

Appendix 9F  
Breeding Birds Survey Reports

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**BORD NA MONA  
BREEDING BIRD SURVEY  
2022**

**DERRYARKIN BOG GROUP  
DERRYARKIN, DRUMMAN,  
DERRYHINCH & BALLYBEG**



*View of well-developed wetland habitat at Derryarkin Bog*

*Prepared for*

**Bord na Móna**

*by*

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## **EXECUTIVE SUMMARY**

- A baseline study of breeding and summering birds associated with Derryarkin Bog Group (comprising Derryarkin, Drumman, Derryhinch and Ballybeg bogs) was carried out between April and September 2022. For Derryarkin and Drumman, this followed similar surveys carried out at the sites in the 2013, 2014, 2016, 2018, 2019, 2020 and 2021 breeding seasons. For Derryhinch and Ballybeg bogs, previous breeding surveys had been carried out in 2013 and 2014 and then in 2021.
- Derryarkin bog comprises well-established regenerating cutaway bog habitats, including extensive wetland habitats, regenerating bog and heath and developing scrub on cutaway. A Roadstone quarry and production facility occurs within the site and this includes a large quarry lake and sparsely vegetated areas of gravel.
- Drumman bog is a large site and includes a sector that is extensively used for sand and gravel quarrying. The Mongagh River flows through the central area of the site. The majority of the sector of Drumman bog to the south of the Mongagh River corridor has been in recent commercial production and still comprises mainly bare peat though there are developing areas of regenerating cutaway bog vegetation. An extensive area of regenerating cutaway bog occurs north of the Mongagh River. A large wetland area with ponds and standing water has been created in the northeast section. The gravel and sand extraction area to the south of the cutaway includes a quarry lake.
- Derryhinch Bog was until recently (January 2021) mostly in commercial production and much of the site is still largely bare or sparsely vegetated peat. A small mineral island is located in the mid-west section and is dominated by birch scrub. Further stands of birch dominated scrub occur in the extreme northwest corner of the site and along the south end of the eastern boundary. Fringe habitats found along the boundaries of the site include dry grassland and scrub. An area of cutover and remnant high bog occurs along the southern boundary (south of the railway).
- Ballybeg Bog is contiguous with Derryarkin bog to the north and Cavemount bog to the south. Ballybeg Bog is sharply divided into three main ecological units: the northern part which has been out of production for some time and is re-vegetating cutaway dominated by birch scrub, the southern part which has been in recent commercial industrial production and is still largely bare peat, and the small southern outlier of largely intact raised bog, known as Coole bog.
- The study included a desk review and consultations with relevant agencies, namely National Parks & Wildlife Service (local management staff), BirdWatch Ireland and the Irish Peatland Conservation Council. Field methods employed were a combination of transect surveys, vantage point watches and focused surveys for breeding wetland birds. Monthly vantage point watches achieved a minimum of 36 hours of observations over the four bog sites.
- The bog sites are not part of any designated site for nature conservation.
- A review of past bird information relating to the study area identified a breeding bird

survey at Drumman Bog and Ballybeg Bog in 2011 (by A. Copland) as the main source of previous information. However, for Derryarkin Bog and Derryhinch Bog specific breeding bird surveys had not previously been carried out prior to 2013.

- The report follows a standard format, with details of target species recorded, the potential for other target species, details of other species of note recorded and an overview of the value of the site for breeding birds. Maps showing locations of sampling transects and vantage points, plus flight lines for target species are presented.
- The 2022 survey, supported by the earlier breeding bird surveys since 2013, demonstrates that **Derryarkin Bog** has substantial importance for breeding birds. Of particular value is the area of wetland habitat on cutaway in the eastern sector of the site and the extensive quarry complex in the northern sector. There are also areas of drier re-generating cutaway which supports bog and scrub habitats. Of particular note are the regular populations of breeding Lapwing and Snipe (both Red-listed), along with other wetland species including Mute Swan, Great Crested Grebe, Teal, Tufted Duck, Coot and Common Sandpiper. Little Egret (Annex I listed) is a regular visitor to the site. A range of other important species nest within the site, including Woodcock, Meadow Pipit and Grey Wagtail (all Red-listed), and various Amber-listed species including Skylark, Willow Warbler and Linnet. The now regular nesting on site by Peregrine (Annex I listed) is of note (pair successful in 2022, with at least one fledged). Kestrel (Red-listed) may have bred on-site in 2022 (breeding confirmed in 2020 and 2021). Previously, the site has supported a nationally important population of Black-headed Gull but regular predation appears to have caused the near abandonment of the colony. On the basis of the results of the breeding survey in 2022, supported by earlier surveys, it is recommended that a rating of **National Importance** is considered appropriate for breeding birds at Derryarkin Bog.
- While parts of **Drumman** are only recently out of commercial production and are of relatively low interest for breeding birds, the site has substantial wetland habitats on cutaway, as well as an extensive complex of quarry ponds. These habitats support a range of breeding birds of conservation importance. Of particular note are the wetland species, including the Red-listed Lapwing and Snipe, as well as Mute Swan, Little Grebe, Great Crested Grebe and Common Sandpiper. A non-breeding herd of Mute Swan is a recent feature of the site, while Little Egret is a regular visitor. The site also supports substantial numbers of roosting Lesser Black-backed Gulls in late-summer and autumn.
- A sighting on site of Merlin in April 2022, as well as in some previous summers, suggest that at least part of the Drumman site is within the territory of a breeding pair. The site provides breeding habitat for woodland species such as Sparrowhawk. A further suite of species uses the site for hunting, including Buzzard, Kestrel and Peregrine. Meadow Pipit (Red-listed) breeds throughout the cutaway habitats, along with Skylark, Willow Warbler and Linnet. The quarried area supports a Sand Martin colony. On the basis of the results of the breeding survey in 2022, supported by similar breeding surveys since 2013, it is recommended that a rating of **County Importance** is considered appropriate for breeding birds at Drumman Bog.

- **Derryhinch Bog** is in an early stage of re-vegetation and has relatively low potential for breeding birds. However, Sparrowhawk breeds on site, while Kestrel (Red-listed) and Buzzard regularly hunt on site. Little Egret (Annex I listed) is an occasional visitor to the site, while Derryhinch is within the range of a Peregrine breeding territory and the Annex I species was observed perched on bare peat. Meadow Pipit (Red-listed) occurs throughout much of the site, while a range of Amber-listed species also breed, including Skylark, Goldcrest, Willow Warbler and Linnet. The open peat areas provide roosting opportunities for post-breeding flocks of Lesser Black-backed Gull. On the basis of this breeding survey, and taking into account the somewhat similar findings from the 2021 survey, a rating of **Local Importance (higher value)** is considered appropriate for breeding birds at Derryhinch Bog.
- **Ballybeg Bog** is characterised by various types of habitats, with (i) well re-vegetated cutaway bog dominated by scrub, (ii) mostly bare peat from recent commercial production (now ceased), and (iii) a small area of fairly intact high bog (Coole Bog). Snipe (Red-listed) breeds on the high bog within the site. Sparrowhawk breeds in woodland on site, while Kestrel (Red-listed) and Buzzard regularly hunt on site. Ballybeg is within the range of a Peregrine breeding territory and the Annex I species is likely to hunt over the site (bird observed on bare peat with a prey item). Merlin, also an Annex I listed species, was observed hunting on site. Meadow Pipit (Red-listed) occurs throughout much of the site, while a range of Amber-listed species also breed, including Skylark, Goldcrest, Willow Warbler and Linnet. On the basis of this breeding survey, a rating of **Local Importance (higher value)** is considered appropriate for breeding birds at Ballybeg Bog.

## **1.0 INTRODUCTION**

Bord na Móna is considering using some of its bogs in the midlands for wind farm development and has carried out some high level assessment of the suitability of various sites for this purpose.

As part of the planning work, Bord na Móna had commissioned baseline surveys of wintering and breeding birds on the Derryarkin Bog Group (comprising Derryarkin, Drumman, Ballybeg and Derryhinch bogs).

For Derryarkin and Drumman bogs, breeding surveys were carried out in 2013, 2014, 2016, 2018, 2019, 2020 and 2021.

For Ballybeg and Derryhinch bogs, earlier breeding bird surveys were carried out in 2013 and 2014 when sites were in commercial peat production. A further breeding bird survey at these sites was carried out in 2021.

To progress the above further, Bord na Móna issued a request for a breeding bird study in summer 2022 on the Derryarkin Bog Group (comprising 4 bog sites). A contract to carry out the required work was awarded to BioSphere Environmental Services in March 2022.

As with the previous surveys, key requirements of the study were as follows:

- Consult with appropriate bodies, such as NPWS and BWI, regarding sightings and any existing information on the site or surrounding area and discuss / agree appropriate methodologies in the context of the scale and nature of the sites
- provide GIS maps of features and sightings of interest
- provide a detailed recommended methodology for future bird surveys should the project proceed to EIS
- provide a description of the suitability of the habitats present for key species not recorded but which could potentially occur
- provide a summary of likely constraints with regard to the known bird community.

The present report considers the results of the 2022 surveys for the Derryarkin, Drumman, Ballybeg and Derryhinch bog sites, with reference made to the earlier surveys.

## **2.0 SURVEY METHODS**

### **2.1 Desk Review and Consultations**

A thorough desk review had been carried out for available information for the sites in the Derryarkin Bog Group for the breeding bird surveys starting in 2013.

Since then, the present writer is not aware of any additional sources of external information relating to the four Derryarkin Bog Group sites.

### **2.2 Field Surveys**

The tender documentation had noted the following points in respect of survey methodology:

- The Breeding Bird Surveys should be undertaken between the months of April and September and should focus in particular on breeding waders, wildfowl, Hen Harriers and other raptors, Annex 1 species and birds of conservation interest.
- All sites should be visited a minimum of three times during the survey period, or more frequently as appropriate, with the approach and methodology varying depending on the target species.
- The survey should include all, or a selection of the following; focused wetlands surveys; transects; vantage point surveys; bog walks; roost watches; flight paths and migration studies; or other methodologies as appropriate.

The tender also noted that *‘adherence to approved methodologies is a key requirement of the project. However, given the scale and fragmented nature of the area to be surveyed, and the nature of the studies to be undertaken, a pragmatic approach is required. This must balance the detail required to be acceptable for a planning application for a wind farm project of very significant scale with the fact that much of the area is still utilised for industrial scale peat extraction or peat extraction has ceased only recently.’*

Taking the above into account, the following approach was taken at the sites:

#### **2.2.1 Site visits**

For the four bogs in the Derryarkin Group, the Vantage Point methodology was selected and hence monthly visits were carried out commencing in April 2022 and continuing on a monthly basis until September, *i.e.* 6 rounds of monthly surveys.

#### **2.2.2 Survey methods**

Vantage Point watches and transect surveys were the main methods used at the site.

Surveys were carried out largely in suitable weather conditions, with avoidance of persistent rain, mist/fog and winds in excess of F5.

#### **Transects surveys**

The use of transects to record birds within sites is a well-established survey method (Bibby *et al.* 2000). The method is particularly useful for open habitats such as peatlands. The value of the method is that it is repeatable over time, which is particularly relevant to the Bord na

Móna cutaway bogs where habitat conditions are somewhat transient and bird communities can be expected to change over time in response to vegetation types present.

The transects selected typically followed identifiable tracks (inc. rail tracks) which made coverage quicker and also safer compared to across open bog. Further, tracks are often slightly elevated which makes recording more efficient. The number of transects used at each site was determined by the size of the site and the diversity of habitats present.

Bird recording is normally within a zone 200-300 m wide either side of the transect though the flat nature of the sites made larger sized or obvious birds (such as Lapwing) at further distances easily visible. Birds were recorded by sight (with aid of binoculars) and sound.

### **Vantage point surveys**

Vantage point surveys were carried out in accordance with the methodology used for assessing impacts of wind farms on bird communities published by Scottish Natural Heritage (2017). The purpose of these surveys was mainly to detect birds of prey and passing waterbirds (swans, geese, duck, waders etc.), though all birds observed during watches were recorded. The full duration of 36 hours of observations over the site was achieved as required by the methodology.

The vantage points used were the same as those used in the winter bird surveys. When a target species was sighted during a watch, the flightline was plotted onto a field map along with estimated flight height<sup>1</sup>, duration of observation and any other parameters such as age and gender of bird, behaviour of bird (e.g. hunting, flying, roosting) etc.

### **General search for species of conservation value**

In addition to the transect and vantage point watches, habitats with potential for breeding birds of conservation interest were walked during the surveys so as to ensure that all bird species of conservation importance associated with the site were recorded. These habitats comprised mainly localised wetlands, ponds and regenerating bog strips.

#### **2.2.3 Target species**

The breeding surveys were focused on the potential presence of the following groups of birds or species:

- Waders, including Lapwing, Ringed Plover and Snipe
- Other waterbirds, including grebe species, Teal, and gull species
- Summering Merlin, Hen Harrier and other birds of prey
- Red Grouse
- Any other Annex 1 species of EU Birds Directive
- Any other Red or Amber listed species as given in Gilbert *et al.* (2021) – note that this reference supersedes the earlier list by Colhoun & Cummins (2013)

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<sup>1</sup> While actual flight height of target species was estimated in field, values are given in the following bands in Appendix 2: 0-25 m; 25-175 m; >175 m

### **2.3 Survey Limitations**

Surveys following standard methods and within the recommended time frame for breeding birds were carried out at Derryarkin Group of bogs during the 2022 breeding season. The approach generally following that used in the Breeding Atlas 2007-2011 Survey (BTO 2009).

It is considered that no constraints or limitations were associated with the survey.

### **2.4 Criteria for Evaluation of Ornithological Importance of Sites**

No particular quantitative method is available to assess the importance of sites for breeding birds. Instead, the value can be determined by the presence of ‘listed’ species as follows:

- Annex I EU Birds Directive species
- Birds of Conservation Concern - Red List (High conservation concern) species (after Gilbert *et al.* 2021).
- Birds of Conservation Concern – Amber List (Moderate conservation concern) species (after Gilbert *et al.* 2021).

Often, a subjective assessment may need to be made based on available baseline data – for instance, the regular presence within the site of a breeding pair of Merlin (Annex I species) would be of more significance than the occasional record of hunting birds.

For an overall ecological assessment of the importance of a site, taking into account not just ornithological interests but also habitats, flora and other fauna types etc., reference is made to the NRA *Guidelines for Assessment of Ecological Impacts of National Road Schemes* (NRA, 2009). Whilst the NRA guidelines were devised specifically for road schemes, they can be applied to general environmental impact assessment. The NRA system uses the following five-point scale:

- International Importance
- National Importance
- County Importance
- Local Importance (higher value)
- Local Importance (lower value)



### **3.0 RESULTS AND DISCUSSION**

#### **3.1 Sites Designated for Nature Conservation**

No parts of the bog sites which are the subject of the present report are within any site designated for nature conservation.

A list of designated sites within a distance of approximately 15 km of the study area is given below. These comprise Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs).

It is noted that apart from SPAs, these sites do not necessarily have ornithological interests though many would support some birds of conservation interest.

#### **Lough Ennell SPA (code 004040) and SAC (code 000685)**

Lough Ennell is a large, limestone lake. The lake is classified as a mesotrophic system by the EPA though it had been eutrophic in the past. The site is an SAC due to the presence of the Annex I habitat alkaline fen.

Lough Ennell is one of the most important midland lakes for wintering waterfowl, with nationally important populations of Mute Swan, Pochard, Tufted Duck and Coot. At times, the lake is utilised as a roost (with limited feeding) by the internationally important midland lakes population of Greenland White-fronted Goose (*c.*400 strong). The site also attracts Golden Plover (200) and Lapwing (673) though these feed mainly outside of the SPA site.

Lough Ennell is located approximately 10 km to the north-west of Drumman and Derryarkin bogs.

#### **Raheenmore Bog SAC (code 000582)**

Raheenmore Bog is a classic example of a largely intact raised midland bog. It is located approximately 4 km southeast of Derryarkin bog.

The NPWS site synopsis notes the site is within the breeding territory of a pair of Merlin, and supports typical bogland birds such as Red Grouse and Snipe.

#### **Mount Hevey Bog SAC (code 002342)**

Mount Heavy Bog SAC is a good example of a mostly intact raised bog. It is located to the northeast of Kinnegad and approximately 11 km north east of Drumman Bog.

This site is not of known ornithological interest.

#### **Milltownpass Bog NHA (code 002323)**

This NHA is a fine example of a relatively intact raised bog. It is located approximately 3 km north of Drumman Bog.

This site is not of known ornithological interest.

#### **Molerick Bog NHA (code 001582)**

This NHA is a fine example of a relatively intact raised bog. It is located about 4 km west

of Longwood and approximately 15 km northeast of Drumman Bog.

This site is not of known ornithological interest.

**Cloncrow Bog (New Forest) NHA (code 000677)**

This NHA, which is a fine example of a relatively intact raised bog, is located over 5 km west-northwest of Derryarkin.

The NHA is not of known ornithological interest.

**Black Castle Bog NHA (code 000570)**

This NHA is a good example of a relatively intact raised bog and is noted for its easterly location. It is located about 7 km east-southeast of Derryarkin bog.

This NHA site is not of known ornithological interest.

**Daingean Bog NHA (code 0002033)**

This NHA is a good example of a relatively intact raised bog. It is located about 9 km south west of Derryarkin bog.

This NHA site is not of known ornithological interest.

**Grand Canal pNHA (code 02104)**

The Grand Canal pNHA runs approximately 5 km to the south of Derryarkin.

The canal supports a wide range of ecological interests, including bird species such as Mute Swan, Moorhen, Mallard and Kingfisher.

**Royal Canal pNHA (code 02103)**

The Royal Canal pNHA passes approximately 7 km north of Drumman Bog.

The canal supports a wide range of ecological interests, including bird species such as Mute Swan, Moorhen, Mallard and Kingfisher.

**Murphy's Bridge Ridge Esker pNHA (code 01775)**

The pNHA is a good example of an esker ridge with calcareous grassland and supports the rare and protected hemp nettle. It is situated within about 8 km southwest of Derryarkin Bog.

This site is not of known ornithological interest.

### **3.2 Review of Past Data for Study Area**

Apart from a commissioned study of breeding birds at six bog sites, including Drumman Bog and Ballybeg Bog, in the Derrygreenagh/Ballydermot group by Dr Alex Copland (BirdWatch Ireland) in 2010 and 2011 (Copland 2010, 2011), and some general information on the two sites collated by the Bord na Móna ecology team, there is no specific past reference to the breeding birds of the Derryarkin bogs.

#### **Bird Reports**

A useful study was carried out in June 2002 on breeding waders of 12 cutaway bogs in west Co. Offaly by Hudson *et al.* (2002). While outside the Derryarkin study area, it provides a useful comparison for the present study.

The recording catchment for the report *Birds in Central Ireland – Mid Shannon Bird Report* (edited by Stephen Heery) unfortunately is just on the western margin of the Derryarkin study area (report area extends east to a strip from Raheen Lough to Lough Ennel). Nevertheless, the report is a useful comparative source of information and does make reference to sites such as Lough Ennel and Raheenmore Bog, as well as occasional reference to Bord na Móna sites further east such as Ballycon bog. Issues of the report are available for the following periods: 1992-1995, 1996-1999, 2000-2003, 2004-2007, 2008-2011, 2012-2016.

#### **Mountlucas Wind Farm EIS**

Breeding bird assessments were carried out for the Mountlucas wind farm development on 7<sup>th</sup> June 2006 and 30<sup>th</sup> June 2008. Two transects were walked during the surveys. A total of 28 species were recorded during the breeding season, include Snipe, Woodcock, Cuckoo and Skylark. Additional species recorded away from the transects included Lapwing (holding territory), Little Grebe and Kestrel (hunting). Site continues to support breeding Lapwing (casual observations by B. Madden).

While outside of the Derryarkin study area, the habitats at Mountlucas are similar to those at Derryarkin and Drumman bogs and hence the Mountlucas EIS provides a useful comparative reference.

#### **Other Sources of Information**

##### **NPWS**

The study area is covered by NPWS Conservation Ranger Mr Colm Malone. Colm has noted that NPWS would not have any specific bird information relating to the Derryarkin bog sites.

##### **Irish Peatland Conservation Council**

The IPCC does not have any information specific to Derryarkin Group of Bogs.

##### **BirdWatch Ireland**

Dr Alex Copland of BirdWatch Ireland carried out (on behalf of Bord na Móna) a breeding bird survey of Drumman Bog and Ballybeg Bog as part of a study on six bog sites in the Derrygreenagh and Ballydermot group during 2010 and 2011 (see Copland 2010, 2011).

This was a detailed study using the transect method and provides useful additional baseline information to that being collated in the present assessment.

### **Overall Appraisal of Available Information**

The breeding bird survey carried out by Dr Alex Copland on Drumman Bog and Ballybeg Bog provides a useful source of baseline information for the site which supplements the work carried out in the present study. Otherwise, there is no previous baseline information on breeding birds associated with the two bog sites.

Some comparative studies of breeding birds of cutaway bogs are available, namely a 2002 survey of breeding waders on 12 cutaway bogs in west Co. Offaly (Hudson *et al.* 2002) and the EIS for the Mountlucas wind farm.

## **3.3 Derryarkin Bog**

### **3.3.1 Site description**

Derryarkin bog is a large site located at Derrygreenagh to the western side of the R500 road. The site adjoins Drumman bog to the east and Ballybeg bog to the southeast. Access is easily available from a road leading to the Kilmurray quarry works and an active farm (latter known as Derryarkin farm for purpose of this study). Access is also available from the Roadstone quarry facility (within the site). The site extends for up to 2 km from north to south and for up to 4 km from east to west. The site has been out of commercial peat production for a considerable time.

Derryarkin bog comprises regenerating cutaway bog habitats, including extensive wetland habitats, regenerating bog and developing scrub. Associated with the Roadstone facility is one large quarry lake with a gravel islet and several smaller lakes and ponds, as well as bare or sparsely vegetated areas of gravel. Gravel excavation at the site has ceased and a gravel area to the west was being used for timber storage in 2019. Kilmurray quarry to the southwest also has a number of large ponds, with active excavations in progress at the time of the 2022 survey.

The site is adjoined by further areas of cutaway bog to the west and also to the south-east. A forest plantation (on former bog) occurs to the southwest, while agricultural lands occur to the north and to the south of the site.

### **3.3.2 Survey locations**

**Transect 1** starts from the internal access road and follows the railway line in a northwest direction for approximately 2 km. The transect continues along the railway line in a southwest direction towards the western end of the site. This transect covers a large area of regenerating cutaway bog including the wetlands on site.

**Vantage Point 1** is located along the internal access road and looks over a large area of mainly wetland habitats.

**Vantage Point 2** is located along transect 1 and looks over much of the central area of the site including the Roadstone quarries.

**Vantage Point 3** is located towards the end of transect 1 and looks over the western sector of the site (regenerating cutaway bog with scrub).

### **3.3.3 Results and Discussion**

A summary of the variables (date, time, weather etc.) for the vantage point watches carried out at Derryarkin Bog between April 2021 and September 2021 is presented in Appendix 1. Survey raw data for the vantage point watches are presented in Appendix 5.

Scientific names of bird species are given in Appendix 10.

### **Target species recorded 2022**

#### Mute Swan

One pair bred successfully on large quarry pond, with three well grown young on 22<sup>nd</sup> June. Also, up to 17 non-breeding birds through the summer period. Several flightlines recorded involving up to seven birds.

#### Whooper Swan

One bird summered on Derryarkin quarry pond (April-September). No signs of injury on the bird – same bird has been present since summer 2018 (when a pair summered).

#### Teal

One pair in suitable breeding habitat in cutaway bog in early-May - considered to be breeding birds. Up to seven birds on large quarry pond in August.

#### Tufted Duck

Flock of 72, mostly male birds, on large quarry pond on 4<sup>th</sup> April. One pair into July though no signs of breeding. 14 on quarry pond in September.

#### Little Grebe

At least two pairs bred on the various quarry ponds and cutaway bog. Up to 10 birds on ponds in August.

#### Great Crested Grebe

Two pairs present on the main quarry pond through summer – one bred successfully with at least one well grown young in June.

#### Coot

One pair bred successfully on Derryarkin quarry pond.

#### Little Egret

One to two birds on site on several dates through the summer. Probably moving between Derryarkin and Drumman.

Buzzard

Recorded hunting within and flying over the site regularly through the summer. Expected that at least one pair bred locally. Two together on 8<sup>th</sup> April and on 14<sup>th</sup> July, with three on 22<sup>nd</sup> June and on 9<sup>th</sup> September.

Sparrowhawk

Recorded on five occasions, with pair in display on 4<sup>th</sup> April and two on 24<sup>th</sup> September. Birds heard crying in July and considered to have bred on site.

Kestrel

Regular on site through the summer, with most records involving hunting birds. Two together on 29<sup>th</sup> July. Bred on site (in area of Roadstone quarry works).

Peregrine

Successful breeding took place on site, with at least one chick fledged. Birds had also bred successfully in 2019 and 2020 (but appeared to have failed in 2021). Flightlines recorded mostly to and from nest site.

Golden Plover

Flock of over 200 birds flew over site on 4<sup>th</sup> April. These were mostly in summer plumage and were not recorded on site after this date.

Ringed Plover

Estimated up to 10 pairs throughout the site. Concentrated at the Roadstone quarry complex. Fledged birds observed in June and July.

In addition, at least three pairs at the adjoining Kilmurray quarry ponds.

Lapwing

Estimated up to 10 pairs in April, though it is expected that eight pairs attempted breeding (ponds in westernmost sector had dried out by May). This compares well to previous years, with nine in 2020, ten in 2019 and eight in 2018. Some success as fledged young seen in June and July.

In addition, at least two pairs bred on cut bog at Derryiron (off-site area south of access road).

Post breeding birds gathering from July, with a flock of over 50 in August.

Flightlines within site on five dates in August and September.

Snipe

At least four displaying birds in May/June distributed throughout the site.

Woodcock

Two birds observed roding near VP3 in the west of the site on 19<sup>th</sup> May. Roding birds have been recorded in same general area since 2016.

Common Sandpiper

One to two pairs on Derryarkin quarry pond from May through August. Confirmed breeding.

Black-headed Gull

No breeding attempts observed.

Lesser Black-backed Gull

Birds recorded roosting at Roadstone quarry pond in September. Flock of 30+ birds on several dates in September. Mix of sub-adults and immatures, with only a few adults. This species also frequents the wetlands at Drumman in late summer.

Kingfisher

Bird on large quarry pond on 9<sup>th</sup> September.

**Potential for other target species**

The quarry ponds and surroundings could attract nesting Redshank.

**Other species of note**

Greylag Goose – two territorial pairs on Roadstone quarry pond on 4<sup>th</sup> May but not seen subsequently.

Mallard – at least 10 breeding pairs were recorded on the quarry ponds, and c.70 birds there in September.

Moorhen – at least five pairs bred on site.

Cuckoo – two calling birds in May and on one in June.

Goldcrest – bred in scrub on site.

Skylark – peak of 21 singing birds in May from transect survey. Well scattered through site.

Sand Martin – recorded feeding over site through the summer. Possibly nesting at quarry works.

Swallow – recorded feeding over site through the summer – nests in the Roadstone quarry complex.

Willow Warbler – breeds widely on site in scrub and woodland habitats.

Grey Wagtail – one pair bred on site.

Song Thrush – minimum of two pairs recorded on site.

Mistle Thrush - one pair bred successfully. Post-breeding flocking birds in July and August, with over 20 birds on 5<sup>th</sup> August.

Stonechat – four pairs on site, all with fledged young in June/July.

Wheatear – several migrant birds recorded in May and early-June. No evidence of breeding at Roadstone quarry complex (where breeding had occurred in previous years).

Meadow Pipit - estimate of at least 26 breeding pairs on site (from transect survey). Post-breeding flocks (up to 40) recorded in August and September.

Starling – bred in quarry complex buildings.

Linnet – at least one pair confirmed breeding on site. Flock of up to 60 birds in September.

