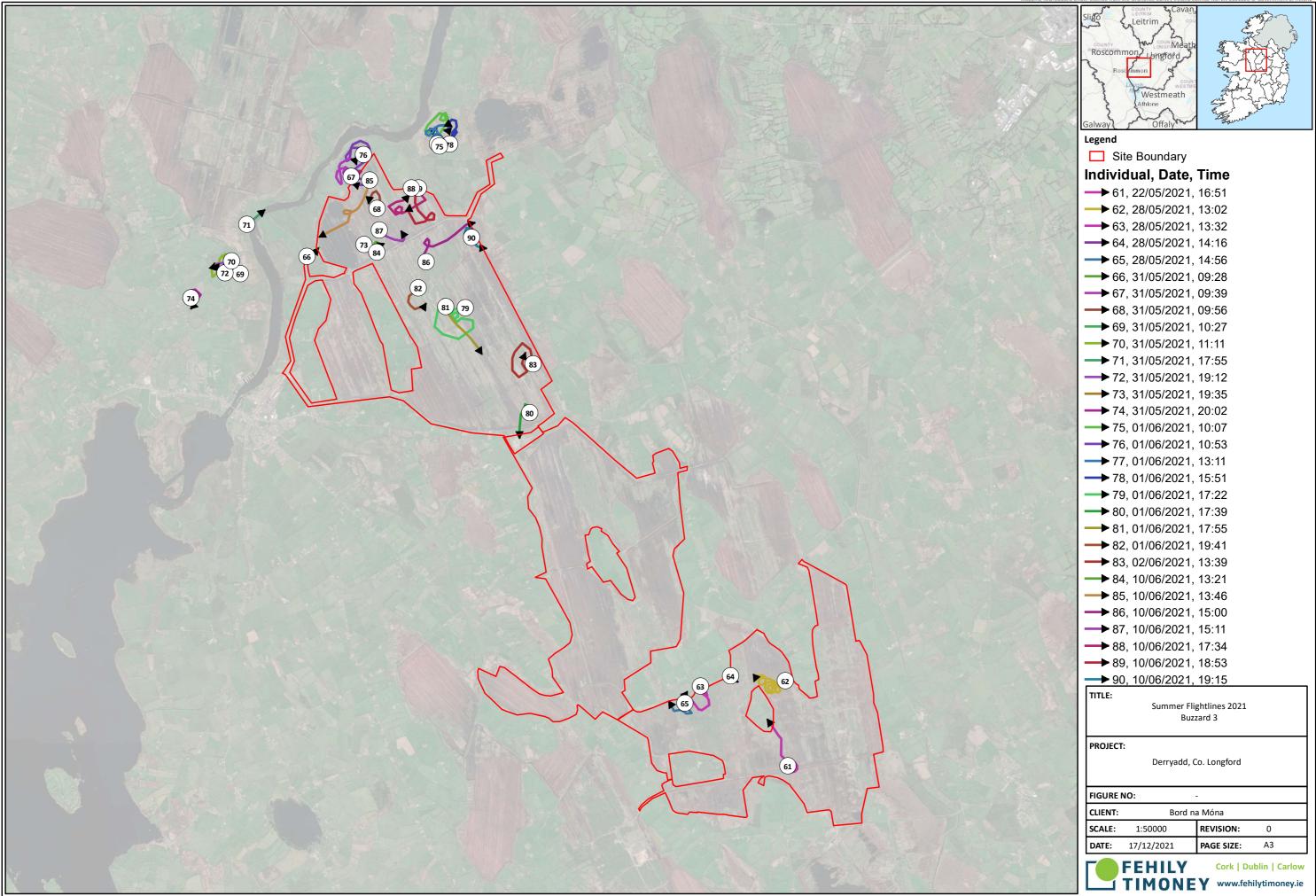
W E 0 0.5 1 2



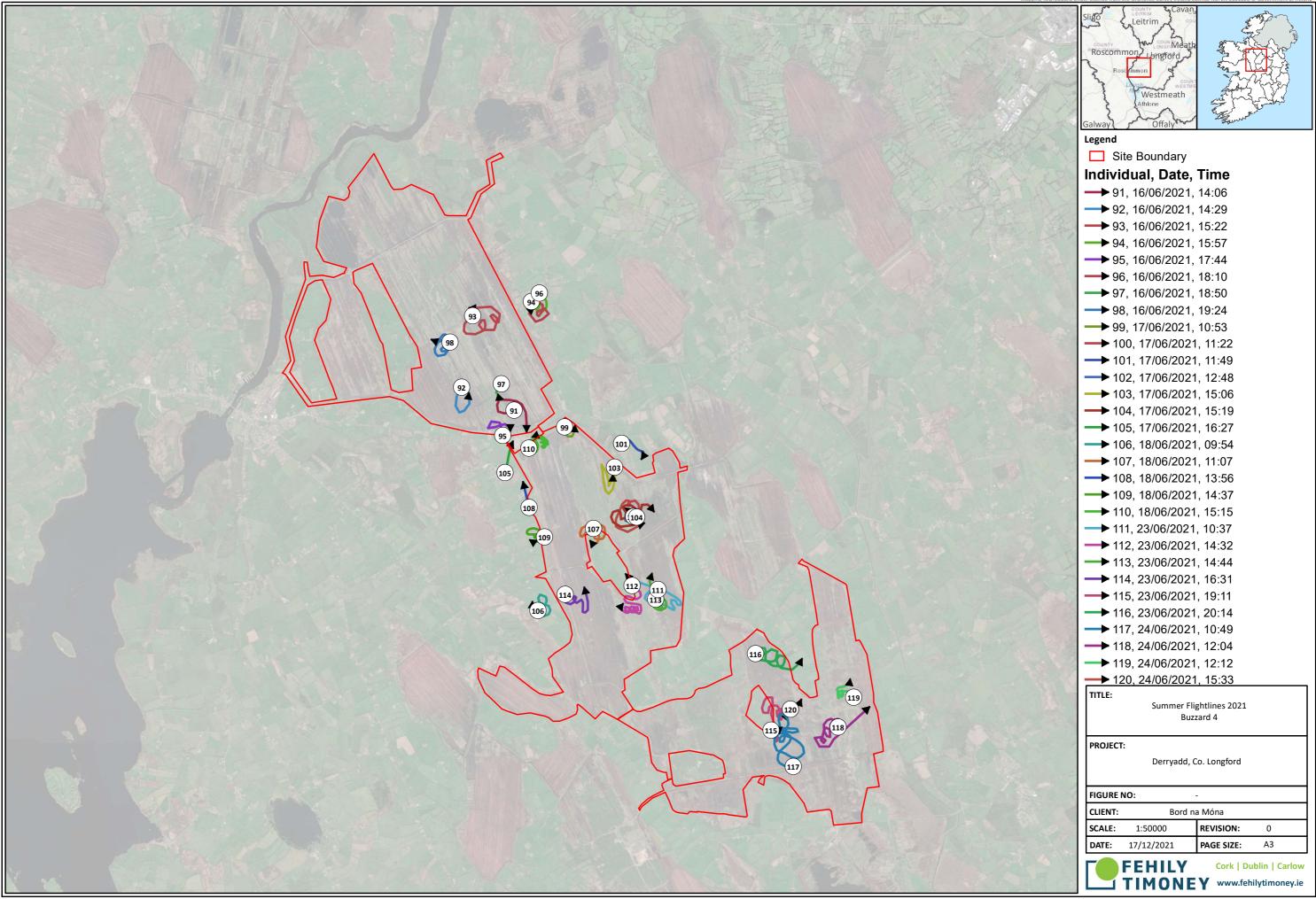


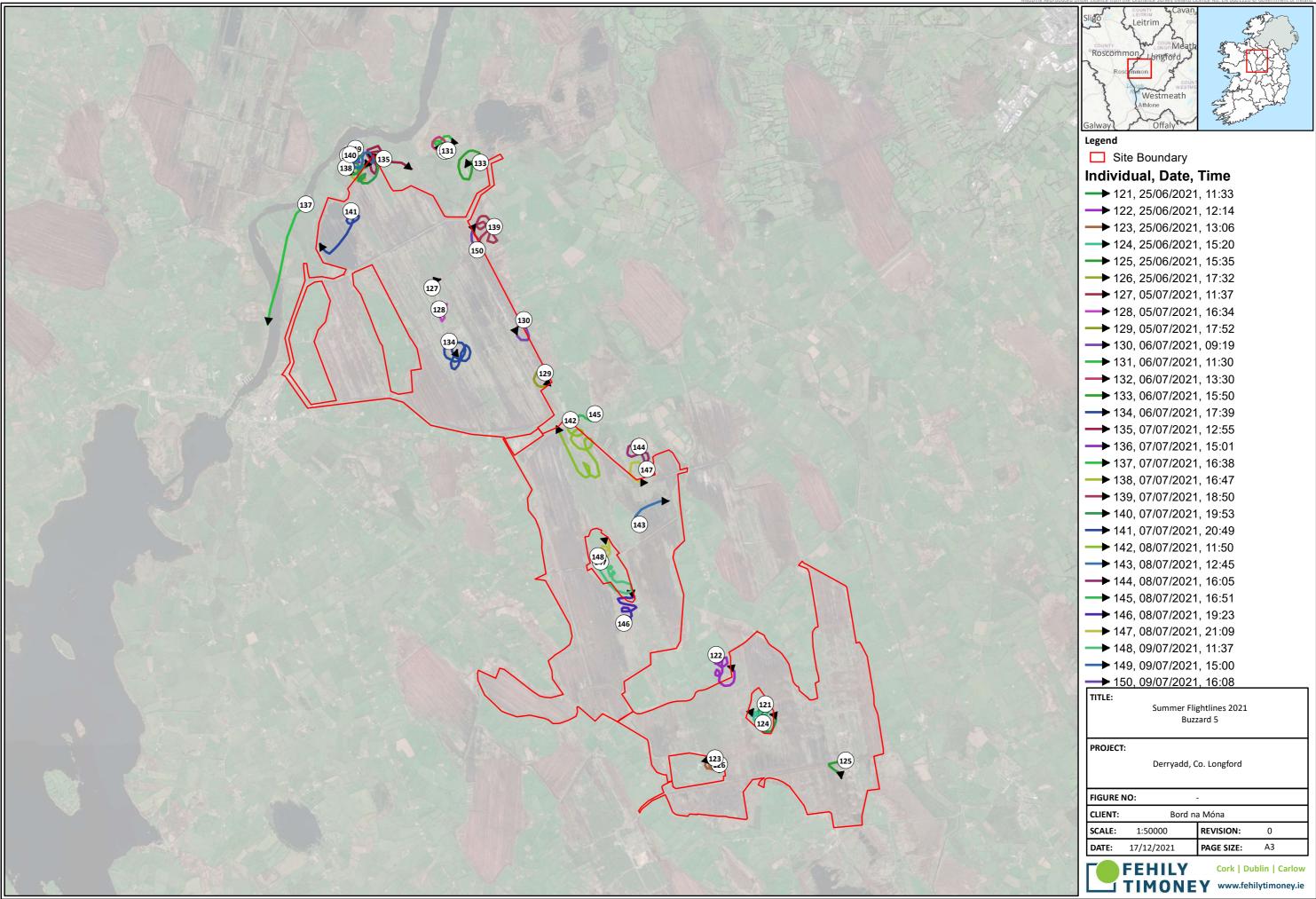


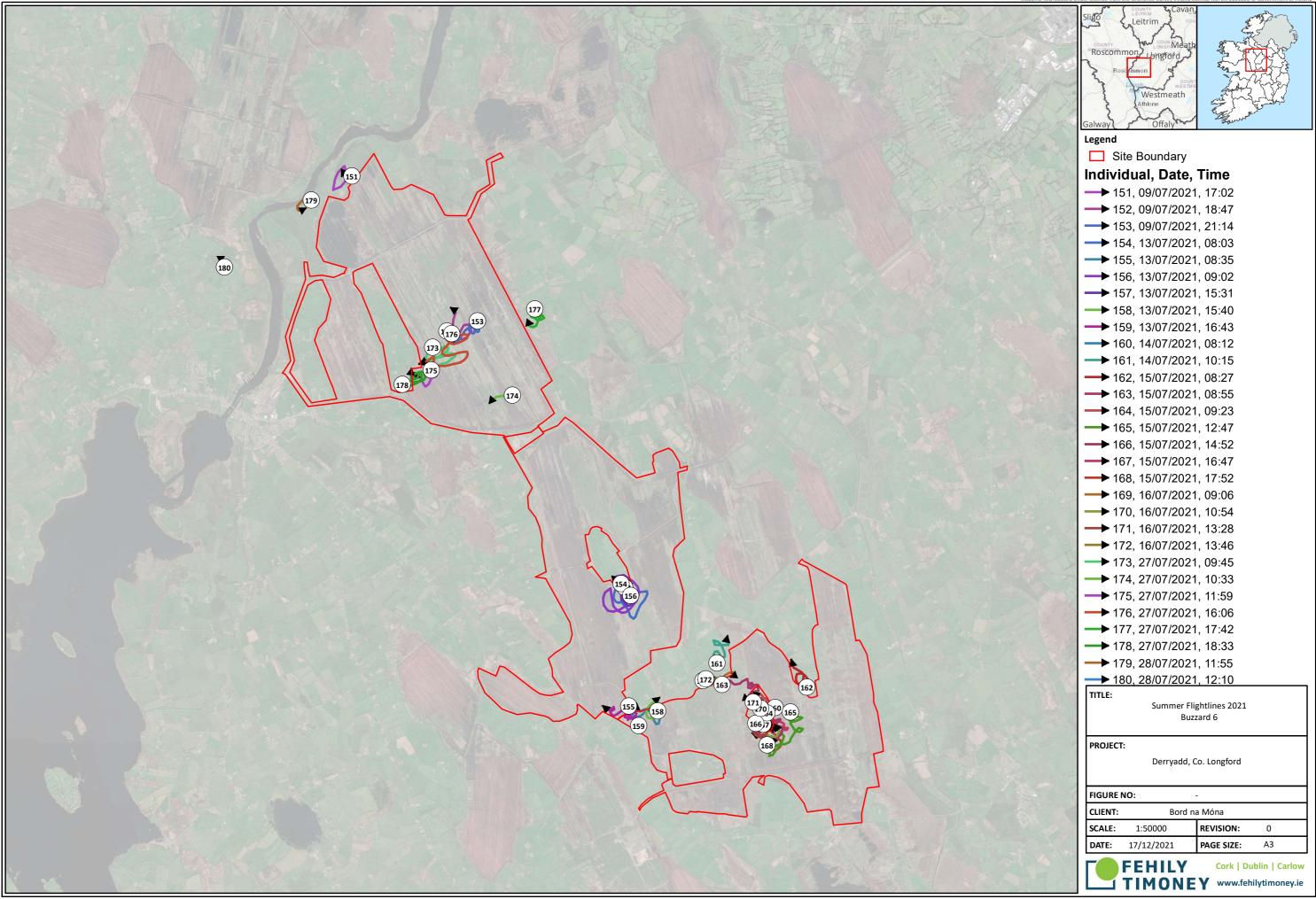


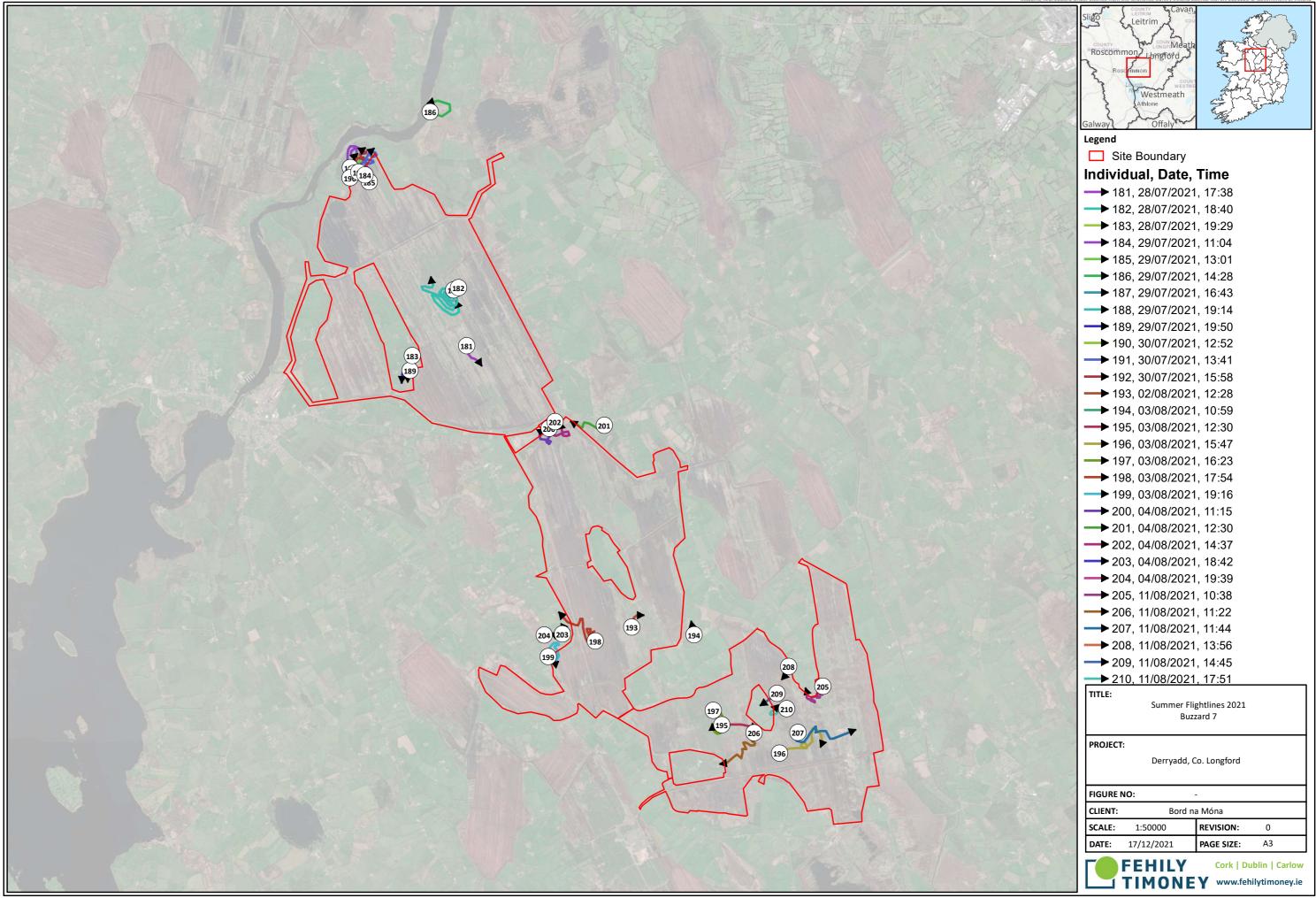


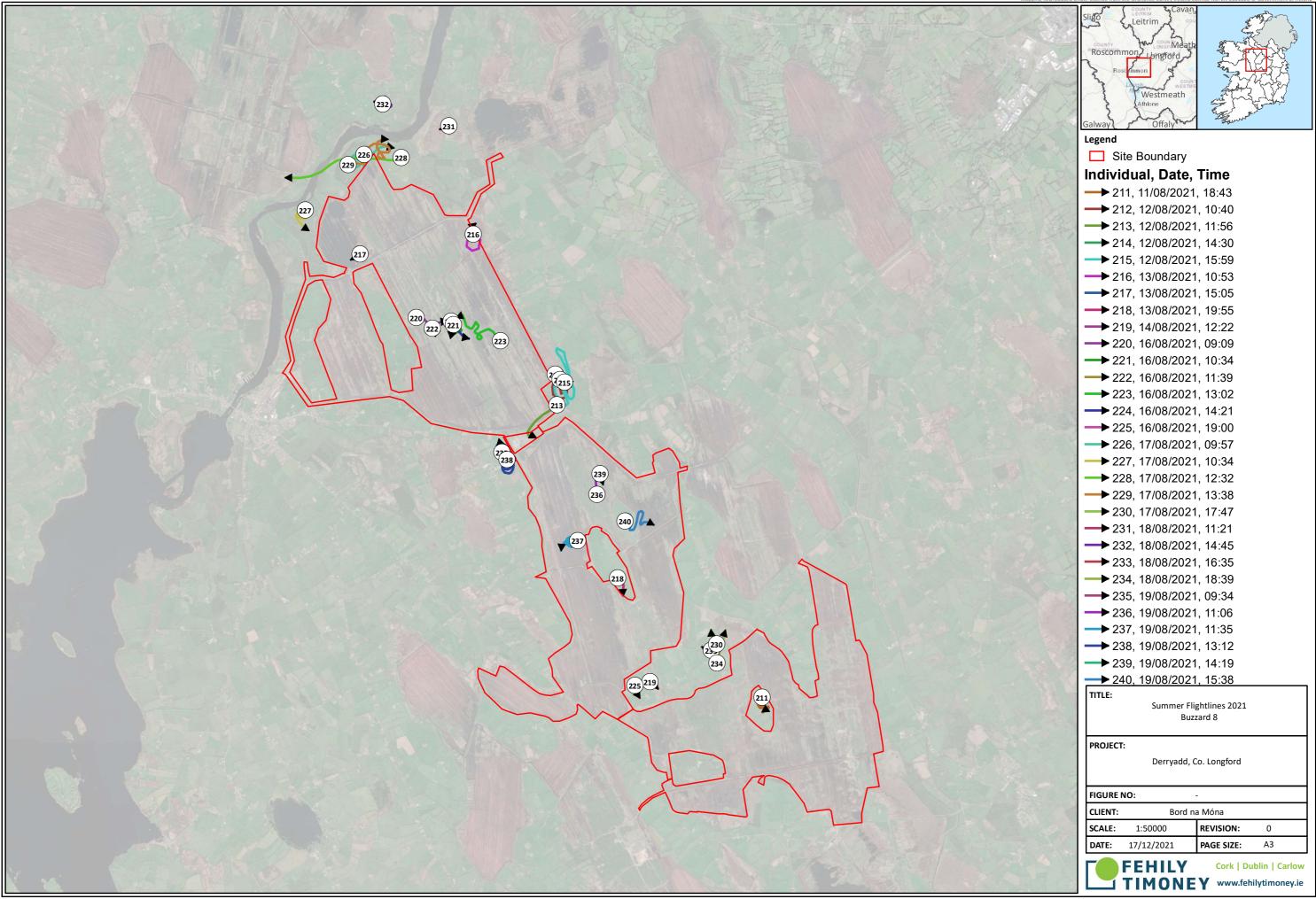
W E 0 0.5 1 2

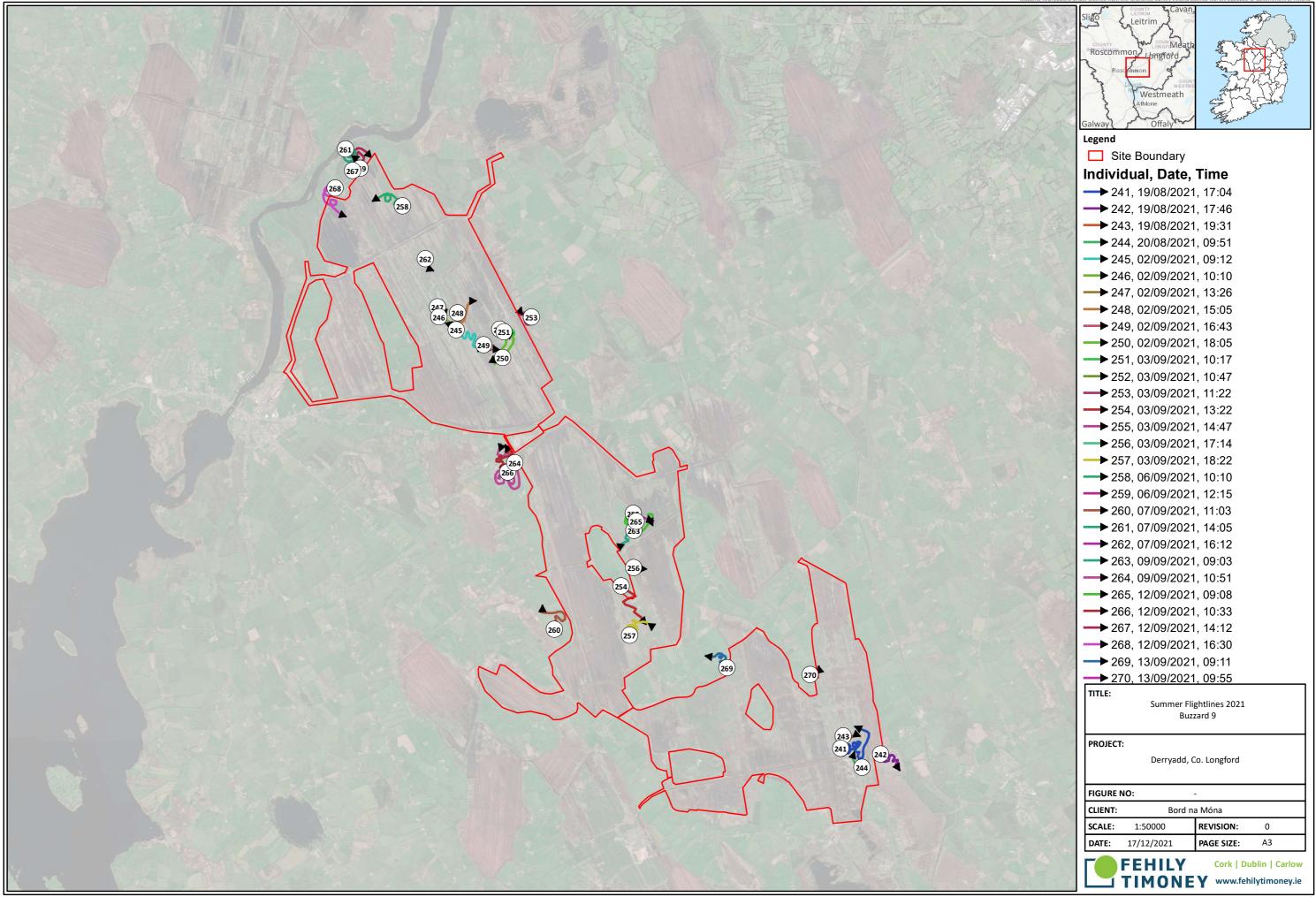


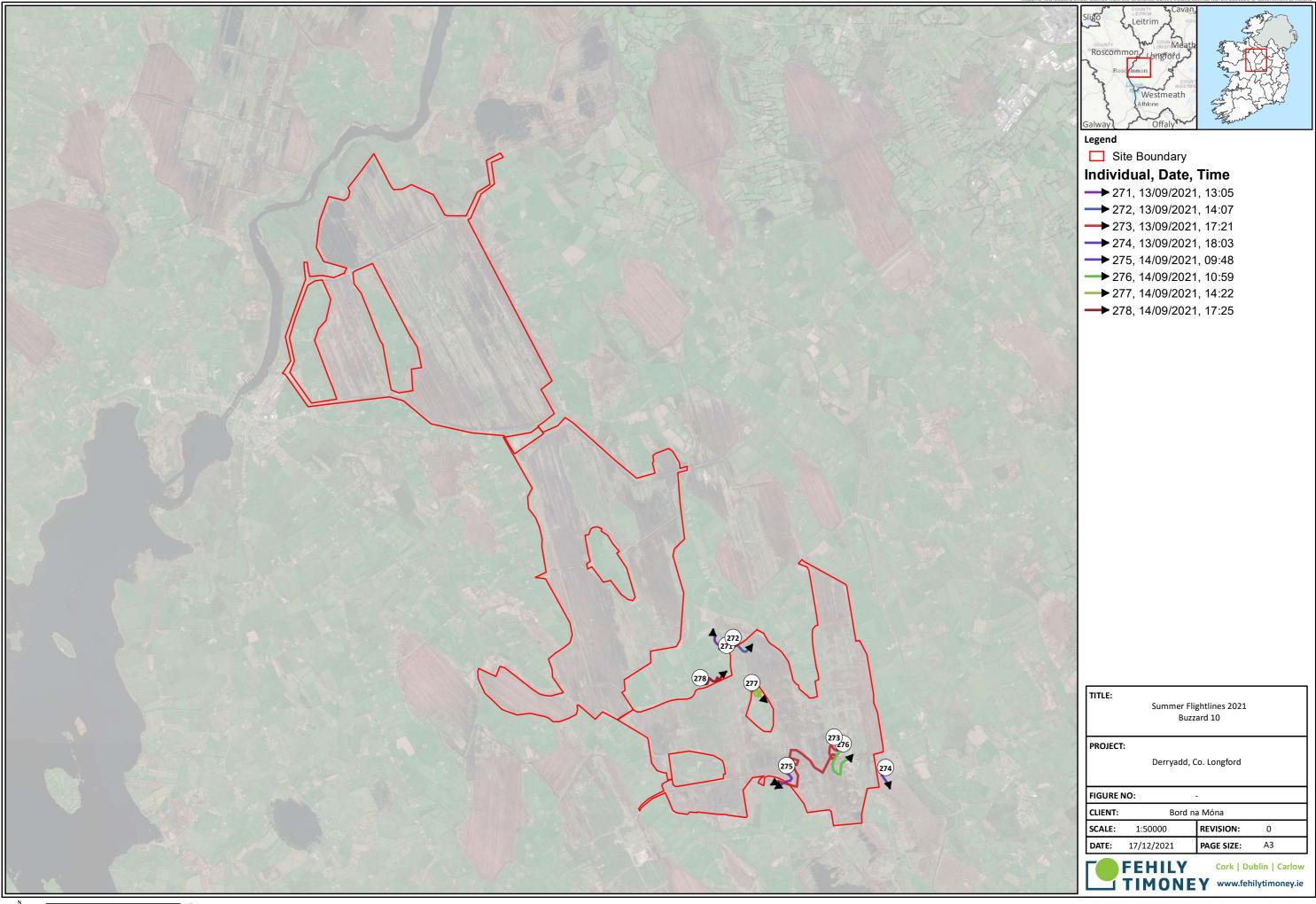


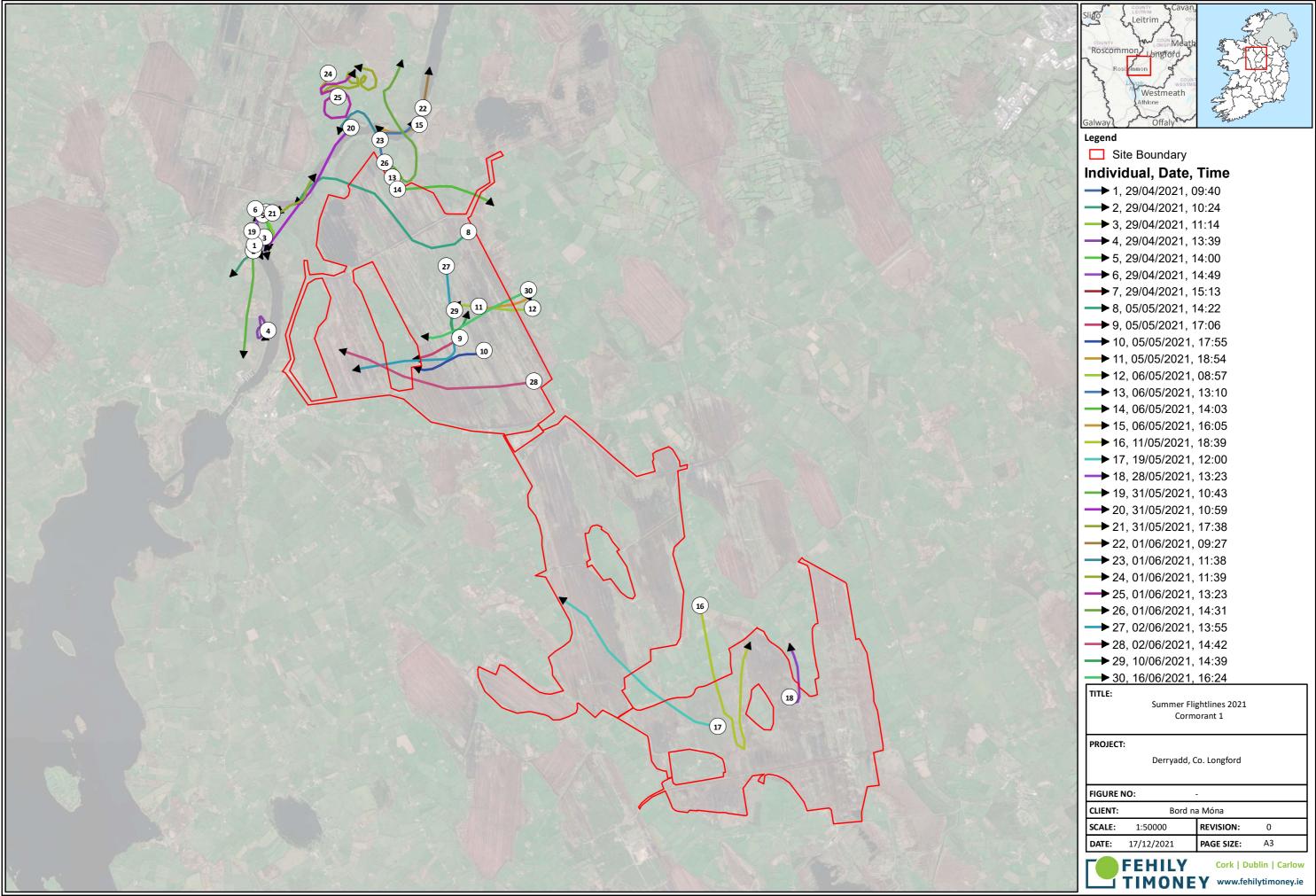


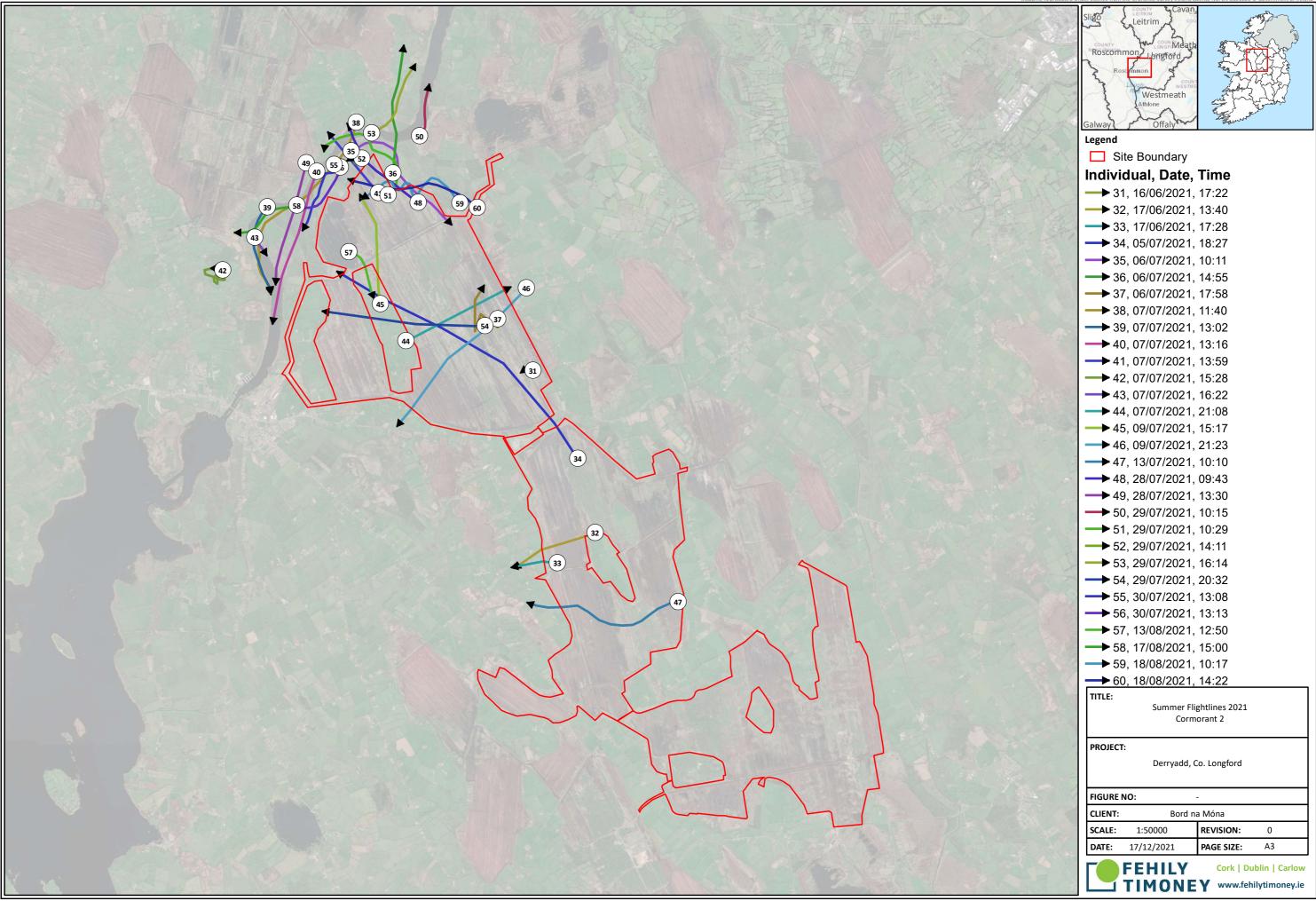




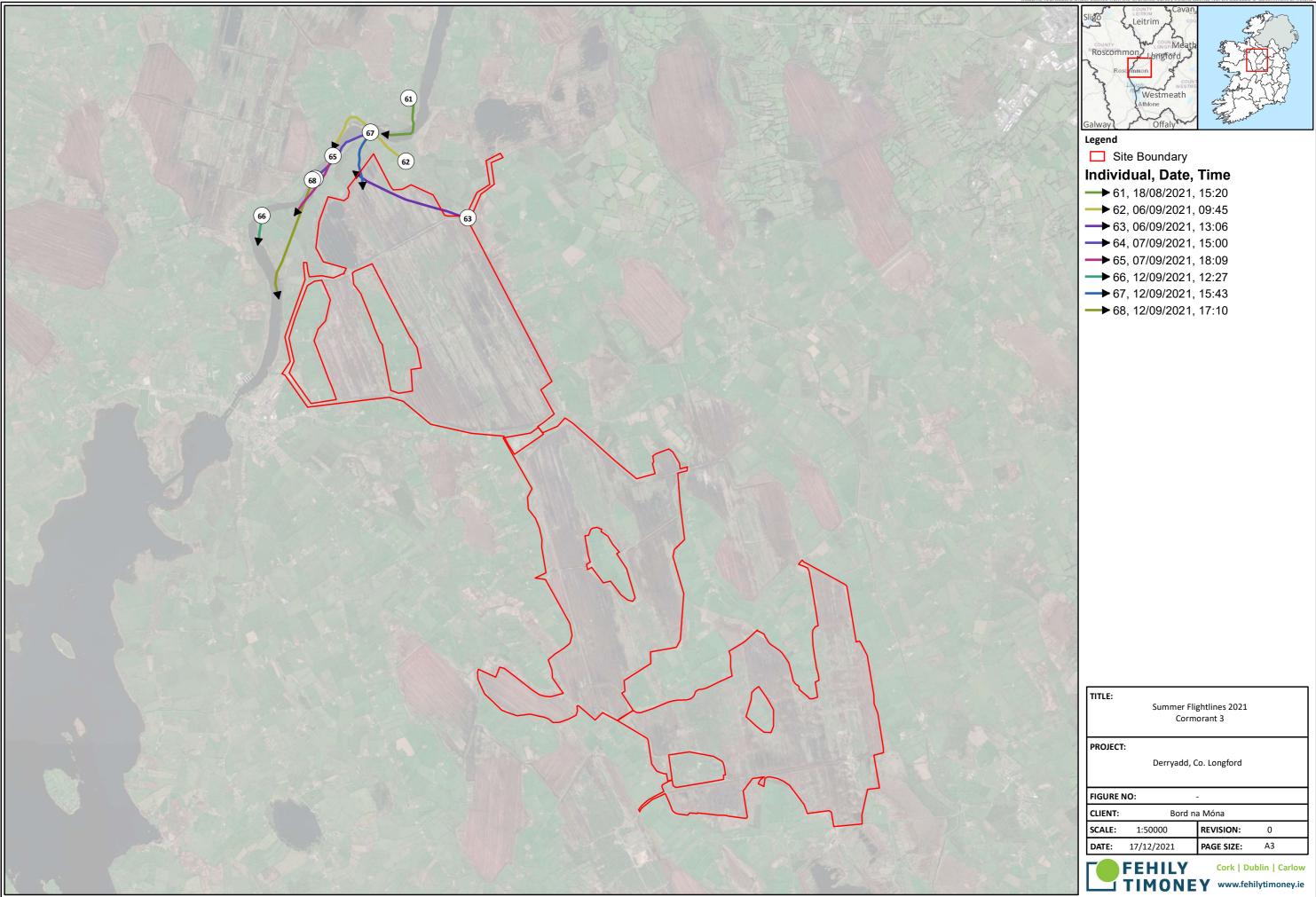


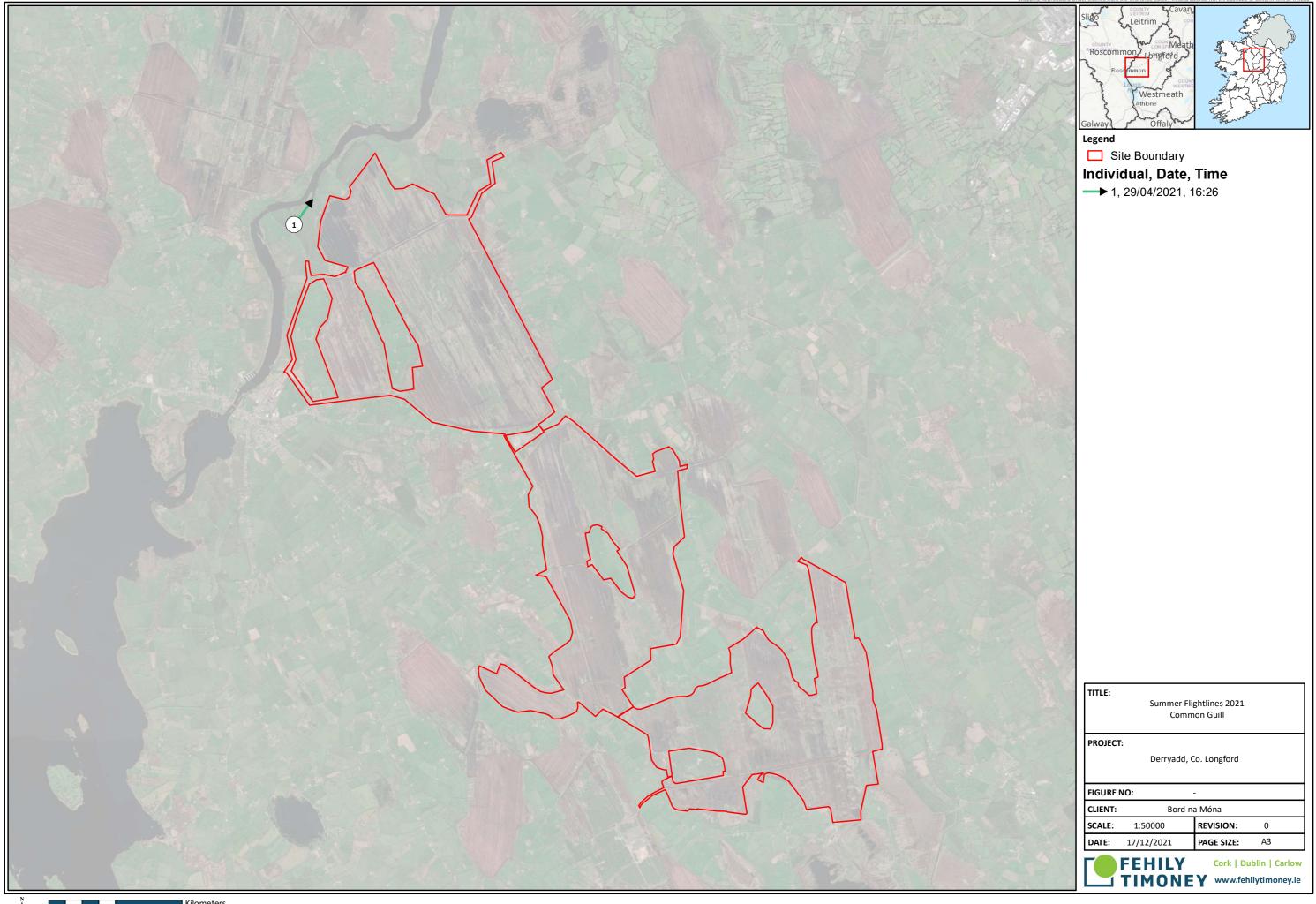


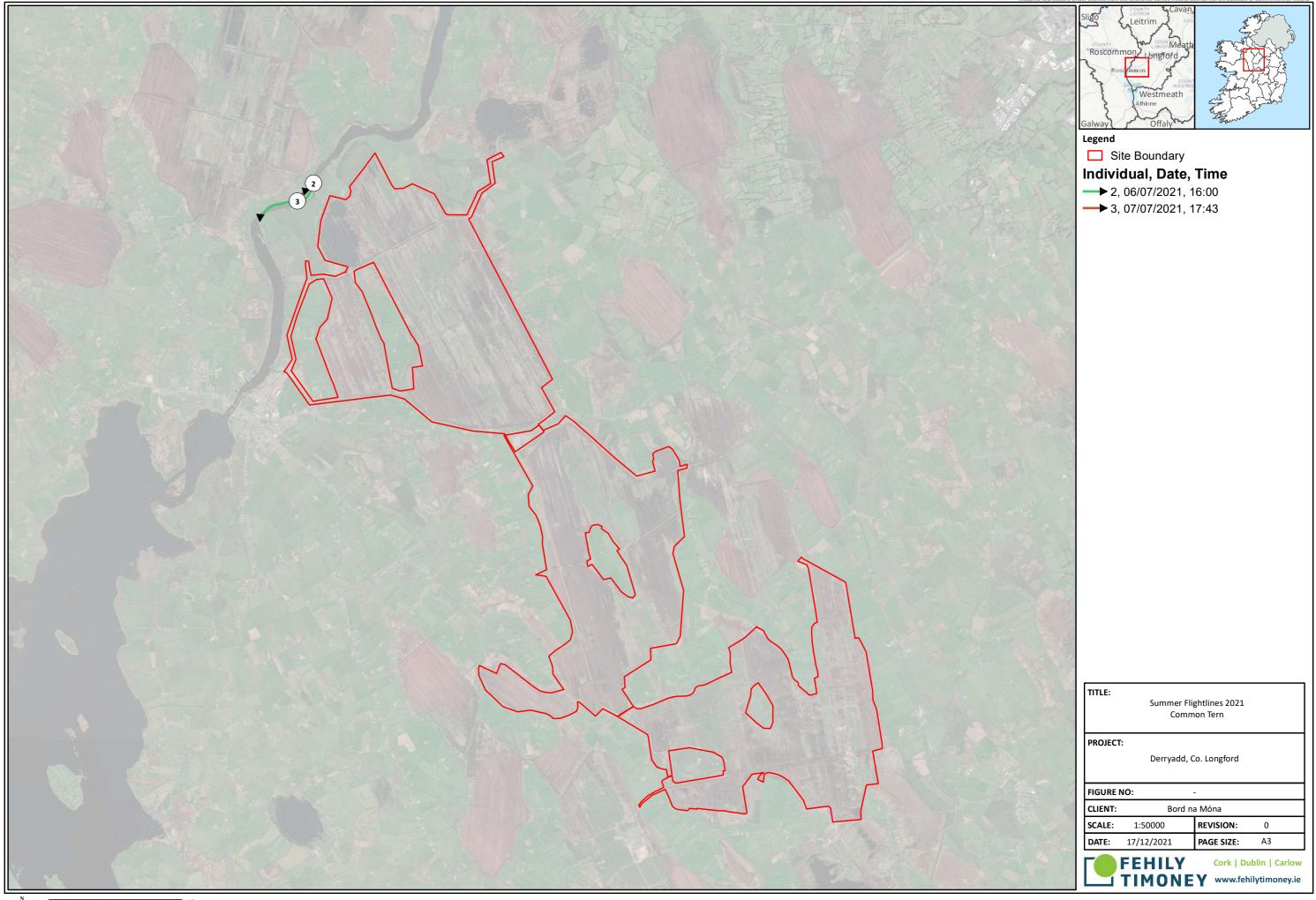


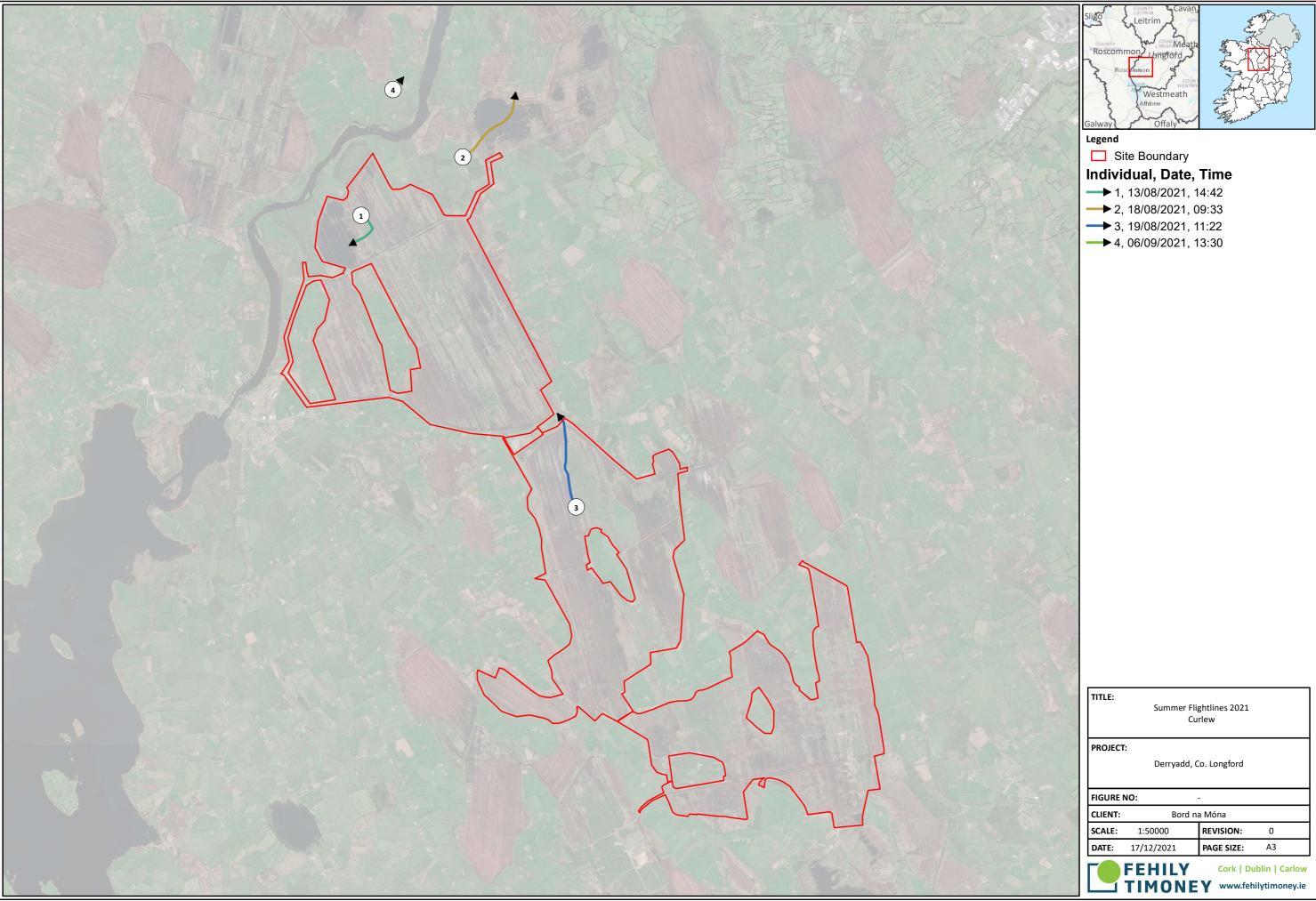


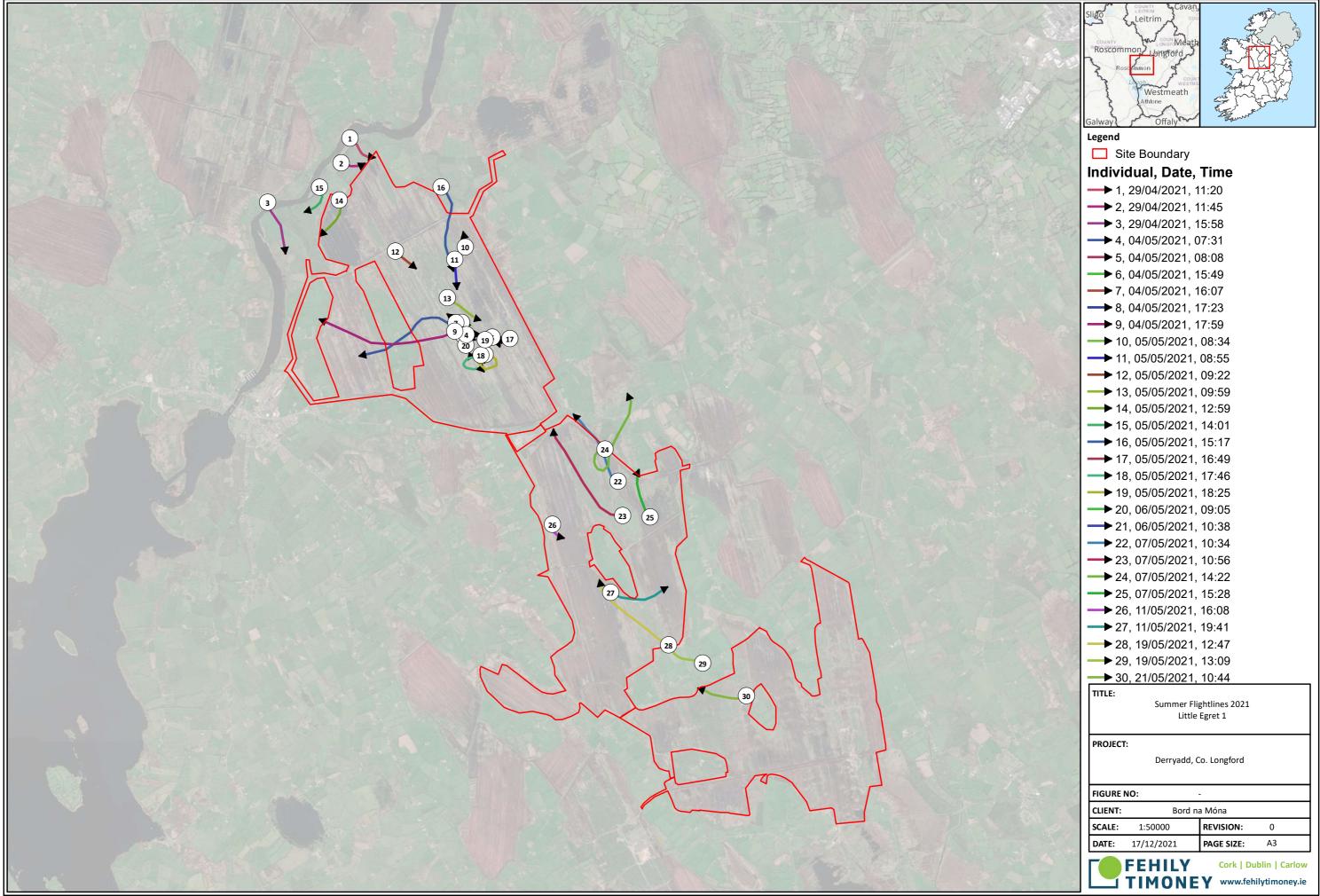
