



## Bord na Móra

# Breeding Bird Survey (2016)

January 2017

TOBIN CONSULTING ENGINEERS



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# REPORT

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**PROJECT:** **Proposed Derryadd Wind Farm  
Breeding Bird Survey (2016)**

**CLIENT:** **Bord na Móna**

**COMPANY:** **TOBIN Consulting Engineers  
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Blanchardstown Corporate Park  
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**DOCUMENT AMENDMENT RECORD**

<b>Client:</b>	<b>Bord na Móna</b>
<b>Project:</b>	<b>Derryadd Proposed Wind Farm</b>
<b>Title:</b>	<b>Breeding Bird Survey (2016)</b>

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<b>TOBIN Consulting Engineers</b>							

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## 1 INTRODUCTION

TOBIN Consulting Engineers (TOBIN) were commissioned to carry out an Environmental Impact Assessment of a proposed wind farm site on Bord na Móna lands, in County Longford. The site encompasses three individual bogs; Derryarogue, Derryadd, and Lough Bannow (refer to Figure 1-1). As part of the assessment, TOBIN carried out a breeding bird survey in 2016 to gather baseline data to inform the impact assessment and supplement existing data gathered by Malachy Walsh and Partners during the 2015 breeding bird season and winter bird seasons of 2014/ 2015 and 2015/ 2016.

TOBIN undertook breeding bird surveys at the proposed development to quantify local bird flight activity to inform a collision risk model, and to record the distribution and abundance of breeding birds using the site. Special attention was paid to those species which appear on the following lists: Red (or Amber) Listed Birds of Conservation Concern in Ireland<sup>1</sup>, Annex I of the EU Birds Directive (79/409/EEC)<sup>2</sup>, the qualifying interest of local designated sites and those species which are particularly susceptible to collision with wind turbines. These species were considered the target of subsequent surveys.

In order to gather the required data, TOBIN undertook the following surveys;

- Vantage Point Surveys;
- Breeding Bird Transect Surveys;
- I-WeBS/ Hinterland Surveys; and
- Woodcock Surveys.

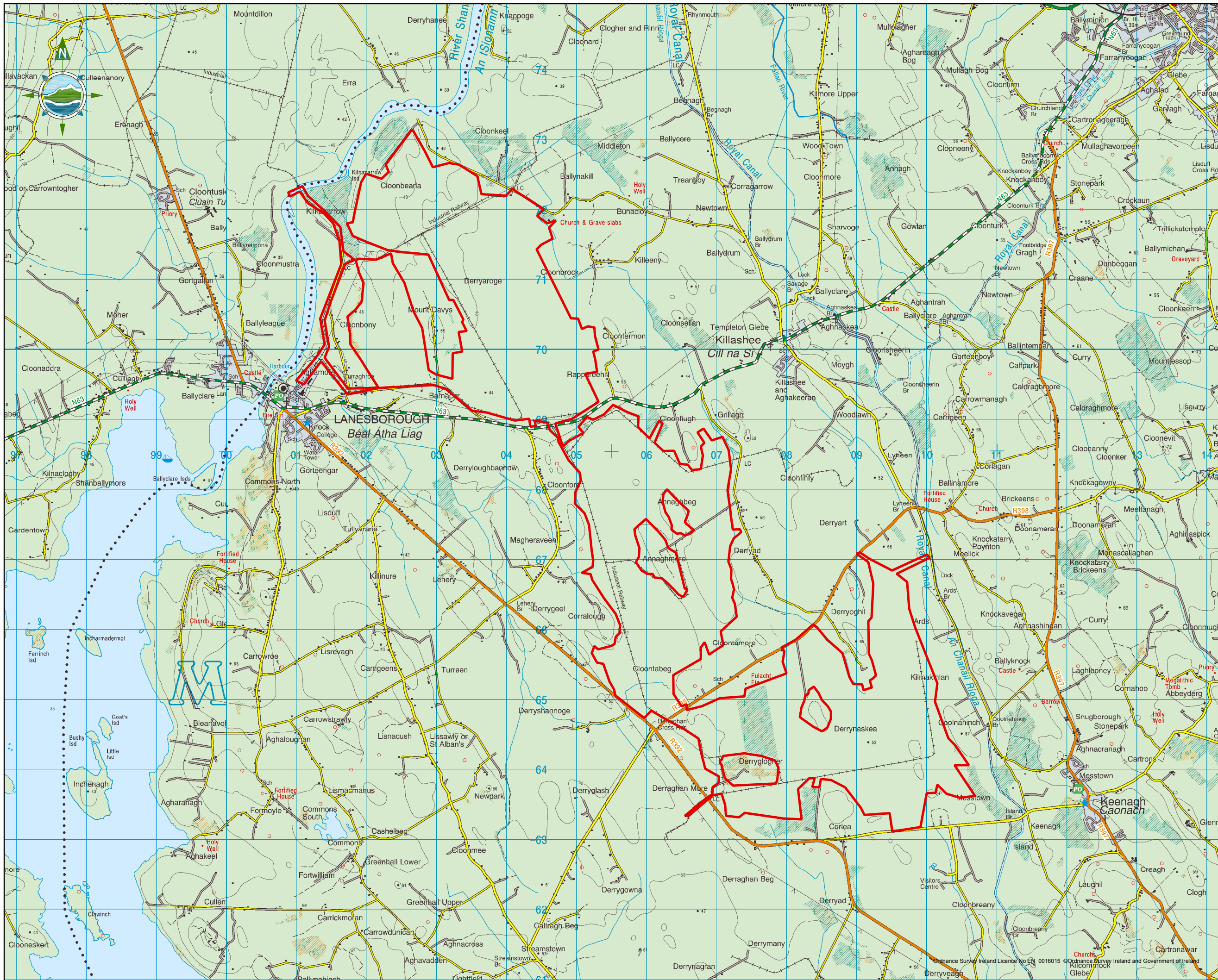
The surveys were undertaken by experienced ornithologists/ bird surveyors from TOBIN Consulting Engineers and sub-consultants.

This report details the results of the breeding bird surveys conducted monthly between April and September 2016.

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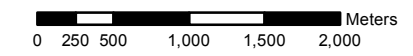
<sup>1</sup> Colhoun K & Cummins S (2013). Birds of Conservation Concern in Ireland 2014–2019. Irish Birds 9: 523-544.

<sup>2</sup> [https://www.npws.ie/sites/default/files/general/Listed\\_species\\_checklist\\_Dec12.pdf](https://www.npws.ie/sites/default/files/general/Listed_species_checklist_Dec12.pdf). Accessed: January 2017.



**Legend**

Study Area



- NOTES**
1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
  2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
  3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
  4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Issue	Date	Description	By	Chkd.
A	JUN-16	Site location	G.F.	J.D.

Client:

**BORD NA MÓNA**

Project:

**Derryadd Windfarm**

Title:

**Study Area**

Scale @ A3: 1:50,000

Prepared by: G. Fil      Checked: L. Brogan      Date: June 2016

Project Director: D. Grehan

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## 2 METHODOLOGY

### 2.1 DESK STUDY

A desk study was undertaken prior to the field study in order to gather existing information regarding breeding birds in the study area. The desk study was informed by:

- Copeland, A. (2011). Birds on Cutaway Peatlands: Baseline Breeding Bird Population Survey. Project Report 2011. Unpublished report for Bord na Móna;
- McGuinness, S., Muldoon, C., Tierney, N., Cummins, S., Murray, A., Egan, S., & Crowe, O. (2015). Bird Sensitivity Mapping for Wind Energy Developments and Associated Infrastructure in the Republic of Ireland. BirdWatch Ireland;
- Scottish Natural Heritage. (2013). Assessing Connectivity with Special Protection Areas (SPAs);
- Scottish Natural Heritage. (2014). Recommended Bird Survey Methods to inform Impact Assessment of Onshore Wind Farms;
- I-WeBS (2015). Irish Wetland Bird Survey Records<sup>3</sup>;
- Review of Bord na Móna Biodiversity Action Plan 2016-2021;
- Review of Ordnance Survey Ireland<sup>4</sup>, Bing Maps<sup>5</sup>, and very detailed LIDAR ortho-photography<sup>6</sup> in order to determine typical habitats that occur within the study area, and areas with potential for species of conservation concern and/or species possibly sensitive to a transmission line development;
- Review of Bird Atlas 2007-11: The Breeding and Wintering Birds of Britain and Ireland (British Trust for Ornithology)<sup>7</sup>;
- [www.birdwatchireland.ie](http://www.birdwatchireland.ie) – Distribution map of I-WeBS sites in Ireland;
- [www.nbdc.ie](http://www.nbdc.ie) – Bird distribution data (10km hectare squares);
- [www.npws.ie](http://www.npws.ie) – Distribution maps and associated information for sites designated for nature conservation by NPWS (i.e. SPAs, SACs, NHAs, pNHAs);
- Previous field surveys for the proposed wind farm, conducted by Malachy Walsh and Partners, including winter bird surveys (2014/2015 & 2015/2016) and breeding bird surveys (2015).

### 2.2 CONSULTATION

On the 8<sup>th</sup> of September 2016 an invitation was made to a number of statutory bodies and interested parties to submit any relevant information that they may hold and/ or highlight any issues that they feel should be directed to the project team regarding the ornithological interest at the proposed Derryadd Wind Farm. The following consultees were contacted:

- National Parks and Wildlife Service (NPWS)
- BirdWatch Ireland (BWI)
- Irish Raptor Group Study Group
- Irish Wildlife Trust

<sup>3</sup> <http://f1.caspio.com/dp.asp?AppKey=f4db3000060acbd80db9403f857c>. Accessed: January 2017.

<sup>4</sup> <http://maps.osi.ie/publicviewer/#V1,591271,743300,0,10>. Accessed: January 2017.

<sup>5</sup> <http://www.bing.com/maps/>. Accessed: January 2017.

<sup>6</sup> <http://www.bks.co.uk/>. Accessed: January 2017.

<sup>7</sup> Balmer D, Gillings S, Caffrey B, Swann B, Downie I and Fuller R (2013) The Breeding and Wintering Birds of Britain and Ireland (British Trust for Ornithology).

- Irish Peatland Conservation Council

The following consultation responses were received:

- National Parks and Wildlife Service noted that the proposed development is situated in a location likely to impact on protected species, e.g. breeding Curlew, Buzzard, Cuckoo, [Great Spotted] Woodpecker, Hen Harrier and Barn Owl.
- Irish Peatland Conservation Council highlighted the significant threat which Curlews face in Ireland. They pointed to the likelihood that some of the wintering Curlew from Lough Ree SPA/ SAC are native breeders which need to be properly assessed. Where breeding is found they emphasise the need to put in place adequate set back distances.

No specific sites, which would require particular attention, were highlighted by any of the consulted parties outside of the SPA and SAC sites in the wider region.

## 2.3 FIELD STUDY

### 2.3.1 Overview of the Survey Area

The proposed development is located on three cutaway bogs (Derryaroge, Derryadd, and Lough Bannow) within the Mountdillon peat production group in south County Longford, as shown in Figure 1-1. The land use/ activities on the three bogs are a mixture of active peat extraction, bare cutaway peat, re-vegetation of bare peat and an existing wind monitoring mast on Derryaroge Bog and Lough Bannow. The three bogs have a total area of approximately c. 2,300 hectares and are located in an area generally circumscribed by the towns and villages of Lanesborough, Derraghan, Keenagh, Killashee, and the River Shannon. The surrounding landscape is a mixture of forestry, agricultural land and cutaway peatland, and is predominantly flat. To address the potential for impacts of the development beyond the site boundary, the survey area was enlarged to encompass a 500m or 5km radius from the development/ planning boundary (depending on the target of surveys), as per SNH (2014)<sup>8</sup>.

### 2.3.2 Local Designated Sites

The presence of a number of local<sup>9</sup> statutory designated sites was considered when designing the surveys. Furthermore, particular attention was paid to species which were named as being of ornithological interest of these designated sites for breeding. The ornithological interest of the four local designated sites is listed below in Table 2-1.

**Table 2-1: Local Designated Sites Relative to the Proposed Derryadd Wind Farm and their Ornithological Interests**

Designated Site	Habitats	Ornithological Interest <sup>10</sup>
Lough Ree SPA/ SAC	Lake and fringing wetland/ woodland	Breeding Common Tern, Common Scoter and wintering waterfowl

<sup>8</sup> Scottish Natural Heritage (SNH) (2014). Recommended bird survey methods to inform impact assessment of onshore wind farms. SNH Guidance Document.

<sup>9</sup> Many of the local designated sites contained water bodies. Water bodies within 5km of the site were deemed to be within (water bird) connectivity distance of the site, and as a result were subject to surveys.

<sup>10</sup> <https://www.npws.ie/protected-sites>. Accessed: January 2017.



Designated Site	Habitats	Ornithological Interest <sup>10</sup>
Ballykenney- Fisherstown Bog SPA	Lake, swamp vegetation and raised bog	Wintering Greenland White-fronted Goose
Fortwilliam Turlough SAC	Turlough	Nesting Snipe and Mallard
Lough Forbes Complex SAC	Lake, alluvial forest and raised bog	Wintering waterfowl, breeding Merlin and Red grouse

### 2.3.3 Identified Target and Secondary Species

Target species in general are those species which are afforded a higher level of legal protection due to their unfavourable conservation status and/ or those species whose behaviour makes them more susceptible to impact from wind farms. Species groups which typically fall into this category include, raptors (Annex I listed species of EU Birds Directive, e.g. Hen Harrier or Merlin), water birds (Annex I listed species of EU Birds Directive, e.g. Little Egret or Common Tern) or waders (Annex I listed species of EU Birds Directive, e.g. Golden Plover or Lapwing).

Species which do not fall under the above criteria but are of local importance may also need to be considered. These species are termed secondary species. The recording of target species observations are prioritised over secondary species. In general it is considered that passerines<sup>11</sup> are little impacted by wind farms. A full list of Target, Secondary and Noteworthy species is included in Table 2-2 below.

**Table 2-2: Target, Secondary and Noteworthy Species Surveyed within the Proposed Derryadd Wind Farm Study Area**

Species	Conservation Status <sup>12, 1</sup>	Target, Secondary or Noteworthy
Barn Owl ( <i>Tyto alba</i> )	Red	Target
Black-headed Gull ( <i>Larus ridibundus</i> )	Red	Target
Buzzard ( <i>Buteo buteo</i> )	Green	Noteworthy
Common Gull ( <i>Larus canus</i> )	Amber	Secondary
Common Sandpiper ( <i>Tringa hypoleucos</i> )	Amber	Target
Coot ( <i>Fulica atra</i> )	Amber	Target
Cormorant ( <i>Phalacrocorax carbo</i> )	Amber	Target
Corncrake ( <i>Crex crex</i> )	Annex I, Red	Target
Cuckoo ( <i>Cuculus canorus</i> )	Green	Secondary
Curlew ( <i>Numenius arquata</i> )	Red	Target
Golden Plover ( <i>Pluvialis apricaria</i> ),	Annex I, Red	Secondary
Great Black-backed Gull ( <i>Larus marinus</i> )	Amber	Noteworthy
Great Crested Grebe ( <i>Podiceps cristatus</i> )	Amber	Secondary
Grey Heron ( <i>Ardea cinerea</i> ),	Green	Noteworthy
Grey Wagtail ( <i>Motacilla cinerea</i> )	Red	Secondary
Hen Harrier ( <i>Circus cyaneus</i> )	Annex I, Amber	Target
Herring Gull ( <i>Larus argentatus</i> )	Red	Secondary
Kestrel ( <i>Falco tinnunculus</i> )	Amber	Noteworthy
Kingfisher ( <i>Alcedo atthis</i> )	Annex I, Amber (breeding)	Noteworthy
Lapwing ( <i>Vanellus vanellus</i> )	Red	Target
Lesser Black-backed Gull ( <i>Larus fuscus</i> )	Amber (breeding only)	Noteworthy

<sup>11</sup> Passerines (perching birds) are typically small birds of the order Passeriformes, whose behaviour is thought to make them less susceptible to impacts from wind farm.

<sup>12</sup> Listed Annex 1 EU Birds Directive

Species	Conservation Status <sup>12, 1</sup>	Target, Secondary or Noteworthy
Little Egret ( <i>Egretta garzetta</i> )	Annex I, Green	Target
Little Grebe ( <i>Tachybaptus ruficollis</i> )	Amber	Target
Long-eared Owl ( <i>Asio otus</i> )	Green	Target
Mallard ( <i>Anas platyrhynchos</i> )	Green	Target
Meadow Pipit ( <i>Anthus pratensis</i> )	Red	Secondary
Merlin ( <i>Falco columbarius</i> )	Annex I, Amber (breeding only)	Target
Moorhen ( <i>Gallinula chloropus</i> )	Green	Secondary
Mute Swan ( <i>Cygnus olor</i> )	Amber	Target
Peregrine ( <i>Falco peregrines</i> )	Annex I, Green	Target
Redshank ( <i>Tringa tetanus</i> )	Red	Target
Red Grouse ( <i>Lagopus lagopus scoticus</i> )	Red	Target
Ringed Plover ( <i>Charadrius hiaticula</i> )	Green <sup>13</sup>	Target
Shelduck ( <i>Todorna tadorna</i> )	Amber	Secondary
Snipe ( <i>Gallinago gallinago</i> )	Amber	Target
Sparrowhawk ( <i>Accipiter nisus</i> )	Amber (breeding only)	Secondary
Teal ( <i>Anas crecca</i> )	Amber	Target
Tufted Duck ( <i>Aythya fuligula</i> )	Red	Target
Woodcock ( <i>Scolopax rusticola</i> )	Red (breeding only)	Target

## 2.4 SURVEY METHODOLOGY

### 2.4.1 Vantage Point Surveys

Vantage point surveys aim to quantify the level of flight activity and its distribution over the survey area. The primary purpose of the survey is to provide data to inform the collision risk model, which makes predictions of mortality from collisions with operating turbines. Vantage points are fixed locations, which are strategically positioned to provide a maximum view shed of the survey area from a minimum number of locations. The surveyed area should include the entire wind farm envelop where turbines may be positioned and should extend to a 500m radius from the outermost turbines. The view shed of a given vantage point should extend to a distance of no greater than 2km and include an arc of no greater than 180 degrees, as per SNH (2014)<sup>8</sup>. Vantage point surveys at the proposed development undertaken previously did not achieve this standard. Many of these vantage points did not provide an adequate view shed of the site. In an effort to achieve a greater level of compliance with SNH (2014)<sup>8</sup>, a digital terrain model (DTM) was used by TOBIN to assist with the selection of vantage point locations. Vantage point surveys were undertaken from 11 fixed point locations over the course of the 2016 breeding season. Table 2-3 gives details of their locations. The location of each vantage point is mapped in Figure 2-1 below.

**Table 2-3: Vantage Point Locations for the 2016 Breeding Bird Surveys**

Vantage Point	Coordinates (Latitude, Longitude)
VP 1	53.718071, -7.943306
VP 2	53.701120, -7.985263
VP 3	53.675887, -7.956285

<sup>13</sup> Ringed Plover was upgraded to green listed under BoCCI 2014 -2019.

VP 4	53.693586, -7.9708703
VP 5	53.671977, -7.924023
VP 6	53.671823, -7.924023
VP 7	53.657040, -7.898778
VP 8	53.632594, -7.905066
VP 9	53.643136, -7.876488
VP 10	53.618275, -7.853129
VP 11	53.623289, -7.872795

The vantage point methodology followed guidelines issued by the SNH (2014)<sup>8</sup>. The minimum requirement of 36 hours per vantage point was achieved for the season. The timing of watches was tailored to the ecology of the target species present on site, including dawn, day, and dusk surveys. Field information recorded included; dates, vantage point location, weather, survey start and end time, species observed, time of observation, number of individuals per observation, height of flight, duration of flight, reference number to flight line. All flight lines of target species were mapped on field sheets. Behavioural observations were also recorded.

In general, birds which use the airspace around turbines are susceptible to collision with operating turbines. The swept area of the rotor blade is the area in which a collision is theoretically possible. Possible collision height (PCH) is therefore defined as the area of space occupied by the turbine rotors. Possible collision height will vary between wind farms and with the specification of the manufacture. For the proposed Derryadd Wind Farm, PCH was considered to be within the height band of 30-170m<sup>14</sup> above ground level. Three height bands were used by the surveyor to characterise flight height: below PCH, at PCH and above PCH.

#### 2.4.2 Breeding Birds Transect Surveys

Additional transects were devised for all areas of suitable habitat within the survey area to add to those previously used by Malachy Walsh. A total of 21 transects were surveyed (2016 breeding season). The transects covered a large and representative portion of the survey area. The surveyed area included on site areas and to a 500m radius of the planning/ development boundary, as per SNH (2014)<sup>8</sup>. The location of each transect is mapped on Figure 2-1 below. The transect surveys were walked at a regular slow speed. Notes on aural and visual registrations of bird species were recorded during field surveys. Visual registrations were recorded with the aid of a binoculars (e.g. 8 x 42) and if necessary with the aid of a telescope (e.g. 20-45 x 60 Scope). Particular emphasis was paid to waders in areas of bare peat and other target species.

The transect survey methodology followed that of Countryside Bird Survey (CBS)<sup>15</sup>. Two surveys were carried out over the season between mid March and July 2016. This is the recommended period for

<sup>14</sup> This height is based on predictions of turbine tub heights and rotor blade lengths.

<sup>15</sup> Countryside Bird Survey Methods (<http://www.birdwatchireland.ie/Default.aspx?tabid=116>). Accessed: January 2017.

conducting breeding bird surveys (Birdwatch Ireland)<sup>16</sup>. For all species, every effort was made to minimise disturbance risks that might be caused by the human intrusion associated with undertaking the survey. Careful and regular stops and scans minimised potential disturbance risks so as to allow rapid detection of species presence, such as displaying birds, and to take appropriate avoidance measures.

Where access allowed, an adapted Brown and Shepherd (1993)<sup>17</sup> survey methods was employed in suitable habitat for breeding waders. Suitable breeding habitat for waders includes wetlands and bogs such as wet grassland, marsh, fens, river valleys, raised bog, degraded raised bog, cutover bog and blanket bog. Brown and Shepherd (1993)<sup>17</sup> methods are suitable for surveying many upland and open country species.

Breeding raptor activity was also noted during the course of transect surveys. All areas of suitable habitat on site and to a radius of 500m from the planning/development boundary was investigated for aural or visual registrations and/ or physical signs (feathers, pellets, prey remains or white washing) on prominent features in the landscape. The location of any breeding behaviour was noted for further future investigation. Potential nest sites were located by conducting watches of the area under investigation from a safe distance which would not cause disturbance. Observations of any of the following confirmed breeding; a food pass between two adults, adults carrying prey, nest with eggs or young found and/ or recently fledged young<sup>18</sup>.

#### 2.4.3 *I-WeBS/ Hinterland Survey*

Monthly counts (May - September) were conducted at wetland water bird sites during daylight hours from suitable vantage points using binoculars and/ or telescope as required. Information collected included; numbers of breeding wildfowl or wader species, the presence of marked birds (leg-ringed or neck-collared), weather conditions and habitat types. Survey methodology followed the '*I-WeBS Counter Manual – Guidelines for Irish Wetland Bird Survey Counters*'<sup>19</sup> coordinated by BirdWatch Ireland. The area surveyed included the hinterland of the site to a 5km radius from the planning/ development boundary. Particular attention was paid to breeding aggregations of Common Scoter and Common Tern, which are among the qualifying interests of the nearby Lough Ree SPA. The area surveyed is mapped in Figure 2-1 below.

#### 2.4.4 *Woodcock Survey*

Woodcock surveys were undertaken in areas of suitable habitat within and to a 500m radius from the planning/ development boundary. The area surveyed is mapped on Figure 2-1 below. The survey methodology broadly followed the recommendations of Gilbert et al., (1998)<sup>20</sup> for surveying woodcock. Two survey visits were undertaken in June 2016. Surveyors were in position from an hour before sunset until last visible light. The aim of the survey was to record the presence of roding (displaying) male woodcock and thereby establish the distribution and abundance of the species in the study area.

<sup>16</sup> Countryside Bird Survey Manual (<http://www.birdwatchireland.ie/LinkClick.aspx?fileticket=ZMHg4m%2BJc7k%3D&tabid=116>). Accessed: January 2017.

<sup>17</sup> Brown, A. F. and Shepherd, K. B. (1993). A method to survey upland breeding waders. *Birds study* 40: 189-195.

<sup>18</sup> Hardey, J. et al., (2013). *Raptors: A field guide for surveys and monitoring*.

<sup>19</sup> <http://www.birdwatchireland.ie/LinkClick.aspx?fileticket=Ih2CTw9bjs%3D>. Accessed: January 2017.

<sup>20</sup> Gilbert, Gibbons and Evans (1998) *Bird Monitoring Methods: A manual of techniques for UK species*.

This survey method also allowed the observer to concurrently survey for owls. Evening visits between May and July can be useful in detecting calling juveniles (owls) which can prove useful in detecting successful pairs<sup>20</sup>.

#### 2.4.5 Survey Dates

Table 2-4 below outlines the dates of surveys, locations and survey methodology. The various survey methods employed were as follows; Vantage Point Surveys (VP), Breeding Birds Transect Surveys (BBS), I-WeBS/ Hinterland Surveys (I-WeBS) and Woodcock Surveys (WK).

**Table 2-4: Survey Dates, Locations and Survey Methodology for the 2016 Breeding Bird Surveys**

Date	Location	Survey Methodology <sup>21</sup>
21/04/2016	VP 8 & 10	VP
22/04/2016	VP 10	VP
25/04/2016	VP 3, 4, 5, & 9	VP
26/04/2016	VP 3 & 4	VP
27/04/2016	VP 7 & 9	VP
28/04/2016	VP 5	VP
29/04/2016	VP 7	VP
16/05/2016	VP 3 & 4	VP
17/05/2016	VP 3 & 4	VP
18/05/2016	VP 5 & 9, T 10	VP, BBS
19/05/2016	VP 8 & 9, T 11, 13, 17 & 18	VP, BBS
20/05/2016	VP 8 & 10, T 4	VP, BBS
24/05/2016	Royal Canal, Derrymacar Lough, Fortwilliam Turlough, Lough Ree, River Shannon, Feorish River, Camlin River	I-WeBS
30/05/2016	VP 1, 2 & 6	VP
31/05/2016	VP 1 & 2	VP
01/06/2016	T 12, 14, 15, 16, 19, 20 & 21	BBS
02/06/2016	T 1, 2, 3, 5, 6, 7, 8 & 9	BBS
06/06/2016	VP 3, 4 & 11	VP
07/06/2016	VP 4, 6 & 11	VP
08/06/2016	VP 3 & 11	VP
09/06/2016	VP 7	VP
13/06/2016	VP 9, Woodcock survey area A	VP, WK
14/06/2016	VP 7 & 10, Woodcock survey area B	VP, WK
15/06/2016	VP 9, Woodcock survey area C	VP, WK
16/06/2016	VP 1, 2 & 10, Woodcock survey area B, Royal Canal, Derrymacar Lough, Fortwilliam Turlough, Lough Ree, River Shannon, Feorish River, Camlin River	VP, WK and I-WeBS
17/06/2016	VP 1 & 2, Royal Canal, Derrymacar Lough, Fortwilliam Turlough, Lough Ree, River Shannon, Feorish River, Camlin River, Fallan River	VP, I-WeBS
18/06/2016	VP 2 & 5	VP
20/06/2016	VP 1 & 2	VP
21/06/2016	VP 1, 2, 5 & 8	VP

<sup>21</sup> Survey Methodology: VP = vantage point, BBS = Breeding Bird Survey/ Brown and Shepard (1993) (as appropriate), WK = Woodcock/ Owl.

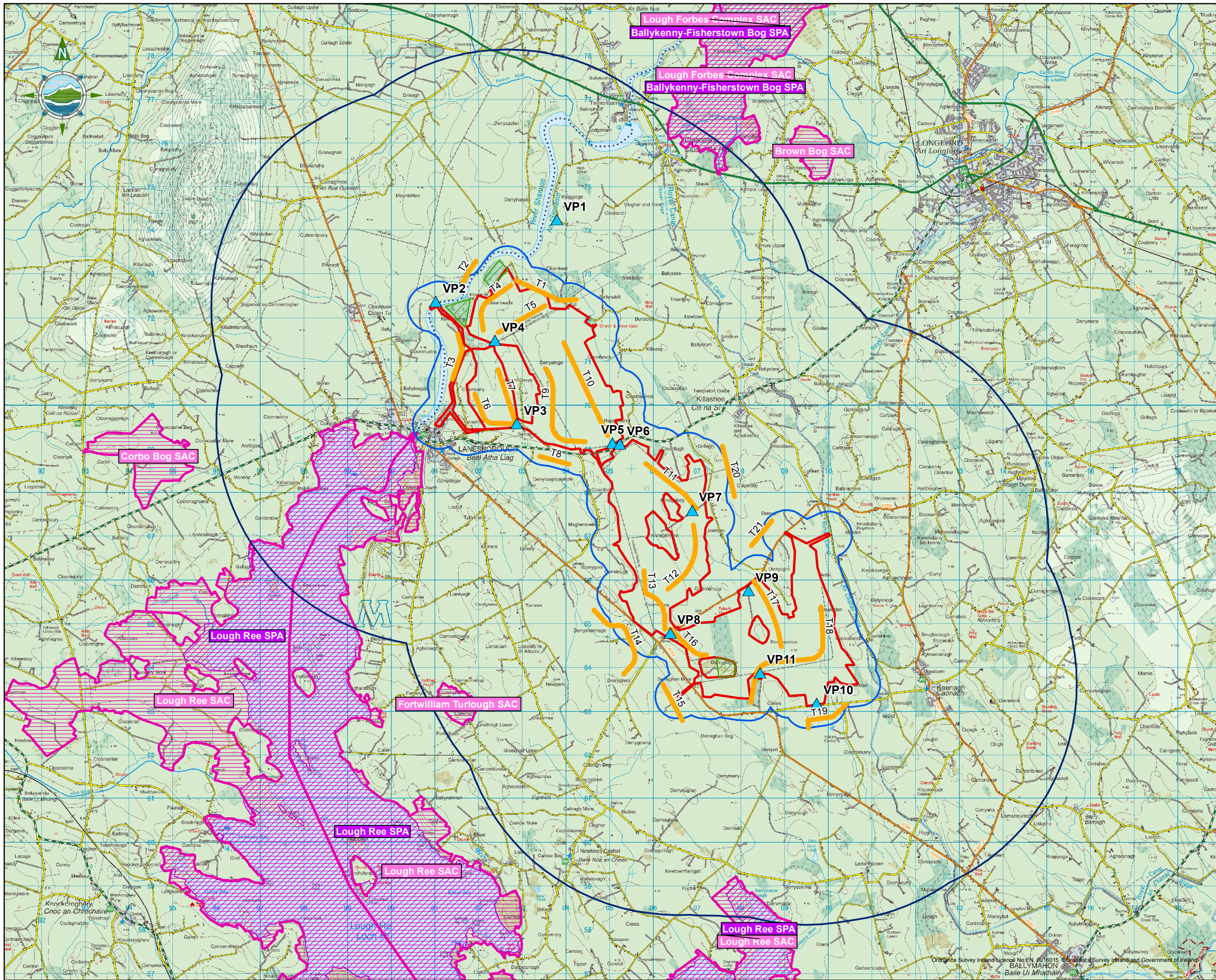
Date	Location	Survey Methodology <sup>21</sup>
24/06/2016	VP 8	VP
28/06/2016	VP 7 & 11	VP
29/06/2016	VP 7 & 11	VP
30/06/2016	VP 6, WK northern section of site	VP, WK
01/07/2016	VP 6	VP
04/07/2016	VP 3 & 4	VP
05/07/2016	VP 4	VP
06/07/2016	VP 3 & 9	VP
07/07/2016	VP 5, 6 & 9	VP
08/07/2016	VP 5	VP
12/07/2016	VP 5 & 6	VP
13/07/2016	VP 4, T 13, 14, 15, 16, 17, 18 & 19.	VP, BBS
14/07/2016	T 1, 2, 3, 4, 5, 6, 7 & 8	BBS
15/07/2016	T 9, 10, 11, 12, 20 & 21	BBS
18/07/2016	VP 1, 2, 5, 7, 8, 10	VP
19/07/2016	VP 1, 2, 6, 8 & 10	VP
21/07/2016	VP 7	VP
22/07/2016	VP 11	VP
25/07/2016	VP 10 & 11	VP
26/07/2016	VP 6 & 11	VP
03/08/2016	VP 1 & 2	VP
04/08/2016	VP 2 & 4	VP
05/08/2016	VP 1 & 3	VP
08/08/2016	VP 4	VP
09/08/2016	VP 3 & 9	VP
11/08/2016	VP 8	VP
15/08/2016	VP 10	VP
16/08/2016	VP 5 & 6	VP
17/08/2016	Royal Canal, Derrymacar Lough, Fortwilliam Turlough, Lough Ree, River Shannon, Feorish River, Camlin River, Lough Forbes, Fallan River	I-WeBS
18/08/2016	VP 5 & 6	VP
19/08/2016	VP 10	VP
31/08/2016	VP 5 & 6	VP
01/09/2016	VP 1, 6, 7 & 8, Royal Canal, Derrymacar Lough, Lough Ree, River Shannon, Feorish River, Camlin River, Lough Forbes, Fallan River	VP, I-WeBS
02/09/2016	VP 4, 7 & 8, Royal Canal, Lough Ree, Fortwilliam Turlough.	VP, I-WeBS
07/09/2016	VP 1, 2, 7 & 8	VP
08/09/2016	VP 3, 7 & 11	VP
09/09/2016	VP 2 & 9	VP
12/09/2016	VP 10 & 11	VP
14/09/2016	VP 9 & 10	VP
22/09/2016	VP 4, Royal Canal, Lough Ree, River Shannon, Feorish River, Camlin River, Lough Forbes, Fallan River	VP, I-WeBS
23/09/2016	Royal Canal, Lough Ree, Fortwilliam Turlough.	I-WeBS

Date	Location	Survey Methodology <sup>21</sup>
Note: T = transects		

#### 2.4.6 Survey constraints

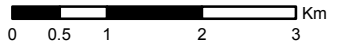
Land access was an issue, particularly within hinterland areas to a 500m radius of the planning/development boundary. A full walkover survey of the entire area within a 500m radius of the proposed development area was not possible. However the majority of all open bog land was surveyed and the survey data collected and habitats covered provide an accurate description of baseline avifauna in the study area including:

- Detection of, and potential for, rarer species;
- Potential for nocturnal and difficult to detect species; and
- Species which are likely to be more sensitive to impacts from the proposal.



### Legend

- Vantage Points
- Transect
- Woodcock Survey
- Site Boundary
- Site Boundary 500m buffer
- Site Boundary 5km buffer



### NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Issue	Date	Description	By	Chkd.
A	MAY-16	Proposal Issue	M.K	AA

Client:

**BORD NA MÓNA**

Project:

Derradd Windfarm

Title:

Hinterland

Scale @ A3: 1:80,000

Prepared by: M.Kabza      Checked: A.Austin      Date: May 2016

Project Director: D. Grehan



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Figure 2-1

Issue:  
A



### 3 RESULTS

Appendix 1 provides a database, which details in full the information collected from all surveys for the period April – September 2016, inclusive.

#### 3.1 VANTAGE POINT SURVEY

##### 3.1.1 Collision risk

Bird species which enter the airspace within a wind farm are vulnerable to collision with operating turbines. Water birds and raptors are known to be particularly at risk of collision<sup>22</sup>. Factors affecting vulnerability can include foraging behaviour and manoeuvrability in the air. It is typically considered, for analysis purposes, that all collisions result in mortality. The likelihood of a collision and the magnitude of the effect at the population level will vary with species.

A full collision risk assessment will be included within the Environmental Impact Statement (EIS); however, this report provides an overview of the noteworthy records of species encountered within the study area which are most vulnerable to collision. Details of the species, number of individuals and flight height are discussed below. Digitised flight lines of target species is provided in Appendix 2, Figures 3-1 to Figure 3-12.

##### 3.1.2 Hen Harrier

Hen Harrier flights are shown in Appendix 2, Figure 3-1. Three flights were recorded on the 7<sup>th</sup> of September 2016; once during a day survey at VP8 and twice during an evening survey at VP1. All three observations were of a ringtail (an immature bird or female) Hen Harrier. Each observation was of a single individual flying below the PCH.

In 2015, an estimated 108-157 breeding pairs of Hen Harrier were recorded in the Republic of Ireland (ROI)<sup>23</sup>. This represents a decline since the 2010 national survey. Hen Harrier within Ireland are resident. This species is mainly found in the midlands, west and south west of the country. Many individuals move from upland breeding habitat to lowland feeding habitat in late summer/ early autumn.

##### 3.1.3 Merlin

Merlin flights are shown in Appendix 2, Figure 3-2. Three flights were recorded, once at each of the following locations; on the 30<sup>th</sup> of June (VP6), 7<sup>th</sup> of July (VP9) and 14<sup>th</sup> of September (VP10) 2016. The June record was an evening survey and each of the records in July and September were made during the day. Each observation was of a single individual flying below the PCH. The 7<sup>th</sup> of July record included the observation of a female Merlin carrying prey (in the vicinity of VP9). This confirms breeding within the area<sup>18</sup>; however a nest on site is unlikely given how few sightings were made of the species from April-September 2016.

It is estimated that there are between 250-400 breeding pairs within the ROI (EO)<sup>24</sup>. The breeding population trend for this species is unknown. Merlins are a rare resident species found in the north and

<sup>22</sup> Desholm, M. (2009). Avian sensitivity to mortality: Prioritising migratory bird species for assessment at proposed wind farms.

<sup>23</sup> Ruddock, M., Lusby, J., Nagle, T., O'Neill, S., and O'Tool, L. (2016) The 2015 national survey of breeding Hen Harrier in Ireland. Irish Wildlife Manuals, No. 93. NPWS.

<sup>24</sup> Expert opinion as no published data exists.

north-west of the country, in the Wicklow Mountains, and with scattered populations across the midlands.

#### 3.1.4 Peregrine Falcon

Peregrine Falcon flights are shown in Appendix 2, Figure 3-3, with flight height information provided in the form of colour coding. Two flights were recorded on the 6<sup>th</sup> and 7<sup>th</sup> of July 2016; once during a morning survey at VP3 and once during a day survey at VP6. The July 6<sup>th</sup> observation was of a single individual flying below the PCH. The July 7<sup>th</sup> observation was of a single individual flying at the PCH.

An estimated 390 breeding pairs of Peregrine Falcon are present in ROI (Madden et al., 2009)<sup>25</sup>. These birds within Ireland are mainly resident. This species is widely distributed throughout the country although they are not considered common.

#### 3.1.5 Buzzard

Buzzard flights are shown in Appendix 2, Figure 3-4. Flights were recorded in each month from April-September 2016, on the following dates: Twice in April (21<sup>st</sup> and 25<sup>th</sup>), twice in May (18<sup>th</sup> and 30<sup>th</sup>), four times in June (7<sup>th</sup>, 9<sup>th</sup>, 13<sup>th</sup> and 29<sup>th</sup>), once in July (18<sup>th</sup>), twice in August (both on 31<sup>st</sup>) and six times in September (on the 2<sup>nd</sup> twice, 8<sup>th</sup>, 9<sup>th</sup>, 12<sup>th</sup> and 14<sup>th</sup>). Three observations were of flights below the PCH, fourteen observations were made of flights at the PCH, and a single bird was observed perched. The number of individuals recorded per observation ranged from one to three. The majority of the records consisted of single birds hunting over the study area.

Buzzard breeding numbers and range have been steadily increasing in Ireland<sup>26</sup>. Adults are largely resident within Ireland, while immature individuals are actively nomadic from their first September until they reach maturity at two years. This species is found predominantly in the east and north of the country.

#### 3.1.6 Kestrel

Kestrel flights are shown in Figure 3-5. Flights were recorded in each month from April-September 2016 on the following dates: Twice in April (21<sup>st</sup> and 22<sup>nd</sup>), once in May (19<sup>th</sup>), nine times in June (7<sup>th</sup>, twice on the 16<sup>th</sup>, 21<sup>st</sup>, four times on the 28<sup>th</sup>, and the 30<sup>th</sup>), seven times in July (4<sup>th</sup>, twice on the 7<sup>th</sup>, 18<sup>th</sup>, and three times on the 26<sup>th</sup>), twice in August (5<sup>th</sup> and 31<sup>st</sup>) and twelve times in September (on the 1<sup>st</sup>, 2<sup>nd</sup>, 8<sup>th</sup> four times and five times on the 14<sup>th</sup>). Eighteen observations were made of flights below the PCH, sixteen observations were made of flights at the PCH, and a single bird was observed perched. All observations were of single individuals. This species was commonly seen hunting in the area.

The Kestrel is widespread in Ireland although its population is on the decline<sup>27</sup>. Kestrels are partial migrants – individuals in upland areas move to low lying land for the winter. Kestrels breeding in lowland areas tend to be sedentary.

<sup>25</sup> Madden, B., Hunt, J. and Norriss, D. (2009). The 2002 survey of the peregrine *Falco peregrines* breeding population in the republic of Ireland. *Irish Birds* 8:543-548.

<sup>26</sup> Greenwood, J.J.D., et al (2003). Numbers and international importance of raptors and owls of Britain and Ireland. In *Birds of Prey in a Changing Environment*. pp 25-49.

<sup>27</sup> Village, A (2002). Common Kestrel *Falco tinnunculus*. In the *Migration Atlas. Movements of birds of Britain and Ireland*. London pp. 246-249.

### 3.1.7 Common Tern

Common Tern flights are shown in Figure 3-6. Three flights were recorded on the following dates: 30<sup>th</sup> and 31<sup>st</sup> of May and the 17<sup>th</sup> of June 2016. Flights were recorded twice during a dawn survey at VP1 and once during a dawn survey at VP2. All three observations were of a single individual flying below the PCH.

An estimated 4,189 breeding pairs of Common Tern are present in Ireland (all Ireland [AI])<sup>28</sup>. These birds within Ireland are migrants, wintering in Africa. This species is widely distributed around the coast and at some inland sites throughout the country.

### 3.1.8 Golden Plover

Golden Plover flights are shown in Figure 3-7. Two flights were recorded on the 22<sup>nd</sup> of April 2016 during a dawn survey at VP10. One observation was of eleven individuals flying at the PCH and the other was of eight individuals that landed on the proposed development site.

An estimated 150 breeding pairs of Golden Plover are present in the ROI<sup>29</sup>. These birds within Ireland are partially migrants, wintering on the coast or suitable inland habitat. This species is widely distributed around the coast and at some inland sites throughout the country. Breeding is limited to the uplands of the west and north-west of the country.

### 3.1.9 Lapwing

Lapwing flights are shown in Figure 3-8. One flight was recorded on the 21<sup>st</sup> of June 2016. The flock flew below the PCH and numbered 13 individuals.

An estimated 2,000 breeding pairs of Lapwing are present in the ROI<sup>29</sup>. It is unknown if these breeding birds within Ireland are resident or if migrants arrive in the autumn to coastal areas or suitable inland habitat. This species as a breeder is thinly distributed across the country.

### 3.1.10 Curlew

Curlew flights are shown in Figure 3-9. Flights were recorded in each of the months April, June, July, August and September 2016, on the following dates: once on April 25<sup>th</sup>, once on June 21<sup>st</sup>, thirteen times in July (eight times on the 18<sup>th</sup> and five times on the 19<sup>th</sup>), five times in August (four times on the 15<sup>th</sup> and once on the 19<sup>th</sup>), once on September 14<sup>th</sup>. Nine observations were made of flights below the PCH. Four observations were made of flights at the PCH (the flock sizes were 4, 1, 1 and 29). Eight observations were of perched birds. Flock size varied from 1-54 individuals.

An estimated 100-200 breeding pairs of Curlew are present in ROI (EO)<sup>24</sup>. These birds present in Ireland are resident or migrants from Scandinavia and Britain. This species is now thought to be a very rare breeder of upland and bog habitat in Ireland. The breeding distribution is poorly known, although breeding pairs are thought to still be present on the River Shannon Callows.

<sup>28</sup> Hannon, C., Berrow, S.D. & Newton, S.F. (1997). The status and distribution of breeding Sandwich *Sterna sandvicensis*, Roseate *S. dougallii*, Common *S. hirundo*, Arctic *S. paradisaea* and Little Terns *S. albifrons* in Ireland in 1995. *Irish Birds* 6:1-22

<sup>29</sup> Lauder, C. and Donaghy, A. (2008). *Breeding Waders in Ireland 2008, a review and recommendations for future actions*. Report to the National Parks and Wildlife Service, Ireland.

### 3.1.11 Woodcock

Woodcock flights are shown in Figure 3-10. One flight and three non-flight records were made on the following dates: 5<sup>th</sup>, 6<sup>th</sup>, and 13<sup>th</sup> of July. All observations were made during either the dawn or dusk period. The single flight observation was of a single individual flying below the PCH.

Population estimates for both breeding and wintering Woodcock in Ireland are unknown. The mainly sedentary Irish population is joined by wintering birds from Fennoscandia, Russia and Britain. This species breeds in woodland of all types.

### 3.1.12 Snipe

Snipe flights are shown in Figure 3-11. Flights were recorded in each of the months May, June and July 2016, on the following dates: twice on May 30<sup>th</sup>, five times in June (on the 16<sup>th</sup>, 17<sup>th</sup> and 18<sup>th</sup>), and once on July 5<sup>th</sup>. Two flights were not visible, with a further six at the PCH. All flight observations were associated with breeding behaviour, i.e. either chipping or drumming flights. A further nine observations were made of perched individuals.

An estimated 5,000 breeding pairs of Snipe are present in ROI<sup>29</sup>. These birds present in Ireland are resident or migrants from Scandinavia and Britain. This species is thought to be widely distributed throughout the country but it is difficult to survey due to its secretive nature.