**TABLE 1: DERRYARKIN – TRANSECT SURVEYS, 2022**

Species	19 <sup>th</sup> May	14 <sup>th</sup> June	17 <sup>th</sup> July	BoCCI Status
<b>Mute Swan</b>	<b>3</b>	<b>6</b>	<b>2</b>	<b>A</b>
<b>**Whooper Swan</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>A</b>
Mallard	5	17	28	<b>G</b>
Pheasant	1	3	0	<b>G</b>
Grey Heron	5	3	12	<b>G</b>
Little Egret	1	0	0	<b>G</b>
Little Grebe	5	4	7	A
<b>Great Crested Grebe</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>A</b>
Buzzard	0	0	1	<b>G</b>
Sparrowhawk	0	0	0	<b>G</b>
<b>Kestrel</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>R</b>
<b>**Peregrine</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>G</b>
Moorhen	5	2	7	<b>G</b>
Ringed Plover	6	6	13	<b>A</b>
<b>Lapwing</b>	<b>9</b>	<b>19</b>	<b>28</b>	<b>R</b>
<b>Snipe</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>R</b>
<b>Common Sandpiper</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>A</b>
<b>Black-headed Gull</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>A</b>
<b>Lesser Black-back Gull</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>A</b>
Woodpigeon	4	7	7	<b>G</b>
Cuckoo	2	1	0	<b>G</b>
Magpie	3	1	4	<b>G</b>
Hooded Crow	5	7	13	<b>G</b>
<b>Goldcrest</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>G</b>
Blue Tit	1	3	3	<b>G</b>
Great Tit	2	2	0	<b>G</b>
Coal Tit	5	3	9	<b>G</b>
<b>Skylark</b>	<b>21</b>	<b>28</b>	<b>30</b>	<b>A</b>
<b>Sand Martin</b>	<b>30+</b>	<b>10+</b>	<b>0</b>	<b>A</b>
<b>Swallow</b>	<b>20+</b>	<b>20+</b>	<b>10+</b>	<b>A</b>
<b>Willow Warbler</b>	<b>11</b>	<b>9</b>	<b>13</b>	<b>A</b>
Whitethroat	3	2	6	<b>G</b>
Sedge Warbler	6	9	2	<b>G</b>
Wren	11	9	7	<b>G</b>
Blackbird	6	2	5	<b>G</b>
Song Thrush	3	2	4	<b>G</b>
Mistle Thrush	4	2	7	G
Robin	7	4	8	G
Stonechat	5	5	9	G
<b>Wheatear</b>	<b>5</b>	<b>0</b>	<b>1</b>	<b>A</b>
<b>Starling</b>	<b>13</b>	<b>2</b>	<b>40+</b>	<b>A</b>
Pied Wagtail	4	3	6	<b>G</b>
<b>Meadow Pipit</b>	<b>26</b>	<b>30+</b>	<b>30+</b>	<b>R</b>
Chaffinch	12	10	15	<b>G</b>
<b>Linnet</b>	<b>3</b>	<b>2</b>	<b>4</b>	<b>A</b>
Lesser Redpoll	8	10	14	<b>G</b>
Reed Bunting	4	2	7	<b>G</b>

BoCCI Status (after Gilbert et al. 2021): **R – Red**; **A – Amber**; **G – Green**



**TABLE 2: DERRYARKIN – STATUS OF BREEDING BIRDS 2022**

Species	Maximum Breeding Evidence	No. of pairs (where relevant)	Breeding Status	BoCCI Status
<b>Mute Swan</b>	<b>FL</b>	<b>1</b>	<b>Confirmed</b>	<b>A</b>
<b>**Whooper Swan</b>	<b>U</b>	<b>1 i</b>	<b>Lone bird</b>	<b>A</b>
Mallard	FL		Confirmed	<b>G</b>
<b>Teal</b>	<b>P</b>	<b>1?</b>	<b>Probable</b>	<b>A</b>
<b>Tufted Duck</b>	<b>P</b>	<b>2</b>	<b>Probable</b>	<b>A</b>
Grey Heron	U		Non-breeding	<b>G</b>
Little Egret	U	1-2i	Non-breeding	<b>G</b>
Pheasant	FL		Confirmed	<b>G</b>
Little Grebe	FL	3	Confirmed	G
<b>Great Crested Grebe</b>	<b>FL</b>	<b>2</b>	<b>Confirmed</b>	<b>A</b>
Buzzard	P	1-2	Probable	<b>G</b>
Sparrowhawk	D	1-2	Probable	A
<b>Kestrel</b>	<b>FL</b>	<b>1</b>	<b>Confirmed</b>	<b>R</b>
<b>**Peregrine</b>	<b>FL</b>	<b>1</b>	<b>Confirmed</b>	<b>G</b>
<b>Coot</b>	<b>FL</b>	<b>1</b>	<b>Confirmed</b>	<b>A</b>
Moorhen	FL	3+	Confirmed	<b>G</b>
Ringed Plover	FL	10	Confirmed	<b>G</b>
<b>Lapwing</b>	<b>FL</b>	<b>8</b>	<b>Confirmed</b>	<b>R</b>
<b>Snipe</b>	<b>D</b>	<b>4+</b>	<b>Probable</b>	<b>R</b>
<b>Woodcock</b>	<b>D</b>	<b>1</b>	<b>Probable</b>	<b>R</b>
<b>Common Sandpiper</b>	<b>FL</b>	<b>1-2</b>	<b>Confirmed</b>	<b>A</b>
<b>Lesser Black-back Gull</b>	<b>U</b>		<b>Non-breeding</b>	<b>A</b>
<b>Kingfisher</b>	<b>U</b>		<b>Non-breeding</b>	<b>A</b>
Woodpigeon	P		Probable	<b>G</b>
Cuckoo	S		Possible	<b>G</b>
Magpie	H		Possible	<b>G</b>
Hooded Crow	FL		Confirmed	<b>G</b>
<b>Goldcrest</b>	<b>P</b>		<b>Probable</b>	<b>A</b>
Blue Tit	FL		Confirmed	<b>G</b>
Great Tit	P		Probable	<b>G</b>
Coal Tit	FL		Confirmed	<b>G</b>
<b>Skylark</b>	<b>FL</b>	<b>21</b>	<b>Confirmed</b>	<b>A</b>
<b>Sand Martin</b>	<b>P</b>		<b>Probable</b>	<b>A</b>
<b>Swallow</b>	<b>ON</b>		<b>Confirmed</b>	<b>A</b>
Long-tailed Tit	P		Probable	<b>G</b>
<b>Willow Warbler</b>	<b>T</b>		<b>Probable</b>	<b>A</b>
Whitethroat	FL		Confirmed	<b>G</b>
Sedge Warbler	T		Probable	<b>G</b>
Wren	FL		Confirmed	<b>G</b>
Blackbird	FF		Confirmed	<b>G</b>
Song Thrush	FL		Confirmed	<b>G</b>
Mistle Thrush	FL	1	Confirmed	G
Robin	FL		Confirmed	G
Stonechat	FL	3	Confirmed	G
<b>Wheatear</b>	<b>M</b>		<b>Non-breeding</b>	<b>A</b>
<b>Grey Wagtail</b>	<b>P</b>	<b>1</b>	<b>Probable</b>	<b>R</b>

Pied Wagtail	FL		Confirmed	<b>G</b>
<b>Starling</b>	<b>N</b>		<b>Probable</b>	<b>A</b>
<b>Meadow Pipit</b>	<b>FL</b>	<b>26</b>	<b>Confirmed</b>	<b>R</b>
Chaffinch	FL		Confirmed	<b>G</b>
Goldfinch	FL		Confirmed	<b>G</b>
<b>Linnet</b>	<b>FL</b>	<b>1-2</b>	<b>Confirmed</b>	<b>A</b>
Lesser Redpoll	P		Probable	<b>G</b>
Reed Bunting	FL		Confirmed	<b>G</b>

Breeding Status Codes are detailed in Appendix 9

BoCCI Status (after Gilbert et al. 2021): **R – Red; A – Amber; G – Green**

\*\* Annex I listed

### **Overview of importance of site for breeding birds**

Derryarkin bog, with a substantial area of regenerating wetland habitats and a large quarry complex, is of significant conservation importance for breeding birds. The 2022 breeding bird survey has added to the baseline breeding assessments carried out at this site in 2013, 2014, 2016, 2018, 2019, 2020 and 2021.

Of particular note are the breeding wetland bird species and especially waders, with Lapwing (Red-listed) and Snipe (Red-listed), as well as Ringed Plover and Common Sandpiper (both Amber listed). The Red-listed Woodcock also breeds on site. The Lapwing population is of particular note with at least eight pairs on site and a further 2-3 pairs on adjoining land at Derryiron (all considered part of one breeding population).

Other breeding wetland birds included Little Grebe, Great Crested Grebe, Coot, Teal and Tufted Duck. The presence of a summering Whooper Swan is of interest and this bird is presumed one of the pair that summered in 2018.

There was no breeding attempt by Black-headed Gull in 2021 – however, suitable habitat is present and breeding may be attempted future years.

Kestrel (Red-listed) bred successfully on site, as did Peregrine (Annex I listed). Meadow Pipit (Red listed) occurs widely throughout the site. Grey Wagtail (Red-listed) also bred on site.

A range of other Amber listed species were recorded nesting on site, including Skylark (widespread), Swallow, Willow Warbler and Linnet.

### **3.3.4 Evaluation and Rating of Derryarkin Bog for Breeding Birds**

There follows a summary of the conservation status of species recorded on Derryarkin Bog in summer 2022 (breeding includes categories possible, probable, confirmed):

#### **EU Birds Directive Annex I listed species**

Whooper Swan (summering)

Little Egret (summering)

Peregrine (breeding territory)

Kingfisher (non-breeding)

**Red Listed species (after Gilbert et al. 2021)**

Kestrel (breeding)

Lapwing (breeding)

Snipe (breeding)

Woodcock (breeding)

Grey Wagtail (breeding)

Meadow Pipit (breeding)

**Amber Listed species (after Gilbert et al. 2021)**

Mute Swan (breeding)

Great Crested Grebe (breeding)

Teal (breeding)

Tufted Duck (breeding)

Common Sandpiper (breeding)

Lesser Black-backed Gull (non-breeding)

Goldcrest (breeding)

Skylark (breeding)

Sand Martin (breeding ?)

Swallow (breeding)

Willow Warbler (breeding)

Wheatear (migration but has bred in the past)

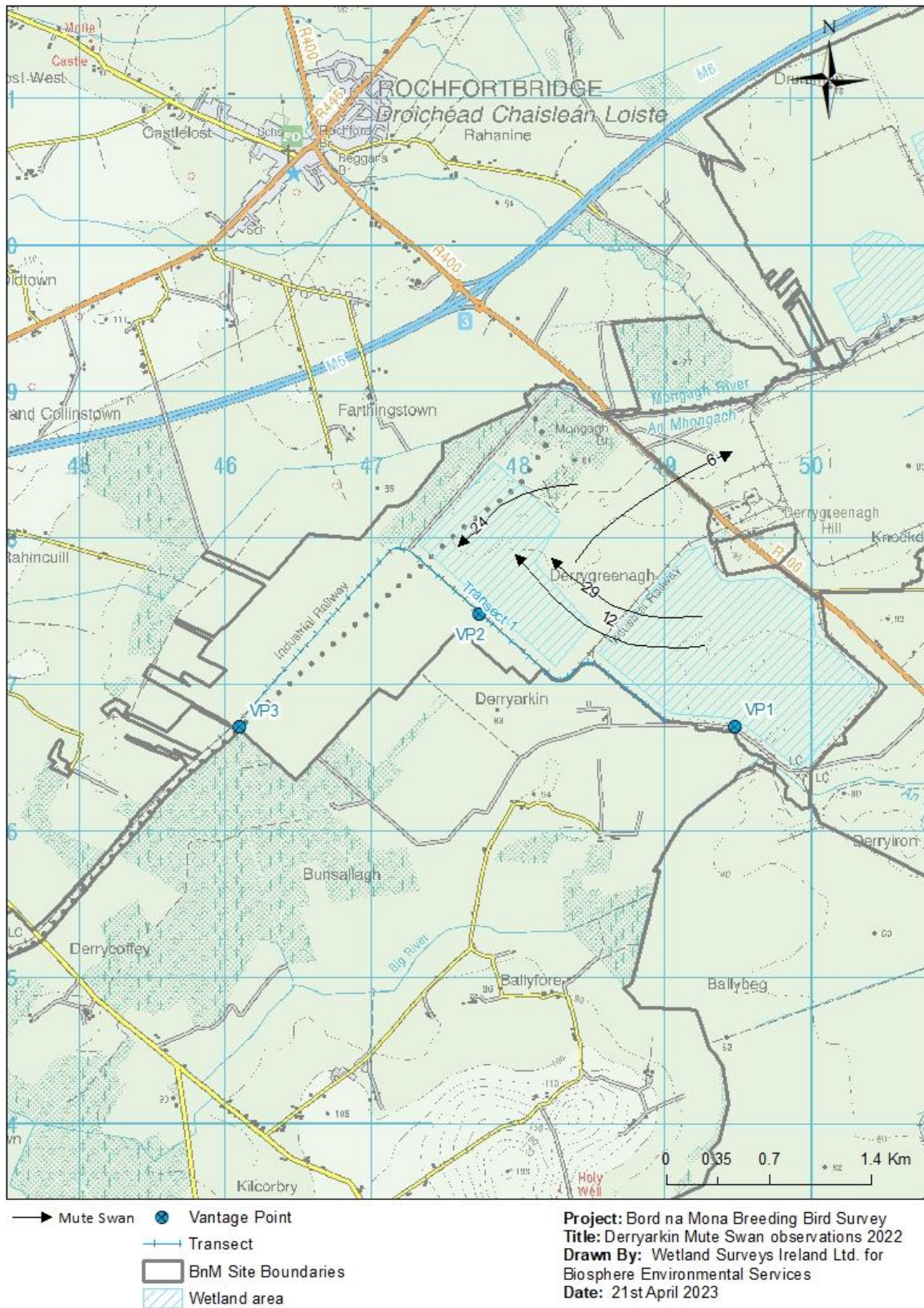
Starling (breeding)

Linnet (breeding)

Derryarkin supports a range of breeding species of conservation importance, including six Red-listed species. While much of the interest is as a result of the presence of the quarry complex, the developing wetlands in the cutaway bog are important for various species and notably Lapwing. It appears that regular predation by American mink, and probably fox and crows, is causing high losses among breeding species such as Tufted Duck and Black-headed Gull, as well as possibly Lapwing.

On the basis of the results of the breeding bird survey in 2022, and taking the results of past surveys into account, it is recommended that a rating of **National Importance** is considered appropriate for breeding birds at Derryarkin Bog.

**Derryarkin Map 1:** Map showing transect and vantage point locations, with flightlines for Mute Swan, summer 2022. See Appendix 5 for map reference number details.





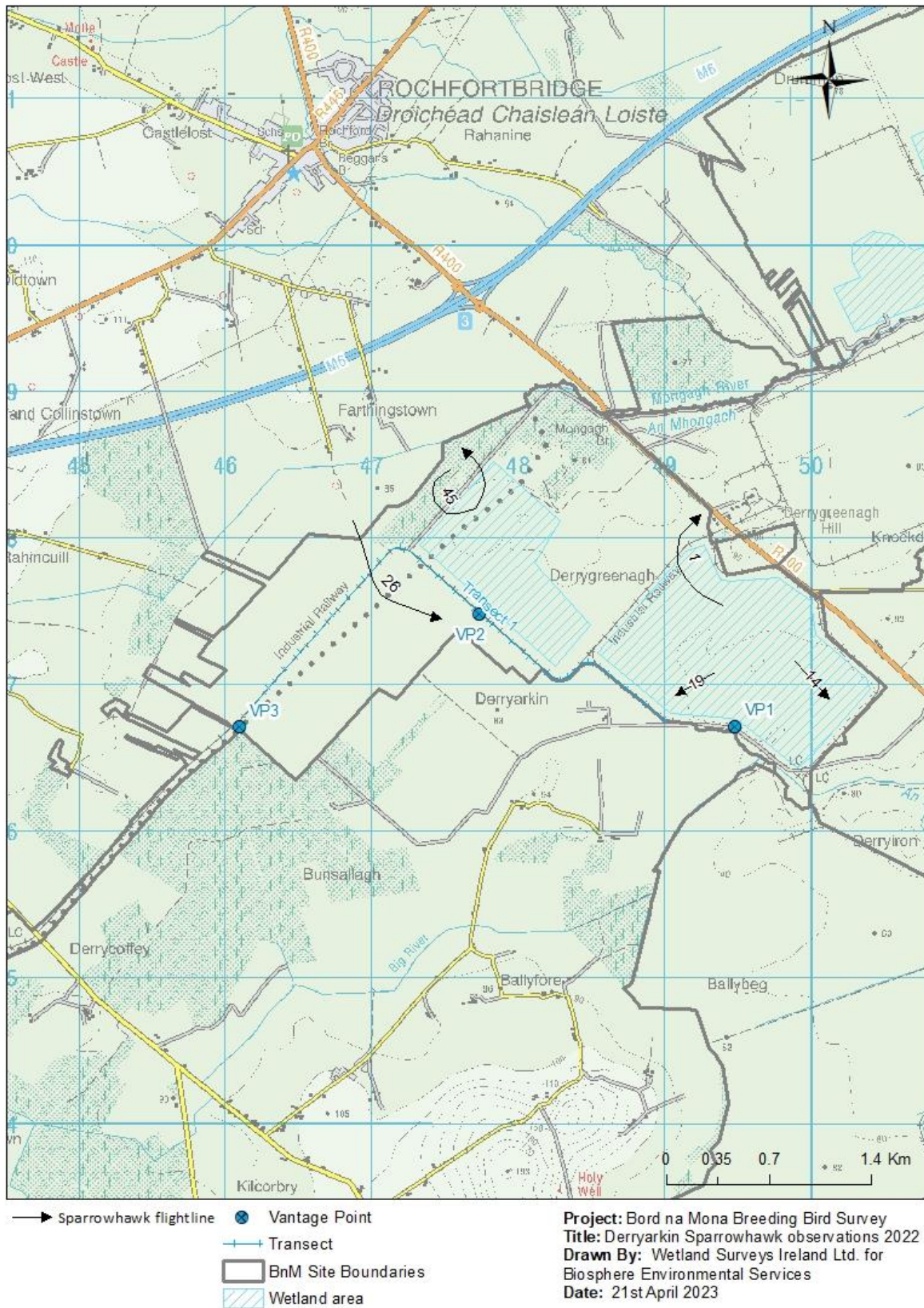
**Derryarkin Map 2:** Map showing transect and vantage point locations, with flightlines for Little Egret, summer 2022. See Appendix 5 for map reference number details.



Project: Bord na Mona Breeding Bird Survey  
 Title: Derryarkin Little Egret observations 2022  
 Drawn By: Wetland Surveys Ireland Ltd. for Biosphere Environmental Services  
 Date: 21st April 2023

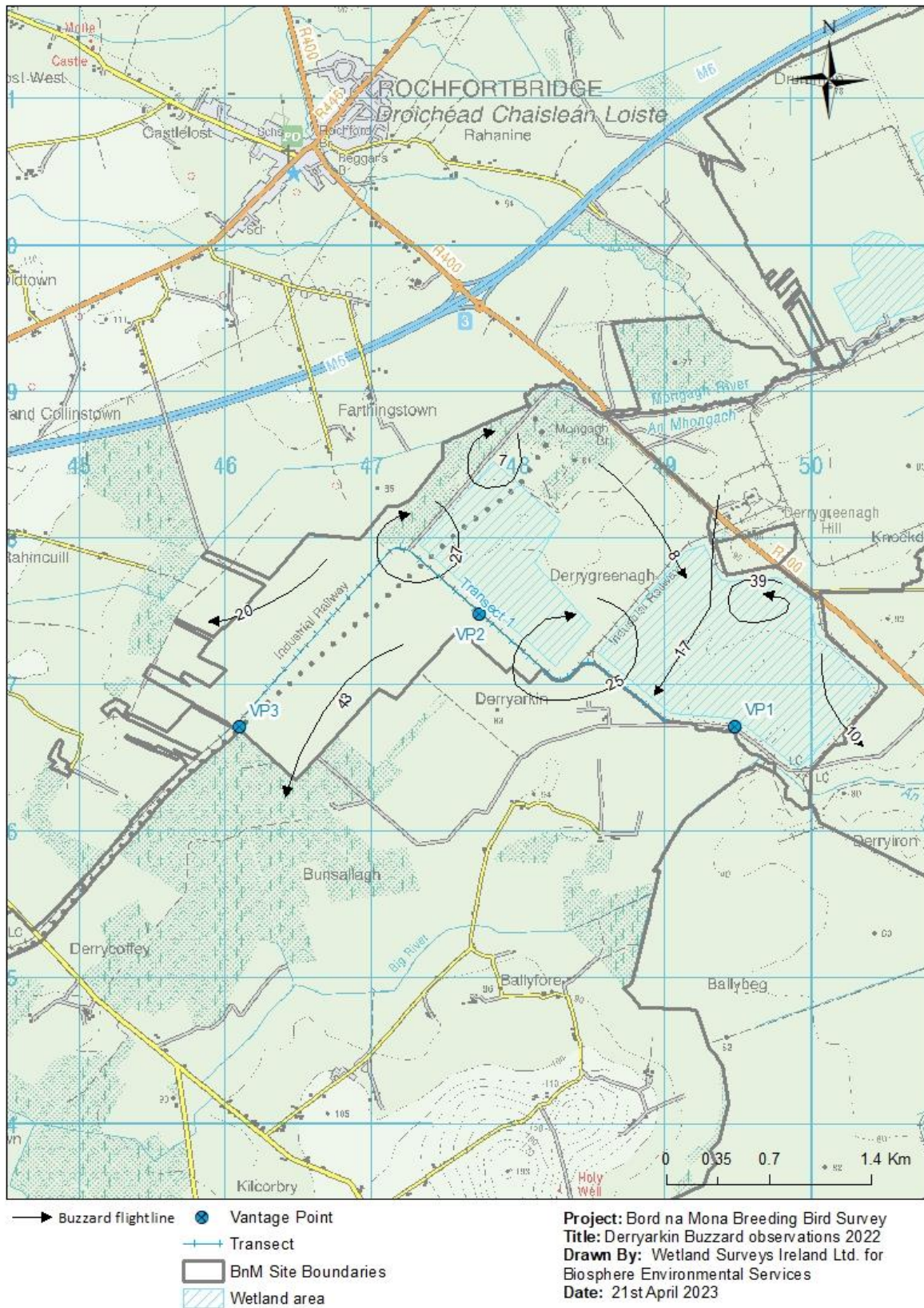


**Derryarkin Map 3:** Map showing transect and vantage point locations, with flightlines for Sparrowhawk, summer 2022. See Appendix 5 for map reference number details.



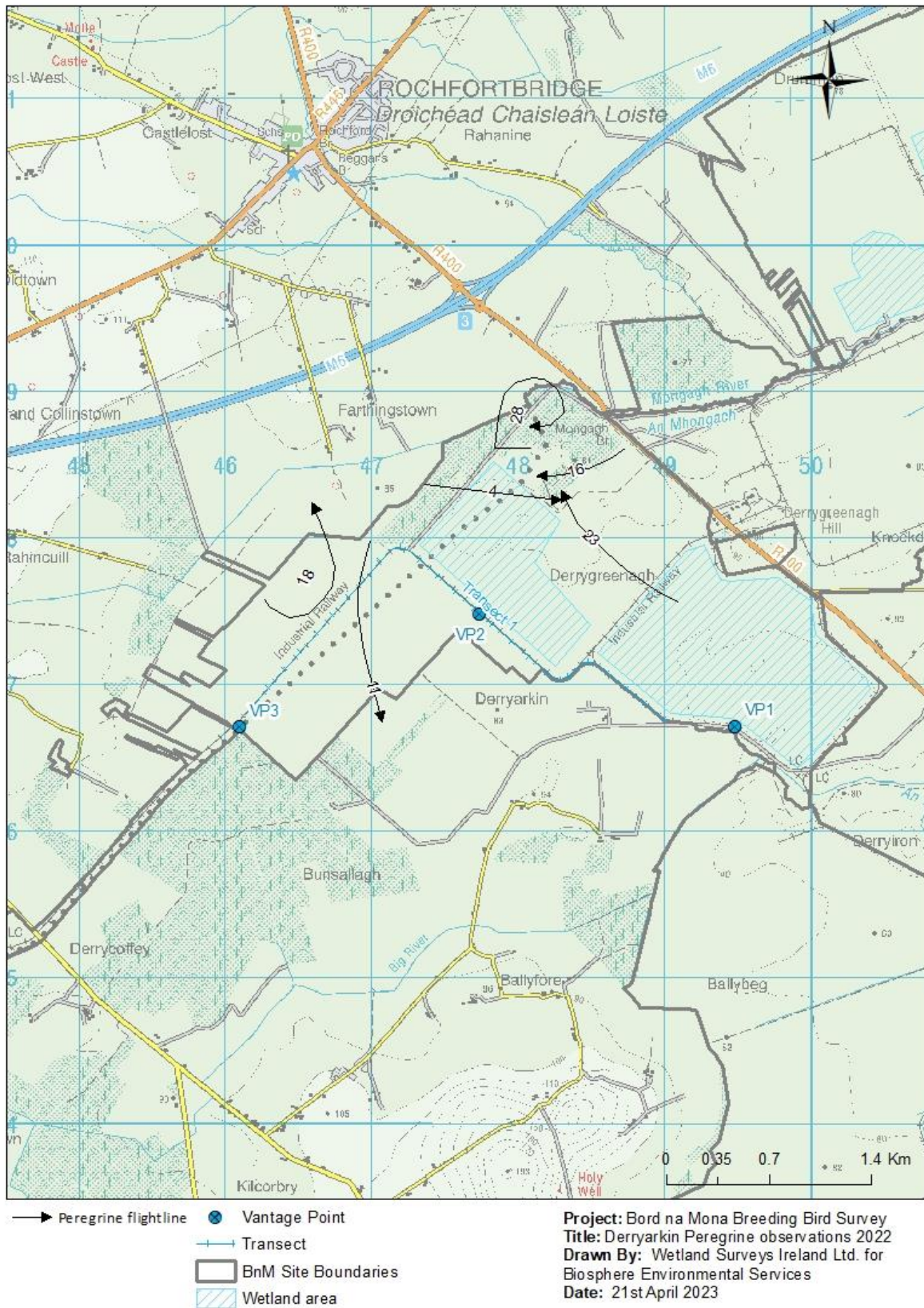


**Derryarkin Map 4:** Map showing transect and vantage point locations, with flightlines for Buzzard, summer 2022. See Appendix 5 for map reference number details.





**Derryarkin Map 5:** Map showing transect and vantage point locations, with flightlines for Peregrine, summer 2022. See Appendix 5 for map reference number details.





**Derryarkin Map 6:** Map showing transect and vantage point locations, with flightlines for Kestrel, summer 2022. See Appendix 5 for map reference number details.

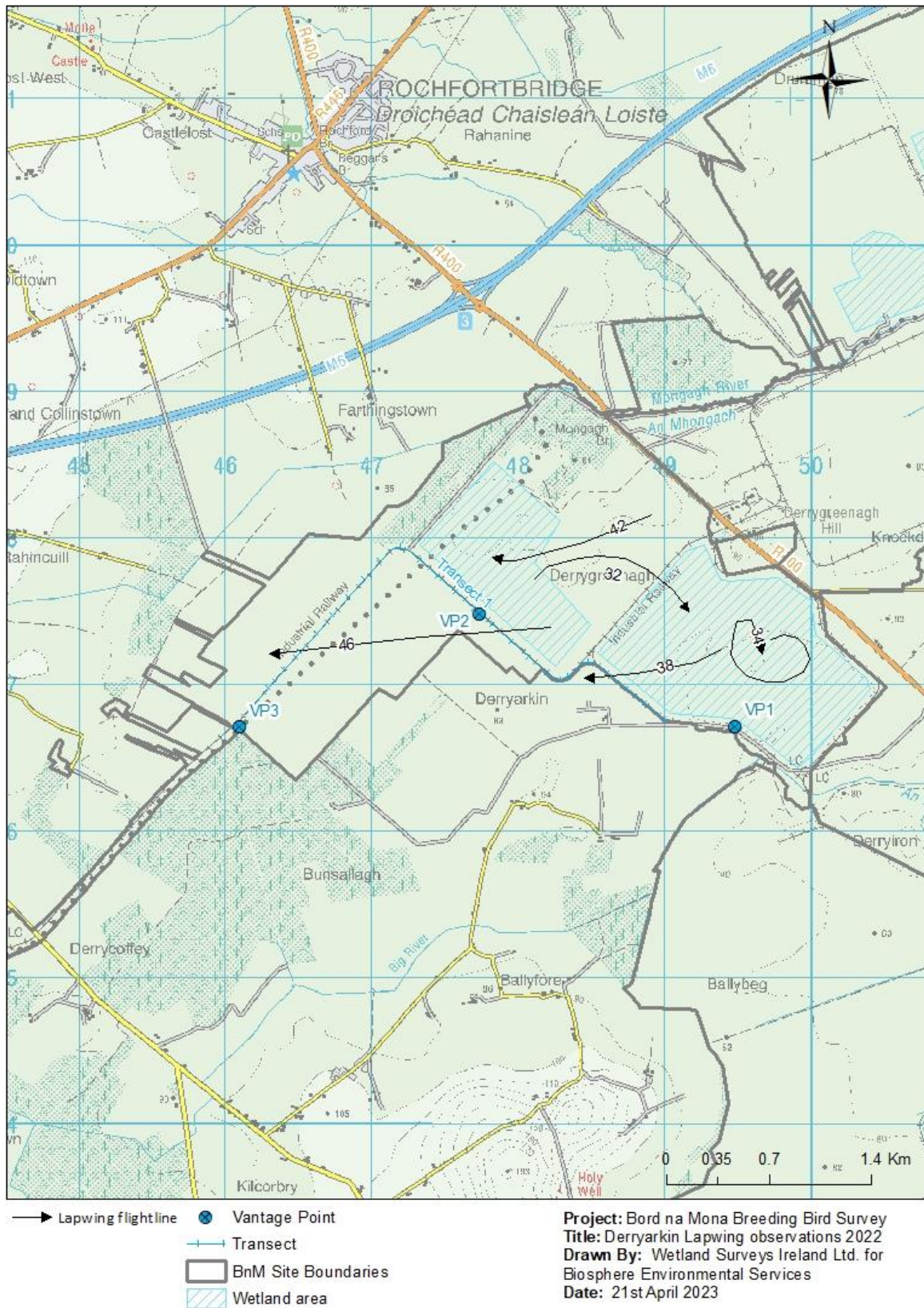


- Kestrel flightline
- Vantage Point
- +— Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

Project: Bord na Mona Breeding Bird Survey  
 Title: Derryarkin Kestrel observations 2022  
 Drawn By: Wetland Surveys Ireland Ltd. for  
 Biosphere Environmental Services  
 Date: 21st April 2023

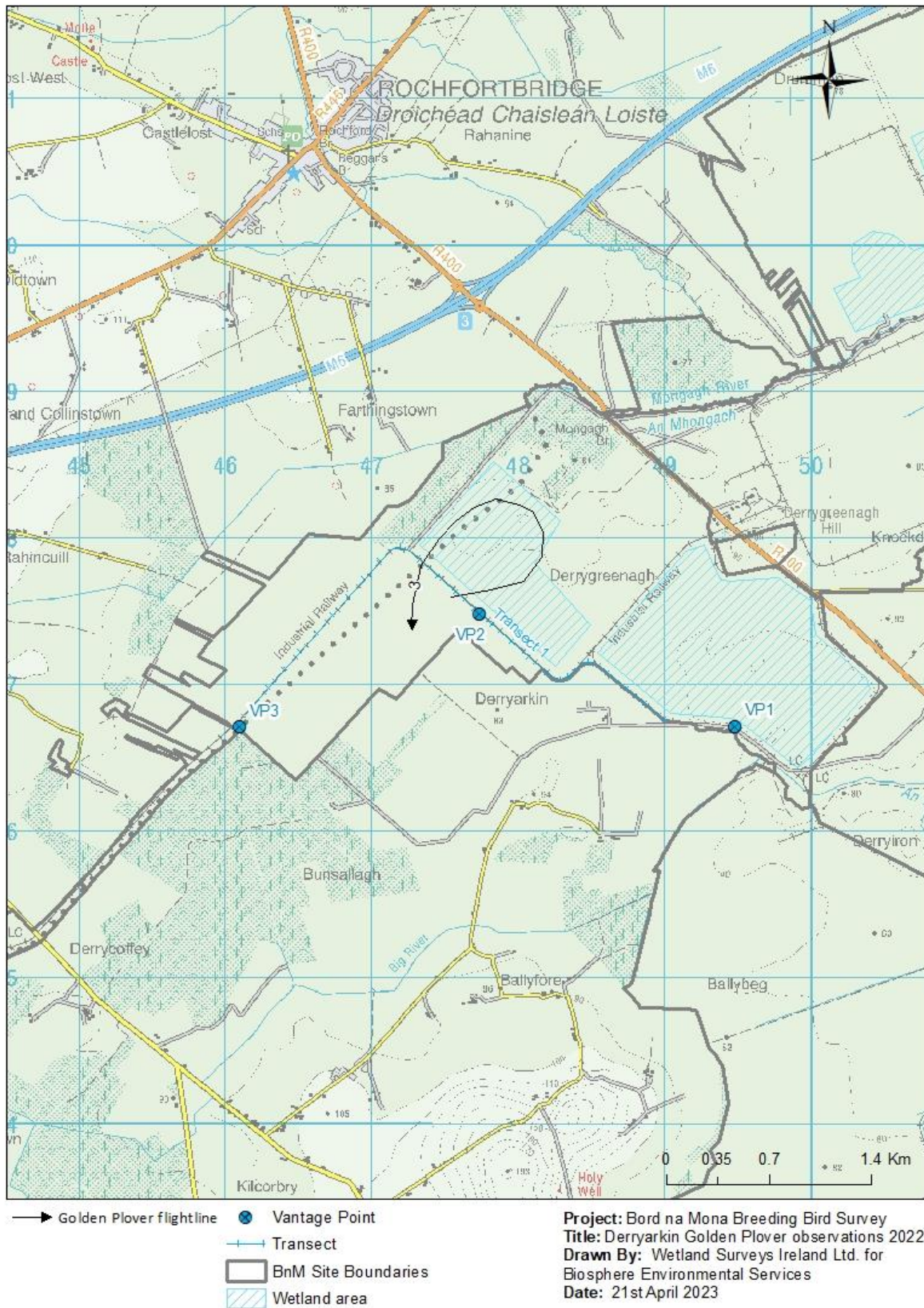


**Derryarkin Map 7:** Map showing transect and vantage point locations, with flightlines for Lapwing, summer 2022. See Appendix 5 for map reference number details.