W E 0 0.5 1 2

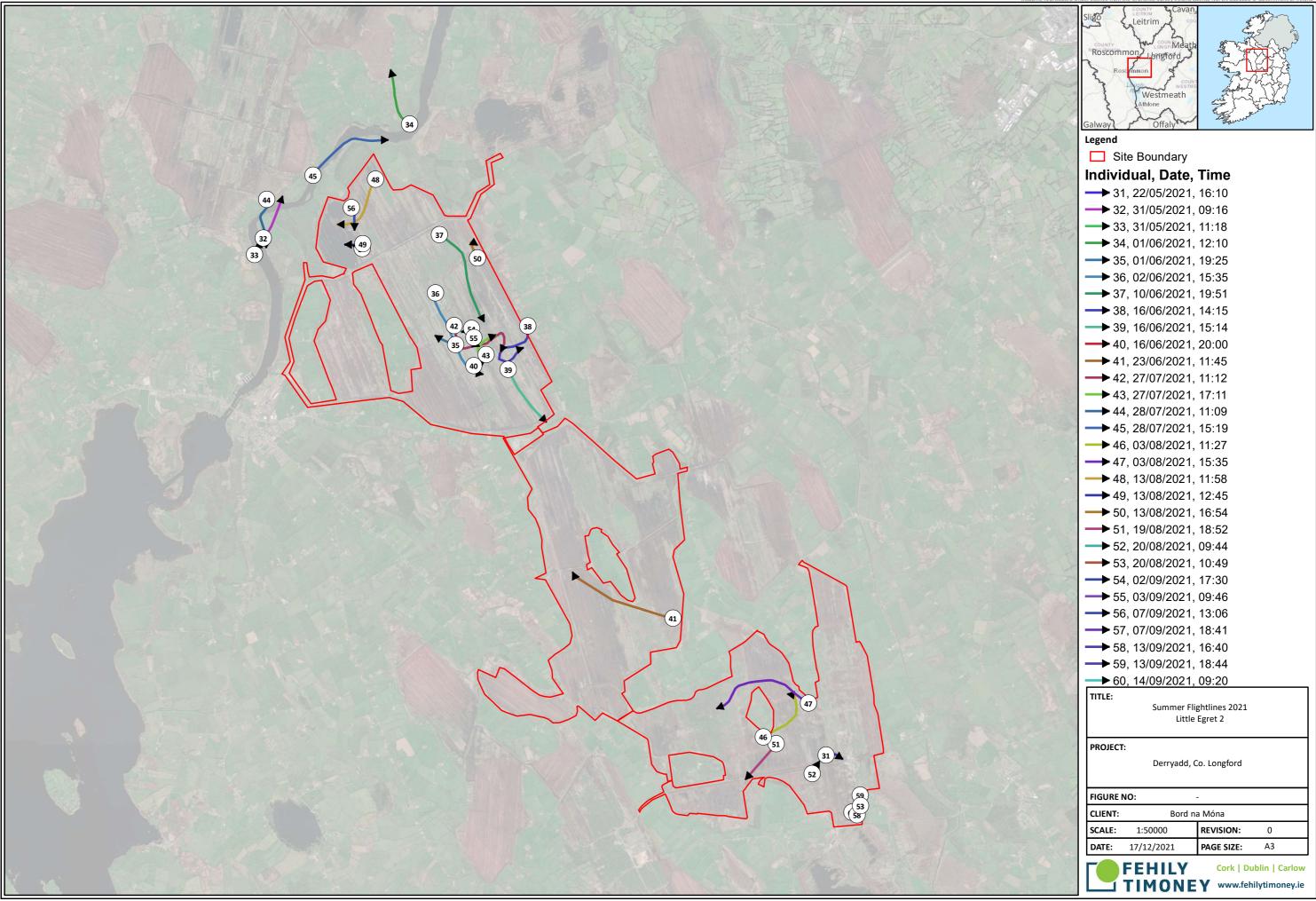


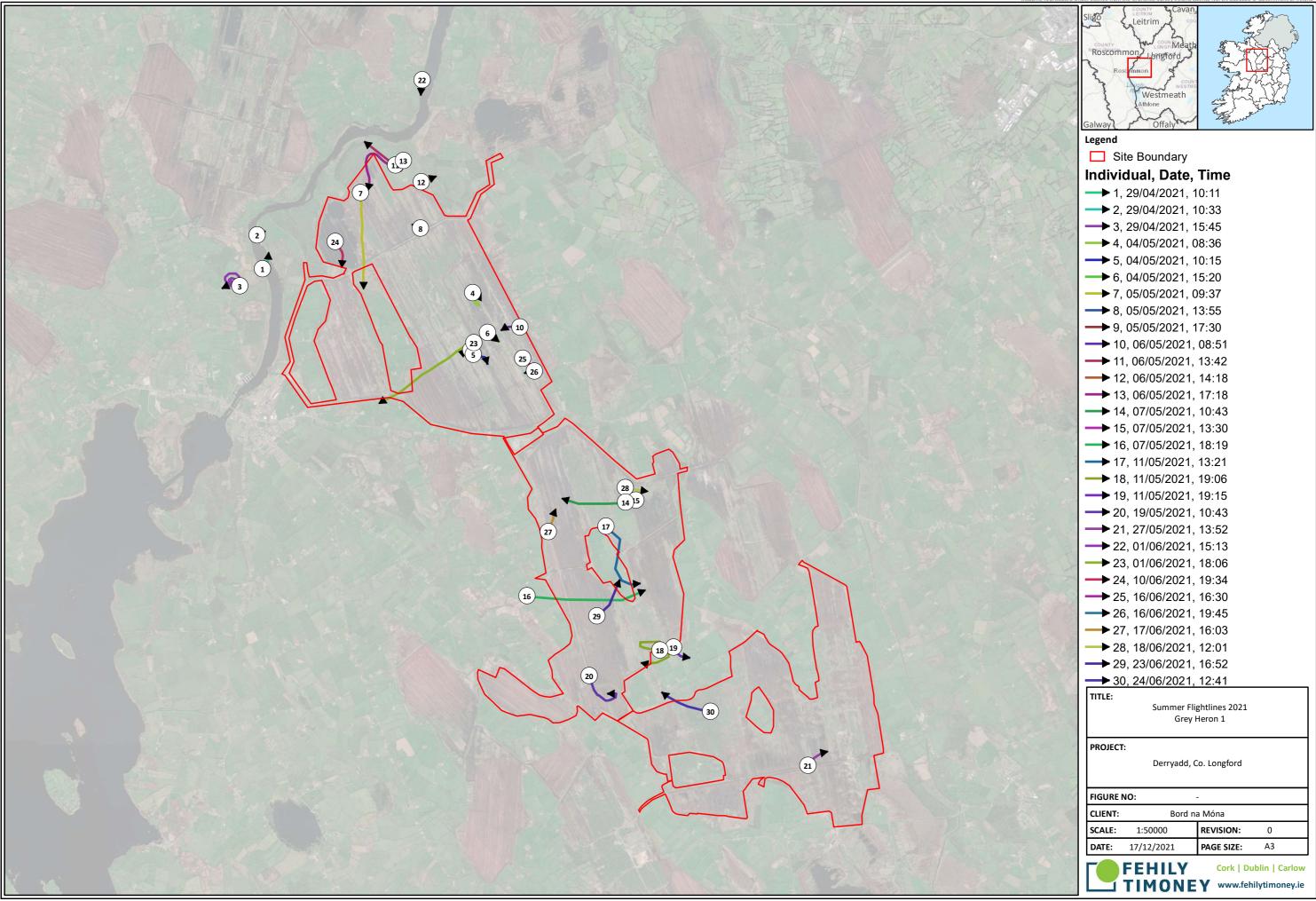




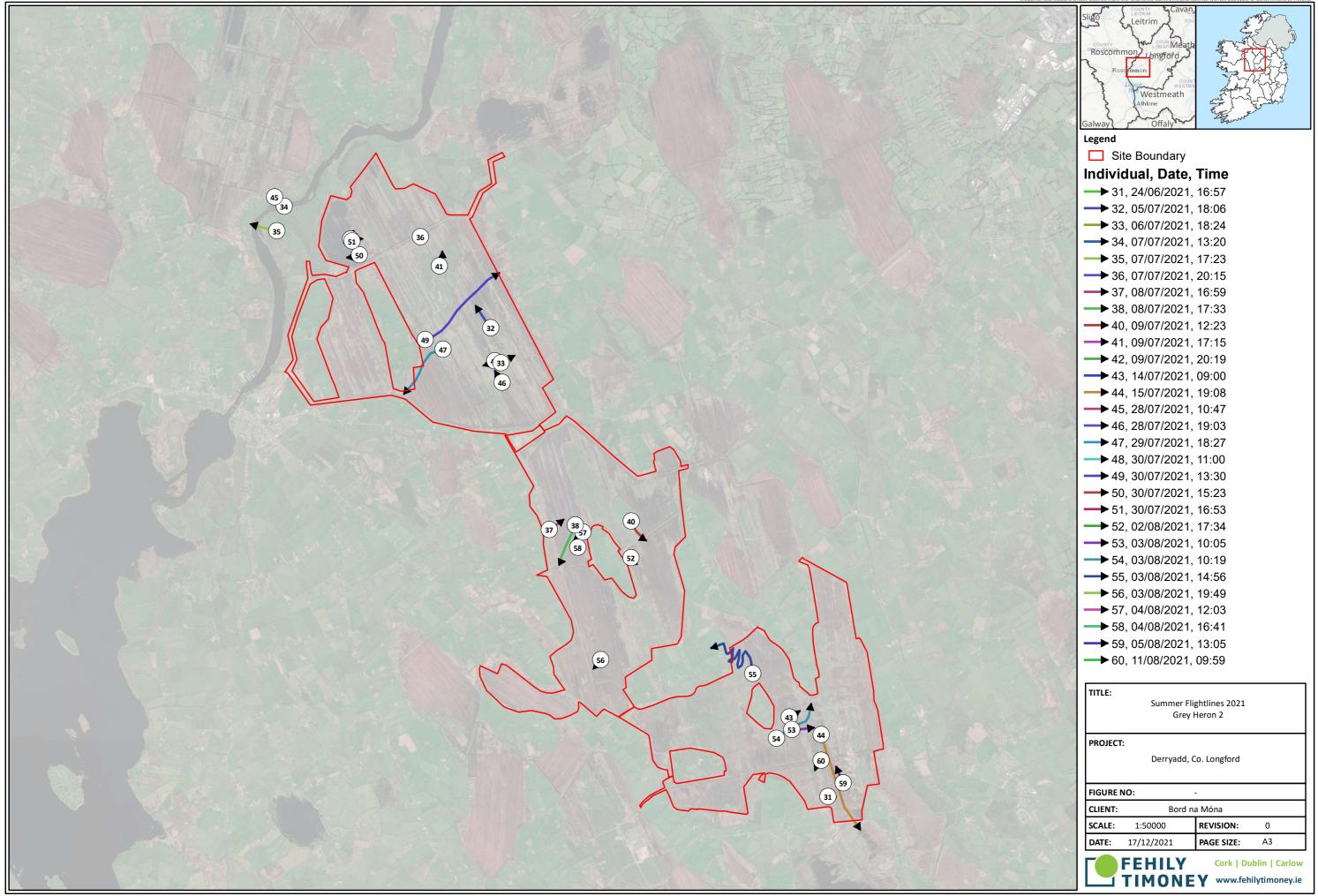




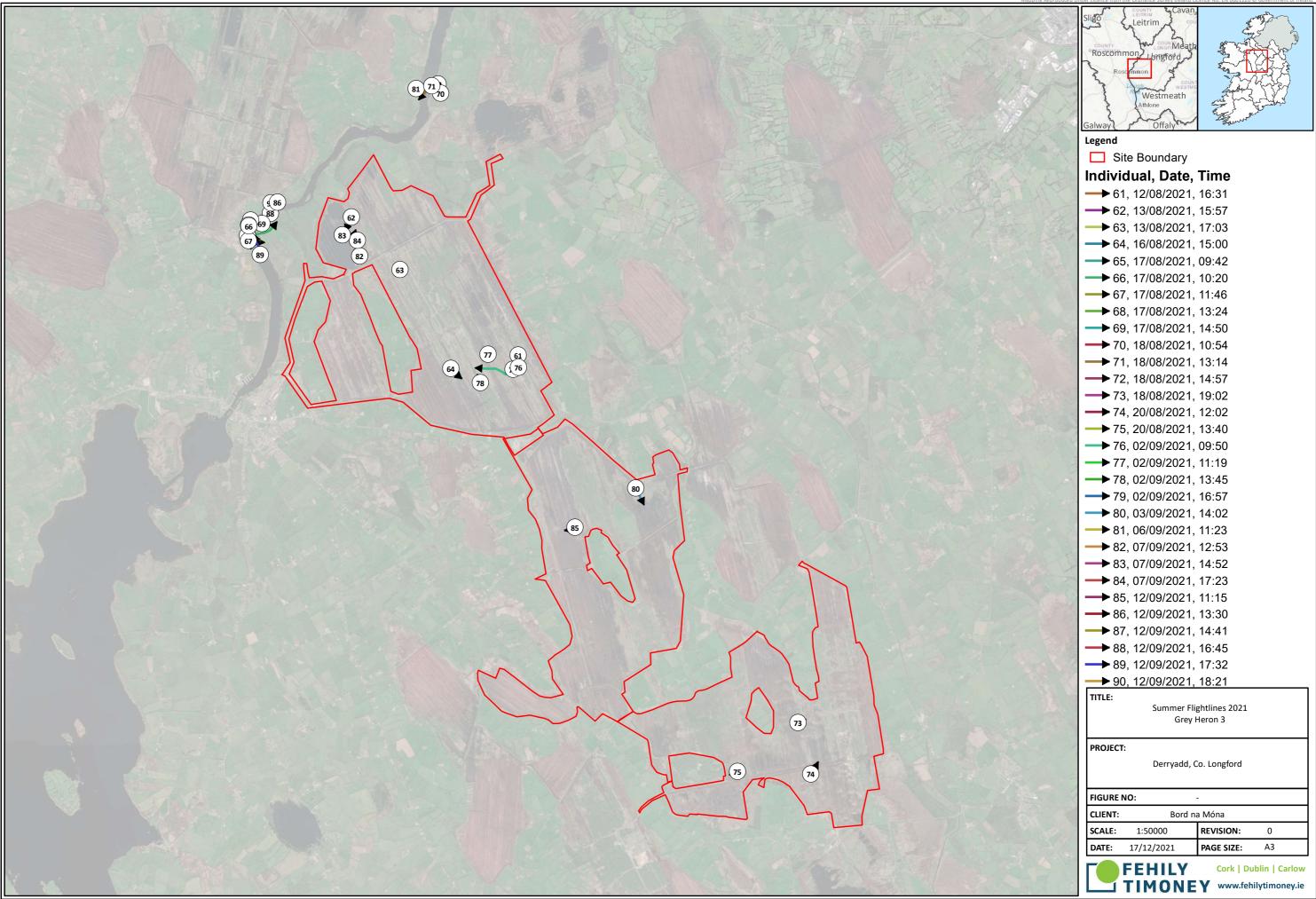


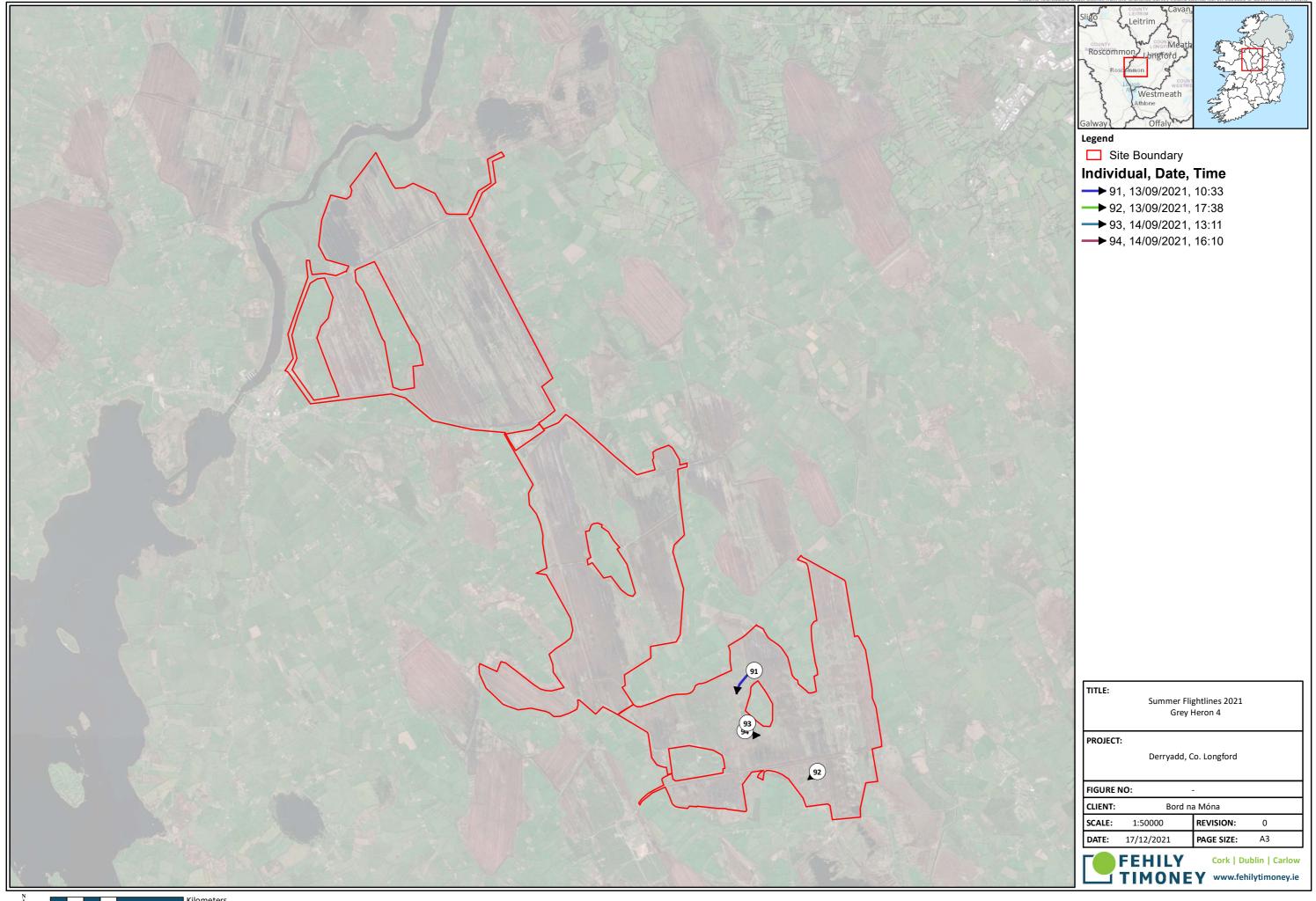


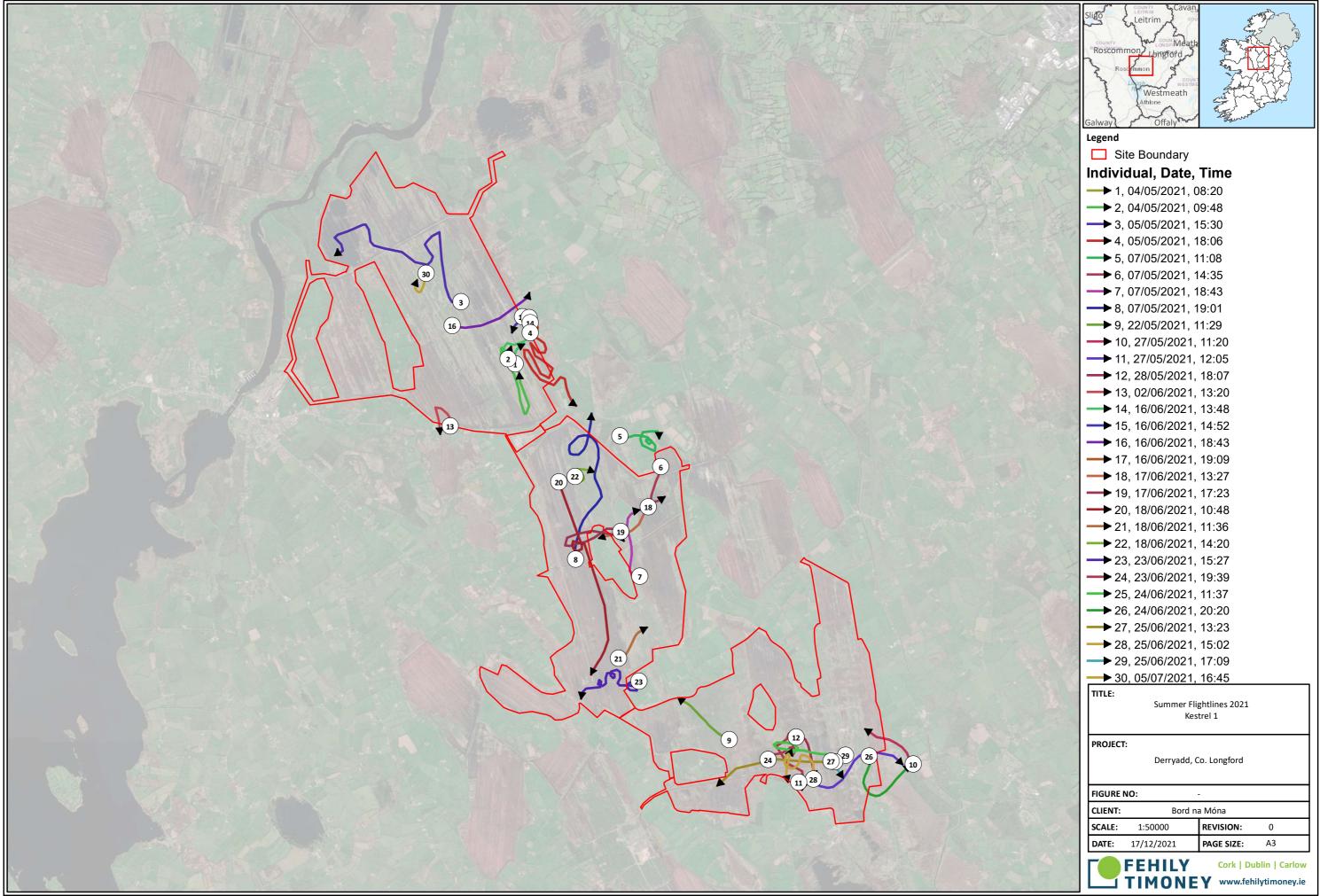
Kilometer 0 0.5 1 2



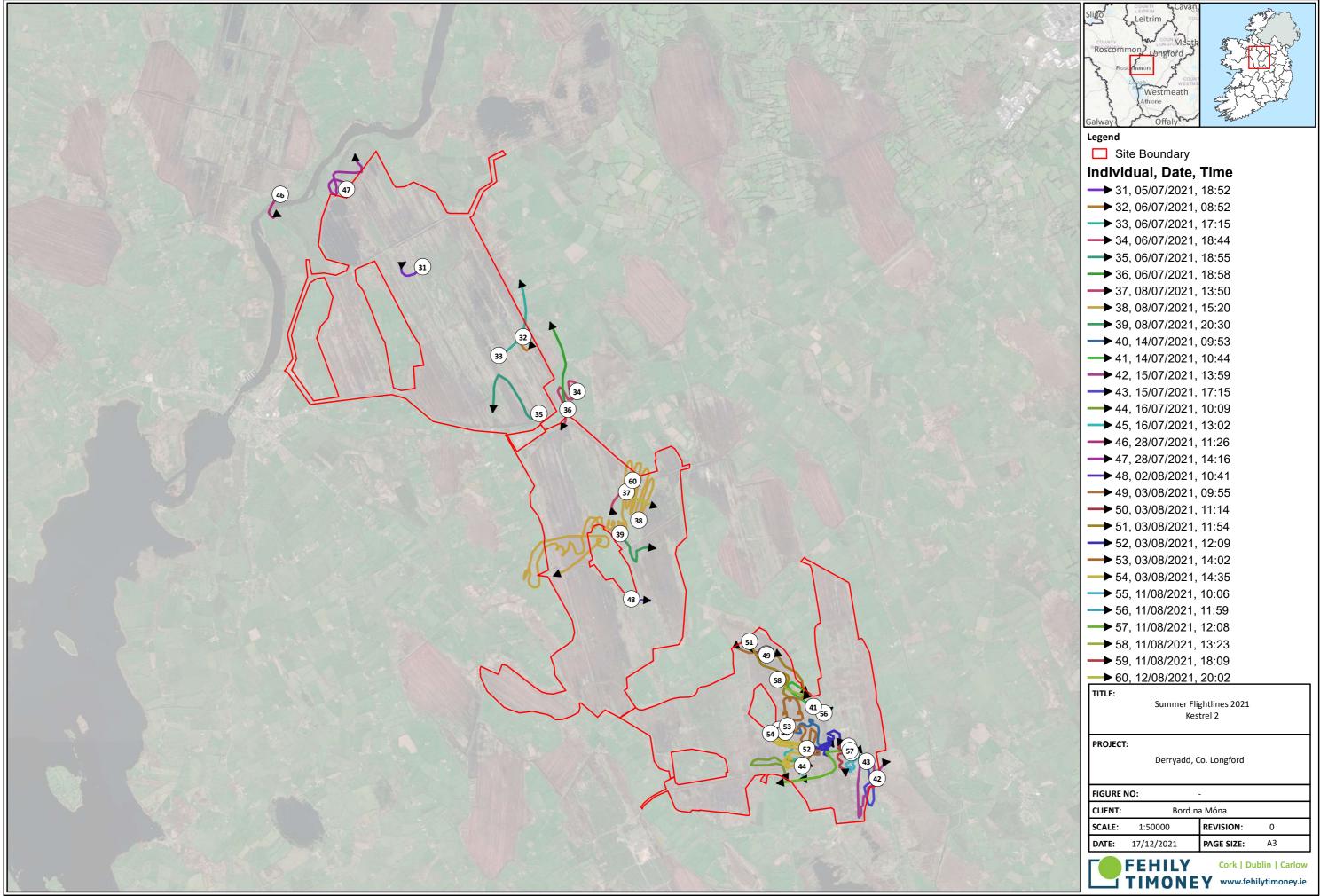
W Kilometer 0 0.5 1 2



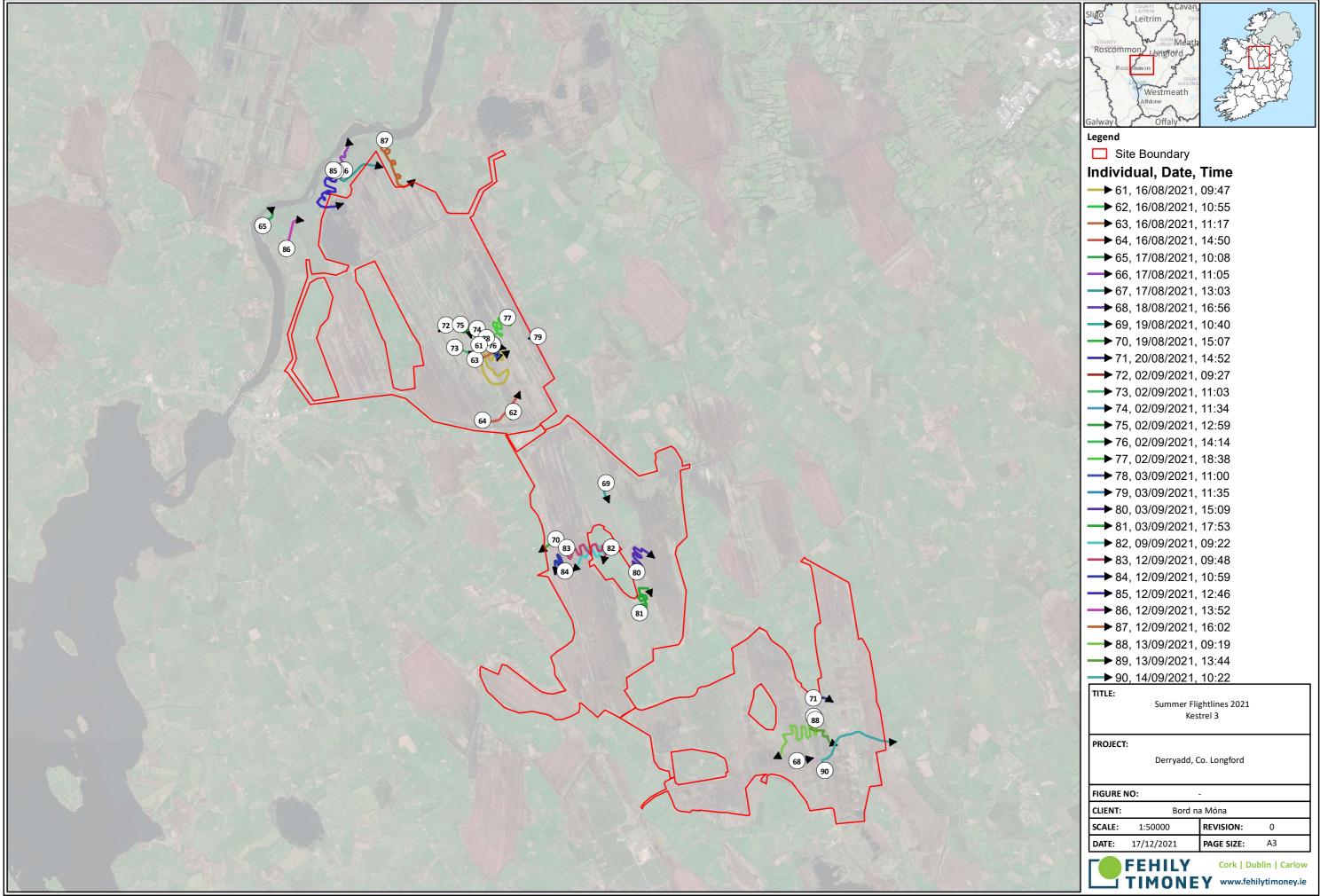


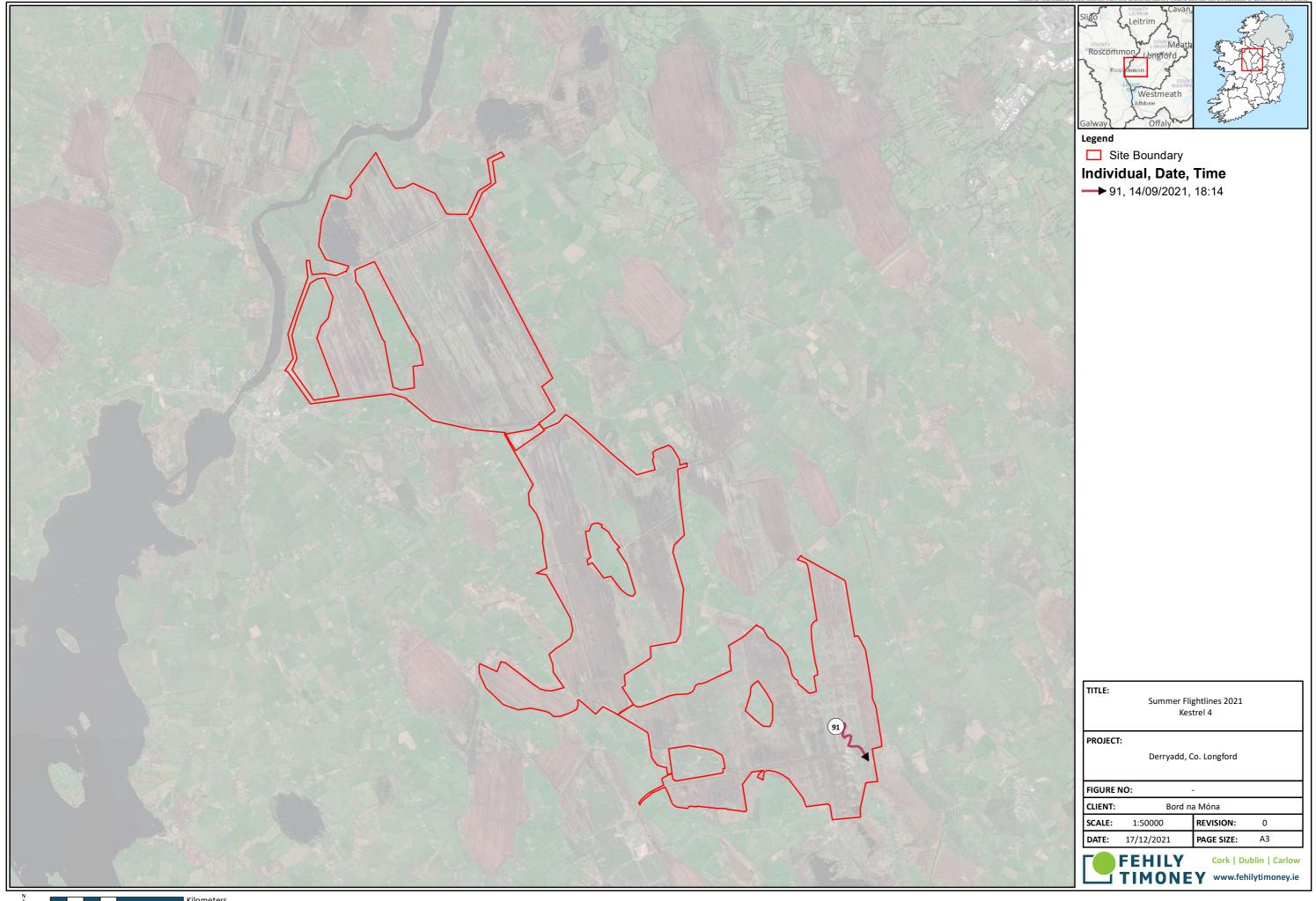


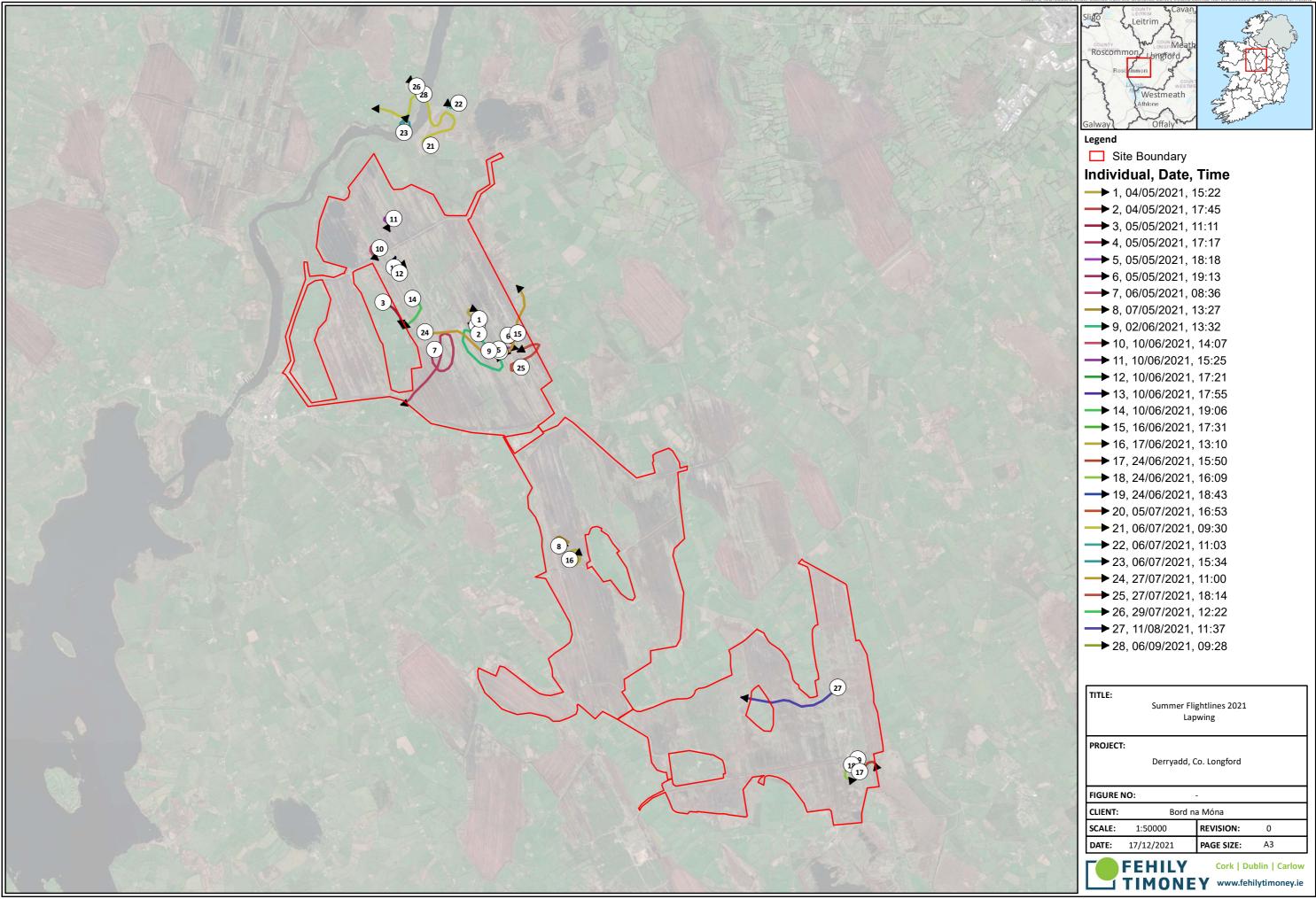
Kilometers

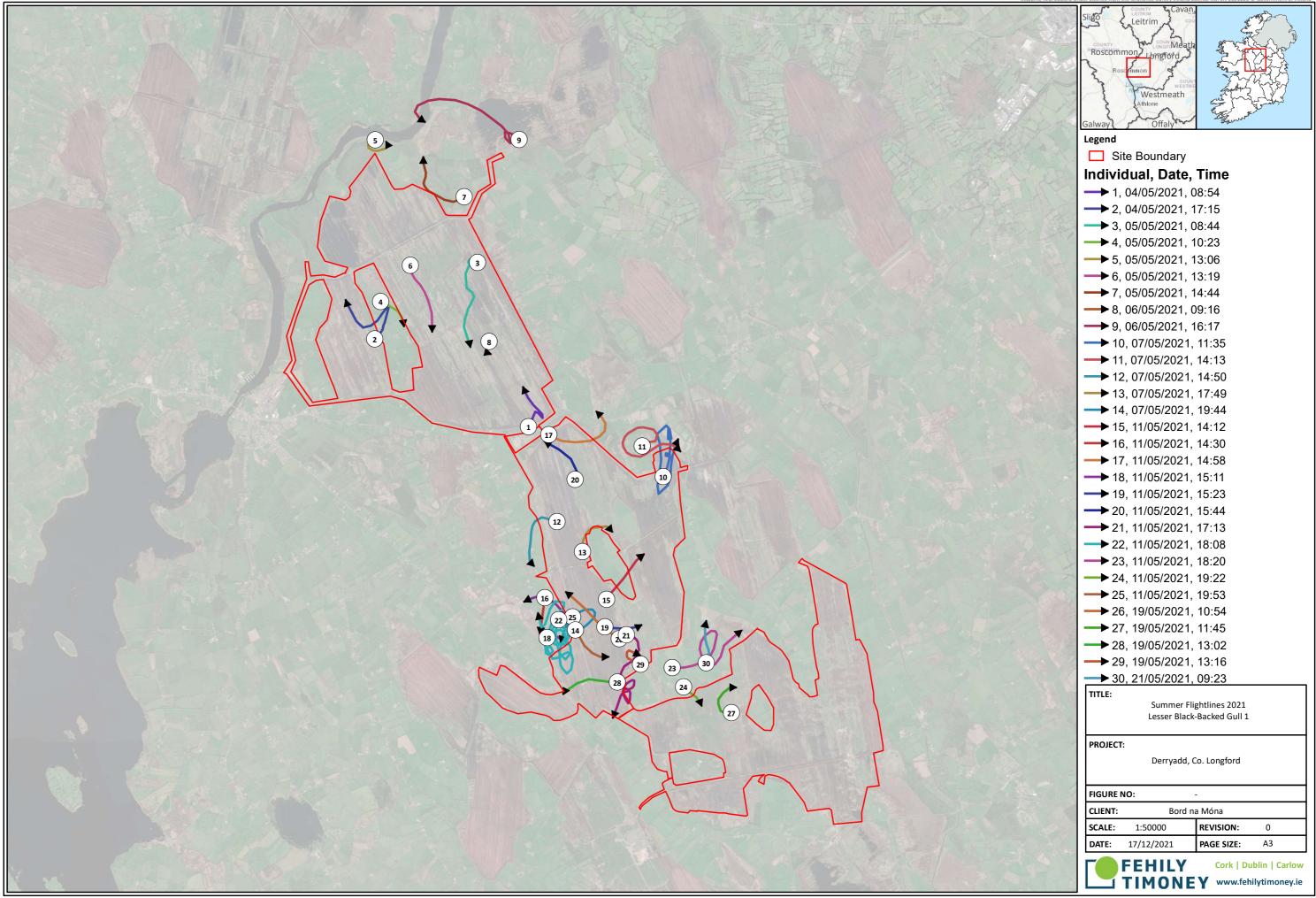


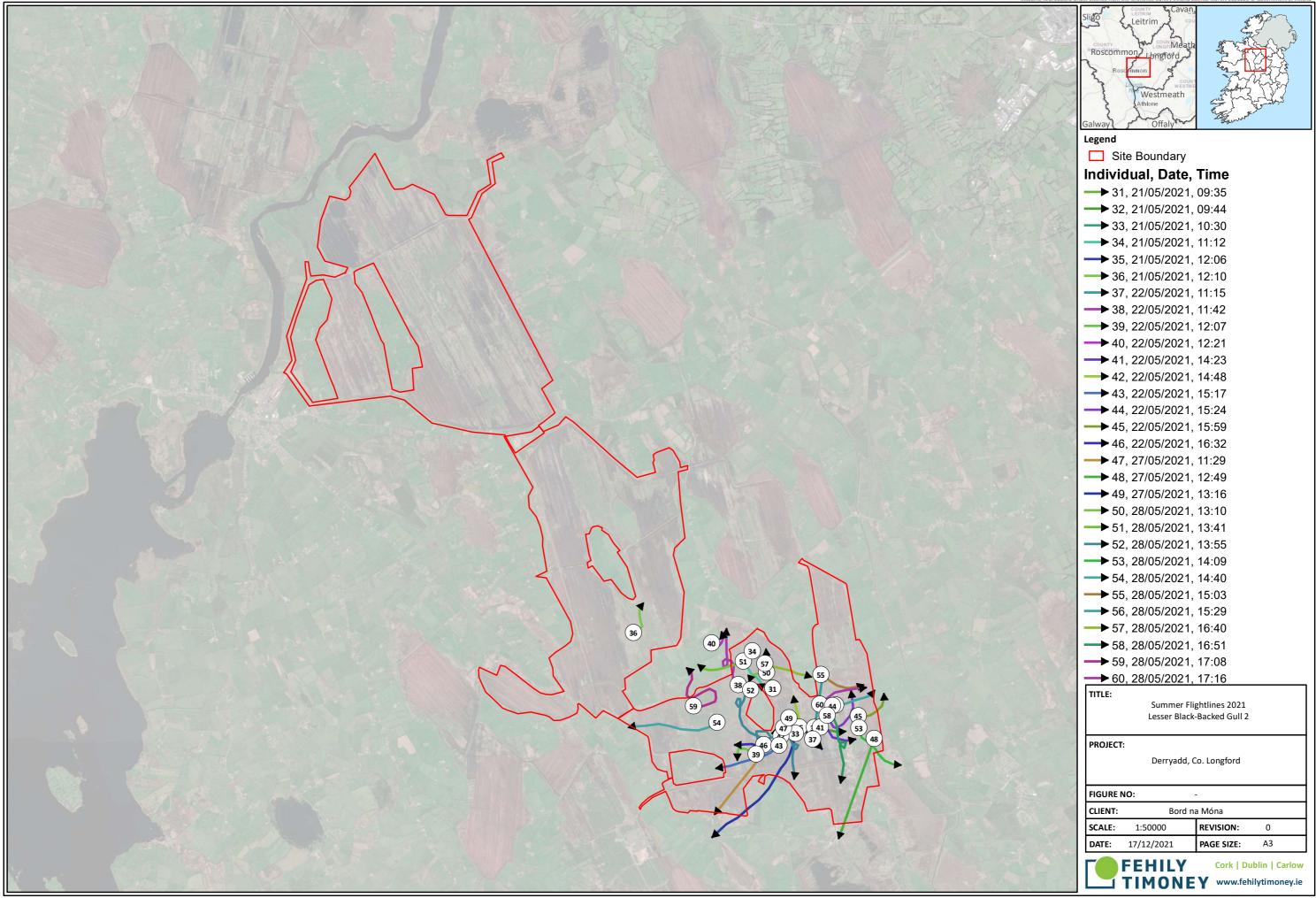
Kilometers

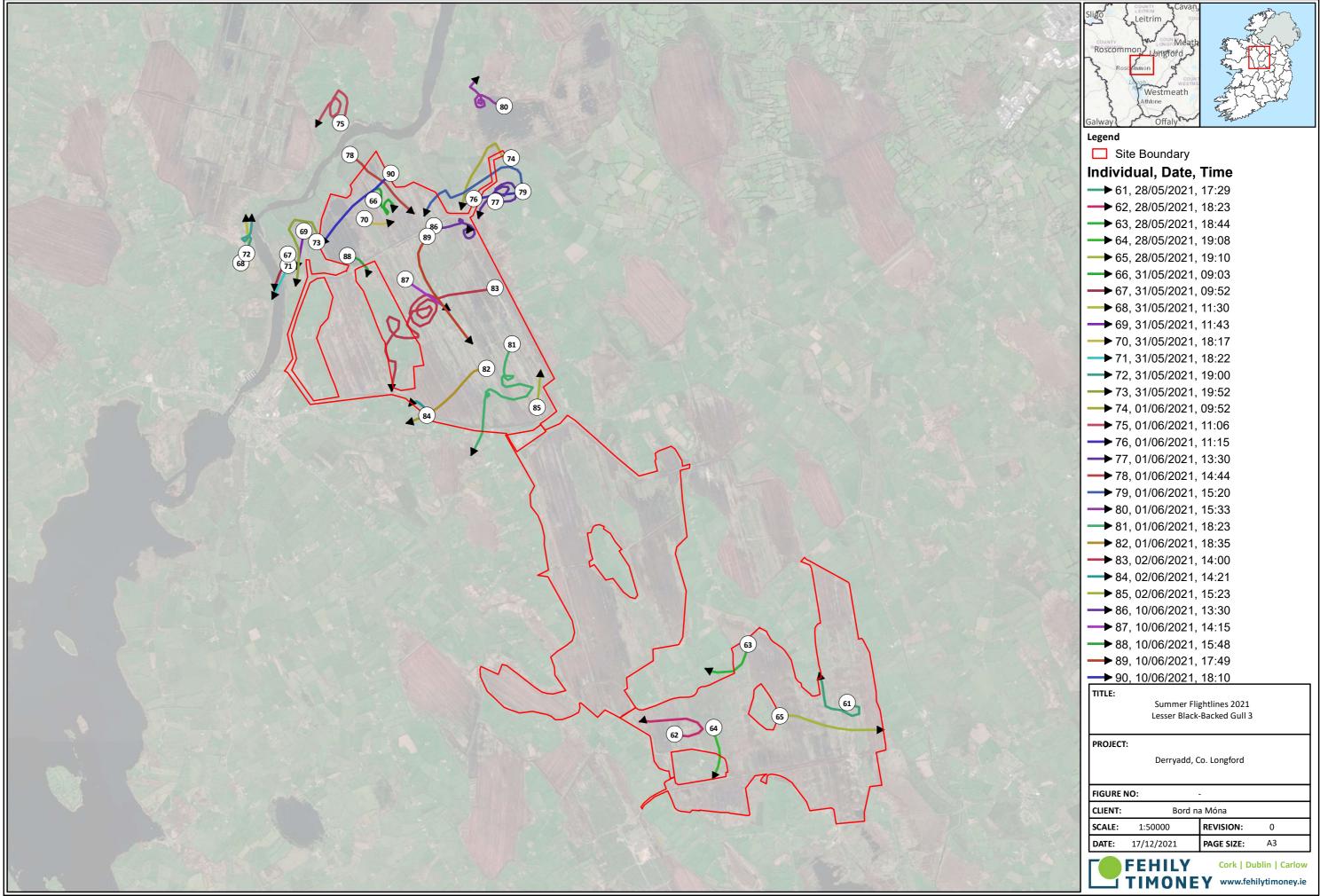