### 3.1.13 Ringed Plover

There was one record of this species on the 15<sup>th</sup> of June 2016. The individual was observed in a bog area to the east of VP9.

The breeding population trend for this species in Ireland is unknown<sup>30</sup>. This species is primarily sedentary in Ireland, with some augmentation to the population from an influx of birds from continental Europe during severe winter weather.

### 3.1.14 Little Egret

Little Egret flights are shown in Figure 3-12. Flights were recorded in each of the months May, June, July and August 2016, on the following dates: once on May 16<sup>th</sup>, five times in June (on the 16<sup>th</sup>, 17<sup>th</sup>, 18<sup>th</sup> and 20<sup>th</sup>), once on July 19<sup>th</sup>, and four times in August (on the 4<sup>th</sup> and 5<sup>th</sup>). Five flights were below the PCH and six were at the PCH. All flight observations were made in the north of the proposed development site and the in hinterland nearest the River Shannon.

The population trends for this species in Ireland are unknown, but the species is becoming increasingly widespread throughout the country in suitable coastal and wetland sites.

### 3.1.15 Other observations

Black-headed Gull, Lesser Black-backed Gull, Cormorant, Grey Heron and Mute Swan were regularly recorded during the course of vantage point surveys. These observations were predominantly made to the north of the proposed development site, along the River Shannon.

<sup>30</sup> Crowe, O., Austin, G.E., Colhoun, K., Cranswick, P.A., Kershaw, M. and Musgrove, A.J. (2008) Estimates and trends of waterbird numbers wintering in Ireland, 1994/95 to 2003/04. *Bird Study* 55:66-77.

## 3.2 BREEDING BIRDS TRANSECT SURVEYS

### 3.2.1 *Raptors*

Two species of raptor were recorded over the course of the transect surveys; Buzzards and Sparrowhawk. No evidence of breeding was observed for either of these two species during the transect surveys. The Buzzard observations were made of soaring individuals or pairs during May, June and July. These birds were recorded during transects 4, 5 and 13, i.e. the north and central portions of the proposed development site. There was a single Sparrowhawk recorded on site during transect 18, which is located in the southern portion of the site (Figure 2-1).

Adults of both species are sedentary in Ireland. Breeding Buzzard numbers and range are increasing in Ireland<sup>18</sup>. The Sparrowhawk is one of the most common and widespread birds of prey species in Ireland<sup>18</sup>.

### 3.2.2 *Other Observations*

Mute Swan and Black-headed Gull were recorded during transect 2 along the River Shannon. Meadow Pipit were found to be ubiquitous throughout the proposed development site. This species was recorded in all months during all transects. Observations of display flights indicate that this species was a probable breeder.

## 3.3 I-WEBS/ HINTERLAND SURVEY

### 3.3.1 *Water Birds*

There were two breeding colonies located over the course of the hinterland surveys. A breeding colony of Cormorant was located at Incharmadermot Island on Lough Ree. The number of active nests at this site was unclear; however a high count of 38 individuals was made on the 24<sup>th</sup> of May 2016. The island also supports a breeding colony of Lesser Black-backed Gulls, which numbered 240 individuals on May 24<sup>th</sup> 2016. Breeding was also confirmed for Great Crested Grebe, with an active nest identified at Fortwilliam Turlough on the 24<sup>th</sup> of May 2016. There were four Mute Swan broods encountered – three on the 17<sup>th</sup> of August 2016 at the following locations; Saints Island Lough Ree, Cullaghy and Gardenstown, and the fourth on the 1<sup>st</sup> September 2016 at Fallan Bridge, Fallan River. A family of Coot were observed on the 1<sup>st</sup> of September 2016 at Cullaghy, Lough Ree.

Other species which were commonly encountered during the hinterland surveys included; Black-headed Gull, Little Egret and Grey Heron. Lapwing and Oystercatcher were occasionally recorded. Common Tern were recorded on two occasions, both on the 24<sup>th</sup> of May 2016, but no evidence of breeding was noted.

### 3.3.2 *Other Species Considered*

Lough Ree is designated as a SPA under the EU Birds Directive and is of special conservation interest for a number of water bird species, one of which is the breeding population of Common Scoter. However, Common Scoters were not recorded over the course of the I-WeBS/ Hinterland Surveys from April-September 2016.

Four records were made of Buzzard while undertaking hinterland surveys but no breeding behaviour was noted.

### 3.4 WOODCOCK SURVEY

Woodcock flights were recorded on three occasions; twice on the 16<sup>th</sup> and once on the 30<sup>th</sup> of June 2016. All observations were made in the woodland in the northern section of the proposed development site which borders the River Shannon. Other noteworthy observations made while conducting this survey included three Snipe recorded to the north of the site on the 15<sup>th</sup>, 16<sup>th</sup> and 30<sup>th</sup> of June 2016, and on the 30<sup>th</sup> of June 2016 two Long-eared Owl observations, a flight and audible chick calls. Both of the Long-eared Owl observations were also made in the northern section of the site.

## 4 DISCUSSION

### 4.1 BIRD SPECIES

A number of key bird species were identified in the study area during the 2016 breeding season surveys. The results are discussed below in terms of the potential for habitat loss for the species observed. The key factors against which habitat loss is measured are; the suitability of the habitat and the availability of similar habitat in the wider area. Mortality due to collision with operating turbines is not discussed in this report.

#### 4.1.1 *Merlin*

On the 7<sup>th</sup> of July 2016 a female Merlin was observed carrying prey within the boundary of the proposed development site. This observation generally confirms breeding; however, given the low number of records at the site (three in total) it seems unlikely that Merlin are breeding on site. This species will attack intruding Merlin, other raptors and corvids for roughly 0.8km from an active nest<sup>18</sup>. The absence of this type of behavioural observation at the site further strengthens a case for Merlin not nesting nearby. Moreover, Merlins are a wide ranging species who are known to forage to distances of 5km from active nest sites<sup>31</sup>.

It is therefore highly likely that the occasional record in the vicinity of the site, made during the 2016 breeding season, indicates that the site lies on the extreme edge of this bird's foraging range.

#### 4.1.2 *Hen Harrier*

On the 7<sup>th</sup> of September 2016 there were three observations of a Hen Harrier at the proposed development site. It can be reasonably concluded that the three observations were of the same bird, given the following: the three observations were of a ringtail individual (the name given to a female or immature bird) and the last record was within an hour of the first record. The time of year when this sighting was made would indicate that this bird was a dispersing juvenile or adult female, moving through the area on route to low ground for the non-breeding season.

The majority of the habitats on site (bare peat) are thought to be sub-optimal or unsuitable to support the ecological requirements of Hen Harrier.

#### 4.1.3 *Long-eared Owl*

On the 30<sup>th</sup> of June 2016 Long-eared Owl chicks were heard calling from the forestry to the north of the proposed development site (Derryarogue) during a Woodcock Survey. It appears likely that Long-eared Owl were breeding on site, although the exact location of the nest was not found. There were also four flights observed and one calling adult heard between June and August 2016.

The Long-eared Owl is the most widespread and common species of owl in Ireland<sup>26</sup>. It is therefore reasonable to conclude that the local breeding population is not restricted to the habitats found within the proposed development site. With the exception of some of the woodland, the majority of the

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<sup>31</sup> Scottish Natural Heritage (2012). Assessing Connectivity with Special Protection Areas (SPAs)

habitats on site (bare peat) are thought to be sub-optimal or unsuitable to support the ecological requirements of this species.

#### 4.1.4 Other raptors

Sparrowhawk, Kestrel and Buzzard were regularly recorded over the course of the 2016 breeding season at the proposed development site. These three species were observed using the site for foraging. Peregrine Falcon were observed on two occasions in July, also foraging at the site. Sparrowhawk, Kestrel, Buzzard and Peregrine Falcon are wide ranging species which utilise a diverse array of habitats. It is therefore reasonable to conclude that they are not dependent on the habitats on site. Furthermore the majority of the habitats on site (bare peat) are thought to be sub-optimal or unsuitable to support the ecological requirements of these species.

#### 4.1.5 Curlew

No Curlew breeding behaviour was observed at the site, although the species was noted throughout the breeding season with the exception of May. Curlews have become a rare breeder in Ireland, with breeding typically occurring in the early spring. The highest counts, maximum counts of 56 and 38 individuals, were made in July and August, respectively. These observations coincided with a flooding event in the southern margins of the site. Given the timing it is likely the July and August records were non-breeding individuals. Ireland is known to host large numbers of non-breeding Curlew each year.

Non-breeding/Wintering Curlews are one of the most widespread wader species in Ireland, found in a diverse array of wetland and non-wetland habitats<sup>32</sup>. The surroundings of the site contain large areas of suitable habitat for Curlew<sup>33</sup>. It is therefore reasonable to conclude that they are not dependent on the habitats on site. Furthermore the majority of the habitats on site (bare peat) are thought to be sub-optimal or unsuitable to support the ecological requirements of this species. In addition, the records of Curlew in July and August can be attributed to the flooding, which provided temporary suitable habitat for feeding.

#### 4.1.6 Other Waders

Snipe and Woodcock are both considered probable breeders at the site. Snipe breed in a variety of habitats including farmland, grassland and bog. Woodcock breed in woodland of all types and bracken in upland areas. Display flights were recorded in a number of locations for Snipe and in the north of the site for Woodcock. The number of probable breeders for these two species was low (two to four displaying Snipe and one displaying Woodcock) at the site. Given the presence of suitable breeding habitat in the surroundings of the site, it is highly unlikely that the local population of either species is dependent on the habitats at the site.

Golden Plover, Lapwing and Ringed Plover were sparingly recorded during the 2016 breeding season. The two Golden Plover flights observed were both recorded on the 22<sup>nd</sup> of April. These birds are presumed to be birds on passage to their breeding grounds to the north or north-west of the country. The single onsite observations of Lapwing and Ringed Plover were both made in June. These three

<sup>32</sup> Boland H, McElwaine J, Henderson G, Hall C, Walsh A & Crowe O (2010). Whooper *Cygnus cygnus* and Bewick's *C. columbianus bewickii* Swans in Ireland: results of the International Swan Census, January 2010. *Irish Birds* 9: 1-10 (2010)

<sup>33</sup> Lowland wet grassland occurs frequently around the Lough Ree shore.



species are not dependent on the proposed development site, based on the occasional record of site usage or commuting flight line and the presence of other suitable foraging and roosting habitat<sup>34</sup> in the surroundings of the site. In addition, Lapwings were recorded both more regularly and in greater numbers off site, i.e. at water bodies associated with the River Shannon catchment.

#### *4.1.7 Water Birds*

Common Tern and Little Egret were recorded foraging and commuting along the River Shannon which borders the northern boundary of the proposed development site. Both species are strongly associated with wetland habitats. The vast majority of the habitats on site (bare peat) are thought to be unsuitable to support the ecological requirements of water birds. Consequently, neither species is dependent on the habitats found on site. Other water bird species (e.g. Black-headed Gull, Lesser Black-backed Gull, Cormorant, Grey Heron and Mute Swan) which were regularly encountered during vantage point surveys show a similar strong association with wetland habitat and are equally as unlikely to be dependent on the habitats found on site. Furthermore, the results of I-WeBS/ Hinterland Surveys show that water bird assemblages are concentrated away from the site in local water bodies (particularly Lough Ree and Fortwilliam Turlough).

#### *4.1.8 Further Considerations*

A full collision risk model will be produced for the EIS. Depending on the number of flight lines over the study area and the results of the collision risk model (XXX collisions/year/25 years), the significance of the overall impact will only be known at the impact assessment stage.

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<sup>34</sup> Copeland, A. (2011) Birds on Cutaway Peatlands: Baseline Breeding Bird Population Survey. Project Report 2011. Unpublished report for Bord na Móna

# APPENDIX 1

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## 2016 Breeding Bird Survey Data

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
21/04/2016	JQ	VP	09:45	12:45	3	Day	VP8	WW	1	N	*	*	*	*	*	Audible
21/04/2016	JQ	VP	09:45	12:45	3	Day	VP8	WR	1	N	*	*	*	*	*	Audible
21/04/2016	JQ	VP	09:45	12:45	3	Day	VP8	MP	1	N	*	*	*	*	*	Audible
21/04/2016	JQ	VP	09:45	12:45	3	Day	VP8	PH	1	N	*	*	*	*	*	Audible
21/04/2016	JQ	VP	09:45	12:45	3	Day	VP8	SL	1	N	*	*	*	*	*	Audible
21/04/2016	JQ	VP	09:45	12:45	3	Day	VP8	LB	1	Y	09:48:00	09:50:00	120	120m	3	Circling N of road
21/04/2016	JQ	VP	09:45	12:45	3	Day	VP8	LB	1	Y	09:48:00	09:50:00	120	60m	3	Circling N of road
21/04/2016	JQ	VP	09:45	12:45	3	Day	VP8	BZ	1	Y	10:06:00	10:08:00	120	120m	3	Soaring near aerial, before going too far North out of sight.
21/04/2016	JQ	VP	09:45	12:45	3	Day	VP8	SH	1	Y	11:02:00	11:02:00	15	10m	1	Flew South over the road, chased by a JD.
21/04/2016	JQ	VP	09:45	12:45	3	Day	VP8	BH	1	Y	11:10:00	11:10:00	30	10m	1	Flew East parallel to road.
21/04/2016	JQ	VP	09:45	12:45	3	Day	VP8	CK	1	N	12:16:00	*	*	*	*	Audible
21/04/2016	JQ	VP	15:15	18:15	3	Day	VP10	WW	1	N	*	*	*	*	*	Audible
21/04/2016	JQ	VP	15:15	18:15	3	Day	VP10	SC	1	N	*	*	*	*	*	Audible
21/04/2016	JQ	VP	15:15	18:15	3	Day	VP10	SL	1	N	*	*	*	*	*	Audible
21/04/2016	JQ	VP	15:15	18:15	3	Day	VP10	MP	1	N	*	*	*	*	*	Audible
21/04/2016	JQ	VP	15:15	18:15	3	Day	VP10	PH	1	N	*	*	*	*	*	Audible
21/04/2016	JQ	VP	15:15	18:15	3	Day	VP10	CH	1	N	*	*	*	*	*	Audible
21/04/2016	JQ	VP	15:15	18:15	3	Day	VP10	LR	1	N	*	*	*	*	*	Audible
21/04/2016	JQ	VP	15:15	18:15	3	Day	VP10	BH	1	Y	16:44:00	16:44:00	40	130m	3	Circling N of road.
21/04/2016	JQ	VP	15:15	18:15	3	Day	VP10	W.	1	N	16:50:00	16:50:00	*	*	*	Hopping across ground N of road
21/04/2016	JQ	VP	15:15	18:15	3	Day	VP10	HC	1	Y	16:55:00	16:55:00	60	10m	1	Flew W, lost sight over hedge.
21/04/2016	JQ	VP	15:15	18:15	3	Day	VP10	RO	1	Y	16:58:00	16:58:00	20	<5m	1	Flew W along road
21/04/2016	JQ	VP	15:15	18:15	3	Day	VP10	HC	1	Y	17:02:00	17:02:00	25	15m	1	Flew W, parallel to road, carrying food.
21/04/2016	JQ	VP	19:00	22:00	3	Dusk	VP8	MA	1	Y	18:30:00	18:30:00	40	50m	3	Incidental sighting, flying west/north west.
21/04/2016	JQ	VP	19:00	22:00	3	Dusk	VP8	SL	3	Y	19:00:00	*	*	<15m	1	Fly S of road hunting flies

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
21/04/2016	JQ	VP	19:00	22:00	3	Dusk	VP8	B.	1	N	19:17:00	*	*	*	*	Perches singing on willow
21/04/2016	JQ	VP	19:00	22:00	3	Dusk	VP8	WP	1	Y	19:18:00	19:18:00	18	10m	1	Flies W over site N of road, lands on 110kV line.
21/04/2016	JQ	VP	19:00	22:00	3	Dusk	VP8	Corvus sp.	2	Y	19:22:00	19:24:00	120	60m	3	Hassle 2 gulls in distance near aerial (too far to ID)
21/04/2016	JQ	VP	19:00	22:00	3	Dusk	VP8	Larus sp.	2	Y	19:22:00	19:24:00	120	60m	3	Getting hassled by 2 corvids near aerial (too far to ID).
21/04/2016	JQ	VP	19:00	22:00	3	Dusk	VP8	MA	1	Y	19:28:00	19:29:00	60	50m	3	Male flew S, out of view over the woods.
21/04/2016	JQ	VP	19:00	22:00	3	Dusk	VP8	CK	1	N	19:34:00	*	*	*	*	Audible
21/04/2016	JQ	VP	09:45	12:45	3	Day	VP8	K.	1	Y	10:19:00	10:23:00	60	10-15m	1	K. hunting S of the road. Swooped out of view. Same Bird
21/04/2016	JQ	VP	09:45	12:45	3	Day	VP8	K.	1	Y	10:19:00	10:23:00	60	15-25m	1 - 2	K. hunting S of the road. Swooped out of view. Same Bird
21/04/2016	JQ	VP	09:45	12:45	3	Day	VP8	K.	1	Y	10:19:00	10:23:00	120	25-30m	2	K. hunting S of the road. Swooped out of view. Same Bird
21/04/2016	JQ	VP	09:45	12:45	3	Day	VP8	K.	1	Y	10:19:00	10:23:00	10	40-50m	3	K. hunting S of the road. Swooped out of view. Same Bird
21/04/2016	JQ	VP	09:45	12:45	3	Day	VP8	MA	1	Y	11:21:00	11:21:00	5	10m	1	Disturbed from S of road, looped and flew W. Same Bird
21/04/2016	JQ	VP	09:45	12:45	3	Day	VP8	MA	1	Y	11:21:00	11:21:00	15	40m	2	Disturbed from S of road, looped and flew W. Same

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																Bird
21/04/2016	JQ	VP	09:45	12:45	3	Day	VP8	MA	1	Y	11:21:00	11:21:00	20	80m	3	Disturbed from S of road, looped and flew W. Same Bird
21/04/2016	JQ	VP	15:15	18:15	3	Day	VP10	S.	1	Y	16:11:00	16:12:00	10	10-40m	1 - 2	Display Flight. Same Bird
21/04/2016	JQ	VP	15:15	18:15	3	Day	VP10	S.	1	Y	16:11:00	16:12:00	60	150m	4	Display Flight. Same Bird
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	PH	1	N	*	*	*	*	*	Audible
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	MP	1	N	*	*	*	*	*	Audible
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	WW	1	N	*	*	*	*	*	Audible
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	LB	5	Y	06:04:00	06:04:00	40	30	2	Flew W across site. 100m north of road
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	LB	2	Y	06:42:00	06:42:00	60	30	2	Flew W across site. 100m north of road
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	RO	1	Y	07:07:00	07:07:00	10	15m	1	Flew East parallel to road.
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	MP	2	Y	07:10:00	07:11:00	*	80m	3	Display flight
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	RO	1	Y	07:14:00	07:14:00	20	<2m	1	Flew E
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	RO	4	Y	07:16:00	07:16:00	18	15m	1	Flew W over site, 100m N of road
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	HC	1	Y	07:23:00	07:23:00	40	40m	2	Flew E carrying food, 30m N of road
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	BH	2	Y	08:16:00	08:17:00	60	50m	3	Flew W, 30m N of road
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	GP	11	Y	08:29:00	08:30:00	60	80m	3	*
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	GP	8	N	08:32:00	08:32:00	*	*	*	Landed on bog 200m N of road. Likely same flock as above
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	HC	1	Y	07:06:00	07:06:00	10	<1m	1	Flew W, 50m north of road. Same Bird
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	HC	1	Y	07:06:00	07:06:00	30	10m	1	Flew W, 50m north of road. Same Bird
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	RO	1	Y	07:26:00	08:16:00	30	15m	1	Flew back & forth E to W. 10m N of road carrying food.

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																Same Bird
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	RO	1	Y	07:26:00	08:16:00	30	15m	1	Flew back & forth E to W. 10m N of road carrying food. Same Bird
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	RO	1	Y	07:26:00	08:16:00	30	15m	1	Flew back & forth E to W. 10m N of road carrying food. Same Bird
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	RO	1	Y	07:26:00	08:16:00	30	15m	1	Flew back & forth E to W. 10m N of road carrying food. Same Bird
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	K.	1	Y	08:20:00	08:20:00	30	<1m	1	Flew W, 60m N of road. Rose to 5m to cross hedge. Same Bird
22/04/2016	JQ	VP	05:45	08:45	3	Dawn	VP10	K.	1	Y	08:20:00	08:20:00	3	5m	1	Flew W, 60m N of road. Rose to 5m to cross hedge. Same Bird
25/04/2016	AC	VP	15:15	18:15	3	Day	VP3	LB	1	Y	15:50:00	15:51:00	50	30-50m	2 - 3	Flew NE over cutaway bog
25/04/2016	AC	VP	15:15	18:15	3	Day	VP3	LB	2	Y	16:30:00	16:30:00	30	100	3	2 Birds flying E-W at 100m over cutaway bog.
25/04/2016	AC	VP	15:15	18:15	3	Day	VP3	LB	1	Y	17:01:00	17:01:00	28	40m	2	Flew S
25/04/2016	AC	VP	18:30	21:30	3	Dusk	VP4	LB	3	Y	19:09:00	19:10:00	60	60-80m	3	Flew SW over cutover bog
25/04/2016	AC	VP	18:30	21:30	3	Dusk	VP4	LB	3	Y	19:31:00	19:31:00	46	60-80m	3	Flew SW over cutover bog
25/04/2016	AC	VP	18:30	21:30	3	Dusk	VP4	LB	1	Y	20:17:00	20:17:00	23	50m	3	Flew SW over cutover bog
25/04/2016	AC	VP	18:30	21:30	3	Dusk	VP4	MA	2	Y	19:41:00	19:41:00	6	20m	2	Flew W over trees
25/04/2016	BA	VP	15:20	18:20	3	Day	VP5	LB	1	Y	15:49:00	15:49:00	13	50m	3	Direct flight over VP
25/04/2016	BA	VP	15:20	18:20	3	Day	VP5	LB	2	Y	16:04:00	16:05:00	50	20-50m	1 - 3	Rolling, turning flight over woodland scrub
25/04/2016	BA	VP	15:20	18:20	3	Day	VP5	RN	1	Y	16:31:00	16:31:00	7	30m	2	Direct flight,

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																settled in scNs pine
25/04/2016	BA	VP	15:20	18:20	3	Day	VP5	BZ	1	Y	16:32:00	16:35:00	158	40-80m	3	Soaring, spiral flight. E out of view
25/04/2016	BA	VP	15:20	18:20	3	Day	VP5	GB	1	Y	16:41:00	16:41:00	11	20-30	2	Rolling, circling flight to SE
25/04/2016	BA	VP	15:20	18:20	3	Day	VP5	LB	1	Y	16:51:00	16:51:00	16	80m	3	Direct flight
25/04/2016	BA	VP	15:20	18:20	3	Day	VP5	CM	3	Y	17:03:00	17:03:00	14	10-20m	1	Fast, direct flight
25/04/2016	BA	VP	15:20	18:20	3	Day	VP5	LB	8	Y	17:05:00	17:05:00	18	50-60m	3	Direct flight E-W
25/04/2016	BA	VP	15:20	18:20	3	Day	VP5	LB	5	Y	17:05:00	17:05:00	18	120-150m	3 - 4	Direct flight SW-E
25/04/2016	BA	VP	15:20	18:20	3	Day	VP5	LB	1	Y	17:13:00	17:13:00	8	20m	1	Direct flight W-E
25/04/2016	BA	VP	15:20	18:20	3	Day	VP5	GB	1	Y	17:16:00	17:16:00	22	10-20m	1	Rolling, glide over scrub heath
25/04/2016	BA	VP	15:20	18:20	3	Day	VP5	CM	12	Y	17:30:00	17:30:00	50	10-80m	1 - 3	Rolling, twisting flight over scrub heath W-E-N
25/04/2016	BA	VP	15:20	18:20	3	Day	VP5	LB	3	Y	17:47:00	17:47:00	15	80-100m	3	Direct flight rising to 100m, E
25/04/2016	BA	VP	15:20	18:20	3	Day	VP5	GB	2	Y	17:52:00	17:52:00	18	80-100m	3	Direct, gliding flight. E over VP
25/04/2016	BA	VP	15:20	18:20	3	Day	VP5	RN	1	Y	17:54:00	17:55:00	55	20-30m	2	Direct flight into wind. S-N-E
25/04/2016	BA	VP	19:00	21:00	3	Dusk	VP9	GB	1	Y	19:35:00	19:37:00	102	80-100m	3	Meandering flight
25/04/2016	BA	VP	19:00	21:00	3	Dusk	VP9	CU	4	Y	19:36:00	19:36:00	25	>150	4	Direct flight (very distant)
25/04/2016	BA	VP	19:00	21:00	3	Dusk	VP9	LB	3	Y	19:42:00	19:42:00	13	80m	3	Direct flight
25/04/2016	BA	VP	19:00	21:00	3	Dusk	VP9	SL	6	Y	*	20:10:00	*	5-20m	1	Foraging flight over bog and scrub margins
25/04/2016	BA	VP	15:20	18:20	3	Day	VP5	LB	1	Y	16:47:00	16:49:00	40	20-40m	2	Rolling, turning flight. Same Bird
25/04/2016	BA	VP	15:20	18:20	3	Day	VP5	LB	1	Y	16:47:00	16:49:00	40	40-80m	3	Rolling, turning flight. Same Bird
26/04/2016	AC	VP	05:30	08:30	3	Dawn	VP3	LB	3	Y	05:39:00	05:39:00	20	120m	3	Flew W - E at a constant

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																height
26/04/2016	AC	VP	05:30	08:30	3	Dawn	VP3	LB	4	Y	05:49:00	05:49:00	10	120m	3	Flew W-E together at a constant height
26/04/2016	AC	VP	05:30	08:30	3	Dawn	VP3	LB	1	Y	06:58:00	06:58:00	51	120m	3	Flew E-W
26/04/2016	AC	VP	05:30	08:30	3	Dawn	VP3	H.	1	Y	08:23:00	08:23:00	8	10m	1	Adult, flew W-E above cut bog. Disappeared behind boundary hedge
26/04/2016	AC	VP	11:05	14:05	3	Day	VP4	LB	2	Y	11:29:00	11:29:00	55	80-100m	3	Flew N along site boundary. Disappeared behind tree line
26/04/2016	AC	VP	11:05	14:05	3	Day	VP4	MA	2	Y	12:45:00	12:45:00	6	15m	1	Flew S above bog
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	WR	*	*	*	*	*	*	*	Audible
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	B.	*	*	*	*	*	*	*	Audible
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	R.	*	*	*	*	*	*	*	Audible
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	PH	*	*	*	*	*	*	*	Audible
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	WW	*	*	*	*	*	*	*	Audible
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	CH	*	*	*	*	*	*	*	Audible
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	GO	*	*	*	*	*	*	*	Audible
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	CH	*	*	*	*	*	*	*	Audible
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	LI	*	*	*	*	*	*	*	Audible
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	M.	*	*	*	*	*	*	*	Audible
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	BT	*	*	*	*	*	*	*	Audible
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	MP	*	*	*	*	*	*	*	Audible
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	RO	*	*	*	*	*	*	*	Rookery (very active from 6:50)
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	LB	1	Y	07:02:00	07:02:00	14	30m	2	Direct flight E-W @ 30m. Lost to view
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	LB	3	Y	07:04:00	07:04:00	14	40m	2	Direct flight E-W @ 40m. Lost to view
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	MA	3	Y	07:04:00	07:04:00	9	60m	3	Fast, direct flight S-N @ 60m. Lost to view
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	LB	1	Y	07:05:00	07:05:00	11	30m	2	Direct flight E-W @ 30m. Lost to view



Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	RO	16	Y	07:56:00	07:56:00	*	50-60m	3	Overfly from rookery @ 50-60m in stretched lines, SE-NW. Nhers flew N. (Mapped but nN timed)
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	GB	1	Y	08:22:00	08:22:00	28	10-40m	1-2	Slow, quartering flight @ 40m. Drop to 10m but rose again, E-W
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	LB	2	Y	08:22:00	08:22:00	18	80-100m	3	Direct flight @ 80-100m E-W
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	RO	48	Y	08:38:00	08:38:00	*	30-60m	2-3	Drift & flight in group into area of open scrub by cutover @ 30-60m
27/04/2016	BA	VP	05:45	08:45	3	Dawn	VP7	GB	1	Y	08:45:00	08:45:00	18	10-20m	1	Direct, gliding flight @ 10-20m over cutover & scrub grass land, E-W
27/04/2016	BA	VP	11:00	14:00	3	Day	VP9	HC	*	Y	*	*	*	*	*	Overfly cut over occasionally. Excavator, tractors & pipe laying team on cut over area to E-SE of VP
27/04/2016	BA	VP	11:00	14:00	3	Day	VP9	WP	*	Y	*	*	*	*	*	Overfly cut over occasionally. Excavator, tractors & pipe laying team on cut over area to E-SE of VP
27/04/2016	BA	VP	20:35	21:35	1	Dusk	VP9	None	*	Y	*	*	*	*	*	No target or secondary species flight activity
28/04/2016	BA	VP	05:40	08:40	3	Dawn	VP5	LB	1	Y	07:19:00	07:19:00	11	30-60m	2-3	Rising, direct flight @ 30-

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																60m, N-S-W, 11sec
28/04/2016	BA	VP	05:40	08:40	3	Dawn	VP5	LB	1	Y	07:22:00	07:22:00	14	50m	3	Direct flight @ 50m, E-W, 14sec
28/04/2016	BA	VP	05:40	08:40	3	Dawn	VP5	GB	1	Y	07:23:00	07:23:00	9	30-50m	2-3	Direct, rising flight @ 30-50m, N-S-W, 9 sec
28/04/2016	BA	VP	05:40	08:40	3	Dawn	VP5	LB	2	Y	07:27:00	07:27:00	17	50-60m	3	Direct flight @ 50-60m, 17sec
28/04/2016	BA	VP	05:40	08:40	3	Dawn	VP5	GB	1	Y	07:29:00	07:29:00	10	40m	2	Direct flight @ 40m, 10sec
28/04/2016	BA	VP	05:40	08:40	3	Dawn	VP5	MA	1	Y	07:38:00	07:38:00	24	40-70m	2-3	Direct, rising flight @ 40-70m, 24sec
28/04/2016	BA	VP	05:40	08:40	3	Dawn	VP5	CA	2	Y	07:43:00	07:43:00	10	80m	3	Direct flight W-E-N @80m, 10sec
28/04/2016	BA	VP	05:40	08:40	3	Dawn	VP5	LB	1	Y	07:48:00	07:48:00	5	50m	3	Direct flight E-W @ 50m over VP, 5 sec
28/04/2016	BA	VP	05:40	08:40	3	Dawn	VP5	LB	3	Y	07:53:00	07:53:00	12	50m	3	Direct in line flight @50m, NE-SW, 12sec
28/04/2016	BA	VP	05:40	08:40	3	Dawn	VP5	GB	1	Y	08:00:00	08:00:00	27	40-80m	2-3	Direct flight, then rising circle over bog, 40-80m, then resume W-E, 27 sec
28/04/2016	BA	VP	05:40	08:40	3	Dawn	VP5	LB	1	Y	08:02:00	08:02:00	7	40m	2	Direct flight @ 40m, NE-SW over VP, 7secs
28/04/2016	BA	VP	05:40	08:40	3	Dawn	VP5	LB	1	Y	08:07:00	08:07:00	7	170m	4	Direct flight @ 170m, NE-SW, 7sec
28/04/2016	BA	VP	05:40	08:40	3	Dawn	VP5	LB	1	Y	08:13:00	08:13:00	7	40m	2	Direct flight @ 40m, NE-SW, 7sec
28/04/2016	BA	VP	05:40	08:40	3	Dawn	VP5	GB	1	Y	08:15:00	08:15:00	32	40-60m	2-3	Gliding, circling flight over cutover bog & scrub @ 40-60m, 32sec
28/04/2016	BA	VP	05:40	08:40	3	Dawn	VP5	GB	2	Y	08:24:00	08:24:00	24	50-60m	3	Direct flight @ 50-60m, E-W, 24sec

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
28/04/2016	BA	VP	05:40	08:40	3	Dawn	VP5	LB	1	Y	08:26:00	08:26:00	7	50m	3	Direct flight @ 50m, NE-SW, 7sec
28/04/2016	BA	VP	05:40	08:40	3	Dawn	VP5	LB	1	Y	08:30:00	08:30:00	14	40m	2	Direct flight @ 40m, SW-NE, 14 sec
28/04/2016	BA	VP	05:40	08:40	3	Dawn	VP5	Passerines	*	*	*	*	*	*	*	Audible: B, R, CT, WR, SK, CH, BF, GC
29/04/2016	BA	VP	10:15	13:15	3	Day	VP7	GB	1	Y	11:47:00	11:48:00	58	40m	2	Circling, drifting soar @ 40m, then went to ground on grassland, 58sec
29/04/2016	BA	VP	10:15	13:15	3	Day	VP7	LB	1	Y	11:51:00	11:51:00	18	80m	3	Direct flight @ 80m, E-W, 18sec
29/04/2016	BA	VP	10:15	13:15	3	Day	VP7	LB	2	Y	12:38:00	12:38:00	28	80m	3	Direct flight @ 80m, W-E-N, lost behind trees, 28sec
29/04/2016	BA	VP	10:15	13:15	3	Day	VP7	LB	3	Y	13:02:00	13:02:00	16	80-30m	3-2	Direct, circling flight @ 80-30m, settled on grassland, 16sec

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
16/05/2016	AC	VP	10:30	13:30	3	Day	VP4	MA	2	Y	11:05	11:05	14	5m	1	Adults, flew off bog in a NE direction
16/05/2016	AC	VP	10:30	13:30	3	Day	VP4	ET	1	Y	13:01	13:04	135	70m	3	Adult, commuting over scrub
16/05/2016	AC	VP	10:30	13:30	3	Day	VP4	LB	1	Y	13:11	13:11	8	500m	4	Commuting, flew W over bog
16/05/2016	AC	VP	19:00	22:00	3	Dusk	VP3	LB	2	Y	20:00	20:02	128	100m	3	Commuting, Flew SW over bog @ 100m
16/05/2016	AC	VP	19:00	22:00	3	Dusk	VP3	LB	2	Y	20:13	20:13	7	80m	3	Commuting, Flew E over bog
16/05/2016	AC	VP	19:00	22:00	3	Dusk	VP3	LB	4	Y	20:27	20:28	70	80m	3	Commuting. Flew SW over bog @ 80m
17/05/2016	AC	VP	04:55	07:55	3	Dawn	VP4	H.	1	Y	07:21	07:22	60	35m	2	Adult, commuting, flew E over bog, then S and out of view behind tree
17/05/2016	AC	VP	04:55	07:55	3	Dawn	VP4	MA	6	Y	06:26	06:26	12	1m	1	Flew NW off bog, turned and flew SE out of view
17/05/2016	AC	VP	04:55	07:55	3	Dawn	VP4	LB	1	Y	07:02	07:02	6	2	1	Commuting
17/05/2016	AC	VP	13:40	16:40	3	Day	VP3	LB	2	Y	14:19	14:19	16	80m	3	Commuting over bog
17/05/2016	AC	VP	13:40	16:40	3	Day	VP3	LB	1	Y	14:28	14:28	10	60m	3	Commuting over bog
18/05/2016	AC	VP	04:55	07:55	3	Dawn	VP9	LB	1	Y	07:18	07:18	36	80	3	Adult, Commuting
18/05/2016	AC	VP	13:00	16:00	3	Day	VP5	LB	1	Y	14:46	14:46	14	30m	2	Adult, commuting over bog
18/05/2016	AC	VP	13:00	16:00	3	Day	VP5	BZ	1	Y	15:19	15:21	146	30m	2	Adult, hunting
18/05/2016	AC	VP	13:00	16:00	3	Day	VP5	MA	1	Y	15:46	15:46	6	10m	1	Adult, commuting
18/05/2016	AC	Transect	16:10	16:32	*	*	T10	MP	5	N	*	*	*	*	*	
18/05/2016	AC	Transect	16:10	16:32	*	*	T10	RN	2	N	*	*	*	*	*	
18/05/2016	AC	Transect	16:10	16:32	*	*	T10	S.	2	N	*	*	*	*	*	
18/05/2016	AC	Transect	16:10	16:32	*	*	T10	WW	2	N	*	*	*	*	*	
18/05/2016	AC	Transect	16:10	16:32	*	*	T10	WP	2	N	*	*	*	*	*	
18/05/2016	AC	Transect	16:10	16:32	*	*	T10	WR	1	N	*	*	*	*	*	
18/05/2016	AC	Transect	16:10	16:32	*	*	T10	CH	1	N	*	*	*	*	*	
18/05/2016	AC	Transect	16:10	16:32	*	*	T10	B.	1	N	*	*	*	*	*	
19/05/2016	CW	VP	13:30	16:30	3	Day	VP9	SL	2	Y	13:35	13:40	300	<20m	1	Low flight E to W, regularly observed in the area.
19/05/2016	CW	VP	13:30	16:30	3	Day	VP9	PW	2	Y	*	*	*	<20m	1	Feeding
19/05/2016	CW	VP	13:30	16:30	3	Day	VP9	RO	2	Y	14:15	*	*	40-140m	3	Flying W to E
19/05/2016	CW	VP	13:30	16:30	3	Day	VP9	HC	1	Y	15:40	*	*	<20m	1	Feeding
19/05/2016	CW	VP	13:30	16:30	3	Day	VP9	MP	1	Y	15:50	*	*	20-40m	2	Flying E to W. Display flight.
19/05/2016	CW	VP	13:30	16:30	3	Day	VP9	RO	8	Y	15:58	*	*	>140m	4	Flying SW
19/05/2016	CW	VP	13:30	16:30	3	Day	VP9	R.	1	Y	16:18	*	*	<20m	1	Feeding close to hedgerow
19/05/2016	CW	VP	13:30	16:30	3	Day	VP9	WP	4	Y	16:23	*	*	>140m	4	Flying North
19/05/2016	CW	VP	19:00	22:00	3	Dusk	VP8	MG	1	Y	*	*	*	<20m	1	
19/05/2016	CW	VP	19:00	22:00	3	Dusk	VP8	JD	1	Y	*	*	*	<20m	1	
19/05/2016	CW	VP	19:00	22:00	3	Dusk	VP8	SL	1	Y	*	*	*	<20m	1	
19/05/2016	CW	VP	19:00	22:00	3	Dusk	VP8	LB	2	Y	19:30	19:35	300	20-40m	2	Flying West
19/05/2016	CW	VP	19:00	22:00	3	Dusk	VP8	BH	8	Y	19:30	19:35	300	40-120m	3	Flying West
19/05/2016	CW	VP	19:00	22:00	3	Dusk	VP8	K.	1	Y	19:52	*	*	40-120m	1	Hunting
19/05/2016	CW	VP	19:00	22:00	3	Dusk	VP8	CK	1	N	19:58	*	*	*	*	Audible
19/05/2016	CW	VP	19:00	22:00	3	Dusk	VP8	B.	1	Y	*	*	*	<20m	1	Scrub on right side of the VP.
19/05/2016	CW	VP	19:00	22:00	3	Dusk	VP8	HC	1	Y	*	*	*	<20m	1	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
19/05/2016	CW	VP	19:00	22:00	3	Dusk	VP8	RO	2	Y	*	*	*	20-120m	2/3	Various sightings
19/05/2016	CW	VP	19:00	22:00	3	Dusk	VP8	GB	1	Y	*	*	*	40-120m	3	Flying West
19/05/2016	CW	VP	19:00	22:00	3	Dusk	VP8	MP	2	Y	*	*	*	<20m	1	
19/05/2016	AC	Transect	12:39	13:41	*	*	T18	WH	2	N	*	*	*	*	*	
19/05/2016	AC	Transect	12:39	13:41	*	*	T18	WW	4	N	*	*	*	*	*	
19/05/2016	AC	Transect	12:39	13:41	*	*	T18	MP	5	N	*	*	*	*	*	
19/05/2016	AC	Transect	12:39	13:41	*	*	T18	R.	3	N	*	*	*	*	*	
19/05/2016	AC	Transect	12:39	13:41	*	*	T18	SL	6	N	*	*	*	*	*	
19/05/2016	AC	Transect	12:39	13:41	*	*	T18	PH	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	12:39	13:41	*	*	T18	PW	2	N	*	*	*	*	*	
19/05/2016	AC	Transect	12:39	13:41	*	*	T18	S.	2	N	*	*	*	*	*	
19/05/2016	AC	Transect	12:39	13:41	*	*	T18	M.	2	N	*	*	*	*	*	
19/05/2016	AC	Transect	12:39	13:41	*	*	T18	CH	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	12:39	13:41	*	*	T18	WR	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	12:39	13:41	*	*	T18	WP	2	N	*	*	*	*	*	
19/05/2016	AC	Transect	12:39	13:41	*	*	T18	RO	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	14:20	15:12	*	*	T13	WW	5	N	*	*	*	*	*	
19/05/2016	AC	Transect	14:20	15:12	*	*	T13	MP	7	N	*	*	*	*	*	
19/05/2016	AC	Transect	14:20	15:12	*	*	T13	R.	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	14:20	15:12	*	*	T13	CK	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	14:20	15:12	*	*	T13	BC	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	14:20	15:12	*	*	T13	CH	2	N	*	*	*	*	*	
19/05/2016	AC	Transect	14:20	15:12	*	*	T13	MG	2	N	*	*	*	*	*	
19/05/2016	AC	Transect	14:20	15:12	*	*	T13	B.	4	N	*	*	*	*	*	
19/05/2016	AC	Transect	14:20	15:12	*	*	T13	JD	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	14:20	15:12	*	*	T13	ST	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	14:20	15:12	*	*	T13	SL	4	N	*	*	*	*	*	
19/05/2016	AC	Transect	14:20	15:12	*	*	T13	WP	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	14:20	15:12	*	*	T13	RB	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	15:40	16:15	*	*	T11	MP	2	N	*	*	*	*	*	
19/05/2016	AC	Transect	15:40	16:15	*	*	T11	R.	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	15:40	16:15	*	*	T11	B.	2	N	*	*	*	*	*	
19/05/2016	AC	Transect	15:40	16:15	*	*	T11	CH	2	N	*	*	*	*	*	
19/05/2016	AC	Transect	15:40	16:15	*	*	T11	S.	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	15:40	16:15	*	*	T11	WR	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	15:40	16:15	*	*	T11	PH	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	15:40	16:15	*	*	T11	WW	2	N	*	*	*	*	*	
19/05/2016	AC	Transect	15:40	16:15	*	*	T11	HC	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	16:35	17:23	*	*	T17	SL	3	N	*	*	*	*	*	
19/05/2016	AC	Transect	16:35	17:23	*	*	T17	WH	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	16:35	17:23	*	*	T17	CH	2	N	*	*	*	*	*	
19/05/2016	AC	Transect	16:35	17:23	*	*	T17	B.	2	N	*	*	*	*	*	
19/05/2016	AC	Transect	16:35	17:23	*	*	T17	M.	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	16:35	17:23	*	*	T17	BC	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	16:35	17:23	*	*	T17	ST	1	N	*	*	*	*	*	
19/05/2016	AC	Transect	16:35	17:23	*	*	T17	LB	6	Y	*	*	*	80	3	Observed flying SW over bog at 80m. Birds were 300m away.