**Derryarkin Map 8:** Map showing transect and vantage point locations, with flightlines for Golden Plover, summer 2022. See Appendix 5 for map reference number details.





**Derryarkin Map 9:** Map showing transect and vantage point locations, with flightlines for Kingfisher, summer 2022. See Appendix 5 for map reference number details.







**Plate 1.** Derryarkin: The regenerating wetland habitat in northeast sector which supports breeding Lapwing, Snipe and Teal.



**Plate 2.** Derryarkin: The Roadstone quarry pond supports a range of breeding wetland species, including Ringed Plover, Common Sandpiper, Great Crested Grebe and Tufted Duck.

## **3.4 DRUMMAN BOG**

### **3.4.1 Site Description**

Drumman Bog is a large site located between the M6 motorway (which skirts its northwest boundary) and the R400 road (which skirts its western boundary). The site adjoins Derryarkin bog to the southwest (though sites are divided by the R400). The main access to the site is along an internal road from the R400. The site extends for up to 3.5 km from north to south and for up to 4 km from east to west. In addition to recent commercial peat production, the site has been used extensively for quarrying and is also used for stockpiling of logs. The Mongagh River flows through the central area of the site.

Much of the sector of Drumman bog to the south of the Mongagh River has been in recent industrial peat production though is now in the early re-vegetating stage. This comprises strips and patches of pioneering vegetation of cutaway bog, mostly birch scrub, dry grassland and poor fen communities. Also in recent commercial production is a sector in the northeast (Carrick bog), which is somewhat separated from the rest of the site by the Mongagh River and local topography. This area is still largely bare peat.

An extensive area of cutaway bog occurs north of the Mongagh River. A large wetland area with ponds and standing water has been created in the northeast section after an outfall was blocked in 2005. The open water forms a mosaic with emergent reedbeds and extensive fringing poor fen communities. Strips of birch scrub are also present.

The established gravel and sand extraction area to the south of the cutaway (and north of Mongagh River) includes one large artificial lake, several smaller lakes or ponds and large mounds of aggregates. More recently, extraction has occurred to the south of the Mongagh River and access road, with a large lake now present.

A substantial conifer plantation in the northeast sector was developed by Coillte in the 1990s, with a further plantation in the northwest.

In recent years felled trees have been stored along parts of the main access road through the site and the storage area has been extended into the quarry zone.

The Mongagh River, which is within the Boyne catchment, is the main watercourse associated with the site. The channel has been deepened and is skirted by large berms. Natural riparian zones are poorly developed along the river.

The site is adjoined by slivers of bog to the east and north-west, with agricultural land to the south.

### **3.4.2 Survey Locations**

**Transect 1** starts from the internal access road and traverses the northern sector of the site along a straight line with two offline loops. This transect covers a large area of regenerating cutaway bog including the wetlands on site.

**Transect 2** also starts from the internal access road and traverses the southern sector of the site. The transect includes two offline sections. This transect covers a large area of regenerating cutaway bog as well as bare peat areas.

**Transect 3** runs from the centre of the site eastwards along the Mongagh River towards the eastern offshoot (commercial peat field).

**Vantage Point 1** is located along transect 1 and looks over much of the northern sector of the site including wetland habitats.

**Vantage Point 2** is located along transect 2 and looks over much of the southern sector of the site.

**Vantage Point 3** is located off the R500 road and looks over the south-western part of the site, though large parts of the central area of the site are visible.

**Vantage Point 4** is located in the extreme north-eastern offshoot (Carrick bog) and looks over this entire sector. All of the area is recently worked commercial peat fields.

### **3.4.3 Results and Discussion**

A summary of the variables (date, time, weather etc.) for the vantage point watches carried out at Drumman Bog between April 2022 and September 2022 is presented in Appendix 2. Survey raw data for the vantage point watches are presented in Appendix 6.

Data from transect surveys are given in Table 3.

Scientific names of bird species are given in Appendix 10.

#### **Target species recorded**

##### Mute Swan

One pair bred successfully on quarry ponds to north of Mongagh River, with a brood of four well grown young in June.

Herd of non-breeding birds present through summer, with numbers varying between 60 and 70 birds. Birds mainly adults but some immature birds. This herd had been present since winter.

Some local movements occur between Drumman and Derryarkin.

##### Tufted Duck

Up to 24 birds were present on the quarry ponds in April (mostly males). Only one pair seen later in summer and no evidence of breeding.

##### Great Crested Grebe

One to two pairs on quarry ponds through summer but no evidence that breeding occurred.

##### Little Grebe

3-4 pairs holding territory on quarry ponds in May.

##### Teal

Small numbers occasional on ponds, with peak count of 11 in September.

##### Little Egret

Various sightings through the summer – all single birds other than two on 12<sup>th</sup> September.

Birds commute between Drumman and Derryarkin, and it is expected also with ponds associated with the Lagan Cement Works.

#### Sparrowhawk

Regular sightings of soaring/displaying birds and/or hunting birds through the season. Recorded throughout site and especially in the eastern sector. Pair in display on 6<sup>th</sup> April and pair circling on 21<sup>st</sup> May. Three interacting on 11<sup>th</sup> July. Considered to have bred on site.

#### Buzzard

Buzzard is regular on site and is the most frequently observed bird of prey. Expected to breed locally (1-2 pairs), with birds hunting on site. Pairs recorded on several dates, and four together on 27<sup>th</sup> July, with three on 20<sup>th</sup> August.

#### Merlin

There was one record of a bird (unsexed) hunting near the southern boundary of the site on 7<sup>th</sup> April.

From the near regular occurrence over the survey years of Merlin on site, it is expected that the species breeds locally (but not necessarily on site).

#### Kestrel

Kestrel used the site for hunting purposes throughout much of the summer period. All records were of single birds other than two close together on 14<sup>th</sup> September. Breeds locally (Derryarkin Roadstone works).

#### Peregrine

Recorded flying over the site on five occasions. These birds are considered to be associated with the breeding pair at Derryarkin.

#### Lapwing

Three territorial pairs in wetlands in northern sector of site in April but only two in May and June. Doubtful if either pair was successful.

Lapwing had also been recorded breeding in 2018, 2019, 2020 and 2021, with a fledged young seen in 2021.

Flightlines over site in August and September. Expected that birds commute between Drumman and Derryarkin.

#### Ringed Plover

At least four pairs estimated holding territories in quarry areas. Fledged young seen.

#### Snipe

At least four territories in northern wetland area in May.

#### Common Sandpiper

Two pairs on large quarry pond in May and June— probably bred.

#### Lesser Black-backed Gull

As in previous summers (2018-2021), Lesser Black-backed Gull was recorded regularly in the northern sector of the site from late-June to September. The birds use the area for resting



purposes and are mainly sub-adult and immature birds. Numbers peaked at 86 on 27<sup>th</sup> July. Flightlines recorded over site several times.

### **Potential for other target species**

Teal was considered to nest on site in 2010 and could do so again. Also, Black-headed Gull has bred on site in the past and could do so again.

### **Other species of note**

Mallard – bred on quarry ponds and elsewhere on site, probably between 5 and 10 pairs throughout site. Peak of 53 birds on quarry ponds on 6<sup>th</sup> August.

Sand Martin – 50+ active nests in quarry sand banks in May and June.

Skylark – nests throughout the site. Count of 22 birds from transects in May.

Mistle Thrush – One pair bred in northern sector of site. Post-breeding flocks regular from late July through August (peak of 12 birds on 28<sup>th</sup> July).

Robin – breeds on site in scrub and woodland habitats.

Stonechat – at least four territorial pairs on site. Young birds successfully fledged.

Wheatear – several birds on site in April and May were migrant birds, with four on 20<sup>th</sup> May.

Goldcrest – breeds on site in scrub and woodland habitats.

Willow Warbler – breeds widely on site in scrub and woodland habitats.

Meadow Pipit - well scattered throughout the site where suitable habitats exist – estimate of a minimum population of 27 territorial birds along transects in May.

Starling – small numbers on site through summer, with post breeding flocks (up to 150 birds in July and August).

Linnet – one pair with young in area of quarries in late July.

**TABLE 3: DRUMMAN – TRANSECT SURVEYS, 2022**

Species	18 <sup>th</sup> May	19 <sup>th</sup> June	16 <sup>th</sup> July	BoCCI Status
<b>Mute Swan</b>	<b>46</b>	<b>33</b>	<b>42</b>	<b>A</b>
Mallard	6	18	30+	<b>G</b>
Pheasant	1	1	0	<b>G</b>
Little Egret	0	0	1	<b>G</b>
Grey Heron	4	3	9	<b>G</b>
Little Grebe	5	4	7	<b>G</b>
Buzzard	0	0	1	<b>G</b>
Sparrowhawk	0	0	0	<b>G</b>
<b>Kestrel</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>R</b>
<b>Peregrine</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>G</b>
Moorhen	3	0	6	<b>G</b>
Ringed Plover	6	7	11	<b>G</b>
<b>Lapwing</b>	<b>4</b>	<b>3</b>	<b>4</b>	<b>R</b>
<b>Snipe</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>R</b>
<b>Lesser Black-back Gull</b>	<b>0</b>	<b>0</b>	<b>40+</b>	<b>A</b>
Woodpigeon	4	2	11	<b>G</b>
Cuckoo	2	1	0	<b>G</b>
Magpie	3	5	1	<b>G</b>
Hooded Crow	8	14	20+	<b>G</b>
<b>Goldcrest</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>A</b>
Blue Tit	1	1	0	<b>G</b>
Great Tit	1	0	2	<b>G</b>
Coal Tit	3	2	7	<b>G</b>
<b>Skylark</b>	<b>22</b>	<b>35</b>	<b>28</b>	<b>A</b>
<b>Sand Martin</b>	<b>30+</b>	<b>50+</b>	<b>20+</b>	<b>A</b>
<b>Swallow</b>	<b>12</b>	<b>30+</b>	<b>20+</b>	<b>A</b>
<b>Willow Warbler</b>	<b>14</b>	<b>11</b>	<b>9</b>	<b>A</b>
Whitethroat	3	4	2	<b>G</b>
Blackcap	0	0	0	<b>G</b>
Grasshopper Warbler	2	0	0	<b>G</b>
Sedge Warbler	8	11	3	<b>G</b>
Wren	14	8	7	<b>G</b>
Blackbird	7	12	5	<b>G</b>
Song Thrush	1	1	2	<b>G</b>
Mistle Thrush	3	4	9	<b>G</b>
Robin	6	3	3	<b>G</b>
Stonechat	4	9	7	<b>G</b>
<b>Wheatear</b>	<b>2</b>	<b>4</b>	<b>0</b>	<b>A</b>
<b>Starling</b>	<b>12</b>	<b>40+</b>	<b>50+</b>	<b>A</b>
Dunnock	0	0	1	<b>G</b>
Pied Wagtail	4	7	7	<b>G</b>
<b>Meadow Pipit</b>	<b>27</b>	<b>40+</b>	<b>50+</b>	<b>R</b>
Chaffinch	14	15	6	<b>G</b>
<b>Linnet</b>	<b>2</b>	<b>6</b>	<b>0</b>	<b>A</b>
Bullfinch	0	0	3	<b>G</b>
Lesser Redpoll	5	0	10	<b>G</b>
Reed Bunting	4	2	2	<b>G</b>

BoCCI Status BoCCI Status (after Gilbert et al. 2021): **R – Red; A – Amber; G – Green**

**TABLE 4: DRUMMAN – STATUS OF BREEDING BIRDS 2022**

Species	Maximum Breeding Evidence	No. of pairs (where relevant)	Breeding Status	BoCCI Status
<b>Mute Swan</b>	<b>FL</b>	<b>1</b>	<b>Confirmed</b>	<b>A</b>
Mallard	FL	5-10	Confirmed	<b>G</b>
<b>Teal</b>	<b>M</b>		<b>Non-breeding</b>	<b>A</b>
<b>Tufted Duck</b>	<b>P</b>	<b>1</b>	<b>Probable</b>	<b>A</b>
Pheasant	P		Probable	<b>G</b>
Grey Heron	U		Non-breeding	<b>G</b>
Little Egret	U		Non-breeding	<b>G</b>
Little Grebe	T	3	Probable	<b>G</b>
<b>Great Crested Grebe</b>	<b>H</b>	<b>1-2</b>	<b>Possible</b>	<b>A</b>
Buzzard	F		Non-breeding	<b>G</b>
Sparrowhawk	D	1	Probable	<b>G</b>
<b>Kestrel</b>	<b>F</b>		<b>Non-breeding</b>	<b>R</b>
<b>**Peregrine</b>	<b>F</b>		<b>Non-breeding</b>	<b>G</b>
Moorhen	FL		Confirmed	<b>G</b>
Water rail	S	1+	Possible	<b>G</b>
Ringed Plover	FL	5	Confirmed	<b>G</b>
<b>Lapwing</b>	<b>T</b>	<b>2</b>	<b>Probable</b>	<b>R</b>
<b>Snipe</b>	<b>D</b>	<b>4</b>	<b>Probable</b>	<b>R</b>
<b>Common Sandpiper</b>	<b>P</b>	<b>2</b>	<b>Probable</b>	<b>A</b>
<b>Lesser Black-backed Gull</b>	<b>U</b>		<b>Non-breeding</b>	<b>A</b>
Woodpigeon	P		Probable	<b>G</b>
Cuckoo	S	2	Possible	<b>G</b>
Magpie	H		Probable	<b>G</b>
Hooded Crow	FL		Confirmed	<b>G</b>
<b>Goldcrest</b>	<b>P</b>		<b>Probable</b>	<b>G</b>
Blue Tit	T		Probable	<b>G</b>
Great Tit	T		Probable	<b>G</b>
Coal Tit	FL		Confirmed	<b>G</b>
<b>Skylark</b>	<b>FL</b>	<b>22</b>	<b>Confirmed</b>	<b>A</b>
<b>Sand Martin</b>	<b>ON</b>	<b>50+</b>	<b>Confirmed</b>	<b>A</b>
<b>Swallow</b>	<b>F</b>		<b>Non-breeding</b>	<b>A</b>
<b>Willow Warbler</b>	<b>FL</b>		<b>Confirmed</b>	<b>A</b>
Whitethroat	FL		Confirmed	<b>G</b>
Grasshopper Warbler	S	2	Possible	<b>G</b>
Sedge Warbler	FL		Confirmed	<b>G</b>
Wren	FL		Confirmed	<b>G</b>
Blackbird	FL		Confirmed	<b>G</b>
Song Thrush	FF		Confirmed	<b>G</b>
Mistle Thrush	FL	1	Confirmed	<b>G</b>
Robin	FL		Confirmed	<b>G</b>
Stonechat	FL	4-5	Confirmed	<b>G</b>
<b>Wheatear</b>	<b>M</b>		<b>Non-breeding</b>	<b>A</b>
<b>Starling</b>	<b>FL</b>		<b>Confirmed</b>	<b>A</b>
Duncock	S		Possible	<b>G</b>

Pied Wagtail	FL		Confirmed	<b>G</b>
<b>Meadow Pipit</b>	<b>FL</b>	<b>27</b>	<b>Confirmed</b>	<b>R</b>
Chaffinch	FL		Confirmed	<b>G</b>
<b>Linnet</b>	<b>FL</b>	<b>1</b>	<b>Confirmed</b>	<b>A</b>
Bullfinch	H		Possible	<b>G</b>
Lesser Redpoll	FL		Confirmed	<b>G</b>
Reed Bunting	FF		Confirmed	<b>G</b>

Breeding Status Codes are detailed in Appendix 9

BoCCI Status (after Gilbert et al. 2021): **R – Red; A – Amber; G – Green**

\*\* listed on Annex I of Birds Directive

### **Overview of importance of site for breeding birds**

The 2022 breeding bird survey at Drumman bog has added to the baseline breeding assessments carried out in 2013, 2014, 2016, 2018, 2019, 2020 and 2021 (and an earlier survey in 2010 carried out by Alex Copland). These surveys indicate that Drumman Bog has substantial importance for breeding birds.

The primary sector of interest is that to the north of the Mongagh River channel. Here there is a complex of well-established wetland habitats on cutaway bog as well as quarry ponds with marginal wetland vegetation. Re-vegetating cutaway bog also occurs in the southern sector of the site (along with peat fields still fairly bare since recent production). The northeast sector (Carrick bog) is still sparsely vegetated since recent production and presently of low interest for breeding birds.

Various wetland bird species nest on site, including Mute Swan, Little Grebe, Tufted Duck, Water Rail and Ringed Plover. Since 2018 Lapwing has bred on site (up to 4 pairs) and have had success in some years. Hooded crows however, are a constant threat to the birds. Snipe has a good presence on site, with several breeding territories. Common Sandpiper was present and is expected to nest on site. Great Crested Grebe was present but there was no evidence of nesting in 2022 (similar to 2019-201). A Little Egret was present at times through the summer.

A non-breeding herd of Mute Swan (60-70 birds) summered on the site – this herd has now been present on site for at least two years. A non-breeding flock of Lesser Black-backed Gulls has been a feature of the site in recent years. These are mostly sub-adult and immature birds and use the site mainly for roosting purposes.

Sparrowhawk breeds on site, while Peregrine, Kestrel and Buzzard breed locally and use Drumman for hunting. As in 2018, 2019 and 2021, Merlin was recorded on site in early summer and it is expected that breeding occurs locally.

The site supports Meadow Pipit (Red-listed), along with good populations of Skylark and Sand Martin (both Amber-listed). A range of other Amber-listed passerine species bred on site, including Goldcrest, Willow Warbler and Linnet. Several Cuckoos were present in spring and early summer, reflecting the widespread occurrence of its main host Meadow Pipit. Other breeding birds include Stonechat, Sedge Warbler, Grasshopper Warbler and Reed Bunting. Wheatears were recorded on migration.

### **3.4.4 Evaluation and Rating of Drumman Bog for Breeding Birds**

There follows a summary of the conservation status of species recorded on Drumman Bog in summer 2022:

#### **EU Birds Directive Annex I listed species**

- Merlin (expected to breed locally though not necessarily on site)
- Peregrine (non-breeding but breeds locally)
- Little Egret (non-breeding)

#### **Red Listed species (after Gilbert et al. 2021)**

- Kestrel (regular, breeds locally)
- Lapwing (breeding)
- Snipe (breeding)
- Meadow Pipit (breeding widespread)

#### **Amber Listed species (after Gilbert et al. 2021)**

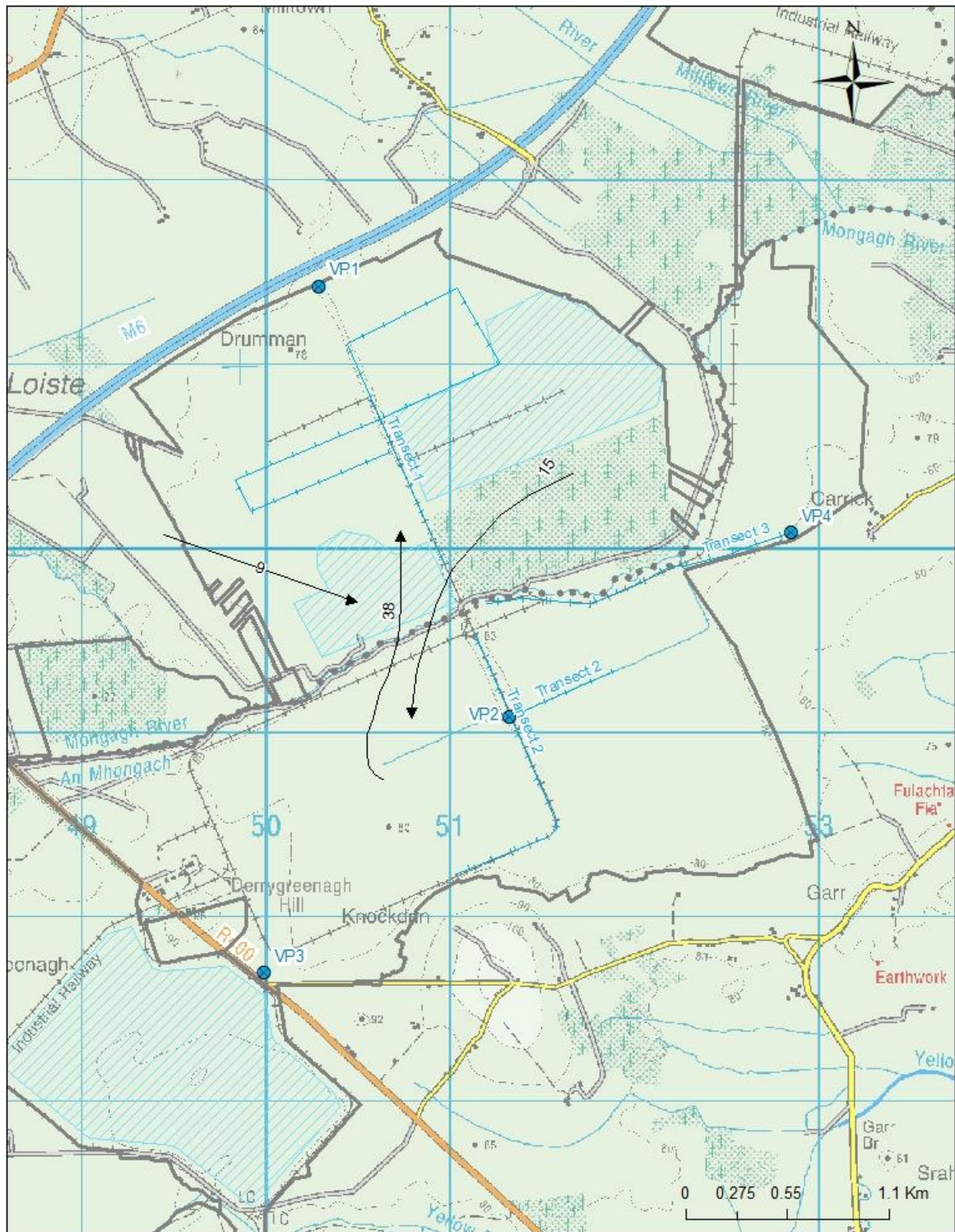
- Mute Swan (breeding)
- Great Crested Grebe (possible breeding)
- Teal (non-breeding though breeding habitat is present)
- Tufted Duck (may breed)
- Common Sandpiper (breeding)
- Lesser Black-backed Gull (non-breeding)
- Skylark (breeding)
- Sand Martin (breeding)
- Swallow (non-breeding)
- Wheatear (non-breeding migrant)
- Willow Warbler (breeding)
- Goldcrest (breeding)
- Starling (breeding)
- Linnet (breeding)

While substantial parts of Drumman are only recently out of commercial production and are of relatively low interest for breeding birds, the site has well developed wetland habitat on cutaway bog, an extensive quarry complex with ponds, and other regenerating cutaway habitats, which provide important areas for breeding birds.

Of particular note is the suite of wetland species (inc. breeding Lapwing and Snipe), as well as Meadow Pipit and other nesting species of cutaway habitats. The site also provides habitat for woodland species such as Sparrowhawk. A further suite of species uses the site for hunting, including Kestrel and Peregrine. Merlin is expected to breed nearby, though site could support a nesting attempt.

On the basis of the results of the breeding survey in 2022, and taking the results of past surveys into account, it is recommended that a rating of **County Importance** is considered appropriate for breeding birds at Drumman Bog.

**Drumman Map 1:** Map showing transect and vantage point locations, with flightlines for Mute Swan, summer 2022. See Appendix 6 for map reference number details.

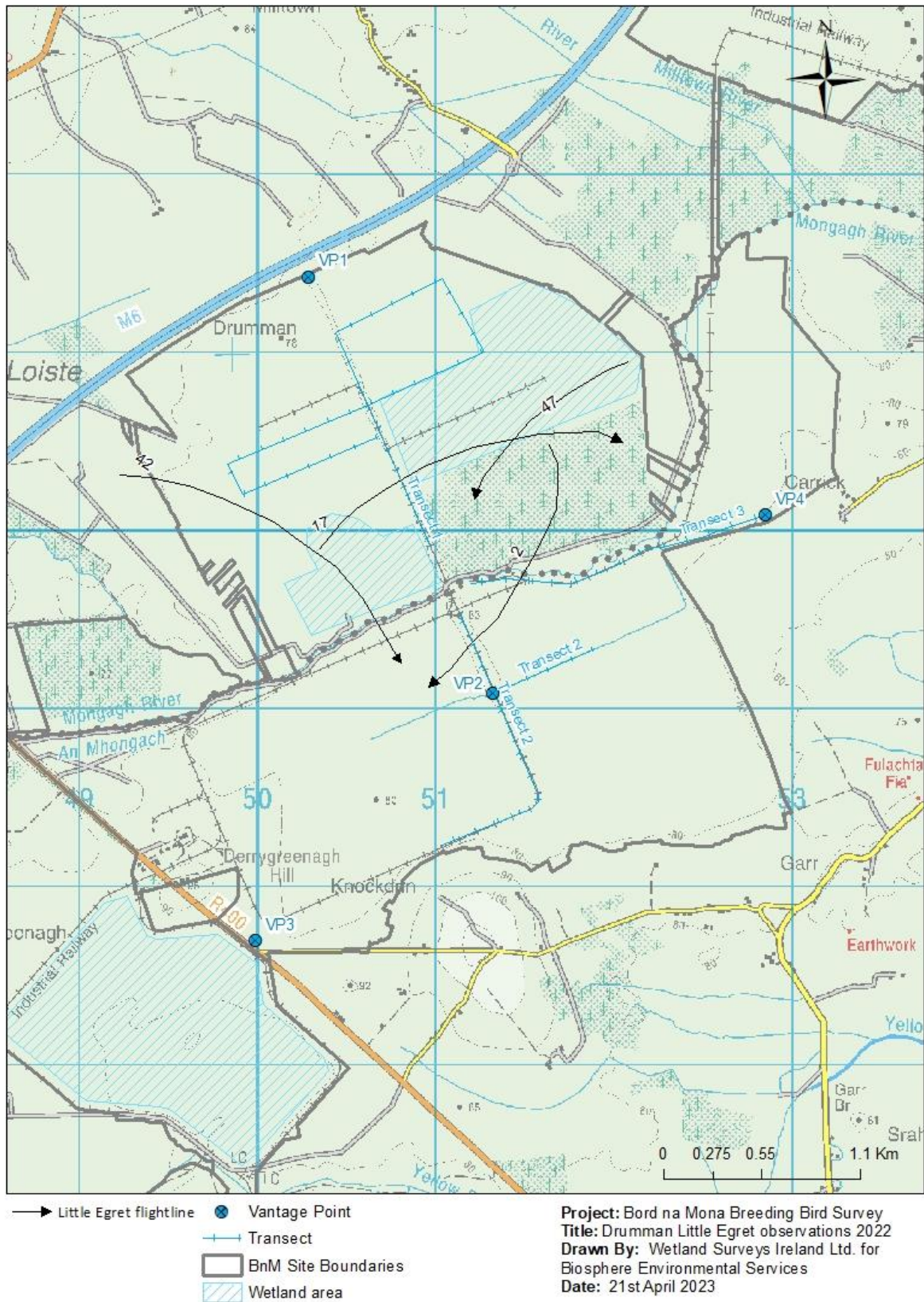


- Mute Swan
- Vantage Point
- +— Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

Project: Bord na Mona Breeding Bird Survey  
 Title: Drumman Mute Swan observations 2022  
 Drawn By: Wetland Surveys Ireland Ltd. for  
 Biosphere Environmental Services  
 Date: 21st April 2023

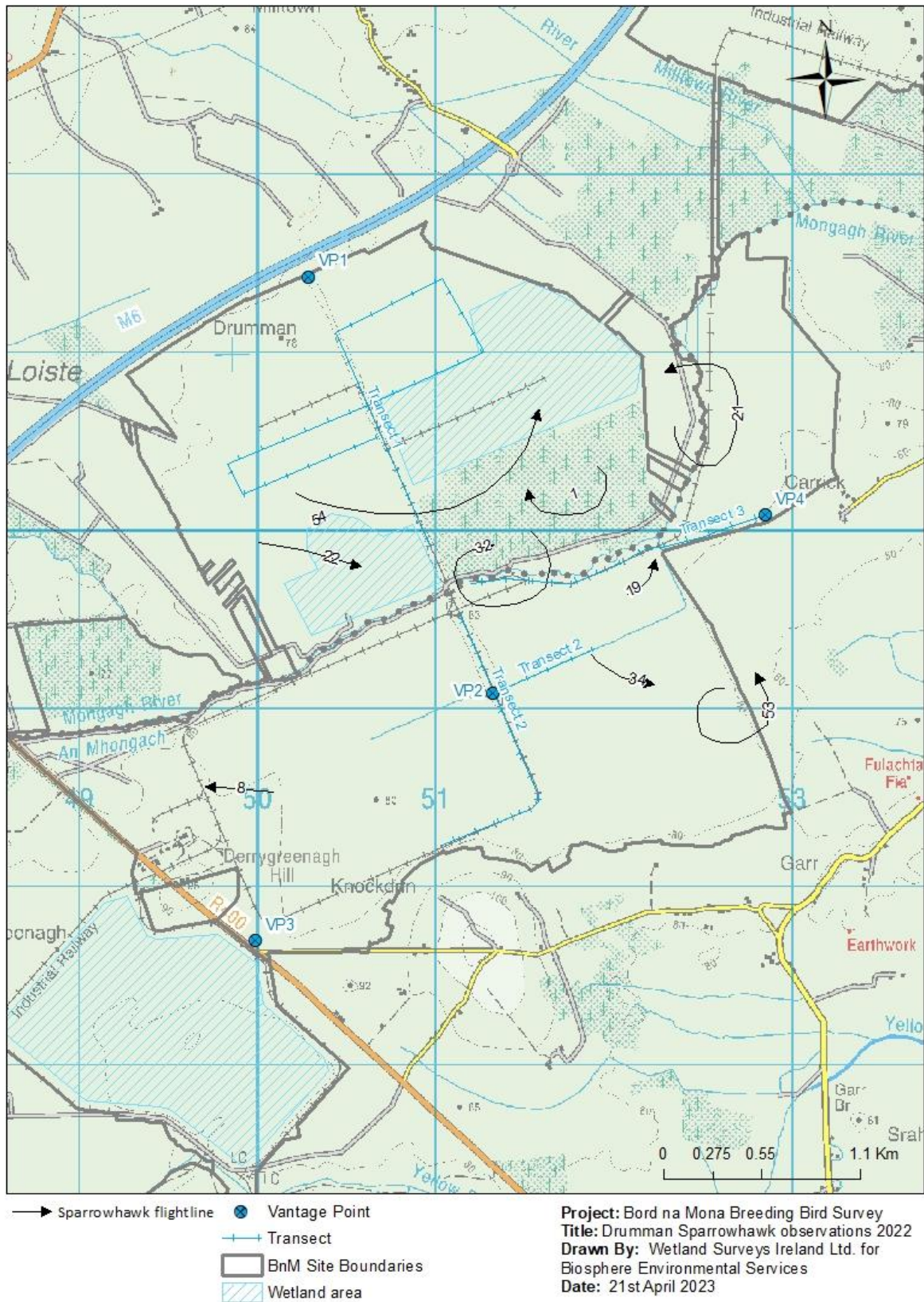


**Drumman Map 2:** Map showing transect and vantage point locations, with flightlines for Little Egret, summer 2022. See Appendix 6 for map reference number details.