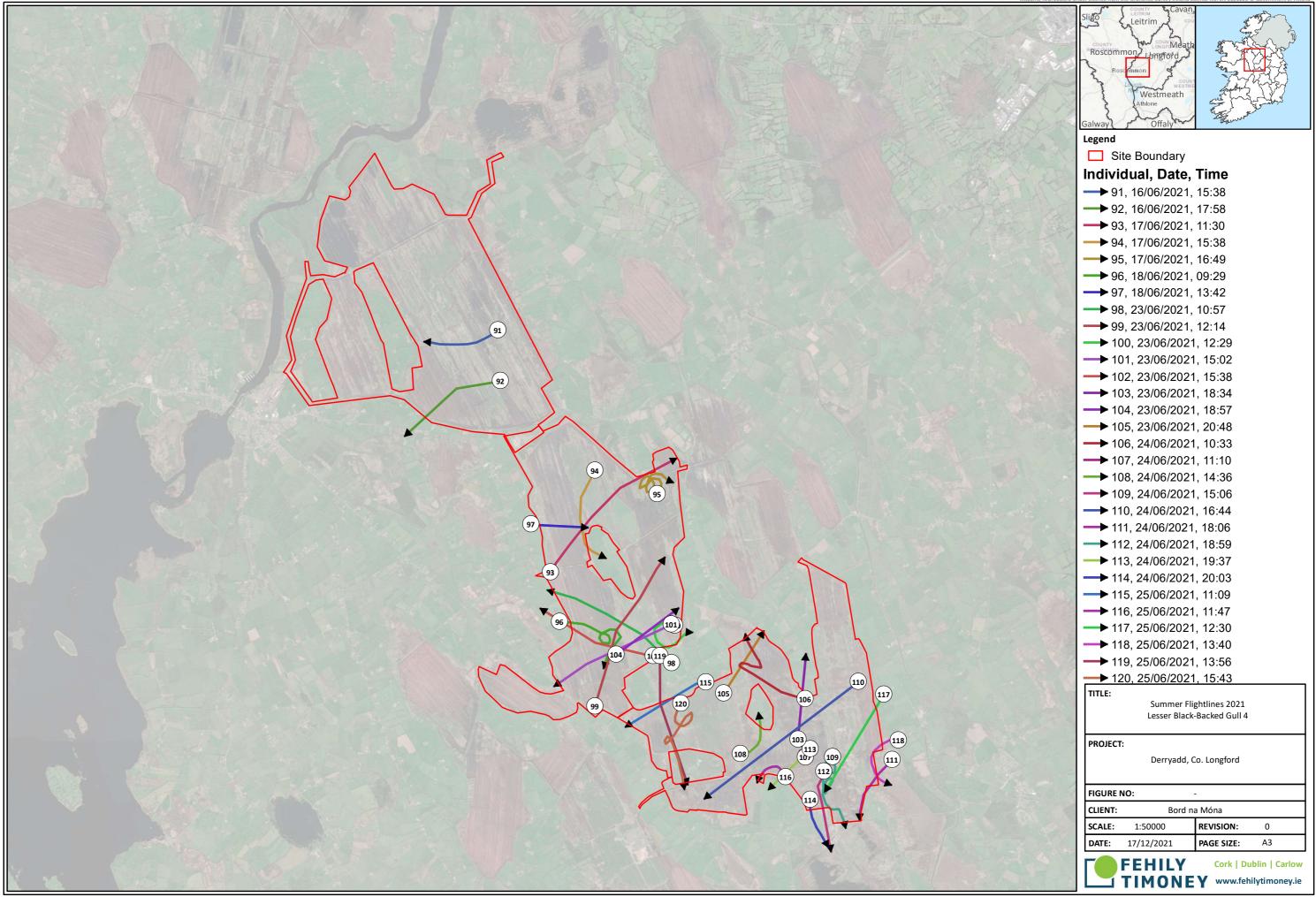


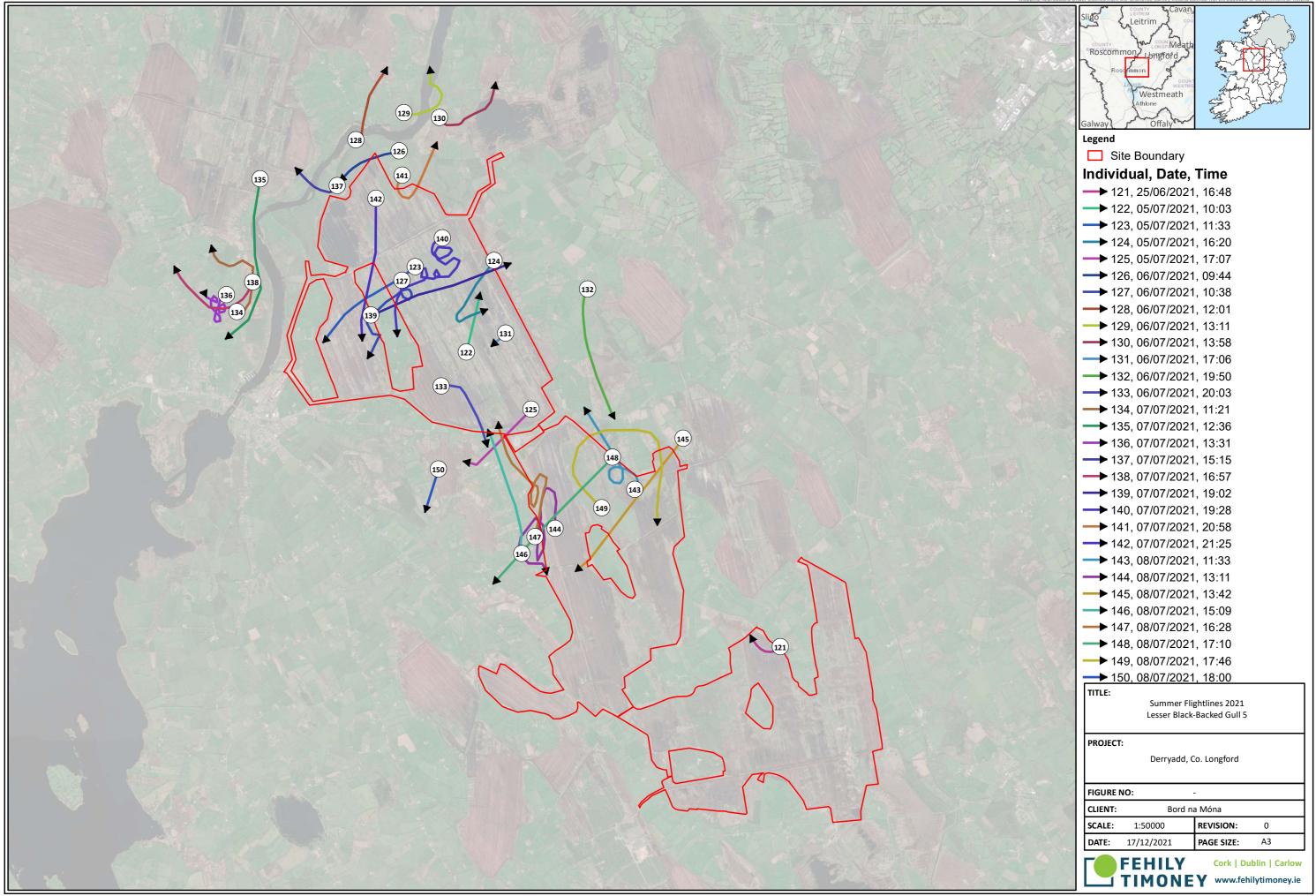


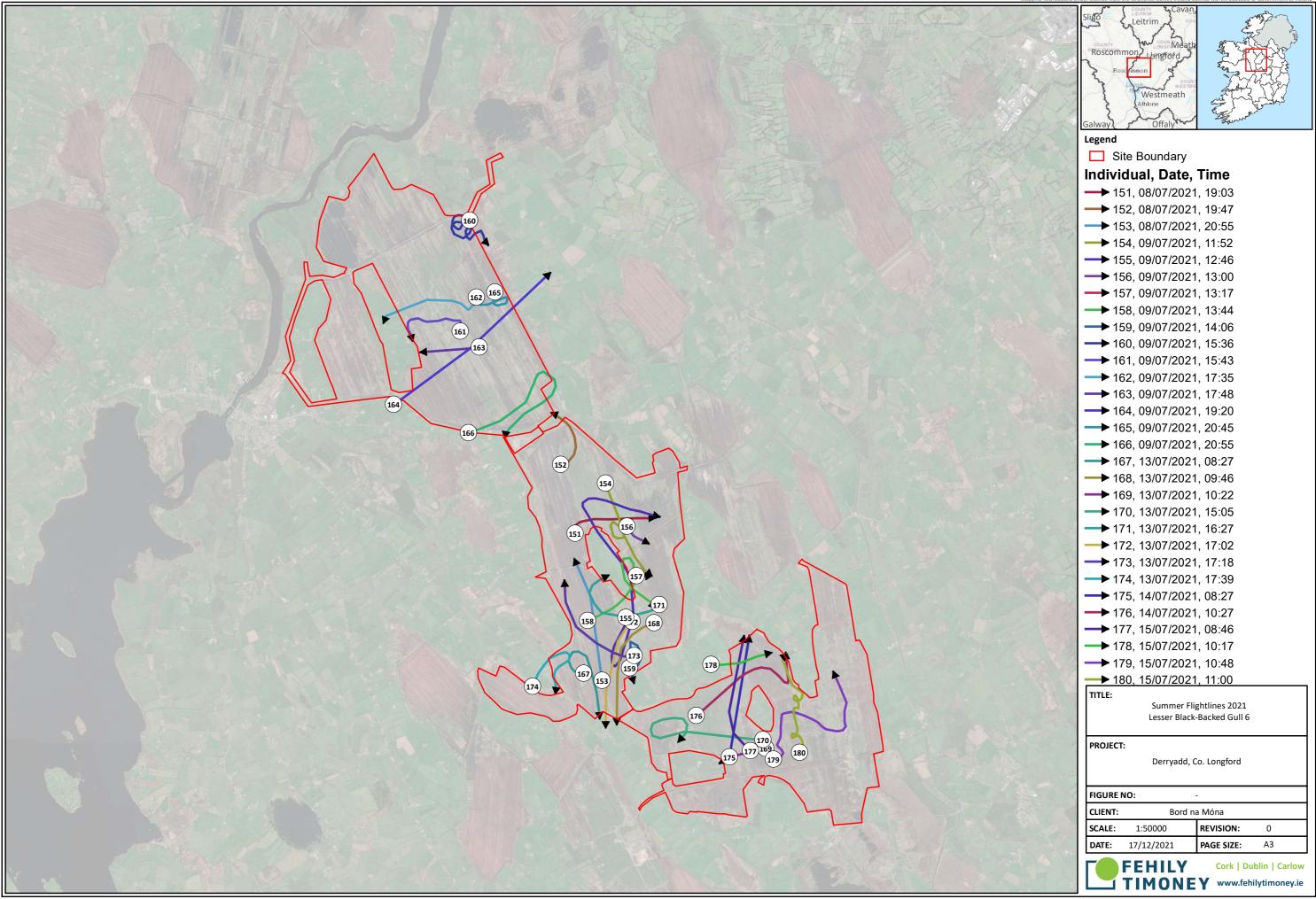


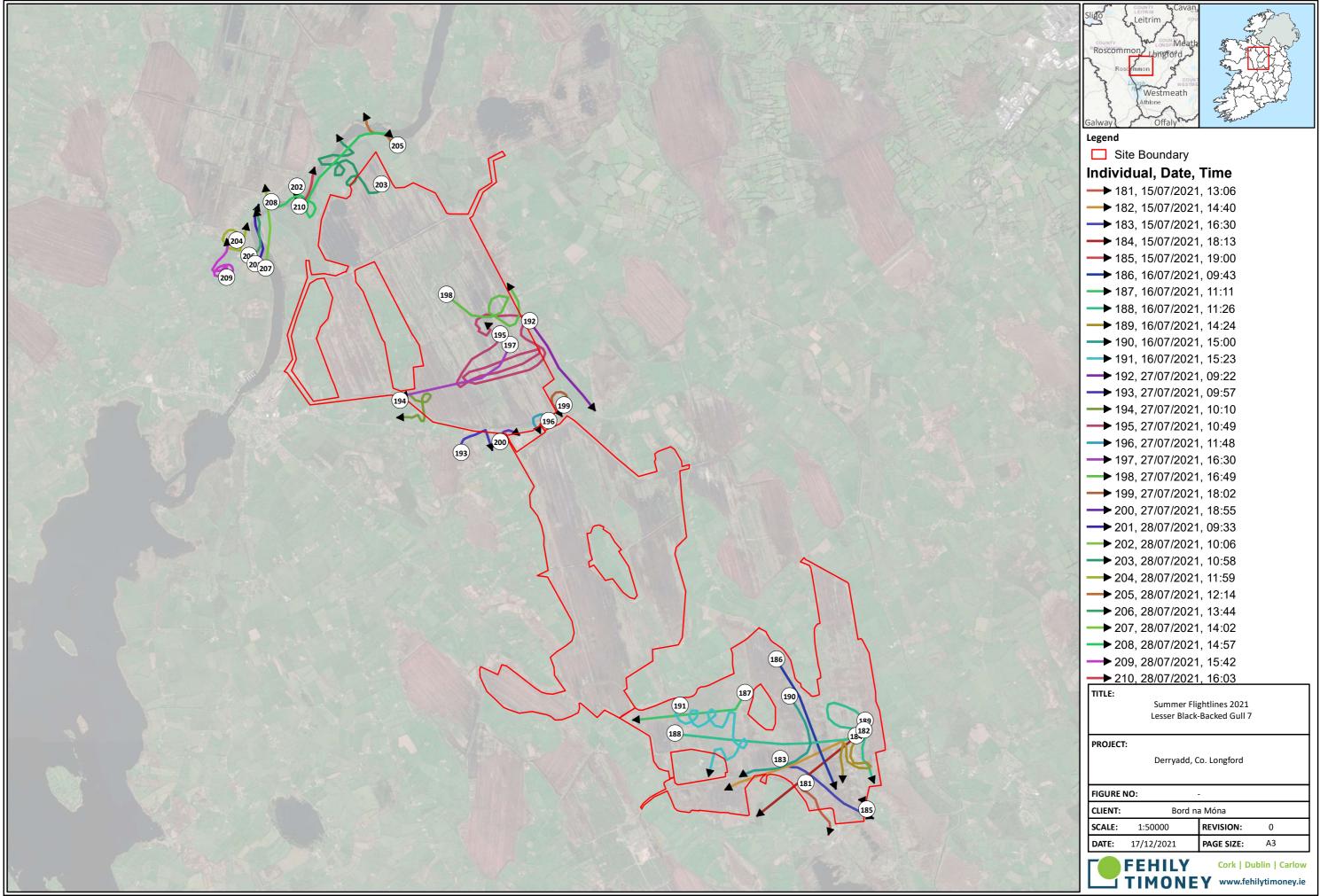


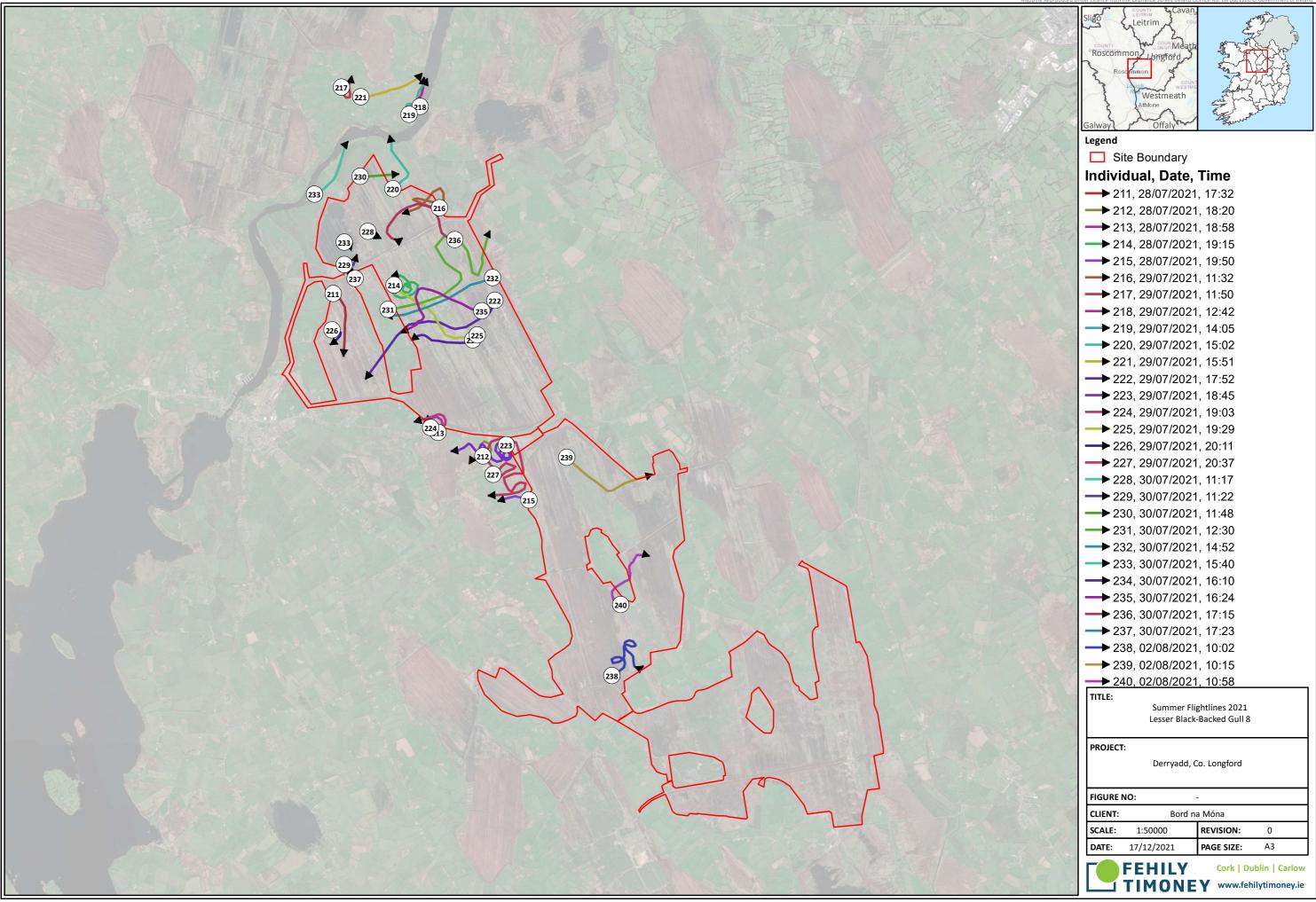




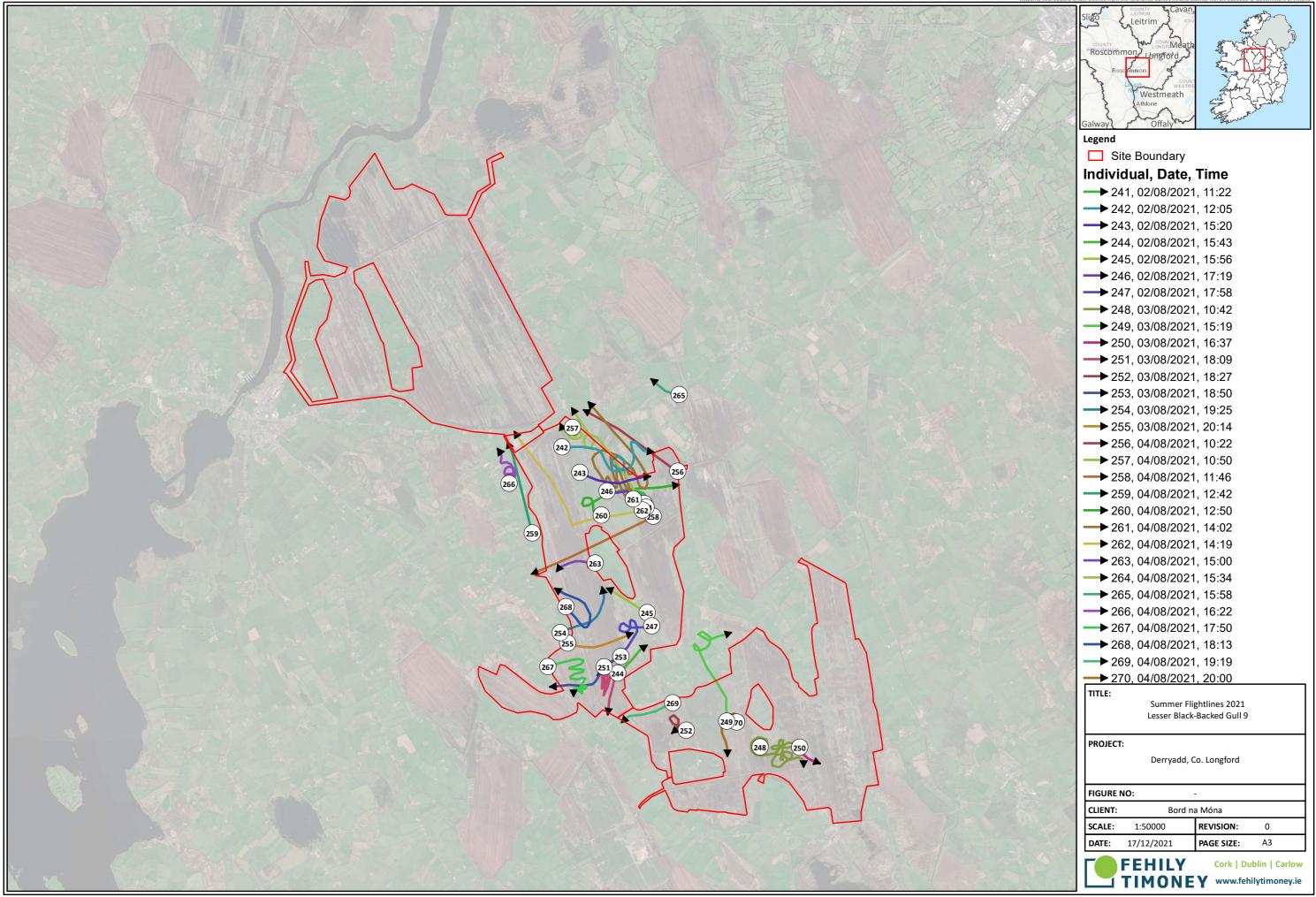


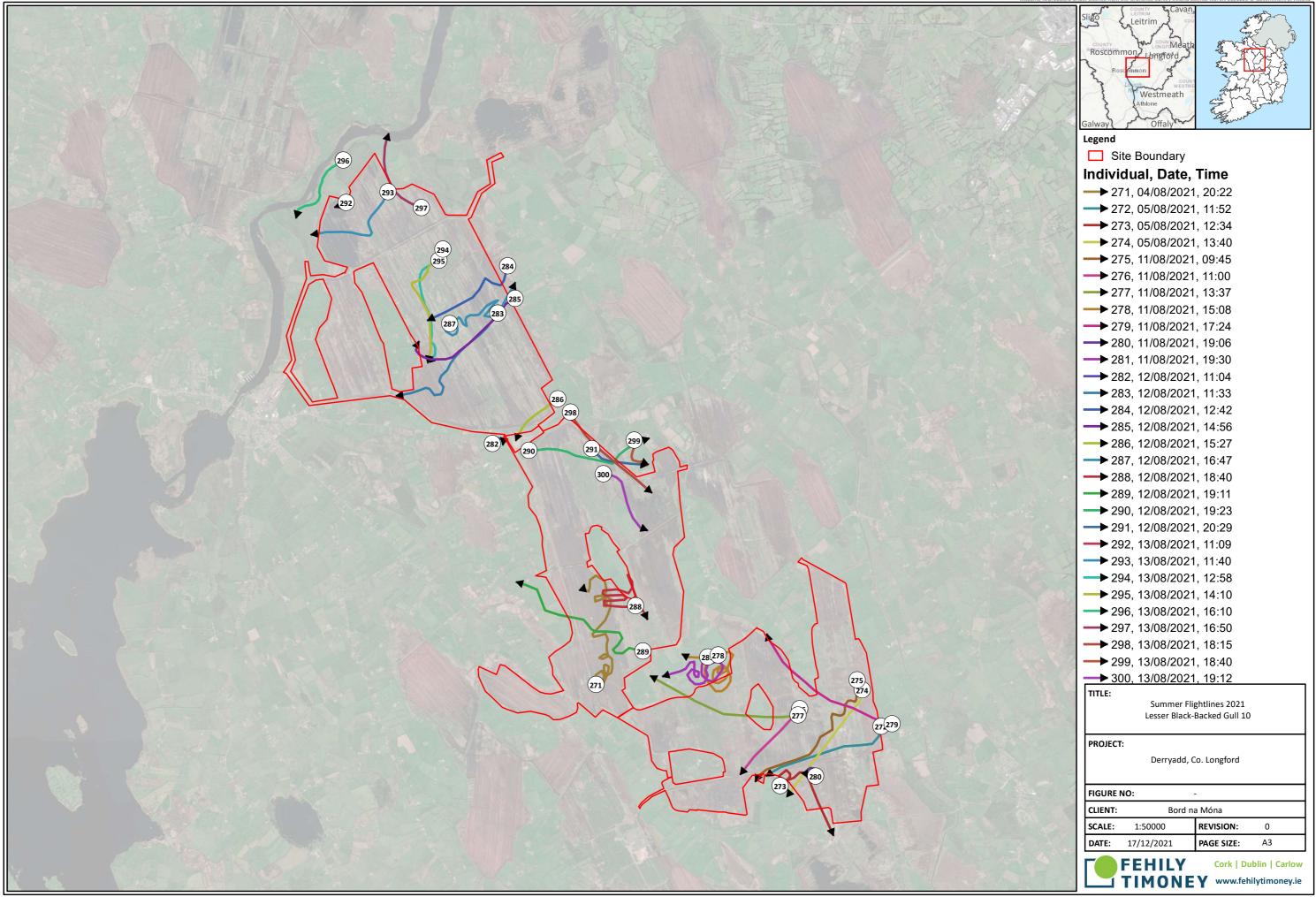


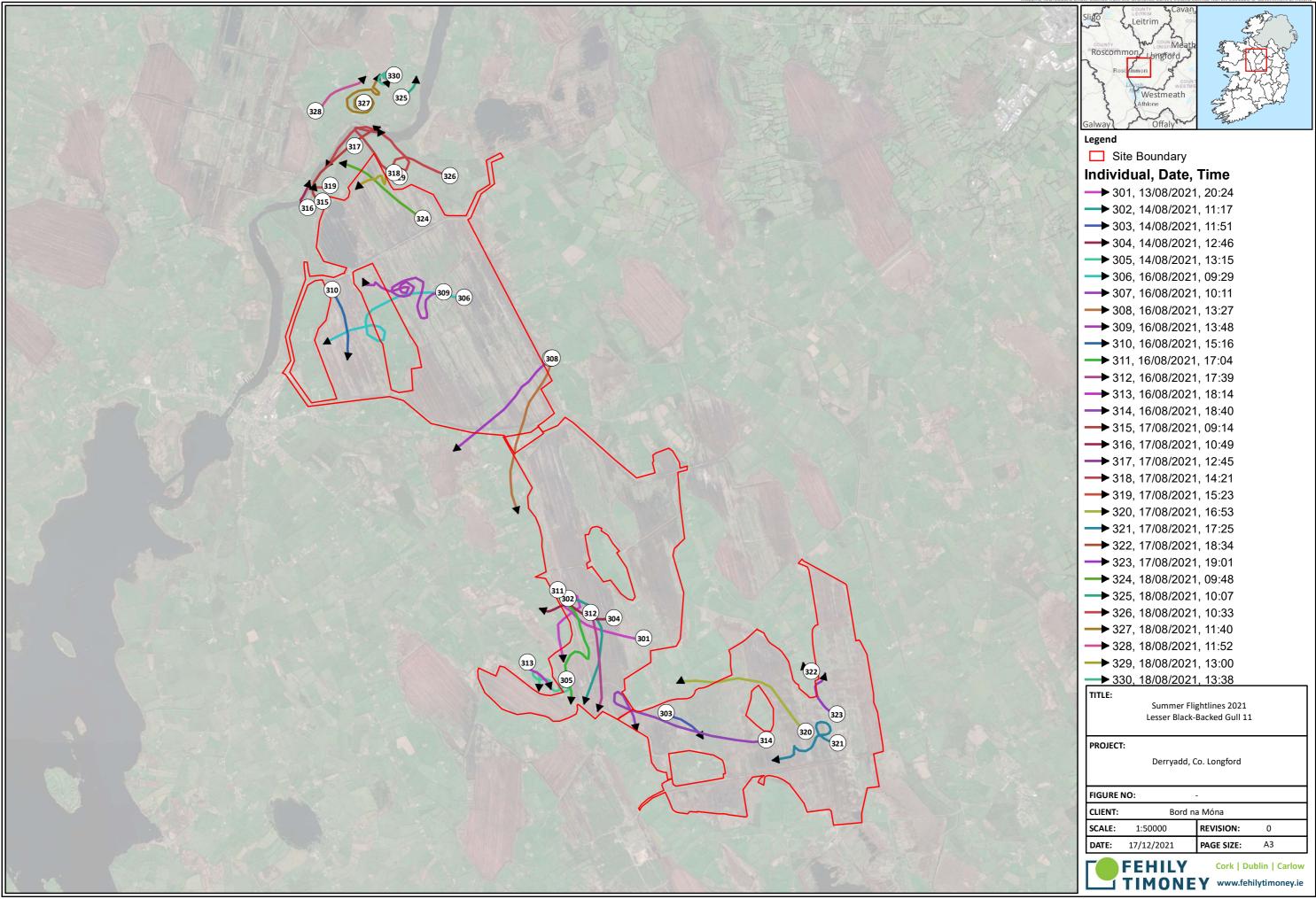


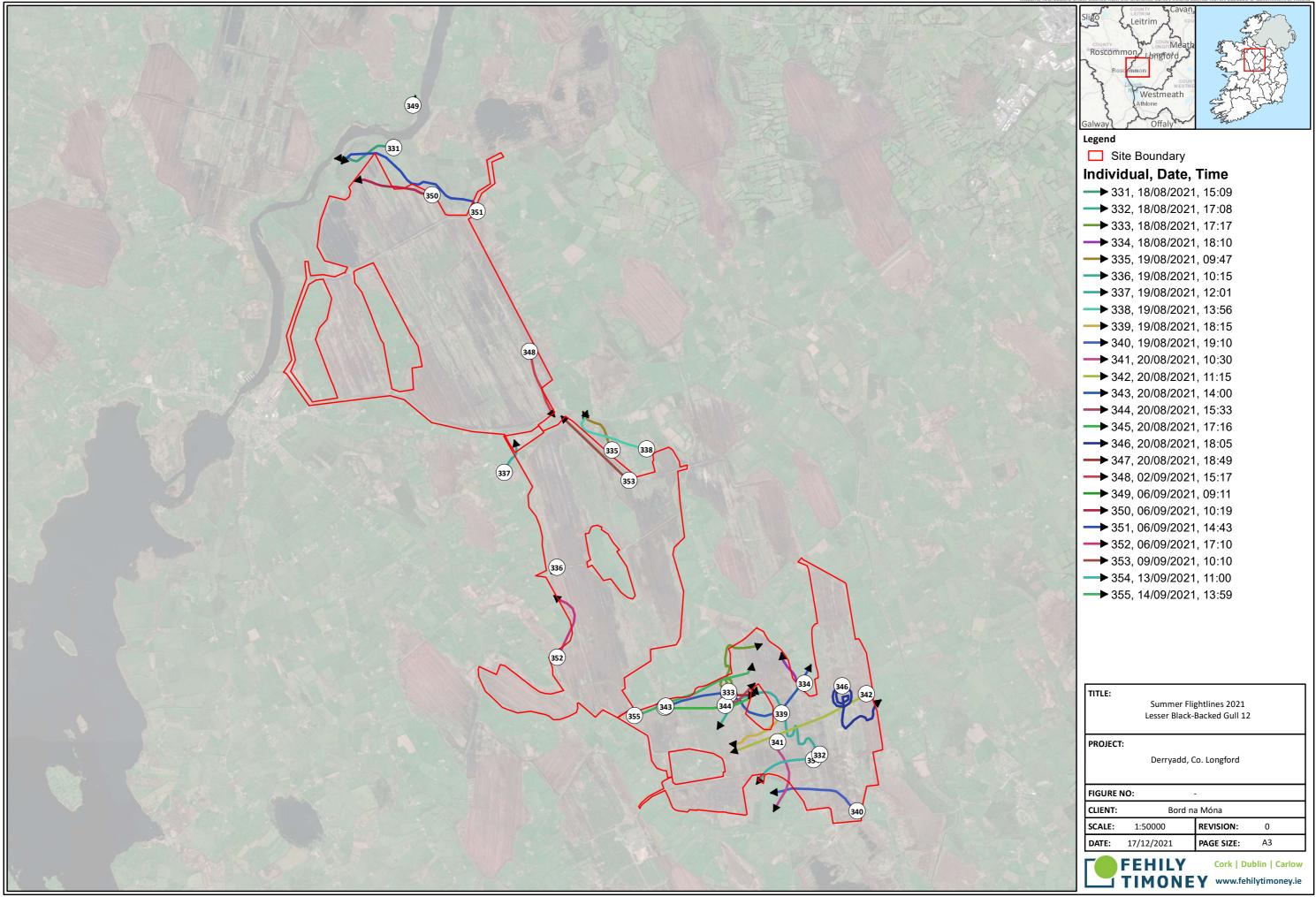


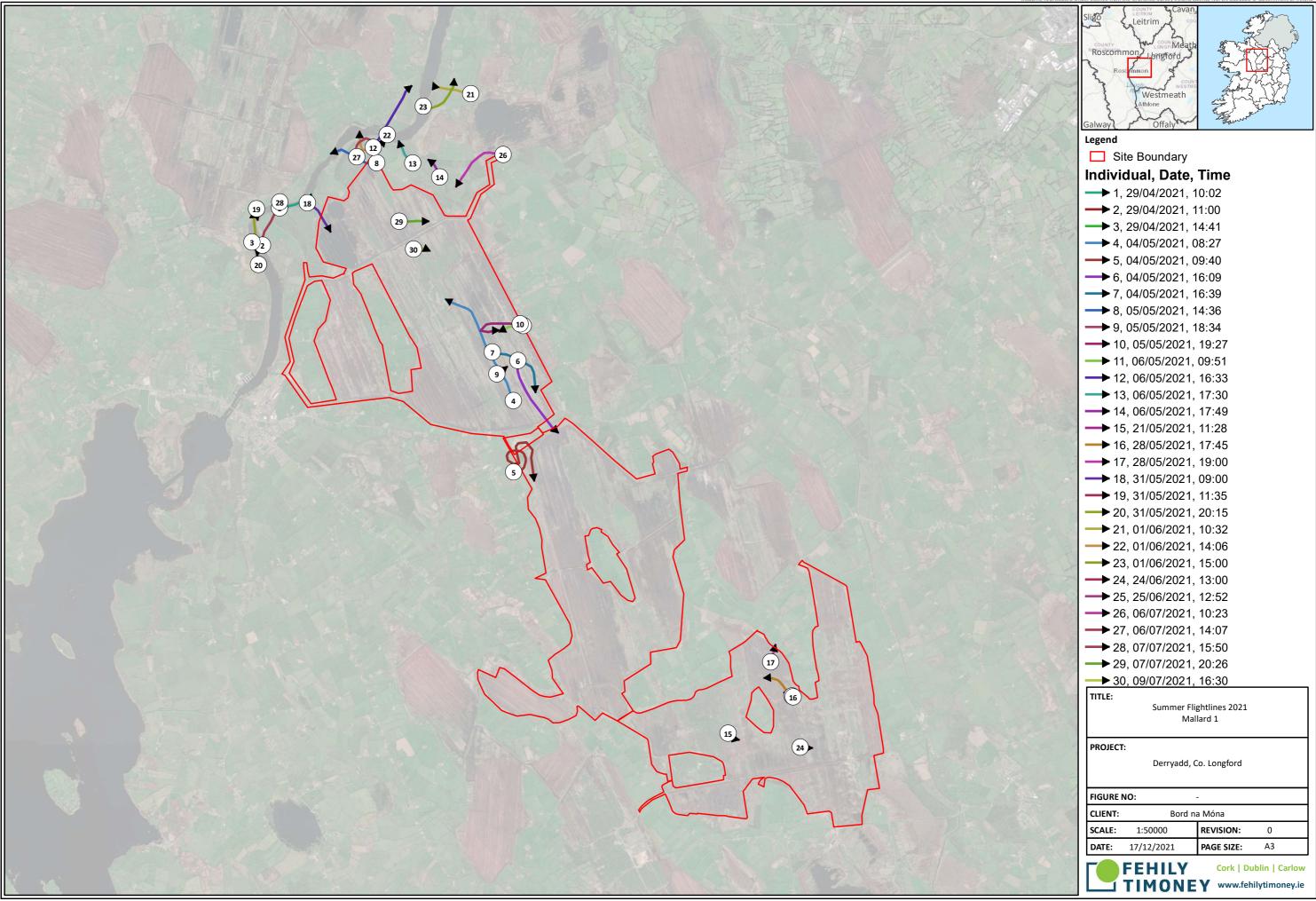
Kilometer 0 0.5 1 2

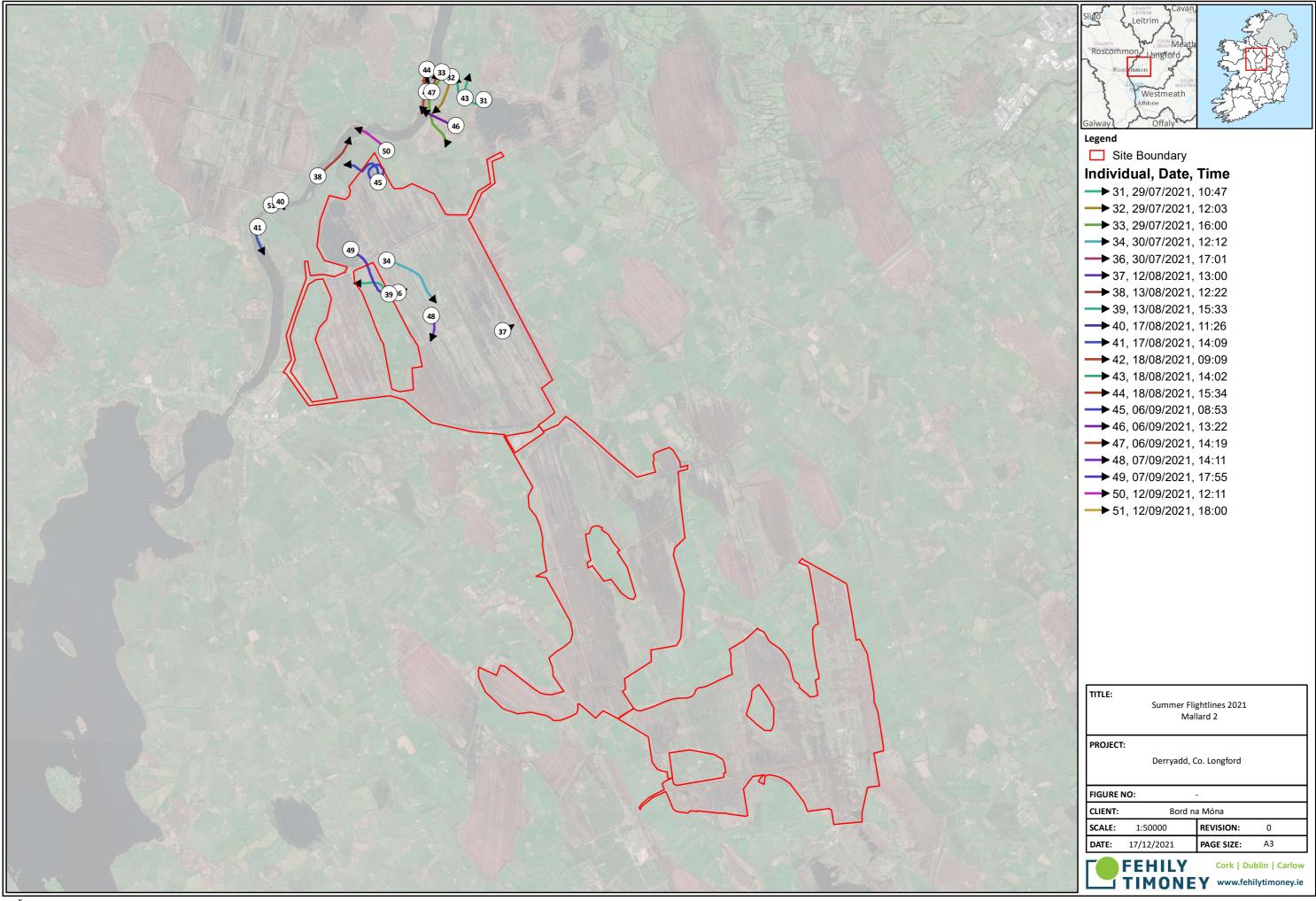


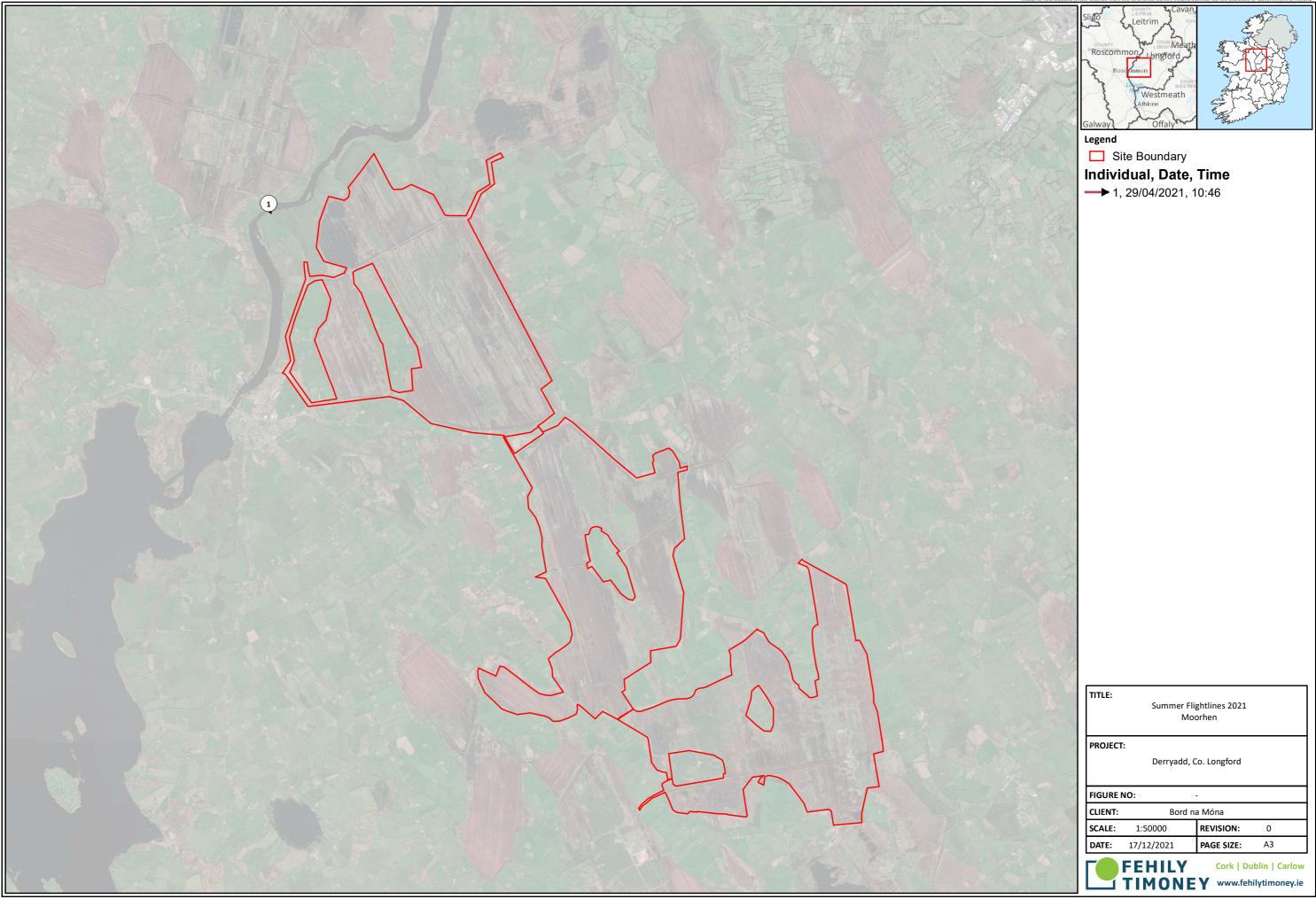


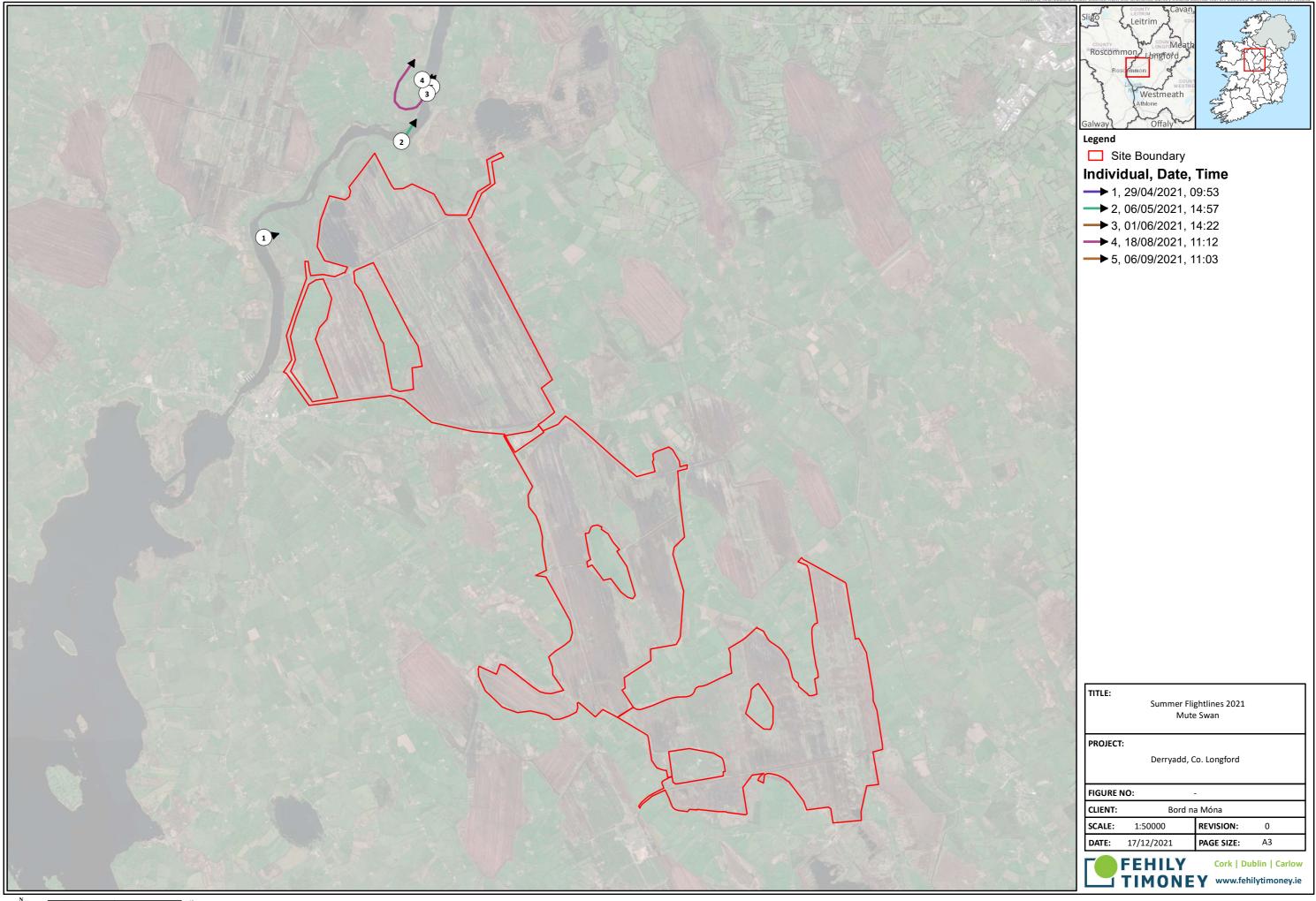


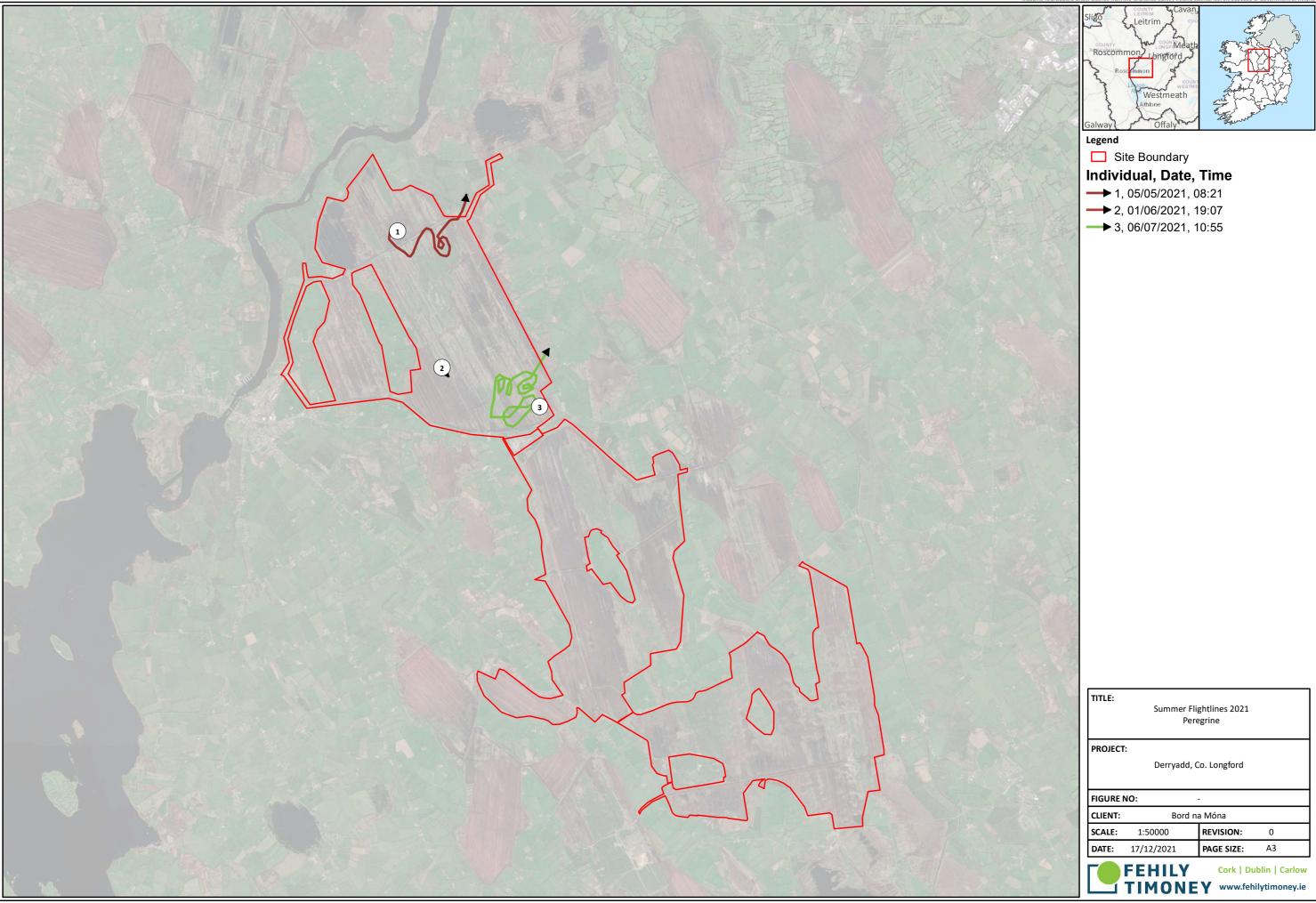


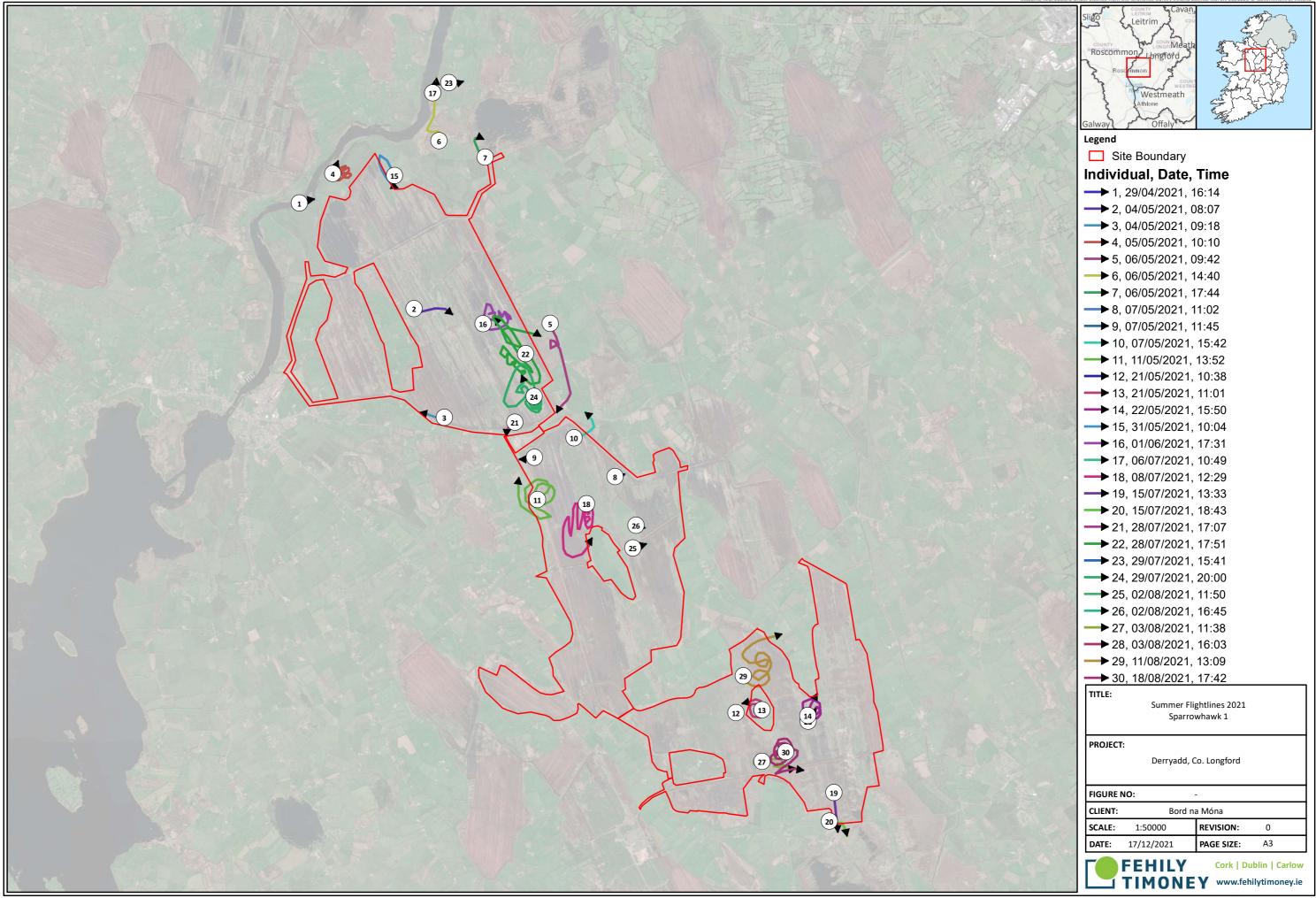