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
20/05/2016	CW	VP	04:57	07:57	3	Dawn	VP8	JD	1	Y	*	*	*	20-40m	2	Flying E to W
20/05/2016	CW	VP	04:57	07:57	3	Dawn	VP8	RO	1	Y	*	*	*	<20m	1	Flying E to W
20/05/2016	CW	VP	04:57	07:57	3	Dawn	VP8	MG	1	Y	*	*	*	<20m	1	Feeding
20/05/2016	CW	VP	04:57	07:57	3	Dawn	VP8	CK	1	Y	*	*	*	<20m	1	Calling
20/05/2016	CW	VP	04:57	07:57	3	Dawn	VP8	MP	2	Y	*	*	*	20-40m	2	Display Flights
20/05/2016	CW	VP	04:57	07:57	3	Dawn	VP8	WP	1	Y	*	*	*	40-140m	3	Flying W to E
20/05/2016	CW	VP	04:57	07:57	3	Dawn	VP8	RN	1	Y	*	*	*	20-40m	2	Flying around cutaway searching for food
20/05/2016	CW	VP	04:57	07:57	3	Dawn	VP8	LB	1	Y	*	*	*	40-140m	3	Flying E to W
20/05/2016	CW	VP	04:57	07:57	3	Dawn	VP8	SH	1	Y	*	*	20	20-40m	2	20s sighting flying through scrub
20/05/2016	CW	VP	04:57	07:57	3	Dawn	VP8	GB	1	Y	*	*	*	40-140m	3	Flying E to W
20/05/2016	CW	VP	09:00	12:00	3	Day	VP10	M.	1	Y	*	*	*	<20m	1	
20/05/2016	CW	VP	09:00	12:00	3	Day	VP10	MG	1	Y	*	*	*	20-40m	2	
20/05/2016	CW	VP	09:00	12:00	3	Day	VP10	RO	1	Y	*	*	*	20-40m	2	
20/05/2016	CW	VP	09:00	12:00	3	Day	VP10	LB	1	Y	*	*	*	20-40m	2	Flying S
20/05/2016	CW	VP	09:00	12:00	3	Day	VP10	MP	1	Y	*	*	*	20-40m	2	
20/05/2016	CW	VP	09:00	12:00	3	Day	VP10	SL	1	Y	*	*	*	20-40m	2	
20/05/2016	AC	Transect	11:18	12:00	*	*	T4	BC	1	N	*	*	*	*	*	
20/05/2016	AC	Transect	11:18	12:00	*	*	T4	R.	1	N	*	*	*	*	*	
20/05/2016	AC	Transect	11:18	12:00	*	*	T4	MP	5	N	*	*	*	*	*	
20/05/2016	AC	Transect	11:18	12:00	*	*	T4	WW	3	N	*	*	*	*	*	
20/05/2016	AC	Transect	11:18	12:00	*	*	T4	PH	1	N	*	*	*	*	*	
20/05/2016	AC	Transect	11:18	12:00	*	*	T4	B.	3	N	*	*	*	*	*	
20/05/2016	AC	Transect	11:18	12:00	*	*	T4	SW	1	N	*	*	*	*	*	
20/05/2016	AC	Transect	11:18	12:00	*	*	T4	WR	1	N	*	*	*	*	*	
20/05/2016	AC	Transect	11:18	12:00	*	*	T4	WP	1	N	*	*	*	*	*	
20/05/2016	AC	Transect	11:18	12:00	*	*	T4	S.	1	N	*	*	*	*	*	
20/05/2016	AC	Transect	11:18	12:00	*	*	T4	BZ	3	Y	*	*	*	200	4	Observed soaring at 200m and outside site boundary.
24/05/2016	ND	Hinterland	*	*	*	*	hVP 1: Royal Canal Park Bridge	GL	1	N	*	*	*	*	*	Male, nest under new bridge.
24/05/2016	ND	Hinterland	*	*	*	*	hVP 2: Royal Canal Foygh Bridge	BT	2	N	*	*	*	*	*	Pair, nest under bridge.
24/05/2016	ND	Hinterland	*	*	*	*	hVP 2: Royal Canal Foygh Bridge	MS	5	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 2: Royal Canal Foygh Bridge	MA	5	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 2: Royal Canal Foygh Bridge	CO	3	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 2: Royal Canal Foygh Bridge	BH	7	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 2: Royal Canal Foygh Bridge	H.	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 2: Royal Canal Foygh Bridge	MH	2	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 2: Royal Canal Foygh Bridge	CK	1	N	*	*	*	*	*	

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													Time Interval (sec)	Height (m)	Height Bands	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 2: Royal Canal Foygh Bridge	CN	1	N	*	*	*	*	*	Male
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	MP	1	N	*	*	*	*	*	Fresh water lough, reed beds, limited open water.
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	BC	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	BF	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	PH	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	WW	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	CC	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	SM	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	SL	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	CH	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	B.	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	ST	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	WR	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	R.	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	PW	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	WP	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	RO	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	JD	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	HC	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 3: Derrymacar Lough	D.	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 4: Fortwilliam Turlough	TU	4	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 4: Fortwilliam Turlough	BH	32	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 4: Fortwilliam Turlough	LG	17	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 4: Fortwilliam Turlough	CO	28	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 4: Fortwilliam Turlough	MA	10	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 4: Fortwilliam Turlough	GG	4	N	*	*	*	*	*	Including pair on nest
24/05/2016	ND	Hinterland	*	*	*	*	hVP 4: Fortwilliam Turlough	L.	1	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 4: Fortwilliam Turlough	H.	2	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 4: Fortwilliam Turlough	MH	3	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 5: Incharmadermot Island, Lough Ree	LB	240	N	*	*	*	*	*	Breeding colony on vegetated island
24/05/2016	ND	Hinterland	*	*	*	*	hVP 5: Incharmadermot Island, Lough Ree	CA	38	N	*	*	*	*	*	Active nest
24/05/2016	ND	Hinterland	*	*	*	*	hVP 5: Incharmadermot Island, Lough Ree	BH	22	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 5: Incharmadermot Island, Lough Ree	MS	3	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 6: Curreen, Lough Ree	MS	38	N	*	*	*	*	*	Reed beds and open water
24/05/2016	ND	Hinterland	*	*	*	*	hVP 6: Curreen, Lough Ree	BH	62	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 6: Curreen, Lough Ree	MA	3	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 6: Curreen, Lough Ree	CA	7	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 6: Curreen, Lough Ree	CO	5	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 7: Lanesborough Bridge, River Shannon .	MA	2	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 7: Lanesborough Bridge, River Shannon .	LB	2	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 7: Lanesborough Bridge, River Shannon .	MS	4	N	*	*	*	*	*	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 8: Cullaghy, Lough Ree	BH	36	N	*	*	*	*	*	Reed fringed cove
24/05/2016	ND	Hinterland	*	*	*	*	hVP 8: Cullaghy, Lough Ree	CO	5	N	*	*	*	*	*	





Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
24/05/2016	ND	Hinterland	*	*	*	*	hVP 19: Richmond Bridge	GL	1	N	*	*	*	*	*	Male. Probably nesting in stonework.
24/05/2016	ND	Hinterland	*	*	*	*	hVP 20: Cloondara, Royal Canal	*	0	*	*	*	*	*	*	No Sightings
24/05/2016	ND	Hinterland	*	*	*	*	hVP 21: Beggagh Bridge, Royal Canal	SL	5	N	*	*	*	*	*	nesting under new lifting bridge
24/05/2016	ND	Hinterland	*	*	*	*	hVP 22: Aghnaskea Bridge, Royal Canal	*	0	*	*	*	*	*	*	No Sightings
24/05/2016	ND	Hinterland	*	*	*	*	hVP 23: Lyneen Bridge, Royal Canal	*	0	*	*	*	*	*	*	No Sightings
24/05/2016	ND	Hinterland	*	*	*	*	hVP 24: Coolnahinch Bridge, Royal Canal	*	0	*	*	*	*	*	*	No Sightings
24/05/2016	ND	Hinterland	*	*	*	*	hVP 25: Island Bridge, Royal Canal	*	0	*	*	*	*	*	*	No Sightings
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	CK	1	N	*	*	*	*	*	Audible N of sight, occasionally between 06:30-07:30
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	CH	1	N	*	*	*	*	*	In scrub
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	PH	2	N	*	*	*	*	*	Audible to S and N
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	MG	1	N	*	*	*	*	*	
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	BF	20	N	*	*	*	*	*	
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	B.	1	N	*	*	*	*	*	
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	D.	1	N	*	*	*	*	*	
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	WW	3	N	*	*	*	*	*	
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	SC	1	N	*	*	*	*	*	
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	HC	1	N	*	*	*	*	*	
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	LR	4	N	*	*	*	*	*	2 adult, 2 juv
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	WP	1	N	*	*	*	*	*	Audible in trees to NE of site.
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	RO	*	Y	*	*	*	15-20m	1	Flying W to E.
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	LB	2	Y	07:25	07:27	90	45m	3	2LB flew ovre W to E @45m high.
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	LB	1	Y	07:38	07:43	90	50m	3	1LB flew E-W @50m coming to approx 30m. Same Bird
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	LB	1	Y	07:38	07:43	10	40-30m	2	1LB flew E-W @50m coming to approx 30m. Same Bird
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	MP	1	Y	07:42	07:43	30	15-20m	1	MP flew @15-20m E-W.
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	MP	3	Y	*	*	*	20-30m	2	MP (c.4) continuously in areas throughout survey. One continuously flying into air 20-30m, gliding back to electric wire/pole or scrub/tall grass.
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	GO	4	Y	07:57	08:00	30	<10m	1	4GO flew across <10m high into hawthorn bush to feed.
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	LB	1	Y	08:09	08:10	60	50	3	1 LB flew W to SE @50m.
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	LB	2	Y	08:13	08:16	20	50	3	2LB flew W-NE-E @ heights ranging from 20-50m. Same Bird
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	LB	2	Y	08:13	08:16	150	30	2	2LB flew W-NE-E @ heights

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																ranging from 20-50m. Same Bird
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	LB	2	Y	08:13	08:16	30	20	2	2LB flew W-NE-E @ heights ranging from 20-50m. Same Bird
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	LB	1	Y	08:34	08:35	40	70	3	1LB flew W-SE. Same Bird
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	LB	1	Y	08:34	08:35	20	50	3	1LB flew W-SE. Same Bird
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	BH	2	Y	08:59	09:00	15	20	1	2BH gulls flew W-S @20m dropping to c.15m. Same Bird
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	BH	2	Y	08:59	09:00	10	15	1	2BH gulls flew W-S @20m dropping to c.15m. Same Bird
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	GB/LB	1	Y	09:00	09:02	120	70	3	Gull (Greater or lesser?) flew c.70m from W-E.
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	BZ	2	Y	09:10	09:16	30	80	3	2BZ hovering/circling N of study area (N of N63) at heights of 80m, then flying into SE of site dropping to height of c.40m before out of view. Same Bird
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	BZ	2	Y	09:10	09:16	240	70	3	2BZ hovering/circling N of study area (N of N63) at heights of 80m, then flying into SE of site dropping to height of c.40m before out of view. Same Bird
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	BZ	2	Y	09:10	09:16	60	50	3	2BZ hovering/circling N of study area (N of N63) at heights of 80m, then flying into SE of site dropping to height of c.40m before out of view. Same Bird
30/05/2016	AAM	VP	06:30	09:30	3	Morning	VP6	BZ	2	Y	09:10	09:16	20	40	3	2BZ hovering/circling N of study area (N of N63) at heights of 80m, then flying into SE of site dropping to height of c.40m before out of view. Same Bird
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	PH	1	N	*	*	*	*	*	Confusion arising about which VP to visit so left site to other VP @8:30. Upon resolving problem, returned to VP @10:30.
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	CC	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	WR	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	WW	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	WH	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	GO	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	BF	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	BC	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	CH	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	ST	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	R.	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	GC	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	SL	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	HC	1	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	SW	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	SM	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	SF	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	B.	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	M.	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	RB	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	BH	4	Y	07:05	07:10	60	5	1	4BH flew upstream/N up river. Slowly, landed on W bank.
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	SN	1	Y	07:15	07:30	900	30-50	2-3	SN in drumming flight to W of VP1, 200m away. Continued now, and repeated later.
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	LB	4	Y	07:30	*	*	0-10	1	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	T.	1	Y	07:35	07:35	30	25	2	1T. Flew W to E from river
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	CA	1	Y	07:40	*	30	1	1	CA flew S, along edge of river channel downstream.
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	LB	1	Y	07:45	07:50	80	15	1	LB flew N, upstream along river edge.
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	H.	3	Y	07:45	07:50	30	10-5	1	3H. Flew W, passing 100m S of VP1 descending flight height on approach to riverside swamp, the turn N, flying low along E bank of river and lost visual contact as they put down at riverside. Same Bird
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	H.	3	Y	07:45	07:50	60	5-0	1	3H. Flew W, passing 100m S of VP1 descending flight height on approach to riverside swamp, the turn N, flying low along E bank of river and lost visual contact as they put down at riverside. Same Bird
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	SM	*	Y	07:50	08:10	*	10-20	1	SM, abundant, foraging over wetland margins of river.
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	CA	1	Y	07:55	08:00	60	5-10	1	CA flew N, along east E of river.
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	SN	1	Y	08:00	08:05	300	30-50	2-3	SN chipping and drumming flight to SSW.
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	PH	2	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	GO	*	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	BF	2	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	SW	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	CN	1	Y	08:15	08:25	180	5	1	CN from S, flying buoyant, up and down foraging, making turns and dives into water.
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	SF	2	N	10:30	10:35	*	*	*	pair in open canopy woods, 250m N of VP1. noted when walking after return to VP
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	CA	1	Y	10:35	10:40	60	20-30	2	CA flew downstream S on river.
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	CA	1	Y	10:45	10:50	60	20	2	CA flew S on river.

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	CA	1	Y	11:00	11:05	30	5	1	CA flew up river to N.
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	BH	1	Y	11:00	11:05	120	10	1	BH flew N up river.
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	BH	1	Y	11:05	11:10	120	10	1	BH flew up, then down river
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	BH	3	Y	11:10	11:15	180	10-20	1	Fly up and down river foraging.
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	LB	1	Y	11:10	11:15	180	10-20	1	Fly up and down river foraging.
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	BH	6	N	*	*	*	*	*	far W bank on ground
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	MS	1	N	*	*	*	*	*	
30/05/2016	ND	VP	07:00	11:30	3	Morning	VP1	BH	7	Y	11:25	11:30	180	10	1	7BH flew down river, then back upstream again.
30/05/2016	AAM	VP	10:30	13:30	3	Day	VP6	HC	2	Y	11:54	11:55	60	20	2	2 Crows flew over site E-W.
30/05/2016	AAM	VP	10:30	13:30	3	Day	VP6	MP	2	N	*	*	*	*	*	
30/05/2016	AAM	VP	10:30	13:30	3	Day	VP6	CH	1	N	*	*	*	*	*	
30/05/2016	AAM	VP	10:30	13:30	3	Day	VP6	SG	4	Y	11:35	11:36	30	20	2	4SG flew across site c.20m high.
30/05/2016	AAM	VP	10:30	13:30	3	Day	VP6	LI	1	N	*	*	*	*	*	
30/05/2016	AAM	VP	10:30	13:30	3	Day	VP6	WW	2	N	*	*	*	*	*	
30/05/2016	AAM	VP	10:30	13:30	3	Day	VP6	LR	1	N	*	*	*	*	*	
30/05/2016	AAM	VP	10:30	13:30	3	Day	VP6	MP	1	Y	10:47	10:48	2	30	2	MP flew up to c.30m high before landing on ground.
30/05/2016	AAM	VP	10:30	13:30	3	Day	VP6	LB	1	Y	11:29	11:31	120	30	2	1LB flew from SE-NW @30m high.
30/05/2016	AAM	VP	10:30	13:30	3	Day	VP6	SG	4	Y	11:35	11:36	30	20	2	Flew across site
30/05/2016	AAM	VP	10:30	13:30	3	Day	VP6	Corvus sp.	2	Y	11:54	11:55	60	20	2	2 Crows flew over site E-W.
30/05/2016	AAM	VP	10:30	13:30	3	Day	VP6	LT	6	Y	12:24	12:26	40	10	1	6LT flew across site <10m high hopping from hawhorn bushes towards SE
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	RB	1	N	*	*	*	*	*	
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	MP	2	N	*	*	*	*	*	
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	GO	2	N	*	*	*	*	*	
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	CH	1	N	*	*	*	*	*	
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	BC	1	N	*	*	*	*	*	
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	WH	1	N	*	*	*	*	*	
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	HM	10	N	*	*	*	*	*	
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	SL	10	N	*	*	*	*	*	
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	SM	10	N	*	*	*	*	*	
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	MS	1	N	*	*	*	*	*	
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	MA	1	Y	16:30	16:35	60	0-10	1	MA (male) on river at bridge, disturbed, flew S (downstream) 300m, turned and flew back and landed on water.
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	BH	1	Y	16:35	16:40	80	10	1	BH flew downstream NE-SW
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	BH	1	Y	16:40	16:45	60	10	1	BH flew upstream, flying N upstream of bridge at VP2
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	BH	1	Y	16:50	16:55	95	20-10	1	BH flew upstream over river
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	BH	2	Y	16:55	17:00	120	20-10	1	BH flew up from shore, joined by another BH after 40s, flew upstream.
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	LB	1	Y	16:55	17:00	60	40	2	LB flew upstream

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	BH	3	Y	17:05	17:10	240	5-20	1	3BH flew up-down up-down several times.
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	BH	2	Y	17:10	17:15	60	10-20	1	BH flew up and BH flew down over river
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	MA	1	Y	17:10	17:15	30	20	1	MA (male) flew up, as disturbed by cruise boat.
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	BH	2	Y	17:20	17:25	60	10	1	2BH flew upstream over river
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	BH	1	Y	17:20	17:25	60	50	3	BH flew downstream, then flew S inland of river.
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	BH	1	Y	17:20	17:25	60	10	1	BH flew upstream from shore, then returned.
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	H.	1	N	*	*	*	*	*	
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	LB	1	Y	17:35	17:40	120	20-30	2	LB flew upstream, along far bank of river edge/ tree-tops. Followed channel
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	BH	2	Y	17:35	17:40	60	0-10	1	2BH flew up and down over/under bridge, channel, observed briefly.
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	MA	3	N	*	*	*	*	*	
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	CA	1	Y	17:45	17:50	30	20-5	1	1CA flew upstream
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	BH	1	Y	18:00	18:05	100	10-20	1	BH upstream and around corner out of view
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	BH	1	Y	18:05	18:10	60	10-20	1	BH flew up, then down, either side of bridge. Then repeated.
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	BH	2	Y	18:15	18:20	80	10-20	1	BH flew downstream (while 1BH flew up-seen briefly).
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	BH	3	Y	18:20	18:30	240	10-20-30	1-2	2BH downstream at corner of river, flying in circles, then upstream past bridge (VP2) then returned down higher. Joined by 3rd BH.
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	LB	1	Y	18:20	18:30	120	20-30	2	LB flew upstream over river from corner.
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	H.	2	Y	18:45	18:50	120	30	2	2H. Flew from S-N, crossing river 100m upstream VP2, and continuing to N/NE overland until out of view.
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	MS	2	N	*	*	*	*	*	
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	BH	1	Y	18:50	18:55	90	5-10	1	1BH flying upstream from corner. Challenged BH onshore (territorial), tussle, then flew to NW low over grassland and scrub.
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	BH	3	Y	19:15	19:20	90	10-20	1	3BH flew downstream, erratic flight pattern over river channel to far E side out of view at corner.
30/05/2016	ND	VP	16:30	19:30	3	Evening	VP2	LB	2	Y	19:20	19:25	150	25	2	LB flew upstream from corner,

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																crossed over bridge at VP2. flew on, circling with another LB. 2LB flew up and to east.
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	CK	1	N	*	*	*	*	*	
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	SL	1	N	*	*	*	*	*	
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	HM	1	N	*	*	*	*	*	
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	SM	1	N	*	*	*	*	*	
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	R.	1	N	*	*	*	*	*	
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	WH	1	N	*	*	*	*	*	
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	SW	1	N	*	*	*	*	*	
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	CH	1	N	*	*	*	*	*	
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	MS	1	N	*	*	*	*	*	
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	MA	1	N	*	*	*	*	*	
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	MS	2	N	07:05	*	*	*	*	At corner of river
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	H.	1	N	07:05	*	*	*	*	Roosting on fallen tree at river
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	BH	2	Y	07:15	*	*	<10	1	Flew around river corner area, 300m downstream
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	LB	1	Y	07:20	*	*	20	1	Flew upstream
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	MA	3	N	07:25	*	*	*	*	Along shore, moulting
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	BH	2	Y	07:40	*	*	<10	1	Along shore, flew up under bridge then returned to land at 200m
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	MA	2	N	07:45	*	*	*	*	Downstream 400m at corner of river
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	BH	1	Y	07:50	07:55	80	20-30	2	Flew up river towards island then sharp descent to river
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	CA	1	Y	07:50	07:55	60	80	3	Flew North to South, C. 1km to east away from river
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	CA	1	Y	07:55	08:00	60	20-30	2	Flew up river, then descended to river above island
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	CK	1	Y	08:00	08:05	10	15	1	Flew across river from W to E side and into trees calling
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	BH	1	Y	08:00	08:05	145	10-5	1	Flew from G (island) downstream past C (corner)
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	LB	2	Y	08:05	08:10	120	20-30	*	Flew from below VP2/bridge upstream
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	CN	1	Y	08:10	08:15	140	30-50-20	2,3	Flew up river channel all the way from C to G,H,F
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	H.	2	Y	08:10	08:15	60	10-15m	1	Flew up over river from corner C. One flew to trees on E side beside road bridge, one flew upstream and landed among reed swamp at W river edge
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	MA	3	N	08:10	08:15	*	*	*	Along shore below VP2/bridge
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	MS	3	N	08:10	08:15	*	*	*	On river at lower corner (C)
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	LB	1	Y	08:15	08:20	120	10-20	1	Flew up over river channel, kept flying upstream

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	BH	2	Y	08:15	08:20	60	10	1	Lower river corner (C), circling & turning then flew downstream
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	BH	3	Y	08:15	08:20	180	20	1	Flew in changing directions upstream near island then behind trees
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	SH	2	Y	08:25	08:30	30	10-30	1, 2	Along woodland edge at corner (C) making brief display flight. Male then flew across river in glide descent into trees on E side
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	LB	1	Y	08:25	08:30	120	10-20	1	Flew upstream over river channel from C to G,H,F
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	LB	1	Y	08:35	08:40	110	15	1	Flew downstream over river from G,H,F to C
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	CA	1	Y	08:35	08:40	60	40	3	Flew upstream, watched from bridge/VP2 upstream until lost from sight along E side
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	BH	1	Y	08:40	08:45	*	*	*	Flew downstream from island and landed on shore (nest) 200m downstream of VP2/bridge
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	CA	1	Y	08:50	08:55	80	30	2	Flew NE to SW, C. 1km E of VP2 over tree tops
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	J.	1	N	*	*	*	*	*	Noted downstream in woods/trees
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	LR	1	Y	*	*	*	*	*	Flying over/past VP
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	GO	4	Y	*	*	*	*	*	Flew E
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	BF	1	N	*	*	*	*	*	In wood near VP2
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	WR	1	N	*	*	*	*	*	
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	R.	1	N	*	*	*	*	*	
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	CA	2	Y	09:00	*	*	*	*	1 CA flew downstream on W side, 1 CA flew upstream on E side
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	CA	1	Y	09:10	09:15	50	20-30	2	Flew NE to SW, C.400m E of river, lost behind trees
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	CA	1	N	09:20	09:25	*	*	*	Swimming in water at bend (C) downstream
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	LB	1	Y	09:20	09:25	60	20	2	Flew downstream on E side
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	MA	1	Y	09:25	09:30	30	30	2	Flew downriver, out of view at corner C
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	CA	1	Y	09:25	09:30	65	10-30	1-2	Flew upstream, occ turns, erratic flight, out of view at upper corner (G) over river
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	LB	1	Y	09:30	09:35	100	20	2	Flew upstream over river from corner (C) almost to island (G), then left river corridor flying E (100m SW of G)
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	CA	1	Y	09:35	09:40	120	20-30	2	Flew upstream
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	CA	1	Y	09:35	09:40	240	50-70	3	Flew downriver, then crossed



Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																and began circling higher
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	CA	1	Y	09:40	09:45	*	*	*	Flew upriver
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	CA	1	Y	09:40	09:45	*	*	*	Flew downriver
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	LB	1	Y	09:45	09:50	150	30-40	2	Immature bird, flew upriver
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	LB	1	Y	09:45	09:50	70	20	2	Flew down river
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	MS	2	N	09:50	09:55	*	*	*	Lower corner of river (C)
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	CA	1	Y	09:50	09:55	*	*	*	Flew up, landed on river beacon down from VP2
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	CA	1	Y	09:55	10:00	*	*	*	Flew W then turned E, down river and out of view
31/05/2016	ND	VP	07:00	10:00	3	Dawn	VP2	LB	1	Y	09:55	10:00	*	*	*	Circling up river at corner/island area
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	CC	1	N	*	*	*	*	*	
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	RB	1	N	*	*	*	*	*	
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	CH	1	N	*	*	*	*	*	
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	SG	40	N	*	*	*	*	*	
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	Q.	1	N	12:10	*	*	*	*	Call sounding like Q. Heard- not repeated nor heard again.
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	LB	1	Y	11:55	12:00	120	20	2	LB flew N upstream, turned and flew downstream. Cirled near bend over river, then flew off to W.
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	CA	1	Y	12:00	12:05	60	40	3	CA flew upstream, circling over river. Lost visual contact.
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	CA	2	Y	12:30	12:35	30	60	3	2CA flew upstream over river, around the bend, lost vis contact.
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	BH	1	Y	12:35	12:40	150	5	1	BH flew upstream from bend and follows river channel N.
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	LB	1	Y	12:40	12:45	140	15	1	LB flew upstream, wandered off river to over road, flew N.
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	BH	1	Y	12:45	12:50	90	15-20	1	BH flew N upstream.
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	BH	1	Y	12:55	13:00	30	5	1	BH seen over river section, low, lost vis contact.
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	LB	2	Y	13:00	13:05	240	0-20	1	2LB flew up river, variable flight, making turns and dipping down to river, landed beside 2MS on river. Flew up and down off/on water for a while. Flew onwards up river.
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	MA	1	Y	13:05	13:10	30	5	1	MA flew up river, landed into reeds.
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	CA	1	Y	13:40	13:45	40	40	3	CA high, flew downstream, onwards to S.
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	BH	1	Y	13:45	13:50	*	5	1	BH flew upstream over river, low, made turns, dipped down to river, lost visual (vegetation cover).

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	BH	1	Y	13:50	13:55	*	5	1	BH flew upstream over river, low, made turns- landed in reeds, far side (W).
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	LB	1	Y	13:55	14:00	120	10-20	1	LB, flew down over river, circling, continued, lost visual.
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	BH	1	Y	14:15	14:20	30	10-5	1	BH flew down river, lost visual
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	LB	1	Y	14:15	14:20	100	10-20	1	LB over middle section, flew off water, circled, flew up and down river circling, returned to land at original location.
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	CO	1	N	*	*	*	*	*	
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	CA	1	N	*	*	*	*	*	
31/05/2016	ND	VP	11:30	14:30	3	Morning	VP1	BH	1	Y	14:30	*	*	5-10	1	BH flew down behind boat

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
01/06/2016	AC	Transect	11:41	12:18	*	*	T14	WR	3	N	*	*	*	*	*	Machinery working onsite.
01/06/2016	AC	Transect	11:41	12:18	*	*	T14	R.	3	N	*	*	*	*	*	
01/06/2016	AC	Transect	11:41	12:18	*	*	T14	WW	4	N	*	*	*	*	*	
01/06/2016	AC	Transect	11:41	12:18	*	*	T14	WH	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	11:41	12:18	*	*	T14	RO	3	N	*	*	*	*	*	
01/06/2016	AC	Transect	11:41	12:18	*	*	T14	HC	3	N	*	*	*	*	*	
01/06/2016	AC	Transect	11:41	12:18	*	*	T14	RB	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	11:41	12:18	*	*	T14	ST	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	11:41	12:18	*	*	T14	B.	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	11:41	12:18	*	*	T14	SL	4	N	*	*	*	*	*	
01/06/2016	AC	Transect	11:41	12:18	*	*	T14	GC	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	11:41	12:18	*	*	T14	MP	3	N	*	*	*	*	*	
01/06/2016	AC	Transect	11:41	12:18	*	*	T14	SC	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	11:41	12:18	*	*	T14	CK	1	N	*	*	*	*	*	Sitting and calling from power line @150m.
01/06/2016	AC	Transect	10:48	11:28	*	*	T15	WW	2	N	*	*	*	*	*	Machinery working on site. 1 Hare.
01/06/2016	AC	Transect	10:48	11:28	*	*	T15	R.	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	10:48	11:28	*	*	T15	WR	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	10:48	11:28	*	*	T15	CH	5	N	*	*	*	*	*	
01/06/2016	AC	Transect	10:48	11:28	*	*	T15	D.	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	10:48	11:28	*	*	T15	ST	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	10:48	11:28	*	*	T15	RB	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	10:48	11:28	*	*	T15	HC	3	N	*	*	*	*	*	
01/06/2016	AC	Transect	10:48	11:28	*	*	T15	SW	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	10:48	11:28	*	*	T15	MG	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	10:48	11:28	*	*	T15	RO	6	N	*	*	*	*	*	
01/06/2016	AC	Transect	10:48	11:28	*	*	T15	RN	4	N	*	*	*	*	*	
01/06/2016	AC	Transect	10:48	11:28	*	*	T15	MP	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	14:02	14:54	*	*	T12	WH	1	N	*	*	*	*	*	Machinery working onsite.
01/06/2016	AC	Transect	14:02	14:54	*	*	T12	BC	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	14:02	14:54	*	*	T12	CH	3	N	*	*	*	*	*	
01/06/2016	AC	Transect	14:02	14:54	*	*	T12	RB	3	N	*	*	*	*	*	
01/06/2016	AC	Transect	14:02	14:54	*	*	T12	WW	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	14:02	14:54	*	*	T12	MP	3	N	*	*	*	*	*	
01/06/2016	AC	Transect	14:02	14:54	*	*	T12	SL	5	N	*	*	*	*	*	
01/06/2016	AC	Transect	14:02	14:54	*	*	T12	B.	3	N	*	*	*	*	*	
01/06/2016	AC	Transect	14:02	14:54	*	*	T12	HC	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	14:02	14:54	*	*	T12	ST	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	14:02	14:54	*	*	T12	MG	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	12:37	13:18	*	*	T16	WW	3	N	*	*	*	*	*	
01/06/2016	AC	Transect	12:37	13:18	*	*	T16	HC	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	12:37	13:18	*	*	T16	D.	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	12:37	13:18	*	*	T16	B.	3	N	*	*	*	*	*	
01/06/2016	AC	Transect	12:37	13:18	*	*	T16	BF	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	12:37	13:18	*	*	T16	RB	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	12:37	13:18	*	*	T16	ST	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	12:37	13:18	*	*	T16	M.	1	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
01/06/2016	AC	Transect	12:37	13:18	*	*	T16	JD	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	12:37	13:18	*	*	T16	CH	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	12:37	13:18	*	*	T16	WR	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	12:37	13:18	*	*	T16	R.	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	12:37	13:18	*	*	T16	MP	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	12:37	13:18	*	*	T16	RO	3	N	*	*	*	*	*	
01/06/2016	AC	Transect	12:37	13:18	*	*	T16	SL	4	N	*	*	*	*	*	
01/06/2016	AC	Transect	12:37	13:18	*	*	T16	HM	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	09:36	10:12	*	*	T19	RB	4	N	*	*	*	*	*	
01/06/2016	AC	Transect	09:36	10:12	*	*	T19	WW	8	N	*	*	*	*	*	
01/06/2016	AC	Transect	09:36	10:12	*	*	T19	WR	4	N	*	*	*	*	*	
01/06/2016	AC	Transect	09:36	10:12	*	*	T19	R.	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	09:36	10:12	*	*	T19	CH	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	09:36	10:12	*	*	T19	LR	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	09:36	10:12	*	*	T19	B.	4	N	*	*	*	*	*	
01/06/2016	AC	Transect	09:36	10:12	*	*	T19	PH	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	09:36	10:12	*	*	T19	ST	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	09:36	10:12	*	*	T19	SL	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	15:37	16:05	*	*	T20	CH	3	N	*	*	*	*	*	
01/06/2016	AC	Transect	15:37	16:05	*	*	T20	WR	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	15:37	16:05	*	*	T20	WH	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	15:37	16:05	*	*	T20	D.	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	15:37	16:05	*	*	T20	R.	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	15:37	16:05	*	*	T20	B.	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	15:37	16:05	*	*	T20	ST	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	15:37	16:05	*	*	T20	CK	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	15:37	16:05	*	*	T20	MP	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	15:37	16:05	*	*	T20	RB	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	15:37	16:05	*	*	T20	LB	2	Y	*	*	*	300	4	2LB at 300m, flying from E to W at 60m over bog.
01/06/2016	AC	Transect	16:15	16:36	*	*	T21	CH	4	N	*	*	*	*	*	Machinery working on bog.
01/06/2016	AC	Transect	16:15	16:36	*	*	T21	R.	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	16:15	16:36	*	*	T21	WH	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	16:15	16:36	*	*	T21	RB	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	16:15	16:36	*	*	T21	WR	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	16:15	16:36	*	*	T21	B.	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	16:15	16:36	*	*	T21	WW	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	16:15	16:36	*	*	T21	MP	2	N	*	*	*	*	*	
01/06/2016	AC	Transect	16:15	16:36	*	*	T21	ST	1	N	*	*	*	*	*	
01/06/2016	AC	Transect	16:15	16:36	*	*	T21	S.	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	17:55	18:18	*	*	T1	WW	3	N	*	*	*	*	*	
02/06/2016	AC	Transect	17:55	18:18	*	*	T1	CH	3	N	*	*	*	*	*	
02/06/2016	AC	Transect	17:55	18:18	*	*	T1	LT	3	N	*	*	*	*	*	
02/06/2016	AC	Transect	17:55	18:18	*	*	T1	R.	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	17:55	18:18	*	*	T1	LI	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	17:55	18:18	*	*	T1	B.	3	N	*	*	*	*	*	
02/06/2016	AC	Transect	17:55	18:18	*	*	T1	CC	2	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
02/06/2016	AC	Transect	17:55	18:18	*	*	T1	MG	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	17:55	18:18	*	*	T1	ST	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	17:55	18:18	*	*	T1	M.	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	16:20	16:45	*	*	T2	WW	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	16:20	16:45	*	*	T2	HC	10	N	*	*	*	*	*	
02/06/2016	AC	Transect	16:20	16:45	*	*	T2	MP	3	N	*	*	*	*	*	
02/06/2016	AC	Transect	16:20	16:45	*	*	T2	M.	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	16:20	16:45	*	*	T2	LR	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	16:20	16:45	*	*	T2	CH	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	16:20	16:45	*	*	T2	RB	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	16:20	16:45	*	*	T2	B.	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	16:20	16:45	*	*	T2	BH	1	Y	*	*	*	*	*	Flying in a W direction over river. Disturbance by power boat on river.
02/06/2016	AC	Transect	14:20	14:48	*	*	T3	WR	3	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:20	14:48	*	*	T3	R.	3	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:20	14:48	*	*	T3	D.	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:20	14:48	*	*	T3	B.	3	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:20	14:48	*	*	T3	CK	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:20	14:48	*	*	T3	PH	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:20	14:48	*	*	T3	SL	13	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:20	14:48	*	*	T3	LR	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:20	14:48	*	*	T3	JD	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:20	14:48	*	*	T3	M.	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:20	14:48	*	*	T3	ST	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:20	14:48	*	*	T3	RO	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:20	14:48	*	*	T3	CC	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:20	14:48	*	*	T3	WW	3	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:55	15:31	*	*	T5	B.	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:55	15:31	*	*	T5	R.	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:55	15:31	*	*	T5	WW	4	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:55	15:31	*	*	T5	LR	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:55	15:31	*	*	T5	WH	3	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:55	15:31	*	*	T5	CH	3	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:55	15:31	*	*	T5	SW	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:55	15:31	*	*	T5	PH	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	14:55	15:31	*	*	T5	BZ	2	Y	*	*	*	*	*	2BZ heard calling and soaring at 500m south of transect (rail line).
02/06/2016	AC	Transect	12:28	13:14	*	*	T6	R.	1	N	*	*	*	*	*	Machinery working onsite.
02/06/2016	AC	Transect	12:28	13:14	*	*	T6	WR	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	12:28	13:14	*	*	T6	CH	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	12:28	13:14	*	*	T6	BC	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	12:28	13:14	*	*	T6	PW	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	12:28	13:14	*	*	T6	HC	5	N	*	*	*	*	*	
02/06/2016	AC	Transect	12:28	13:14	*	*	T6	JD	3	N	*	*	*	*	*	
02/06/2016	AC	Transect	12:28	13:14	*	*	T6	B.	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	12:28	13:14	*	*	T6	LR	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	12:28	13:14	*	*	T6	MP	2	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
02/06/2016	AC	Transect	12:28	13:14	*	*	T6	SL	5	N	*	*	*	*	*	
02/06/2016	AC	Transect	12:28	13:14	*	*	T6	WW	3	N	*	*	*	*	*	
02/06/2016	AC	Transect	12:28	13:14	*	*	T6	MG	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	11:50	12:24	*	*	T7	WR	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	11:50	12:24	*	*	T7	WW	3	N	*	*	*	*	*	
02/06/2016	AC	Transect	11:50	12:24	*	*	T7	R.	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	11:50	12:24	*	*	T7	MP	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	11:50	12:24	*	*	T7	D.	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	11:50	12:24	*	*	T7	JD	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	11:50	12:24	*	*	T7	SL	6	N	*	*	*	*	*	
02/06/2016	AC	Transect	11:50	12:24	*	*	T7	B.	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	11:50	12:24	*	*	T7	PH	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	11:50	12:24	*	*	T7	PW	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	11:50	12:24	*	*	T7	LB	1	Y	*	*	*	200	4	LB observed flying E @200m over bog.
02/06/2016	AC	Transect	09:51	10:18	*	*	T8	WW	3	N	*	*	*	*	*	People working on bog.
02/06/2016	AC	Transect	09:51	10:18	*	*	T8	MP	4	N	*	*	*	*	*	
02/06/2016	AC	Transect	09:51	10:18	*	*	T8	PW	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	09:51	10:18	*	*	T8	WR	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	09:51	10:18	*	*	T8	R.	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	09:51	10:18	*	*	T8	RO	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	09:51	10:18	*	*	T8	CH	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	09:51	10:18	*	*	T8	WH	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	09:51	10:18	*	*	T8	JD	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	09:51	10:18	*	*	T8	B.	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	09:51	10:18	*	*	T8	ST	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	09:51	10:18	*	*	T8	HC	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	09:51	10:18	*	*	T8	SL	3	N	*	*	*	*	*	
02/06/2016	AC	Transect	10:48	11:36	*	*	T9	MP	5	N	*	*	*	*	*	Machinery working onsite. Hare observed.
02/06/2016	AC	Transect	10:48	11:36	*	*	T9	WR	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	10:48	11:36	*	*	T9	WW	5	N	*	*	*	*	*	
02/06/2016	AC	Transect	10:48	11:36	*	*	T9	R.	3	N	*	*	*	*	*	
02/06/2016	AC	Transect	10:48	11:36	*	*	T9	RO	2	N	*	*	*	*	*	
02/06/2016	AC	Transect	10:48	11:36	*	*	T9	B.	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	10:48	11:36	*	*	T9	CH	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	10:48	11:36	*	*	T9	RB	1	N	*	*	*	*	*	
02/06/2016	AC	Transect	10:48	11:36	*	*	T9	SL	6	N	*	*	*	*	*	
02/06/2016	AC	Transect	10:48	11:36	*	*	T9	HC	2	N	*	*	*	*	*	
06/06/2016	ND	VP	19:00	21:00	2	Dusk	VP11	MP	1	N	*	*	*	*	*	
06/06/2016	ND	VP	19:00	21:00	2	Dusk	VP11	RB	1	N	*	*	*	*	*	
06/06/2016	ND	VP	19:00	21:00	2	Dusk	VP11	HC	1	N	*	*	*	*	*	
06/06/2016	ND	VP	19:00	21:00	2	Dusk	VP11	MG	1	N	*	*	*	*	*	
06/06/2016	ND	VP	19:00	21:00	2	Dusk	VP11	CT	1	N	*	*	*	*	*	
06/06/2016	ND	VP	19:00	21:00	2	Dusk	VP11	B.	1	N	*	*	*	*	*	
06/06/2016	ND	VP	19:00	21:00	2	Dusk	VP11	WW	1	N	*	*	*	*	*	
06/06/2016	ND	VP	19:00	21:00	2	Dusk	VP11	S.	1	N	*	*	*	*	*	
06/06/2016	ND	VP	19:00	21:00	2	Dusk	VP11	ST	1	N	*	*	*	*	*	

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													Time Interval (sec)	Height (m)	Height Bands	
06/06/2016	ND	VP	19:00	21:00	2	Dusk	VP11	M.	Flock	N	*	*	*	*	*	
06/06/2016	ND	VP	19:00	21:00	2	Dusk	VP11	WP	1	N	*	*	*	*	*	
06/06/2016	ND	VP	19:00	21:00	2	Dusk	VP11	LB	1	Y	19:35	19:40	85	30	2	
06/06/2016	ND	VP	19:00	21:00	2	Dusk	VP11	SG	60	Y	20:20	20:25	*	*	*	Flying S in flock, distant, passing >3km to E
06/06/2016	ND	VP	19:00	21:00	2	Dusk	VP11	LB	2	Y	20:30	20:35	60	20	2	Flew N to S, passing over VP 11
06/06/2016	ND	VP	19:00	21:00	2	Dusk	VP11	LB	1	Y	20:40	20:42	120	20	2	Flew from E to WNW, passing 0.5 km in front (N of VP 11) out of view
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	RB	1	N	*	*	*	*	*	
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	WW	1	N	*	*	*	*	*	
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	BC	1	N	*	*	*	*	*	
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	LR	1	N	*	*	*	*	*	
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	CK	1	N	*	*	*	*	*	
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	BF	1	N	*	*	*	*	*	
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	GO	1	N	*	*	*	*	*	
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	Q.	1	N	*	*	*	*	*	Possible. No subsequent repetition or evidence
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	CA	1	Y	13:30	13:35	*	40	3	CA flew up river, > 2km to N
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	LB	1	Y	13:50	13:55	65	20	2	Flew overhead from Ne to SW
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	LB	1	Y	13:50	13:55	*	*	*	Circling over river to N
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	CA	1	Y	13:50	13:55	*	*	*	Circling over river corridor
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	H.	1	Y	14:10	14:15	85	25	2	Flew up river corridor until out of view
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	BH	2	Y	14:40	14:45	*	*	*	Flew from NE to W/SW/S, travelling across country
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	LB	2	Y	15:00	15:05	240	30-150	2-3	Flew from N to S to railway (E) over VP4, began circling, spiralling high to 80-100m to 150m for 3 mins, moving away to SW
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	CA	1	Y	15:05	15:10	80	20	2	Flew upstream over river corridor, VP2 area
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	MA	2	Y	15:15	15:20	25	10-0	1	Flew S to N passing 300m W of VP4, landed in wetland outside the west edge of the milled peat area
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	LB	1	Y	15:20	15:25	65	25	2	Flew from NE to SW, 400m in front NW of VP 4, flew out of view over scrub & woodland
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	CA	1	Y	15:25	15:30	70	30	2	Flew from SW to NE over rail line, then banked left and flew N
06/06/2016	ND	VP	12:30	15:30	3	Day	VP4	BH	2	Y	15:30	*	50	20	2	Flew from NE to SW, then NW along edge of scrub
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	CC	1	N	*	*	*	*	*	*
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	BC	1	N	*	*	*	*	*	*
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	WR	1	N	*	*	*	*	*	*
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	GO	2	N	*	*	*	*	*	*
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	LR	2	N	*	*	*	*	*	*
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	WW	2	N	*	*	*	*	*	*
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	MP	2	N	*	*	*	*	*	*
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	JD	1	N	*	*	*	*	*	*

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	CM	1	Y	08:45	08:50	60	25	2	CM flew S-N to E of VP3.
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	RN	4	Y	09:05	09:10	100	20	2	4RN flew from NE to SW, passing 200m to W of VP3.
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	LB	1	Y	09:20	09:25	100	20	2	LB flew from NE to SW, passing 500m to NW of VP3.
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	LB	1	Y	09:25	09:30	50	20	2	LB flew W to E (100m to N).
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	LB	1	Y	09:40	09:45	60	20	2	LB flew W to E passing 300m to N of VP.
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	LB	1	Y	09:50	09:55	45	25	2	LB flew from N to SSW.
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	PE	1	Y	10:15	10:20	10	1	1	PE (male) spotted flying low over ground 600m NW of VP3, landed suddenly as if finding or making opportunistic strike at prey item. Visible on ground for four minutes, then took off, flew low to NW, turning to W and SW, then out of view over peat bank. Same Bird
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	PE	1	Y	10:15	10:20	20	2	1	PE (male) spotted flying low over ground 600m NW of VP3, landed suddenly as if finding or making opportunistic strike at prey item. Visible on ground for four minutes, then took off, flew low to NW, turning to W and SW, then out of view over peat bank. Same Bird.
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	BH	1	Y	10:25	10:30	70	50	3	BH flew NE to SW, 1km to NW of VP3.
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	LB	2	Y	10:40	10:45	120	30	2	2LB flew nearly overhead VP3 (to S of) from E to W.
06/06/2016	ND	VP	08:30	11:30	3	Morning	VP3	LB	1	Y	11:20	11:25	150	25	2	LB flew SW to NE 800m to W/NW of VP3
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	GC	1	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	BF	1	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	WR	1	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	WW	1	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	CH	1	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	B.	1	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	PH	1	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	WP	1	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	RB	1	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	MP	1	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	SN	1	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	GH	1	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	CK	2	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	LI	1	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	HC	1	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	J.	2	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	LT	1	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	WH	1	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	MG	1	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	CT	1	N	*	*	*	*	*	
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	LB	1	Y	06:30	06:35	180	20	2	LB flew from E to N across open peat



Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																area, passing 400m N of VP4.
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	CA	4	Y	06:35	06:40	120	40	3	4CA flew upstream N/NE over Shannon river channel 1.5km NE of VP4.
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	LB	2	Y	06:40	06:45	120	25	2	2LB flew from NNE to SSW over VP4
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	LB	1	Y	07:30	*	120	25	2	LB flew N to S, turning to SW over railway line to SW until out of view.
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	LB	1	Y	07:50	07:52	140	25	2	LB flew from E to W, >1km to N/NW of VP4, flying parallel to river corridor
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	LB	1	Y	07:55	07:57	140	25	2	LB flew from E to W, >1km to N/NW of VP4, flying parallel to river corridor
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	M.	Flock	N	08:10	*	*	*	*	Several M. Mobile and feeding across bog and nearby associated habitat.
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	SL/HM/SM	Flock	Y	08:15	*	*	*	*	SL/HM/SM flock foraging far off to E (>500m)
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	BH	1	Y	08:40	08:45	250	30	2	BH flew from SW to E, NE passing 200m to N of VP4. tracked the whole way >1km to SW, until NE
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	LB	1	Y	08:50	08:51	60	20	2	LB flew E to W, 800m to N when passing VP4
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	H.	1	Y	09:00	09:05	120	20-10	1	H. Flew S of river bank, from E to W, >1km to NW of VP4, descended among trees to 3m along railline. Flew over bog to N.
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	CA	1	Y	09:15	09:20	120	25	2	1CA flew downstream over river, >1km to NW/W of VP4.
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	LB	1	Y	09:20	09:25	60	25	2	LB, to S of railline, flew W, then SW.
07/06/2016	ND	VP	06:30	09:30	3	Morning	VP4	RN	1	N	*	*	*	*	*	Heard calling nearby
07/06/2016	ND	VP	12:00	13:30	1	Day	VP11	MP	1	N	*	*	*	*	*	2nd half of 3hr watch commenced yesterday evening.
07/06/2016	ND	VP	12:00	13:30	1	Day	VP11	WH	1	N	*	*	*	*	*	
07/06/2016	ND	VP	12:00	13:30	1	Day	VP11	WW	1	N	*	*	*	*	*	
07/06/2016	ND	VP	12:00	13:30	1	Day	VP11	CH	1	N	*	*	*	*	*	
07/06/2016	ND	VP	12:00	13:30	1	Day	VP11	RB	1	N	*	*	*	*	*	
07/06/2016	ND	VP	12:00	13:30	1	Day	VP11	R.	1	N	*	*	*	*	*	
07/06/2016	ND	VP	12:00	13:30	1	Day	VP11	B.	1	N	*	*	*	*	*	
07/06/2016	ND	VP	12:00	13:30	1	Day	VP11	ST	1	N	*	*	*	*	*	
07/06/2016	ND	VP	12:00	13:30	1	Day	VP11	WR	1	N	*	*	*	*	*	
07/06/2016	ND	VP	12:00	13:30	1	Day	VP11	BZ	1	N	*	*	*	*	*	
07/06/2016	ND	VP	12:00	13:30	1	Day	VP11	MG	1	N	*	*	*	*	*	
07/06/2016	ND	VP	12:00	13:30	1	Day	VP11	SL	1	N	*	*	*	*	*	
07/06/2016	ND	VP	12:00	13:30	1	Day	VP11	M.	1	N	*	*	*	*	*	
07/06/2016	ND	VP	12:00	13:30	1	Day	VP11	K.	1	Y	12:35	12:45	360	40-50	3	K. Seen in flight, hovering, foraging. Distant, 800m to W, over woodland then circled and flew N, then E. >1km then over green island with trees and hedges hovering and moving. Finally lost visual contact, may have descended to strike or

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																moved north.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	GO	*	N	*	*	*	*	*	Visibility to Ground level obscured during VP due to scrub.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	MP	*	N	*	*	*	*	*	
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	S.	1	Y	*	*	*	100m	3	aerial song, flying to 100m in song, 200m to N side of road (N63).
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LR	*	N	*	*	*	*	*	
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	RN	1	Y	18:00	18:05	120	100	3	RN flying high @100m or more N side of road. 200m away
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	18:35	18:36	60	40	3	LB flew W to E, 200m away.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	5	Y	18:40	18:45	40	30	2	3LB + 2LB (following) flew E to W, passing 200m to S of VP6
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	3	Y	18:40	18:45	50	20-30	2	3LB flew W to E, passing 50 to 100m away to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	SG	10	Y	18:40	18:45	*	*	*	10SG flew W near VP6 over roadside.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	BH	1	Y	18:42	18:43	40	40	3	BH flew E to W, passing 400m to S of VP6
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	18:42	18:43	40	30	2	LB flew E to W, passing 400m to S of VP6
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	BH	1	Y	18:44	18:45	30	10	1	BH flew W to E passing 75m to S of VP6. (also corvids)
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	18:45	18:45	40	40	3	LB flew W to E passing 300m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	18:46	18:46	40	20	2	LB flew W to E passing 100m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	BH	5	Y	18:48	18:48	40	20	2	5BH flew W to E passing 200m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	18:48	19:49	70	30	2	LB flew E to W, passing 300m to S of VP6
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	18:49	18:50	40	30	2	LB flew W to E passing 100m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	18:55	19:00	40	25	2	LB flew SW to NE, passing 50m to S of VP6
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	4	Y	19:00	19:05	120	20	2	4LB flew E to W, passing 250m to S of VP6. passing in a row.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	SK	2	N	*	*	*	*	*	2SK (pair) near bog, feeding on a small sitka spruce).
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	19:10	19:15	80	30	2	LB flew SW to NE, passing 50m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	PE	1	Y	19:15	19:20	120	100	3	PE spotted and observed at distance c.3km to SW, circular flight/soaring, making figure of 8 moves (off map). Drifting S out of view.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	4	Y	19:20	19:25	70	50	3	4LB flew from 500m to SW, N/NW, crossing main N63 road.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	ST	1	N	*	*	*	*	*	
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	WH	1	N	*	*	*	*	*	
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	19:30	19:35	30	20	2	LB flew from SW to NE, passing 200m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	4	Y	19:35	19:40	50	20	2	4LB flew from SW to NE, passing 200m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	4	Y	19:35	19:40	40	20	2	4LB flew from SW to NE, passing 50m to S of VP6.