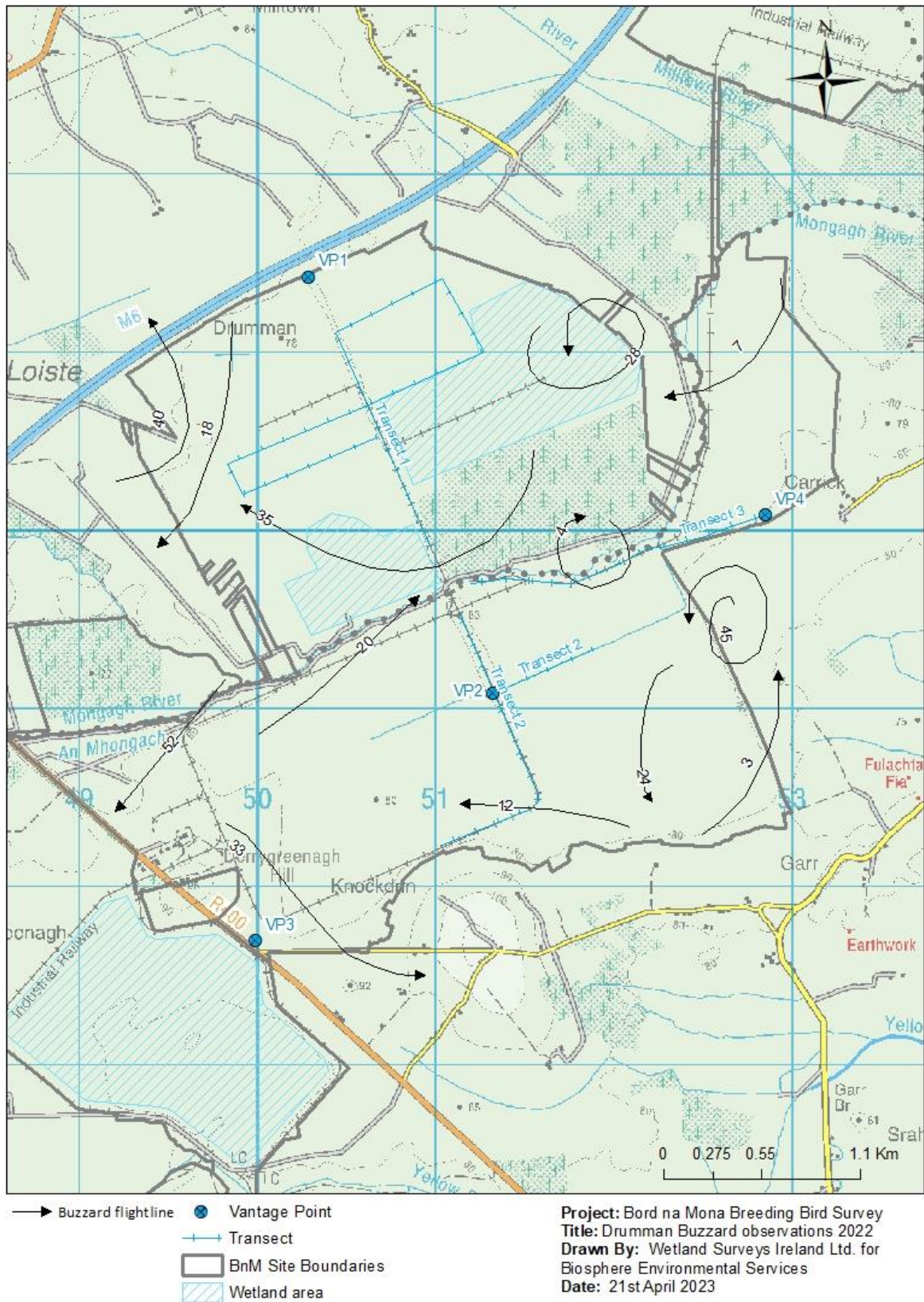


**Drumman Map 3:** Map showing transect and vantage point locations, with flightlines for Sparrowhawk, summer 2022. See Appendix 6 for map reference number details.



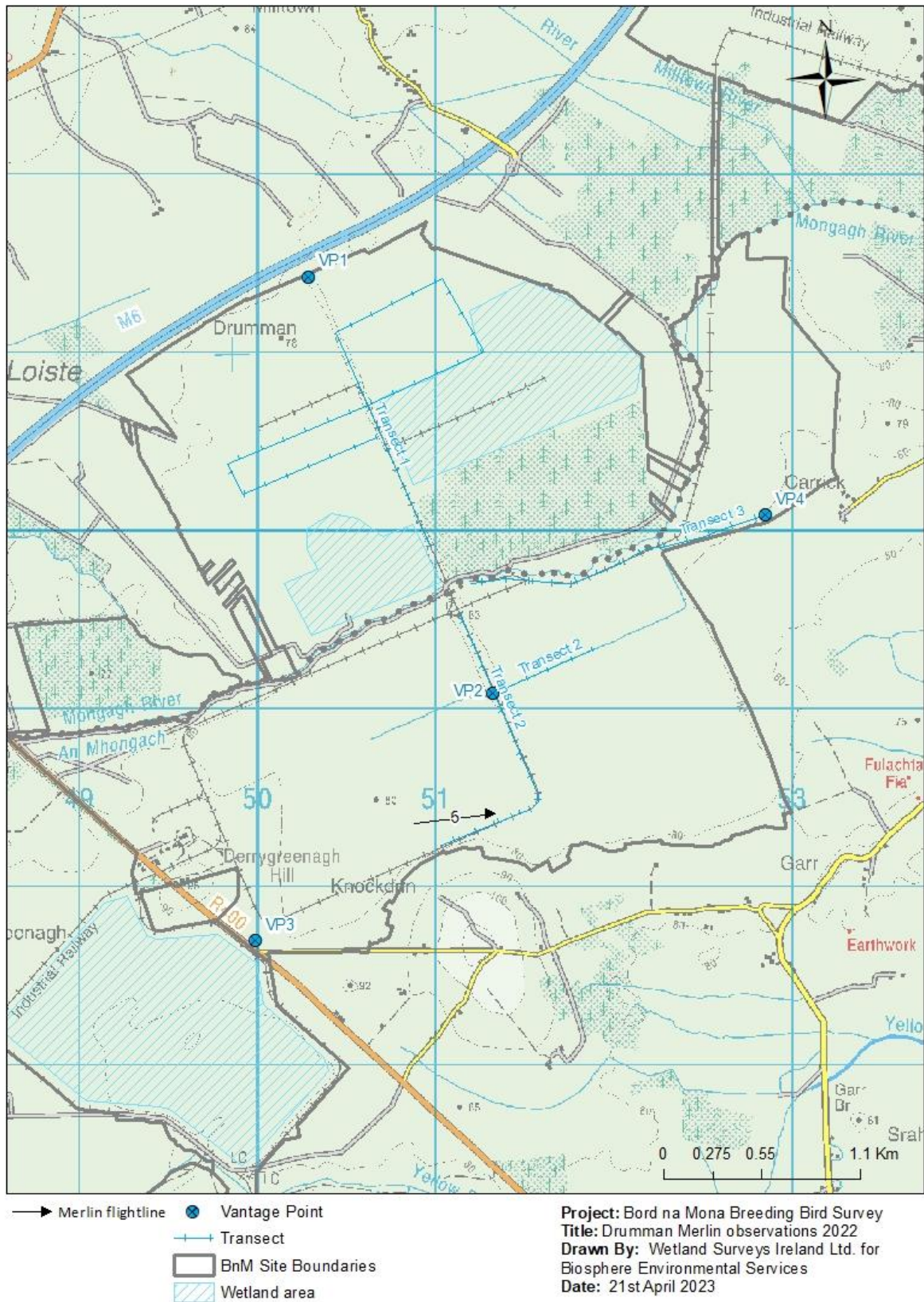


**Drumman Map 4:** Map showing transect and vantage point locations, with flightlines for Buzzard, summer 2022. See Appendix 6 for map reference number details.



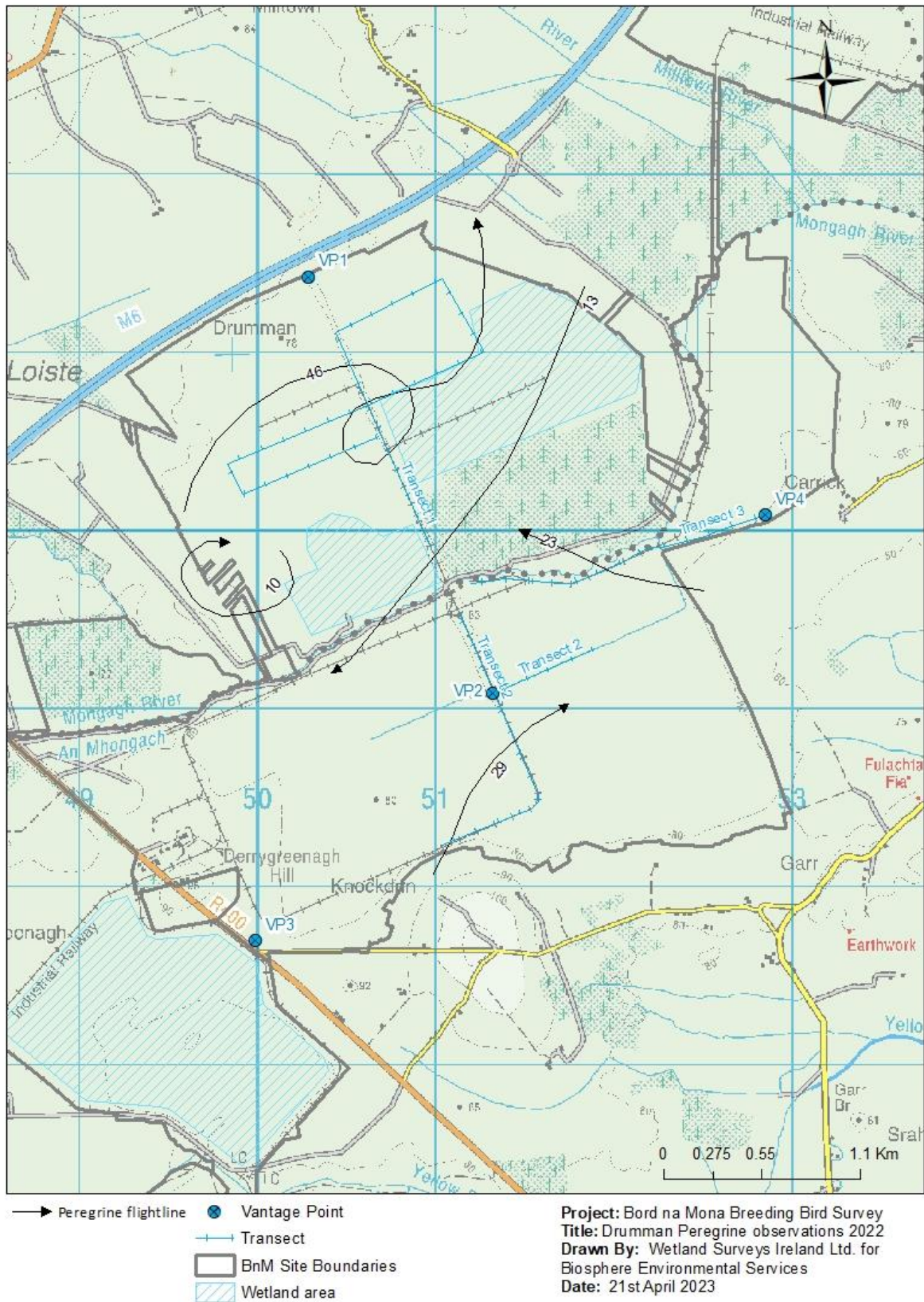


**Drumman Map 5:** Map showing transect and vantage point locations, with flightlines for Merlin, summer 2022. See Appendix 6 for map reference number details.



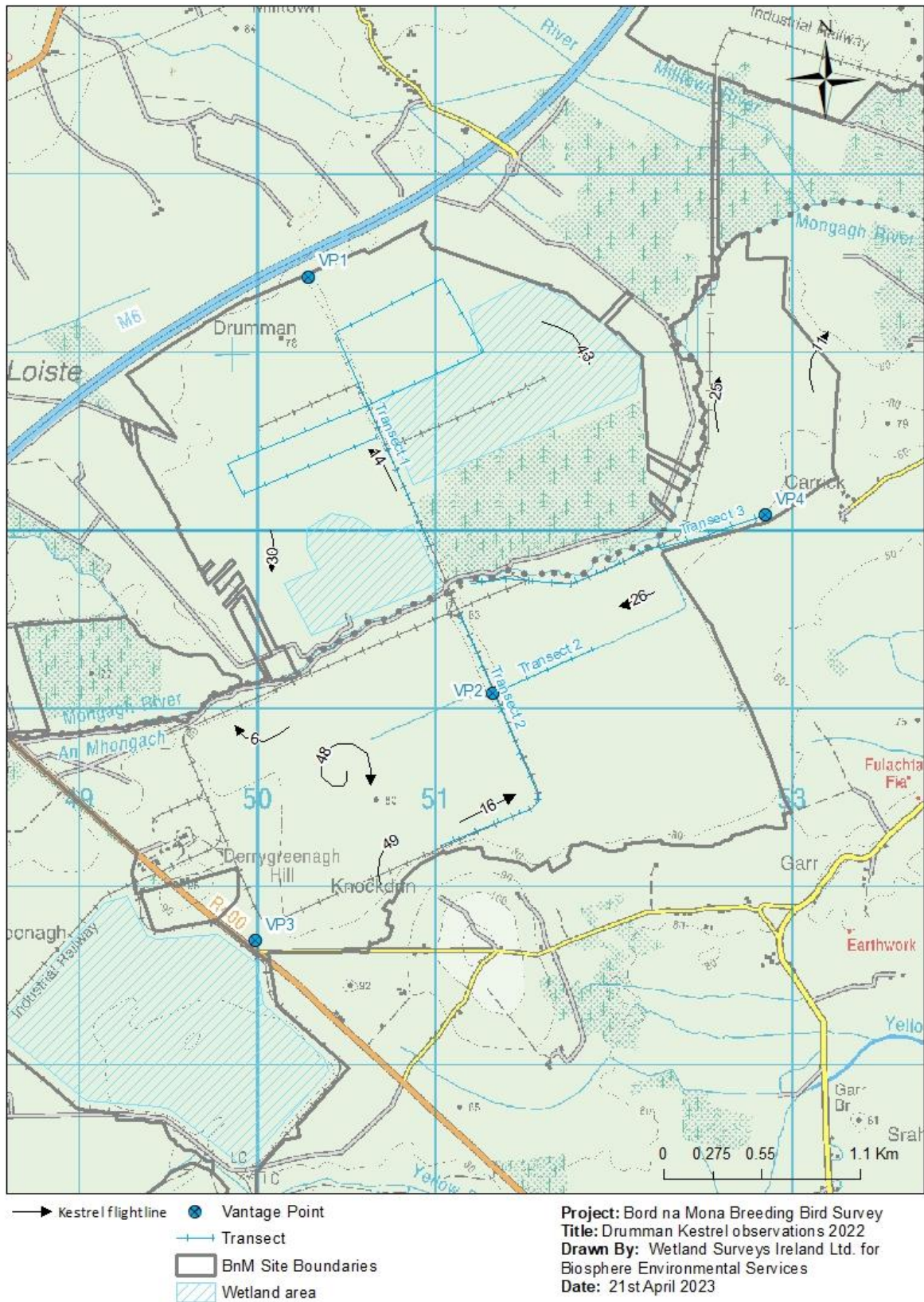


**Drumman Map 6:** Map showing transect and vantage point locations, with flightlines for Peregrine, summer 2022. See Appendix 6 for map reference number details.



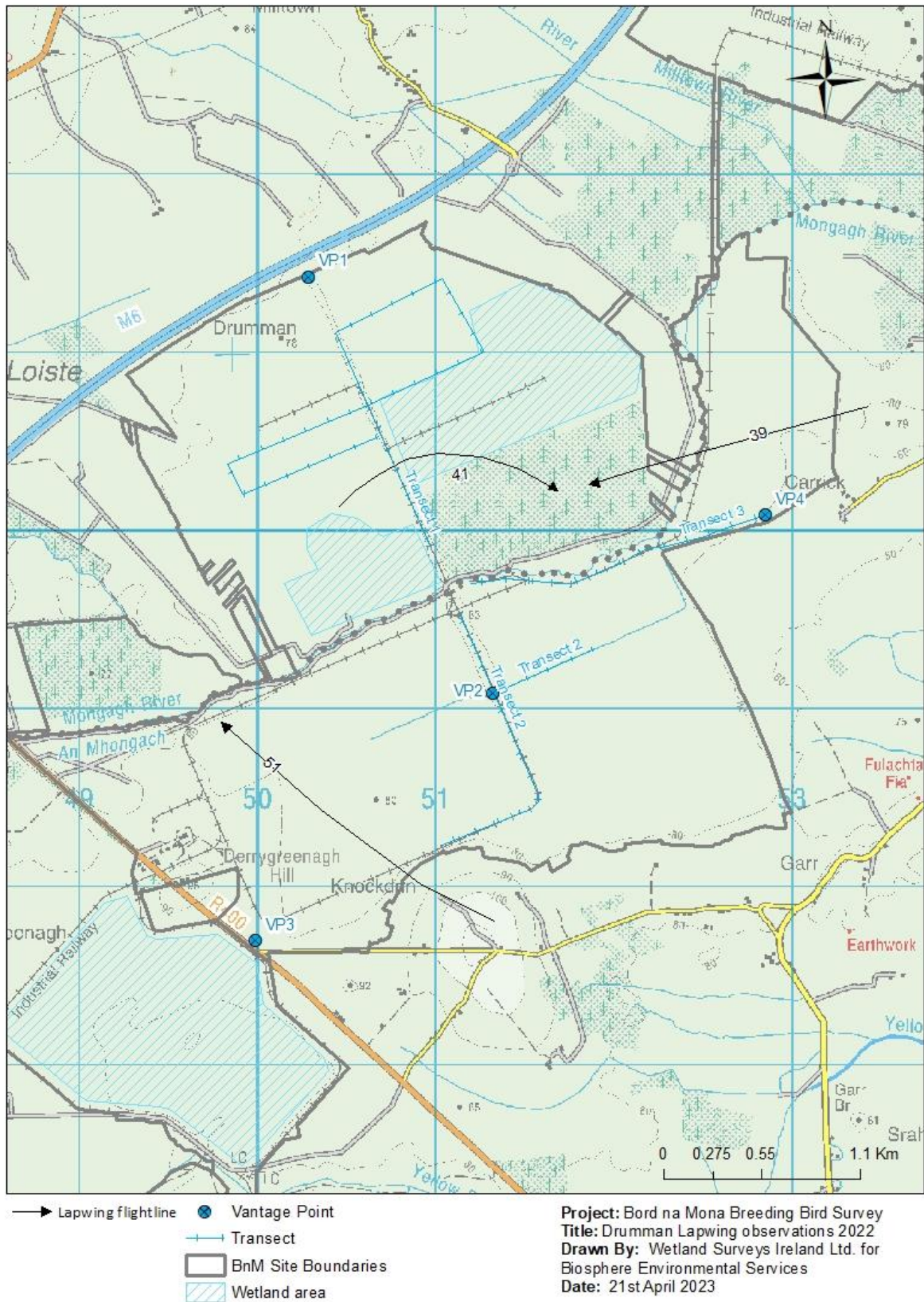


**Drumman Map 7:** Map showing transect and vantage point locations, with flightlines for Kestrel, summer 2022. See Appendix 6 for map reference number details.



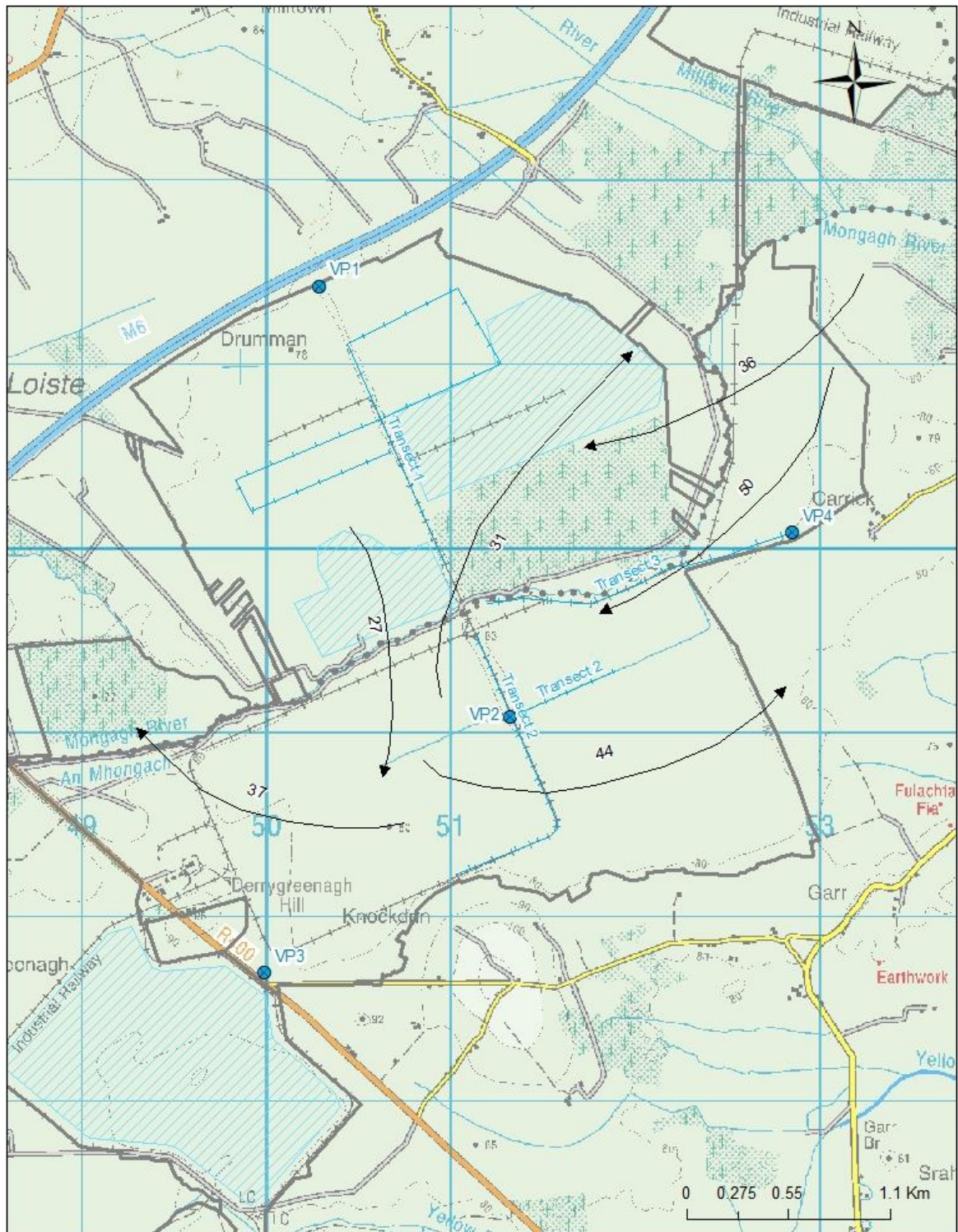


**Drumman Map 8:** Map showing transect and vantage point locations, with flightlines for Lapwing, summer 2022. See Appendix 6 for map reference number details.





**Drumman Map 9:** Map showing transect and vantage point locations, with flightlines for Lesser Black-backed Gull, summer 2022. See Appendix 6 for map reference number details.



- ▶ Lesser Black-backed Gull flightline
- Vantage Point
- +— Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

**Project:** Bord na Mona Breeding Bird Survey  
**Title:** Drumman Lesser Black-backed Gull observations 2022  
**Drawn By:** Wetland Surveys Ireland Ltd. for Biosphere Environmental Services  
**Date:** 21st April 2023





**Plate 3.** Drumman: Well established wetland habitat in northeast sector supports breeding Lapwing and Snipe.



**Plate 4.** Drumman: Well-vegetated quarry pond which supports breeding wetland species such as Little Grebe and Mute Swan.

### **3.5 Derryhinch Bog**

#### **3.5.1 Site Description**

Derryhinch Bog is a medium sized site located approximately 1.5 km east of Milltownpass. It is connected by a rail line to Drumman Bog, which is located approximately 1 km to the south-southwest. The main access to the site is from a private lane leading from a third class road to the north. The entire western boundary of the bog is bounded by the M6 motorway. The site extends for up to 1.5 km from north to south and for approximately 2.5 km from east to west.

Until recently (January 2021), the majority of Derryhinch Bog had been in commercial production and was almost entirely bare peat. A small mineral island is located in the mid-west section and is dominated by birch scrub. Further stands of birch dominated scrub occur in the extreme northwest corner of the site and along the eastern boundary. Fringe habitats found along the boundaries of the site include dry grassland and scrub. A small area of cutover and remnant high bog occurs along the southern boundary (south of the railway).

Since production ceased, the site is in early stage of re-vegetation, though wetlands with permanent water are largely absent. During wet periods, ponding forms and especially in the southwest sector where some wetland vegetation is developing.

A substantial area of cutover bog adjoins the site to the east and northeast. Agricultural land occurs to the north and southwest, while there are stands of commercial conifer forest to the south.

#### **3.5.2 Survey locations**

**Transect 1** runs along the northern, eastern and much of the southern boundary of the site.

**Vantage Point 1** is located in the centre of the northern boundary and gives a sweeping southwards view over almost the entire site.

**Vantage Point 2** is located off the motorway and gives a view eastward over the entire western half of the site.

#### **3.5.3 Results and Discussion**

A summary of the variables (date, time, weather etc.) for the vantage point watches carried out at Derryhinch Bog between April and September 2022 is presented in Appendix 3. Survey raw data for the vantage point watches are presented in Appendix 7.

Scientific names of bird species are given in Appendix 10.





**Plate 5.** Derryhinch Bog – much of the site is bare peat at early revegetation stage. Looking northeast across site.

### **Target species recorded**

#### Little Egret

There were records of single Little Egrets on 25<sup>th</sup> April and 14<sup>th</sup> August. Both were of birds associated with the ponds in the southwest sector.

Likely that birds commute between this site and nearby Drumman bog.

#### Sparrowhawk

There were five records of Sparrowhawk on site through the summer period.

Two interacting over the site on 16<sup>th</sup> July suggests breeding on site. Site provides good foraging habitat for Sparrowhawk and the potential is increasing as the scrub and woodland develops.

#### Buzzard

Buzzard was recorded regularly within the site during the summer, with a total of five records. Breeding is expected to have occurred in the immediate area of the site, with a displaying pair on 25<sup>th</sup> April and three together on 14<sup>th</sup> August.