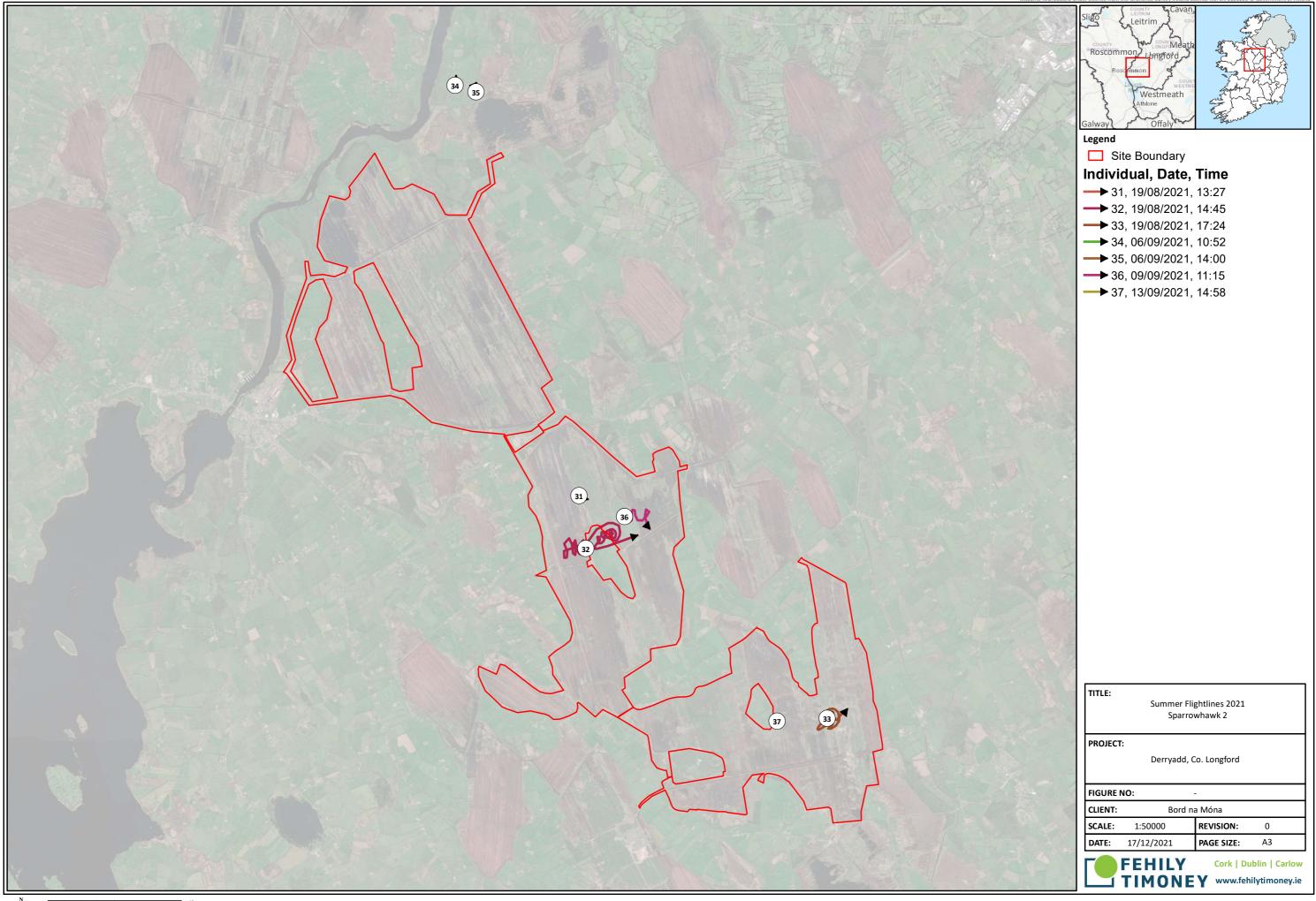


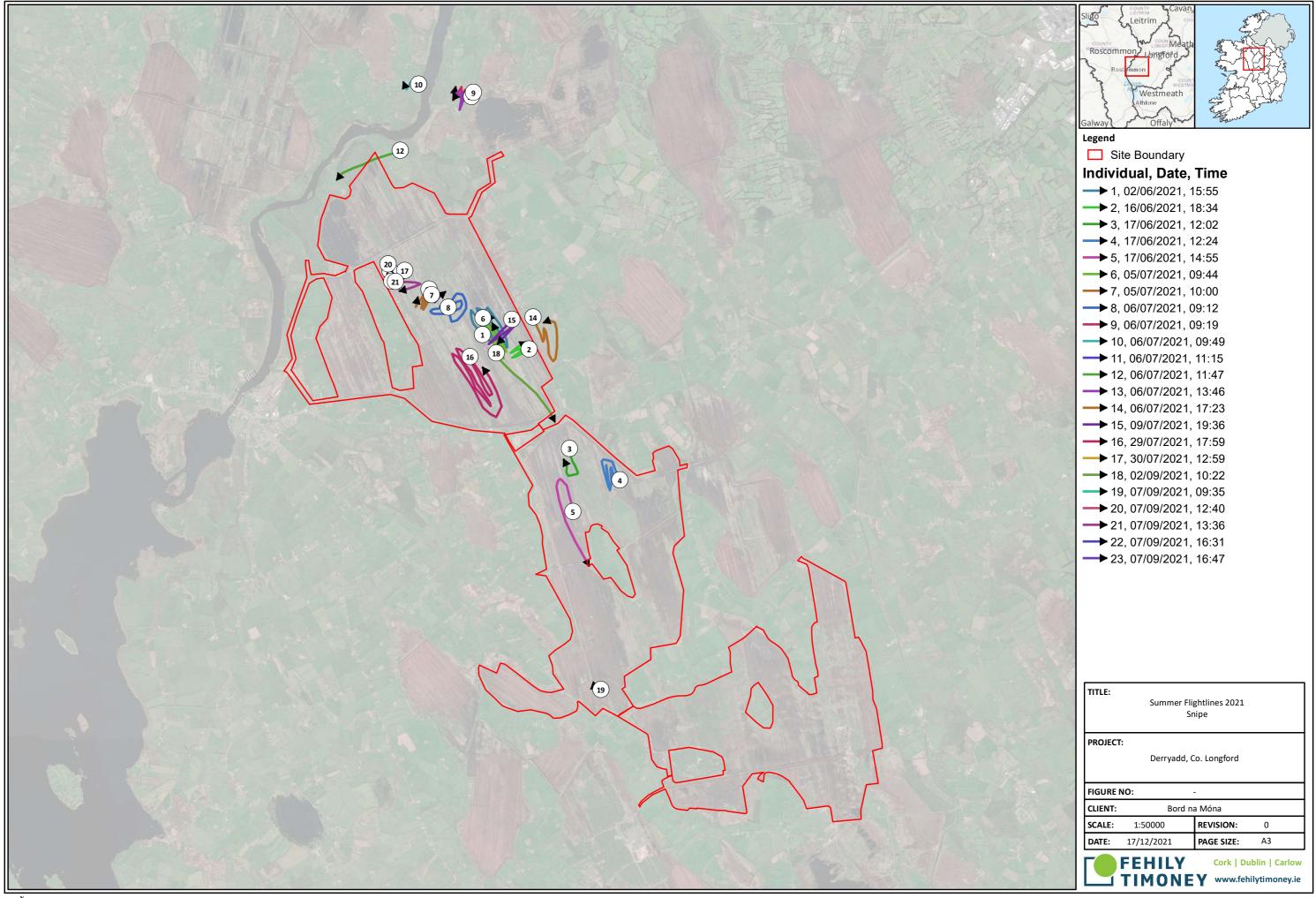


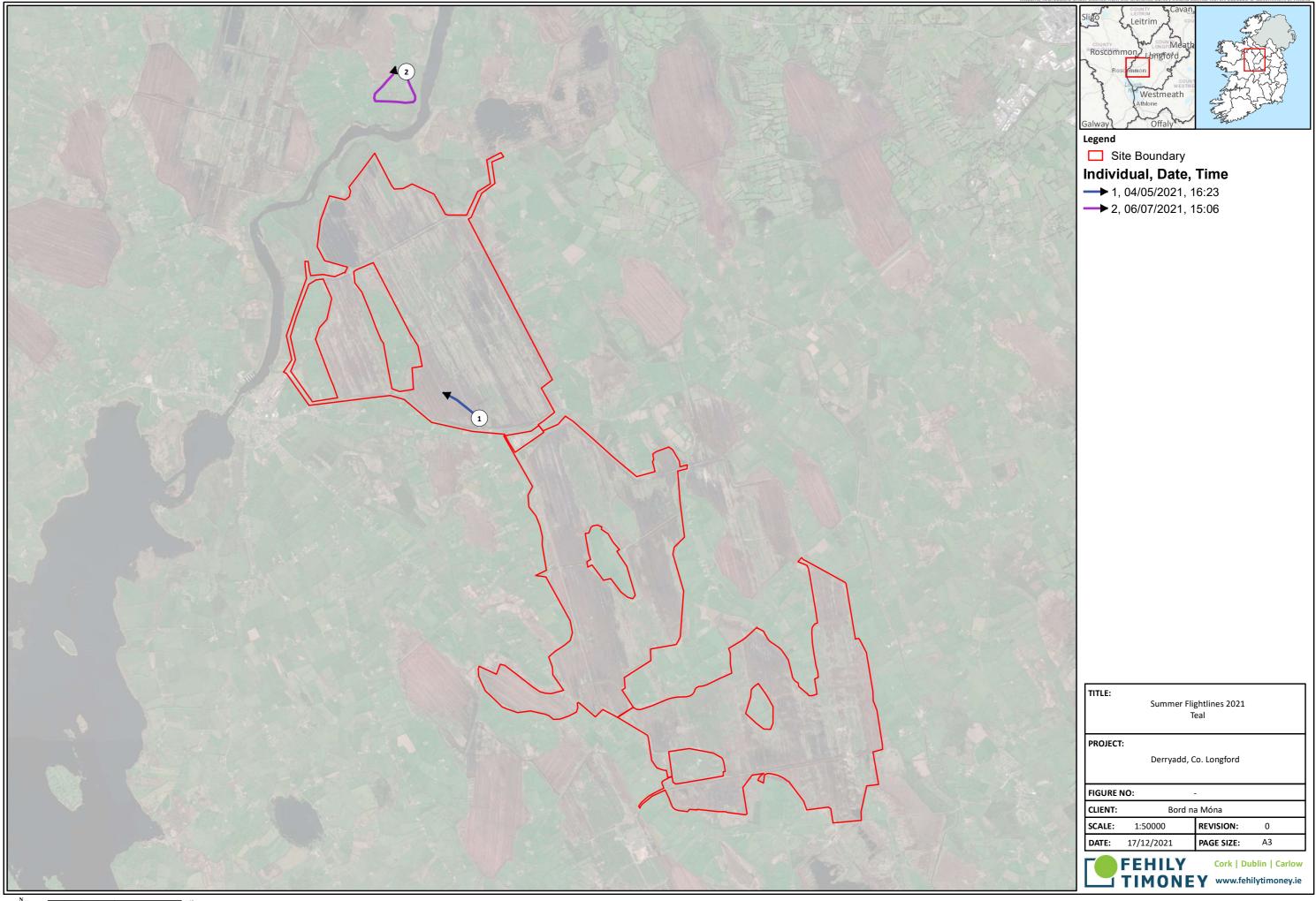


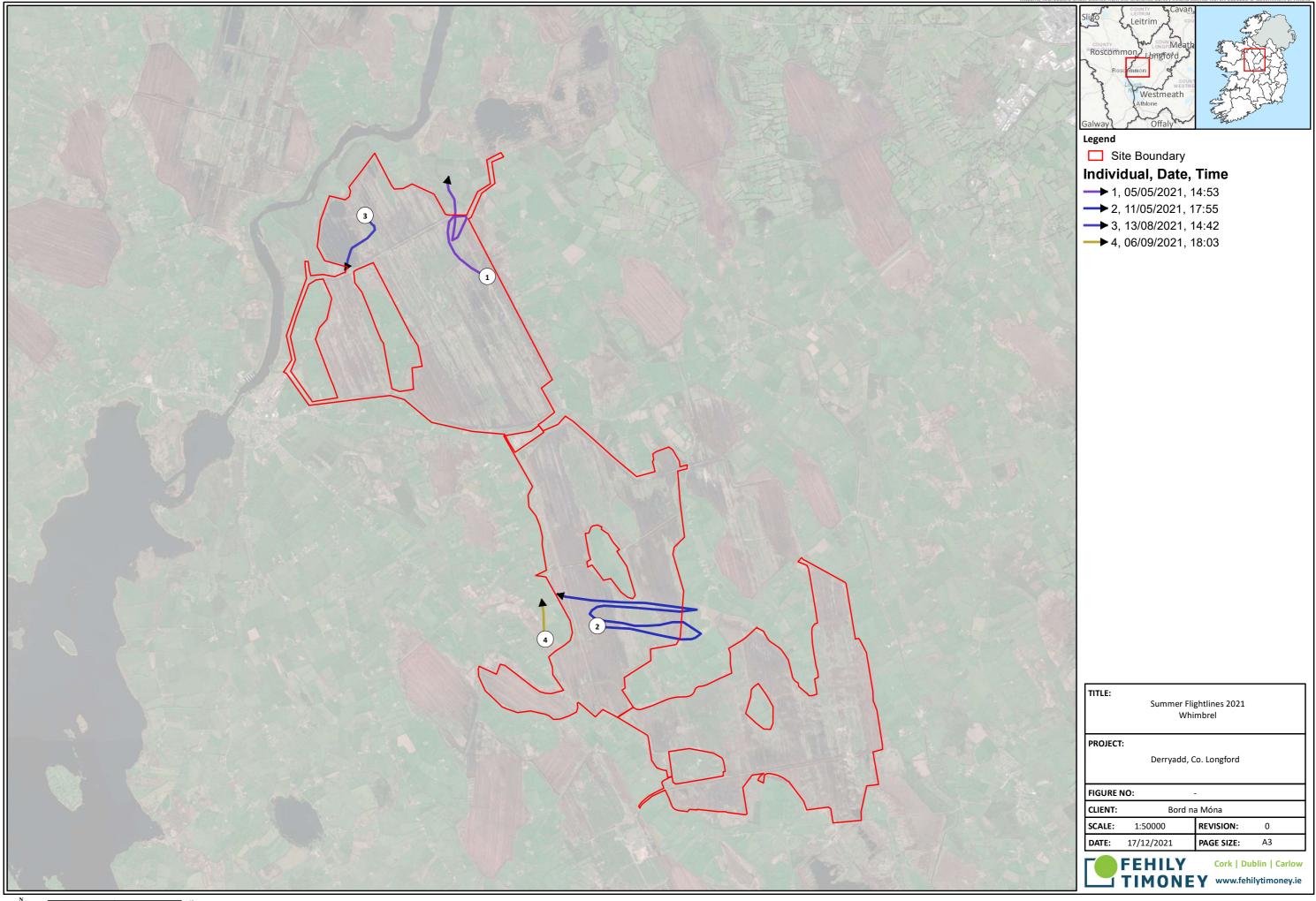


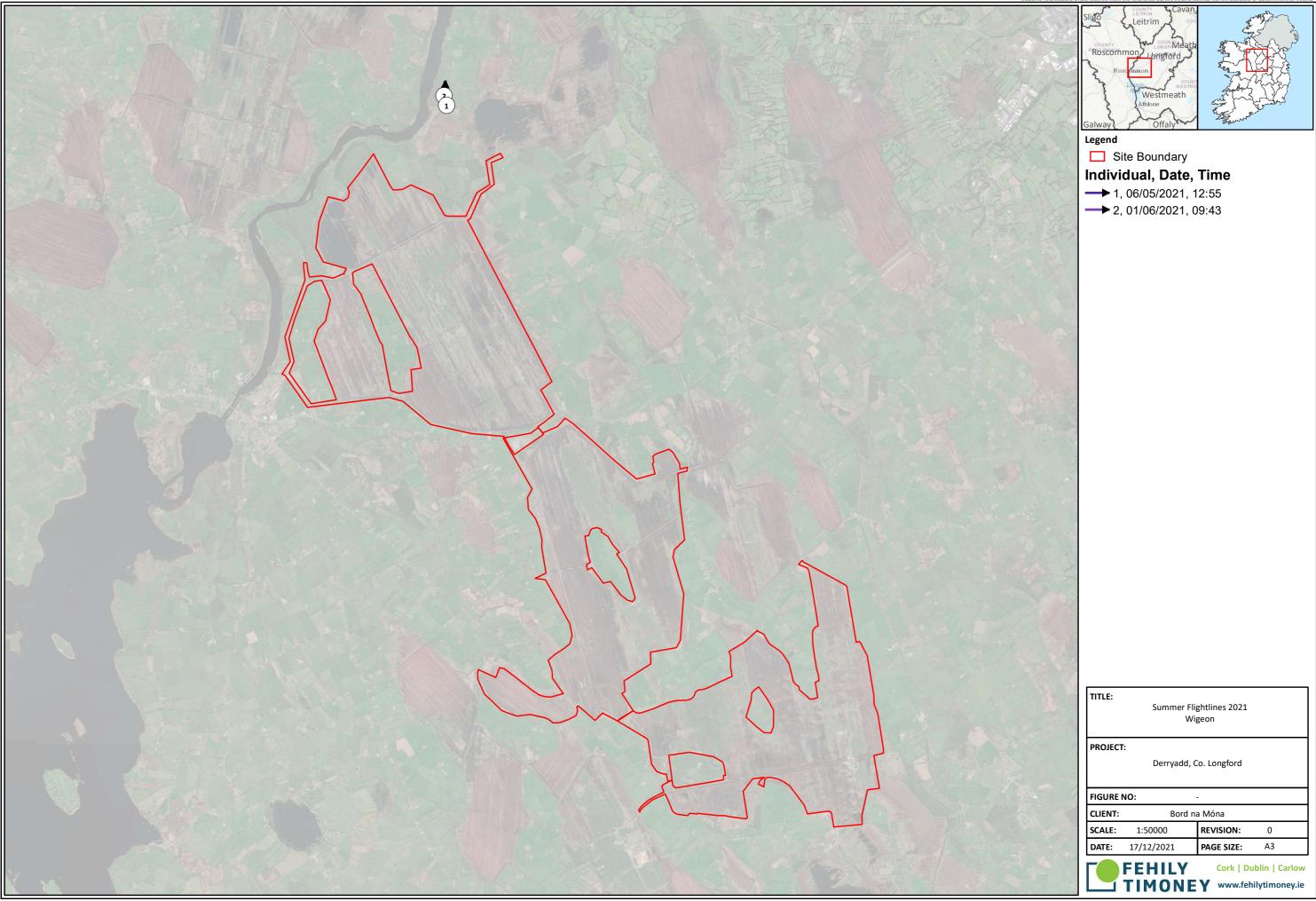














CONSULTANTS IN ENGINEERING, ENVIRONMENTAL SCIENCE & PLANNING

# **APPENDIX 4**

**Hinterland Survey Results** 



**Hinterland Survey Data Summer 2021** 

Hinterland Survey Data Summer 2021						
HVP	Date	Cloud	Visibility	Rain	Wind	Common Name
3	12/05/2021	6	Very Good	Dry	F1 SSE	Mute Swan
4	12/05/2021	6	Very Good	Dry	F1 SSE	Mute Swan
4	12/05/2021	6	Very Good	Dry	F1 SSE	Tufted Duck
4	12/05/2021	6	Very Good	Dry	F1 SSE	Little Grebe