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	19:40	19:45	50	15	1	LB flew from SW to NE, passing 200m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	19:45	19:45	20	15	1	LB flew from SW to NE, passing 50m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	BH	1	Y	19:46	19:46	40	30	2	BH flew from NE to SW, passing 50m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	2	Y	19:47	19:47	50	20	2	2LB flew from SW to NE, passing 300m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	BH	1	Y	19:48	19:48	30	30	2	BH flew from E to W, passing 500m to S of VP6
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	19:50	19:55	70	50	3	LB flew from E to SW/W, passing over VP6 and crossing over N63 to N side.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	3	Y	19:55	19:55	40	20	2	3LB in a row, flew from SW to NE to N side of N63 road 100m from VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	BH	1	Y	19:55	20:00	40	20	2	BH flew from NE to SW, passing 300m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	20:00	20:00	40	20	2	LB flew from SW to NE, passing 50m to the S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	2	Y	20:00	20:00	40	10-20	1	2LB (in row following) from SW to NE, passing 150m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	BH	1	Y	20:00	20:05	30	30	2	BH flew from SW to NE, passing 50m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	3	Y	20:05	20:10	40	5-10	1	3LB flew from SW to NE, passing 200m to S. of VP6 (undulating flight).
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	BH	1	Y	20:10	20:10	30	30	2	BH flew from E to W, passing 50m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	20:11	20:11	20	20	2	LB flew from S to NE , passing 200m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	20:12	20:13	60	30	2	LB flew from NE to SW passing 100m to the S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	4	Y	20:14	20:15	30	20	2	4LB (in row) flew SW to NE passing overhead/ over N63
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	2	Y	20:15	20:20	80	40	3	2LB flew NE to SW passing 100m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	3	Y	20:20	20:25	50	10-20	1	3LB fly in a row SW to NE passing 200m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	20:20	20:25	20	30	2	LB fly SW to NE passing 400m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	20:25	20:30	30	20	2	LB flew SW to NE passing 100m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	4	Y	20:30	20:35	60	20	2	4LB fly SW to NE passing 150m to S of VP6
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	20:35	20:40	120	30	2	LB fly SW to NE passing 200m to S of VP6
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	20:35	20:40	120	30	2	LB flew E to SW, passing overhead/ over road N63
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	20:40	20:45	200	30	2	LB flew SW to NE passing 100m to S of VP6.
07/06/2016	ND	VP	17:45	20:45	3	Day	VP6	LB	1	Y	20:40	20:45	50	20	2	LB flew SW to NE passing 50m to S of

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																VP6.
08/06/2016	ND	VP	13:00	14:30	1.5	Day	VP3	JD	1	N	*	*	*	*	*	Nest in phone mast tower
08/06/2016	ND	VP	13:00	14:30	1.5	Day	VP3	CC	1	N	*	*	*	*	*	Audible
08/06/2016	ND	VP	13:00	14:30	1.5	Day	VP3	WW	1	N	*	*	*	*	*	Audible
08/06/2016	ND	VP	13:00	14:30	1.5	Day	VP3	BC	1	N	*	*	*	*	*	Audible
08/06/2016	ND	VP	13:00	14:30	1.5	Day	VP3	SW	1	N	*	*	*	*	*	Audible
08/06/2016	ND	VP	13:00	14:30	1.5	Day	VP3	B.	1	N	*	*	*	*	*	Audible
08/06/2016	ND	VP	13:00	14:30	1.5	Day	VP3	LR	1	N	*	*	*	*	*	Audible
08/06/2016	ND	VP	13:00	14:30	1.5	Day	VP3	WP	1	N	*	*	*	*	*	Audible
08/06/2016	ND	VP	13:00	14:30	1.5	Day	VP3	WR	1	N	*	*	*	*	*	Audible
08/06/2016	ND	VP	13:00	14:30	1.5	Day	VP3	SL	1	Y	*	*	*	*	*	Foraging across peat area
08/06/2016	ND	VP	13:00	14:30	1.5	Day	VP3	LB	1	Y	13:00	13:05	240	40	3	LB flew from SW to NE over peat area, passing 600m N of VP3.
08/06/2016	ND	VP	13:00	14:30	1.5	Day	VP3	LB	1	Y	13:15	13:20	180	30	2	LB flew from SW to NE over peat area, passing 1km N of VP3.
08/06/2016	ND	VP	13:00	14:30	1.5	Day	VP3	LB	1	Y	13:25	13:30	180	30	2	LB flew from NE to SW across peat area, passing >1km N of VP3.
08/06/2016	ND	VP	13:00	14:30	1.5	Day	VP3	LB	1	Y	13:40	13:45	60	15-10	1	LB flew from W to E across peat area, passing 300m N of VP3.
08/06/2016	ND	VP	13:00	14:30	1.5	Day	VP3	LB	1	Y	13:45	13:50	60	15-10	1	LB flew from SW to NNE across peat area, passing 500m N of VP3.
08/06/2016	ND	VP	13:00	14:30	1.5	Day	VP3	LB/ BH	*	Y	13:50	14:30	*	20-30	2	Occasional-frequent gulls (LB/BH) noticed at distance >1km over woods or along river Shannon moving N and S generally, partly obscured by tree cover.
08/06/2016	ND	VP	13:00	14:30	1.5	Day	VP3	CA	2	Y	13:50	14:30	*	20-30	2	Flying N and NE
08/06/2016	ND	VP	17:00	18:30	1.5	Day	VP3	JD	1	N	*	*	*	*	*	
08/06/2016	ND	VP	17:00	18:30	1.5	Day	VP3	SL	1	N	*	*	*	*	*	
08/06/2016	ND	VP	17:00	18:30	1.5	Day	VP3	SG	1	N	*	*	*	*	*	
08/06/2016	ND	VP	17:00	18:30	1.5	Day	VP3	M.	1	N	*	*	*	*	*	
08/06/2016	ND	VP	17:00	18:30	1.5	Day	VP3	CC	1	N	*	*	*	*	*	
08/06/2016	ND	VP	17:00	18:30	1.5	Day	VP3	WW	1	N	*	*	*	*	*	
08/06/2016	ND	VP	17:00	18:30	1.5	Day	VP3	LB	1	Y	18:10	18:15	60	30	2	LB flew N over peat area, seen at 500m from VP3.
08/06/2016	ND	VP	17:00	18:30	1.5	Day	VP3	LB	1	Y	18:20	18:25	30	20	2	LB flew from SW to NE, passing 300m N of VP3.
08/06/2016	ND	VP	17:00	18:30	1.5	Day	VP3	LB	2	Y	18:25	18:30	30	25	2	2LB flew from SW to NE, passing overhead VP3.
08/06/2016	ND	VP	07:00	10:00	3	Day	VP11	MP	*	N	*	*	*	*	*	
08/06/2016	ND	VP	07:00	10:00	3	Day	VP11	CH	1	N	*	*	*	*	*	
08/06/2016	ND	VP	07:00	10:00	3	Day	VP11	WR	1	N	*	*	*	*	*	
08/06/2016	ND	VP	07:00	10:00	3	Day	VP11	WW	1	N	*	*	*	*	*	
08/06/2016	ND	VP	07:00	10:00	3	Day	VP11	R.	1	N	*	*	*	*	*	
08/06/2016	ND	VP	07:00	10:00	3	Day	VP11	WH	1	N	*	*	*	*	*	
08/06/2016	ND	VP	07:00	10:00	3	Day	VP11	BC	1	N	*	*	*	*	*	
08/06/2016	ND	VP	07:00	10:00	3	Day	VP11	ST	1	N	*	*	*	*	*	
08/06/2016	ND	VP	07:00	10:00	3	Day	VP11	M.	*	N	*	*	*	*	*	Several M. feeding over peat bog area,

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																nearby and further away.
08/06/2016	ND	VP	07:00	10:00	3	Day	VP11	BF	1	N	*	*	*	*	*	
08/06/2016	ND	VP	07:00	10:00	3	Day	VP11	SL	*	Y	*	*	*	*	*	Foraging
08/06/2016	ND	VP	07:00	10:00	3	Day	VP11	CK	1	Y	09:40	09:45	6	1-2	1	CK mobbed and chased by MPs. Flew low and fast past and behind VP11 and into scrub cover. Short observation.
08/06/2016	ND	VP	07:00	10:00	3	Day	VP11	S.	1	N	*	*	*	*	*	
08/06/2016	ND	VP	07:00	10:00	3	Day	VP11	HC	4	N	*	*	*	*	*	
08/06/2016	ND	VP	07:00	10:00	3	Day	VP11	MG	1	N	*	*	*	*	*	
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	MP	1	N	*	*	*	*	*	
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	S.	1	N	*	*	*	*	*	
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	WW	1	N	*	*	*	*	*	
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	WR	1	N	*	*	*	*	*	
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	GO	1	N	*	*	*	*	*	
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	WH	1	N	*	*	*	*	*	
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	R.	1	N	*	*	*	*	*	
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	ST	1	N	*	*	*	*	*	
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	SW	1	N	*	*	*	*	*	
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	HC	2	N	*	*	*	*	*	
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	RN	1	Y	07:35	07:40	*	*	*	RN flew N, calling, N side of road.
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	JD	1	N	*	*	*	*	*	
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	MG	1	N	*	*	*	*	*	
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	LB	2	Y	07:10	07:15	60	40	3	2LB flew E to W passing 500m S of VP7.
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	LB	1	Y	07:25	07:30	50	30	2	LB flew N to E, passing 200m to N of VP7
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	LB	1	Y	07:40	07:45	100	25	2	LB flew W to E, passing 300m N of VP7, then turning S when crossing over country road.
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	LB	1	Y	07:50	07:51	70	40	3	LB flew W to E, passing >1km to N.
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	LB	1	Y	07:50	07:55	100	30	2	LB flew E to W, passing 200m N of VP7.
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	LB	1	Y	07:55	08:00	60	40	3	LB flew E to W, passing 600m to S of VP7.
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	BH	1	Y	07:55	08:00	120	50	3	BH flew W to E passing 300m to S of VP7
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	BH	1	Y	08:00	08:05	130	20	2	BH flew W to E, passing <50m N of VP7.
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	LB	1	Y	08:00	08:05	180	50	3	LB flew E to W, passing 300m to N of VP7
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	BH	1	Y	08:10	08:15	60	40	3	BH circling, 500m to S of VP7. lost vis contact
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	LB	1	Y	08:20	08:25	80	30	2	LB flew W to E, passing 200m N of VP7
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	BH	1	Y	08:20	08:25	70	30	2	BH flew W to E, passing 1km S of VP7.
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	LB	2	Y	08:30	08:40	200	30-40	3	2LB flew W to E, ascending from 30m to 40m in later half of flight. Passed overhead VP7 crossing to S side of road at 105sec.
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	LB	4	Y	08:30	08:40	200	80-100	3	AS above. 2LB joined 2LB (4LB), began circling together and ascending to >100m
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	LB	1	Y	08:45	08:50	80	20	2	LB flew W to E, passing 200m N of VP7, out of view.
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	LB	2	Y	09:05	09:05	240	40-50	3	2LB flew from E/NE to W/SW after 1min started circling over machine worked

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																area for 3mins . >400m away then lost vis contact.
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	LB	2	Y	09:20	09:25	240	30-40	2	2LB circling 200-300m to NW, drifting further away to NW until lost vis contact
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	LB	1	Y	09:30	09:35	90	25-30	2	LB flew E to W passing 100m N of VP7
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	LB	1	Y	09:30	09:35	120	50	3	LB flew E to W (S of road) 400m S of VP7, circled a number of times as progressed on route to W/SW.
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	LB	2	Y	09:40	09:45	60	20	2	2LB flew W to E, passing 300m S of VP7
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	LB	2	Y	09:40	09:45	120	50	3	2LB circling to SW, distant 1.5km
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	BZ	1	Y	09:40	09:45	120	50	3	BZ soaring >2km to SW
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	H.	1	Y	09:50	09:55	240	30	2	H. flew W to E, passing 300m N of VP7, crossing road after 100s, flew on eastward and began to circle until out of view beyond treeline
09/06/2016	ND	VP	07:00	10:00	3	Day	VP7	LB	1	Y	09:55	10:00	60	20	2	LB flew W to E overhead VP7, circled, lost from view.
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	GB	1	Y	13:37	13:37	25	250	4	Bird came into view, flying E, S of VP at 250-300m along site boundary.
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	BZ	1	Y	13:55	14:01	360	200	4	Adult BZ observed soaring SE of VP at 200m. Bird was over scrub and was in view for 6 minutes before going out of view.
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	WW	5	N	*	*	*	*	*	
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	MG	3	N	*	*	*	*	*	
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	WP	4	N	*	*	*	*	*	
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	PH	2	N	*	*	*	*	*	
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	B.	4	N	*	*	*	*	*	
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	GW	1	N	*	*	*	*	*	
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	CH	3	N	*	*	*	*	*	
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	SL	15	N	*	*	*	*	*	
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	MP	6	N	*	*	*	*	*	
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	RN	2	N	*	*	*	*	*	
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	WH	2	N	*	*	*	*	*	
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	JD	5	N	*	*	*	*	*	
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	LR	6	N	*	*	*	*	*	
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	HC	4	N	*	*	*	*	*	
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	WR	3	N	*	*	*	*	*	
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	R.	2	N	*	*	*	*	*	
13/06/2016	AC	VP	11:30	14:30	3	Day	VP9	RB	3	N	*	*	*	*	*	
13/06/2016	AC	WK Survey	21:14	22:18	1	*	A	MT	2	N	*	*	*	*	*	Had to abandon at 22:18 due to Thunder storm and heavy rain.
13/06/2016	AC	WK Survey	21:14	22:18	1	*	A	HC	4	N	*	*	*	*	*	
13/06/2016	AC	WK Survey	21:14	22:18	1	*	A	B.	3	N	*	*	*	*	*	
13/06/2016	AC	WK Survey	21:14	22:18	1	*	A	WP	2	N	*	*	*	*	*	
13/06/2016	AC	WK Survey	21:14	22:18	1	*	A	WW	2	N	*	*	*	*	*	
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	LB	1	Y	06:20	06:20	4	100	3	LB came into view flying E at 100m over

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes	
													Time Interval (sec)	Height (m)	Height Bands		
																	bog. Lost sight behind tree line.
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	LB	4	Y	06:41	06:41	40	150	4		4LB observed flying E ovr bog at 150m. Birds went out of view behind tree line after 4 seconds.
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	LB	1	Y	07:18	07:18	32	100	3		LB flying W over bog at 100m. Bird went out of view behind trees after 32 seconds.
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	LB	4	Y	07:20	07:20	21	100	3		4LB came into view flying E over bog at 100m.
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	LB	1	Y	07:33	07:33	18	100	3		LB came into view S of VP flying in a W direction over bog at 100m.
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	LB	3	Y	08:08	08:08	18	40	3		3LB came into view flying W over bog at 40m. Birds were in view for 18s before going out of view behind treeline NW of VP.
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	*	*	*	*	*	*	*	*		Pine Marten observed along roadway through VP.
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	WR	2	N	*	*	*	*	*		
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	M.	1	N	*	*	*	*	*		
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	PH	1	N	*	*	*	*	*		
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	RN	2	N	*	*	*	*	*		
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	HC	3	N	*	*	*	*	*		
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	LR	3	N	*	*	*	*	*		
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	MP	4	N	*	*	*	*	*		
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	CK	1	N	*	*	*	*	*		
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	D.	1	N	*	*	*	*	*		
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	LI	4	N	*	*	*	*	*		
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	S.	1	N	*	*	*	*	*		
14/06/2016	AC	VP	06:00	09:00	3	Dawn	VP7	SL	10	N	*	*	*	*	*		
14/06/2016	AC	VP	12:00	15:00	3	Day	VP10	SL	8	N	*	*	*	*	*		
14/06/2016	AC	VP	12:00	15:00	3	Day	VP10	PW	2	N	*	*	*	*	*		
14/06/2016	AC	VP	12:00	15:00	3	Day	VP10	MP	3	N	*	*	*	*	*		
14/06/2016	AC	VP	12:00	15:00	3	Day	VP10	B.	2	N	*	*	*	*	*		
14/06/2016	AC	VP	12:00	15:00	3	Day	VP10	S.	1	N	*	*	*	*	*		
14/06/2016	AC	VP	12:00	15:00	3	Day	VP10	HC	3	N	*	*	*	*	*		
14/06/2016	AC	VP	12:00	15:00	3	Day	VP10	WP	2	N	*	*	*	*	*		
14/06/2016	AC	VP	12:00	15:00	3	Day	VP10	RO	4	N	*	*	*	*	*		
14/06/2016	AC	WK Survey	21:25	23:13	2	*	B	WR	3	N	*	*	*	*	*		
14/06/2016	AC	WK Survey	21:25	23:13	2	*	B	WW	4	N	*	*	*	*	*		
14/06/2016	AC	WK Survey	21:25	23:13	2	*	B	M.	3	N	*	*	*	*	*		
14/06/2016	AC	WK Survey	21:25	23:13	2	*	B	SL	16	N	*	*	*	*	*		
14/06/2016	AC	WK Survey	21:25	23:13	2	*	B	MA	3	N	*	*	*	*	*		
14/06/2016	AC	WK Survey	21:25	23:13	2	*	B	SH	1	Y	22:15	22:15	6	1	1		Flying S over river, veered E into cover of trees.
14/06/2016	AC	WK Survey	21:25	23:13	2	*	B	B.	3	N	*	*	*	*	*		
14/06/2016	AC	WK Survey	21:25	23:13	2	*	B	BH	1	Y	*	*	8	1	1		Flying S over river.
15/06/2016	AC	VP	06:00	09:00	3	Dawn	VP9	RP	1	N	06:05	07:20	*	*	*		RP on bog E of VP. Observed at 6:05, lost

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																view at 07:20
15/06/2016	AC	VP	06:00	09:00	3	Dawn	VP9	SH	1	Y	07:56	07:56	20	20	2	SH (F) flying S, W of trees and VP at 20m. Observed for 20seconds.
15/06/2016	AC	VP	06:00	09:00	3	Dawn	VP9	WR	2	N	*	*	*	*	*	
15/06/2016	AC	VP	06:00	09:00	3	Dawn	VP9	B.	3	N	*	*	*	*	*	
15/06/2016	AC	VP	06:00	09:00	3	Dawn	VP9	PH	2	N	*	*	*	*	*	
15/06/2016	AC	VP	06:00	09:00	3	Dawn	VP9	WW	4	N	*	*	*	*	*	
15/06/2016	AC	VP	06:00	09:00	3	Dawn	VP9	MP	3	N	*	*	*	*	*	
15/06/2016	AC	VP	06:00	09:00	3	Dawn	VP9	HC	3	N	*	*	*	*	*	
15/06/2016	AC	VP	06:00	09:00	3	Dawn	VP9	JD	6	N	*	*	*	*	*	
15/06/2016	AC	VP	06:00	09:00	3	Dawn	VP9	LR	2	N	*	*	*	*	*	
15/06/2016	AC	VP	06:00	09:00	3	Dawn	VP9	MG	2	N	*	*	*	*	*	
15/06/2016	AC	VP	06:00	09:00	3	Dawn	VP9	PW	2	N	*	*	*	*	*	
15/06/2016	AC	VP	06:00	09:00	3	Dawn	VP9	SL	15	N	*	*	*	*	*	
15/06/2016	AC	VP	06:00	09:00	3	Dawn	VP9	SI	1	N	*	*	*	*	*	
15/06/2016	AC	VP	06:00	09:00	3	Dawn	VP9	WP	2	N	*	*	*	*	*	
15/06/2016	AC	VP	06:00	09:00	3	Dawn	VP9	SM	4	N	*	*	*	*	*	
15/06/2016	AC	VP	06:00	09:00	3	Dawn	VP9	GT	1	N	*	*	*	*	*	
15/06/2016	AC	WK Survey	22:00	23:20	1.25	*	C	B.	3	N	*	*	*	*	*	
15/06/2016	AC	WK Survey	22:00	23:20	1.25	*	C	PH	2	N	*	*	*	*	*	
15/06/2016	AC	WK Survey	22:00	23:20	1.25	*	C	SN	1	N	*	*	*	*	*	
15/06/2016	AC	WK Survey	22:00	23:20	1.25	*	C	M.	2	N	*	*	*	*	*	
15/06/2016	AC	WK Survey	22:00	23:20	1.25	*	C	D.	1	N	*	*	*	*	*	
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	SL	1	*	*	*	*	*	*	
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	WP	2	*	*	*	*	*	*	
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	BT	1	*	*	*	*	*	*	
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	B.	1	*	*	*	*	*	*	
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	SN	1	Y	17:45	17:50	300	40	3	SN drumming to W. Same Bird
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	SN	1	Y	17:45	17:50	300	40	3	SN drumming to W. Same Bird
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	SN	1	Y	17:45	17:50	900	30-50	2-3	SN drumming to W. Same Bird
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	SN	1	Y	17:45	17:50	420	40	3	SN drumming to W. Same Bird
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	SN	1	Y	17:45	17:50	900	40	3	SN drumming to W. Same Bird
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	LB	4	Y	17:50	17:55	40	20	2	SN drumming to W. Same Bird
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	LB	1	Y	17:55	18:00	70	10	1	LB upstream over river, turned inland to E.
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	LB	1	Y	18:05	18:10	*	10-20	1	LB flew upstream from 500m down.
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	SN	1	Y	18:20	18:25	300	40	3	SN (Drumming).
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	ET	1	Y	18:10	18:15	85	15-20	1	ET flew downstream
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	LB	1	Y	18:25	18:30	150	1-15	1	LB flew upstream.
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	LB	2	Y	18:25	18:30	100	20-30	2	2LB flew S
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	BH	1	Y	18:25	18:30	100	20-30	2	BH flew downstream
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	BH	1	Y	18:35	18:40	20	20	2	BH flew SW to NE from rivre corridor



Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																inland.
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	LB	3	Y	18:45	18:50	140	30	2	3LB flew downstream
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	H.	1	Y	18:50	18:55	60	10	1	
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	CM	3	Y	18:55	19:00	40	15	1	3CM flew from river channel eastward
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	SN	2	Y	19:35	19:45	240	*	*	SN drumming to W, SN chipping to SW 300m away.
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	LB	1	Y	19:20	19:25	40	10-15	1	LB flew from river N to E.
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	BH	2	Y	19:35	19:45	*	*	*	2BH far to W, moving S.
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	LB	1	Y	19:50	19:55	120	25	2	LB, W of VP1 over rivre, flew downstream following channel all the way.
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	LB	1	Y	20:00	20:05	40	20	2	LB, SW-NE, passing 100m to E of VP1.
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	LB	2	Y	20:00	20:05	120	10-30	1-2	2LB flew S to N over W bank of river.
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	LB	2	Y	20:10	20:15	*	*	*	2LB, far to SW, moving S and others scattered.
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	LB	3	Y	20:20	20:30	180	20	2	LB, NE to SW for 3km over VP1. 2 more followed on same line.
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	LB	2	Y	20:25	20:30	120	20	2	2LB (following) from SW to NE.
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	LB	1	Y	20:35	20:45	120	10-20	1	LB flying upstream over river
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	LB	1	Y	20:35	20:45	120	10-20	1	LB flying upstream over river
16/06/2016	ND	VP	17:45	20:45	3	Day	VP1	BH	1	Y	20:35	20:45	120	<5	1	BH flew upstream over river
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	MS	2	N	*	*	*	*	*	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	BC	1	N	*	*	*	*	*	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	WH	1	N	*	*	*	*	*	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	WW	1	N	*	*	*	*	*	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	CH	1	N	*	*	*	*	*	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	B.	1	N	*	*	*	*	*	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	SG	1	N	*	*	*	*	*	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	WP	1	N	*	*	*	*	*	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	SW	1	N	*	*	*	*	*	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	JD	1	N	*	*	*	*	*	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	SL	flock	N	*	*	*	*	*	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	SI	1	N	*	*	*	*	*	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	SM	1	N	*	*	*	*	*	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	S.	1	N	*	*	*	*	*	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	RB	1	N	*	*	*	*	*	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	MG	1	N	*	*	*	*	*	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	D.	1	N	*	*	*	*	*	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	1	Y	12:50	12:55	130	15-30	1-2	LB flew W-E upstream of River Shannon from rail bridge upwards to E.
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	MA	1	Y	12:50	12:55	15	1-10	1	MA (male) flew off river island to W.
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	SG	10	Y	12:50	12:55	15	10	1	10 SG flew W @10m high
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	1	Y	12:55	13:05	20	60	3	LB far to SW, flew S
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	ET	1	Y	13:05	13:10	40	20-3	1	ET flew diagonally up river from SE (above bridge) 300m from VP2, descending into reedbed swamp.

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	CA	1	Y	13:10	13:15	40	20-0	1	CA flew upstream from bridge, diagonally up river from SE. Landed around corner on river.
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	BH	1	Y	13:10	13:15	40	40	3	BH flew upstream from bridge, diagonally up river from SE.
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	2	Y	13:10	13:15	180	20	2	2LB (following) flew upstream from bridge, out of view at far corner to NE
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	3	Y	13:20	13:25	90	25	2	3LB flew upstream from bridge.500m, 1 turned and returned slowly downstream
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	1	Y	13:20	13:25	150	40	3	See above (returning LB)
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	BH	1	Y	13:20	13:25	40	40	3	BH flew upstream.
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	CA	1	Y	13:30	13:35	90	20-10	1	CA flew upstream from bridge.
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	BH	1	Y	13:35	13:40	70	20-30	2	BH flew downstream
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	1	Y	13:40	13:45	140	20-30	2	LB flew upstream
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	CA	1	Y	13:50	13:55	80	20-10	1	CA flew upstream above bridge
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	2	Y	14:05	14:10	30	30	2	2LB >1km upstream, flying up
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	BH	1	Y	14:05	14:10	30	30	2	BH flies downstream
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	BH	2	Y	14:10	14:15	50	10	1	2BH flew upstream 200m, then fly N over marsh/swamp
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	2	Y	14:15	14:20	100	30-40	2	2LB fly upstream
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	CA	2	Y	14:15	14:20	65	*	*	2CA flew downstream, steering S, away from riverside.
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	1	Y	14:20	14:25	120	30	2	LB flew upstream from 200m above bridge.
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	BH	1	Y	14:20	14:25	50	10	1	BH flew N, diagonally crossing river 200m upstream of bridge.
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	1	Y	14:25	14:30	30	20	2	LB 500m to W, flew SE across river.
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	1	Y	14:30	14:35	80	25	2	LB, 1km upstream flew upstream
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	K.	1	Y	14:30	14:35	60	40	3	K. Hovering/foraging beyond conifers to E
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	BH	3	Y	14:35	14:38	240	<5	1	3+ BH over river (low) to NE >500m.
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	K.	1	Y	14:40	14:45	20	20	2	K. Flew S, crossing river upstream 500m
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	1	Y	14:40	14:45	20	20	2	LB flew downstream
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	MA	1	Y	14:45	14:50	30	20-10	1	MA (female) flew down, far side, around corner.
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	2	Y	14:50	14:55	100	30	2	2LB, from 300m upstream, flow upstream, far bank.
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	MA	1	Y	14:50	14:55	55	30-5	2-1	MA (female) descending.
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	1	Y	14:50	14:55	55	30	2	LB flew up beyond far bank, eastward.
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	BH	1	Y	15:05	15:10	130	10-20	1	BH flew up from corner downstream
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	1	Y	15:10	15:15	60	20	2	LB flew upstream
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	2	Y	15:25	15:30	40	20	2	2LB flew SE-NW crossing river 200m upstream of bridge.
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	2	Y	15:30	15:35	120	20-10	1	2LB flew upstream
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	CA	2	Y	15:30	15:35	50	20	2	2CA flew down and turned to SE at bridge, crossing inland of river.
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	2	Y	15:35	15:40	40	30	2	2LB flew upstream

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	1	Y	15:35	15:40	30	20	2	LB flew downstream
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	2	Y	15:40	15:45	120	20	2	2LB flew upstream
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	BH	1	Y	15:40	15:45	50	20	2	BH flew downstream over river, then S in land (cutting corner) out of view.
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	BH	6	Y	15:45	15:50	90	20-30	2	6BH flew SE to NW, over river 500m upstream from rail bridge, and flew on upstream
16/06/2016	ND	VP	12:50	15:50	3	Day	VP2	LB	1	Y	15:45	15:50	90	20-30	2	LB flew SE to NW, over river 500m upstream from rail bridge, and flew on upstream
16/06/2016	AC	VP	06:00	09:00	3	Dawn	VP10	MA	1	Y	06:00	06:00	12	3	1	MA (M) flew E over bog at 3m. Flew into corner of trees E of VP.
16/06/2016	AC	VP	06:00	09:00	3	Dawn	VP10	LB	3	Y	06:32	06:32	28	100	3	3LB flying W at 100m N of VP. Birds went out of view behind treeline.
16/06/2016	AC	VP	06:00	09:00	3	Dawn	VP10	LB	1	Y	07:22	07:23	80	35-50	3	LB seen flying in an E direction over bog at 35m to 50m. Bird was in view for 80sec before going out of view behind trees E of VP.
16/06/2016	AC	VP	06:00	09:00	3	Dawn	VP10	LB	1	Y	08:15	08:15	48	20	2	LB came into view flying in a SE direction towards VP.. Bird was flying at 20m over bog and crossed road at VP and went out of view S of VP.
16/06/2016	AC	VP	06:00	09:00	3	Dawn	VP10	WH	3	N	*	*	*	*	*	
16/06/2016	AC	VP	06:00	09:00	3	Dawn	VP10	WW	2	N	*	*	*	*	*	
16/06/2016	AC	VP	06:00	09:00	3	Dawn	VP10	MP	6	N	*	*	*	*	*	
16/06/2016	AC	VP	06:00	09:00	3	Dawn	VP10	RN	2	N	*	*	*	*	*	
16/06/2016	AC	VP	06:00	09:00	3	Dawn	VP10	PW	2	N	*	*	*	*	*	
16/06/2016	AC	VP	06:00	09:00	3	Dawn	VP10	S.	2	N	*	*	*	*	*	
16/06/2016	AC	VP	06:00	09:00	3	Dawn	VP10	HC	4	N	*	*	*	*	*	
16/06/2016	AC	VP	06:00	09:00	3	Dawn	VP10	ST	1	N	*	*	*	*	*	
16/06/2016	AC	VP	06:00	09:00	3	Dawn	VP10	M.	2	N	*	*	*	*	*	
16/06/2016	AC	VP	06:00	09:00	3	Dawn	VP10	B.	3	N	*	*	*	*	*	
16/06/2016	AC	VP	06:00	09:00	3	Dawn	VP10	RO	6	N	*	*	*	*	*	
16/06/2016	AC	VP	06:00	09:00	3	Dawn	VP10	SL	4	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	A	HC	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	A	WW	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	A	WR	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	A	CH	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	A	MG	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	A	M.	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	B	WP	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	B	RO	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	B	WR	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	B	R.	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	B	B.	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	C	ET	10	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	C	CG	7	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
16/06/2016	AC	Hinterland	*	*	*	*	C	H.	5	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	C	OY	2	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	C	L.	2	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	C	MH	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	C	CO	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	C	LG	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	C	GG	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	C	MA	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	C	MS	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	D	MA	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	D	WW	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	D	MS	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	D	SL	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	D	MP	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	D	R.	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	E	WR	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	E	RB	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	E	CH	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	E	SL	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	E	D.	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	E	WP	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	E	B.	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	F	LB	11	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	F	SG	70	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	F	BH	12	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	F	MA	5	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	F	WW	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	F	M.	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	F	CH	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	G	HC	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	G	MG	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	G	WW	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	G	WR	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	G	CH	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	H	HC	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	H	RN	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	H	CH	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	H	M.	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	H	WW	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	I	WR	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	I	D.	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	I	B.	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	I	WP	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	I	HC	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	I	RB	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	I	MP	1	N	*	*	*	*	*	
16/06/2016	AC	Hinterland	*	*	*	*	I	PW	1	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
16/06/2016	AC	WK Survey	22:03	23:26	1.25	*	B1	PH	1	N	*	*	*	*	*	
16/06/2016	AC	WK Survey	22:03	23:26	1.25	*	B1	M.	1	N	*	*	*	*	*	
16/06/2016	AC	WK Survey	22:03	23:26	1.25	*	B1	B.	2	N	*	*	*	*	*	
16/06/2016	AC	WK Survey	22:03	23:26	1.25	*	B1	MA	2	Y	*	*	6	20	1	Flew E over bog at 20m.
16/06/2016	AC	WK Survey	22:03	23:26	1.25	*	B1	SN	1	N	*	*	*	*	*	
16/06/2016	AC	WK Survey	22:03	23:26	1.25	*	B1	ST	1	N	*	*	*	*	*	
16/06/2016	AC	WK Survey	22:03	23:26	1.25	*	B1	WP	2	N	*	*	*	*	*	
16/06/2016	AC	WK Survey	22:03	23:26	1.25	*	B1	WK	1	Y	22:37	22:37	4	*	*	Flying N along treeline
16/06/2016	AC	WK Survey	22:03	23:26	1.25	*	B1	WK	1	N	23:10	23:10	7	*	*	Flying N along treeline
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	BH	3	Y	05:00	05:10	30	<5	1	3BH flew low, N upstream
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	4	Y	05:05	05:10	30	<5	1	4LB flew low, N upstream
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	CA	1	Y	05:10	05:15	30	10-20	1	CA flew low, N upstream
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	3	Y	05:15	05:20	60	5-10	1	Flew upstream N
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	BH	2	Y	05:15	05:20	60	5-10	1	Flew upstream N
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	CN	1	Y	05:15	05:20	60	5-10	1	Flew upstream N
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	BH	2	Y	05:30	05:35	60	10-20	1	2BH flew upstream.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	1	Y	05:40	05:45	120	40	3	LB flew past VP1 and flew SW to river channel downstream.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	1	Y	05:50	06:00	420	10-20	1	LB flew upstream S-N, following channel. Slow flight (stalling in places).
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	MA	3	Y	06:00	06:05	20	<5	1	3MA at river, flew low over river for 200m, landing onto water (reed beds).
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	CA	4	Y	06:05	06:15	420	30	2	4CA flew S-N over river, and over E side of bank.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	SN	2	N	*	*	*	*	*	Audible drumming and chipping
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	SN	2	Y	07:25	07:30	300	40	3	Drumming flight (Different birds to 2 above),
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	MS	1	Y	06:15	06:20	*	20	2	MS flew N-S, passing 200m to E of VP1, possibly travelling to artificial lake.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	H.	1	Y	06:15	06:20	50	20	2	H. Flew N-S, passing about 250m to E of VP1.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	3	Y	06:20	06:25	180	<10	1	3LB followed river downstream
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	4	Y	06:20	06:25	240	20	2	4LB flew along channel, travelling S.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	1	Y	06:25	06:30	180	20	2	LB flew past VP1 in WSW direction.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	1	Y	06:25	06:30	60	15	1	LB flew S.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	BH	1	Y	06:30	06:35	60	20	2	BH flew upstream
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	CA	1	Y	06:30	06:35	60	30	2	CA flew upstream
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	1	Y	06:35	06:40	250	25	2	flew SW, turning W over conifers.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	2	Y	06:35	06:40	120	10-20	1	Follow river corridor upstream N.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	2	Y	06:40	06:45	180	20	2	Follow river corridor upstream N, turning NE over VP.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	CA	1	Y	06:40	06:45	120	20-10	1	CA follows river corridor N
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	1	Y	06:40	06:45	120	20-10	1	LB flew S downstream
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	3	Y	06:40	06:45	180	20-10	1	3LB flew N/NE upstream over river
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	CA	1	Y	06:40	06:45	60	20-10	1	CA flew N upstream.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	1	Y	06:45	06:50	60	20	2	LB flew SW direction beside VP
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	CA	1	Y	06:45	06:50	60	20	2	CA flew E across river at bend.

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	1	Y	06:50	06:55	120	15-25	1-2	LB flew N
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	CA	2	Y	07:00	07:05	120	30	2	2CA flew SSW, turning W at bend in river.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	BH	1	Y	07:00	07:05	60	5	1	BH flew N up river.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	BH	1	Y	07:00	07:05	60	30	2	BH flew N up river.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	BH	4	Y	07:00	07:05	30	20	2	4BH fly N over river, turning E
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	1	Y	07:00	07:05	60	20-10	1	LB flew N upstream over east river bank.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	2	Y	07:05	07:10	60	10-20	1	2LB fly along E bank, upstream to N.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	CA	1	Y	07:05	07:10	60	15-5	1	CA flies N along river, descending in altitude.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	1	Y	07:10	07:15	180	30-40	2	LB flew SW downstream
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	BH	1	Y	07:10	07:15	180	30-40	2	BH followed river upstream
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	BH	1	Y	07:20	07:25	90	<10	1	BH upstream
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	2	Y	07:20	07:25	200	20-15	1	2LB fly upstream
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	BH	1	Y	07:20	07:25	60	20	1	BH flies downstream
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	2	Y	07:30	07:35	*	10	1	2LB fly upstream
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	BH	1	Y	07:30	07:35	*	10	1	BH flies upstream
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	2	Y	07:40	07:45	180	20	2	2LB fly S downstream
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	1	Y	07:40	07:45	60	15	1	flies N/NE from bend in river
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	BH	2	Y	07:45	07:50	120	10-20	1	2BH fly N
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	1	Y	07:50	07:55	180	20	2	Fly SW, turning W at bend in river.
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	LB	1	Y	07:55	08:00	60	20	2	Fly W
17/06/2016	ND	VP	05:00	08:00	3	Dawn	VP1	CA	2	Y	07:55	08:00	60	30	2	2 CA fly NE, turning E towards artificial wetland
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	MS	2	N	*	*	*	*	*	
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	BC	1	N	*	*	*	*	*	
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	WH	1	N	*	*	*	*	*	
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	SW	1	N	*	*	*	*	*	
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	D.	1	N	*	*	*	*	*	
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	SL	flock	N	*	*	*	*	*	
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	CH	1	N	*	*	*	*	*	
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	B.	1	N	*	*	*	*	*	
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	GC	1	N	*	*	*	*	*	
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	LB	1	Y	08:40	08:45	70	20-30	2	LB flew downstream
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	MA	2	Y	08:40	08:45	10	5	1	2MA ,400m to SW flew N across corner on river into reeds fringing river.
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	H.	1	Y	08:45	08:50	120	20-10-0	1	2H. Flew from N of VP2, passing just W of VP2 over river and to corner to SW,

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																turned, landed into swamp and scrub.
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	BH	5	Y	08:45	08:50	60	20-30	2	5BH flew from SE suddenly appearing over tree tops by river, and flew upstream and to NW
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	CA	1	Y	08:50	08:55	120	10-30	1-2	Boat disturbed CA from perch. Flew upstream ascending.
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	MA	6	N	09:00	09:05	*	*	*	6MA swam across river NW-SE, between bridge and corner.
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	LB	2	Y	09:05	09:10	*	30	2	2 LB flew NE along channel. Same Bird
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	LB	2	Y	09:05	09:10	*	40	2	2 LB flew NE along channel. Same Bird
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	LB	1	Y	09:15	09:20	60	25	2	LB flew downstream
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	BH	2	Y	09:20	09:25	90	50	3	2BH flew N of VP2
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	BH	2	Y	09:20	09:25	120	20-30	2	2BH arrived at river from E of VP2, flew in diagonal path up channel.
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	CA	1	Y	09:25	09:30	30	30	2	CA, spotted upstream 1km. Flew to S/SE away from river 800m out of view behind trees
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	LB	1	Y	09:25	09:30	60	15	1	LB arrived over river from east, 200m to E of vp2. flew downstream to corner of river and onwards to S over river.
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	CA	1	Y	09:30	09:35	50	20	2	CA flew over river, downstream to corner out of view.
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	BH	1	Y	09:30	09:35	180	10-20	1	BH flew upstream from river corner, winding flight as far as corner/island and further,.
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	BH	2	Y	09:30	09:35	40	25	2	2BH observed flying downstream over river, departing from river channel, and flying S 200m NE of VP2.
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	BH	3	Y	09:40	09:45	120	20-10	1	3BH flew upstream from downstream of VP2, then flying low up channel out of view.
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	CA	1	Y	09:45	09:50	70	15-10	1	CA flew upstream from corner, past VP2 to island.
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	LB	1	Y	09:50	09:55	180	10-25	1-2	LB flew upstream from S of VP2, inland, to bridge at VP2, then upstream over E bank, over island following the channel all the way upstream.
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	CA	1	Y	09:50	09:55	100	30	2	CA flew downstream from island, over E side of river channel/bank, veering inland parallel to river and over S of VP2.
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	CA	1	Y	09:55	10:00	40	30-0	2-1	CA flew downstream from island, landing on river 100m upstream of VP2.
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	CA	1	Y	09:55	10:00	60	40	2	CA flew from S, flew up channel out of view.