#### Kestrel

Derryhinch provides excellent hunting habitat for Kestrel, with a total of eight records through the summer. All were of single birds other than two hunting close together on 29<sup>th</sup> August. Most of the birds were hunting actively on site.

Kestrel breeds locally (though probably not on site).

### Peregrine

There were records of single birds on or over the site on three occasions – 20<sup>th</sup> May, 15<sup>th</sup> May and 29<sup>th</sup> August. The bird on 25<sup>th</sup> May had been perched on bare peat.

The birds observed in summer at Derryhinch are considered to be associated with the breeding pair at Derryarkin (which nests on a man-made structure and failed in 2022). However, a further breeding pair has been known from the Lagan facility at Kinnegad.

### Lesser Black-backed Gull

There were two records of birds roosting on bare peat (14<sup>th</sup> August & 15<sup>th</sup> September), and one record of a flock flying over (29<sup>th</sup> August). Most of the birds were sub-adults or immatures.

### **Potential for other target species**

Golden Plover on migration could be expected to roost on the areas of bare peat in spring and autumn. Parts of the site provide habitats suitable for hunting Merlin.

### **Other species of note**

Mallard – expected to breed in large drains in southwest sector of site.

Sand Martin – flock of 50+ feeding over site in late April – species breeds locally though on site.

Skylark – nests throughout much of the site. Count of 14 birds from transect in May.

Robin – breeds on site in scrub and woodland habitats.

Stonechat – at least two territorial pairs on site. Young birds successfully fledged.

Wheatear – five birds on site on 26<sup>th</sup> Aril were migrant birds.

Goldcrest – breeds on site in scrub and woodland habitats.

Willow Warbler – breeds widely on site in scrub and woodland habitats.

Meadow Pipit - well scattered throughout the site where suitable habitats exist – estimate of a minimum population of 21 territorial birds along transect in May.

Starling – small numbers on site through summer, with post breeding flocks (up to 100) from late July.

Linnet – at least one pair bred on site.

**TABLE 5: DERRYHINCH – TRANSECT SURVEYS, 2022**

Species	20 <sup>th</sup> May	15 <sup>th</sup> June	17 <sup>th</sup> July	BoCCI Status
Mallard	4	4	2	<b>G</b>
Pheasant	1	1	3	<b>G</b>
Grey Heron	1	0	3	<b>G</b>
Buzzard	1	0	0	<b>G</b>
Sparrowhawk	0	0	0	<b>G</b>
<b>Kestrel</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>R</b>
<b>Peregrine</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>G</b>
Moorhen	2	0	4	<b>G</b>
Woodpigeon	6	13	5	<b>G</b>
Cuckoo	2	1	0	<b>G</b>
Magpie	3	0	4	<b>G</b>
Hooded Crow	5	6	13	<b>G</b>
<b>Goldcrest</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>A</b>
Blue Tit	1	0	0	<b>G</b>
Great Tit	2	2	1	<b>G</b>
Coal Tit	6	4	3	<b>G</b>
<b>Skylark</b>	<b>14</b>	<b>14</b>	<b>21</b>	<b>A</b>
<b>Sand Martin</b>	<b>0</b>	<b>0</b>	<b>10+</b>	<b>A</b>
<b>Swallow</b>	<b>20+</b>	<b>20+</b>	<b>30+</b>	<b>A</b>
<b>Willow Warbler</b>	<b>11</b>	<b>14</b>	<b>6</b>	<b>A</b>
Whitethroat	2	5	3	<b>G</b>
Sedge Warbler	4	2	0	<b>G</b>
Wren	9	14	4	<b>G</b>
Blackbird	4	8	7	<b>G</b>
Song Thrush	1	0	2	<b>G</b>
Mistle Thrush	2	0	4	<b>G</b>
Robin	4	7	3	<b>G</b>
Stonechat	4	8	7	<b>G</b>
<b>Wheatear</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>A</b>
<b>Starling</b>	<b>5</b>	<b>0</b>	<b>30+</b>	<b>A</b>
Dunnock	1	1	0	<b>G</b>
Pied Wagtail	4	7	6	<b>G</b>
<b>Meadow Pipit</b>	<b>21</b>	<b>30</b>	<b>30+</b>	<b>R</b>
Chaffinch	11	8	17	<b>G</b>
<b>Linnet</b>	<b>3</b>	<b>5</b>	<b>0</b>	<b>A</b>
Bullfinch	0	0	3	<b>G</b>
Lesser Redpoll	9	5	12	<b>G</b>
Reed Bunting	2	1	4	<b>G</b>

BoCCI Status BoCCI Status (after Gilbert et al. 2021): **R – Red**; **A – Amber**; **G – Green**



**TABLE 6: DERRYHINCH – STATUS OF BREEDING BIRDS 2022**

Species	Maximum Breeding Evidence	No. of pairs (where relevant)	Breeding Status	BoCCI Status
Mallard	P		Probable	<b>G</b>
Pheasant	H		Possible	<b>G</b>
Little Egret	U		Non-breeding	<b>G</b>
Grey Heron	U		Non-breeding	<b>G</b>
Buzzard	F		Non-breeding	<b>G</b>
Sparrowhawk	D	1	Probable	<b>G</b>
<b>Kestrel</b>	<b>F</b>		<b>Non-breeding</b>	<b>R</b>
<b>**Peregrine</b>	<b>F</b>		<b>Non-breeding</b>	<b>G</b>
Moorhen	P		Probable	<b>G</b>
<b>Lesser Black-back Gull</b>	<b>U</b>		<b>Non-breeding</b>	<b>A</b>
Woodpigeon	P		Probable	<b>G</b>
Cuckoo	S	1-2	Possible	<b>G</b>
Magpie	P		Probable	<b>G</b>
Hooded Crow	FL		Confirmed	<b>G</b>
<b>Goldcrest</b>	<b>P</b>		<b>Probable</b>	<b>G</b>
Blue Tit	P		Probable	<b>G</b>
Great Tit	T		Probable	<b>G</b>
Coal Tit	FL		Confirmed	<b>G</b>
<b>Skylark</b>	<b>FL</b>	<b>14</b>	<b>Confirmed</b>	<b>A</b>
<b>Sand Martin</b>	<b>F</b>		<b>Non-breeding</b>	<b>A</b>
<b>Swallow</b>	<b>F</b>		<b>Non-breeding</b>	<b>A</b>
<b>Willow Warbler</b>	<b>FL</b>		<b>Confirmed</b>	<b>A</b>
Whitethroat	FL		Confirmed	<b>G</b>
Sedge Warbler	H		Possible	<b>G</b>
Wren	FL		Confirmed	<b>G</b>
Blackbird	FL		Confirmed	<b>G</b>
Song Thrush	T		Probable	<b>G</b>
Mistle Thrush	T		Probable	<b>G</b>
Robin	FL		Confirmed	<b>G</b>
Stonechat	FL	2-3	Confirmed	<b>G</b>
<b>Wheatear</b>	<b>M</b>		<b>Non-breeding</b>	<b>A</b>
<b>Starling</b>	<b>H</b>		<b>Possible</b>	<b>A</b>
Dunnock	S		Possible	<b>G</b>
Pied Wagtail	FL		Confirmed	<b>G</b>
<b>Meadow Pipit</b>	<b>FL</b>	<b>21</b>	<b>Confirmed</b>	<b>R</b>
Chaffinch	FL		Confirmed	<b>G</b>
<b>Linnet</b>	<b>FL</b>	<b>1-2</b>	<b>Confirmed</b>	<b>A</b>
Bullfinch	FL		Confirmed	<b>G</b>
Lesser Redpoll	FL		Confirmed	<b>G</b>
Reed Bunting	T		Probable	<b>G</b>

Breeding Status Codes are detailed in Appendix 9

BoCCI Status (after Gilbert et al. 2021): **R – Red**; **A – Amber**; **G – Green**

\*\* listed on Annex I of Birds Directive

## **General discussion**

The 2022 surveys adds to the 2021 baseline summer survey at Derryhinch bog since commercial peat production ceased at the site.

While bog rehabilitation, and especially wetland development, is still at an early development stage at Derryhinch, the site provides useful habitat for various bird of prey species and especially Kestrel (Red listed), Buzzard and Sparrowhawk (latter breeds on site). The site is within the range of a Peregrine breeding territory, with one observed perched on bare peat.

As of yet, the site does not have potential to support breeding wetland birds (other than mallard & moorhen) as permanent ponds have yet to develop.

The site supports a range of other species of conservation interest. Meadow Pipit, Red listed on basis of breeding population, breeds throughout much of the site. Other species of note breeding on site include Skylark, Goldcrest, Willow Warbler and Linnet (all Amber-listed).

### **3.5.4 Evaluation and Rating of Derryhinch Bog for Breeding Birds**

There follows a summary of the conservation status of species recorded on Derryhinch Bog in summer 2022:

#### **EU Birds Directive Annex I listed species**

Little Egret  
Peregrine

#### **Red Listed species (after Gilbert et al. 2021)**

Kestrel  
Meadow Pipit

#### **Amber Listed species (after Gilbert et al. 2021)**

Lesser Black-backed Gull (roosting)  
Skylark  
Sand Martin  
Swallow  
Wheatear  
Goldcrest  
Willow Warbler  
Starling  
Linnet

Overall, the site has developing habitats suitable for supporting a range of breeding birds, including Meadow Pipit (Red-listed).

A feature of Derryhinch Bog is that it is used regularly for hunting by birds of prey, notably

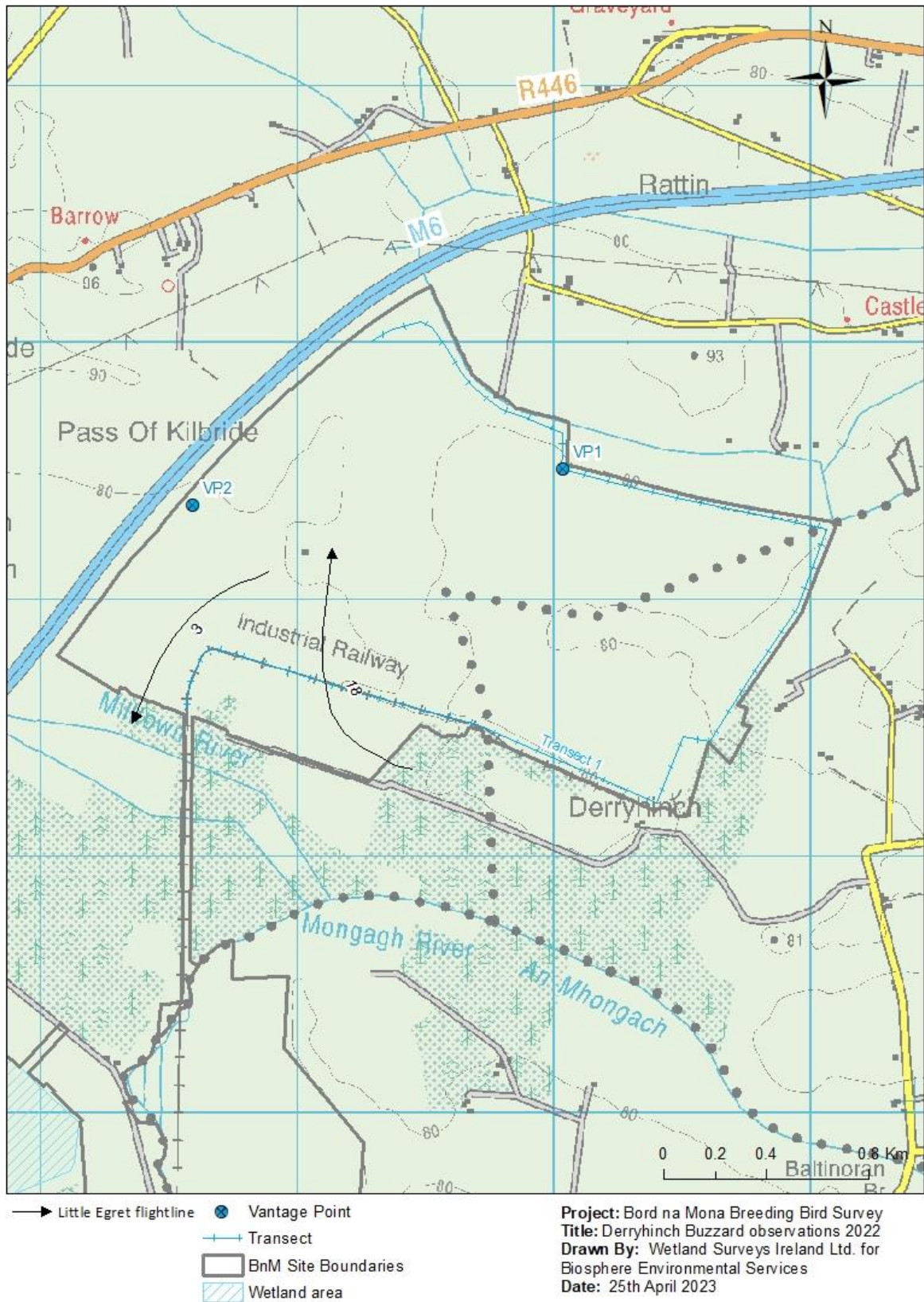
Kestrel, Buzzard, Sparrowhawk (breeds on site) and Peregrine.

From the location of the site, it can be considered as part of a larger complex of cutaway bog sites, comprising Drumman, Derryarkin and Ballybeg bogs.

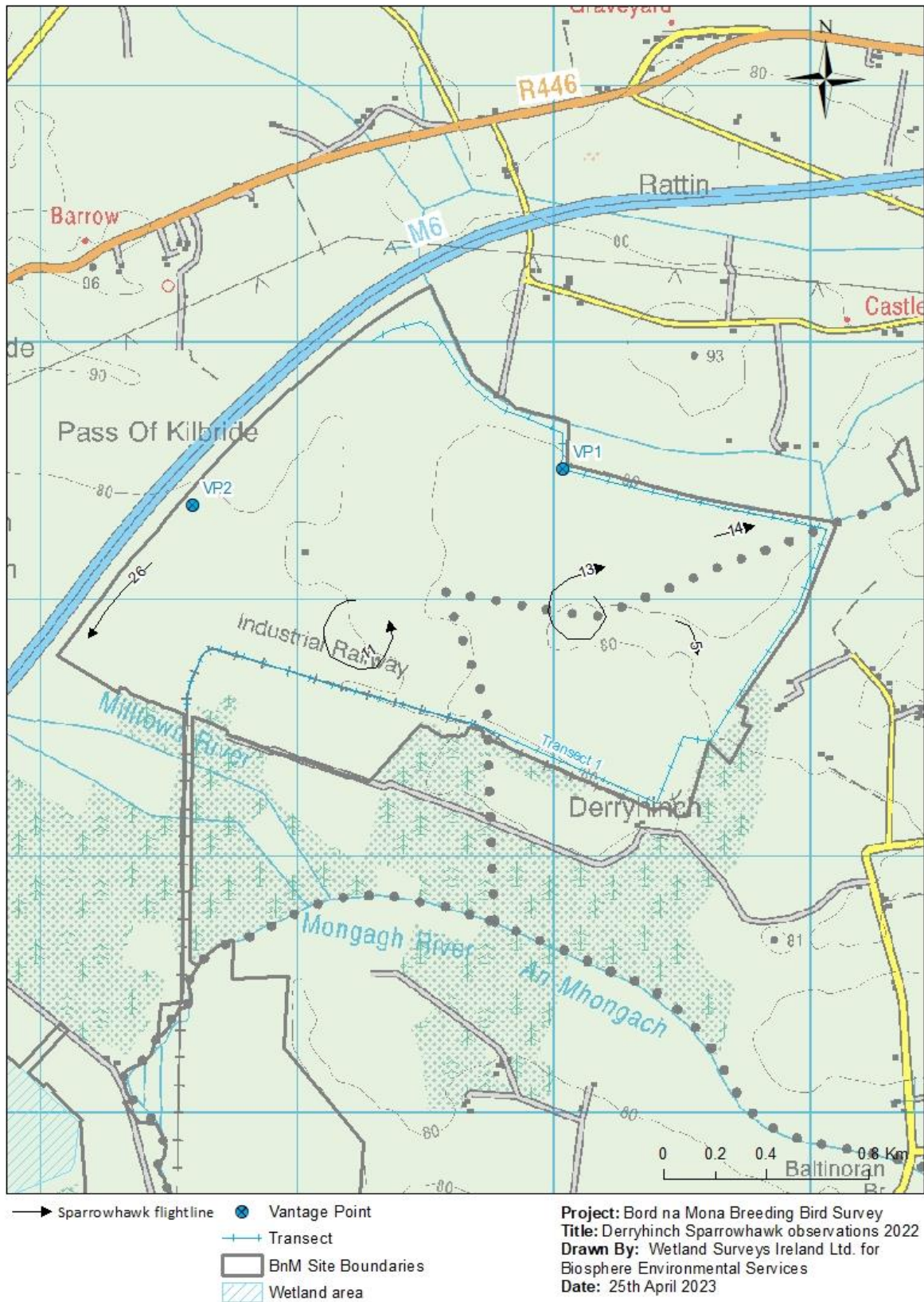
On the basis of usage of the site by Annex I listed species, plus some Red- and Amber-listed species, it is recommended that a rating of **Local Importance (higher value)** is considered appropriate for breeding birds at Derryhinch Bog.



**Derryhinch Map 1:** Map showing transect and vantage point locations, with flightlines for Little Egret, summer 2022. See Appendix 7 for map reference number details.

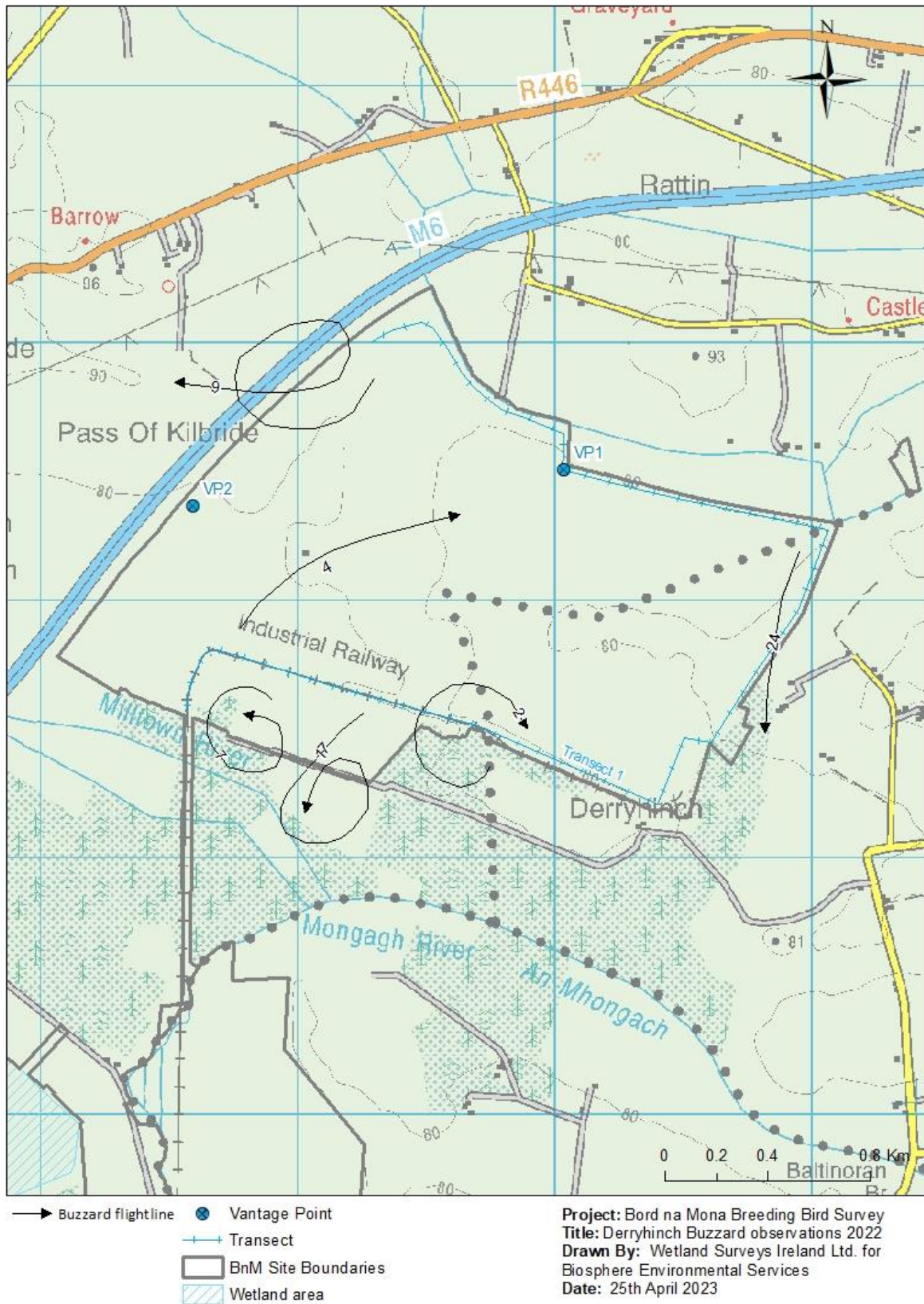


**Derryhinch Map 2:** Map showing transect and vantage point locations, with flightlines for Sparrowhawk, summer 2022. See Appendix 7 for map reference number details.



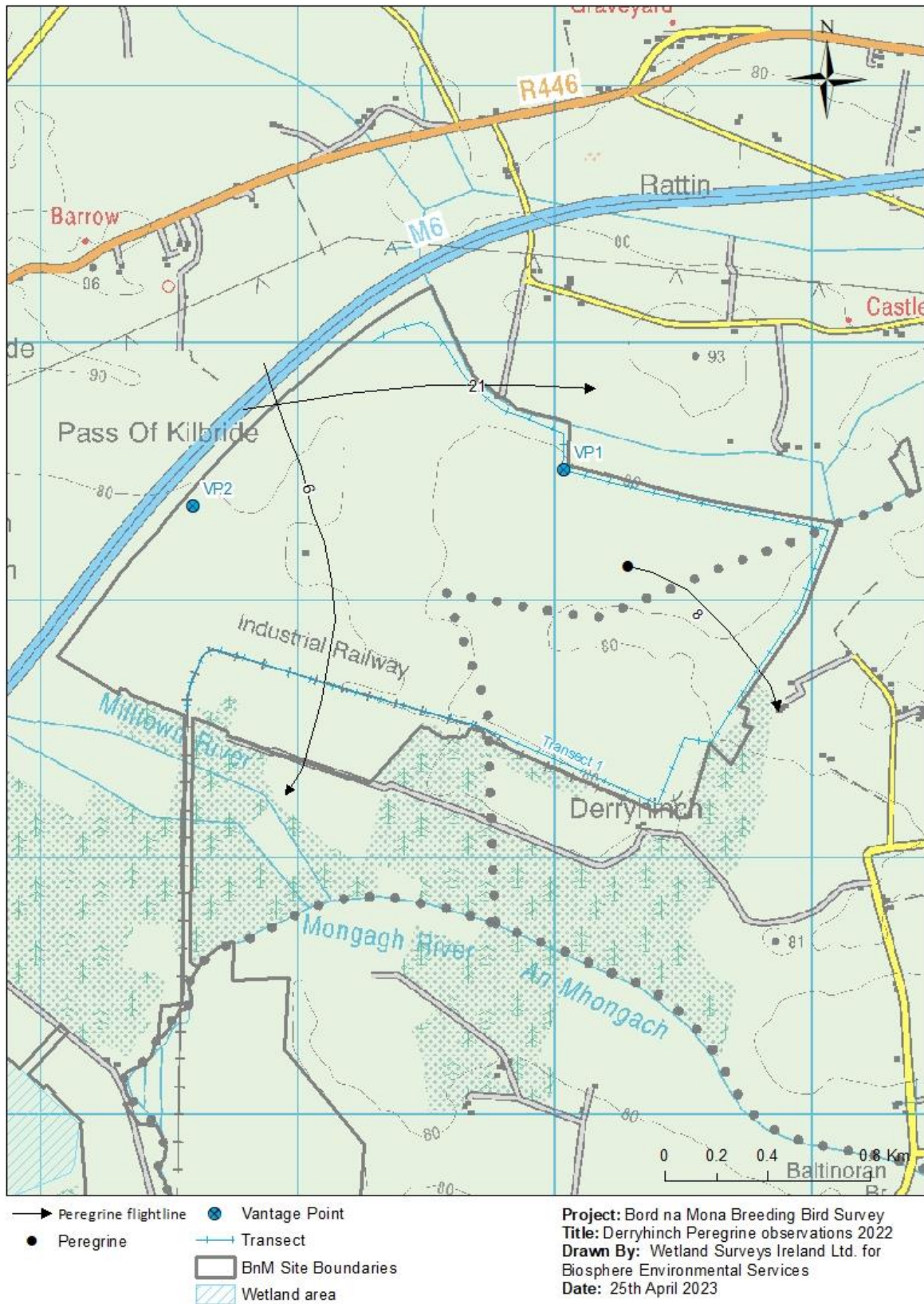


**Derryhinch Map 3:** Map showing transect and vantage point locations, with flightlines for Buzzard, summer 2022. See Appendix 7 for map reference number details.

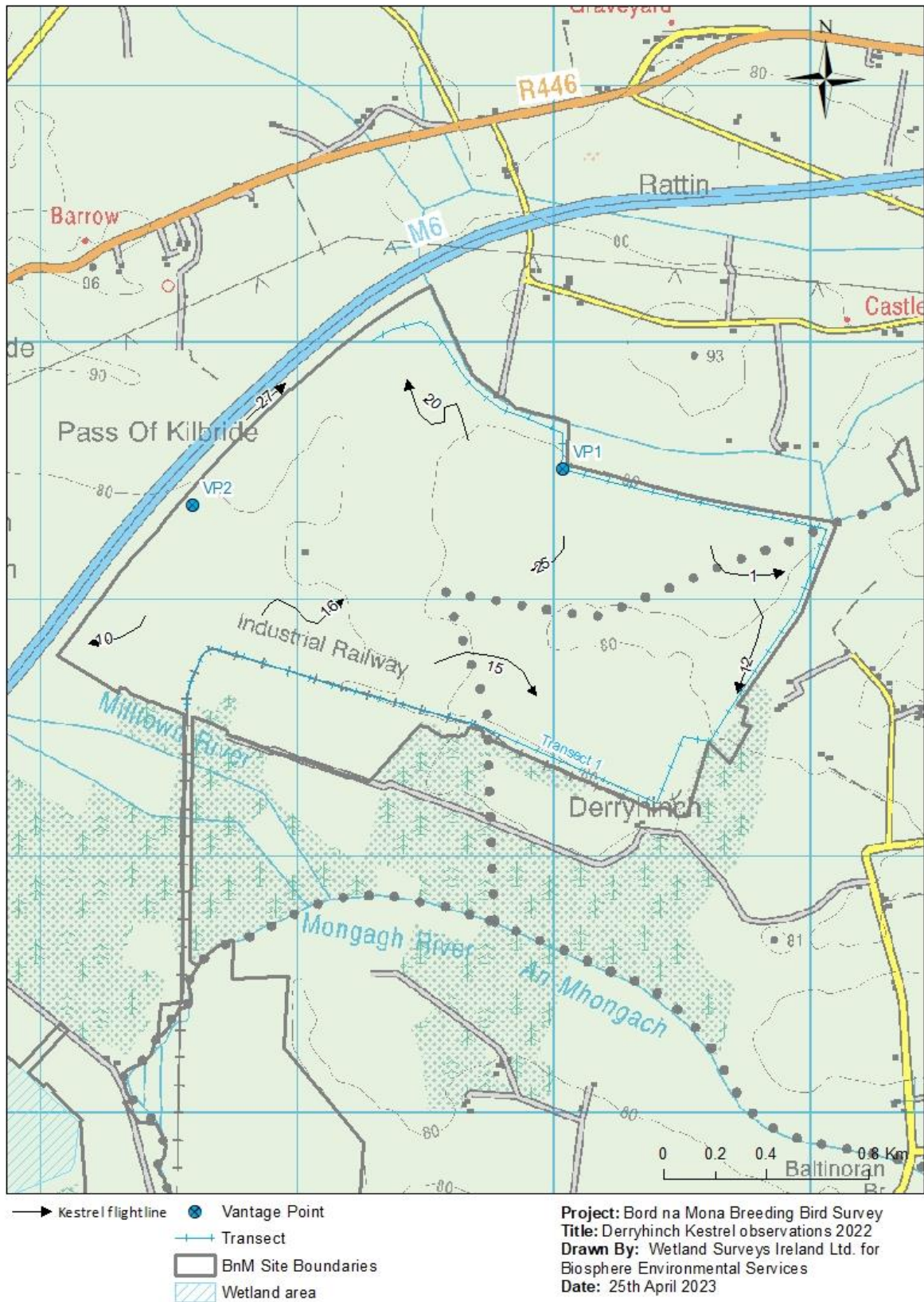




**Derryhinch Map 4:** Map showing transect and vantage point locations, with flightlines for Peregrine, summer 2022. See Appendix 7 for map reference number details.