4	12/05/2021	6	Very Good	Dry	F1 SSE	Moorhen
4	12/05/2021	6	Very Good	Dry	F1 SSE	Coot
4	12/05/2021	6	Very Good	Dry	F1 SSE	Little Egret
4	12/05/2021	6	Very Good	Dry	F1 SSE	Black-headed Gull
5	12/05/2021	6	Very Good	Dry	F1 SSE	Mallard
5	12/05/2021	6	Very Good	Dry	F1 SSE	Lesser Black-backed Gull
5	12/05/2021	6	Very Good	Dry	F1 SSE	Cormorant
5	12/05/2021	6	Very Good	Dry	F1 SSE	Common Tern
5	12/05/2021	6	Very Good	Dry	F1 SSE	Gadwall
5	12/05/2021	6	Very Good	Dry	F1 SSE	Tufted Duck
5	12/05/2021	6	Very Good	Dry	F1 SSE	Black-headed Gull
5	12/05/2021	6	Very Good	Dry	F1 SSE	Greylag Goose
5	12/05/2021	6	Very Good	Dry	F1 SSE	Great Crested Grebe
6	12/05/2021	6	Very Good	Dry	F1 SSE	Mallard
6	12/05/2021	6	Very Good	Dry	F1 SSE	Mute Swan
6	12/05/2021	6	Very Good	Dry	F1 SSE	Common Gull
6	12/05/2021	6	Very Good	Dry	F1 SSE	Lesser Black-backed Gull
6	12/05/2021	6	Very Good	Dry	F1 SSE	Black-headed Gull
6	12/05/2021	6	Very Good	Dry	F1 SSE	Cormorant
7	12/05/2021	6	Very Good	Dry	F1 SSE	Mute Swan
7	12/05/2021	6	Very Good	Dry	F1 SSE	Mallard
7	12/05/2021	6	Very Good	Dry	F1 SSE	Cormorant
7	12/05/2021	6	Very Good	Dry	F1 SSE	Lesser Black-backed Gull
7	12/05/2021	6	Very Good	Dry	F1 SSE	Grey Heron
7	12/05/2021	6	Very Good	Dry	F1 SSE	Black-headed Gull
10	12/05/2021	6	Very Good	Dry	F1 SSE	Mute Swan
10	12/05/2021	6	Very Good	Dry	F1 SSE	Mallard
11	13/05/2021	5	Very Good	Dry	F1 WNW	Mute Swan
11	13/05/2021	5	Very Good	Dry	F1 WNW	Great White Egret
11	13/05/2021	5	Very Good	Dry	F1 WNW	Black-headed Gull
11	13/05/2021	5	Very Good	Dry	F1 WNW	Cormorant
11	13/05/2021	5	Very Good	Dry	F1 WNW	Snipe
12	13/05/2021	5	Very Good	Dry	F1 WNW	Mute Swan
12	13/05/2021	5	Very Good	Dry	F1 WNW	Mallard
12	13/05/2021	5	Very Good	Dry	F1 WNW	Black-headed Gull
12	13/05/2021	5	Very Good	Dry	F1 WNW	Lesser Black-backed Gull
12	13/05/2021	5	Very Good	Dry	F1 WNW	Common Gull
12	13/05/2021	5	Very Good	Dry	F1 WNW	Great Crested Grebe
12	13/05/2021	5	Very Good	Dry	F1 WNW	Whimbrel
12	13/05/2021	5	Very Good	Dry	F1 WNW	Lapwing