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	LB	1	Y	09:55	10:00	120	20	1	LB flew from S 100m upstream of VP2/bridge, flew up river channel.
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	ET	1	Y	10:00	10:05	50	20-10	1	ET flew from inland S of VP2, passing just E of VP2 and diagonally crossing river to N while descending.
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	BH	3	Y	10:00	10:05	120	10-5	1	3BH flew from river corner to SW, to N/NE over river, but left passing to W of VP2 and continued to NE, rejoining river.
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	LB	1	Y	10:05	10:10	150	20-30	2	LB flew up channel from corner to VP2 and on upstream
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	MS	2	N	*	*	*	*	*	
17/06/2016	ND	VP	08:40	10:10	1.5	Early Morning	VP2	MA	3	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	A	WP	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	A	M.	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	A	B.	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	A	RO	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	A	CH	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	A	WR	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	A	WW	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	B	RO	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	B	JD	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	B	HC	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	B	BH	15	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	B	R.	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	B	WR	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	B	SG	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	C	RO	1	Y	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	C	HC	1	Y	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	C	PH	1	Y	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	C	B.	1	Y	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	D	WP	1	Y	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	D	B.	1	Y	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	D	CH	1	Y	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	D	R.	1	Y	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	D	WR	1	Y	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	E	HC	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	E	RN	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	E	LB	2	Y	*	*	*	100	3	Flying W
17/06/2016	AC	Hinterland	*	*	*	*	E	RB	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	E	MP	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	E	PW	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	F	RO	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	F	M.	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	F	B.	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	F	SG	1	N	*	*	*	*	*	



Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
17/06/2016	AC	Hinterland	*	*	*	*	F	CH	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	F	WR	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	G	HC	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	G	WP	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	G	MG	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	G	B.	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	G	R.	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	G	WR	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	H	WW	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	H	GO	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	H	CH	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	H	HC	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	H	SC	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	H	MP	1	N	*	*	*	*	*	
17/06/2016	AC	Hinterland	*	*	*	*	H	MG	1	N	*	*	*	*	*	
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	ST	1	N	*	*	*	*	*	
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	M.	1	N	*	*	*	*	*	
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	B.	1	N	*	*	*	*	*	
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	WH	1	N	*	*	*	*	*	
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	WW	1	N	*	*	*	*	*	
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	WR	1	N	*	*	*	*	*	
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	R.	1	N	*	*	*	*	*	
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	SG	1	N	*	*	*	*	*	
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	CH	1	N	*	*	*	*	*	
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	HC	1	N	*	*	*	*	*	
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	MG	1	N	*	*	*	*	*	
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	MP	1	N	*	*	*	*	*	
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	S.	1	N	*	*	*	*	*	
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	PH	1	N	*	*	*	*	*	
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	BT	1	N	*	*	*	*	*	
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	H.	1	N	*	*	*	*	*	
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	07:20	07:25	80	20	2	LB flew from NE to SW passing 100m in front of VP5
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	07:20	07:25	60	20	2	LB flew from EWE to WSW passing 50m in front of VP5
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	07:25	07:30	60	30	2	LB flew from NE to SW passing 1km to WNW of VP5
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	2	Y	07:35	07:40	150	20	2	2LB flew from E to W passing 300m N of VP5
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	2	Y	07:40	07:45	180	30	2	2LB flew ENE to WSW passing 250m N of VP5
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	08:00	08:05	90	30	2	LB flew WSW to ENE passing 600m in front of VP5
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	SN	2	Y	08:10	08:15	120	40	3	2SN in display flight c1.5km NW of VP1
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	08:25	08:30	120	20	2	LB flew from NE to SW passing 400m N of VP5
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	08:45	08:50	300	50	3	LB tracked long distance flying from NE

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes	
													Time Interval (sec)	Height (m)	Height Bands		
																	to SW passing 800m in front of VP5
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	08:50	08:55	260	40	3		LB flew from WSW to ENE passing 900m to N of VP5
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	08:55	09:00	240	40	3		LB flew from E to W passing 1.2km N of VP5
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	08:55	09:00	120	30	2		LB flew from W to E passing 1.1km N of VP5.
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	09:00	09:05	300	50	3		LB flew from NE to SW passing 200m N of VP5
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	09:10	09:15	180	30	2		LB flew from SW to NE passing 400m N of VP5.
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	09:20	09:25	60	30	2		LB flew from ENE to WSW passing 150m N of VP5.
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	4	Y	09:25	09:30	180	25-30	2		Flew ENE to WSW passing 150m N of VP5.
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	09:30	09:35	240	30	2		LB flew E to W, passing 500m N of VP5.
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	09:35	09:40	180	30	2		LB flew E-NSW, passing just behind (S of) VP5
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	09:40	09:45	100	30	2		LB flew NNE to SSW, passing 1.5km to WNW of VP5
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	09:40	09:45	70	20	2		LB flew WSW to ENE passing 50m to N of VP5.
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	CA	1	Y	09:45	09:50	90	30	2		CA flew from W-E, passing 900m N of VP5
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	09:50	09:55	120	30	2		LB flew from W to ESE, overhead VP5, continued to ESE crossing over N63 road.
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	09:50	09:55	120	20-10	1		LB flew ENE-WSW passing 200m to N of VP5
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	09:55	10:00	150	25	2		LB flew ENE-WSW passing 100m to N of VP5
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	2	Y	10:05	10:10	160	25-30	2		
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	10:05	10:10	120	25-30	2		
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	LB	1	Y	10:10	10:15	120	30	2		LB flew from W-E, passing 400m N of VP5
18/06/2016	ND	VP	07:15	10:15	3	Morning	VP5	CA	1	Y	10:10	10:15	120	30	2		CA flew from W-E, >1.5km N of VP5.
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	PH	1	N	*	*	*	*	*		
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	WH	1	N	*	*	*	*	*		
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	BC	2	N	*	*	*	*	*		
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	WW	1	N	*	*	*	*	*		
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	WR	1	N	*	*	*	*	*		
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	CH	1	N	*	*	*	*	*		
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	WP	1	N	*	*	*	*	*		

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	MG	1	N	*	*	*	*	*	
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	D.	1	N	*	*	*	*	*	
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	MS	2	N	*	*	*	*	*	
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	H.	1	N	*	*	*	*	*	Disturbed at bridge.
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	LB	1	Y	05:40	05:45	200	30	2	LB flew upstream
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	BH	1	Y	05:40	05:45	200	30	2	BH flew upstream, lost visual over bridge
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	LB	1	Y	05:45	05:50	180	20	1	LB flew upstream from below bridge
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	BH	1	Y	05:55	06:00	120	5-10	1	BH flew upstream
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	BH	1	Y	05:55	06:00	120	5-10	1	BH flew up river from SE
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	CA	1	Y	05:55	06:00	60	20-30	2	CA flew upstream from below bridge. Lost visual
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	BH	1	Y	06:00	06:05	120	20	1	BH flew down parallel to river offset 200m to E side
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	MS	1	Y	06:00	06:05	120	20	1	MS flew down from corner/island to downstream corner and beyond.
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	LB	2	Y	06:05	06:10	60	20	1	2LB up. 1 flew towards bend of rail-line, changing route off river.
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	LB	1	Y	06:10	06:15	30	25	2	LB from SE, to river and flew downstream
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	BH	1	Y	06:10	06:15	60	20	1	BH flew down-off river to E/SE.
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	CA	1	Y	06:15	06:20	80	25	2	CA flew from corner N, then NE
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	LB	3	Y	06:15	06:20	60	20	1	3LB flew SE-NW over/along rail-line at bridge.
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	CA	2	Y	06:15	06:20	60	20	1	2CA flying from S-N, >1km away. Joined river at bend.
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	LB	4	Y	06:15	06:20	60	20	1	4LB flying from S-N, >1km away. Joined river at bend.
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	MA	5	N	*	*	*	*	*	1MA and 4 ducklings
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	MS	2	N	*	*	*	*	*	
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	BH	1	Y	06:15	06:20	120	35	2	BH from SE- river above bridge, flew NW
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	LB	3	Y	06:15	06:20	120	35	2	3LB from SE to river corridor at bridge, flew on to NW
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	BH	1	Y	06:30	06:35	120	20	1	BH upstream from bridge, along river.

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	CA	1	Y	06:35	06:40	60	10	1	CA flew from bridge- NW direct.
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	MS	1	Y	06:35	06:40	60	10	1	MS flew upstream , flying NE at the bend out of view
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	ET	3	Y	06:40	06:46	240	30-40	2	3ET together, flew direct line over river corridor
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	H.	2	Y	06:50	06:55	60	5	1	2H. 200m up at shore, flew off direct to riverside NE
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	LB	1	Y	06:50	06:55	*	20	1	LB upstream
18/06/2016	ND	VP	05:00	07:00	2	Early Morning	VP2	BH	1	Y	06:50	06:55	120	20	1	BH down
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	PH	2	N	*	*	*	*	*	
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	M.	1	N	*	*	*	*	*	
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	B.	3	N	*	*	*	*	*	
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	WW	4	N	*	*	*	*	*	
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	D.	1	N	*	*	*	*	*	
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	HC	6	N	*	*	*	*	*	
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	BC	1	N	*	*	*	*	*	
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	WP	4	N	*	*	*	*	*	
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	MP	3	N	*	*	*	*	*	
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	WR	1	N	*	*	*	*	*	
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	S.	2	N	*	*	*	*	*	
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	SG	26	N	*	*	*	*	*	
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	SL	12	N	*	*	*	*	*	
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	GO	2	N	*	*	*	*	*	
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	CH	3	N	*	*	*	*	*	
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	H.	1	Y	06:02	06:02	3	1	1	H. Flew from river bank into corner of bushes E of VP.
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	BH	1	Y	06:54	06:54	16	10	1	BH came into view flying E over river @10m. Lost sight behind trees.
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	CA	1	Y	07:05	07:05	36	80	3	CA came into view flying E at 80m over river, went out of view behind trees on river bank
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	ET	1	Y	07:12	07:12	13	30	2	ET came into view flying W over river for 10s, then veered SW and went out of view behind trees on S bank of river.
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	H.	1	Y	08:41	08:41	11	4	1	H. Came into view flying SW over river at 4m. Lost sight behind trees on river bank SW of VP.
20/06/2016	AC	VP	06:00	09:00	3	Dawn	VP2	MS	2	N	07:41	08:41	*	*	*	2MS came into view on river W of VP. Were in this area for 1hr before going out of view in reeds on river bank.
20/06/2016	AC	VP	13:00	16:00	3	Day	VP1	SL	10	N	*	*	*	*	*	
20/06/2016	AC	VP	13:00	16:00	3	Day	VP1	SM	6	N	*	*	*	*	*	
20/06/2016	AC	VP	13:00	16:00	3	Day	VP1	MS	3	N	*	*	*	*	*	
20/06/2016	AC	VP	13:00	16:00	3	Day	VP1	HC	4	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
20/06/2016	AC	VP	13:00	16:00	3	Day	VP1	WR	2	N	*	*	*	*	*	
20/06/2016	AC	VP	13:00	16:00	3	Day	VP1	WP	4	N	*	*	*	*	*	
20/06/2016	AC	VP	13:00	16:00	3	Day	VP1	PH	3	N	*	*	*	*	*	
20/06/2016	AC	VP	13:00	16:00	3	Day	VP1	SN	1	N	*	*	*	*	*	
20/06/2016	AC	VP	13:00	16:00	3	Day	VP1	MP	8	N	*	*	*	*	*	
20/06/2016	AC	VP	13:00	16:00	3	Day	VP1	B.	3	N	*	*	*	*	*	
20/06/2016	AC	VP	13:00	16:00	3	Day	VP1	RB	4	N	*	*	*	*	*	
20/06/2016	AC	VP	13:00	16:00	3	Day	VP1	CH	2	N	*	*	*	*	*	
20/06/2016	AC	VP	13:00	16:00	3	Day	VP1	BH	1	Y	13:22	13:22	20	2	1	BH flying S at 2m over river. Went out of view behind tree line.
20/06/2016	AC	VP	13:00	16:00	3	Day	VP1	CA	1	Y	13:29	13:29	180	*	*	CA came into view flying in a N direction over river. Bird landed on river and went underwater. Bird was in view for 3mins.
20/06/2016	AC	VP	13:00	16:00	3	Day	VP1	UnID	1	Y	13:41	13:41	40	80	3	Bird observed flying in a S direction at 80m over river. Bird in view for 40sec.
20/06/2016	AC	VP	13:00	16:00	3	Day	VP1	LB	1	Y	14:12	14:12	18	20	2	LB came into view flying N along line of river. Bird was 20m above water and in view for 18s.
20/06/2016	AC	VP	13:00	16:00	3	Day	VP1	GB	1	Y	14:17	14:17	56	100	3	GB observed flying in a SW along river at 100m. Bird in view for 56s.
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	MT	2	N	*	*	*	*	*	
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	HC	1	N	*	*	*	*	*	
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	CH	1	N	*	*	*	*	*	
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	R.	1	N	*	*	*	*	*	
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	GO	1	N	*	*	*	*	*	
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	MP	1	N	*	*	*	*	*	
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	GT	1	N	*	*	*	*	*	
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	B.	1	N	*	*	*	*	*	
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	LB	4	Y	05:07	05:10	240	40	3	4LB flew NE-SE out of view @c.40m
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	LB	10	Y	05:15	06:15	30	20	2	Constant stream of LB flew over NE-SW or W-E. Heights between 20-40m. Same Bird
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	LB	10	Y	05:15	06:15	180	30	2	Constant stream of LB flew over NE-SW or W-E. Heights between 20-40m. Same Bird
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	LB	10	Y	05:15	06:15	180	40	3	Constant stream of LB flew over NE-SW or W-E. Heights between 20-40m. Same Bird
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	H.	1	Y	06:23	06:25	120	15-20	1	H. Flew in from S max height 20m and landed further NE in bog (large drain).
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	LB	1	Y	06:56	06:57	60	25	2	1LB flew WE-SW offsite.
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	BH	1	Y	06:58	07:01	60	40	3	1BH flew E-W-S across site at height 40-30m. Same Bird
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	BH	1	Y	06:58	07:01	80	30	2	1BH flew E-W-S across site at height 40-30m. Same Bird
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	LB	1	Y	07:05	07:07	120	20-30	2	LB flew NE to SW offsite @20-30m
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	H.	1	Y	07:13	07:15	90	10-20	1	H. Flew (zig-zagging) S-N and landed at

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																drain further N in bog. Flight predominantly <15m high. Same Bird
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	H.	1	Y	07:13	07:15	30	30	2	H. Flew (zig-zagging) S-N and landed at drain further N in bog. Flight predominantly <15m high. Same Bird
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	Corvids	70	Y	07:18	07:21	90	20-30	2	C.70 crows flying over woodland to far NE at heights 20-50m high. Same Bird
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	Corvids	70	Y	07:18	07:21	60	30-40	2	C.70 crows flying over woodland to far NE at heights 20-50m high. Same Bird
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	Corvids	70	Y	07:18	07:21	10	50	3	C.70 crows flying over woodland to far NE at heights 20-50m high. Same Bird
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	MA	1	Y	07:21	07:22	20	30	2	1 female MA flew in from SE-N before landing near a drain in bog further N. Same Bird
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	MA	1	Y	07:21	07:22	30	20	2	1 female MA flew in from SE-N before landing near a drain in bog further N. Same Bird
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	LB	2	Y	07:24	07:25	10	10	1	2LB flew E-W. Same Bird
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	LB	2	Y	07:24	07:25	60	20-30	2	2LB flew E-W. Same Bird
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	LB	1	Y	07:32	07:35	180	60-70	3	LB flew W-E @60-70m high
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	LB	1	Y	07:35	07:36	60	15-25	1-2	LB flew E-NW across site.
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	MA	1	Y	07:44	07:45	20	10-20	1	MA flew E-W across site. Same Bird
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	MA	1	Y	07:44	07:45	40	5-10	1	MA flew E-W across site. Same Bird
21/06/2016	AAM	VP	04:45	07:45	3	Dawn	VP5	BH	1	Y	07:45	07:46	60	10-20	1	Crossed site E-W.
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	SN	1	N	*	*	*	*	*	Calling NW of VP
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	WP	4	N	*	*	*	*	*	
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	WR	3	N	*	*	*	*	*	
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	HC	6	N	*	*	*	*	*	
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	ST	2	N	*	*	*	*	*	
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	PH	3	N	*	*	*	*	*	
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	D.	1	N	*	*	*	*	*	
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	CU	1	N	*	*	*	*	*	Calling W of VP
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	MP	8	N	*	*	*	*	*	
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	B.	2	N	*	*	*	*	*	
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	M.	1	N	*	*	*	*	*	
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	SL	15	N	*	*	*	*	*	
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	SM	6	N	*	*	*	*	*	
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	CH	3	N	*	*	*	*	*	
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	BT	1	N	*	*	*	*	*	
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	RB	4	N	*	*	*	*	*	
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	LB	1	Y	06:13	06:13	20	2	1	LB observed perched on marker in river. Bird flew S and out of view behind tree line after 20s.
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	MA	1	Y	06:21	06:21	6	10	1	MA (F) came into view flying W over pasture @10m.
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	BH	1	Y	06:21	06:21	19	20	2	BH observed flying SW over river @20m. Bird in view for 19s before going out of

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																view behind tree line.
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	SN	1	N	07:26	07:42	960	1.5	1	SN observed on fence post calling for 16 minutes before dropping into grass and out of view. Bird was calling for 16 minutes.
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	LB	2	Y	07:29	07:29	21	6	1	2LB came into view flying S over river at 6m. Birds were in view for 21s before going out of view behind trees.
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	CA	1	N	07:49	08:16	1620	3m	1	CA observed perched on marker in river SW of VP. Bird was perched with wings open
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	GB	1	Y	08:28	08:28	26	50	3	GB came into view flying in a S direction over pasture. Bird was in view for 20s then for 6s over river before going out of view.
21/06/2016	AC	VP	06:00	09:00	3	Dawn	VP1	LB	2	Y	08:41	08:41	30	60	3	2LB flying S over river @60m.
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	SC	1	N	*	*	*	*	*	Nesting in adjacent scrub, noted carrying food.
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	SL	3	N	*	*	*	*	*	
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	CH	2	N	*	*	*	*	*	
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	HC	7	N	*	*	*	*	*	
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	PW	1	N	*	*	*	*	*	
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	MG	7	N	*	*	*	*	*	
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	MP	8	Y	*	*	*	0-15	1	Flying over scrub/wires
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	BT	1	N	*	*	*	*	*	
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	M.	6	N	*	*	*	*	*	
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	LB	1	Y	08:47	08:48	60	20-30	2	LB flew N-S height between 20-30m
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	SG	4	Y	08:48	08:49	60	10-15	1	4SG NE-SW across scrub, disturbed bog habitat @10-15m.
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	WP	3	Y	09:05	09:06	60	10-15	1	3WP flew NE-S-W over scrub.
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	LB	1	Y	09:26	09:28	120	20	1	1LB flew NE-W @20m.
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	SG	7	Y	09:47	09:48	60	10-15	1	7SG flew E-S on N side of bog 10-15m high.
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	RO	14	Y	10:02	10:05	180	20-30	2	14RO flew across site E-W from trees offsite @20-30m high.
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	LB	1	Y	10:07	10:08	60	25	2	1LB flew NE-W across site.

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	BH	5	Y	10:13	10:15	90	30-40	2	5BH gulls flew across site E-W at 30-40m high dropping to 25m. Same Bird
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	BH	5	Y	10:13	10:15	30	25	2	5BH gulls flew across site E-W at 30-40m high dropping to 25m. Same Bird
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	LB	1	Y	10:20	10:22	90	50-60	3	1LB flew from E-W over northern bog @c.50-60m. Same Bird
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	LB	1	Y	10:20	10:22	30	50-40	3	1LB flew from E-W over northern bog @c.50-60m. Same Bird
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	LB	9	Y	10:38	10:42	15	0-10	1	9LB flew EW over northern bog 0-50m high. Same Bird
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	LB	9	Y	10:38	10:42	30	10-20	1	9LB flew EW over northern bog 0-50m high. Same Bird
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	LB	9	Y	10:38	10:42	60	20-30	2	9LB flew EW over northern bog 0-50m high. Same Bird
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	LB	9	Y	10:38	10:42	15	40-50	3	9LB flew EW over northern bog 0-50m high. Same Bird
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	LB	9	Y	10:38	10:42	60	30-40	2	9LB flew EW over northern bog 0-50m high. Same Bird
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	LB	1	Y	10:40	10:42	120	50-60	3	LB flew W-E (circled bog area before flying E).
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	K.	1	Y	11:05	11:07	100	10-20	1	K. Hunting over scrub up to 30m high, no joy and flew off to E (southern end of bog). Same Bird
21/06/2016	AAM	VP	08:45	11:45	3	Early Morning	VP8	K.	1	Y	11:05	11:07	20	20-30	2	K. Hunting over scrub up to 30m high, no joy and flew off to E (southern end of bog). Same Bird
21/06/2016	AC	VP	13:00	16:00	3	Day	VP2	MS	2	N	14:00	14:40	*	*	*	2MS came into view at 14:00 W of VP. Were in view for 40mins before going out of view into rushes on river bank.
21/06/2016	AC	VP	13:00	16:00	3	Day	VP2	CA	1	Y	13:59	13:59	10	80	3	CA came into view flying E along river at 80m. In view for 10s before dropping out of view.
21/06/2016	AC	VP	13:00	16:00	3	Day	VP2	BH	1	Y	14:48	14:48	30	4	1	BH came into view E of VP flying W across river @4m. Was in view for 30s before going out of view behind trees on river bank W of VP.
21/06/2016	AC	VP	13:00	16:00	3	Day	VP2	L.	13	Y	15:26	15:26	12	30	2	13L. Came into view E of VP flying in a SW direction. Birds flew over pasture and out of view behind tree line W of VP. Birds in view for 12s.
21/06/2016	AC	VP	13:00	16:00	3	Day	VP2	WW	5	N	*	*	*	*	*	
21/06/2016	AC	VP	13:00	16:00	3	Day	VP2	WP	6	N	*	*	*	*	*	
21/06/2016	AC	VP	13:00	16:00	3	Day	VP2	B.	3	N	*	*	*	*	*	
21/06/2016	AC	VP	13:00	16:00	3	Day	VP2	CH	6	N	*	*	*	*	*	
21/06/2016	AC	VP	13:00	16:00	3	Day	VP2	PH	2	N	*	*	*	*	*	
21/06/2016	AC	VP	13:00	16:00	3	Day	VP2	MG	2	N	*	*	*	*	*	
21/06/2016	AC	VP	13:00	16:00	3	Day	VP2	SL	15	N	*	*	*	*	*	
21/06/2016	AC	VP	13:00	16:00	3	Day	VP2	SM	6	N	*	*	*	*	*	



Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
21/06/2016	AC	VP	13:00	16:00	3	Day	VP2	WA	1	N	*	*	*	*	*	Calling SW of VP on river bank.
24/06/2016	AAM	VP	05:30	08:30	3	Dawn	VP8	HC	4	N	*	*	*	*	*	
24/06/2016	AAM	VP	05:30	08:30	3	Dawn	VP8	WW	2	N	*	*	*	*	*	
24/06/2016	AAM	VP	05:30	08:30	3	Dawn	VP8	PW	1	N	*	*	*	*	*	
24/06/2016	AAM	VP	05:30	08:30	3	Dawn	VP8	SC	2	N	*	*	*	*	*	
24/06/2016	AAM	VP	05:30	08:30	3	Dawn	VP8	MP	12	N	*	*	*	*	*	
24/06/2016	AAM	VP	05:30	08:30	3	Dawn	VP8	WP	6	N	*	*	*	*	*	
24/06/2016	AAM	VP	05:30	08:30	3	Dawn	VP8	LB	1	Y	06:10	06:12	120	40	2	1LB flew E-W over the northern bog @40m high.
24/06/2016	AAM	VP	05:30	08:30	3	Dawn	VP8	LB	3	Y	07:30	07:32	120	25-30	2	3LB flew E-W over northern bog 25-30m high.
28/06/2016	ND	VP	15:00	18:00	3	Day	VP11	WH	1	N	*	*	*	*	*	*
28/06/2016	ND	VP	15:00	18:00	3	Day	VP11	WW	1	N	*	*	*	*	*	*
28/06/2016	ND	VP	15:00	18:00	3	Day	VP11	WR	1	N	*	*	*	*	*	*
28/06/2016	ND	VP	15:00	18:00	3	Day	VP11	BC	1	N	*	*	*	*	*	*
28/06/2016	ND	VP	15:00	18:00	3	Day	VP11	RB	1	N	*	*	*	*	*	*
28/06/2016	ND	VP	15:00	18:00	3	Day	VP11	MP	1	N	*	*	*	*	*	*
28/06/2016	ND	VP	15:00	18:00	3	Day	VP11	S.	1	N	*	*	*	*	*	*
28/06/2016	ND	VP	15:00	18:00	3	Day	VP11	LR	1	N	*	*	*	*	*	*
28/06/2016	ND	VP	15:00	18:00	3	Day	VP11	R.	1	N	*	*	*	*	*	*
28/06/2016	ND	VP	15:00	18:00	3	Day	VP11	Corvid sp.	250	Y	15:10	15:15	180	30-40	2	Large flock of corvids, >1km to N in tight flock of 250 birds, dispersed flying off to E.
28/06/2016	ND	VP	15:00	18:00	3	Day	VP11	K.	1	Y	16:10	16:15	180	40-60	3	K. (Female) spotted flying 300m to N. Flew SW, then S, passing 250m to W of VP11 (after 45s) and flew on to S, SE, tracked for >1km (3mins).
28/06/2016	ND	VP	15:00	18:00	3	Day	VP11	BH	2	Y	17:00	17:05	60	20	2	2BH c. 1km to NW, flew W.
28/06/2016	ND	VP	15:00	18:00	3	Day	VP11	LB	2	Y	17:05	17:10	120	20	2	2LB (following) c. 1km to NW, flew W. Erratic flight. Not Direct.
28/06/2016	ND	VP	15:00	18:00	3	Day	VP11	LB	5	Y	17:25	17:30	180	20-30	2	2+3LB flew E to W, c. 800m to N.
28/06/2016	ND	VP	15:00	18:00	3	Day	VP11	LB	1	Y	17:45	17:50	60	20-30	2	LB flew E to W, >1km to N.
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	LB	35	Y	20:05	20:10	240	20-30	2	35LB in a stream c. 1km, flew SE to NW.
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	LB	9	Y	20:05	20:10	300	20-30	2	9LB 1.5km
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	K.	1	Y	20:10	20:15	180	40	3	K. 700m to N/NE- foraging, hovering, moving E.
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	LB	1	Y	20:15	20:20	60	40	3	LB flew NW-SE, overhead VP7
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	LB	1	Y	20:20	20:25	60	30	2	LB flew NW-SE, 800m to N.
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	LB	1	Y	20:25	20:30	60	20	2	LB flew E-W, S of road (brief).
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	LB	8	Y	20:35	20:40	180	20-30	2	8LB in stream/small groups flew SE to NW >1km to N.
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	LB	4	Y	20:40	20:45	180	20	2	4LB flew in stream/small groups flew E to W 700m to N.
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	LB	12	Y	20:40	20:45	240	20	2	12LB flew in stream/small groups flew E to W c.1km to N.
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	LB	2	Y	20:45	20:50	180	30	2	2LB flew in stream/small groups flew E to W 400m to S.

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	LB	3	Y	20:50	20:55	240	30	2	3LB flew in stream/small groups flew E to W >1km to N.
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	LB	12	Y	21:05	21:10	180	20-30	2	12LB, 1km to N of VP7, flew in groups E to W.
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	LB	3	Y	21:05	21:10	180	20	2	3LB in stream, 1km- flew E to W.
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	LB	7	Y	21:15	21:20	300	10	1	7 LB 1.2km N of VP7 flew E to W.
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	GB	1	Y	21:15	21:20	240	40	3	GB 500m N of VP7, flew E to W.
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	LB	6	Y	21:20	21:25	300	10-15	1	6LB, c.1km to N
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	LB	1	Y	21:30	21:35	120	20	2	1>1.1km to N, E-W.
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	K.	1	Y	21:45	21:50	180	40	3	K. To SE, 600m foraging.
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	LB	1	Y	21:50	21:55	120	20	2	LB to N, flew E-W, 1km.
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	K.	1	Y	22:00	22:05	120	20	2	K. 1km to W, foraging and flew W.
28/06/2016	ND	VP	20:00	23:00	3	Dusk	VP7	SH	1	Y	22:05	22:10	30	1	1	SH, perched on peat bank, 50m to S, flew off over milled peat area, very low to E.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	5	Y	11:00	11:05	180	30	2	5Lb E-W. First seen 1km to E, crossed 1km to N.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	1	Y	11:05	11:10	180	30	2	LB flew from E-W 700m N of VP7.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	BH	1	Y	11:05	11:10	60	40	3	BH flew E-W, >1km to S.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	3	Y	11:10	11:15	120	70-80	3	3LB from N, moving to E but circling.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	BZ	1	Y	11:10	11:15	*	10-20	1	BZ to far E (>2km) circling out of view.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	H.	1	Y	11:15	11:20	150	10	1	H. 300m to NW of VP11, flew N finally landing 300m to N.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	7	Y	11:20	11:25	150	10	1	7LB-stream-flew E to W, 1-1.5km to N.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	2	Y	11:35	11:40	120	30	2	2LB flew E-W (1.3km N of VP7).
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	BH	1	Y	12:00	12:05	180	10-20	1	BH from E to W, passing VP7 300m away.;
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	3	Y	12:05	12:10	180	20	1	3LB from E-W, 900m N of VP7.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	2	Y	12:10	12:15	120	10	1	2LB took off from puddle in bog, flew W.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	3	Y	12:10	12:15	120	10	1	3LB flew E-W, 500m to N
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	2	Y	12:15	12:20	120	10	1	2LB flew from S, crosses road 200m to NE, flew NW and landed with 1LB at puddle.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	2	Y	12:20	12:25	120	<10	1	2LB flew from E-W, over peat 200m to N of VP7.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	2	Y	12:25	12:30	120	10	1	2LB from puddle flew off to E/NE
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	3	Y	12:30	12:35	120	10	1	3LB flew from E-W, 1.5km N of VP7
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	1	Y	12:30	12:35	180	20	1	1LB flew E-W, 400m N of VP7
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	3	Y	12:50	12:55	120	20-30	2	3LB flew from E to W, 1.5km N of VP7.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	1	Y	12:55	13:00	120	20	1	LB flew from E-W 1km S of VP11.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	1	Y	13:00	13:05	90	20	1	LB 1km to N, flew E to W.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	BH	20	Y	13:00	13:05	60	20-30	2	20+ BH flock, flew W-E, 1.5km N of VP11
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	1	Y	13:15	13:20	120	20	2	LB, 1km to N flew W-E, 1.5km N of VP11
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	1	Y	13:15	13:20	120	30	2	LB, 1km to N flew W-E, 1.5km N of VP11
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	1	Y	13:30	13:35	60	30	2	LB flew NW, 1km N, W of VP7
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	3	Y	13:35	13:40	60	20-30	2	3LB flew NW, 1km N, W of VP7
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	3	Y	13:40	13:45	120	30-40	2	3LB flew E-W, 1km N of VP7.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	2	Y	13:45	13:50	120	20-30	2	2LB flew E-W 800m S of VP7.

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	BH	1	Y	14:00	14:05	120	50	3	BH flew E-W, >1.5km to S of VP7.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	7	Y	14:00	14:05	120	30-40	2	7LB flew E-W, 1.8km N of VP7.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	SH	1	Y	14:10	14:15	150	30-60	2-3	SH 400m to E, circling ascending amidst swarm of 50SM and SL (mobbing) flew to SE, to 60m, then away to SE
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	3	Y	14:20	14:25	60	20	1	3LB 1200m to N, flew SE-NW.
29/06/2016	ND	VP	11:00	14:30	3	Day	VP7	LB	3	Y	14:25	14:30	150	15	1	3LB 700m to N, flew E-W.
29/06/2016	ND	VP	07:00	10:00	3	Morning	VP11	LB	1	Y	07:20	07:30	100	20	2	LB, flew WNW-ESE overhead VP11
29/06/2016	ND	VP	07:00	10:00	3	Morning	VP11	LB	25	Y	07:35	07:40	240	20-30	2	25LB's in stream, c.1.5km W-E.
29/06/2016	ND	VP	07:00	10:00	3	Morning	VP11	LB	12	Y	07:40	07:45	240	20	2	6LB's, followed by 6LB's in groups-W-E. 700-800m N of VP11
29/06/2016	ND	VP	07:00	10:00	3	Morning	VP11	LB	4	Y	07:45	07:50	240	20	2	4LB flew W-E, passing 600m N of VP11.
29/06/2016	ND	VP	07:00	10:00	3	Morning	VP11	BZ	1	Y	08:45	08:50	60	10-20	1	BZ to S of VP11, close over trees, then out of view.
29/06/2016	ND	VP	07:00	10:00	3	Morning	VP11	SH	1	Y	09:20	09:25	80	15-1	1	SH, flew past, mobbed by passerines, carrying prey from SE to NW, towards/into woodland >500m to WNW of VP11. generally descent in flight height over peat, rising to clear scrub.
29/06/2016	ND	VP	07:00	10:00	3	Morning	VP11	LB	1	Y	09:40	09:45	300	30	2	LB flew from far SE to NW, passing 1km.
29/06/2016	ND	VP	07:00	10:00	3	Morning	VP11	LB	7	Y	09:40	09:45	240	30	2	7LB, 1.5km to far E, flew N/NW.
29/06/2016	ND	VP	07:00	10:00	3	Morning	VP11	LB	2	Y	09:50	09:55	180	20	2	2LB from SE to NW, >1km N/NE of VP11
29/06/2016	ND	VP	07:00	10:00	3	Morning	VP11	LB	3	Y	09:55	10:00	120	20	2	3LB from E-W 1km to N of VP11.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	SC	1	N	*	*	*	*	*	
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LR	5	N	*	*	*	*	*	
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	SI	1	N	*	*	*	*	*	
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	6	Y	18:16	18:16	12	25	2	6LB flew SSW @25m (12s).
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	1	Y	18:16	18:16	7	15	1	LB flew SW @15m (7s).
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	GB	1	Y	18:31	18:31	10	50	3	GB flew S @50m
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	BH	1	Y	18:31	18:31	7	10	1	BH flew SW/SSW @10m.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	4	Y	18:31	18:31	10	70	3	4LB flew N/NNE @70m.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	1	Y	18:31	18:31	8	100	3	LB flew SSW
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	1	Y	18:31	18:31	5	12	1	LB flew SSE
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	1	Y	18:43	18:43	10	20	1	LB flew S
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	6	Y	18:43	18:43	17	20-35	2	6LB fly SSW.

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	8	Y	18:43	18:43	12	20-30	2	8LB fly SSW.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	5	Y	18:43	18:43	12	80	3	5LB fly SSW.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	4	Y	18:50	18:50	18	50	3	4LB flew S
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	GB	1	Y	18:50	18:50	5	30	2	GB flies S
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	1	Y	18:50	18:50	12	23	2	LB flew NNW
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	1	Y	18:57	18:57	10	22-25	2	LB wavering flight SSE
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	BH	2	Y	18:57	18:57	7	18	1	2BH fly SSE
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	6	Y	18:57	18:57	12	30-60	2-3	6LB fly SSW
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	2	Y	19:03	19:03	7	25	2	2LB fly SSW
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	6	Y	19:03	19:03	15	40-50	3	6LB undulating flight S.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	3	Y	19:03	19:03	10	25-30	2	3LB fly SSW.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	1	Y	19:24	19:24	12	20-23	2	LB flies looping SW direction, undulating between 20-23m
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	2	Y	19:24	19:24	8	18	1	2LB fly SW/SSW .
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	K.	1	Y	19:24	19:24	*	15	1	K. Hunting hover @15m before dropping to ground.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	4	Y	19:24	19:24	13	18-25	1-2	4LB flew S; undulating.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	2	Y	19:24	19:24	8	30	2	2LB flew N/NE.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	3	Y	19:30	19:30	8	45-60	3	3LB flew N/NE undulating between 45-60m
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	SH	1	Y	19:30	19:30	7	2-4	1	SH flew SSE across road @2m increasing altitude to 4m.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	6	Y	19:30	19:30	8	15-60	1-3	6LB flew SW/SSW varying heights between 15-60m.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	GB	1	Y	19:40	19:40	5	90	3	LB fly SSW direct flight
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	BH	2	Y	19:40	19:40	8	20-30	2	2BH fly SSW, undulating flight.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	1	Y	19:40	19:40	5	50	3	LB fly NNE, direct flight.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	BH	4	Y	19:46	19:46	11	35-40	2-3	4BH slightly undulating come from E direction and loop around to go SW.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	1	Y	19:55	19:55	10	15	1	LB flies NNE along road

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	7	Y	20:00	20:00	8	35-55	2-3	7LB undulating flight SW/S direction.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	BH	1	Y	20:00	20:00	7	40-60	3	BH direct flight SW/SSW gaining altitude.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	3	Y	20:10	20:10	6	45	3	3LB direct flight N.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	7	Y	20:10	20:10	5	30-60	2-3	7LB varying heights, direct SSW.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	4	Y	20:10	20:10	7	40	3	4LB direct flight SSW.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	15	Y	20:15	20:15	25	30-60	2-3	15LB various heights, all slightly undulating
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	4	Y	20:15	20:15	6	35	2	4LB direct flight SW
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	5	Y	20:15	20:15	4	40	2	5LB direct flight S
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	2	Y	20:15	20:15	8	50	3	2LB (1st winter) direct flight S.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	8	Y	20:30	20:30	5	30	2	8LB direct flight SW
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	BH	1	Y	20:30	20:30	5	30	2	BH direct flight SW
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	BH	1	Y	20:30	20:30	4	48	3	BH direct flight SW
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	ML	1	Y	20:32	20:32	4	20	2	ML direct flight N/NNE
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	1	Y	20:40	20:40	6	70	3	LB direct flight SSW
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	4	Y	20:40	20:40	5	60	3	4LB direct flight SSW.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	1	Y	20:45	20:45	9	35-45	2-3	LB slightly undulating flight NE direction.
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	7	Y	20:45	20:45	11	30-60	2-3	7LB differing heights, direct flight SSW
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	2	Y	20:55	20:55	8	40	2	2LB direct flight S
30/06/2016	AB	VP	18:00	21:00	3	Late Afternoon	VP6	LB	10	Y	21:00	21:00	5	25-30	2	10LB direct flight S.
30/06/2016	AB	WK Survey	21:50	23:20	1.5	Dusk	N site	WK	1	N	*	*	*	*	*	
30/06/2016	AB	WK Survey	21:50	23:20	1.5	Dusk	N site	CO	1	N	*	*	*	*	*	
30/06/2016	AB	WK Survey	21:50	23:20	1.5	Dusk	N site	MA	1	N	*	*	*	*	*	
30/06/2016	AB	WK Survey	21:50	23:20	1.5	Dusk	N site	LG	1	N	*	*	*	*	*	
30/06/2016	AB	WK Survey	21:50	23:20	1.5	Dusk	N site	SN	2	N	*	*	*	*	*	
30/06/2016	AB	WK Survey	21:50	23:20	1.5	Dusk	N site	LE	1	Y	*	*	7	5	1	LE flew N over car @5m. Distant calls from woodland which could have been chicks.

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	ST	4	N	*	*	*	*	*	In song
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	B.	2	N	*	*	*	*	*	Alarm Calling
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	R.	2	N	*	*	*	*	*	In song
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	WR	3	N	*	*	*	*	*	Calling
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	SC	2	N	*	*	*	*	*	Calling
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	MG	1	N	*	*	*	*	*	
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	WP	2	N	*	*	*	*	*	
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	LR	3	N	*	*	*	*	*	In song
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	RO	1	N	*	*	*	*	*	Calling
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	HC	1	N	*	*	*	*	*	Calling
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	WW	1	N	*	*	*	*	*	In song
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	JD	1	N	*	*	*	*	*	
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	GO	2	N	*	*	*	*	*	Pair
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	CH	1	N	*	*	*	*	*	
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	BT	3	N	*	*	*	*	*	
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	PH	1	N	*	*	*	*	*	
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	LB	3	Y	05:02	05:02	6	55	3	3 LB flew SW @ 55m. Direct flight
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	RN	3	Y	05:02	05:02	5	50	3	3 RN flew SSW @ 50m while calling
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	LB	1	Y	05:16	05:16	6	80	3	LB flew SW @ 80m. Direct flight
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	RN	2	Y	05:30	05:30	10	35	2	2 RN flew SSW @ 35m
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	LB	1	Y	05:30	05:30	5	60	3	LB flew SW @ 60m. Direct flight
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	LB	2	Y	05:30	05:30	7	100	3	2 LB flew SSW @ 100m
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	LB	1	Y	05:43	05:43	8	50	3	LB flew SW @ 50m
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	LB	1	Y	05:43	05:43	6	30-35	2	LB flew SSW @ 30-35m. Undulating flight
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	LB	2	Y	06:00	06:00	5	35	2	
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	GB	1	Y	06:00	06:00	7	55	3	GB flew SSW @55m
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	GB	1	Y	06:00	06:00	4	150	4	GB flew N @ 150m
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	LB	1	Y	06:00	06:00	8	40	3	LB flew SW @ 40m. Direct flight
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	LB	8	Y	06:07	06:07	7	60	3	8 LB flew SSW @ 60m. Direct flight
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	LB	1	Y	06:07	06:07	4	50	3	LB flew SW @ 50m. Direct flight
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	LB	6	Y	06:15	06:15	8	60	3	6 LB flew SW @ 60m. Direct flight
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	LB	4	Y	06:15	06:15	6	35	2	4 LB flew SW @ 35m. Direct flight
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	LB	2	Y	06:20	06:20	8	50	3	2 LB flew SW @ 50m
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	LB	6	Y	06:25	06:25	*	40	3	6 LB flew SSW
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	LB	6	Y	06:25	06:25	6	20-50	2-3	6 LB flew SSW @ 20-50m. Undulating flight
01/07/2016	AB	VP	03:30	06:30	3	Dawn	VP6	LB	7	Y	06:30	06:30	8	32	2	7 LB flew SW @ 32m. Direct flight
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	MP	2	N	*	*	*	*	*	Pair
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	R.	1	N	*	*	*	*	*	
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	ST	1	N	*	*	*	*	*	
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	CC	1	N	*	*	*	*	*	
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	WW	1	N	*	*	*	*	*	
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	WR	1	N	*	*	*	*	*	
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	SW	2	N	*	*	*	*	*	
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	PW	1	N	*	*	*	*	*	
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	RB	2	N	*	*	*	*	*	Pair

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	HC	1	N	*	*	*	*	*	Carrying food
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	2	Y	17:28	17:28	12	18-20	1	2 LB flew NNW @ 18-20m
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	2	Y	17:42	17:42	4	35-40	2	2 LB flew W/NW @ 35-40m
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	1	Y	17:48	17:48	3	32	2	1 LB flew NNW. Wavy flight
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	GB	1	Y	17:52	17:52	15	35	2	GB flew SSE then looped NNE dropping altitude momentarily near edge of forest
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	1	Y	17:58	17:58	13	25	2	LB flew N @ 5-25m. Undulating flight
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	1	Y	17:58	17:58	9	40	2	LB flew W @ 40m
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	GB	1	Y	18:08	18:08	16	90-100	3	GB flew N then E @ 90m, increasing to 100m
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	2	Y	18:14	18:14	7	90	3	2 LB flew W.
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	1	Y	18:14	18:14	7	100	3	1 LB flew W.
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	1	Y	18:20	18:20	6	40-10	2-1	LB flew NNW. Undulating flights 40m dropping to 10m momentarily.
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	GB	1	Y	18:20	18:20	6	40-10	2-1	LB flew NNW. Undulating flights 40m dropping to 10m momentarily.
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	CA	1	Y	18:30	18:30	8	65-70	3	CA flew W @ 65-70m
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	1	Y	18:30	18:30	6	50	3	LB flew NNW @ 50m. Direct flight
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	1	Y	18:30	18:30	4	80	3	LB flew NNE @ 80m
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	4	Y	18:45	18:45	*	70-75	3	4 LB flew W @ 70-75m
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	3	Y	18:45	18:45	*	50	3	3 LB flew NNW @ 50m
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	5	Y	18:51	18:51	*	35-40	2	5LB flew N @ 35-40m
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	2	Y	18:51	18:51	*	45	3	2 LB flew S @ 45m
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	1	Y	19:03	19:03	6	25	2	LB flew SE @ 25m
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	2	Y	19:18	19:18	7	40	2	2 LB flew N @ 40m
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	1	Y	19:18	19:18	7	35	2	1 LB flew N @ 40m
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	1	Y	19:25	19:25	5	60-66	3	LB flew N @ 60m, increasing to 66m temporarily
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	3	Y	19:35	19:35	11	80	3	3 LB flew N. Undulating flight
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	2	Y	19:35	19:35	11	60	3	2LB flew N. Undulating flight
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	1	Y	19:50	19:50	9	80	3	LB flew N @ 80m (turned slightly W towards end)
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	2	Y	19:55	19:55	7	35-40	2	2 LB flew NNW. Undulating flight
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	2	Y	20:00	20:00	*	30	2	2 LB flew NNW
04/07/2016	AB	VP	17:10	20:10	3	Evening	VP4	LB	2	Y	20:05	20:05	*	35-40	2	2 LB flew N
04/07/2016	AB	VP	21:00	00:00	3	Dusk	VP3	WW	2	N	*	*	*	*	*	
04/07/2016	AB	VP	21:00	00:00	3	Dusk	VP3	R.	1	N	*	*	*	*	*	
04/07/2016	AB	VP	21:00	00:00	3	Dusk	VP3	LB	2	Y	21:07	21:07	7	80	3	2 LB flew W @ 80m
04/07/2016	AB	VP	21:00	00:00	3	Dusk	VP3	LB	1	Y	21:07	21:07	5	60	3	LB flew NE @ 60m
04/07/2016	AB	VP	21:00	00:00	3	Dusk	VP3	LB	2	Y	21:25	21:25	7	65	3	2 LB flew E @ 65m. Direct flight
04/07/2016	AB	VP	21:00	00:00	3	Dusk	VP3	LB	1	Y	21:38	21:38	12	50	3	LB flew W, turned S & looped back S again
04/07/2016	AB	VP	21:00	00:00	3	Dusk	VP3	LB	1	Y	22:04	22:04	6	60	3	LB flew W @ 60m
04/07/2016	AB	VP	21:00	00:00	3	Dusk	VP3	LB	2	Y	22:04	22:04	7	70-75	3	2 LB flew E, then turned back around W again
04/07/2016	AB	VP	21:00	00:00	3	Dusk	VP3	K.	1	Y	22:23	22:35	120	35->100	2	K. Flew SE @ 35m. Stopped briefly on a