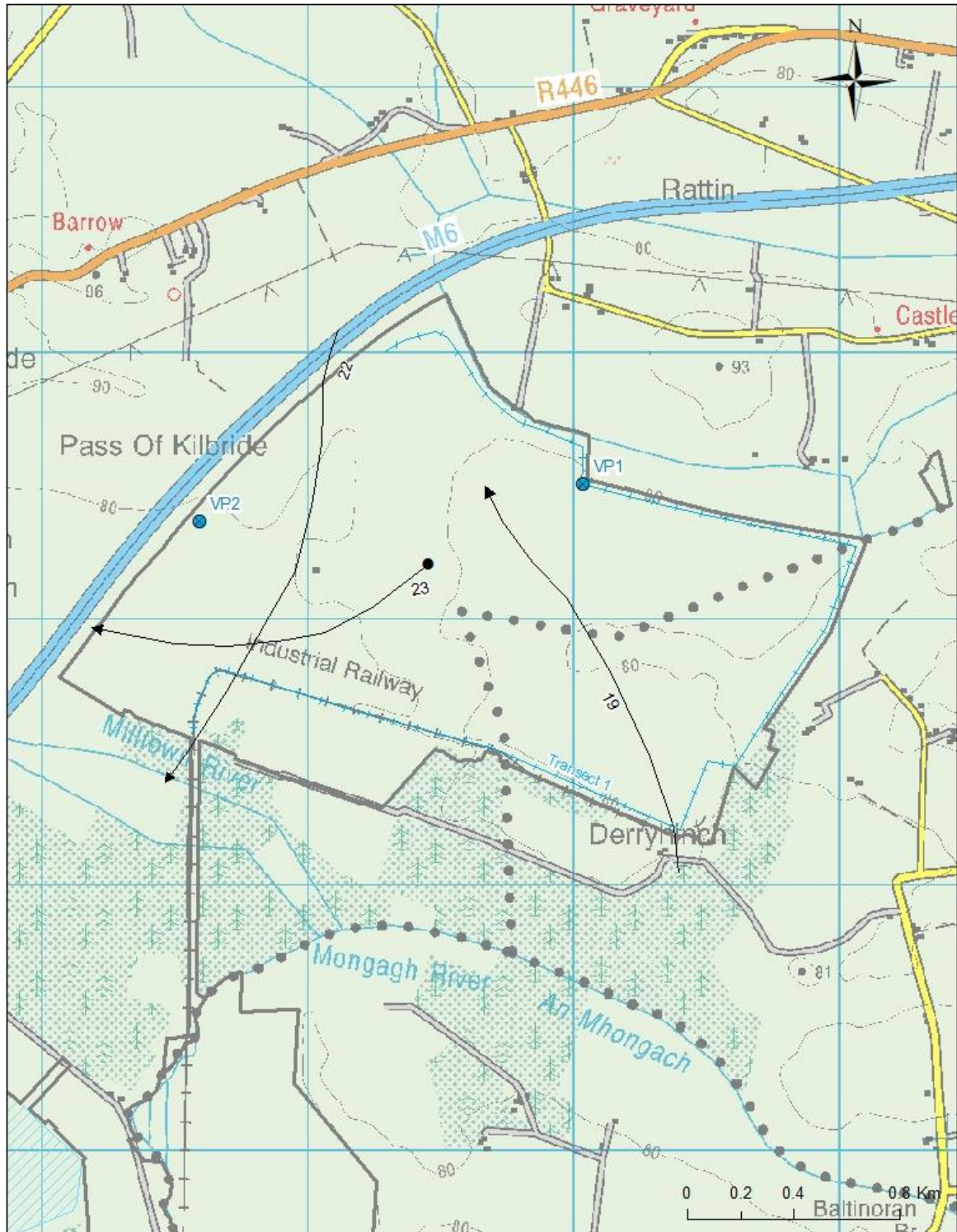


**Derryhinch Map 5:** Map showing transect and vantage point locations, with flightlines for Kestrel, summer 2022. See Appendix 7 for map reference number details.





**Derryhinch Map 6:** Map showing transect and vantage point locations, with flightlines for Lesser Black-backed Gull, summer 2022. See Appendix 7 for map reference number details.



- ▶ Lesser Black-backed Gull flightline
- Lesser Black-backed Gull
- Vantage Point
- +— Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

Project: Bord na Mona Breeding Bird Survey  
 Title: Derryhinch Lesser Black-backed Gull observations 2022  
 Drawn By: Wetland Surveys Ireland Ltd. for Biosphere Environmental Services  
 Date: 25th April 2023

## **3.6 Ballybeg Bog**

### **3.6.1 Site Description**

Ballybeg Bog is located to the west of the R400 road and between Croghan Hill and the town of Rhode. It is contiguous with Derryarkin bog to the north and Cavemount bog to the south. The most southern sector is an outlier from the main site and lies between a local road and the Grand Canal pNHA.

In addition to recent commercial peat production (now ceased since January 2021), a large area (c.60 ha) of cutaway east of the main railway line had been planted with alder as a biomass trial for East Offaly Power. The extreme northeast section of the site had been used for gravel extraction.

Ballybeg Bog is sharply divided into three main ecological units: the northern part which has been out of production for some time and is re-vegetating cutaway, the southern part which has been in recent commercial industrial production, and the small southern outlier of largely intact raised bog, known as Coole bog.

The northern cutaway sector contains a range of habitats but is dominated by birch scrub or developing bog woodland. There are some small wetlands with permanent or temporary water. Wetland vegetation, however, is poorly developed. Bare peat still occurs in places. As noted, a substantial portion of the cutaway has been developed as an Alder biomass trial, and is classified as short rotation coppice.

The southern part of the site is in the early stage of re-vegetation though as of yet vegetation cover is sparse. A portion to the east of the railway line and west-southwest of the (former) Works area comprises disturbed ground associated with the old Rhode Power Station. This area is dominated by scrub, dense bracken and dry grassland.

An area of undeveloped high bog occurs in the southernmost sector of the site (part of this bog is not within Bord na Móna ownership). This is largely intact bog though there is active turbarry along the western margin and a network of surface drains had been inserted in the past. A remnant strip of high bog also occurs along the northeast boundary, while patches of cutover bog occur in places along the margins of the site.

The site is adjoined by slivers of bog to the east and north-west, with agricultural land to the south and west.

### **3.6.2 Survey locations**

**Transect 1** follows the train track through the site.

**Vantage Point 1** is located along the northeast boundary of the site and gives a view over the entire northern sector of the site.

**Vantage Point 2** is located on a peat track in the central areas of the site (at edge of the established cutaway) and gives a view over much of the southern sector of the site.



**Vantage Point 3** is located on the train track near the southern entrance to the site and gives a view over the extreme southernmost parts of site, including the Coole Bog outlier.

### **3.6.3 Results and Discussion**

A summary of the variables (date, time, weather etc.) for the vantage point watches carried out at Ballybeg Bog between April and September 2022 is presented in Appendix 4. Survey raw data for the vantage point watches are presented in Appendix 8.

Scientific names of bird species are given in Appendix 10.

#### **Target species recorded**

##### Mute Swan

Two flightlines were recorded, both involving birds flying northwards over site in direction of Derryarkin. It is expected that these birds were from Cavemount bog (where breeding occurs) or possibly from along the canal.

##### Little Egret

One was recorded on 22<sup>nd</sup> August flying southwards over site towards Cavemount bog.

##### Sparrowhawk

There were eight records of Sparrowhawk on site through the summer period. Most were from the northern sector where breeding is expected to occur. Displaying pairs were observed on 24<sup>th</sup> May and 28<sup>th</sup> June, with two also on 24<sup>th</sup> July. Site provides excellent foraging habitat for Sparrowhawk.

##### Buzzard

Buzzard was recorded regularly within the site during the summer, with a total of 11 records. Breeding is expected to have occurred in the immediate area of the site, with pairs observed over the site on 19<sup>th</sup> April, 23<sup>rd</sup> June and 23<sup>rd</sup> July. Parties of three and four were recorded over the site on 11<sup>th</sup> August and 23<sup>rd</sup> July respectively. Site provides good foraging habitat for Buzzard.

##### Merlin

A Merlin was observed flying low along rail track in southern part of site on 10<sup>th</sup> August. The bird landed but was not seen again.

##### Kestrel

Ballybeg provides excellent hunting habitat for Kestrel, with a total of 11 records through the summer. All were of single birds, other than two together on 10<sup>th</sup> August. Most of the birds were hunting actively on site.

Kestrel breeds locally (at Derryarkin and possibly elsewhere).

##### Peregrine

Peregrine was recorded over the site on 27<sup>th</sup> April and 28<sup>th</sup> June. A record on 11<sup>th</sup> August involved a female type perched on bare peat with a prey item – it then got up and flew

westwards.

The birds observed in summer at Ballybeg are considered to be associated with the breeding pair at Derryarkin (which nests on a man-made structure and was successful in 2022).

Snipe

One territory at high bog in southernmost part of site in May.



**Plate 6.** The southern sector of Ballybeg Bog is still largely bare peat after recent commercial production. Looking west across site towards Croghanhill.



**Plate 7.** The former works area in eastern sector of Ballybeg Bog supports breeding Ringed Plover.

### **Potential for other target species**

Golden Plover on migration could be expected to roost on the areas of bare peat in spring and autumn.

### **Other species of note**

Mallard – bred in settling ponds and large drains in easternmost part of site.

Ringed Plover – one pair bred successfully at old works area in easternmost part of site.

Sand Martin – 50+ feeding over site in late April and early May but breeding on site not expected.

Skylark – nests throughout much of the site. Count of 17 birds from transect in May.

Robin – breeds on site in scrub and woodland habitats.

Stonechat – at least two territorial pairs on site. Young birds successfully fledged.

Wheatear – four birds on site in late April were migrant birds. Two in July.

Goldcrest – breeds on site in scrub and woodland habitats.

Willow Warbler – breeds widely on site in scrub and woodland habitats.

Meadow Pipit - well scattered throughout the site where suitable habitats exist – estimate of a minimum population of 27 territorial birds along transect in May.

Starling – small numbers on site through summer, with post breeding flocks (100+ birds in



August and September).

Linnet – at least on pair bred on site.

**TABLE 7: BALLYBEG – TRANSECT SURVEYS, 2022**

Species	22 <sup>nd</sup> May	24 <sup>th</sup> June	15 <sup>th</sup> July	BoCCI Status
Mallard	4	7	2	<b>G</b>
Pheasant	2	0	1	<b>G</b>
Grey Heron	2	3	0	<b>G</b>
Buzzard	0	0	1	<b>G</b>
Sparrowhawk	0	0	0	<b>G</b>
<b>Kestrel</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>R</b>
<b>Peregrine</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>G</b>
Moorhen	3	2+	4	<b>G</b>
Woodpigeon	7	12	10	<b>G</b>
Cuckoo	1	0	0	<b>G</b>
Magpie	3	0	2	<b>G</b>
Hooded Crow	5	7	12	<b>G</b>
<b>Goldcrest</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>A</b>
Blue Tit	0	2	3	<b>G</b>
Great Tit	1	0	2	<b>G</b>
Coal Tit	0	4	5	<b>G</b>
<b>Skylark</b>	<b>17</b>	<b>24</b>	<b>30+</b>	<b>A</b>
<b>Sand Martin</b>	<b>10+</b>	<b>0</b>	<b>0</b>	<b>A</b>
<b>Swallow</b>	<b>20+</b>	<b>20+</b>	<b>50+</b>	<b>A</b>
<b>Willow Warbler</b>	<b>12</b>	<b>14</b>	<b>7</b>	<b>A</b>
Whitethroat	2	3	1	<b>G</b>
Sedge Warbler	3	3	2	<b>G</b>
Wren	9	14	8	<b>G</b>
Blackbird	5	7	10	<b>G</b>
Song Thrush	1	2	1	<b>G</b>
Mistle Thrush	2	2	5	<b>G</b>
Robin	6	9	4	<b>G</b>
Stonechat	3	6	8	<b>G</b>
<b>Wheatear</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>A</b>
<b>Starling</b>	<b>5</b>	<b>20+</b>	<b>20+</b>	<b>A</b>
Dunnock	0	0	1	<b>G</b>
Pied Wagtail	3	5	4	<b>G</b>
<b>Meadow Pipit</b>	<b>27</b>	<b>30+</b>	<b>30+</b>	<b>R</b>
Chaffinch	8	9	13	<b>G</b>
<b>Linnet</b>	<b>3</b>	<b>0</b>	<b>5</b>	<b>A</b>
Bullfinch	0	0	2	<b>G</b>
Lesser Redpoll	8	15	6	<b>G</b>
Reed Bunting	3	4	5	<b>G</b>

BoCCI Status BoCCI Status (after Gilbert et al. 2021): **R – Red**; **A – Amber**; **G – Green**

**TABLE 8: BALLYBEG – STATUS OF BREEDING BIRDS 2022**

Species	Maximum Breeding Evidence	No. of pairs (where relevant)	Breeding Status	BoCCI Status
Mallard	FL		Confirmed	<b>G</b>
Pheasant	P		Probable	<b>G</b>
Grey Heron	U		Non-breeding	<b>G</b>
Buzzard	F		Non-breeding	<b>G</b>
Sparrowhawk	D	1	Probable	<b>G</b>
<b>Merlin</b>	<b>U</b>	<b>1 i</b>	<b>Non-breeding</b>	<b>A</b>
<b>Kestrel</b>	<b>F</b>		<b>Non-breeding</b>	<b>R</b>
<b>**Peregrine</b>	<b>F</b>		<b>Non-breeding</b>	<b>G</b>
Moorhen	P		Probable	<b>G</b>
Ringed Plover	FL	1	Confirmed	<b>G</b>
<b>Snipe</b>	<b>D</b>	<b>1</b>	<b>Probable</b>	<b>R</b>
Woodpigeon	P		Probable	<b>G</b>
Cuckoo	S	1	Possible	<b>G</b>
Magpie	P		Probable	<b>G</b>
Hooded Crow	FL		Confirmed	<b>G</b>
<b>Goldcrest</b>	<b>P</b>		<b>Probable</b>	<b>G</b>
Blue Tit	P		Probable	<b>G</b>
Great Tit	T		Probable	<b>G</b>
Coal Tit	FL		Confirmed	<b>G</b>
<b>Skylark</b>	<b>FL</b>	<b>17</b>	<b>Confirmed</b>	<b>A</b>
<b>Sand Martin</b>	<b>F</b>		<b>Non-breeding</b>	<b>A</b>
<b>Swallow</b>	<b>F</b>		<b>Non-breeding</b>	<b>A</b>
<b>Willow Warbler</b>	<b>FL</b>		<b>Confirmed</b>	<b>A</b>
Whitethroat	FL		Confirmed	<b>G</b>
Sedge Warbler	H		Possible	<b>G</b>
Wren	FL		Confirmed	<b>G</b>
Blackbird	FL		Confirmed	<b>G</b>
Song Thrush	T		Probable	<b>G</b>
Mistle Thrush	T		Probable	<b>G</b>
Robin	FL		Confirmed	<b>G</b>
Stonechat	FL	2	Confirmed	<b>G</b>
<b>Wheatear</b>	<b>M</b>		<b>Non-breeding</b>	<b>A</b>
<b>Starling</b>	<b>H</b>		<b>Possible</b>	<b>A</b>
Dunnock	S		Possible	<b>G</b>
Pied Wagtail	FL		Confirmed	<b>G</b>
<b>Meadow Pipit</b>	<b>FL</b>	<b>27</b>	<b>Confirmed</b>	<b>R</b>
Chaffinch	FL		Confirmed	<b>G</b>
<b>Linnet</b>	<b>FL</b>	<b>1-2</b>	<b>Confirmed</b>	<b>A</b>
Bullfinch	H		Possible	<b>G</b>
Lesser Redpoll	FL		Confirmed	<b>G</b>
Reed Bunting	T		Probable	<b>G</b>

Breeding Status Codes are detailed in Appendix 9

BoCCI Status (after Gilbert et al. 2021): **R – Red**; **A – Amber**; **G – Green**

\*\* listed on Annex I of Birds Directive

## **General discussion**

The 2022 summer survey at Ballybeg bog has contributed to a baseline (survey also undertaken in 2021) since commercial peat production ceased early in 2021.

With bog rehabilitation well established in the northern part of the site, and some high bog present in the southernmost part, the site provides useful habitat for various bird of prey species and especially Kestrel (Red listed), Buzzard and Sparrowhawk (latter breeds on site). The site is within the range of a Peregrine breeding territory, with one observed on bare peat plucking a prey item. The occurrence of a Merlin hunting on site was not unsurprising the habitat is good for this rare species.

Snipe (Red listed) breeds on the bog is the south of the site, while Ringed Plover breeds in the eastern sector (old works area). [While Alex Copland recorded Snipe as possibly breeding in the northern sector of the site in 2011, this area is now heavily vegetated with scrub and mostly unsuitable for Snipe.]

The site supports a range of other species of conservation interest. Meadow Pipit, Red listed on basis of breeding population, breeds throughout much of the site. Other species of note breeding on site include Skylark, Goldcrest, Willow Warbler and Linnet (all Amber-listed).

### **3.6.4 Evaluation and Rating of Ballybeg Bog for Breeding Birds**

There follows a summary of the conservation status of species recorded on Ballybeg Bog in summer 2022:

#### **EU Birds Directive Annex I listed species**

- Little Egret (flying over)
- Merlin (non-breeding)
- Peregrine (non-breeding)

#### **Red Listed species (after Gilbert et al. 2021)**

- Kestrel
- Snipe
- Meadow Pipit

#### **Amber Listed species (after Gilbert et al. 2021)**

- Skylark
- Sand Marten
- Swallow
- Wheatear
- Goldcrest
- Willow Warbler
- Starling
- Linnet



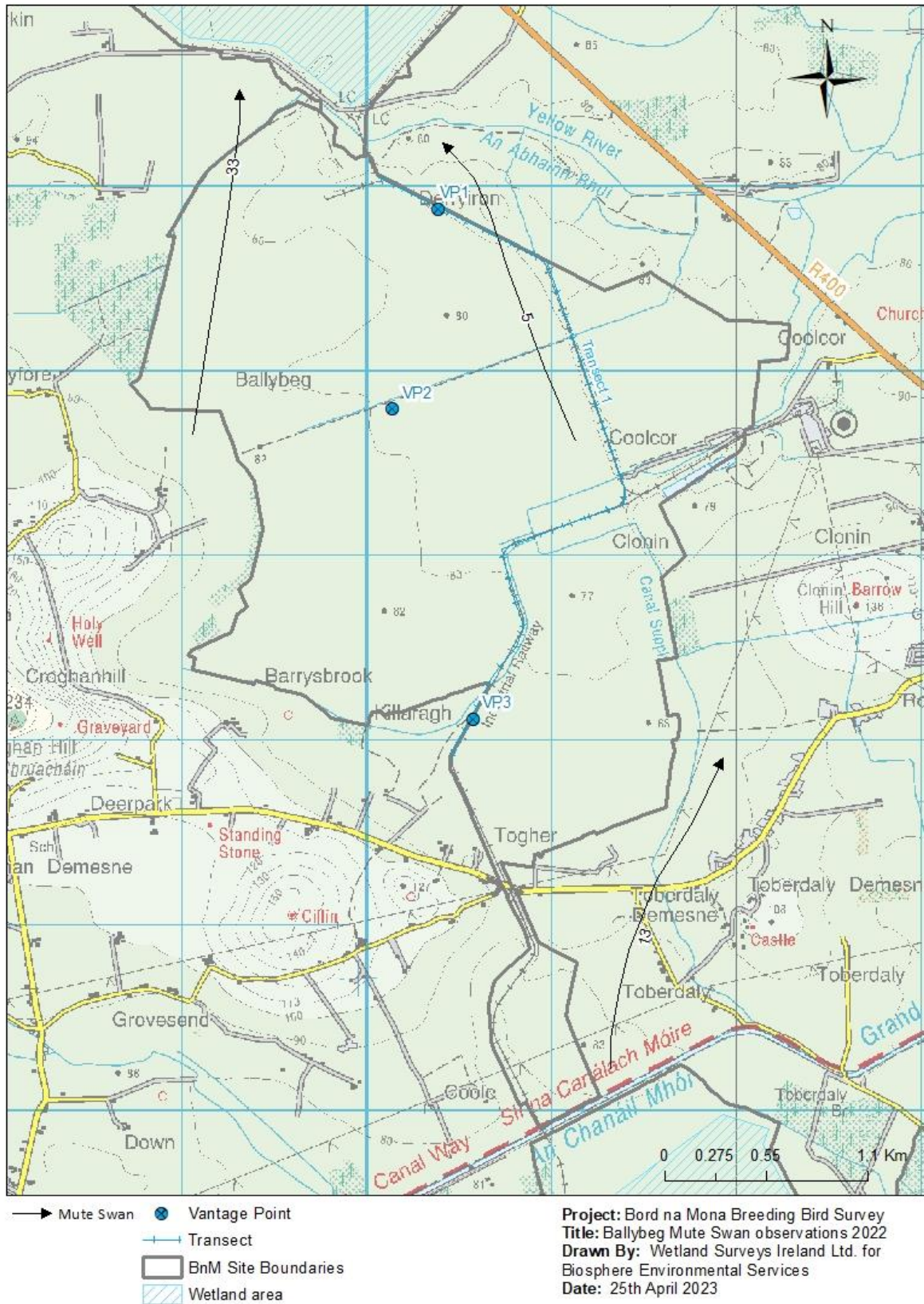
Overall, the site has developing habitats suitable for supporting a range of breeding birds, including Snipe and Meadow Pipit (both Red-listed).

A feature of Ballybeg Bog is that it is used regularly for hunting by birds of prey, notably Kestrel, Buzzard, Sparrowhawk (breeds on site) and Peregrine but also Merlin.

From the location of the site, it can be considered as part of a larger complex of cutaway bog sites, comprising Derryarkin and Drumman bogs to the north and north-east and Cavemount bog to the south.

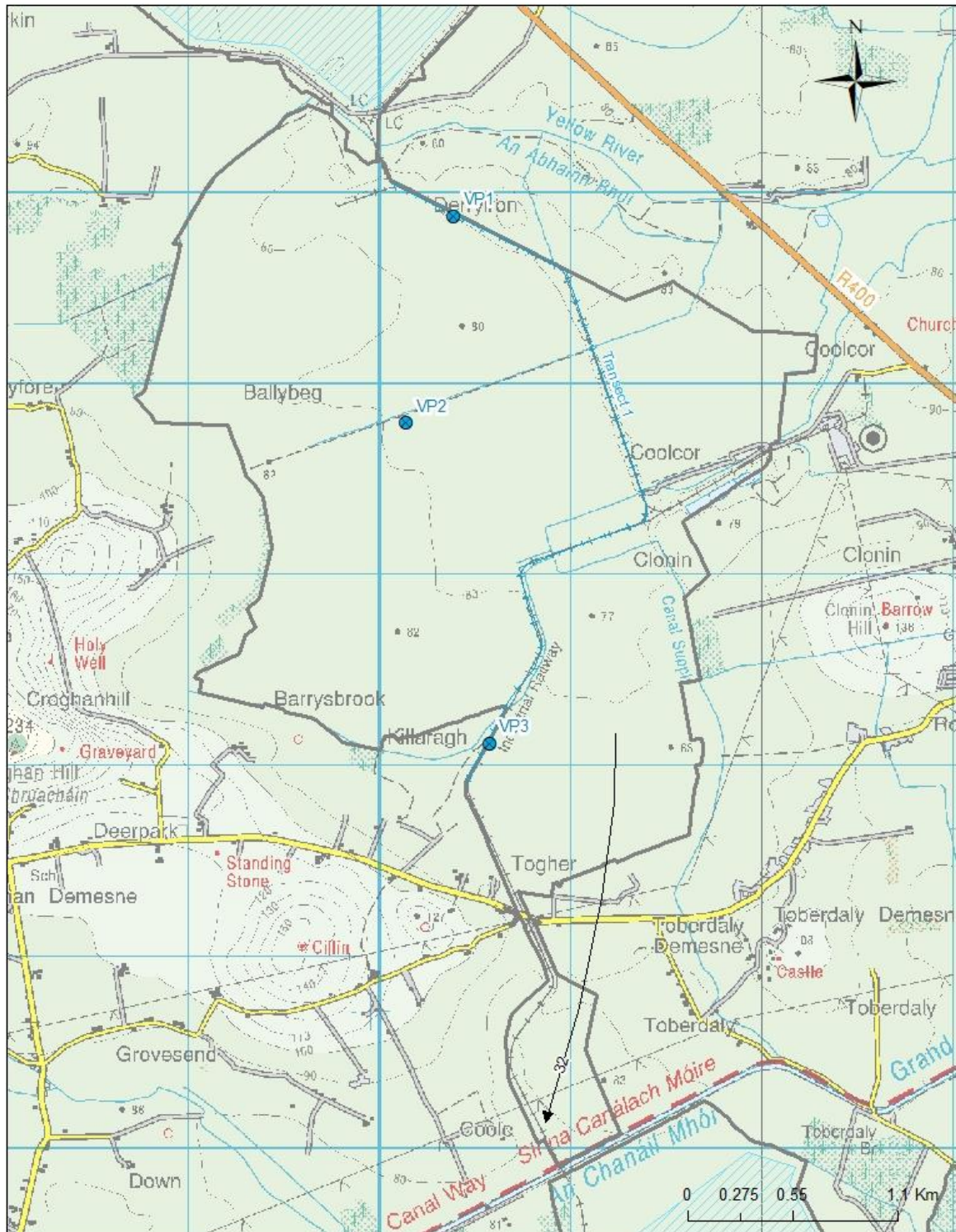
On the basis of usage of the site by Annex I listed species, plus various Red- and Amber-listed species, it is recommended that a rating of **Local Importance (higher value)** is considered appropriate for breeding birds at Ballybeg Bog.

**Ballybeg Map 1:** Map showing transect and vantage point locations, with flightlines for Mute Swan, summer 2022. See Appendix 8 for map reference number details.





**Ballybeg Map 2:** Map showing transect and vantage point locations, with flightlines for Little Egret, summer 2022. See Appendix 8 for map reference number details.

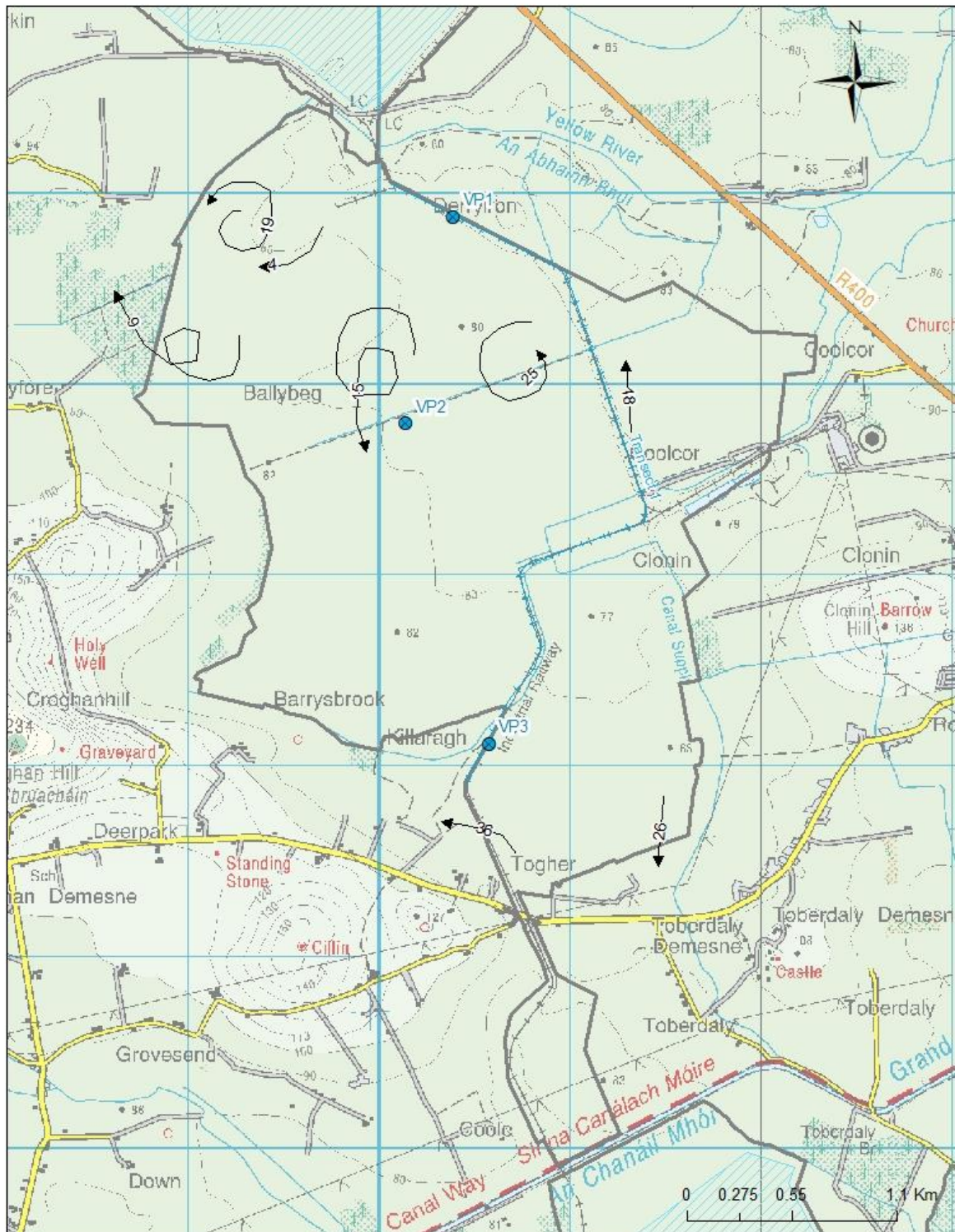


- Little Egret flightline
- Vantage Point
- +— Transect
- BnM Site Boundaries
- ▨ Wetland area

Project: Bord na Mona Breeding Bird Survey  
 Title: Ballybeg Little Egret observations 2022  
 Drawn By: Wetland Surveys Ireland Ltd. for  
 Biosphere Environmental Services  
 Date: 25th April 2023



**Ballybeg Map 3:** Map showing transect and vantage point locations, with flightlines for Sparrowhawk, summer 2022. See Appendix 8 for map reference number details.