HVP	Date	Cloud	Visibility	Rain	Wind	Common Name
12	13/05/2021	5	Very Good	Dry	F1 WNW	Cormorant
13	13/05/2021	5	Very Good	Dry	F1 WNW	Mallard
14	13/05/2021	5	Very Good	Dry	F1 WNW	Lesser Black-backed Gull
15	13/05/2021	5	Very Good	Dry	F1 WNW	Mute Swan
15	13/05/2021	5	Very Good	Dry	F1 WNW	Lesser Black-backed Gull
15	13/05/2021	5	Very Good	Dry	F1 WNW	Grey Heron
15	13/05/2021	5	Very Good	Dry	F1 WNW	Black-headed Gull
15	13/05/2021	5	Very Good	Dry	F1 WNW	Grey Wagtail
16	13/05/2021	5	Very Good	Dry	F1 WNW	Grey Wagtail
8	14/05/2021	7	Very Good	Dry	F1 S	Mute Swan
8	14/05/2021	7	Very Good	Dry	F1 S	Mallard
8	14/05/2021	7	Very Good	Dry	F1 S	Pink-footed Goose
8	14/05/2021	7	Very Good	Dry	F1 S	Kingfisher
8	14/05/2021	7	Very Good	Dry	F1 S	Whimbrel
8	14/05/2021	7	Very Good	Dry	F1 S	Tufted Duck
8	14/05/2021	7	Very Good	Dry	F1 S	Black-headed Gull
8	14/05/2021	7	Very Good	Dry	F1 S	Common Gull
9	14/05/2021	7	Very Good	Dry	F1 S	Black-headed Gull
9	14/05/2021	7	Very Good	Dry	F1 S	Cormorant
9	14/05/2021	7	Very Good	Dry	F1 S	Tufted Duck
9	14/05/2021	7	Very Good	Dry	F1 S	Great Crested Grebe
9	14/05/2021	7	Very Good	Dry	F1 S	Lesser Black-backed Gull
20	14/05/2021	6	Very Good	Dry	F1 S	Grey Wagtail
21	14/05/2021	6	Very Good	Dry	F1 S	Buzzard
21	14/05/2021	6	Very Good	Dry	F1 S	Grey Heron
23	14/05/2021	6	Very Good	Dry	F1 S	Grey Wagtail
25	14/05/2021	6	Very Good	Dry	F1 S	Grey Wagtail
11	11/06/2021	4	Very Good	Dry	F1 SSE	Cormorant
11	11/06/2021	4	Very Good	Dry	F1 SSE	Mute Swan
12	11/06/2021	4	Very Good	Dry	F1 SSE	Lesser Black-backed Gull
12	11/06/2021	4	Very Good	Dry	F1 SSE	Great Crested Grebe
12	11/06/2021	4	Very Good	Dry	F1 SSE	Black-headed Gull
12	11/06/2021	4	Very Good	Dry	F1 SSE	Mute Swan
13	11/06/2021	4	Very Good	Dry	F1 SSE	Buzzard
14	11/06/2021	4	Very Good	Dry	F1 SSE	Lesser Black-backed Gull
15	11/06/2021	4	Very Good	Dry	F1 SSE	Cormorant
15	11/06/2021	4	Very Good	Dry	F1 SSE	Lesser Black-backed Gull
15	11/06/2021	4	Very Good	Dry	F1 SSE	Black-headed Gull
15	11/06/2021	4	Very Good	Dry	F1 SSE	Mute Swan
16	11/06/2021	4	Very Good	Dry	F1 SSE	Black-headed Gull
16	11/06/2021	4	Very Good	Dry	F1 SSE	Grey Heron
18	11/06/2021	4	Very Good	Dry	F1 SSE	Buzzard
20	11/06/2021	4	Very Good	Dry	F1 SSE	Black-headed Gull
21	11/06/2021	4	Very Good	Dry	F1 SSE	Lesser Black-backed Gull
23	11/06/2021	4	Very Good	Dry	F1 SSE	Lesser Black-backed Gull

HVP	Date	Cloud	Visibility	Rain	Wind	Common Name
2	12/06/2021	6	Very Good	Dry	F1 SW	Grey Heron
3	12/06/2021	6	Very Good	Dry	F1 SW	Mute Swan
4	12/06/2021	6	Very Good	Dry	F1 SW	Snipe
4	12/06/2021	6	Very Good	Dry	F1 SW	Wigeon
4	12/06/2021	6	Very Good	Dry	F1 SW	Little Egret
4	12/06/2021	6	Very Good	Dry	F1 SW	Grey Heron
4	12/06/2021	6	Very Good	Dry	F1 SW	Moorhen
4	12/06/2021	6	Very Good	Dry	F1 SW	Coot
4	12/06/2021	6	Very Good	Dry	F1 SW	Black-headed Gull
4	12/06/2021	6	Very Good	Dry	F1 SW	Mallard
4	12/06/2021	6	Very Good	Dry	F1 SW	Tufted Duck
5	12/06/2021	6	Very Good	Dry	F1 SW	Gadwall
5	12/06/2021	6	Very Good	Dry	F1 SW	Common Tern
5	12/06/2021	6	Very Good	Dry	F1 SW	Little Egret
5	12/06/2021	6	Very Good	Dry	F1 SW	Tufted Duck
5	12/06/2021	6	Very Good	Dry	F1 SW	Lesser Black-backed Gull
5	12/06/2021	6	Very Good	Dry	F1 SW	Black-headed Gull
5	12/06/2021	6	Very Good	Dry	F1 SW	Cormorant
5	12/06/2021	6	Very Good	Dry	F1 SW	Great Crested Grebe
5	12/06/2021	6	Very Good	Dry	F1 SW	Coot
5	12/06/2021	6	Very Good	Dry	F1 SW	Mute Swan
6	12/06/2021	6	Very Good	Dry	F1 SW	Cormorant
6	12/06/2021	6	Very Good	Dry	F1 SW	Little Egret
6	12/06/2021	6	Very Good	Dry	F1 SW	Black-headed Gull
6	12/06/2021	6	Very Good	Dry	F1 SW	Lesser Black-backed Gull
6	12/06/2021	6	Very Good	Dry	F1 SW	Mallard
7	12/06/2021	6	Very Good	Dry	F1 SW	Grey Wagtail
7	12/06/2021	6	Very Good	Dry	F1 SW	Black-headed Gull
8	12/06/2021	6	Very Good	Dry	F1 SW	Oystercatcher
8	12/06/2021	6	Very Good	Dry	F1 SW	Common Tern
8	12/06/2021	6	Very Good	Dry	F1 SW	Little Egret
8	12/06/2021	6	Very Good	Dry	F1 SW	Moorhen
8	12/06/2021	6	Very Good	Dry	F1 SW	Coot
8	12/06/2021	6	Very Good	Dry	F1 SW	Black-headed Gull
8	12/06/2021	6	Very Good	Dry	F1 SW	Lesser Black-backed Gull
8	12/06/2021	6	Very Good	Dry	F1 SW	Mute Swan
8	12/06/2021	6	Very Good	Dry	F1 SW	Mallard
9	12/06/2021	6	Very Good	Dry	F1 SW	Black-headed Gull
9	12/06/2021	6	Very Good	Dry	F1 SW	Coot
9	12/06/2021	6	Very Good	Dry	F1 SW	Lesser Black-backed Gull
9	12/06/2021	4	Very Good	Dry	F1 SW	Cormorant
9	12/06/2021	6	Very Good	Dry	F1 SW	Mute Swan
10	12/06/2021	4	Very Good	Dry	F1 SW	Cormorant
10	12/06/2021	4	Very Good	Dry	F1 SW	Mute Swan
10	12/06/2021	4	Very Good	Dry	F1 SW	Black-headed Gull

HVP	Date	Cloud	Visibility	Rain	Wind	Common Name
10	12/06/2021	4	Very Good	Dry	F1 SW	Mallard
1	17/07/2021	2	Very Good	Dry	F1 N	Lesser Black-backed Gull
1	17/07/2021	2	Very Good	Dry	F1 N	Grey Wagtail
4	17/07/2021	2	Very Good	Dry	F1 N	Snipe
4	17/07/2021	2	Very Good	Dry	F1 N	Buzzard
4	17/07/2021	2	Very Good	Dry	F1 N	Coot
4	17/07/2021	2	Very Good	Dry	F1 N	Moorhen
4	17/07/2021	2	Very Good	Dry	F1 N	Water Rail
4	17/07/2021	2	Very Good	Dry	F1 N	Little Egret
4	17/07/2021	2	Very Good	Dry	F1 N	Grey Heron
4	17/07/2021	2	Very Good	Dry	F1 N	Lapwing
4	17/07/2021	2	Very Good	Dry	F1 N	Mallard
5	17/07/2021	2	Very Good	Dry	F1 N	Gadwall
5	17/07/2021	2	Very Good	Dry	F1 N	Tufted Duck
5	17/07/2021	2	Very Good	Dry	F1 N	Black-headed Gull
5	17/07/2021	2	Very Good	Dry	F1 N	Great Crested Grebe
5	17/07/2021	2	Very Good	Dry	F1 N	Cormorant
5	17/07/2021	2	Very Good	Dry	F1 N	Mallard
5	17/07/2021	2	Very Good	Dry	F1 N	Mute Swan
5	17/07/2021	2	Very Good	Dry	F1 N	Lesser Black-backed Gull
6	17/07/2021	2	Very Good	Dry	F1 N	Black-headed Gull
6	17/07/2021	2	Very Good	Dry	F1 N	Cormorant
6	17/07/2021	2	Very Good	Dry	F1 N	Mute Swan
6	17/07/2021	2	Very Good	Dry	F1 N	Lesser Black-backed Gull
7	17/07/2021	2	Very Good	Dry	F1 N	Lesser Black-backed Gull
7	17/07/2021	2	Very Good	Dry	F1 N	Black-headed Gull
7	17/07/2021	2	Very Good	Dry	F1 N	Mute Swan
7	17/07/2021	2	Very Good	Dry	F1 N	Mallard
8	17/07/2021	2	Very Good	Dry	F1 N	Lapwing
8	17/07/2021	2	Very Good	Dry	F1 N	Gadwall
8	17/07/2021	2	Very Good	Dry	F1 N	Grey Heron
8	17/07/2021	2	Very Good	Dry	F1 N	Little Egret
8	17/07/2021	2	Very Good	Dry	F1 N	Tufted Duck
8	17/07/2021	2	Very Good	Dry	F1 N	Lesser Black-backed Gull
8	17/07/2021	2	Very Good	Dry	F1 N	Black-headed Gull
8	17/07/2021	2	Very Good	Dry	F1 N	Pochard
8	17/07/2021	2	Very Good	Dry	F1 N	Mute Swan
8	17/07/2021	2	Very Good	Dry	F1 N	Mallard
9	17/07/2021	2	Very Good	Dry	F1 N	Lesser Black-backed Gull
9	17/07/2021	2	Very Good	Dry	F1 N	Tufted Duck
9	17/07/2021	2	Very Good	Dry	F1 N	Black-headed Gull
9	17/07/2021	2	Very Good	Dry	F1 N	Common Gull
9	17/07/2021	2	Very Good	Dry	F1 N	Gadwall
9	17/07/2021	2	Very Good	Dry	F1 N	Cormorant
9	17/07/2021	2	Very Good	Dry	F1 N	Little Egret

HVP	Date	Cloud	Visibility	Rain	Wind	Common Name
9	17/07/2021	2	Very Good	Dry	F1 N	Grey Heron
9	17/07/2021	2	Very Good	Dry	F1 N	Common Tern
9	17/07/2021	2	Very Good	Dry	F1 N	Mute Swan
10	17/07/2021	2	Very Good	Dry	F1 N	Mute Swan
10	17/07/2021	2	Very Good	Dry	F1 N	Grey Heron
11	17/07/2021	2	Very Good	Dry	F1 N	Black-headed Gull
11	17/07/2021	2	Very Good	Dry	F1 N	Lesser Black-backed Gull
11	17/07/2021	2	Very Good	Dry	F1 N	Great Crested Grebe
11	17/07/2021	2	Very Good	Dry	F1 N	Mute Swan
11	17/07/2021	2	Very Good	Dry	F1 N	Mallard
12	17/07/2021	2	Very Good	Dry	F1 N	Great Crested Grebe
12	17/07/2021	2	Very Good	Dry	F1 N	Mute Swan
13	17/07/2021	2	Very Good	Dry	F1 N	Mute Swan
14	17/07/2021	2	Very Good	Dry	F1 N	Common Gull
15	17/07/2021	2	Very Good	Dry	F1 N	Lesser Black-backed Gull
20	17/07/2021	2	Very Good	Dry	F1 N	Grey Wagtail
1	05/08/2021	8	Good	Showers	F2 SSW	Grey Heron
2	05/08/2021	8	Good	Showers	F2 SSW	Mallard
4	05/08/2021	8	Good	Showers	F2 SSW	Lesser Black-backed Gull
4	05/08/2021	8	Good	Showers	F2 SSW	Coot
4	05/08/2021	8	Good	Showers	F2 SSW	Little Egret
4	05/08/2021	8	Good	Showers	F2 SSW	Grey Heron
4	05/08/2021	8	Good	Showers	F2 SSW	Water Rail
4	05/08/2021	8	Good	Showers	F2 SSW	Mallard
5	05/08/2021	8	Good	Showers	F2 SSW	Lesser Black-backed Gull
5	05/08/2021	8	Good	Showers	F2 SSW	Cormorant
5	05/08/2021	8	Good	Showers	F2 SSW	Black-headed Gull
5	05/08/2021	8	Good	Showers	F2 SSW	Coot
5	05/08/2021	8	Good	Showers	F2 SSW	Tufted Duck
5	05/08/2021	8	Good	Showers	F2 SSW	Great Crested Grebe
5	05/08/2021	8	Good	Showers	F2 SSW	Mallard
5	05/08/2021	8	Good	Showers	F2 SSW	Mute Swan
6	05/08/2021	8	Good	Showers	F2 SSW	Black-headed Gull
6	05/08/2021	8	Good	Showers	F2 SSW	Lesser Black-backed Gull
8	05/08/2021	8	Good	Showers	F2 SSW	Lapwing
8	05/08/2021	8	Good	Showers	F2 SSW	Black-headed Gull
8	05/08/2021	8	Good	Showers	F2 SSW	Coot
8	05/08/2021	8	Good	Showers	F2 SSW	Moorhen
8	05/08/2021	8	Good	Showers	F2 SSW	Little Egret
8	05/08/2021	8	Good	Showers	F2 SSW	Little Grebe
8	05/08/2021	8	Good	Showers	F2 SSW	Great Crested Grebe
8	05/08/2021	8	Good	Showers	F2 SSW	Mallard
8	05/08/2021	8	Good	Showers	F2 SSW	Mute Swan
8	05/08/2021	8	Good	Showers	F2 SSW	Tufted Duck
9	05/08/2021	8	Good	Showers	F2 SSW	Cormorant

HVP	Date	Cloud	Visibility	Rain	Wind	Common Name
9	05/08/2021	8	Good	Showers	F2 SSW	Coot
9	05/08/2021	8	Good	Showers	F2 SSW	Great Crested Grebe
9	05/08/2021	8	Good	Showers	F2 SSW	Tufted Duck
9	05/08/2021	8	Good	Showers	F2 SSW	Mallard
9	05/08/2021	8	Good	Showers	F2 SSW	Mute Swan
9	05/08/2021	8	Good	Showers	F2 SSW	Lesser Black-backed Gull
9	05/08/2021	8	Good	Showers	F2 SSW	Black-headed Gull
10	05/08/2021	8	Good	Showers	F2 SSW	Mute Swan
10	05/08/2021	8	Good	Showers	F2 SSW	Mallard
11	05/08/2021	8	Good	Showers	F2 SSW	Great Crested Grebe
11	05/08/2021	8	Good	Showers	F2 SSW	Moorhen
11	05/08/2021	8	Good	Showers	F2 SSW	Mute Swan
12	05/08/2021	8	Good	Showers	F2 SSW	Cormorant
12	05/08/2021	8	Good	Showers	F2 SSW	Great Crested Grebe
12	05/08/2021	8	Good	Showers	F2 SSW	Mute Swan
14	05/08/2021	8	Good	Showers	F2 SSW	Lesser Black-backed Gull
15	05/08/2021	8	Good	Showers	F2 SSW	Grey Wagtail
15	05/08/2021	8	Good	Showers	F2 SSW	Lesser Black-backed Gull
15	05/08/2021	8	Good	Showers	F2 SSW	Mallard
15	05/08/2021	8	Good	Showers	F2 SSW	Mute Swan
18	05/08/2021	8	Good	Showers	F2 SSW	Buzzard
20	05/08/2021	8	Good	Showers	F2 SSW	Kingfisher
20	05/08/2021	8	Good	Showers	F2 SSW	Mallard
20	05/08/2021	8	Good	Showers	F2 SSW	Grey Wagtail
25	05/08/2021	8	Good	Showers	F2 SSW	Lesser Black-backed Gull
1	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Mallard
4	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Moorhen
4	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Coot
4	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Little Egret
4	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Water Rail
4	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Grey Heron
5	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Mallard
5	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Mute Swan
5	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Wigeon
5	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Cormorant
5	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Lesser Black-backed Gull
5	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Tufted Duck
5	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Coot
5	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Moorhen
5	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Little Grebe
5	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Black-headed Gull
5	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Great Crested Grebe
6	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Mallard
6	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Buzzard
6	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Lesser Black-backed Gull

HVP	Date	Cloud	Visibility	Rain	Wind	Common Name
7	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Mute Swan
7	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Lesser Black-backed Gull
8	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Mute Swan
8	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Mallard
8	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Common Sandpiper
8	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Lapwing
8	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Tufted Duck
8	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Little Grebe
8	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Coot
8	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Moorhen
8	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Buzzard
8	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Lesser Black-backed Gull
8	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Moorhen
8	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Great Crested Grebe
8	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Moorhen
9	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Little Egret
9	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Mute Swan
9	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Lesser Black-backed Gull
9	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Common Gull
9	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Black-headed Gull
9	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Cormorant
9	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Mallard
9	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Little Grebe
9	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Great Crested Grebe
9	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Tufted Duck
9	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Coot
9	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Moorhen
10	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Mallard
11	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Mallard
11	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Great Crested Grebe
11	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Grey Heron
11	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Little Egret
12	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Mute Swan
12	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Mallard
12	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Moorhen
12	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Water Rail
14	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Lesser Black-backed Gull
15	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Mute Swan
15	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Lesser Black-backed Gull
15	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Little Egret
17	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Lesser Black-backed Gull
22	14/08/2021	8	Good	Showers-Light Rain	F1 SSE	Lesser Black-backed Gull
1	09/09/2021	3	Very Good	Showers	F2 SSE	Mallard
1	09/09/2021	3	Very Good	Showers	F2 SSE	Moorhen
2	09/09/2021	3	Very Good	Showers	F2 SSE	Kingfisher

HVP	Date	Cloud	Visibility	Rain	Wind	Common Name
2	09/09/2021	3	Very Good	Showers	F2 SSE	Grey Heron
4	09/09/2021	3	Very Good	Showers	F2 SSE	Little Egret
4	09/09/2021	3	Very Good	Showers	F2 SSE	Water Rail
4	09/09/2021	3	Very Good	Showers	F2 SSE	Moorhen
4	09/09/2021	3	Very Good	Showers	F2 SSE	Grey Heron
4	09/09/2021	3	Very Good	Showers	F2 SSE	Buzzard
5	09/09/2021	3	Very Good	Showers	F2 SSE	Mallard
5	09/09/2021	3	Very Good	Showers	F2 SSE	Mute Swan
5	09/09/2021	3	Very Good	Showers	F2 SSE	Lesser Black-backed Gull
5	09/09/2021	3	Very Good	Showers	F2 SSE	Black-headed Gull
5	09/09/2021	3	Very Good	Showers	F2 SSE	Great Crested Grebe
5	09/09/2021	3	Very Good	Showers	F2 SSE	Moorhen
5	09/09/2021	3	Very Good	Showers	F2 SSE	Coot
5	09/09/2021	3	Very Good	Showers	F2 SSE	Grey Heron
5	09/09/2021	3	Very Good	Showers	F2 SSE	Little Grebe
5	09/09/2021	3	Very Good	Showers	F2 SSE	Little Egret
6	09/09/2021	3	Very Good	Showers	F2 SSE	Mute Swan
6	09/09/2021	3	Very Good	Showers	F2 SSE	Black-headed Gull
7	09/09/2021	3	Very Good	Showers	F2 SSE	Mute Swan
7	09/09/2021	3	Very Good	Showers	F2 SSE	Grey Heron
8	09/09/2021	3	Very Good	Showers	F2 SSE	Mute Swan
8	09/09/2021	3	Very Good	Showers	F2 SSE	Mallard
8	09/09/2021	3	Very Good	Showers	F2 SSE	Lapwing
8	09/09/2021	3	Very Good	Showers	F2 SSE	Grey Wagtail
8	09/09/2021	3	Very Good	Showers	F2 SSE	Teal
8	09/09/2021	3	Very Good	Showers	F2 SSE	Great Crested Grebe
8	09/09/2021	3	Very Good	Showers	F2 SSE	Little Grebe
8	09/09/2021	3	Very Good	Showers	F2 SSE	Black-headed Gull
8	09/09/2021	3	Very Good	Showers	F2 SSE	Moorhen
8	09/09/2021	3	Very Good	Showers	F2 SSE	Little Egret
8	09/09/2021	3	Very Good	Showers	F2 SSE	Grey Heron
8	09/09/2021	3	Very Good	Showers	F2 SSE	Cormorant
8	09/09/2021	3	Very Good	Showers	F2 SSE	Curlew
8	09/09/2021	3	Very Good	Showers	F2 SSE	Great Black-backed Gull
9	09/09/2021	3	Very Good	Showers	F2 SSE	Little Egret
9	09/09/2021	3	Very Good	Showers	F2 SSE	Grey Heron
9	09/09/2021	3	Very Good	Showers	F2 SSE	Mallard
9	09/09/2021	3	Very Good	Showers	F2 SSE	Lesser Black-backed Gull
9	09/09/2021	3	Very Good	Showers	F2 SSE	Great Crested Grebe
9	09/09/2021	3	Very Good	Showers	F2 SSE	Little Grebe
9	09/09/2021	3	Very Good	Showers	F2 SSE	Mute Swan
9	09/09/2021	3	Very Good	Showers	F2 SSE	Coot
9	09/09/2021	3	Very Good	Showers	F2 SSE	Cormorant
10	09/09/2021	3	Very Good	Showers	F2 SSE	Mute Swan
10	09/09/2021	3	Very Good	Showers	F2 SSE	Mallard

HVP	Date	Cloud	Visibility	Rain	Wind	Common Name	
11	09/09/2021	3	Very Good	Showers	F2 SSE	Mute Swan	
11	09/09/2021	3	Very Good	Showers	F2 SSE	Mallard	
12	09/09/2021	3	Very Good	Showers	F2 SSE	Mute Swan	
12	09/09/2021	3	Very Good	Showers	F2 SSE	Water Rail	
12	09/09/2021	3	Very Good	Showers	F2 SSE	Grey Heron	
13	09/09/2021	3	Very Good	Showers	F2 SSE	Snipe	
14	09/09/2021	3	Very Good	Showers	F2 SSE	Mute Swan	
15	09/09/2021	3	Very Good	Showers	F2 SSE	Mallard	
15	09/09/2021	3	Very Good	Showers	F2 SSE	Mute Swan	
15	09/09/2021	3	Very Good	Showers	F2 SSE	Moorhen	
16	09/09/2021	3	Very Good	Showers	F2 SSE	Grey Heron	
19	09/09/2021	3	Very Good	Showers	F2 SSE	Grey Wagtail	
19	09/09/2021	3	Very Good	Showers	F2 SSE	Lesser Black-backed Gull	
19	09/09/2021	3	Very Good	Showers	F2 SSE	Grey Heron	
22	09/09/2021	3	Very Good	Showers	F2 SSE	Lesser Black-backed Gull	



CONSULTANTS IN ENGINEERING, ENVIRONMENTAL SCIENCE & PLANNING

## **APPENDIX 5**

Transect Survey Schedule and Conditions



Date	Transect	Time	Cloud (Okta)	Precipitation	Visibility	Wind
		1	May 2021			
12/05/2021	1	05:20-05:53	7/8	Dry	Very good	F1-2
13/05/2021	2	05:20-05:49	7/8	Dry	Very good	F1
12/05/2021	3	10:33-10:59	6/8	Dry	Very good	F1-2
12/05/2021	4	05:55-06:24	6/8	Dry	Very good	F1
12/05/2021	5	06:27-06:53	6/8	Dry	Very good	F1-2
12/05/2021	6	09:40-10:12	7/8	Dry	Very good	F1-2
12/05/2021	7	09:05-09:31	7/8	Dry	Very good	F1-2
12/05/2021	8	08:22-08:50	6/8	Dry	Very good	F1-2
12/05/2021	9	07:38-08:08	7/8	Dry	Very good	F1-2
12/05/2021	10	07:05-07:32	7/8	Dry	Very good	F1
14/05/2021	11	05:22-05:51	8/8	Dry	Very good	F1
14/05/2021	12	06:08-06:39	8/8	Dry	Very good	F1
13/05/2021	13	09:18-09:46	6/8	Dry	Very good	F1
13/05/2021	14	06:25-06:38	8/8	Dry	Very good	F1
13/05/2021	15	07:31-08:00	7/8	Dry	Good	F1
13/05/2021	16	08:34-09:03	6/8	Dry	Very good	F1
13/05/2021	17	10:03-10:32	5/8	Dry	Very good	F1
14/05/2021	18	09:37-10:36	7/8	Dry	Very good	F1
14/05/2021	19	08:45-09:13	7/8	Dry	Very good	F1
14/05/2021	20	08:02-07:30	7/8	Dry	Very good	F1
14/05/2021	21	07:49-08:22	6/8	Dry	Very good	F1
		J	une 2021			
11/06/2021	1	05:18-05:55	8/8	Dry	Very good	F3-4
13/06/2021	2	05:10-05:41	8/8	Dry	Very good	F2
11/06/2021	3	06:32-07:00	8/8	Dry	Very good	F3-4
11/06/2021	4	05:59-06:29	4/8	Dry	Very good	F3-4
11/06/2021	5	10:52-11:22	7/8	Dry	Very good	F3-4
11/06/2021	6	10:02-10:27	8/8	Dry	Very good	F3
11/06/2021	7	09:30-09:54	8/8	Dry	Very good	F3
11/06/2021	8	08:45-09:13	6/8	Dry	Very good	F3
11/06/2021	9	07:54-08:23	5/8	Dry	Very good	F3-4
11/06/2021	10	07:15-07:45	4/8	Dry	Very good	F3-4
12/06/2021	11	05:15-05:46	8/8	Dry	Very good	F2

Date	Transect	Time	Cloud (Okta)	Precipitation	Visibility	Wind
12/06/2021	12	06:05-06:34	8/8	Dry	Very good	F2
12/06/2021	13	09:00-09:32	7/8	Dry	Very good	F2
12/06/2021	14	10:13-10:44	8/8	Dry	Very good	F2
12/06/2021	15	07:11-07:39	7/8	Dry	Very good	F2
12/06/2021	16	08:15-08:47	7/8	Dry	Very good	F2
13/06/2021	17	09:52-10:30	7/8	Dry	Very good	F1
13/06/2021	18	10:42-11:30	6/8	Dry	Very good	F1
13/06/2021	19	08:45-09:21	6/8	Dry	Very good	F1
13/06/2021	20	06:55-07:29	5/8	Dry	Very good	F1
13/06/2021	21	07:55-08:24	6/8	Dry	Very good	F1



### CONSULTANTS IN ENGINEERING, ENVIRONMENTAL SCIENCE & PLANNING

www.fehilytimoney.ie



Core House Pouladuff Road, Cork, T12 D773, Ireland +353 21 496 4133

#### Oublin Office

J5 Plaza, North Park Business Park, North Road, Dublin 11, D11 PXTO, Ireland +353 1 658 3500

### Carlow Office

Unit 6, Bagenalstown Industrial Park, Royal Oak Road, Muine Bheag, Co. Carlow, R21 XW81, Ireland





**NSAI** Certified



**NSAI** Certified

+353 59 972 3800