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																mast before heading NW, hovering at stages. Gained altitude to >100m and out of sight
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	SN	2	Y	*	*	*	*	*	2 SN audible. (1 Drumming, 1 Chipping)
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	WK	1	Y	*	*	*	*	*	Heard roding
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	ST	3	N	*	*	*	*	*	In song
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	RB	2	N	*	*	*	*	*	In song
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	WW	1	N	*	*	*	*	*	In song
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	R.	1	N	*	*	*	*	*	Calling
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	B.	1	N	*	*	*	*	*	In song
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	PH	1	N	*	*	*	*	*	In song
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	RO	1	N	*	*	*	*	*	Calling
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	WP	2	N	*	*	*	*	*	
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	MG	1	N	*	*	*	*	*	
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	HC	4	N	*	*	*	*	*	
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	SC	1	N	*	*	*	*	*	
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	GO	1	N	*	*	*	*	*	
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	LE	1	Y	04:05	04:05	10	6	1	LE flew SW @ 6m over embankment in pursuit of possible SN
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	WK	1	Y	04:05	04:05	7	8	1	WK flew NE then turned and followed edge of forest
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	MA	6	Y	04:22	04:22	6	7	1	6 MA flew NNW over bank, circled back and landed in bog pool
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	MA	6	Y	04:32	04:32	8	0-35	1-2	6 MA took flight from bog and circled W over forest. Climbed to 35 m over treeline
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	H.	2	Y	04:45	04:45	11	60	3	2H. Flew S @ 60m
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	SH	1	Y	05:30	05:30	8	8-10	2	SH flew S, turning SW @ 8-10m, dropping to 6m for a short period
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	CA	1	Y	05:35	05:35	13	90	3	CA flew E, turning to NE @ 90m
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	MA	2	Y	05:55	05:55	15	80	3	2 MA flew E @ 80m, 1 circled back W while others continued E
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	LB	2	Y	06:00	06:00	8	75	3	2 LB flew W @ 75m
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	LB	1	Y	06:15	06:15	6	70	3	LB flew W @ 70m
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	CA	1	Y	06:20	06:20	11	85	3	CA flew E, turning to NE @ 85m
05/07/2016	AB	VP	03:45	06:45	3	Dawn	VP4	LB	1	Y	06:40	06:40	6	55	3	LB flew N @ 55m. Direct flight
06/07/2016	AB	VP	03:50	06:50	3	Dawn	VP9	LB	3	Y	04:54	04:54	6	40	2	3 LB flew S @ 40m, circling as they descend onto bog
06/07/2016	AB	VP	03:50	06:50	3	Dawn	VP9	LB	3	Y	04:54	04:54	11	80	3	3 LB flew E, increasing in height to 80m
06/07/2016	AB	VP	03:50	06:50	3	Dawn	VP9	H.	1	Y	05:17	05:17	5	30	2	H. Flew W @ 30m, turning N
06/07/2016	AB	VP	03:50	06:50	3	Dawn	VP9	MA	1	Y	06:37	06:37	3	90	3	1 MA flew W @ 90m
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	RB	1	N	*	*	*	*	*	
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LR	1	N	*	*	*	*	*	
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	MG	1	N	*	*	*	*	*	
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	MP	2	N	*	*	*	*	*	
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	SL	1	N	*	*	*	*	*	
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	GT	1	N	*	*	*	*	*	



Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	CC	1	N	*	*	*	*	*	
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	WW	1	N	*	*	*	*	*	
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	R.	1	N	*	*	*	*	*	
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	WP	1	N	*	*	*	*	*	
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	RO	1	N	*	*	*	*	*	
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	3	Y	11:00	11:00	20	40-45	3	3LB flew S @40-45m, slightly undulating flight.
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	SH	1	Y	11:06	11:06	4	35	2	SH flew N @35m between treeline.
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	2	Y	11:06	11:06	11	90	3	2LB flew E @90m.
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	4	Y	11:06	11:06	9	25-40	2	4LB flew E, undulating flight but gaining altitude steadily from 25-40m.
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	1	Y	11:06	11:06	*	50	3	LB flew SSW @50m, direct flight.
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	2	Y	11:06	11:06	6	40	2	2LB fly SSW
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	1	Y	11:06	11:06	4	80	3	LB fly E
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	HG	2	Y	11:10	11:10	12	60-0	3-1	2HG fly N @60m & steadily loses altitude as they go into spiralling flight to land.
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	HG	2	Y	11:10	11:10	7	0-45	1-3	2HG lift off and fly N steadily ascending to 45m.
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	4	Y	11:26	11:26	15	110	3	4LB direct flight NE
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	2	Y	11:40	11:40	7	50	3	2LB fly E.
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	1	Y	11:40	11:40	8	60	3	LB fly E.
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	4	Y	12:04	12:04	11	20-25	2	4LB fly E.
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	1	Y	12:04	12:04	7	10	1	LB fly E
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	1	Y	12:11	12:11	5	70	3	LB fly NE
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	2	Y	12:11	12:11	11	15	1	2LB fly NE @12-15m undulating flight.
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	1	Y	12:33	12:33	6	55	3	LB flew SSW
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	1	Y	12:43	12:43	6	60	3	LB fly SSW
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	1	Y	12:43	12:43	6	65	3	LB fly SSW
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	HG	1	Y	12:50	12:50	7	0-25	1-2	HG takes off from bog and gains altitude steadily to 25m.
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	1	Y	13:00	13:00	20	85-100	3	LB fly SW @85m and goes into upward spiral to 100m.
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	1	Y	13:41	13:41	6	100	3	LB fly NE
06/07/2016	AB	VP	10:40	13:40	3	Morning	VP3	LB	1	Y	13:41	13:41	6	150	4	LB fly NE.
06/07/2016	AB	VP	20:50	23:50	3	Dusk	VP9	WW	1	N	*	*	*	*	*	
06/07/2016	AB	VP	20:50	23:50	3	Dusk	VP9	ST	1	N	*	*	*	*	*	
06/07/2016	AB	VP	20:50	23:50	3	Dusk	VP9	RO	1	N	*	*	*	*	*	
06/07/2016	AB	VP	20:50	23:50	3	Dusk	VP9	WK	1	N	*	*	*	*	*	
06/07/2016	AB	VP	20:50	23:50	3	Dusk	VP9	LB	2	Y	20:58	20:58	6	40m	2	2LB fly E at 40m (Direct flight)
06/07/2016	AB	VP	20:50	23:50	3	Dusk	VP9	LB	2	Y	21:25	21:25	7	2-3m	1	2LB fly S along bog at 2-3m
07/07/2016	AB	VP	14:00	16:00	2	Day	VP9	SL	3	N	*	*	*	*	*	
07/07/2016	AB	VP	14:00	16:00	2	Day	VP9	R.	1	N	*	*	*	*	*	
07/07/2016	AB	VP	14:00	16:00	2	Day	VP9	WW	1	N	*	*	*	*	*	
07/07/2016	AB	VP	14:00	16:00	2	Day	VP9	HC	1	N	*	*	*	*	*	
07/07/2016	AB	VP	14:00	16:00	2	Day	VP9	HM	7	N	*	*	*	*	*	
07/07/2016	AB	VP	14:00	16:00	2	Day	VP9	LR	1	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
07/07/2016	AB	VP	14:00	16:00	2	Day	VP9	BT	1	N	*	*	*	*	*	
07/07/2016	AB	VP	14:00	16:00	2	Day	VP9	MG	1	N	*	*	*	*	*	
07/07/2016	AB	VP	14:00	16:00	2	Day	VP9	PW	1	N	*	*	*	*	*	
07/07/2016	AB	VP	14:00	16:00	2	Day	VP9	GB	1	Y	14:23	14:23	16	90-40	3	GB flew W, dropping altitude to around 40m as it began to turn NW.
07/07/2016	AB	VP	14:00	16:00	2	Day	VP9	ML	1	Y	15:33	15:33	19	8-12	1	ML (Female) flew W @8-12m, turning S while carrying food. Lost sight as it flew into willow.
07/07/2016	JC	VP	20:15	23:15	3	Dusk	VP6	LE	1	N	22:45	*	*	*	*	Possible LE call
07/07/2016	JC	VP	20:15	23:15	3	Dusk	VP6	LB	71	Y	20:15	21:05	20	100	3	71LB flying W @100m for 20s, out of view.
07/07/2016	JC	VP	20:15	23:15	3	Dusk	VP6	LB	15	Y	20:24	20:25	60	100	3	15LB flying W @100m for 60s.
07/07/2016	JC	VP	20:15	23:15	3	Dusk	VP6	H.	1	Y	21:05	21:05	30	10	1	H. flew NE over land @10m (30s).
07/07/2016	JC	VP	20:15	23:15	3	Dusk	VP6	K.	1	Y	21:55	21:56	60	100	3	K. hunting @100m, observed for 60s before going out of view.
07/07/2016	JC	VP	17:15	20:15	3	Day	VP5	BC	1	N	*	*	*	*	*	
07/07/2016	JC	VP	17:15	20:15	3	Day	VP5	ST	1	N	*	*	*	*	*	
07/07/2016	JC	VP	17:15	20:15	3	Day	VP5	WW	1	N	*	*	*	*	*	
07/07/2016	JC	VP	17:15	20:15	3	Day	VP5	WP	1	N	*	*	*	*	*	
07/07/2016	JC	VP	17:15	20:15	3	Day	VP5	BT	1	N	*	*	*	*	*	
07/07/2016	JC	VP	17:15	20:15	3	Day	VP5	S,	1	N	*	*	*	*	*	Displaying
07/07/2016	JC	VP	17:15	20:15	3	Day	VP5	PH	1	N	18:35	*	*	*	*	
07/07/2016	JC	VP	17:15	20:15	3	Day	VP5	HC	1	Y	17:20	17:30	15	10	1	HC flew S <10m, having lifted off bog for 15s.
07/07/2016	JC	VP	17:15	20:15	3	Day	VP5	MP	1	Y	17:30	17:30	15	20	2	MP display flight @20m for 15s.
07/07/2016	JC	VP	17:15	20:15	3	Day	VP5	LB	1	Y	18:12	18:12	30	100	3	LB flew W @100m for 30s before going out of view.
07/07/2016	JC	VP	17:15	20:15	3	Day	VP5	K.	1	Y	18:30	18:30	15	20	2	K. (female) flew S over bog @<20m, landing briefly on conifers and continuing S.
07/07/2016	JC	VP	17:15	20:15	3	Day	VP5	LB	1	Y	19:11	19:11	60	100	3	LB flying W.
08/07/2016	JC	VP	03:45	06:45	3	Dawn	VP5	ST	1	N	*	*	*	*	*	
08/07/2016	JC	VP	03:45	06:45	3	Dawn	VP5	BC	1	N	*	*	*	*	*	
08/07/2016	JC	VP	03:45	06:45	3	Dawn	VP5	PH	1	N	*	*	*	*	*	
08/07/2016	JC	VP	03:45	06:45	3	Dawn	VP5	WW	1	N	*	*	*	*	*	
08/07/2016	JC	VP	03:45	06:45	3	Dawn	VP5	BT	1	N	*	*	*	*	*	
08/07/2016	JC	VP	03:45	06:45	3	Dawn	VP5	S.	1	N	*	*	*	*	*	
08/07/2016	JC	VP	03:45	06:45	3	Dawn	VP5	LB	1	Y	05:20	05:20	15	100	3	1LB flew SW
08/07/2016	JC	VP	03:45	06:45	3	Dawn	VP5	PH	1	Y	05:25	05:25	10	5	1	PH flew from roadside towards bog at <5m.
08/07/2016	JC	VP	03:45	06:45	3	Dawn	VP5	MA	3	Y	05:25	05:25	15	80	3	3MA flew E/SE, possibly landed on bog north of road.
08/07/2016	JC	VP	03:45	06:45	3	Dawn	VP5	LB	2	Y	05:45	05:45	20	40	3	2LB flew W
08/07/2016	JC	VP	03:45	06:45	3	Dawn	VP5	LB	2	Y	06:25	06:25	40	150	4	2LB flew E.
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	RB	1	N	*	*	*	*	*	
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	RO	1	N	*	*	*	*	*	
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	JD	1	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	MP	1	N	*	*	*	*	*	
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	B.	1	N	*	*	*	*	*	
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	S.	1	N	*	*	*	*	*	
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	LR	1	N	*	*	*	*	*	
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	LI	flock	N	*	*	*	*	*	
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	GO	1	N	*	*	*	*	*	
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	ST	1	N	*	*	*	*	*	
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	SC	1	N	*	*	*	*	*	
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	WP	1	N	*	*	*	*	*	
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	WW	1	N	*	*	*	*	*	
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	WR	1	N	*	*	*	*	*	
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	LT	1	N	*	*	*	*	*	
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	LB	3	Y	17:58	17:58	10	10	1	NE/E Direct Flight
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	LB	3	Y	17:58	17:58	10	20	2	NE/E Direct Flight
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	LB	1	Y	17:58	17:58	10	28	2	NE/E Direct Flight
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	LB	1	Y	18:27	18:27	6	20	2	NE/E Direct Flight
12/07/2016	AB	VP	16:45	19:45	3	Afternoon	VP5	LB	2	Y	18:55	18:55	7	60	3	NE/E Direct Flight
12/07/2016	AB	VP	20:15	23:15	3	Dusk	VP6	LI	1	N	*	*	*	*	*	
12/07/2016	AB	VP	20:15	23:15	3	Dusk	VP6	WP	1	N	*	*	*	*	*	
12/07/2016	AB	VP	20:15	23:15	3	Dusk	VP6	SL	1	N	*	*	*	*	*	
12/07/2016	AB	VP	20:15	23:15	3	Dusk	VP6	JD	1	N	*	*	*	*	*	
12/07/2016	AB	VP	20:15	23:15	3	Dusk	VP6	RO	1	N	*	*	*	*	*	
12/07/2016	AB	VP	20:15	23:15	3	Dusk	VP6	WW	1	N	*	*	*	*	*	
12/07/2016	AB	VP	20:15	23:15	3	Dusk	VP6	B.	1	N	*	*	*	*	*	
12/07/2016	AB	VP	20:15	23:15	3	Dusk	VP6	LB	11	Y	20:31	20:31	7	60	3	11LB fly SW, turning S slightly before turning back. Direct flight.
12/07/2016	AB	VP	20:15	23:15	3	Dusk	VP6	LB	7	Y	20:31	20:31	7	110-120	3	7LB fly SW @110-120m
12/07/2016	AB	VP	20:15	23:15	3	Dusk	VP6	LB	1	Y	20:41	20:41	6	50	3	LB fly SW
12/07/2016	AB	VP	20:15	23:15	3	Dusk	VP6	LB	3	Y	20:50	20:50	5	55	3	3LB fly SW.
12/07/2016	AB	VP	20:15	23:15	3	Dusk	VP6	LB	4	Y	20:50	20:50	5	70	3	4LB fly SW
12/07/2016	AB	VP	20:15	23:15	3	Dusk	VP6	LB	3	Y	21:00	21:00	8	100	3	3LB fly SW.
12/07/2016	AB	VP	20:15	23:15	3	Dusk	VP6	LB	16	Y	21:13	21:13	6	110	3	16LB fly SW
12/07/2016	AB	VP	20:15	23:15	3	Dusk	VP6	LB	4	Y	21:30	21:30	9	80-90	3	4LB fly SW at various heights.
12/07/2016	AB	VP	20:15	23:15	3	Dusk	VP6	LB	1	Y	21:30	21:30	4	60	3	LB fly SW
12/07/2016	AB	VP	20:15	23:15	3	Dusk	VP6	LB	20	Y	21:30	21:30	10	40-75	3	20LB fly SW @various heights between 40-75m.
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	SN	1	N	*	*	*	*	*	
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	WK	1	N	*	*	*	*	*	
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	LR	1	N	*	*	*	*	*	
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	R.	1	N	*	*	*	*	*	
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	PH	1	N	*	*	*	*	*	
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	ST	1	N	*	*	*	*	*	
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	WP	1	N	*	*	*	*	*	
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	HC	1	N	*	*	*	*	*	
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	B.	1	N	*	*	*	*	*	
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	RN	1	N	*	*	*	*	*	
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	WW	1	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	MG	1	N	*	*	*	*	*	
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	SW	1	N	*	*	*	*	*	
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	CA	4	Y	05:15	05:15	11	100	3	4CA fly N.
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	MA	1	Y	05:27	05:27	5	20	2	MA (female) flies NE
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	LB	1	Y	05:50	05:50	4	90	3	LB flies S @90m.
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	LB	1	Y	06:10	06:10	6	60	3	LB flies SSE @60m direct flight.
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	CA	7	Y	06:10	06:11	60	120	3	7CA fly NW direction
13/07/2016	AB	VP	04:00	07:00	3	Dawn	VP4	H.	1	Y	06:16	06:17	60	50	3	H. flies NE direction.
13/07/2016	AC	Transect	09:35	10:15	*	*	T19	WH	3	N	*	*	*	*	*	
13/07/2016	AC	Transect	09:35	10:15	*	*	T19	WR	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	09:35	10:15	*	*	T19	SL	9	N	*	*	*	*	*	
13/07/2016	AC	Transect	09:35	10:15	*	*	T19	B.	2	N	*	*	*	*	*	
13/07/2016	AC	Transect	09:35	10:15	*	*	T19	BC	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	09:35	10:15	*	*	T19	RB	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	09:35	10:15	*	*	T19	HC	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	09:35	10:15	*	*	T19	LR	3	N	*	*	*	*	*	
13/07/2016	AC	Transect	09:35	10:15	*	*	T19	CH	2	N	*	*	*	*	*	
13/07/2016	AC	Transect	09:35	10:15	*	*	T19	MG	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	09:35	10:15	*	*	T19	S.	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	16:40	17:15	*	*	T14	MG	2	N	*	*	*	*	*	
13/07/2016	AC	Transect	16:40	17:15	*	*	T14	BT	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	16:40	17:15	*	*	T14	R.	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	16:40	17:15	*	*	T14	GC	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	16:40	17:15	*	*	T14	WR	2	N	*	*	*	*	*	
13/07/2016	AC	Transect	16:40	17:15	*	*	T14	LR	6	N	*	*	*	*	*	
13/07/2016	AC	Transect	16:40	17:15	*	*	T14	RB	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	16:40	17:15	*	*	T14	SL	3	N	*	*	*	*	*	
13/07/2016	AC	Transect	16:40	17:15	*	*	T14	RN	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	16:40	17:15	*	*	T14	HC	2	N	*	*	*	*	*	
13/07/2016	AC	Transect	10:27	11:35	*	*	T18	SL	4	N	*	*	*	*	*	
13/07/2016	AC	Transect	10:27	11:35	*	*	T18	B.	2	N	*	*	*	*	*	
13/07/2016	AC	Transect	10:27	11:35	*	*	T18	BF	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	10:27	11:35	*	*	T18	WR	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	10:27	11:35	*	*	T18	MP	3	N	*	*	*	*	*	
13/07/2016	AC	Transect	10:27	11:35	*	*	T18	D.	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	10:27	11:35	*	*	T18	PW	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	10:27	11:35	*	*	T18	LR	3	N	*	*	*	*	*	
13/07/2016	AC	Transect	10:27	11:35	*	*	T18	S.	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	10:27	11:35	*	*	T18	BT	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	10:27	11:35	*	*	T18	SH	1	Y	*	*	*	*	*	
13/07/2016	AC	Transect	12:05	12:38	*	*	T15	MP	3	N	*	*	*	*	*	
13/07/2016	AC	Transect	12:05	12:38	*	*	T15	WH	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	12:05	12:38	*	*	T15	D.	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	12:05	12:38	*	*	T15	B.	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	12:05	12:38	*	*	T15	SL	4	N	*	*	*	*	*	
13/07/2016	AC	Transect	12:05	12:38	*	*	T15	WP	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	12:05	12:38	*	*	T15	RO	1	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
13/07/2016	AC	Transect	12:05	12:38	*	*	T15	LI	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	13:15	13:48	*	*	T16	R.	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	13:15	13:48	*	*	T16	SL	3	N	*	*	*	*	*	
13/07/2016	AC	Transect	13:15	13:48	*	*	T16	MP	4	N	*	*	*	*	*	
13/07/2016	AC	Transect	13:15	13:48	*	*	T16	D.	2	N	*	*	*	*	*	
13/07/2016	AC	Transect	13:15	13:48	*	*	T16	RB	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	13:15	13:48	*	*	T16	WR	2	N	*	*	*	*	*	
13/07/2016	AC	Transect	14:10	14:46	*	*	T13	MG	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	14:10	14:46	*	*	T13	MP	4	N	*	*	*	*	*	
13/07/2016	AC	Transect	14:10	14:46	*	*	T13	HC	4	N	*	*	*	*	*	
13/07/2016	AC	Transect	14:10	14:46	*	*	T13	LR	3	N	*	*	*	*	*	
13/07/2016	AC	Transect	14:10	14:46	*	*	T13	SL	6	N	*	*	*	*	*	
13/07/2016	AC	Transect	14:10	14:46	*	*	T13	RB	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	14:10	14:46	*	*	T13	BZ	2	Y	14:41	*	*	250	4	2BZ soaring at 250m, N of transect and outside site boundary
13/07/2016	AC	Transect	14:10	14:46	*	*	T13	LB	3	Y	*	*	*	300	4	3LB soaring at 300m, N of transect and outside site boundary.
13/07/2016	AC	Transect	15:15	15:56	*	*	T17	MP	4	N	*	*	*	*	*	
13/07/2016	AC	Transect	15:15	15:56	*	*	T17	WR	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	15:15	15:56	*	*	T17	D.	1	N	*	*	*	*	*	
13/07/2016	AC	Transect	15:15	15:56	*	*	T17	PW	2	N	*	*	*	*	*	
13/07/2016	AC	Transect	15:15	15:56	*	*	T17	HC	3	N	*	*	*	*	*	
13/07/2016	AC	Transect	15:15	15:56	*	*	T17	LR	2	N	*	*	*	*	*	
13/07/2016	AC	Transect	15:15	15:56	*	*	T17	WP	2	N	*	*	*	*	*	
13/07/2016	AC	Transect	15:15	15:56	*	*	T17	B.	3	N	*	*	*	*	*	
13/07/2016	AC	Transect	15:15	15:56	*	*	T17	M.	2	N	*	*	*	*	*	
13/07/2016	AC	Transect	15:15	15:56	*	*	T17	MA	4	Y	*	*	6	100	3	4MA flying E at 100m above bog, 400m S of transect.
14/07/2016	AC	Transect	16:05	16:53	*	*	T6	WR	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	16:05	16:53	*	*	T6	WH	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	16:05	16:53	*	*	T6	MP	4	N	*	*	*	*	*	
14/07/2016	AC	Transect	16:05	16:53	*	*	T6	WW	3	N	*	*	*	*	*	
14/07/2016	AC	Transect	16:05	16:53	*	*	T6	SL	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	16:05	16:53	*	*	T6	CH	4	N	*	*	*	*	*	
14/07/2016	AC	Transect	16:05	16:53	*	*	T6	HC	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	16:05	16:53	*	*	T6	PW	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	16:05	16:53	*	*	T6	BT	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	16:05	16:53	*	*	T6	RB	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	16:05	16:53	*	*	T6	B.	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	16:05	16:53	*	*	T6	MG	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	16:05	16:53	*	*	T6	LB	1	Y	*	*	12	100	3	Flying W over trees N of transect outside sight boundary.
14/07/2016	AC	Transect	17:15	17:48	*	*	T1	CH	4	N	*	*	*	*	*	
14/07/2016	AC	Transect	17:15	17:48	*	*	T1	GC	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	17:15	17:48	*	*	T1	B.	3	N	*	*	*	*	*	
14/07/2016	AC	Transect	17:15	17:48	*	*	T1	WR	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	17:15	17:48	*	*	T1	SL	2	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
14/07/2016	AC	Transect	17:15	17:48	*	*	T1	WW	4	N	*	*	*	*	*	
14/07/2016	AC	Transect	17:15	17:48	*	*	T1	RN	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	17:15	17:48	*	*	T1	PH	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	09:20	09:43	*	*	T8	B.	4	N	*	*	*	*	*	
14/07/2016	AC	Transect	09:20	09:43	*	*	T8	R.	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	09:20	09:43	*	*	T8	WH	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	09:20	09:43	*	*	T8	SG	18	N	*	*	*	*	*	
14/07/2016	AC	Transect	09:20	09:43	*	*	T8	CH	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	09:20	09:43	*	*	T8	CT	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	09:20	09:43	*	*	T8	RN	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	09:20	09:43	*	*	T8	WR	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	09:20	09:43	*	*	T8	HC	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	09:20	09:43	*	*	T8	LB	1	Y	*	*	*	300	4	LB flying W at 300m, 500m S of transect area scrub.
14/07/2016	AC	Transect	10:15	10:48	*	*	T3	WR	3	N	*	*	*	*	*	
14/07/2016	AC	Transect	10:15	10:48	*	*	T3	CH	7	N	*	*	*	*	*	
14/07/2016	AC	Transect	10:15	10:48	*	*	T3	B.	5	N	*	*	*	*	*	
14/07/2016	AC	Transect	10:15	10:48	*	*	T3	SL	7	N	*	*	*	*	*	
14/07/2016	AC	Transect	10:15	10:48	*	*	T3	R.	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	10:15	10:48	*	*	T3	M.	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	10:15	10:48	*	*	T3	HC	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	10:15	10:48	*	*	T3	SG	40	N	*	*	*	*	*	
14/07/2016	AC	Transect	10:15	10:48	*	*	T3	LR	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	10:15	10:48	*	*	T3	SC	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	11:10	11:45	*	*	T2	SL	5	N	*	*	*	*	*	
14/07/2016	AC	Transect	11:10	11:45	*	*	T2	WR	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	11:10	11:45	*	*	T2	WP	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	11:10	11:45	*	*	T2	WH	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	11:10	11:45	*	*	T2	CH	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	11:10	11:45	*	*	T2	LR	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	11:10	11:45	*	*	T2	MP	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	11:10	11:45	*	*	T2	MS	2	N	*	*	*	*	*	River W of rail crossing
14/07/2016	AC	Transect	12:30	13:15	*	*	T5	WR	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	12:30	13:15	*	*	T5	MP	4	N	*	*	*	*	*	
14/07/2016	AC	Transect	12:30	13:15	*	*	T5	RB	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	12:30	13:15	*	*	T5	CH	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	12:30	13:15	*	*	T5	PH	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	12:30	13:15	*	*	T5	LR	3	N	*	*	*	*	*	
14/07/2016	AC	Transect	12:30	13:15	*	*	T5	WW	3	N	*	*	*	*	*	
14/07/2016	AC	Transect	12:30	13:15	*	*	T5	WH	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	12:30	13:15	*	*	T5	BZ	1	Y	12:21	*	*	100	3	BZ soaring over woodland at 100m. 400m N of transect.
14/07/2016	AC	Transect	12:30	13:15	*	*	T5	LB	2	Y	13:06	*	16	150	4	2LB fly W over bog at 150m.
14/07/2016	AC	Transect	13:20	14:03	*	*	T4	MP	5	N	*	*	*	*	*	
14/07/2016	AC	Transect	13:20	14:03	*	*	T4	WH	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	13:20	14:03	*	*	T4	SL	11	N	*	*	*	*	*	
14/07/2016	AC	Transect	13:20	14:03	*	*	T4	LR	3	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
14/07/2016	AC	Transect	13:20	14:03	*	*	T4	J.	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	13:20	14:03	*	*	T4	MG	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	13:20	14:03	*	*	T4	HC	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	13:20	14:03	*	*	T4	PH	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	13:20	14:03	*	*	T4	WP	4	N	*	*	*	*	*	
14/07/2016	AC	Transect	13:20	14:03	*	*	T4	SC	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	13:20	14:03	*	*	T4	RB	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	13:20	14:03	*	*	T4	BZ	1	Y	*	*	6	80	3	BZ soaring N of transect at 80m over trees. Outside site boundary.
14/07/2016	AC	Transect	15:10	15:52	*	*	T7	WR	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	15:10	15:52	*	*	T7	R.	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	15:10	15:52	*	*	T7	BC	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	15:10	15:52	*	*	T7	B.	4	N	*	*	*	*	*	
14/07/2016	AC	Transect	15:10	15:52	*	*	T7	CH	3	N	*	*	*	*	*	
14/07/2016	AC	Transect	15:10	15:52	*	*	T7	SL	6	N	*	*	*	*	*	
14/07/2016	AC	Transect	15:10	15:52	*	*	T7	HC	2	N	*	*	*	*	*	
14/07/2016	AC	Transect	15:10	15:52	*	*	T7	LR	1	N	*	*	*	*	*	
14/07/2016	AC	Transect	15:10	15:52	*	*	T7	JD	4	N	*	*	*	*	*	
14/07/2016	AC	Transect	15:10	15:52	*	*	T7	MP	3	N	*	*	*	*	*	
14/07/2016	AC	Transect	15:10	15:52	*	*	T7	LB	1	Y	*	*	6	150	4	LB flying W, S of transect. Outside site boundary.
15/07/2016	AC	Transect	11:35	12:14	*	*	T12	MP	1	N	*	*	*	*	*	Alternative route due to bog being very wet.
15/07/2016	AC	Transect	11:35	12:14	*	*	T12	B.	1	N	*	*	*	*	*	Alternative route due to bog being very wet.
15/07/2016	AC	Transect	11:35	12:14	*	*	T12	SL	7	N	*	*	*	*	*	Alternative route due to bog being very wet.
15/07/2016	AC	Transect	11:35	12:14	*	*	T12	WR	2	N	*	*	*	*	*	Alternative route due to bog being very wet.
15/07/2016	AC	Transect	11:35	12:14	*	*	T12	D.	1	N	*	*	*	*	*	Alternative route due to bog being very wet.
15/07/2016	AC	Transect	11:35	12:14	*	*	T12	HC	2	N	*	*	*	*	*	Alternative route due to bog being very wet.
15/07/2016	AC	Transect	11:35	12:14	*	*	T12	MA	1	N	*	*	*	*	*	Alternative route due to bog being very wet.
15/07/2016	AC	Transect	11:35	12:14	*	*	T12	MG	2	N	*	*	*	*	*	Alternative route due to bog being very wet.
15/07/2016	AC	Transect	11:35	12:14	*	*	T12	CH	2	N	*	*	*	*	*	Alternative route due to bog being very wet.
15/07/2016	AC	Transect	11:35	12:14	*	*	T12	WP	2	N	*	*	*	*	*	Alternative route due to bog being very wet.
15/07/2016	AC	Transect	15:20	15:57	*	*	T9	SL	11	N	*	*	*	*	*	
15/07/2016	AC	Transect	15:20	15:57	*	*	T9	MP	3	N	*	*	*	*	*	
15/07/2016	AC	Transect	12:30	13:14	*	*	T11	SL	7	N	*	*	*	*	*	
15/07/2016	AC	Transect	12:30	13:14	*	*	T11	CH	1	N	*	*	*	*	*	
15/07/2016	AC	Transect	12:30	13:14	*	*	T11	D.	1	N	*	*	*	*	*	
15/07/2016	AC	Transect	12:30	13:14	*	*	T11	MP	2	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
15/07/2016	AC	Transect	12:30	13:14	*	*	T11	WW	3	N	*	*	*	*	*	
15/07/2016	AC	Transect	12:30	13:14	*	*	T11	RB	1	N	*	*	*	*	*	
15/07/2016	AC	Transect	12:30	13:14	*	*	T11	SI	1	N	*	*	*	*	*	
15/07/2016	AC	Transect	12:30	13:14	*	*	T11	HC	2	N	*	*	*	*	*	
15/07/2016	AC	Transect	12:30	13:14	*	*	T11	WP	2	N	*	*	*	*	*	
15/07/2016	AC	Transect	12:30	13:14	*	*	T11	B.	2	N	*	*	*	*	*	
15/07/2016	AC	Transect	13:45	14:12	*	*	T21	WR	1	N	*	*	*	*	*	
15/07/2016	AC	Transect	13:45	14:12	*	*	T21	R.	1	N	*	*	*	*	*	
15/07/2016	AC	Transect	13:45	14:12	*	*	T21	GC	1	N	*	*	*	*	*	
15/07/2016	AC	Transect	13:45	14:12	*	*	T21	B.	2	N	*	*	*	*	*	
15/07/2016	AC	Transect	13:45	14:12	*	*	T21	LR	5	N	*	*	*	*	*	
15/07/2016	AC	Transect	13:45	14:12	*	*	T21	WP	2	N	*	*	*	*	*	
15/07/2016	AC	Transect	13:45	14:12	*	*	T21	RB	1	N	*	*	*	*	*	
15/07/2016	AC	Transect	13:45	14:12	*	*	T21	CH	2	N	*	*	*	*	*	
15/07/2016	AC	Transect	13:45	14:12	*	*	T21	HC	3	N	*	*	*	*	*	
15/07/2016	AC	Transect	13:45	14:12	*	*	T21	SC	1	N	*	*	*	*	*	
15/07/2016	AC	Transect	09:30	10:14	*	*	T10	CH	2	N	*	*	*	*	*	
15/07/2016	AC	Transect	09:30	10:14	*	*	T10	MP	3	N	*	*	*	*	*	
15/07/2016	AC	Transect	09:30	10:14	*	*	T10	WR	1	N	*	*	*	*	*	
15/07/2016	AC	Transect	09:30	10:14	*	*	T10	LR	2	N	*	*	*	*	*	
15/07/2016	AC	Transect	09:30	10:14	*	*	T10	RO	6	N	*	*	*	*	*	
15/07/2016	AC	Transect	09:30	10:14	*	*	T10	SL	3	N	*	*	*	*	*	
15/07/2016	AC	Transect	09:30	10:14	*	*	T10	RB	1	N	*	*	*	*	*	
15/07/2016	AC	Transect	09:30	10:14	*	*	T10	LB	2	Y	*	*	16	120	3	2LB flying E at 120m over bog. 300m N of transect.
15/07/2016	AC	Transect	10:30	11:02	*	*	T20	WR	1	N	*	*	*	*	*	
15/07/2016	AC	Transect	10:30	11:02	*	*	T20	D.	1	N	*	*	*	*	*	
15/07/2016	AC	Transect	10:30	11:02	*	*	T20	GC	1	N	*	*	*	*	*	
15/07/2016	AC	Transect	10:30	11:02	*	*	T20	CH	1	N	*	*	*	*	*	
15/07/2016	AC	Transect	10:30	11:02	*	*	T20	MP	2	N	*	*	*	*	*	
15/07/2016	AC	Transect	10:30	11:02	*	*	T20	SL	2	N	*	*	*	*	*	
15/07/2016	AC	Transect	10:30	11:02	*	*	T20	HC	1	N	*	*	*	*	*	
18/07/2016	AB	VP	16:00	19:00	3	Afternoon	VP7	R.	1	N	*	*	*	*	*	
18/07/2016	AB	VP	16:00	19:00	3	Afternoon	VP7	WW	1	N	*	*	*	*	*	
18/07/2016	AB	VP	16:00	19:00	3	Afternoon	VP7	BC	1	N	*	*	*	*	*	
18/07/2016	AB	VP	16:00	19:00	3	Afternoon	VP7	LR	1	N	*	*	*	*	*	
18/07/2016	AB	VP	16:00	19:00	3	Afternoon	VP7	S.	1	N	*	*	*	*	*	
18/07/2016	AB	VP	16:00	19:00	3	Afternoon	VP7	LI	1	N	*	*	*	*	*	
18/07/2016	AB	VP	16:00	19:00	3	Afternoon	VP7	MP	1	N	*	*	*	*	*	
18/07/2016	AB	VP	16:00	19:00	3	Afternoon	VP7	SL	1	N	*	*	*	*	*	
18/07/2016	AB	VP	16:00	19:00	3	Afternoon	VP7	B.	1	N	*	*	*	*	*	
18/07/2016	AB	VP	16:00	19:00	3	Afternoon	VP7	WP	1	N	*	*	*	*	*	
18/07/2016	AB	VP	16:00	19:00	3	Afternoon	VP7	PH	1	N	*	*	*	*	*	
18/07/2016	AB	VP	16:00	19:00	3	Afternoon	VP7	BZ	1	Y	18:33	18:33	25	100	3	BZ circling, then flew E.
18/07/2016	AB	VP	20:10	23:10	3	Dusk	VP10	SL	18	N	*	*	*	*	*	
18/07/2016	AB	VP	20:10	23:10	3	Dusk	VP10	MH	1	N	*	*	*	*	*	
18/07/2016	AB	VP	20:10	23:10	3	Dusk	VP10	PH	1	N	*	*	*	*	*	



Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
18/07/2016	AB	VP	20:10	23:10	3	Dusk	VP10	LR	flock	N	*	*	*	*	*	
18/07/2016	AB	VP	20:10	23:10	3	Dusk	VP10	R.	1	N	*	*	*	*	*	
18/07/2016	AB	VP	20:10	23:10	3	Dusk	VP10	MG	1	N	*	*	*	*	*	
18/07/2016	AB	VP	20:10	23:10	3	Dusk	VP10	CU	56	N	*	*	*	*	*	Total number of CU in area incl. flights to follow from within VP.
18/07/2016	AB	VP	20:10	23:10	3	Dusk	VP10	MA	1	Y	20:30	20:30	10	10-0	1	MA (female) flew in a S direction to land in flooded area beside CU.
18/07/2016	AB	VP	20:10	23:10	3	Dusk	VP10	CM	1	Y	20:50	20:50	19	25	2	CM flew W @25m (direct flight).
18/07/2016	AB	VP	20:10	23:10	3	Dusk	VP10	LB	1	Y	20:55	20:55	7	0-12	1	LB flew in a W direction after ascending from flooded area and rose to c.12m.
18/07/2016	AB	VP	20:10	23:10	3	Dusk	VP10	CU	2	Y	21:10	21:12	120	0-10	1	2CU flew W, took off from flooded area, then circled back at 10m.
18/07/2016	AB	VP	20:10	23:10	3	Dusk	VP10	CU	3	Y	21:00	21:12	120	10	1	3CU flew E and landed beside the others
18/07/2016	AB	VP	20:10	23:10	3	Dusk	VP10	CU	54	Y	21:20	21:24	240	10	1	54CU flew E@10m, circled back and landed.
18/07/2016	AB	VP	20:10	23:10	3	Dusk	VP10	CU	6	Y	21:22	21:26	240	10	1	6CU flew W back to original flooded area.
18/07/2016	AB	VP	20:10	23:10	3	Dusk	VP10	CU	1	Y	21:23	21:24	60	70	3	1CU flew E. Takes off from flooded area, increasing altitude to 70m.
18/07/2016	AB	VP	20:10	23:10	3	Dusk	VP10	CU	1	Y	21:25	21:25	11	50	3	1CU flew S and landed with others.
18/07/2016	AB	VP	20:10	23:10	3	Dusk	VP10	LB	1	Y	21:47	21:47	13	50	3	LB flew E @50m (direct flight).
18/07/2016	AB	VP	20:10	23:10	3	Dusk	VP10	K.	1	Y	22:06	22:08	120	90-120	3	K. flies N @90m, hunting hover up to 120m, then flew back S.
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	SW	1	N	*	*	*	*	*	
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	RB	1	N	*	*	*	*	*	
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	SN	1	N	*	*	*	*	*	
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	GO	1	N	*	*	*	*	*	
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	MP	1	N	*	*	*	*	*	
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	ST	1	N	*	*	*	*	*	
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LR	1	N	*	*	*	*	*	
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	BC	1	N	*	*	*	*	*	
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	2	Y	16:30	16:40	180	100	3	2LB circling N of VP1 moving N.
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	SH	1	Y	16:40	16:50	360	300	4	SH circling high over VP1, moved South, then E. High up. Hard to observe.
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	1	Y	16:40	16:50	300	400	4	LB also v. high, circling in more or less the same airspace.
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	4	Y	16:55	17:00	60	30	2	4LB in stream flying SW, joining river corridor.
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	1	Y	17:05	17:10	150	30	2	LB from S of VP1, flew N passing VP1 and on E.
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	2	Y	17:05	17:10	60	30	2	2LB join the above, and then fly back to river and fly N.
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	GB	1	Y	17:10	17:15	60	20	2	GB flying W.
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	1	Y	17:30	17:35	60	20	2	LB flew N-S, and onward out of view

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	1	Y	17:50	17:55	30	10	1	LB flew upstream over river
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	1	Y	18:05	18:10	120	40	3	LB from SE of VP1 flew SW/S passing 1km to Sof VP1, then onward off map.
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	3	Y	18:25	18:30	60	30-40	2	3LB flying individually NE-SW, passing mostly >1km to S of VP1, mostly offmap
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	1	Y	18:30	18:35	120	30	2	LB flying E-W, passing 700m S of VP1
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	2	Y	18:45	18:50	100	40	3	2LB following instream, flew SW-NE about 1km S of VP1.
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	3	Y	18:45	18:50	120	31-40	2	3LB following instream, flew NE-SW about 800m S of VP1.
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	5	Y	19:00	19:05	120	20-30	2	5LB inline flew NE-SW >1km S of VP1
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	*	Y	19:05	19:10	*	30-40	2	LB now in continuous flow mainly NE to SW, also moving opp direction to S off map.
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	4	Y	19:05	19:10	120	30	2	4LB in stream flying NE to SW, 800m-1km to S of VP1
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	2	Y	19:10	19:15	*	20	2	2LB fly SW.
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	2	Y	19:10	19:15	*	40	3	2LB fly SW.
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	3	Y	19:20	19:30	600	80-100	3	3LB
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	2	Y	19:20	19:30	600	40	3	2LB SW
18/07/2016	ND	VP	16:30	19:30	3	Afternoon	VP1	LB	4	Y	19:20	19:30	600	40	3	SW-NE >1km offmap.
18/07/2016	ND	VP	20:00	23:00	3	Dusk	VP2	CU	*	N	*	*	*	*	*	CU heard at time of arrival, c.500m to SSW of VP2. Not seen calling.
18/07/2016	ND	VP	20:00	23:00	3	Dusk	VP2	H.	1	Y	20:00	20:05	60	10-20	1	H. disturbed a short distance above VP2 rail bridge in reed swamp along river margin, flew SW over river, downstream around bend and out of view.
18/07/2016	ND	VP	20:00	23:00	3	Dusk	VP2	LB	*	Y	20:10	20:45	*	20-30	2	Occ LB (singly or in two or threes) flying over river from NE, more or less S and leaving river corridor.
18/07/2016	ND	VP	20:00	23:00	3	Dusk	VP2	BH	*	Y	20:10	20:45	*	20-30	2	Occ BH (singly or in two or threes) flying over river from NE, more or less S and leaving river corridor.
18/07/2016	ND	VP	20:00	23:00	3	Dusk	VP2	LB	2	Y	20:20	20:25	180	20	2	2LB flew downstream and onwards over river.
18/07/2016	ND	VP	20:00	23:00	3	Dusk	VP2	LB	1	Y	20:35	20:40	180	20	2	2LB flew downstream and onwards over river.
18/07/2016	ND	VP	20:00	23:00	3	Dusk	VP2	LB	1	Y	20:50	20:55	180	20	2	2LB flew downstream and onwards over river.
18/07/2016	ND	VP	20:00	23:00	3	Dusk	VP2	LB	1	Y	21:10	21:15	100	30	2	LB flew SW down the river
18/07/2016	ND	VP	20:00	23:00	3	Dusk	VP2	LB	1	Y	21:25	21:30	120	20	2	LB flew SW down the river
18/07/2016	ND	VP	20:00	23:00	3	Dusk	VP2	LB	1	Y	21:50	21:55	120	10	1	LB flew SW down the river
18/07/2016	ND	VP	20:00	23:00	3	Dusk	VP2	WA	4	N	*	*	*	*	*	Audible, territorial song
18/07/2016	ND	VP	20:00	23:00	3	Dusk	VP2	LB	1	Y	22:20	22:25	60	10	1	LB flew downstream from above bridge to SW
18/07/2016	ND	VP	20:00	23:00	3	Dusk	VP2	MA	1	Y	22:25	22:30	40	20-30	2	MA flew over riparian wetland SW-NE,

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																towards VP2, turned NW, flew inland in arc.
18/07/2016	JC	VP	17:00	20:00	3	Day	VP8	BZ	1	Y	17:45	17:45	45	200	*	1BZ circling south of road at 200m for 45 sec
18/07/2016	JC	VP	17:00	20:00	3	Day	VP8	LB	1	Y	19:25	19:25	60	100	*	1LB flew NW over bog at 100m for 60 sec
18/07/2016	JC	VP	17:00	20:00	3	Day	VP8	LI	2	N	*	*	*	*	*	*
18/07/2016	JC	VP	17:00	20:00	3	Day	VP8	MP	3	N	*	*	*	*	*	*
18/07/2016	JC	VP	17:00	20:00	3	Day	VP8	SL	10	N	*	*	*	*	*	*
18/07/2016	JC	VP	17:00	20:00	3	Day	VP8	GO	2	N	*	*	*	*	*	*
18/07/2016	JC	VP	17:00	20:00	3	Day	VP8	BC	2	N	*	*	*	*	*	*
18/07/2016	JC	VP	17:00	20:00	3	Day	VP8	CH	1	N	*	*	*	*	*	*
18/07/2016	JC	VP	17:00	20:00	3	Day	VP8	YH	1	N	*	*	*	*	*	*
18/07/2016	JC	VP	17:00	20:00	3	Day	VP8	LB	19	Y	19:40	19:42	120	50-80	*	19LB flew NW over bog at 50-80m for 120 sec
18/07/2016	JC	VP	20:15	23:15	3	Dusk	VP5	LB	2	Y	20:20	20:20	60	150	*	2LB flew west at 150m for 60 sec
18/07/2016	JC	VP	20:15	23:15	3	Dusk	VP5	LB	1	Y	20:50	20:50	30	100	*	1LB flew WSW at 100m for 30sec
18/07/2016	JC	VP	20:15	23:15	3	Dusk	VP5	LB	1	Y	21:03	21:04	30	100	*	1LB flew NE out of conifers at 30m for 60sec
19/07/2016	JC	VP	08:45	13:30	3	Day	VP8	GB	3	Y	09:09	09:11	120	200	*	3GB circling over bog/ woodland to north at 200m for 120 sec
19/07/2016	JC	VP	08:45	13:30	3	Day	VP8	BZ	1	Y	09:40	09:41	60	80	*	1BZ circling over bog at 80m for 60 sec
19/07/2016	JC	VP	08:45	13:30	3	Day	VP8	LB	2	Y	12:10	12:12	120	200	*	2LB circling over bog/ wood to north at 200m for 120 sec
19/07/2016	JC	VP	08:45	13:30	3	Day	VP8	K.	2	Y	13:00	13:01	60	30	*	2K (male) circling over trees to east at 30m for 60 sec
19/07/2016	JC	VP	13:45	16:45	3	Day	VP6	LB	2	Y	14:30	14:31	60	50	*	2LB flew west/ south west at 50m for 60 sec
19/07/2016	JC	VP	13:45	16:45	3	Day	VP6	RN	1	Y	15:30	15:30	15	20	*	1RN flew west at 20m for 15sec, out of view but still audible
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	CU	45	N	*	*	*	*	*	Total count over survey
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	MA	18	N	*	*	*	*	*	
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	LB	2	N	*	*	*	*	*	
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	SL	1	N	*	*	*	*	*	
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	RN	1	N	*	*	*	*	*	
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	WW	1	N	*	*	*	*	*	
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	R.	1	N	*	*	*	*	*	
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	MH	1	N	*	*	*	*	*	
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	LR	1	N	*	*	*	*	*	
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	BF	1	N	*	*	*	*	*	
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	B.	1	N	*	*	*	*	*	
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	WR	1	N	*	*	*	*	*	
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	RO	1	N	*	*	*	*	*	
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	WP	1	N	*	*	*	*	*	
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	MG	1	N	*	*	*	*	*	
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	LB	1	Y	04:55	04:55	20	110	3	LB rose from flooded area, circled to 110m then flew E.