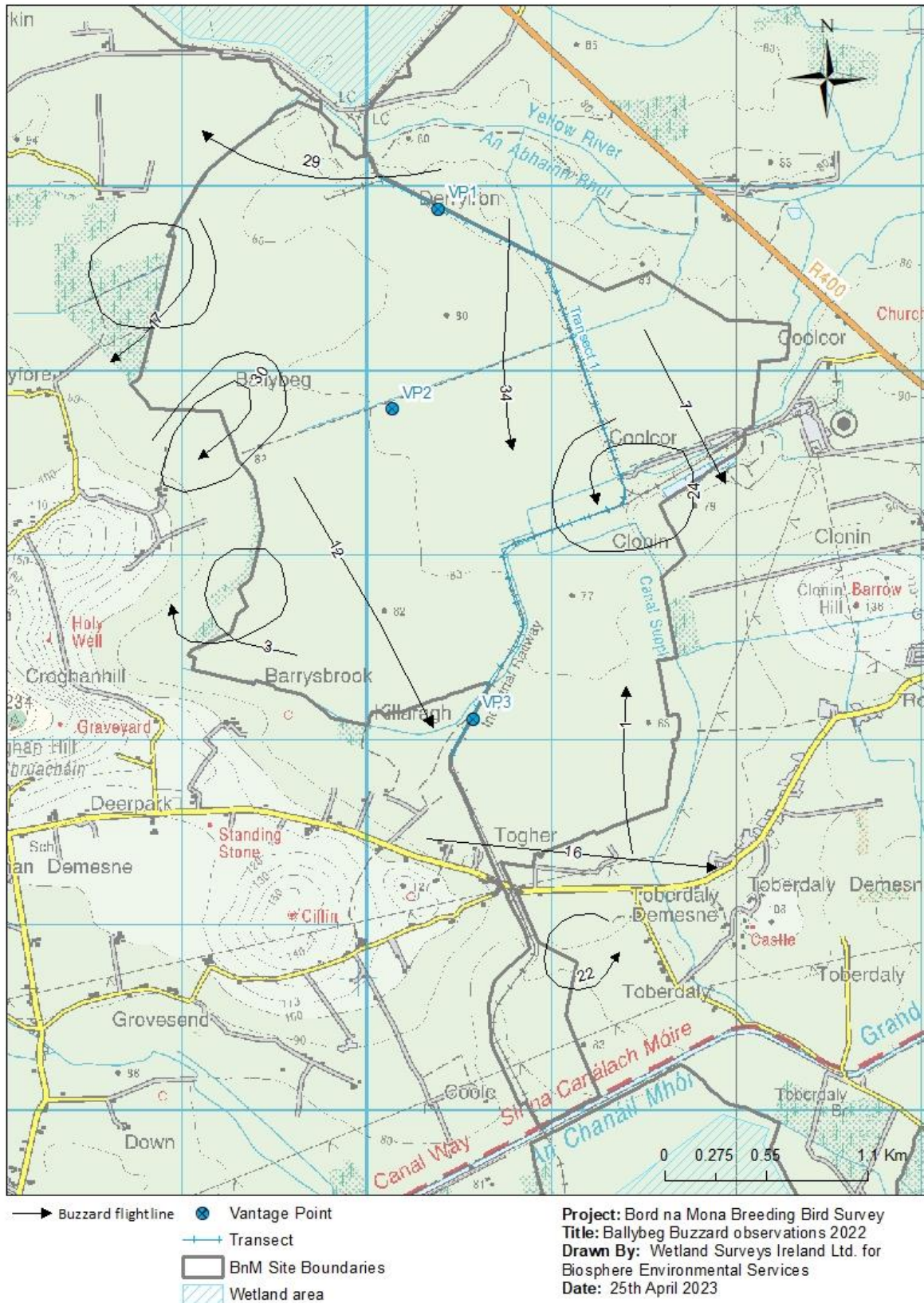


- Sparrowhawk flightline
- Vantage Point
- +— Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

Project: Bord na Mona Breeding Bird Survey  
 Title: Ballybeg Sparrowhawk observations 2022  
 Drawn By: Wetland Surveys Ireland Ltd. for  
 Biosphere Environmental Services  
 Date: 25th April 2023

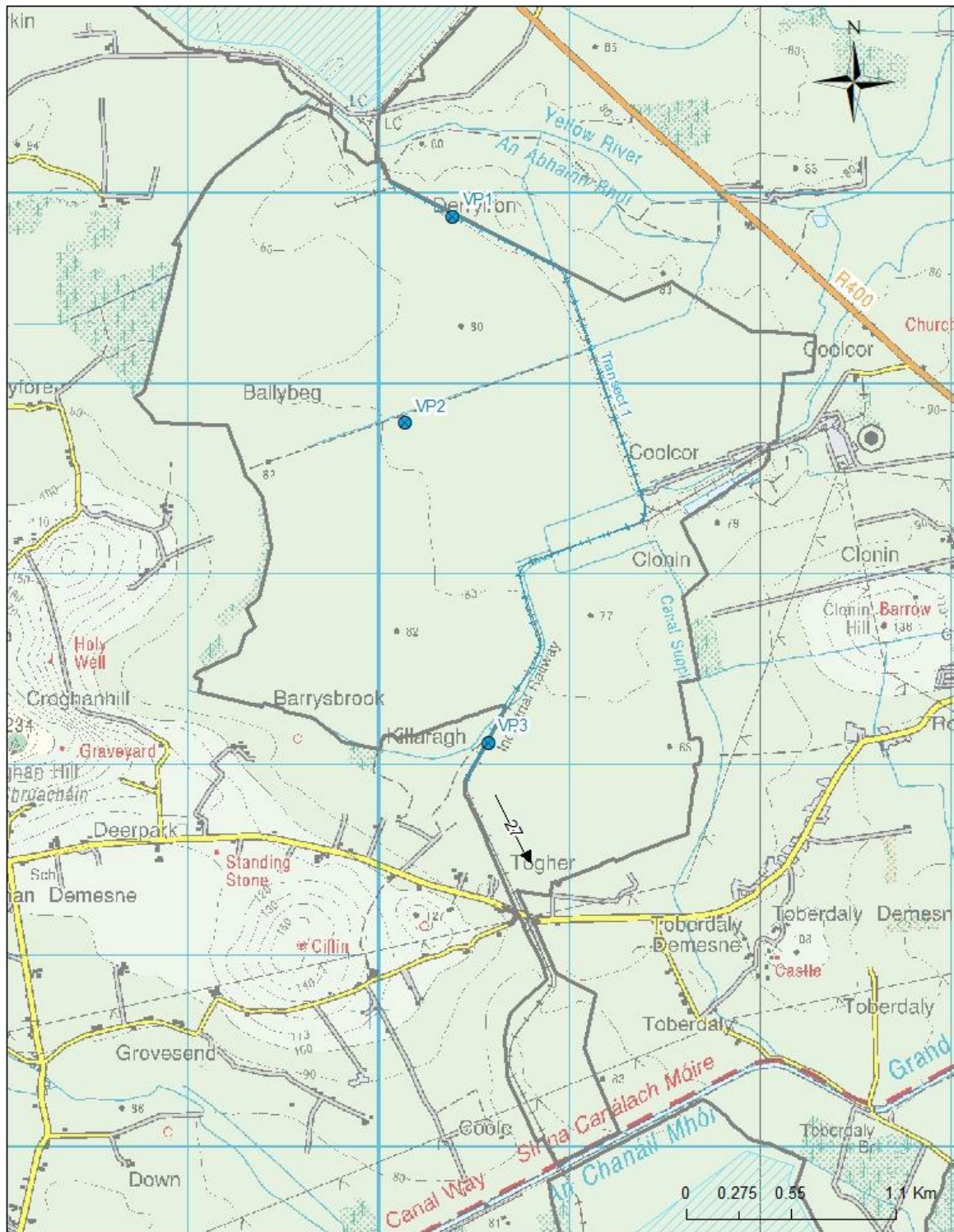


**Ballybeg Map 4:** Map showing transect and vantage point locations, with flightlines for Buzzard, summer 2022. See Appendix 8 for map reference number details.





**Ballybeg Map 5:** Map showing transect and vantage point locations, with flightlines for Merlin, summer 2022. See Appendix 8 for map reference number details.

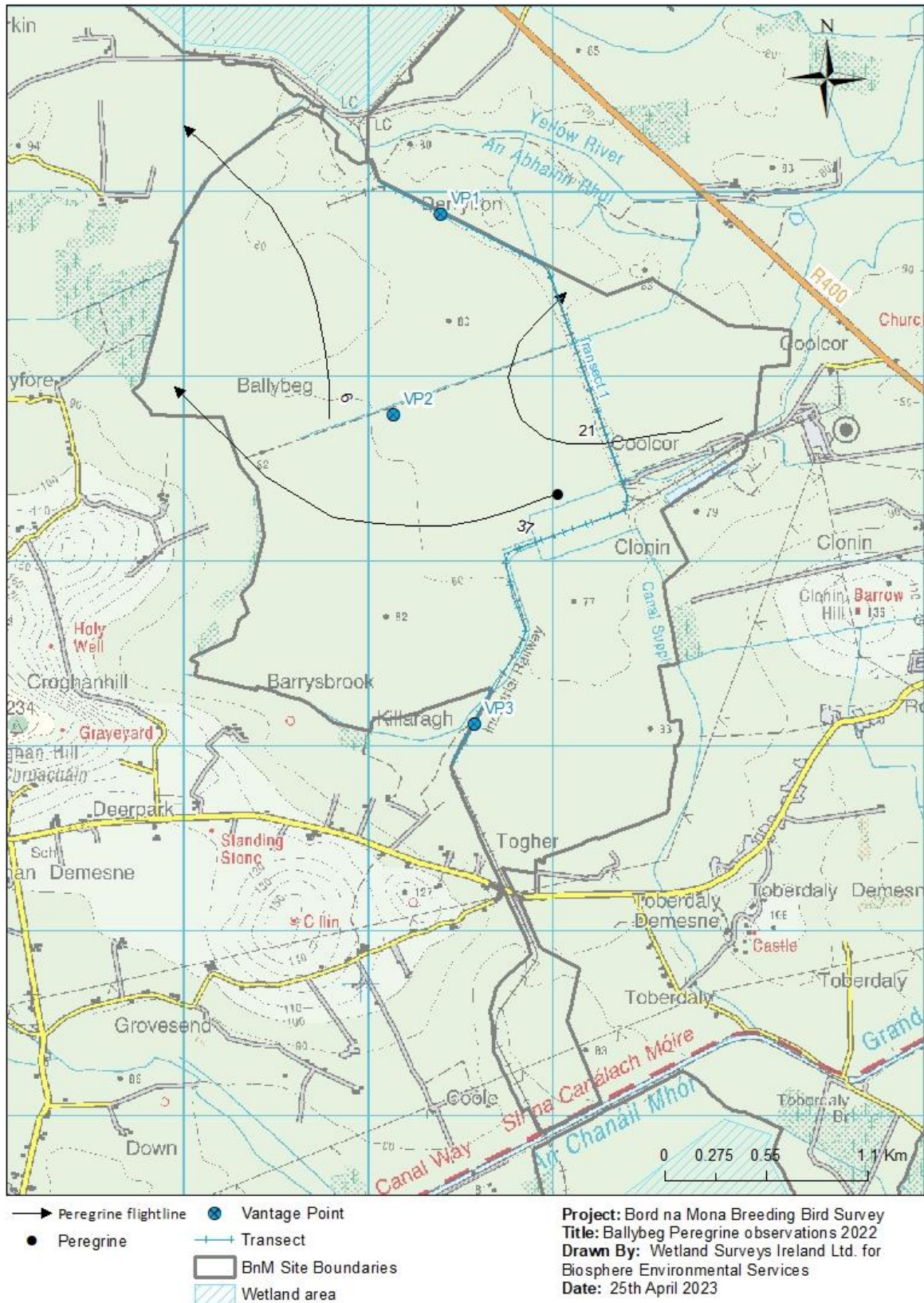


- Merlin flightline
- Vantage Point
- - - Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

Project: Bord na Mona Breeding Bird Survey  
 Title: Ballybeg Merlin observations 2022  
 Drawn By: Wetland Surveys Ireland Ltd. for  
 Biosphere Environmental Services  
 Date: 25th April 2023

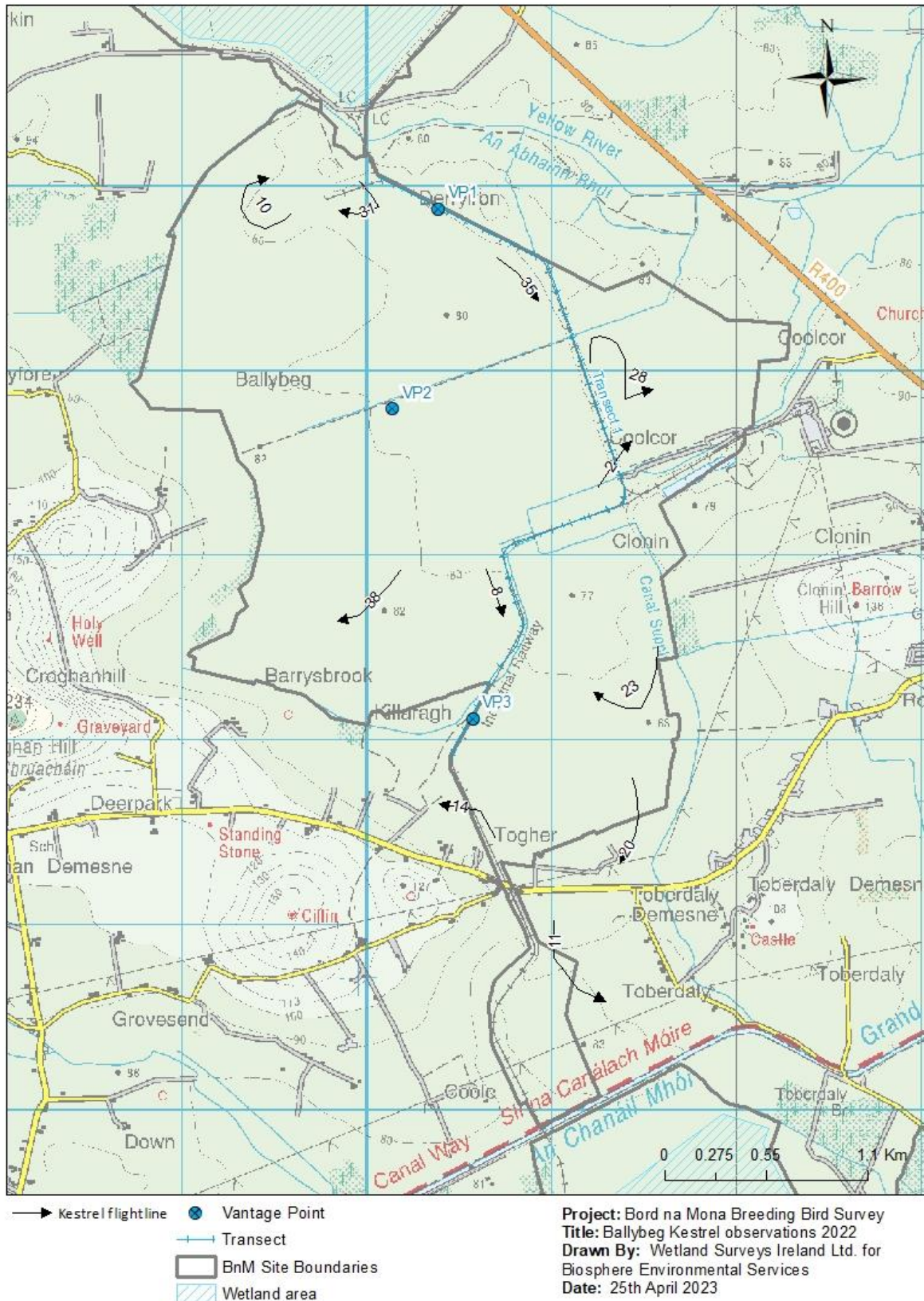


**Ballybeg Map 6:** Map showing transect and vantage point locations, with flightlines for Peregrine, summer 2022. See Appendix 8 for map reference number details.





**Ballybeg Map 7:** Map showing transect and vantage point locations, with flightlines for Kestrel, summer 2022. See Appendix 8 for map reference number details.



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**APPENDIX 1.**

**Summary of vantage point (VP) watch variables, Derryarkin Bog,  
April 2022 to September 2022**

Date	Season	VP no.	Duration (hrs)	Start Time	Weather conditions
04/04/2022	Breeding	1	3	07:45	Dry, Good visibility, SE wind, F3
04/04/2022	Breeding	2	3	12:00	Showers, Good visibility, SE wind, F3
08/04/2022	Breeding	3	3	09:30	Dry, Good visibility, SW wind, F2-3
08/04/2022	Breeding	2	3	14.00	Dry, Good visibility, SW wind, F2-3
14/04/2022	Breeding	1	3	08:15	Dry, Good visibility, W wind, F1
14/04/2022	Breeding	3	3	14.00	Dry, Good visibility, SW wind, F2-3
04/05/2022	Breeding	2	3	08.30	Dry, Good visibility, W wind, F3
04/05/2022	Breeding	1	3	13.00	Dry, Good visibility, W wind, F3
12/05/2022	Breeding	3	3	10:30	A few showers, Good visibility, SW wind, F3
12/05/2022	Breeding	2	3	16:00	Dry, Good visibility, SW wind, F2
19/05/2022	Breeding	1	3	12:00	Dry, Good visibility, NW wind, F1-2
19/05/2022	Breeding	3	3	16.00	Dry, Good visibility, NW wind, F2
08/06/2022	Breeding	1	3	07:15	Dry, Good visibility, W wind, F2
08/06/2022	Breeding	3	3	11:30	Dry, Good visibility, W wind, F2
09/06/2022	Breeding	2	3	11.00	Showers, Good visibility, SW wind, F3
09/06/2022	Breeding	1	3	15:30	Showers, Good visibility, SW wind, F3
22/06/2022	Breeding	2	3	09.30	Dry, Good visibility, NW wind, F2-3
22/06/2022	Breeding	3	3	14:00	Dry, Good visibility, NW wind, F3
14/07/2022	Breeding	3	3	07:45	Dry, Good visibility, S wind, F1
14/07/2022	Breeding	2	3	12:00	Dry, Good visibility, S wind, F1
15/07/2022	Breeding	1	3	09:30	Dry, Good visibility, SE wind, F2
15/07/2022	Breeding	2	3	13.30	Dry, Good visibility, SE wind, F2
20/07/2022	Breeding	1	3	08.15	Dry, Good visibility, SW wind, F2-3
20/07/2022	Breeding	3	3	14:00	Dry, Good visibility, S wind, F2
05/08/2022	Breeding	2	3	11:00	Showers, Good visibility, W wind, F2
05/08/2022	Breeding	3	3	15:00	Dry, Good visibility, W wind, F2
12/08/2022	Breeding	1	3	07:30	Dry, Good visibility, SW wind, F3
12/08/2022	Breeding	3	3	11:30	Dry, Good visibility, SW wind, F2
13/08/2022	Breeding	1	3	08:45	Dry, Good visibility, W wind, F2
13/08/2022	Breeding	2	3	13:00	Dry, Good visibility, W wind, F2
09/09/2022	Breeding	1	3	08:30	Dry, Good visibility, S wind, F2
09/09/2022	Breeding	2	3	13:00	Dry, Good visibility, S wind, F2

*Bord na Móna Breeding Bird Survey 2022: Derryarkin Group*

<b>Date</b>	<b>Season</b>	<b>VP no.</b>	<b>Duration (hrs)</b>	<b>Start Time</b>	<b>Weather conditions</b>
23/09/2022	Breeding	3	3	10:00	Dry, Good visibility, NW wind, F3
23/09/2022	Breeding	2	3	15:00	Dry, Good visibility, NW wind, F3
24/09/2022	Breeding	1	3	07:45	Showers, Good visibility, W Wind, F3
24/09/2022	Breeding	3	3	12:00	Showers, Good visibility, W Wind, F3

## APPENDIX 2

### Summary of vantage point (VP) watch variables, Drumman Bog, April 2022 to September 2022

Date	Observer	VP no.	Duration (hrs)	Start Time	Weather conditions
06/04/2022	Breeding	1	3	08:30	Showers, good visibility, W wind, F3-4
06/04/2022	Breeding	2	3	13:00	Showers, good visibility, W wind, F3
07/04/2022	Breeding	3	3	07.45	Dry, good visibility, SW wind, F3
07/04/2022	Breeding	4	3	13:00	Dry, good visibility, SW wind, F3
16/04/2022	Breeding	3	3	10.00	Dry, good visibility, W wind, F2
16/04/2022	Breeding	2	3	14:30	Dry, good visibility, W wind, F2
22/04/2022	Breeding	1	3	07:45	Showers, good visibility, SW wind, F3
22/04/2022	Breeding	4	3	12.30	Dry, good visibility, SW wind, F3
06/05/2022	Breeding	2	3	07:30	Showers, Good visibility, S wind, F2
06/05/2022	Breeding	1	3	14:00	Dry, Good visibility, S wind, F3
07/05/2022	Breeding	4	3	10:00	Dry, Good visibility, SW wind, F3
07/05/2022	Breeding	3	3	13:30	Dry, Good visibility, SW wind, F3
20/05/2022	Breeding	1	3	08:30	Dry, Good visibility, W wind, F2
20/05/2022	Breeding	2	3	12:30	Dry, Good visibility, SW wind, F2
21/05/2022	Breeding	3	3	07.30	Dry, Good visibility, N wind, F2
21/05/2022	Breeding	4	3	14:30	Dry, Good visibility, NW wind, F2
10/06/2022	Breeding	1	3	08:00	Showers, Good visibility, SW wind, F3
10/06/2022	Breeding	2	3	12:30	Showers, Good visibility, SW wind, F3
11/06/2022	Breeding	3	3	07:15	Dry, Good visibility, SW Wind, F2
11/06/2022	Breeding	4	3	12:00	Dry, Good visibility, SW Wind, F3
24/06/2022	Breeding	2	3	11:00	Showers, Good visibility, NW wind, F2
24/06/2022	Breeding	1	3	16:00	Showers, Good visibility, NW wind, F2
25/06/2022	Breeding	4	3	09:30	Dry, Good visibility, SE wind, F1
25/06/2022	Breeding	3	3	14:00	Dry, Good visibility, SE wind, F2
11/07/2122	Breeding	1	3	08:00	Dry, Good visibility, W wind, F3
11/07/2022	Breeding	2	3	12:30	Dry, Good visibility, W wind, F3
12/07/2022	Breeding	4	3	10:00	Dry, Good visibility, W wind, F3
12/07/2022	Breeding	3	3	14:15	Dry, Good visibility, W wind, F3
27/07/2022	Breeding	2	3	07:45	Dry, Good visibility, NW wind, F1
27/07/2022	Breeding	1	3	14.00	Dry, Good visibility, NW wind, F2
28/07/2022	Breeding	3	3	09:00	Dry, Good visibility, SW wind, F3
28/07/2022	Breeding	4	3	13:00	Dry, Good visibility, SW wind, F3
06/08/2022	Breeding	3	3	08:00	Dry, Good visibility, SW wind, F2



*Bord na Móna Breeding Bird Survey 2022: Derryarkin Group*

<b>Date</b>	<b>Observer</b>	<b>VP no.</b>	<b>Duration (hrs)</b>	<b>Start Time</b>	<b>Weather conditions</b>
06/08/2022	Breeding	4	3	12:00	Dry, Good visibility, SW wind, F3
09/08/2022	Breeding	1	3	10.30	Dry, Good visibility, S wind, F2
09/08/2022	Breeding	2	3	14:30	Dry, Good visibility, S wind, F2
19/08/2022	Breeding	1	3	08:30	Dry, Good visibility, SW wind, F3
19/08/2022	Breeding	4	3	13:30	Dry, Good visibility, SW wind, F3
20/08/2022	Breeding	3	3	10.00	Dry, Good visibility, W wind, F2
20/08/2022	Breeding	2	3	15:00	Dry, Good, W wind, F2
12/09/2022	Breeding	1	3	08:30	Showers, Good visibility, W wind, F3
12/09/2022	Breeding	2	3	12:30	Showers, Good visibility, W wind, F4
14/09/2022	Breeding	3	3	10:00	Dry, Good visibility, SW wind, F3
14/09/2022	Breeding	4	3	14:00	Dry, Good visibility, SW wind, F3
26/09/2022	Breeding	3	3	09.15	Dry, Good visibility, NW wind, F2
26/09/2022	Breeding	2	3	13:30	Dry, Good visibility, NW wind, F2
27/09/2022	Breeding	1	3	08.15	Showers, Good visibility, SW wind, F3
27/09/2022	Breeding	4	3	12:30	Dry, Good visibility, SW wind, F3

### APPENDIX 3

#### Summary of vantage point (VP) watch variables, Derryhinch Bog, April 2022 to September 2022

Date	Season	VP no.	Duration (hrs)	Start Time	Weather conditions
25/04/2022	Breeding	1	3	07:45	Dry, Good visibility, W wind, F3
25/04/2022	Breeding	2	3	12:30	Dry, Good visibility, W wind, F3
26/04/2022	Breeding	1	3	10:30	Showers, Good visibility, SW wind, F3
26/04/2022	Breeding	2	3	15.00	Showers, Good visibility, SW wind, F3
20/05/2022	Breeding	1	3	07.00	Dry, Good visibility, S wind, F2
20/05/2022	Breeding	2	3	11.00	Dry, Good visibility, S wind, F1
25/05/2022	Breeding	2	3	09.30	Dry, Good visibility, W wind, F4
25/05/2022	Breeding	1	3	13:30	Dry, Good visibility, W wind, F3
15/06/2022	Breeding	2	3	08:30	Showers, Good visibility, NW wind, F3
15/06/2022	Breeding	1	3	12:30	Dry, Good visibility, W wind, F2
16/06/2022	Breeding	2	3	10.00	Dry, Good visibility, W wind, F3
16/06/2022	Breeding	1	3	14:30	Dry, Good visibility, W wind, F3
16/07/2022	Breeding	1	3	09:45	Dry, Good visibility, SW wind, F2
16/07/2022	Breeding	2	3	14:30	Dry, Good visibility, SW wind, F2
17/07/2022	Breeding	1	3	07:15	Dry, Good visibility, SW wind, F1
17/07/2022	Breeding	2	3	11.00	Dry, Good visibility, SW wind, F2
14/08/2022	Breeding	2	3	11:00	Dry, Good visibility, W wind, F2
14/08/2022	Breeding	1	3	16:00	Dry, Good visibility, W wind, F2
29/08/2022	Breeding	1	3	08:00	Dry, Good visibility, SW wind, F3
29/08/2022	Breeding	2	3	12:30	Dry, Good visibility, SW wind, F3
15/09/2022	Breeding	1	3	09:00	Dry, Good visibility, SW wind, F3
15/09/2022	Breeding	2	3	14:00	Showers, Good visibility, SW wind, F3
28/09/2022	Breeding	1	3	08:30	Dry, Good visibility, W wind, F2
28/09/2022	Breeding	2	3	13:00	Dry, Good visibility, W wind, F2

#### APPENDIX 4

### Summary of vantage point (VP) watch variables, Ballybeg Bog, April 2022 to September 2022

Date	Season	VP no.	Duration (hrs)	Start Time	Weather conditions
19/04/2022	Breeding	3	3	08:15	Showers, Good visibility, W wind, F3
19/04/2022	Breeding	2	3	13:00	Showers, Good visibility, W wind, F3
23/04/2022	Breeding	1	3	07:30	Dry, Good visibility, NW wind, F3
23/04/2022	Breeding	3	3	12.30	Dry, Good visibility, NW wind, F4
27/04/2022	Breeding	1	3	10:30	Dry, Good visibility, SW wind, F2
27/04/2022	Breeding	2	3	15.00	Showers, Good visibility, SW wind, F3
18/05/2022	Breeding	1	3	07.00	Showers, Good visibility, S wind, F3
18/05/2022	Breeding	2	3	11.30	Dry, Good visibility, SE wind, F2
22/05/2022	Breeding	3	3	11:00	Dry, Good visibility, W wind, F3
22/05/2022	Breeding	2	3	16:00	Dry, Good visibility, W wind, F3-4
24/05/2022	Breeding	3	3	08:15	Rain clearing, Mod-good visibility, SW wind, F4
24/05/2022	Breeding	1	3	13.00	Dry, Good visibility, SW wind, F3
10/06/2022	Breeding	3	3	07:30	Dry, Good visibility, SE wind, F1
10/06/2022	Breeding	2	3	12:00	Dry, Good visibility, SE wind, F2
23/06/2022	Breeding	1	3	09.30	Dry, Good visibility, SW wind, F3
23/06/2022	Breeding	2	3	14:00	Dry, Good visibility, SW wind, F3
28/06/2022	Breeding	1	3	11.00	Dry, Good visibility, W wind, F2
28/06/2022	Breeding	3	3	15:30	Dry, Good visibility, W wind, F3
13/07/2022	Breeding	2	3	10:00	Dry, Good visibility, S wind, F1
13/07/2022	Breeding	1	3	14:00	Dry, Good visibility, S wind, F2
23/07/2022	Breeding	3	3	08:00	Dry, Good visibility, W wind, F2
23/07/2022	Breeding	2	3	12.30	Dry, Good visibility, W wind, F2
24/07/2022	Breeding	1	3	10:15	Dry, Good visibility, SW wind, F2
24/07/2022	Breeding	3	3	15:00	Dry, Good visibility, SW wind, F3
10/08/2022	Breeding	1	3	10:00	Dry, Good visibility, SW wind, F2
10/08/2022	Breeding	2	3	14:30	Dry, Good visibility, SW wind, F2
11/08/2022	Breeding	3	3	07:45	Dry, Good visibility, W wind, F3
11/08/2022	Breeding	2	3	12:00	Dry, Good visibility, W wind, F3
22/08/2022	Breeding	1	3	09:30	Showers, Good visibility, NW wind, F2
22/08/2022	Breeding	3	3	13:00	Dry, Good visibility, NW wind, F2



*Bord na Móna Breeding Bird Survey 2022: Derryarkin Group*

<b>Date</b>	<b>Season</b>	<b>VP no.</b>	<b>Duration (hrs)</b>	<b>Start Time</b>	<b>Weather conditions</b>
07/09/2022	Breeding	2	3	09:30	Dry, Good visibility, NW wind, F2
07/09/2022	Breeding	1	3	13:30	Dry, Good visibility, NW wind, F3
16/09/2022	Breeding	3	3	07:30	Showers, Good visibility, SW wind, F3
16/09/2022	Breeding	1	3	12:30	Showers, Good visibility, SW wind, F3
29/09/2022	Breeding	2	3	10:00	Dry, Good visibility, W Wind, F3
29/09/2022	Breeding	3	3	14:00	Dry, Good visibility, W Wind, F2