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	CU	6	Y	04:55	04:55	13	25	2	6CU rose from flooded area and flew NE @25m.
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	CU	29	Y	05:08	05:09	60	140	4	29CU fly NE. ascend from bnog at 25m, gain altitude rapidly at site boundary increasing to 140m.
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	CU	10	Y	05:08	05:09	60	20-25	2	10CU take off with group but branch off E and land somewhere behind forestry (Audible for a while).
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	MA	4	Y	05:17	05:17	22	30	2	4MA lift from lake and fly NE at 30m.
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	LB	7	Y	05:20	05:20	7	75	3	7LB circle at 75m, then fly W.
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	MA	2	Y	05:31	05:31	6	40	3	2MA fly W @40m after ascending from flood.
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	MA	7	Y	05:31	05:31	11	65	3	7MA ascend from flood, circle and then fly NE @65m.
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	MA	4	Y	05:40	05:40	7	10	1	4MA ascend from flood flying N, circle around W and land in bog.
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	LB	1	Y	05:45	05:46	60	70	3	LB flies SSE @70m (Direct Flight).
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	CA	3	Y	06:14	06:14	9	90	3	3CA fly NE at 90m.
19/07/2016	AB	VP	04:25	07:25	3	Dawn	VP10	LB	1	Y	07:09	07:09	7	6	1	LB flies E along the roadway at 6m.
19/07/2016	ND	VP	15:00	18:00	3	Day	VP2	LB	1	Y	15:10	15:15	60	30	2	LB flew from NE, near river corridor (downstream) veering inland to S.
19/07/2016	ND	VP	15:00	18:00	3	Day	VP2	LB	3	Y	15:15	15:20	180	56-100	3	3LB flew high from NE, slow and rising on thermals, indirect flight individually circling or turning, net movement to SW/S until out of view beyond tree cover screening.
19/07/2016	ND	VP	15:00	18:00	3	Day	VP2	LB	4	Y	15:20	15:25	60	30-40	2	4LB, individually, flew from S-N/NE, E of river Shannon.
19/07/2016	ND	VP	15:00	18:00	3	Day	VP2	H.	2	Y	15:25	15:30	120	5-15	1	2H. Seen flying over river, upstream to NE, low over water then turned westward making 180' turn, so flew SW ascending, then descended again to land in wetland swamp-fen habitat.
19/07/2016	ND	VP	15:00	18:00	3	Day	VP2	LB	1	Y	16:35	16:40	60	20-30	2	LB flew downstream from island, over S side of river, veering off S at bridge
19/07/2016	ND	VP	15:00	18:00	3	Day	VP2	LB	1	Y	16:50	16:55	150	20	1	LB flew downstream along E bankside. Then soaring.
19/07/2016	ND	VP	15:00	18:00	3	Day	VP2	LB	2	Y	16:50	16:55	*	50-100	3	2LB from S, flew to island and northward, flew N at corner, off river into reed swamp.
19/07/2016	ND	VP	15:00	18:00	3	Day	VP2	LB	1	Y	16:55	17:00	100	20	1	LB flew S over bridge, along E side, flew SW over trees out of view.
19/07/2016	ND	VP	15:00	18:00	3	Day	VP2	LB	1	Y	17:10	17:15	60	30	2	LB flew downstream, turned E, circling around to NNE. Again.
19/07/2016	ND	VP	15:00	18:00	3	Day	VP2	CA	2	Y	17:30	17:35	60	40	3	2CA flew N-S over VP2.
19/07/2016	ND	VP	15:00	18:00	3	Day	VP2	LB	2	Y	17:35	17:40	240	20-30	2	2LB flew upstream, one from SW, other from S of VP, flew NE.
19/07/2016	ND	VP	15:00	18:00	3	Day	VP2	BH	2	Y	17:45	17:50	120	40	3	2BH flew SW- NE

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
19/07/2016	ND	VP	15:00	18:00	3	Day	VP2	LB	2	Y	17:50	17:55	60	20	2	2LB flew N-S, crossing over river, continued S over treetops out of view.
19/07/2016	ND	VP	20:30	23:30	3	Dusk	VP1	WP	1	N	*	*	*	*	*	
19/07/2016	ND	VP	15:00	18:00	3	Dusk	VP1	GO	1	N	*	*	*	*	*	
19/07/2016	ND	VP	15:00	18:00	3	Dusk	VP1	SW	1	N	*	*	*	*	*	
19/07/2016	ND	VP	15:00	18:00	3	Dusk	VP1	RB	1	N	*	*	*	*	*	
19/07/2016	ND	VP	15:00	18:00	3	Dusk	VP1	HC	1	N	*	*	*	*	*	
19/07/2016	ND	VP	15:00	18:00	3	Dusk	VP1	CU	1	N	*	*	*	*	*	Calling >300m to S.
19/07/2016	ND	VP	15:00	18:00	3	Dusk	VP1	LB	1	Y	20:35	20:40	120	30	2	LB flew NE-SW, 1km to S of VP1- continued off map to SW.
19/07/2016	ND	VP	15:00	18:00	3	Dusk	VP1	BH	11	Y	20:50	20:55	30	5-10	1	11BH flying downstream at bend, low over river.
19/07/2016	ND	VP	15:00	18:00	3	Dusk	VP1	H.	1	Y	20:55	21:00	120	40-30	2	H. flew S-N, W side of Shannon
19/07/2016	ND	VP	15:00	18:00	3	Dusk	VP1	ET	8	Y	21:15	21:20	100	20	1	8ET flew from E to river and upstream north over river.
19/07/2016	ND	VP	20:30	23:30	3	Dusk	VP1	LB	1	Y	21:20	21:25	*	20	1	LB over river, flew S from bend.
19/07/2016	ND	VP	15:00	18:00	3	Dusk	VP1	LB	3	Y	21:20	21:25	*	30	2	3LB fly SSW
19/07/2016	ND	VP	15:00	18:00	3	Dusk	VP1	LB	1	Y	21:20	21:25	*	30	2	LB from N of VP1, flew S,SSE.
19/07/2016	ND	VP	15:00	18:00	3	Dusk	VP1	LB	3	Y	21:25	21:30	180	20	1	3LB fly SW, turning S below bend in river and continuing off map to >2km south.
19/07/2016	ND	VP	15:00	18:00	3	Dusk	VP1	LB	3	Y	21:30	21:35	180	30	2	3LB fly SW below river.
19/07/2016	ND	VP	15:00	18:00	3	Dusk	VP1	LB	1	Y	21:35	21:40	180	30	2	LB flew S/SW
19/07/2016	ND	VP	15:00	18:00	3	Dusk	VP1	LB	3	Y	21:40	21:45	*	20-30	2	3LB flew NE-SW.
19/07/2016	ND	VP	15:00	18:00	3	Dusk	VP1	LB	2	Y	21:45	21:50	*	10	1	2LB travelling downstream
19/07/2016	ND	VP	15:00	18:00	3	Dusk	VP1	LB	1	Y	21:45	21:50	*	20	1	LB fly SW below river.
19/07/2016	ND	VP	15:00	18:00	3	Dusk	VP1	SN	3	N	22:15	22:30	*	*	*	SN chipping to SE, SW and NW.
19/07/2016	JC	VP	13:45	16:45	3	Day	VP6	K.	1	Y	14:31	14:31	60	200	*	1 K hunting flight over bog at 200m for 60 sec. 1 K (probably same) flew west along field boundary at 30m for 30 sec. Same Bird
19/07/2016	JC	VP	13:45	16:45	3	Day	VP6	K.	1	Y	14:31	14:31	30	30	*	1 K hunting flight over bog at 200m for 60 sec. 1 K (probably same) flew west along field boundary at 30m for 30 sec. Same Bird
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	PW	1	N	*	*	*	*	*	
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	SL	7	N	*	*	*	*	*	
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LI	17	N	*	*	*	*	*	
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	SN	1	N	*	*	*	*	*	
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	23	Y	20:05	20:10	300	60-80	3	23LB fly SW undulating flight.
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	1	Y	20:13	20:13	*	8-10	1	LB flies E, turning NE @8-10m.
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	54	Y	20:13	20:13	60	70	3	54LB fly SW @70m.
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	1	Y	20:22	20:22	19	90	3	SW direct flight
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	16	Y	20:30	20:31	*	16-20	1	16LB fly SW undulating flight
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	2	Y	20:30	20:31	11	10	1	2LB fly NE
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	4	Y	20:49	20:50	60	100	3	4LB fly S, turning SW
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	27	Y	20:49	20:50	30	15-20	1	27LB fly SW @ various heights.

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	3	Y	20:49	20:50	30	5-10	1	3LB fly NE @5-10m.
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	8	Y	21:00	21:01	60	9-10	1	8LB circle on edge of bog behind willow.
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	123	Y	21:19	21:20	60	15	1	123LB fly SW, circle around and descend nto bog.
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	30	Y	21:20	21:25	300	0-5	1	Some take off gradually over the next 5mins @0-5m SW.
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	2	Y	21:30	21:30	20	10	1	2LB fly SSE @10m and land on bog with others.
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	7	Y	22:17	22:17	30	0-5	1	7LB take off from bog and fly SW
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	50	Y	22:25	22:25	25	0-5	1	50LB take off from bog and follow others SW
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	37	Y	22:25	22:25	20	0-5	1	37LB ascend from bog and fly SW, with remaining gulls following after.
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	1	Y	20:13	20:13	10	30	2	LB flies SW @30m, drops altitude to 8m, does a tight loop and continues SW. Same Bird
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	1	Y	20:13	20:13	7	8	1	LB flies SW @30m, drops altitude to 8m, does a tight loop and continues SW. Same Bird
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	23	Y	20:22	20:22	10	50	3	23LB fly SW @50m, dropping to 25m. Same Bird
21/07/2016	AB	VP	20:00	23:00	3	Dusk	VP7	LB	23	Y	20:22	20:22	9	25	2	23LB fly SW @50m, dropping to 25m. Same Bird
22/07/2016	AB	VP	04:00	07:00	3	Dawn	VP11	LR	1	N	*	*	*	*	*	
22/07/2016	AB	VP	04:00	07:00	3	Dawn	VP11	R.	1	N	*	*	*	*	*	
22/07/2016	AB	VP	04:00	07:00	3	Dawn	VP11	HC	1	N	*	*	*	*	*	
22/07/2016	AB	VP	04:00	07:00	3	Dawn	VP11	B.	1	N	*	*	*	*	*	
22/07/2016	AB	VP	04:00	07:00	3	Dawn	VP11	WP	1	N	*	*	*	*	*	
22/07/2016	AB	VP	04:00	07:00	3	Dawn	VP11	PH	1	N	*	*	*	*	*	
22/07/2016	AB	VP	04:00	07:00	3	Dawn	VP11	WW	1	N	*	*	*	*	*	
22/07/2016	AB	VP	04:00	07:00	3	Dawn	VP11	LE	1	Y	04:25	04:25	5	1.5	1	LE flew W over car and glided down over bog out of view.
22/07/2016	AB	VP	04:00	07:00	3	Dawn	VP11	LB	2	Y	05:51	05:52	60	90	3	2LB fly in a E/SE direction @90m
22/07/2016	AB	VP	04:00	07:00	3	Dawn	VP11	LB	2	Y	06:33	06:33	23	100	3	2LB fly E @100m.
25/07/2016	JC	VP	16:55	19:55	3	Day	VP11	LB	1	Y	19:40	19:42	120	50	3	LB flew W to N of site, over trees
25/07/2016	JC	VP	20:00	23:00	3	Dusk	VP10	LB	1	Y	20:05	20:05	*	10	1	LB flew SE over bog, then across road @10m.
25/07/2016	JC	VP	20:00	23:00	3	Dusk	VP10	JD	106	Y	09:30	09:32	120	40	3	106 JD flew S over trees to E of bog @40m. Unclear if crossed rd or roosted in trees. Not audible for duration.
26/07/2016	JC	VP	04:00	07:00	3	Dawn	VP11	UnID Raptor	1	Y	05:30	05:35	60	40	3	UnID Raptor flew to bare tree and perched before continuing S towards forestry.
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	GC	1	N	*	*	*	*	*	
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	LR	1	N	*	*	*	*	*	
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	MG	2	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	SL	13	N	*	*	*	*	*	
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	RO	1	N	*	*	*	*	*	
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	HC	2	N	*	*	*	*	*	
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	LB	13	Y	11:00	11:01	60	40	3	13LB flew W over field/ hedgerow at 40m for 60s.
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	LB	2	Y	11:20	11:20	60	80	3	2LB flew W over bog at 80m for 60s.
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	LB	1	Y	11:22	11:23	60	100	3	1LB flew E/SE over bog.
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	LB	2	Y	11:30	11:30	60	200	4	2LB fly W
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	LB	1	Y	11:30	11:30	60	150	4	1LB fly W.
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	LB	2	Y	11:35	11:36	60	200	4	2LB S/SE
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	K.	1	Y	12:00	12:03	180	60-80	3	1K. Hunting
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	LB	4	Y	12:05	12:05	60	60	3	4LB N/NW
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	LB	1	Y	12:05	12:05	60	40	3	LB S/SE
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	K.	1	Y	12:10	12:10	60	80-100	3	K. back in view hunting, then flew behind bush out of view.
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	K.	1	Y	12:08	12:10	60	40	3	K. arrives again from W and hunts. Flys S out of sight behind trees. Same Bird
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	K.	1	Y	12:08	12:10	40	60	3	K. arrives again from W and hunts. Flys S out of sight behind trees. Same Bird
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	LB	2	Y	12:20	12:20	40	60	3	2LB circling just SW of VP, gradually drifting NW out of view. Same Bird
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	LB	2	Y	12:20	12:20	60	150	4	2LB circling just SW of VP, gradually drifting NW out of view. Same Bird
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	LB	5	Y	12:50	12:50	60	100	3	5LB flew W over hedge/ road.
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	LB	1	Y	13:20	13:20	60	40	3	1LB flew W over grass.
26/07/2016	JC	VP	11:00	14:00	3	Day	VP6	LB	1	Y	13:20	13:20	60	150	4	1LB flew W over bog.

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
03/08/2016	AB	VP	04:40	07:40	3	Dawn	VP1	R.	1	N	*	*	*	*	*	
03/08/2016	AB	VP	04:40	07:40	3	Dawn	VP1	LB	1	N	*	*	*	*	*	
03/08/2016	AB	VP	04:40	07:40	3	Dawn	VP1	B.	2	N	*	*	*	*	*	
03/08/2016	AB	VP	04:40	07:40	3	Dawn	VP1	WR	1	N	*	*	*	*	*	
03/08/2016	AB	VP	04:40	07:40	3	Dawn	VP1	RO	1	N	*	*	*	*	*	
03/08/2016	AB	VP	04:40	07:40	3	Dawn	VP1	WW	1	N	*	*	*	*	*	
03/08/2016	AB	VP	04:40	07:40	3	Dawn	VP1	PH	1	N	*	*	*	*	*	
03/08/2016	AB	VP	04:40	07:40	3	Dawn	VP1	SL	3	N	*	*	*	*	*	
03/08/2016	AB	VP	04:40	07:40	3	Dawn	VP1	MA	2	Y	06:10	06:10	6	5	1	2MA fly along river and land again
03/08/2016	AB	VP	04:40	07:40	3	Dawn	VP1	LB	1	Y	06:10	06:10	13	8-10	1	LB flying SW @8-10m struggling against wind.
03/08/2016	AB	VP	04:40	07:40	3	Dawn	VP1	MA	1	Y	07:15	07:15	7	5	1	MA flies N, turning W @5m for 7s, landing in river.
03/08/2016	AB	VP	11:30	14:30	3	Morning	VP2	MS	6	N	*	*	*	*	*	(2 adults and 4 Cygnets).
03/08/2016	AB	VP	11:30	14:30	3	Morning	VP2	CO	1	N	*	*	*	*	*	
03/08/2016	AB	VP	11:30	14:30	3	Morning	VP2	MP	1	N	*	*	*	*	*	
03/08/2016	AB	VP	11:30	14:30	3	Morning	VP2	SL	4	N	*	*	*	*	*	
03/08/2016	AB	VP	11:30	14:30	3	Morning	VP2	LB	1	Y	11:42	11:55	9	8	1	LB flies W struggling against wind and lands on bridge. Flew back NE. Same Bird
03/08/2016	AB	VP	11:30	14:30	3	Morning	VP2	LB	1	Y	11:42	11:55	*	12	1	LB flies W struggling against wind and lands on bridge. Flew back NE. Same Bird
03/08/2016	AB	VP	11:30	14:30	3	Morning	VP2	LB	1	Y	11:49	11:49	7	20	2	LB flies in a W direction, turning S over treeline.
03/08/2016	AB	VP	11:30	14:30	3	Morning	VP2	LB	1	Y	12:17	12:18	60	15	1	ILB flies SW/S @15m, battling winds, turns and flies N over field before heading E back up river.
03/08/2016	AB	VP	11:30	14:30	3	Morning	VP2	CA	1	Y	12:41	12:42	60	15	1	CA flies W turning S along river
03/08/2016	AB	VP	11:30	14:30	3	Morning	VP2	SH	1	Y	12:52	12:52	25	20	2	SH flies SW
03/08/2016	AB	VP	11:30	14:30	3	Morning	VP2	LB	1	Y	13:35	13:35	20	15	1	LB flies N, flies NW over field momentarily before continuing along river.
03/08/2016	AB	VP	11:30	14:30	3	Morning	VP2	LB	1	Y	13:51	13:51	8	16-18	1	LB flies N from over trees, circles back around again at 18m.
03/08/2016	AB	VP	11:30	14:30	3	Morning	VP2	CA	1	Y	14:27	14:27	12	15-20	1	CA flies W turning S along river @ 15m, increasing to 20m momentarily over railway bridge.
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	RO	3	N	*	*	*	*	*	
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	R.	1	N	*	*	*	*	*	
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	B.	1	N	*	*	*	*	*	
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	WR	2	N	*	*	*	*	*	
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	PH	1	N	*	*	*	*	*	
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	WW	1	N	*	*	*	*	*	



Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	GC	1	N	*	*	*	*	*	
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	Rookery	80	N	*	*	*	*	*	
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	CO	2	N	*	*	*	*	*	
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	H.	1	N	*	*	*	*	*	
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	MH	1	N	*	*	*	*	*	
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	MP	1	N	*	*	*	*	*	
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	H.	1	Y	05:20	05:20	6	8-20	1-2	H. First heard calling from treeline, then flies N @8m, ascending to 20m over bridge as it flies W, then turns S over treeline.
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	LB	2	Y	05:34	05:34	11	80	3	2LB fly NE over bridge following river
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	LB	1	Y	05:34	05:34	11	60	3	LB follows others NE @60m.
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	LB	1	Y	05:59	05:59	33	80	3	LB flies NE @80m, follows river on wandering flight before heading N.
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	ET	2	Y	05:59	05:59	13	70	3	2ET fly NE over bridge following river
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	LB	7	Y	06:21	06:21	22	70-80	3	7LB fly NE over bridge following river
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	LB	1	Y	06:31	06:31	6	85	3	LB flies NNE
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	ET	1	Y	06:42	06:42	7	60	3	ET flies NE over bridge following river
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	LB	2	Y	06:42	06:42	21	70	3	2LB fly SW
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	LB	1	Y	06:51	06:51	6	55	3	LB flies NE over bridge following river
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	LB	3	Y	07:02	07:02	9	40-50	3	3LB fly NE over bridge following river
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	ET	1	Y	07:02	07:02	4	5	1	ET flies N @5m and lands on bankside
04/08/2016	AB	VP	04:40	07:40	3	Dawn	VP2	CA	1	Y	07:36	07:36	37	90	3	CA flew NNE @90M (Direct Flight).
04/08/2016	AB	VP	13:00	16:00	3	Day	VP4	LR	6	N	*	*	*	*	*	
04/08/2016	AB	VP	13:00	16:00	3	Day	VP4	SL	1	N	*	*	*	*	*	
04/08/2016	AB	VP	13:00	16:00	3	Day	VP4	R.	1	N	*	*	*	*	*	
04/08/2016	AB	VP	13:00	16:00	3	Day	VP4	WW	1	N	*	*	*	*	*	
05/08/2016	AB	VP	04:40	07:40	3	Dawn	VP3	B.	1	N	*	*	*	*	*	
05/08/2016	AB	VP	04:40	07:40	3	Dawn	VP3	R.	1	N	*	*	*	*	*	
05/08/2016	AB	VP	04:40	07:40	3	Dawn	VP3	BC	1	N	*	*	*	*	*	
05/08/2016	AB	VP	04:40	07:40	3	Dawn	VP3	LR	1	N	*	*	*	*	*	
05/08/2016	AB	VP	04:40	07:40	3	Dawn	VP3	LI	1	N	*	*	*	*	*	
05/08/2016	AB	VP	04:40	07:40	3	Dawn	VP3	MG	1	N	*	*	*	*	*	
05/08/2016	AB	VP	04:40	07:40	3	Dawn	VP3	RO	1	N	*	*	*	*	*	
05/08/2016	AB	VP	04:40	07:40	3	Dawn	VP3	JD	1	N	*	*	*	*	*	
05/08/2016	AB	VP	04:40	07:40	3	Dawn	VP3	PH	1	N	*	*	*	*	*	
05/08/2016	AB	VP	04:40	07:40	3	Dawn	VP3	WP	1	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
05/08/2016	AB	VP	04:40	07:40	3	Dawn	VP3	LB	3	Y	05:26	05:26	6	120	3	3LB flew NE @120m (Direct Flight).
05/08/2016	AB	VP	04:40	07:40	3	Dawn	VP3	LB	27	Y	05:50	05:50	16	90	3	27LB fly E @90m. Flying side by side spanning about 30m.
05/08/2016	AB	VP	04:40	07:40	3	Dawn	VP3	LB	1	Y	06:37	06:37	37	90	3	LB flies SW @90m (Direct Flight).
05/08/2016	AB	VP	11:15	14:15	3	Day	VP1	SL	4	N	*	*	*	*	*	
05/08/2016	AB	VP	11:15	14:15	3	Day	VP1	HC	1	N	*	*	*	*	*	
05/08/2016	AB	VP	11:15	14:15	3	Day	VP1	R.	1	N	*	*	*	*	*	
05/08/2016	AB	VP	11:15	14:15	3	Day	VP1	CO	1	N	*	*	*	*	*	
05/08/2016	AB	VP	11:15	14:15	3	Day	VP1	K.	1	Y	12:38	12:38	6	80	3	K. flew S @80m. Direct Flight (Lost visual behind treeline).
05/08/2016	AB	VP	11:15	14:15	3	Day	VP1	ET	1	Y	12:46	12:46	9	50-10	3-1	ET flew NNW. Dropping gradually from 50m to 10m.
05/08/2016	AB	VP	11:15	14:15	3	Day	VP1	LB	1	Y	12:55	12:55	30	60-65	3	LB flew in a N direction.
05/08/2016	AB	VP	11:15	14:15	3	Day	VP1	LB	1	Y	13:16	13:16	8	30	2	LB flew E, turning N @30m
05/08/2016	AB	VP	11:15	14:15	3	Day	VP1	LB	1	Y	13:31	13:32	60	80	3	LB flew N, spirals over river before turning W.
05/08/2016	AB	VP	11:15	14:15	3	Day	VP1	LB	1	Y	13:31	13:32	23	70	3	LB flew W @70m (Direct Flight).
08/08/2016	AB	VP	19:30	22:30	3	Dusk	VP4	LR	6	N	*	*	*	*	*	
08/08/2016	AB	VP	19:30	22:30	3	Dusk	VP4	WR	1	N	*	*	*	*	*	
08/08/2016	AB	VP	19:30	22:30	3	Dusk	VP4	B.	1	N	*	*	*	*	*	
08/08/2016	AB	VP	19:30	22:30	3	Dusk	VP4	WW	1	N	*	*	*	*	*	
08/08/2016	AB	VP	19:30	22:30	3	Dusk	VP4	R.	1	N	*	*	*	*	*	
08/08/2016	AB	VP	19:30	22:30	3	Dusk	VP4	SL	1	N	*	*	*	*	*	
08/08/2016	AB	VP	19:30	22:30	3	Dusk	VP4	LB	3	Y	20:34	20:35	10	80	3	3LB fly S.
08/08/2016	AB	VP	19:30	22:30	3	Dusk	VP4	H.	1	Y	21:01	21:01	10	30	2	H. flies SSE @30m, circles around and lands behind trees.
08/08/2016	AB	VP	19:30	22:30	3	Dusk	VP4	MA	1	Y	21:28	21:28	13	60	3	MA flew SSE @60m, before turning W and losing sight behind trees.
08/08/2016	AB	VP	19:30	22:30	3	Dusk	VP4	MA	4	Y	21:47	21:48	60	10	1	4MA fly W @10m, turning SW.
08/08/2016	AB	VP	19:30	22:30	3	Dusk	VP4	MA	2	Y	21:47	21:48	60	10	1	2MA fly W @10m, turning N.
08/08/2016	AB	VP	19:30	22:30	3	Dusk	VP4	H.	1	Y	21:47	21:48	6	8	1	H. flies N @8m, turns SE
08/08/2016	AB	VP	19:30	22:30	3	Dusk	VP4	MA	2	Y	21:47	21:48	8	10	1	2MA fly N (from previous group of 4).
09/08/2016	AB	VP	04:50	07:50	3	Dawn	VP3	WW	1	N	*	*	*	*	*	
09/08/2016	AB	VP	04:50	07:50	3	Dawn	VP3	R.	1	N	*	*	*	*	*	
09/08/2016	AB	VP	04:50	07:50	3	Dawn	VP3	B.	1	N	*	*	*	*	*	
09/08/2016	AB	VP	04:50	07:50	3	Dawn	VP3	WR	2	N	*	*	*	*	*	
09/08/2016	AB	VP	04:50	07:50	3	Dawn	VP3	LR	3	N	*	*	*	*	*	
09/08/2016	AB	VP	04:50	07:50	3	Dawn	VP3	LI	1	N	*	*	*	*	*	
09/08/2016	AB	VP	04:50	07:50	3	Dawn	VP3	JD	1	N	*	*	*	*	*	
09/08/2016	AB	VP	04:50	07:50	3	Dawn	VP3	RO	1	N	*	*	*	*	*	
09/08/2016	AB	VP	04:50	07:50	3	Dawn	VP3	HC	1	N	*	*	*	*	*	
09/08/2016	AB	VP	04:50	07:50	3	Dawn	VP3	SL	5	N	*	*	*	*	*	
09/08/2016	AB	VP	04:50	07:50	3	Dawn	VP3	LB	1	N	*	*	*	*	*	
09/08/2016	AB	VP	04:50	07:50	3	Dawn	VP3	LB	1	Y	06:49	06:51	120	55-60	3	LB (Juv) flies in a W direction

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																@55-60m.
09/08/2016	AB	VP	04:50	07:50	3	Dawn	VP3	LB	2	Y	07:02	07:02	10	70	3	2LB fly W @70m.
09/08/2016	AB	VP	04:50	07:50	3	Dawn	VP3	LB	1	Y	07:11	07:11	7	70	3	LB flies SW @70m
09/08/2016	AB	VP	04:50	07:50	3	Dawn	VP3	LB	2	Y	07:29	07:31	120	15	1	2LB fly W @15m
09/08/2016	AB	VP	04:50	07:50	3	Dawn	VP3	LB	1	Y	07:29	07:31	10	20	1	1LB flies E @20m.
09/08/2016	AB	VP	11:00	14:00	3	Day	VP9	LR	1	N	*	*	*	*	*	
09/08/2016	AB	VP	11:00	14:00	3	Day	VP9	SL	2	N	*	*	*	*	*	
09/08/2016	AB	VP	11:00	14:00	3	Day	VP9	HM	1	N	*	*	*	*	*	
09/08/2016	AB	VP	11:00	14:00	3	Day	VP9	MG	1	N	*	*	*	*	*	
09/08/2016	AB	VP	11:00	14:00	3	Day	VP9	HC	1	N	*	*	*	*	*	
09/08/2016	AB	VP	11:00	14:00	3	Day	VP9	PW	1	N	*	*	*	*	*	
09/08/2016	AB	VP	11:00	14:00	3	Day	VP9	WP	2	N	*	*	*	*	*	
09/08/2016	AB	VP	11:00	14:00	3	Day	VP9	SH	1	Y	11:13	11:13	4	1	1	SH flies NE along roadway @1m
09/08/2016	AB	VP	11:00	14:00	3	Day	VP9	LB	1	Y	12:00	12:03	180	20	1	LB (Juv) flies in a SW direction @20m, wheeling in the winf before flying in a W direction over the trees.
09/08/2016	AB	VP	11:00	14:00	3	Day	VP9	LB	2	Y	13:40	13:53	180	110	3	Fly in a N direction with spiralling fashion in terms of height. Lose visual behind treeline. Same Bird
09/08/2016	AB	VP	11:00	14:00	3	Day	VP9	LB	2	Y	13:40	13:53	60	60	3	Fly in a N direction with spiralling fashion in terms of height. Lose visual behind treeline. Same Bird
09/08/2016	AB	VP	11:00	14:00	3	Day	VP9	LB	2	Y	13:40	13:53	150	35	2	Fly in a N direction with spiralling fashion in terms of height. Lose visual behind treeline. Same Bird
09/08/2016	AB	VP	11:00	14:00	3	Day	VP9	LB	2	Y	13:40	13:53	180	70	3	Fly in a N direction with spiralling fashion in terms of height. Lose visual behind treeline. Same Bird
09/08/2016	AB	VP	11:00	14:00	3	Day	VP9	LB	2	Y	13:40	13:53	60	40	3	Fly in a N direction with spiralling fashion in terms of height. Lose visual behind treeline. Same Bird
09/08/2016	AB	VP	11:00	14:00	3	Day	VP9	LB	2	Y	13:40	13:53	100	30	2	Fly in a N direction with spiralling fashion in terms of height. Lose visual behind treeline. Same Bird
09/08/2016	AB	VP	11:00	14:00	3	Day	VP9	LB	2	Y	13:40	13:53	150	15	1	Fly in a N direction with spiralling fashion in terms of height. Lose visual behind treeline. Same Bird
09/08/2016	AB	VP	11:00	14:00	3	Day	VP9	LB	2	Y	13:40	13:53	180	20	2	Fly in a N direction with spiralling fashion in terms of height. Lose visual behind treeline. Same Bird
09/08/2016	AB	VP	11:00	14:00	3	Day	VP9	LB	1	Y	14:00	14:00	50	10-15	1	LB flies in a W direction in a wandering flight.
11/08/2016	JC	VP	16:15	19:15	3	Day	VP9	*	*	*	*	*	*	*	*	No Target/ Secondary Species
11/08/2016	JC	VP	19:15	22:15	3	Dusk	VP8	LB	35	Y	19:45	19:46	60	80-100	3	35LB flew W @80-100m, approximately 100m north of road.
11/08/2016	JC	VP	19:15	22:15	3	Dusk	VP8	LB	5	Y	20:10	20:10	*	50-60	3	5LB flew W, approximately 30m

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																N of road.
11/08/2016	JC	VP	19:15	22:15	3	Dusk	VP8	HC	2	Y	20:40	20:41	60	20	2	2HC flew E/SE across bog, 10m N of road, then turned S and crossed road, continuing S out of sight.
11/08/2016	JC	VP	19:15	22:15	3	Dusk	VP8	LE	1	Y	21:35	21:40	180	2	1	1LE arrived on to bog N of road from east @,2m, landing 20m from road for 3mins before flying W, then S across the bog and disappearing in to scrub (<5m for 15s). Same Bird
11/08/2016	JC	VP	19:15	22:15	3	Dusk	VP8	LE	1	Y	21:35	21:40	15	5	1	1LE arrived on to bog N of road from east @,2m, landing 20m from road for 3mins before flying W, then S across the bog and disappearing in to scrub (<5m for 15s). Same Bird
15/08/2016	AB	VP	19:10	22:10	3	Dusk	VP10	HM	9	N	*	*	*	*	*	
15/08/2016	AB	VP	19:10	22:10	3	Dusk	VP10	SL	20	N	*	*	*	*	*	
15/08/2016	AB	VP	19:10	22:10	3	Dusk	VP10	MH	3	N	*	*	*	*	*	
15/08/2016	AB	VP	19:10	22:10	3	Dusk	VP10	CU	1	N	*	*	*	*	*	
15/08/2016	AB	VP	19:10	22:10	3	Dusk	VP10	LR	2	N	*	*	*	*	*	
15/08/2016	AB	VP	19:10	22:10	3	Dusk	VP10	CU	1	Y	20:45	20:45	17	10	1	CU took off from flood, rose to 10m as it flew E, circled and turned back around, landing again in the flood.
15/08/2016	AB	VP	19:10	22:10	3	Dusk	VP10	LB	1	Y	20:55	20:56	60	80	3	LB flew W @80m (Direct Flight).
15/08/2016	AB	VP	19:10	22:10	3	Dusk	VP10	CU	38	Y	21:07	21:07	7	15	1	38 CU flew S @15m and landed in flood.
15/08/2016	AB	VP	19:10	22:10	3	Dusk	VP10	MA	2	Y	21:14	21:14	4	8	1	2MA flew S @8m landing in the flood
15/08/2016	AB	VP	19:10	22:10	3	Dusk	VP10	CU	11	Y	21:21	21:21	6	12	1	11CU flew W over trees @12m, circling before landing on flood.
15/08/2016	AB	VP	19:10	22:10	3	Dusk	VP10	MA	7	Y	21:48	21:48	11	6	1	7MA flew E @6m, circling around and landing in flood.
16/08/2016	AB	VP	05:00	08:00	3	Dawn	VP11	SL	4	N	*	*	*	*	*	
16/08/2016	AB	VP	05:00	08:00	3	Dawn	VP11	WR	1	N	*	*	*	*	*	
16/08/2016	AB	VP	05:00	08:00	3	Dawn	VP11	B.	1	N	*	*	*	*	*	
16/08/2016	AB	VP	05:00	08:00	3	Dawn	VP11	LR	1	N	*	*	*	*	*	
16/08/2016	AB	VP	05:00	08:00	3	Dawn	VP11	WW	1	N	*	*	*	*	*	
16/08/2016	AB	VP	05:00	08:00	3	Dawn	VP11	WP	1	N	*	*	*	*	*	
16/08/2016	AB	VP	05:00	08:00	3	Dawn	VP11	HC	1	N	*	*	*	*	*	
16/08/2016	AB	VP	05:00	08:00	3	Dawn	VP11	LB	1	Y	06:56	06:58	100	12	1	LB (Juv) flew E @12m, increasing altitude to 15m briefly at end before visibility was lost due to low sun. Same Bird
16/08/2016	AB	VP	05:00	08:00	3	Dawn	VP11	LB	1	Y	06:56	06:58	20	15	1	LB (Juv) flew E @12m, increasing altitude to 15m briefly at end

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																before visibility was lost due to low sun. Same Bird
16/08/2016	AB	VP	19:05	22:05	3	Dusk	VP11	R.	1	N	*	*	*	*	*	
16/08/2016	AB	VP	19:05	22:05	3	Dusk	VP11	LR	1	N	*	*	*	*	*	
16/08/2016	AB	VP	19:05	22:05	3	Dusk	VP11	SL	6	N	*	*	*	*	*	
16/08/2016	AB	VP	19:05	22:05	3	Dusk	VP11	WW	1	N	*	*	*	*	*	
16/08/2016	AB	VP	19:05	22:05	3	Dusk	VP11	RO	1	N	*	*	*	*	*	
16/08/2016	AB	VP	19:05	22:05	3	Dusk	VP11	WR	1	N	*	*	*	*	*	
16/08/2016	AB	VP	19:05	22:05	3	Dusk	VP11	RN	5	Y	19:47	19:47	7	15	1	5RN flew W @15m (Lost sight due to sun).
16/08/2016	AAM	VP	10:00	13:00	3	Day	VP5	PH	1	N	*	*	*	*	*	
16/08/2016	AAM	VP	10:00	13:00	3	Day	VP5	GO	1	N	*	*	*	*	*	
16/08/2016	AAM	VP	10:00	13:00	3	Day	VP5	CH	1	N	*	*	*	*	*	
16/08/2016	AAM	VP	10:00	13:00	3	Day	VP5	B.	1	N	*	*	*	*	*	
16/08/2016	AAM	VP	10:00	13:00	3	Day	VP5	MP	4	Y	10:14	10:18	60	10-20	1	4MP flying over bog/scrub. Same Bird
16/08/2016	AAM	VP	10:00	13:00	3	Day	VP5	MP	4	Y	10:14	10:18	180	0-10	1	4MP flying over bog/scrub. Same Bird
16/08/2016	AAM	VP	10:00	13:00	3	Day	VP5	SL	6	Y	11:05	11:06	60	10	1	6SL flew over <10m
16/08/2016	AAM	VP	10:00	13:00	3	Day	VP5	HC	1	Y	11:35	11:37	120	20-30	2	HC flew NE-SW @20-30m.
16/08/2016	AAM	VP	10:00	13:00	3	Day	VP5	LB	1	Y	11:40	11:43	180	30-40	2	LB flew N-S (over offices)
16/08/2016	AAM	VP	10:00	13:00	3	Day	VP5	LB	5	Y	11:52	11:54	120	20-30	2	5LB flew N-SE
16/08/2016	AAM	VP	05:45	08:45	3	Dawn	VP6	WW	1	N	*	*	*	*	*	
16/08/2016	AAM	VP	05:45	08:45	3	Dawn	VP6	CH	1	N	*	*	*	*	*	
16/08/2016	AAM	VP	05:45	08:45	3	Dawn	VP6	R.	1	N	*	*	*	*	*	
16/08/2016	AAM	VP	05:45	08:45	3	Dawn	VP6	SL	4	Y	06:10	06:13	180	10-20	1	4SL flying <20m high- believed nesting over by Mountdillon offices.
16/08/2016	AAM	VP	05:45	08:45	3	Dawn	VP6	LB	2	Y	06:15	06:17	120	30-40	2	2LB flew NE-SW
16/08/2016	AAM	VP	05:45	08:45	3	Dawn	VP6	MP	1	Y	06:35	06:38	120	0-10	1	MP flying along field edges both sides of N63. Same Bird
16/08/2016	AAM	VP	05:45	08:45	3	Dawn	VP6	MP	1	Y	06:35	06:38	60	10-20	1	MP flying along field edges both sides of N63 Same Bird.
16/08/2016	AAM	VP	05:45	08:45	3	Dawn	VP6	LB	1	Y	06:45	06:47	120	30-40	2	LB flew E-W across bog.
16/08/2016	AAM	VP	05:45	08:45	3	Dawn	VP6	MP	3	Y	06:51	06:53	120	0-10	1	3MP flew E-W across bog. Same Bird
16/08/2016	AAM	VP	05:45	08:45	3	Dawn	VP6	MP	3	Y	06:51	06:53	60	10-20	1	3MP flew E-W across bog. Same Bird
16/08/2016	AAM	VP	05:45	08:45	3	Dawn	VP6	H.	1	Y	07:24	07:25	60	20-30	2	H. flew S-N
16/08/2016	AAM	VP	05:45	08:45	3	Dawn	VP6	BH	2	Y	08:34	08:40	240	20-30	2	2BH flew SW-N-NE. Same Bird
16/08/2016	AAM	VP	05:45	08:45	3	Dawn	VP6	BH	2	Y	08:34	08:40	120	30-40	2	2BH flew SW-N-NE. Same Bird
16/08/2016	AAM	VP	05:45	08:45	3	Dawn	VP6	BH	2	Y	08:41	08:42	60	20-30	2	2BH flew E-W above N63, then N towards VP5.
17/08/2016	AB	Hinterland	*	*	*	*	hVP1 Park Bridge	JD	16	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP1 Park Bridge	SL	3	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP1 Park Bridge	Corvids	74	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP2 Foygh Bridge	RO	4	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
17/08/2016	AB	Hinterland	*	*	*	*	hVP2 Foygh Bridge	WR	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP2 Foygh Bridge	LI	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP2 Foygh Bridge	SL	3	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP2 Foygh Bridge	RB	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP3 Lough Ree (near Saints Isl)	MA	20	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP3 Lough Ree (near Saints Isl)	LG	8	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP3 Lough Ree (near Saints Isl)	MH	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP3 Lough Ree (near Saints Isl)	SL	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP3 Lough Ree (near Saints Isl)	GG	10	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP3 Lough Ree (near Saints Isl)	HG	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP3 Lough Ree (near Saints Isl)	GO	20	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP3 Lough Ree (near Saints Isl)	SG	50	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP3 Lough Ree (near Saints Isl)	MP	2	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP3 Lough Ree (near Saints Isl)	PW	20	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP3 Lough Ree (near Saints Isl)	H.	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP3 Lough Ree (near Saints Isl)	ET	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP3 Lough Ree (near Saints Isl)	MS	19	N	*	*	*	*	*	16MS +3Cygnet
17/08/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	ET	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	CO	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	LG	2	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	CG	7	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	LB	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	B.	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	BT	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	SG	14	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	CH	1	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
17/08/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	MH	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	SM	26	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	MA	6	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	H.	3	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	SL	13	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	LI	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	SH	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP5 Incharmadermot Isl	MA	9	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP5 Incharmadermot Isl	GG	10	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP5 Incharmadermot Isl	MS	32	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP5 Incharmadermot Isl	SL	25	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP5 Incharmadermot Isl	L.	5	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP5 Incharmadermot Isl	MH	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP5 Incharmadermot Isl	LB	66	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP5 Incharmadermot Isl	CA	35	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP5 Incharmadermot Isl	H.	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP6 Curreen	MS	26	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP6 Curreen	LB	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP6 Curreen	MS	6	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP6 Curreen	BH	2	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP7 Lanesborough Br.	LG	4	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP7	GG	1	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
							Lanesborough Br.									
17/08/2016	AB	Hinterland	*	*	*	*	hVP7 Lanesborough Br.	SL	24	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP7 Lanesborough Br.	LB	2	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	MS	68	N	*	*	*	*	*	including 4 Cygnets
17/08/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	BH	3	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	LB	2	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	CO	2	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	MA	43	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	H.	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP9 Gardenstown	MS	4	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP9 Gardenstown	H.	2	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP9 Gardenstown	MA	8	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP9 Gardenstown	BH	22	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP9 Gardenstown	MS	7	N	*	*	*	*	*	2MS and 5 Cygnets (2 Fam)
17/08/2016	AB	Hinterland	*	*	*	*	hVP10 Cloonmustra	WW	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP10 Cloonmustra	BC	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP10 Cloonmustra	LB	1	N	*	*	*	*	*	Flight
17/08/2016	AB	Hinterland	*	*	*	*	hVP11 Erra & Derryhanee	*	*	*	*	*	*	*	*	No Bird Activity
17/08/2016	AB	Hinterland	*	*	*	*	hVP12 Derrycashe	MS	2	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP13 Feorish River	CH	2	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP13 Feorish River	BZ	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP13 Feorish River	RO	2	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP13 Feorish River	WW	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP13 Feorish River	LB	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP13 Feorish River	WR	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP13 Feorish River	R.	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP13 Feorish River	SL	2	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP13 Feorish River	B.	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP14 Tarmonbarry Bridge	SL	22	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP14	LB	1	N	*	*	*	*	*	



Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
							Tarmonbarry Bridge									
17/08/2016	AB	Hinterland	*	*	*	*	hVP14 Tarmonbarry Bridge	CA	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP15 Tarmonbarry lock	H.	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP15 Tarmonbarry lock	MS	2	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP15 Tarmonbarry lock	WW	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP15 Tarmonbarry lock	JD	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP15 Tarmonbarry lock	WP	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP15 Tarmonbarry lock	B.	1	N	*	*	*	*	*	Suggested for Wintering Bird Surveys
17/08/2016	AB	Hinterland	*	*	*	*	hVP16 Lough Forbes	*	*	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP17 N5 Bridge	MA	6	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP17 N5 Bridge	LB	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP17 N5 Bridge	SL	9	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP17 N5 Bridge	R.	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP17 N5 Bridge	WW	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP18 Fallan Bridge	*	*	*	*	*	*	*	*	No Bird Activity
17/08/2016	AB	Hinterland	*	*	*	*	hVP19 Richmond Bridge	WP	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP19 Richmond Bridge	SL	4	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP19 Richmond Bridge	LB	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP20 Cloondara	*	*	*	*	*	*	*	*	No Bird Activity
17/08/2016	AB	Hinterland	*	*	*	*	hVP21 Begnagh Bridge	*	*	*	*	*	*	*	*	No Bird Activity
17/08/2016	AB	Hinterland	*	*	*	*	hVP22 Aghnaskea Bridge	*	*	*	*	*	*	*	*	No Bird Activity
17/08/2016	AB	Hinterland	*	*	*	*	hVP 23 Lyneen Bridge	*	*	*	*	*	*	*	*	No Bird Activity
17/08/2016	AB	Hinterland	*	*	*	*	Canal Towpath between hVP23 and 24	SL	51	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	Canal Towpath between hVP23 and 24	JD	3	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	Canal Towpath between hVP23 and 24	RO	10	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
17/08/2016	AB	Hinterland	*	*	*	*	Canal Towpath between hVP23 and 24	R.	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP24 Coolnahinch Bridge	WP	5	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP24 Coolnahinch Bridge	JD	4	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP24 Coolnahinch Bridge	R.	2	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP24 Coolnahinch Bridge	SL	28	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP24 Coolnahinch Bridge	CH	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP24 Coolnahinch Bridge	LT	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP24 Coolnahinch Bridge	B.	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP24 Coolnahinch Bridge	CD	58	N	*	*	*	*	*	On telephone line on road adjacent
17/08/2016	AB	Hinterland	*	*	*	*	hVP24 Coolnahinch Bridge	SG	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP25 Island Bridge	SG	13	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP25 Island Bridge	RO	4	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP25 Island Bridge	HC	2	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP25 Island Bridge	R.	1	N	*	*	*	*	*	
17/08/2016	AB	Hinterland	*	*	*	*	hVP25 Island Bridge	WR	1	N	*	*	*	*	*	
18/08/2016	JC	VP	15:45	19:15	3	Day	VP5	PH	1	N	*	*	*	*	*	Half an hour break after Hr1 of survey
18/08/2016	JC	VP	15:45	19:15	3	Day	VP5	RN	1	Y	17:30	17:30	5	1	1	RN arrived to bog from S (<1m, 5sec), then flew E at 10m for 40s. Same Bird
18/08/2016	JC	VP	15:45	19:15	3	Day	VP5	RN	1	Y	17:30	17:30	40	10	1	RN arrived to bog from S (<1m, 5sec), then flew E at 10m for 40s. Same Bird
18/08/2016	JC	VP	19:15	22:15	3	Dusk	VP6	RO	15	Y	19:30	19:30	15	10	1	15RO flew E @10m for 15sec.
19/08/2016	JC	VP	05:15	08:15	3	Dawn	VP10	CU	*	N	05:35	08:15	*	*	*	Numerous CU audible from 05:35 for duration of survey.
19/08/2016	JC	VP	05:15	08:15	3	Dawn	VP10	RN	2	Y	07:30	07:30	20	5	1	2RN fly on to bog @5m for 20s, landing on bog.
31/08/2016	JC	VP	15:15	18:15	3	Day	VP6	BZ	1	Y	15:20	15:23	180	150-200	4	BZ circled 150-200m. Circled W before going out of view.
31/08/2016	JC	VP	15:15	18:15	3	Day	VP6	BZ	1	Y	15:26	*	*	40	3	BZ visible again @40m circling over trees

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
31/08/2016	JC	VP	15:15	18:15	3	Day	VP6	SL	9	N	*	*	*	*	*	
31/08/2016	JC	VP	15:15	18:15	3	Day	VP6	HC	1	Y	16:25	*	*	10	1	HC flew in @10m, landing on bog.
31/08/2016	JC	VP	15:15	18:15	3	Day	VP6	K.	1	Y	17:40	17:40	10	15	1	K. Hunting @15m. Drops out of view.
31/08/2016	JC	VP	15:15	18:15	3	Day	VP6	RO	1	Y	17:55	17:55	20	10	1	RO flew at 15m for 20s.
31/08/2016	JC	VP	18:30	21:30	3	Dusk	VP5	RN	1	Y	18:40	18:41	60	10	1	RN flew NE at 10m for 60s going out of view. Possibly carrying food.
31/08/2016	JC	VP	18:30	21:30	3	Dusk	VP5	RN	1	Y	18:45	18:46	60	13	1	RN flew SW across same path, likely same bird.
31/08/2016	JC	VP	18:30	21:30	3	Dusk	VP5	SL	18	Y	17:10	17:10	40	20	2	18SL hunting

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
01/09/2016	AAM	VP	06:15	09:15	3	Dawn	VP8	LB	1	Y	07:40	07:42	60	30-40	2	LB flew N-S-W over bog. Same Bird
01/09/2016	AAM	VP	06:15	09:15	3	Dawn	VP8	LB	1	Y	07:40	07:42	60	40-50	3	LB flew N-S-W over bog. Same Bird
01/09/2016	AAM	VP	06:15	09:15	3	Dawn	VP8	SL	4	Y	07:46	07:47	5	20-30	2	4SL flew from E and landed on wire along road before flying W. Same Bird
01/09/2016	AAM	VP	06:15	09:15	3	Dawn	VP8	SL	4	Y	07:46	07:47	55	10-20	1	4SL flew from E and landed on wire along road before flying W. Same Bird
01/09/2016	AAM	VP	10:00	13:00	3	Morning	VP6	Corvids	4	Y	10:20	10:22	60	30-40	2	4Crows flew from trees, across N63 and NW. Same Bird
01/09/2016	AAM	VP	10:00	13:00	3	Morning	VP6	Corvids	4	Y	10:20	10:22	60	40-50	3	4Crows flew from trees, across N63 and NW. Same Bird
01/09/2016	AB	VP	18:30	21:30	3	Dusk	VP1	MA	2	Y	20:22	20:23	40	60	3	2MA fly SSW @60m (40s), increasing altitude to 70m (10s) & flying to 80m (10s) turning W over conifers before turning SSW direction as they appear to follow route of river once again. Same Bird
01/09/2016	AB	VP	18:30	21:30	3	Dusk	VP1	MA	2	Y	20:22	20:23	10	70	3	2MA fly SSW @60m (40s), increasing altitude to 70m (10s) & flying to 80m (10s) turning W over conifers before turning SSW direction as they appear to follow route of river once again. Same Bird
01/09/2016	AB	VP	18:30	21:30	3	Dusk	VP1	MA	2	Y	20:22	20:23	10	80	3	2MA fly SSW @60m (40s), increasing altitude to 70m (10s) & flying to 80m (10s) turning W over conifers before turning SSW direction as they appear to follow route of river once again. Same Bird
01/09/2016	AAM	VP	06:15	09:15	3	Dawn	VP8	M	1	N	*	*	*	*	*	
01/09/2016	AAM	VP	06:15	09:15	3	Dawn	VP8	R.	1	N	*	*	*	*	*	
01/09/2016	AAM	VP	06:15	09:15	3	Dawn	VP8	GT	1	N	*	*	*	*	*	
01/09/2016	AAM	VP	06:15	09:15	3	Dawn	VP8	B.	1	N	*	*	*	*	*	
01/09/2016	AAM	VP	06:15	09:15	3	Dawn	VP8	PH	1	N	*	*	*	*	*	
01/09/2016	AAM	VP	06:15	09:15	3	Dawn	VP8	MP	*	Y	*	*	*	0-20	1	MP's flying throughout survey period (landing on bog/wires, veg).
01/09/2016	AAM	VP	06:15	09:15	3	Dawn	VP8	LB	2	Y	06:35	06:38	180	40-50	3	2LB flew E-W over bog
01/09/2016	AAM	VP	06:15	09:15	3	Dawn	VP8	LB	1	Y	07:05	07:06	60	30-40	2	LB flew NE-W over bog.
01/09/2016	AAM	VP	10:00	13:00	3	Morning	VP6	CH	1	N	*	*	*	*	*	
01/09/2016	AAM	VP	10:00	13:00	3	Morning	VP6	WW	1	N	*	*	*	*	*	
01/09/2016	AAM	VP	10:00	13:00	3	Morning	VP6	LB	1	Y	10:05	10:07	120	30-40	2	LB flew E-W (towards offices).
01/09/2016	AAM	VP	10:00	13:00	3	Morning	VP6	LB	2	Y	11:10	11:11	60	40-50	3	2LB flew E-W (towards offices).
01/09/2016	AAM	VP	10:00	13:00	3	Morning	VP6	LB	1	Y	11:43	11:44	60	40-50	3	1LB flew W-E
01/09/2016	AAM	VP	10:00	13:00	3	Morning	VP6	HC	1	Y	11:45	11:46	60	20-30	2	HC flew from pylon perch to W.
01/09/2016	AB	Hinterland	*	*	*	*	hVP7 Lanesborough Br.	MS	12	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
01/09/2016	AB	Hinterland	*	*	*	*	hVP7 Lanesborough Br.	MA	29	N	*	*	*	*	*	Escapes from Duck pen
01/09/2016	AB	Hinterland	*	*	*	*	hVP7 Lanesborough Br.	SL	3	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP7 Lanesborough Br.	MH	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP7 Lanesborough Br.	JD	4	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP7 Lanesborough Br.	RO	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP7 Lanesborough Br.	HC	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP7 Lanesborough Br.	LB	2	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	RO	5	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	HS	2	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	R.	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	MA	12	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	LG	6	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	GG	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	JD	30	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	LB	13	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	BH	3	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	CA	5	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	ET	4	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	MS	69	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP8 Cullaghy	CO	6	N	*	*	*	*	*	(Family)
01/09/2016	AB	Hinterland	*	*	*	*	hVP9 Inchamadermot Isl.	MS	9	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP9 Inchamadermot Isl.	CA	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP9 Inchamadermot Isl.	MA	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP9 Inchamadermot Isl.	LB	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP10 Cloonmustra	R.	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP11 Clonkeel	PH	1	N	*	*	*	*	*	Pair
01/09/2016	AB	Hinterland	*	*	*	*	hVP11 Clonkeel	R.	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP11 Clonkeel	WR	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP11 Clonkeel	GG	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP11 Clonkeel	B.	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP12 Derrycashe	MS	2	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP12 Derrycashe	SG	3	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP12 Derrycashe	SL	2	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP13 Feorish River	SL	24	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
01/09/2016	AB	Hinterland	*	*	*	*	hVP13 Feorish River	R.	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP13 Feorish River	WW	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP14 Tarmonbarry Bridge	SL	5	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP14 Tarmonbarry Bridge	HC	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP14 Tarmonbarry Bridge	JD	2	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP14 Tarmonbarry Bridge	WP	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP14 Tarmonbarry Bridge	RO	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP15 Tarmonbarry lock	MS	2	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP15 Tarmonbarry lock	H.	2	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP15 Tarmonbarry lock	R.	2	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP16 Lough Forbes	*	*	*	*	*	*	*	*	Area suggested for Wintering Birds
01/09/2016	AB	Hinterland	*	*	*	*	hVP17 N5 Bridge	*	*	*	*	*	*	*	*	No Bird Activity
01/09/2016	AB	Hinterland	*	*	*	*	hVP18 Fallan Bridge	MA	2	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP18 Fallan Bridge	MS	4	N	*	*	*	*	*	2 Adults + 2 Cygnets
01/09/2016	AB	Hinterland	*	*	*	*	hVP18 Fallan Bridge	B.	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP18 Fallan Bridge	R.	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP18 Fallan Bridge	BC	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP19 Richmond Bridge	JD	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP19 Richmond Bridge	R.	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP19 Richmond Bridge	WR	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP20 Cloondara	JD	12	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP20 Cloondara	R.	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP20 Cloondara	CD	3	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP20 Cloondara	H.	1	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
01/09/2016	AB	Hinterland	*	*	*	*	hVP21 Begganagh Bridge	WR	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP21 Begganagh Bridge	SL	6	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP21 Begganagh Bridge	JD	10	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP21 Begganagh Bridge	H.	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP22 Aghnaskea Bridge	R.	2	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP22 Aghnaskea Bridge	WR	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP22 Aghnaskea Bridge	CD	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP23 Lyneen Br.	JD	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP23 Lyneen Br.	SL	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	Canal Towpath between hVP23 and 24	RO	40	N	*	*	*	*	*	Around Farm
01/09/2016	AB	Hinterland	*	*	*	*	Canal Towpath between hVP23 and 24	SL	30	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	Canal Towpath between hVP23 and 24	H.	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP24 Coolnahinch Bridge	SL	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP24 Coolnahinch Bridge	RO	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP24 Coolnahinch Bridge	WP	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP24 Coolnahinch Bridge	CD	40	N	*	*	*	*	*	Powerlines visible off canal, adjacent road)
01/09/2016	AB	Hinterland	*	*	*	*	hVP24 Coolnahinch Bridge	GO	3	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP25 Island Bridge	SG	80	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP25 Island Bridge	SL	2	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP25 Island Bridge	GC	1	N	*	*	*	*	*	
01/09/2016	AB	Hinterland	*	*	*	*	hVP25 Island Bridge	R.	1	N	*	*	*	*	*	
01/09/2016	JC	VP	06:30	12:00	3	Morning	VP7	K.	1	Y	11:00	11:01	60	15	1	K. Hovering
01/09/2016	JC	VP	06:30	12:00	3	Morning	VP7	K.	1	Y	*	*	300	10-20	1	K. Reappears. Hunts @10-20m for 5mins
01/09/2016	AB	VP	18:30	21:30	3	Dusk	VP1	H.	1	N	*	*	*	*	*	Shots fired during Hr2&3
01/09/2016	AB	VP	18:30	21:30	3	Dusk	VP1	MS	3	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
01/09/2016	AB	VP	18:30	21:30	3	Dusk	VP1	SL	10	N	*	*	*	*	*	
01/09/2016	AB	VP	18:30	21:30	3	Dusk	VP1	SG	18	N	*	*	*	*	*	
01/09/2016	AB	VP	18:30	21:30	3	Dusk	VP1	CO	1	N	*	*	*	*	*	
01/09/2016	AB	VP	18:30	21:30	3	Dusk	VP1	MA	3	Y	19:16	19:16	7	35	2	3MA (Female) fly NE @35m
01/09/2016	AB	VP	18:30	21:30	3	Dusk	VP1	MS	2	Y	19:28	19:28	5	0-10	1	2MS (Pair) fly SSW @0-10m along river corridor
01/09/2016	AB	VP	18:30	21:30	3	Dusk	VP1	MA	20	Y	19:39	19:39	9	40	3	20MA fly NNE @40m
01/09/2016	AB	VP	18:30	21:30	3	Dusk	VP1	MA	9	Y	19:39	19:39	9	60	3	9MA circle around from flock @60m, turning W, then SE.
01/09/2016	AB	VP	18:30	21:30	3	Dusk	VP1	MA	1	Y	19:52	19:52	5	12	1	MA (Male) flies SE @12m
01/09/2016	AB	VP	18:30	21:30	3	Dusk	VP1	MA	1	Y	19:53	19:53	5	15	1	MA (Male) flies SSE @15m
01/09/2016	AB	VP	18:30	21:30	3	Dusk	VP1	BH	1	Y	20:14	20:14	7	3	1	2BH fly S, turning SE as they follow river @ ~3m.
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	H.	1	Y	09:30	09:30	5	15	1	H. Flies over conifers @15m, decreases in height to 10m, and slowly descends to 0m onto bog while flying NNE. Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	H.	1	Y	09:30	09:30	10	10	1	H. Flies over conifers @15m, decreases in height to 10m, and slowly descends to 0m onto bog while flying NNE. Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	H.	1	Y	09:30	09:30	20	0	1	H. Flies over conifers @15m, decreases in height to 10m, and slowly descends to 0m onto bog while flying NNE. Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	1	Y	09:43	09:45	11	35	2	RN flies S over trees @35m, turns E over bog & circles around (wandering path) @5m, before turning W and flying over trees @40m and going out of view. Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	1	Y	09:43	09:45	100	5	1	RN flies S over trees @35m, turns E over bog & circles around (wandering path) @5m, before turning W and flying over trees @40m and going out of view. Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	1	Y	09:43	09:45	9	40	2	RN flies S over trees @35m, turns E over bog & circles around (wandering path) @5m, before turning W and flying over trees @40m and going out of view. Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	4	Y	10:00	10:02	5	0	1	4RN (fam) fly W direction behind heaped peat before gaining altitude and turning NE and circling around. Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	4	Y	10:00	10:02	10	2	1	4RN (fam) fly W direction behind heaped peat before gaining altitude and turning NE and circling around. Same Bird



Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	4	Y	10:00	10:02	15	4	1	4RN (fam) fly W direction behind heaped peat before gaining altitude and turning NE and circling around. Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	4	Y	10:00	10:02	7	10	1	4RN (fam) fly W direction behind heaped peat before gaining altitude and turning NE and circling around. Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	2	Y	10:00	10:04	37	40	3	Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	2	Y	10:00	10:04	12	5	1	2RN (branched off from above group), fly W, drop in height momentarily before increasing altitude over trees. Decrease altitude again as they descend E over bog. Fall into wide loop, before soaring on wing, increase height while turning N and flying NNW over trees before going out of view. Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	2	Y	10:00	10:04	10	50	3	2RN (branched off from above group), fly W, drop in height momentarily before increasing altitude over trees. Decrease altitude again as they descend E over bog. Fall into wide loop, before soaring on wing, increase height while turning N and flying NNW over trees before going out of view. Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	2	Y	10:00	10:04	8	30	2	2RN (branched off from above group), fly W, drop in height momentarily before increasing altitude over trees. Decrease altitude again as they descend E over bog. Fall into wide loop, before soaring on wing, increase height while turning N and flying NNW over trees before going out of view. Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	2	Y	10:00	10:04	6	10	1	2RN (branched off from above group), fly W, drop in height momentarily before increasing altitude over trees. Decrease altitude again as they descend E over bog. Fall into wide loop, before soaring on wing, increase height while turning N and flying NNW over trees before going out of view. Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	2	Y	10:00	10:04	4	3	1	2RN (branched off from above group), fly W, drop in height momentarily before increasing altitude over trees. Decrease altitude

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																again as they descend E over bog. Fall into wide loop, before soaring on wing, increase height while turning N and flying NNW over trees before going out of view. Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	2	Y	10:00	10:04	9	10	1	2RN (branched off from above group), fly W, drop in height momentarily before increasing altitude over trees. Decrease altitude again as they descend E over bog. Fall into wide loop, before soaring on wing, increase height while turning N and flying NNW over trees before going out of view. Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	2	Y	10:00	10:04	20	18	1	2RN (branched off from above group), fly W, drop in height momentarily before increasing altitude over trees. Decrease altitude again as they descend E over bog. Fall into wide loop, before soaring on wing, increase height while turning N and flying NNW over trees before going out of view. Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	2	Y	10:00	10:04	*	30	2	2RN (branched off from above group), fly W, drop in height momentarily before increasing altitude over trees. Decrease altitude again as they descend E over bog. Fall into wide loop, before soaring on wing, increase height while turning N and flying NNW over trees before going out of view. Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	H.	1	Y	10:56	10:56	3	0-5	1	H. Flies W, rising from bog and flies W, increasing in altitude as he flew over treeline. Same Bird
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	H.	1	Y	10:56	10:56	5	15	1	H. Flies W, rising from bog and flies W, increasing in altitude as he flew over treeline. Same Bird
02/09/2016	AB	Hinterland	*	*	*	*	hVP1 Park Bridge	R.	1	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP1 Park Bridge	RO	12	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP1 Park Bridge	JD	8	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP2 Foygh Bridge	H.	1	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP2 Foygh Bridge	SL	3	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP2 Foygh Bridge	R.	2	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP2 Foygh Bridge	WP	1	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP2 Foygh Bridge	RO	2	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP3 Ballynamona	GO	1	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP3 Ballynamona	JD	1	N	*	*	*	*	*	

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													Time Interval (sec)	Height (m)	Height Bands	
02/09/2016	AB	Hinterland	*	*	*	*	hVP3 Ballynamona	RO	1	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP3 Ballynamona	WR	1	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	SL	15	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	CO	1	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	MH	1	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	LG	3	N	*	*	*	*	*	1Juv
02/09/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	R.	1	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	WR	1	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	SM	9	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	ET	1	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	HC	6	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	PW	1	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	MA	13	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP4 Fortwilliam Turlough	BZ	1	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP5 Inchenagh Isl.	GG	5	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP5 Inchenagh Isl.	B.	1	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP5 Inchenagh Isl.	R.	2	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP5 Inchenagh Isl.	MS	31	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP5 Inchenagh Isl.	CA	3	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP5 Inchenagh Isl.	LB	9	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP5 Inchenagh Isl.	BH	1	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP5 Inchenagh Isl.	ET	1	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP5 Inchenagh Isl.	TU	20	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP5 Inchenagh Isl.	CO	4	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP6 Coillte walk near Lanesborough	MS	11	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP6 Coillte walk near Lanesborough	GG	2	N	*	*	*	*	*	
02/09/2016	AB	Hinterland	*	*	*	*	hVP6 Coillte walk near Lanesborough	CO	1	N	*	*	*	*	*	
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	MG	2	N	*	*	*	*	*	
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	R.	1	N	*	*	*	*	*	
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	WR	1	N	*	*	*	*	*	
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	B.	1	N	*	*	*	*	*	
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	LR	2	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RO	1	N	*	*	*	*	*	
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	WA	1	N	*	*	*	*	*	
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	WP	1	N	*	*	*	*	*	
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	SL	6	N	*	*	*	*	*	
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	MP	1	N	*	*	*	*	*	
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	1	Y	09:38	09:38	15	50	3	RN flies S, turning SW @50m, while flying over conifers (View partly obstructed).
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	1	Y	09:44	09:44	6	15	1	RN flies S @15m
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	MA	3	Y	09:55	09:55	6	40	3	3MA flying W/SW @40m
02/09/2016	AB	VP	09:00	12:00	3	Morning	VP4	RN	2	Y	10:00	10:02	*	50	3	RN group splits up with 2 continuing NE before flying ut of view.
02/09/2016	JC	VP	11:00	14:00	3	Morning	VP7	K.	1	Y	*	*	60	15	1	K. Hunting
02/09/2016	JC	VP	11:00	14:00	3	Morning	VP7	JD	150	Y	*	*	20	30	2	150JD fly S off trees.
02/09/2016	JC	VP	11:00	14:00	3	Morning	VP7	BZ	3	Y	*	*	120	50	3	3BZ circling and calling
02/09/2016	JC	VP	11:00	14:00	3	Morning	VP7	BZ	2	Y	*	*	*	50	3	2BZ from the above flew S.
02/09/2016	JC	VP	14:14	17:15	3	Day	VP8	RO	2	Y	15:55	15:56	60	15	1	2RO flying W.
07/09/2016	AB	VP	18:20	21:20	3	Dusk	VP2	H.	1	Y	18:30	18:30	8	20	2	H. Disturbed. Flew S over trees @20m, turning back around E and following Shannon. Dropped to 10m as followed water. Same Bird
07/09/2016	AB	VP	18:20	21:20	3	Dusk	VP2	H.	1	Y	18:30	18:30	9	10	1	Same Bird
07/09/2016	JC	VP	15:30	18:30	3	Day	VP8	W.	2	N	*	*	*	*	*	
07/09/2016	JC	VP	15:30	18:30	3	Day	VP8	GO	Flock	N	*	*	*	*	*	Flying intermittently and feeding on knapweed to S of road.
07/09/2016	JC	VP	15:30	18:30	3	Day	VP8	HH	1	Y	17:10	17:10	15	1	1	HH (Ringtail) flew S, less than 1m high, along grass verge to E, flew across road.
07/09/2016	AB	VP	15:00	18:00	3	Evening	VP1	MS	5	N	*	*	*	*	*	
07/09/2016	AB	VP	15:00	18:00	3	Evening	VP1	SL	18	N	*	*	*	*	*	
07/09/2016	AB	VP	15:00	18:00	3	Evening	VP1	B.	2	N	*	*	*	*	*	
07/09/2016	AB	VP	15:00	18:00	3	Evening	VP1	R.	1	N	*	*	*	*	*	
07/09/2016	AB	VP	15:00	18:00	3	Evening	VP1	WR	1	N	*	*	*	*	*	
07/09/2016	AB	VP	15:00	18:00	3	Evening	VP1	WW	1	N	*	*	*	*	*	
07/09/2016	AB	VP	15:00	18:00	3	Evening	VP1	RO	1	N	*	*	*	*	*	
07/09/2016	AB	VP	15:00	18:00	3	Evening	VP1	HC	2	N	*	*	*	*	*	
07/09/2016	AB	VP	15:00	18:00	3	Evening	VP1	MG	1	N	*	*	*	*	*	
07/09/2016	AB	VP	15:00	18:00	3	Evening	VP1	LR	14	N	*	*	*	*	*	
07/09/2016	AB	VP	15:00	18:00	3	Evening	VP1	HH	1	Y	17:50	17:50	6	1	1	HH (Juv) flew ina S direction before losing sight.
07/09/2016	AB	VP	15:00	18:00	3	Evening	VP1	HH	1	Y	18:05	18:05	12	1	1	HH returns flying N, Looping flight as chases SL, then flies W towards river channel. Once again lost sight due to willow.
07/09/2016	AB	VP	18:20	21:20	3	Dusk	VP2	WP	3	N	*	*	*	*	*	
07/09/2016	AB	VP	18:20	21:20	3	Dusk	VP2	R.	2	N	*	*	*	*	*	
07/09/2016	AB	VP	18:20	21:20	3	Dusk	VP2	B.	2	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
07/09/2016	AB	VP	18:20	21:20	3	Dusk	VP2	SL	60	N	*	*	*	*	*	
07/09/2016	AB	VP	18:20	21:20	3	Dusk	VP2	MS	8	N	*	*	*	*	*	(Including 4 Cygnets;1 Fam).
07/09/2016	AB	VP	18:20	21:20	3	Dusk	VP2	MG	1	N	*	*	*	*	*	
07/09/2016	AB	VP	18:20	21:20	3	Dusk	VP2	CO	1	N	*	*	*	*	*	
07/09/2016	AB	VP	18:20	21:20	3	Dusk	VP2	SG	16	N	*	*	*	*	*	
07/09/2016	AB	VP	18:20	21:20	3	Dusk	VP2	RO	60	N	*	*	*	*	*	In Trees
07/09/2016	AB	VP	18:20	21:20	3	Dusk	VP2	WW	1	N	*	*	*	*	*	
07/09/2016	AB	VP	18:20	21:20	3	Dusk	VP2	LB	9	Y	19:34	19:34	30	80	3	9LB fly S/SSW @80m (Direct Flight)
07/09/2016	JC	VP	18:30	21:30	3	Dusk	VP7	H.	1	Y	19:00	19:00	15	2	1	H. Flew S across road.
08/09/2016	AB	VP	13:00	16:00	3	Day	VP11	BZ	1	Y	14:13	14:15	20	35	2	BZ flies NW while getting mobbed by 2RO @35m, increases altitude to 70m as he turns N. Glides on the wind & circles around before disappearing N behind trees. Same Bird
08/09/2016	AB	VP	13:00	16:00	3	Day	VP11	BZ	1	Y	14:13	14:15	40	70	4	BZ flies NW while getting mobbed by 2RO @35m, increases altitude to 70m as he turns N. Glides on the wind & circles around before disappearing N behind trees. Same Bird
08/09/2016	JC	VP	18:30	21:30	3	Dusk	VP7	K.	1	Y	19:45	19:48	180	35	3	Same K. Hunting down middle of site. Same Bird
08/09/2016	JC	VP	18:30	21:30	3	Dusk	VP7	K.	1	Y	19:45	19:48	10	10	1	Same K. Hunting down middle of site. Same Bird
08/09/2016	AB	VP	09:00	12:00	3	Morning	VP3	WR	1	N	*	*	*	*	*	
08/09/2016	AB	VP	09:00	12:00	3	Morning	VP3	SL	4	N	*	*	*	*	*	
08/09/2016	AB	VP	09:00	12:00	3	Morning	VP3	LR	4	N	*	*	*	*	*	
08/09/2016	AB	VP	09:00	12:00	3	Morning	VP3	WW	1	N	*	*	*	*	*	
08/09/2016	AB	VP	09:00	12:00	3	Morning	VP3	R.	1	N	*	*	*	*	*	
08/09/2016	AB	VP	09:00	12:00	3	Morning	VP3	CC	1	N	*	*	*	*	*	
08/09/2016	AB	VP	09:00	12:00	3	Morning	VP3	MG	2	N	*	*	*	*	*	
08/09/2016	AB	VP	09:00	12:00	3	Morning	VP3	JD	5	N	*	*	*	*	*	
08/09/2016	AB	VP	09:00	12:00	3	Morning	VP3	RO	4	N	*	*	*	*	*	
08/09/2016	AB	VP	09:00	12:00	3	Morning	VP3	PW	2	N	*	*	*	*	*	
08/09/2016	AB	VP	09:00	12:00	3	Morning	VP3	B.	1	N	*	*	*	*	*	
08/09/2016	AB	VP	09:00	12:00	3	Morning	VP3	K.	1	Y	10:44	10:44	9	10	1	K. Flew W @10m, hovered in place while getting mobbed by SL and then dropped out of view.
08/09/2016	AB	VP	13:00	16:00	3	Day	VP11	SL	11	*	*	*	*	*	*	
08/09/2016	AB	VP	13:00	16:00	3	Day	VP11	RO	1	*	*	*	*	*	*	
08/09/2016	AB	VP	13:00	16:00	3	Day	VP11	SG	60	*	*	*	*	*	*	
08/09/2016	AB	VP	13:00	16:00	3	Day	VP11	HC	2	*	*	*	*	*	*	
08/09/2016	AB	VP	13:00	16:00	3	Day	VP11	R.	1	*	*	*	*	*	*	
08/09/2016	AB	VP	13:00	16:00	3	Day	VP11	M.	2	*	*	*	*	*	*	
08/09/2016	AB	VP	13:00	16:00	3	Day	VP11	MG	1	*	*	*	*	*	*	
08/09/2016	AB	VP	13:00	16:00	3	Day	VP11	LR	1	*	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
08/09/2016	AB	VP	13:00	16:00	3	Day	VP11	K.	1	Y	13:06	13:06	16	8	1	K. Flies E @8m while getting mobbed by RO. Flies away in a NNE direction.
08/09/2016	AB	VP	18:20	21:20	3	Dusk	VP3	JD	4	N	*	*	*	*	*	
08/09/2016	AB	VP	18:20	21:20	3	Dusk	VP3	SL	9	N	*	*	*	*	*	
08/09/2016	AB	VP	18:20	21:20	3	Dusk	VP3	LR	5	N	*	*	*	*	*	
08/09/2016	AB	VP	18:20	21:20	3	Dusk	VP3	WR	1	N	*	*	*	*	*	
08/09/2016	AB	VP	18:20	21:20	3	Dusk	VP3	B.	1	N	*	*	*	*	*	
08/09/2016	AB	VP	18:20	21:20	3	Dusk	VP3	LT	10	N	*	*	*	*	*	
08/09/2016	AB	VP	18:20	21:20	3	Dusk	VP3	BT	6	N	*	*	*	*	*	
08/09/2016	AB	VP	18:20	21:20	3	Dusk	VP3	GT	6	N	*	*	*	*	*	
08/09/2016	AB	VP	18:20	21:20	3	Dusk	VP3	RO	1	N	*	*	*	*	*	
08/09/2016	AB	VP	18:20	21:20	3	Dusk	VP3	R.	1	N	*	*	*	*	*	
08/09/2016	JC	VP	18:30	21:30	3	Dusk	VP7	MA	1	N	20:50	*	*	*	*	Audible
08/09/2016	JC	VP	18:30	21:30	3	Dusk	VP7	K.	1	Y	19:00	19:00	30	15	1	K. Hunting along scrub to E of VP.
08/09/2016	JC	VP	18:30	21:30	3	Dusk	VP7	K.	1	Y	19:50	19:50	45	50	3	Same K. Hunting, flew out of sight to N.
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	H.	1	Y	07:53	07:53	8	0	1	H. Flew SW, climbing steadily to 30m over trees then lost visual as flew S. Same Bird
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	H.	1	Y	07:53	07:53	6	0-30	1-2	H. Flew SW, climbing steadily to 30m over trees then lost visual as flew S. Same Bird
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	MS	10	Y	08:38	08:38	9	0-5	1	10MS fly SSE around corner. Take off and gain altitude. Circle N around and fly over trees.
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	MS	10	Y	08:38	08:38	10	5-15	1	10MS fly SSE around corner. Take off and gain altitude. Circle N around and fly over trees. Same Bird
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	MS	10	Y	08:38	08:38	10	15-30	1-2	10MS fly SSE around corner. Take off and gain altitude. Circle N around and fly over trees. Same Bird
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	MS	10	Y	08:38	08:38	10	30	2	10MS fly SSE around corner. Take off and gain altitude. Circle N around and fly over trees. Same Bird
09/09/2016	JC	VP	06:20	09:20	3	Dawn	VP9	RN	1	N	06:45	*	*	*	*	Calling to W
09/09/2016	JC	VP	06:20	09:20	3	Dawn	VP9	RN	2	Y	08:15	08:17	110	10	1	1RN flies onto bog, and circles. 2nd RN joins, fly around and one drops to ground. 2nd leaves site to N.
09/09/2016	JC	VP	06:20	09:20	3	Dawn	VP9	HC	1	Y	*	*	10	10	1	HC flew across site.
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	H.	1	N	*	*	*	*	*	
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	RO	60	N	*	*	*	*	*	In trees S of VP
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	CO	1	N	*	*	*	*	*	
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	SW	1	N	*	*	*	*	*	
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	MS	6	N	*	*	*	*	*	(Fam)
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	R.	1	N	*	*	*	*	*	
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	B.	1	N	*	*	*	*	*	
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	WP	1	N	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	WR	1	N	*	*	*	*	*	
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	LR	7	N	*	*	*	*	*	
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	SL	3	N	*	*	*	*	*	
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	H.	2	Y	07:00	07:00	5	15	1	2H. Fly N ou to ftrees while arguing, circle back around S on river and fly back into trees.
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	MS	6	Y	07:15	07:16	60	40	3	6MS fly in a NE direction
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	MS	2	Y	07:35	07:36	60	35	2	2MS fly in a SW direction
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	MA	1	Y	07:36	07:36	6	0-30	1-2	MA alights from river bed flying W along river as it gains altitude, then flies SW over trees and visual is lost.
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	MA	1	Y	08:07	08:07	7	0-30	1-2	MA flies SW
09/09/2016	AB	VP	06:15	09:15	3	Dawn	VP2	BZ	1	Y	09:03	09:03	20	40	3	
12/09/2016	AB	VP	13:00	16:00	3	Day	VP10	MA	13	Y	14:57	14:57	25	10	1	. 13MA flew S, performed a tight loop when over water and came into land. Same Bird
12/09/2016	AB	VP	13:00	16:00	3	Day	VP10	MA	13	Y	14:57	14:57	3	4	1	13MA flew S, performed a tight loop when over water and came into land. Same Bird.
12/09/2016	AB	VP	13:00	16:00	3	Day	VP10	MA	13	Y	14:57	14:57	2	0	1	13MA flew S, performed a tight loop when over water and came into land. Same Bird
12/09/2016	AB	VP	13:00	16:00	3	Day	VP10	RO	19	N	*	*	*	*	*	
12/09/2016	AB	VP	13:00	16:00	3	Day	VP10	SL	8	N	*	*	*	*	*	
12/09/2016	AB	VP	13:00	16:00	3	Day	VP10	LR	3	N	*	*	*	*	*	
12/09/2016	AB	VP	13:00	16:00	3	Day	VP10	M.	4	N	*	*	*	*	*	
12/09/2016	AB	VP	13:00	16:00	3	Day	VP10	MG	2	N	*	*	*	*	*	
12/09/2016	AB	VP	13:00	16:00	3	Day	VP10	SC	3	N	*	*	*	*	*	
12/09/2016	AB	VP	13:00	16:00	3	Day	VP10	JD	3	N	*	*	*	*	*	
12/09/2016	AB	VP	13:00	16:00	3	Day	VP10	LG	1	N	*	*	*	*	*	
12/09/2016	AB	VP	13:00	16:00	3	Day	VP10	MA	2	N	*	*	*	*	*	
12/09/2016	AB	VP	13:00	16:00	3	Day	VP10	RN	2	Y	14:11	14:12	90	70	3	2RN flew W
12/09/2016	AB	VP	13:00	16:00	3	Day	VP10	BZ	1	Y	15:47	15:48	60	15	1	BZ (Juv) flew SE (Direct Flight)
12/09/2016	AB	VP	16:10	19:10	3	Evening	VP11	R.	2	N	*	*	*	*	*	
12/09/2016	AB	VP	16:10	19:10	3	Evening	VP11	WR	1	N	*	*	*	*	*	
12/09/2016	AB	VP	16:10	19:10	3	Evening	VP11	B.	1	N	*	*	*	*	*	
12/09/2016	AB	VP	16:10	19:10	3	Evening	VP11	LR	13	N	*	*	*	*	*	
12/09/2016	AB	VP	16:10	19:10	3	Evening	VP11	LI	1	N	*	*	*	*	*	
12/09/2016	AB	VP	16:10	19:10	3	Evening	VP11	SL	13	N	*	*	*	*	*	
12/09/2016	AB	VP	16:10	19:10	3	Evening	VP11	BC	1	N	*	*	*	*	*	
12/09/2016	AB	VP	16:10	19:10	3	Evening	VP11	JD	2	N	*	*	*	*	*	
12/09/2016	AB	VP	16:10	19:10	3	Evening	VP11	WW	1	N	*	*	*	*	*	
12/09/2016	AB	VP	16:10	19:10	3	Evening	VP11	WP	1	N	*	*	*	*	*	
14/09/2016	JC	VP	12:00	15:00	3	Day	VP9	BZ	1	Y	12:57	12:59	40	20	2	1BZ arrived from N 40s @20m, rose to 40m and circled for 120s before leaving site to S. Same Bird
14/09/2016	JC	VP	12:00	15:00	3	Day	VP9	BZ	1	Y	12:57	12:59	120	40	3	1BZ arrived from N 40s @20m, rose

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
																to 40m and circled for 120s before leaving site to S. Same Bird
14/09/2016	JC	VP	12:00	15:00	3	Day	VP9	K.	1	Y	13:00	13:02	60	40	3	K. Hunting @40m for 60s, rose to 60m for 60s, then dropped to woods. (Mobbed by SL). Same Bird
14/09/2016	JC	VP	12:00	15:00	3	Day	VP9	K.	1	Y	13:00	13:02	60	60	3	K. Hunting @40m for 60s, rose to 60m for 60s, then dropped to woods. (Mobbed by SL). Same Bird
14/09/2016	JC	VP	12:00	15:00	3	Day	VP9	K.	1	Y	12:45	12:45	30	5	1	K. Hunting @5m for 30sec
14/09/2016	JC	VP	12:00	15:00	3	Day	VP9	K.	1	Y	13:10	13:11	70	40	3	K. Reappears and flew W.
14/09/2016	JC	VP	12:00	15:00	3	Day	VP9	HC	2	Y	14:32	14:39	2	1	1	2HC @less than 1m for 2seconds.
14/09/2016	JC	VP	12:00	15:00	3	Day	VP9	K.	1	Y	14:45	14:45	5	1	1	1K. (female) flew S along milled peat 5sec @<1km. Perched and vanished over milled mound after 3mins. Reappears on next milled mound.
14/09/2016	JC	VP	15:30	18:30	3	Day	VP10	CU	1	N	15:45	*	*	*	*	CU audible @15:45
14/09/2016	JC	VP	15:30	18:30	3	Day	VP10	K.	1	Y	16:20	16:20	15	6	1	K. (male) arrived from W to perch on milled peat mound. Perched for 5mins, then flew W @6m for 15s.
14/09/2016	JC	VP	15:30	18:30	3	Day	VP10	ML	1	Y	16:35	16:38	15	1	1	ML arrived from W, flying in at <2ft, dropping off bank and hugging ground until reaching milled peat and perching for 3mins before flying E. Dropping low out of site over far side of milled peat.
14/09/2016	JC	VP	15:30	18:30	3	Day	VP10	JD	4	Y	16:50	16:51	60	30	2	Flew W
14/09/2016	JC	VP	15:30	18:30	3	Day	VP10	JD	3	Y	16:50	16:51	60	80	3	Flew W
14/09/2016	JC	VP	15:30	18:30	3	Day	VP10	RN	1	Y	17:10	17:10	20	10	1	RN flew S down site @10m for 20s, landing on telegraph post.
22/09/2016	AB	VP	17:20	20:20	3	Dusk	VP4	MA	2	Y	19:22	19:23	3	2	1	Fly S @ 2m & land in water. Disturbed and fly E @ 0-2m, looping to 8m. Circle around 10m then fly W over willow @ 12m. Same Bird
22/09/2016	AB	VP	17:20	20:20	3	Dusk	VP4	MA	2	Y	19:22	19:23	10	0-2	1	Same Bird
22/09/2016	AB	VP	17:20	20:20	3	Dusk	VP4	MA	2	Y	19:22	19:23	6	8	1	Same Bird
22/09/2016	AB	VP	17:20	20:20	3	Dusk	VP4	MA	2	Y	19:22	19:23	6	10	1	Same Bird
22/09/2016	AB	VP	17:20	20:20	3	Dusk	VP4	MA	2	Y	19:22	19:23	10	12	1	Same Bird
22/09/2016	AB	VP	17:20	20:20	3	Dusk	VP4	H.	1	Y	20:06	20:06	10	6-0	1	Flew W @ 6m & landed on bog. Rose to 1.5 m and a few metres E. Same Bird
22/09/2016	AB	VP	17:20	20:20	3	Dusk	VP4	H.	1	Y	20:06	20:06	5	1.5	1	Flew W @ 6m & landed on bog. Rose to 1.5 m and a few metres E. Same Bird
22/09/2016	AB	Hinterland	12:40	*	*	*	hVP 6. Reed beds & open water (seen from public walk)	MS	1	*	*	*	*	*	*	
22/09/2016	AB	Hinterland	12:40	*	*	*	hVP 6. Reed beds	CO	1	*	*	*	*	*	*	









Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
							from road									
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 4. Fresh water lough, extensive open water	ET	6	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 4. Fresh water lough, extensive open water	MA	6	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 4. Fresh water lough, extensive open water	HC	1	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 4. Fresh water lough, extensive open water	JD	1	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 4. Fresh water lough, extensive open water	R.	1	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 4. Fresh water lough, extensive open water	BZ	1	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 4. Fresh water lough, extensive open water	PW	1	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 4. Fresh water lough, extensive open water	ST	8	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 4. Fresh water lough, extensive open water	SL	7	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 4. Fresh water lough, extensive open water	L.	50	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 4. Fresh water lough, extensive open water	SG	25	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 5. Vegetated island. Seen from inlet at end of laneway	CA	2	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 5. Vegetated island. Seen from inlet at end of laneway	BH	1	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 5. Vegetated island. Seen from inlet at end of laneway	MS	6	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 5. Vegetated island. Seen from	MA	1	*	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
							inlet at end of laneway									
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 5. Vegetated island. Seen from inlet at end of laneway	H.	1	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 5. Vegetated island. Seen from inlet at end of laneway	BT	1	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 21. Old stone bridge & new lifting bridge adjacent	SL	2	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 22. Old stone canal bridge	SL	3	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 22. Old stone canal bridge	R.	3	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 22. Old stone canal bridge	WR	1	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 23. Old stone bridge & new bridge adjacent	PW	5	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 23. Old stone bridge & new bridge adjacent	HC	2	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	Drive along tow-path of canal	GL	2	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	Drive along tow-path of canal	JD	2	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	Drive along tow-path of canal	R.	1	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	Drive along tow-path of canal	SL	2	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 24. Old stone canal bridge	HS	80	*	*	*	*	*	*	On shed roof & hedges
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 24. Old stone canal bridge	CH	10	*	*	*	*	*	*	On shed roof & hedges
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 24. Old stone canal bridge	PW	1	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 24. Old stone canal bridge	SL	2	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 24. Old stone canal bridge	RO	5	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 24. Old stone canal bridge	GO	2	*	*	*	*	*	*	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 25. Old stone canal bridge	SG	38	*	*	*	*	*	*	

Date	Observer	Survey Type	Start Time	End Time	Duration	VP Period	Location	Species	Number	Flight (Y/N)	Observation Time	End Time	Flights			Notes
													Time Interval (sec)	Height (m)	Height Bands	
23/09/2016	AB	Hinterland	10:00	*	*	*	hVP 25. Old stone canal bridge	RO	2	*	*	*	*	*	*	

## APPENDIX 2

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### **Digitised Flight Lines of Target Species and Flight Height**



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