**APPENDIX 5**

**Vantage Point raw data & flight activity, Derryarkin Bog,  
April 2022 - September 2022**

Date	VP No	Map Reference	Species	No.	Flight Time	Flight Duration (s)	Band 1 (0-25m)	Band 2 (25-175m)	Band 3 (175+m)	Comments
04/04/2022	1	1	Sparrow hawk	2	09.26	180	0	120	60	Pair rising
		2	Little egret	1	10.25	60	60	0	0	Flew in and landed
04/04/2022	2	3	Golden plover	20 0+	12.52	300	0	100	200	Tight flock flying high – later seen in fields
		4	Peregrine	1	13.01	30	30	0	0	Male flew in landed – seen perched
08/04/2022	3	5	Kestrel	1	10.19	120	60	60	0	Male hunting
08/04/2022	2	6	Mute swan	3	14.44	60	60	0	0	Got up from pond
		7	Buzzard	2	16.00	180	0	120	60	Pair in display
		8	Buzzard	1	16.35	60	60	0	0	
14/04/2022	1	9	Little egret	2	09.09	120	60	60	0	2 got up and flew towards Drumman
		10	Buzzard	1	10.23	90	0	90	0	Flying
14/04/2022	3	11	Peregrine	1	16.06	60	0	60	0	Flew across site
04/05/2022	2	12	Mute swan	7	08.52	60	60	0	0	Non-breeding birds
		13	Little egret	1	09.19	45	45	0	0	Feeding on pond, got up and then down
04/05/2022	1	14	Sparrow hawk	1	13.24	20	20	0	0	Hunting thru scrub
12/05/2022	3									No target species
12/05/2022	2	15	Kestrel	1	16.06	90	30	60	0	Hunting along edge of pond
		16	Peregrine	1	16.56	45	30	15	0	Flew in (to nest) – birds heard calling
19/05/2022	1	17	Buzzard	1	13.15	180	0	180	0	Flew in from Drumman
19/05/2022	3	18	Peregrine	1	17.07	120	0	0	120	Bird high circling
08/06/2022	1	19	Sparrow hawk	1	07.50	45	45	0	0	Hunting
08/06/2022	3	20	Buzzard	1	12.42	120	0	120	0	Flying leisurely
09/06/2022	2	21	Little egret	1	11.43	60	30	30	0	Flew in from north

*Bord na Móna Breeding Bird Survey 2022: Derryarkin Group*

Date	VP No	Map Reference	Species	No.	Flight Time	Flight Duration (s)	Band 1 (0-25m)	Band 2 (25-175m)	Band 3 (175+m)	Comments
		22	Kestrel	1	12.18	300	100	200	0	Hovering – then dropped. Male
09/06/2022	1									No target species
22/06/2022	2	23	Peregrine	1	10.32	75	15	60	0	Female flew in and landed near nest – a lot of calling over next 10 min and then intermittently – no sign of male
		24	Mute swan	4	10.56	45	20	25	0	Flew in from Drumman ?
22/06/2022	3	25	Buzzard	3	16:13	300	0	160	140	Trio circling
14/07/2022	3	26	Sparrow hawk	1	08:26	120	0	120	0	Flying steadily
		27	Buzzard	2	09.09	360	0	100	260	Pair rising
14/07/2022	2	28	Peregrine	2	14.34	240	0	100	140	Pair circling, calling constantly
15/07/2021	1									No target species
15/07/2021	2	29	Mute swan	2	14.01	60	60	0	0	Adults
20/07/2021	1	30	Kestrel	2	08.47	240	90	150	0	Two hunting close together
		31	Little egret	1	09.14	45	45	0	0	Feeding bird got up
20/07/2021	3									No target species
05/08/2022	2	32	Lapwing	18	11.28	120	60	60	0	Flock edge of pond got up
		33	Kestrel	1	12.15	120	30	90	0	Hovering bird dropped to ground
05/08/2022	3									No target species
12/08/2022	1	34	Lapwing	52	08.13	300	100	200	0	Loose flock got up and later back down – post breeders
12/08/2022	3	35	Kestrel	1	12.12	90	0	90	0	Flying
		36	Kestrel	1	12.28	120	30	90	0	Hunting – prob same bird, male
13/08/2022	1	37	Kestrel	1	10.08	60	60	0	0	Hovering low - female
		38	Lapwing	27	10.47	90	60	30	0	Loose flock
13/08/2022	2									No target species
09/09/	1	39	Buzzard	3	09.21	360	0	100	260	Party interacting



*Bord na Móna Breeding Bird Survey 2022: Derryarkin Group*

Date	VP No	Map Reference	Species	No.	Flight Time	Flight Duration (s)	Band 1 (0-25m)	Band 2 (25-175m)	Band 3 (175+m)	Comments
2022										and rising
		40	Little egret	1	10.19	45	45	0	0	Flew in to join one already feeding
09/09/2022	2	41	Kingfisher	1	14.34	20	20	0	0	Flew across lake to swamp veg - landed
		42	Lapwing	11	15.05	45	45	0	0	Flew in to lake edge
23/09/2022	3	43	Buzzard	1	11.08	120	0	120	0	Flew out of site
23/09/2022	2									No target species
24/09/2022	1	44	Kestrel	1	08.48	90	90	0	0	Hovering low - dropped
24/09/2022	3	45	Sparrow hawk	2	14:24	180	0	100	80	Two rising
		46	Lapwing	9	14:40	150	0	150	0	Flock flew across site and out

**APPENDIX 6**

**Vantage Point raw data & flight activity, Drumman Bog,  
April 2022 - September 2022**

Date	V P N O	Map Referenc e	Species	No .	Flight Time	Flight Durati on (s)	Band 1 (0- 25m)	Band 2 (25- 175 m)	Band 3 (175+ m)	Comments
06/04/ 2022	1	1	Sparrow hawk	2	09:48	240	0	100	140	Pair in display
		2	Little egret	1	10.34	60	30	30	0	Flew towards large pond
06/04/ 2022	2	3	Buzzard	1	15.06	90	0	90	0	
		4	Buzzard	2	15.34	300	0	100	200	Pair rising
07/04/ 2022	3	5	Merlin	1	09.09	30	35	0	0	Bird hunting fast
		6	Kestrel	1	10.12	120	30	90	0	Hunting male
07/04/ 2022	4	7	Buzzard	1	15.13	120	60	60	0	Flying / hunting
16/04/ 2022	3	8	Sparrow hawk	1	10.55	20	20	0	0	Male hunting
16/04/ 2022	2									No target species
22/04/ 2022	1	9	Mute swan	5	07.56	60	40	20	0	
		10	Peregrin e	1	09.13	180	0	40	140	Rising
22/04/ 2022	4	11	Kestrel	1	14.14	90	0	90	0	Female type hunting
06/05/ 2022	2	12	Buzzard	1	08:35	90	0	90	0	Flying
06/05/ 2022	1	13	Peregrin e	1	15:00	120	0	80	120	Flew fairly low across site - male
		14	Kestrel	1	15.34	30	30	0	0	Flow low above scrub
		15	Mute swan	3	15.54	60	60	0	0	
07/05/ 2022	4									No target species
07/05/ 2022	3	16	Kestrel	1	14.13	240	60	180	0	Hovering – dropped to ground
20/05/ 2022	1	17	Little egret	1	09.45	60	60	0	0	Flew across wetlands
		18	Buzzard	1	10.10	120	0	120	0	Flew in from motorway
20/05/ 2022	2	19	Sparrow hawk	1	13.09	30	30	0	0	Hunting
21/05/ 2022	3	20	Buzzard	1	08.28	90	20	70	0	Flying
21/05/ 2022	4	21	Sparrow hawk	2	15.16	180	0	100	80	Pair circling

*Bord na Móna Breeding Bird Survey 2022: Derryarkin Group*

Date	V P N o	Map Reference	Species	No .	Flight Time	Flight Duration (s)	Band 1 (0-25m)	Band 2 (25-175 m)	Band 3 (175+ m)	Comments
10/06/2022	1	22	Sparrow hawk	1	08.51	30	30	0	0	Flying
10/06/2022	2	23	Peregrine	1	12:56	45	0	45	0	Flying fast
		24	Buzzard	1	14.32	120	0	120	0	Flying
11/06/2022	3									No target species
11/06/2022	4	25	Kestrel	1	08.35	180	40	120	0	Hunting male
24/06/2022	2	26	Kestrel	1	12.15	90	60	30	0	Female type
24/06/2022	1	27	Lesser black-back gull	23	17.24	180	60	120	0	Flock roosting got up & flew to pond
		28	Buzzard	2	18.09	300	0	140	160	Pair circling / rising
25/06/2021	4									No target species
25/06/2021	3	29	Buzzard	1	14.55	90	0	90	0	
11/07/2022	1	30	Kestrel	1	08.18	120	30	90	0	Hunting
		31	Lesser black back gull	14	08.32	150	50	100	0	Had been on pond
11/07/2022	2	32	Sparrow hawk	3	14.45	360	0	200	160	Trio circling & rising
12/07/2022	4									No target species
12/07/2022	3	33	Buzzard	1	15.12	90	0	90	0	Flew out of site
27/07/2022	2	34	Sparrow hawk	1	09.19	30	30	0	0	Female
27/07/2022	1	35	Buzzard	4	15:48	600	0	200	400	Circling / interacting moving west
28/07/2022	3			6	08.10	90	60	30	0	No target species
28/07/2022	4	36	Lesser black back gull	16	15.22	120	60	60	0	Loose flock
06/08/2022	3	37	Lesser Black back gull	7	08.24	90	90	0	0	Up from pond
		38	Mute swan	5	08.27	60	60	0	0	Up from pond – disturbance ?

*Bord na Móna Breeding Bird Survey 2022: Derryarkin Group*

Date	V P N o	Map Referenc e	Species	No .	Flight Time	Flight Durati on (s)	Band 1 (0- 25m)	Band 2 (25- 175 m)	Band 3 (175+ m)	Comments
06/08/ 2022	4	39	Lapwing	10	14.14	60	0	60	0	
09/08/ 2022	1	40	Buzzard	1	10.56	75	15	60	0	
		41	Lapwing	4	11.45	45	45	0	0	Up and down
09/08/ 2022	2									No target species
19/08/ 2022	1	42	Little egret	1	09.17	120	30	90	0	Flew in from Derry direction
		43	Kestrel	1	10.05	120	30	90	0	Hovering - male
19/08/ 2022	4									No target species
20/08/ 2022	3	44	Lesser black back gull	18	10:22	150	60	90	0	Up from pond
20/08/ 2022	2	45	Buzzard	3	16:14	300	0	120	180	Trio rising
12/09/ 2022	1	46	Peregrin e	1	09.19	300	0	100	200	Bird soaring over site
		47	Little egret	2	10.38	90	60	30	0	Flew in from east
12/09/ 2022	2									No target species
14/09/ 2022	3	48	Kestrel	2	11.02	300	0	200	100	Soaring / interacting
		49	Kestrel	1	12.14	60	60	0	0	Male hunting
14/09/ 2022	4	50	Lesser black backed gull	16	16.32	180	60	120	0	Loose flock – landed on pond
26/09/ 2022	3	51	Lapwing	23	09.45	120	0	120	0	
		52	Buzzard	1	11.14	60	60	0	0	Flying low
26/09/ 2022	2	53	Sparrow hawk	2	14.56	240	0	100	140	Soaring / Interacting
27/09/ 2022	1	54	Sparrow hawk	1	09.22	90	0	90	0	Flying over scrub
27/09/ 2022	4									No target species



APPENDIX 7

Vantage Point raw data & flight activity, Derryhinch Bog,  
April 2022 – September 2022

Date	V P N o	Map Ref.	Species	N o.	Flight Time	Flight Durati on (s)	Band 1 (0- 25m)	Band 2 (25- 175m)	Band 3 (175+ m)	Comments
25/04/ 2022	1	1	Kestrel	1	08.43	180	60	120	0	Hunting
		2	Buzzard	2	09.14	300	0	120	180	Pair in display
25/04/ 2022	2	3	Little egret	1	13.05	90	60	30	0	Bird on ponded area flew up
26/04/ 2022	1	4	Buzzard	1	12.00	120	90	30	0	Flying low, landed
26/04/ 2022	2									No target species
20/05/ 2022	1	5	Sparrow hawk	1	08.08	20	20	0	0	Hunting – male ?
20/05/ 2022	2	6	Peregrine	1	11.45	120	0	60	60	Flew thru site, south
		7	Buzzard	1	12.13	180	0	180	0	Circling low
25/05/ 2022	2									No target species
25/05/ 2022	1	8	Peregrine	1	13.42	60	30	30	0	Male on peat, flew up
15/06/ 2022	2	9	Buzzard	2	09.17	300	0	100	200	Pair over site edge / motorway, rising
		10	Kestrel	1	10.50	180	80	100	0	Actively hunting
15/06/ 2022	1									No target species
16/06/ 2022	2	11	Sparrow hawk	1	14.14	180	0	100	80	Soaring over wood
16/06/ 2022	1	12	Kestrel	1	15.51	120	0	120	0	Flying along boundary
16/07/ 2022	1	13	Sparrow hawk	2	11.01	380	0	180	200	Pair rising, circling & calling
		14	Sparrow Hawk	1	12.12	30	30	0	0	Female hunting
16/07/ 2022	2									No target species
17/07/ 2022	1	15	Kestrel	1	08.18	180	40	140	0	Flying / hunting
17/07/ 2022	2	16	Kestrel	1	12.56	120	60	60	0	Hunting actively
14/08/ 2022	2	17	Buzzard	3	11.44	360	0	120	240	Trio rising, mostly

*Bord na Móna Breeding Bird Survey 2022: Derryarkin Group*

Date	V P N o	Map Ref.	Species	N o.	Flight Time	Flight Durati on (s)	Band 1 (0- 25m)	Band 2 (25- 175m)	Band 3 (175+ m)	Comments
2022										off-site
		18	Little egret	1	13.40	60	60	0	0	Flew low and landed in large drain/ponded area
14/08/2022	1	19	Lesser black back gull	9	17.47	180	30	150	0	Flew in & landed on bare peat – mostly sub-ads & juvs
29/08/2022	1	20	Kestrel	2	09.25	240	90	150	0	Pair hunting close together
29/08/2022	2	21	Peregrine	1	14.14	120	0	0	120	Flew high over site
		22	Lesser black back gull	14	15.15	180	0	180	0	Loose flock flying southwest
15/09/2022	1	23	Lesser black back gull	23	09.24	180	60	120	0	Roosting flock got up, 7 ads/sub-ads, others juvs
		24	Buzzard	1	11.12	90	0	90	0	Flying along boundary
15/09/2022	2									No target species
28/09/2022	1	25	Kestrel	1	09.43	120	60	60	0	Male
28/09/2022	2	26	Sparrow hawk	1	13.23	45	45	0	0	Hunting
		27	Kestrel	1	13.56	90	90	0	0	Hunting along motorway strip

**APPENDIX 8**

**Vantage Point raw data & flight activity, Ballybeg Bog,  
April 2022 – September 2022**

Date	V P N o	Map Ref.	Species	N o.	Flight Time	Flight Durati on (s)	Band 1 (0- 25m)	Band 2 (25- 175m)	Band 3 (175+ m)	Comments
19/04/ 2022	3	1	Buzzard	1	09.32	120	0	120	0	Flying
19/04/ 2022	2	2	Kestrel	1	15.02	180	60	120	0	Hunting male
		3	Buzzard	2	15.34	300	0	120	180	Pair rising
23/04/ 2022	1	4	Sparrow hawk	1	08.31	45	45	0	0	Flying / hunting
		5	Mute swan	3	08.48	180	0	180	0	Imms
23/04/ 2022	3									No target species
27/04/ 2022	1	6	Peregrine	1	11.25	90	0	90	0	Male flying fast
27/04/ 2022	2	7	Buzzard	1	16.05	90	90	0	0	Flying / hunting
		8	Kestrel	1	17.17	120	60	60	0	Hovering
18/05/ 2022	1	9	Sparrow hawk	1	08.08	150	30	60	60	Female rising
		10	Kestrel	1	08.46	120	90	30	0	Hunting
18/05/ 2022	2									No target species
22/05/ 2022	3	11	Kestrel	1	11.24	180	90	90	0	Hovering – dropped to ground
22/05/ 2022	2	12	Buzzard	1	16.35	120	0	120	0	Flying
24/05/ 2022	3	13	Mute swan	2	09.13	120	0	120	0	Pair flying
		14	Kestrel	1	10.21	180	60	120	0	Hunting
24/05/ 2022	1	15	Sparrow hawk	2	15.16	180	0	120	60	Pair rising
10/06/ 2022	3	16	Buzzard	1	08.39	120	0	120	0	Flying
10/06/ 2022	2									No target species
23/06/ 2022	1	17	Buzzard	2	10.34	360	0	160	200	Rising
23/06/ 2022	2	18	Sparrow hawk	1	16.09	20	20	0	0	Hunting
28/06/ 2022	1	19	Sparrow hawk	2	12.12	240	0	140	100	Pair interacting
28/06/ 2022	3	20	Kestrel	1	16.48	180	60	120	0	Hunting - female

*Bord na Móna Breeding Bird Survey 2022: Derryarkin Group*

Date	V P N o	Map Ref.	Species	N o.	Flight Time	Flight Durati on (s)	Band 1 (0- 25m)	Band 2 (25- 175m)	Band 3 (175+ m)	Comments
2022										
13/07/ 2022	2	21	Peregrine	1	11.05	180	0	60	120	Bird high up
13/07/ 2023	1									No target species
23/07/ 2023	3	22	Buzzard	2	08.56	180	0	80	100	Pair rising
		23	Kestrel	1	10.58	90	0	90	0	Flying
23/07/ 2022	2	24	Buzzard	4	14.50	300	0	120	180	Group rising
24/07/ 2022	1	25	Sparrow hawk	2	11.30	240	0	150	90	Pair
24/07/ 2022	3									No target species
10/08/ 2022	3	26	Sparrow hawk	1	10.53	30	30	0	0	Hunting
		27	Merlin	1	11.26	60	60	0	0	Male flying along track – landed, not seen getting up
10/08/ 2022	2	28	Kestrel	2	14.59	360	150	210	0	Hunting close together
11/08/ 2022	1	29	Buzzard	1	09.09	75	0	75	0	Flying
		30	Buzzard	3	10.10	600	0	250	350	Trio interacting
11/08/ 2022	2	37	Peregrine	1	12.24	90	60	30	0	Resting on open peat plucking at item – got up and flew fast – female type
22/08/ 2022	1	31	Kestrel	1	10.08	45	45	0	0	Hunting low – went to ground
22/08/ 2022	3	32	Little egret	1	15.43	120	0	120	0	Presumably heading to Cavemount
07/09/ 2022	2	32	Kestrel	1	09.47	90	90	0	0	Hovering low
07/09/ 2022	1	33	Mute swan	5	15.09	120	90	30	0	At least 2 imms
		34	Buzzard	1	15.53	60	0	60	0	Flying
16/09/ 2022	3									No target species
16/09/ 2022	1	35	Kestrel	1	14.09	180	60	120	0	Male hunting along track
29/09/ 2022	2									No target species
29/09/ 2022	3	36	Sparrow hawk	1	15.04	30	3	0	0	Hunting



## APPENDIX 9

### Breeding Status Codes as used in Bird Atlas

All codes for **Possible**, **Probable** and **Confirmed** Breeding have to relate to individuals in **potentially suitable nesting habitat**.

#### Non-breeding

- F** Flying over
- M** Species observed but suspected to be still on **M**igration
- U** Species observed but suspected to be s**U**mmerring non-breeder

#### Possible breeder

- H** Species observed in breeding season in suitable nesting **H**abitat
- S** **S**inging male present (or breeding calls heard) in breeding season in suitable breeding habitat

#### Probable breeding

- P** **P**air observed in suitable nesting habitat in breeding season
- T** **P**ermanent **T**erritory presumed through registration of territorial behaviour (song etc) on at least two different days a week or more apart at the same place or many individuals on one day
- D** **C**ourtship and **D**isplay (judged to be in or near potential breeding habitat; be cautious with wildfowl)
- N** **V**isiting probable **N**est site
- A** **A**gitated behaviour or anxiety calls from adults, suggesting probable presence of nest or young nearby
- I** **B**rood patch on adult examined in the hand, suggesting **I**ncubation
- B** **N**est **B**uilding or excavating nest-hole

#### Confirmed breeding

- DD** **D**istraction-**D**isplay or injury feigning
- UN** **U**sed **N**est or eggshells found (occupied or laid within period of survey)
- FL** **R**ecently **F**ledged young (nidicolous species) or downy young (nidifugous species). Careful consideration should be given to the likely provenance of any fledged juvenile capable of significant geographical movement. Evidence of dependency on adults (e.g. feeding) is helpful. Be cautious, even if the record comes from suitable habitat.
- ON** **A**dults entering or leaving nest-site in circumstances indicating **O**ccupied **N**est (including high nests or nest holes, the contents of which can not be seen) or adults seen incubating
- FF** **A**dult carrying **F**aecal sac or **F**ood for young
- NE** **N**est containing **E**ggs
- NY** **N**est with **Y**oung seen or heard

## APPENDIX 10

### Scientific Names of Bird Species

Little Grebe	<i>Tachybaptus ruficollis</i>
Great Crested Grebe	<i>Podiceps cristatus</i>
Grey Heron	<i>Ardea cinerea</i>
Little Egret	<i>Egretta garzetta</i>
Mute Swan	<i>Cygnus olor</i>
Whooper Swan	<i>Cygnus cygnus</i>
Teal	<i>Anas crecca</i>
Wigeon	<i>Anas penelope</i>
Mallard	<i>Anas platyrhynchos</i>
Tufted Duck	<i>Aythya fuligula</i>
Buzzard	<i>Buteo buteo</i>
Hen Harrier	<i>Circus cyaneus</i>
Sparrowhawk	<i>Accipiter nisus</i>
Kestrel	<i>Falco tinnunculus</i>
Merlin	<i>Falco columbarius</i>
Peregrine	<i>Falco peregrinus</i>
Moorhen	<i>Gallinula chloropus</i>
Pheasant	<i>Phasianus colchicus</i>
Water Rail	<i>Rallus aquaticus</i>
Ringed Plover	<i>Charadrius hiaticula</i>
Golden Plover	<i>Pluvialis apricaria</i>
Lapwing	<i>Vanellus vanellus</i>
Snipe	<i>Gallinago gallinago</i>
Woodcock	<i>Scolopax rusticola</i>
Curlew	<i>Numenius arquata</i>
Black-headed Gull	<i>Chroicocephalus ridibundus</i>
Long-eared Owl	<i>Asio otus</i>
Woodpigeon	<i>Columba palumbus</i>
Skylark	<i>Alauda arvensis</i>
Meadow Pipit	<i>Anthus pratensis</i>
Pied Wagtail	<i>Motacilla alba</i>
Wren	<i>Troglodytes troglodytes</i>
Robin	<i>Erithacus rubecula</i>
Stonechat	<i>Saxicola torquata</i>
Blackbird	<i>Turdus merula</i>
Fieldfare	<i>Turdus pilaris</i>
Song Thrush	<i>Turdus philomelos</i>
Mistle Thrush	<i>Turdus viscivorus</i>
Goldcrest	<i>Regulus regulus</i>
Coal Tit	<i>Parus ater</i>
Blue Tit	<i>Parus caeruleus</i>
Great Tit	<i>Parus major</i>
Magpie	<i>Pica pica</i>
Hooded Crow	<i>Corvus corone</i>
Raven	<i>Corvus corax</i>
Starling	<i>Sturnus vulgaris</i>
Chaffinch	<i>Fringilla coelebs</i>

*Bord na Móna Breeding Bird Survey 2022: Derryarkin Group*

Goldfinch  
Siskin  
Linnet  
Lesser Redpoll  
Bullfinch  
Reed Bunting

*Carduelis carduelis*  
*Carduelis spinus*  
*Carduelis cannabina*  
*Carduelis flammea*  
*Pyrrhula pyrrhula*  
*Emberiza schoeniclus*

**BORD NA MONA  
BREEDING BIRD SURVEY  
2021**

**DERRYARKIN BOG GROUP  
DERRYARKIN, DRUMMAN,  
DERRYHINCH & BALLYBEG**

**DRAFT REPORT**



*Bare or sparsely vegetated peat is a feature of Derryhinch Bog*

*Prepared for*

**Bord na Móna**

*by*

**BioSphere Environmental Services**

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APPENDIX 2 – Drumman Bog: Summary of vantage point (VP) watch variables, April to September 2021

APPENDIX 3 – Derryhinch Bog: Summary of vantage point (VP) watch variables, April to September 2021

APPENDIX 4 – Ballybeg Bog: Summary of vantage point (VP) watch variables, April to September 2021

APPENDIX 5 – Derryarkin Bog: Vantage Point raw data & flight activity, April to September 2021

APPENDIX 6 – Drumman Bog: Vantage Point raw data & flight activity, April to September 2021

APPENDIX 7 – Derryhinch Bog: Vantage Point raw data & flight activity, April to September 2021

APPENDIX 8 – Ballybeg Bog: Vantage Point raw data & flight activity, April to September 2021

APPENDIX 9 - Breeding Status Codes as used in Bird Atlas

APPENDIX 10. Scientific names of bird species

## **EXECUTIVE SUMMARY**

- A baseline study of breeding and summering birds associated with Derryarkin Bog Group (comprising Derryarkin, Drumman, Derryhinch and Ballybeg bogs) was carried out between April and September 2021. For Derryarkin and Drumman, this followed similar surveys carried out at the sites in the 2013, 2014, 2016, 2018, 2019 and 2020 breeding seasons. For Derryhinch and Ballybeg bogs, previous breeding surveys had been carried out in 2013 and 2014.
- Derryarkin bog comprises regenerating cutaway bog habitats, including extensive wetland habitats, regenerating bog and heath and developing scrub on cutaway. A Roadstone quarry and production facility occurs within the site and this includes a large quarry lake and sparsely vegetated areas of gravel.
- Drumman bog is a large site and includes a sector that is extensively used for quarrying. The Mongagh River flows through the central area of the site. The majority of the sector of Drumman bog to the south of the Mongagh River corridor has been in recent commercial production and still comprises mainly bare peat though there are developing areas of regenerating cutaway bog vegetation. An extensive area of regenerating cutaway bog occurs north of the Mongagh River. A large wetland area with ponds and standing water has been created in the northeast section. The gravel and sand extraction area to the south of the cutaway includes a quarry lake.
- Derryhinch Bog was until recently (January 2021) mostly in commercial production and much of the site is still largely bare or sparsely vegetated peat. A small mineral island is located in the mid-west section and is dominated by birch scrub. Further stands of birch dominated scrub occur in the extreme northwest corner of the site and along the south end of the eastern boundary. Fringe habitats found along the boundaries of the site include dry grassland and scrub. An area of cutover and remnant high bog occurs along the southern boundary (south of the railway).
- Ballybeg Bog is contiguous with Derryarkin bog to the north and Cavemount bog to the south. Ballybeg Bog is sharply divided into three main ecological units: the northern part which has been out of production for some time and is re-vegetating cutaway dominated by birch scrub, the southern part which has been in recent commercial industrial production and is still largely bare peat, and the small southern outlier of largely intact raised bog, known as Coole bog.
- The study included a desk review and consultations with relevant agencies, namely National Parks & Wildlife Service (local management staff), BirdWatch Ireland and the Irish Peatland Conservation Council. Field methods employed were a combination of transect surveys, vantage point watches and focused surveys for breeding wetland birds. Monthly vantage point watches achieved a minimum of 36 hours of observations over the four bog sites.
- The bog sites are not part of any designated site for nature conservation.
- A review of past bird information relating to the study area identified a breeding bird survey at Drumman Bog and Ballybeg Bog in 2011 (by A. Copland) as the main

source of previous information. However, for Derryarkin Bog and Derryhinch Bog specific breeding bird surveys had not previously been carried out prior to 2013.

- Brief descriptions of the four bog sites are given, followed by details of target species recorded, the potential for other target species, details of other species of note recorded and an overview of the value of the site for breeding birds. Maps showing locations of sampling transects and vantage points, plus flight lines for target species are presented.
- The 2021 survey, supported by similar surveys in 2013, 2014, 2016, 2018, 2019 and 2020, demonstrates that **Derryarkin Bog** has substantial importance for breeding birds. Of particular value is the area of wetland habitat on cutaway in the eastern sector of the site and the extensive quarry complex in the northern sector. There are also areas of drier re-generating cutaway which supports bog and scrub habitats. Of particular note are the regular populations of breeding Lapwing and Snipe (both Red-listed), along with other wetland species including Mute Swan, Great Crested Grebe, Teal, Tufted Duck, Coot and Common Sandpiper. Little Egret (Annex I listed) is a regular visitor to the site. A range of other important species nest within the site, including Woodcock, Meadow Pipit and Grey Wagtail (all Red-listed), and various Amber-listed species including Skylark, Willow Warbler and Linnet. The now regular nesting on site by Peregrine (Annex I listed) is of note (though not successful in 2021). Kestrel (Red-listed) bred on-site in 2021. Previously, the site has supported a nationally important population of Black-headed Gull but regular predation appears to have caused the near abandonment of the colony. On the basis of the results of the breeding survey in 2021, supported by earlier surveys, it is recommended that a rating of **National Importance** is considered appropriate for breeding birds at Derryarkin Bog.
- While parts of **Drumman** are only recently out of commercial production and are of relatively low interest for breeding birds, the site has substantial wetland habitats on cutaway, as well as an extensive complex of quarry ponds. These habitats support a range of breeding birds of conservation importance. Of particular note are the wetland species, including the Red-listed Lapwing and Snipe, as well as Mute Swan, Little Grebe, Great Crested Grebe and Common Sandpiper. A non-breeding herd of Mute Swan is a recent feature of the site, while Little Egret is a regular visitor. The site also supports substantial numbers of roosting Lesser Black-backed Gulls in late-summer and autumn. Sightings on site of Merlin in 2021, as well as in some previous summers, suggest that Drumman is within the territory of a breeding pair. The site provides breeding habitat for woodland species such as Sparrowhawk. A further suite of species uses the site for hunting, including Buzzard, Kestrel and Peregrine. Meadow Pipit (Red-listed) breeds throughout the cutaway habitats, along with Skylark, Willow Warbler and Linnet. The quarried area supports a Sand Martin colony. On the basis of the results of the breeding survey in 2021, supported by similar surveys in 2013, 2014, 2016, 2018, 2019 and 2020, it is recommended that a rating of **County Importance** is considered appropriate for breeding birds at Drumman Bog.
- **Derryhinch Bog** is in an early stage of re-vegetation and has relatively low potential for breeding birds. However, Sparrowhawk breeds on site, while Kestrel (Red-listed) and Buzzard regularly hunt on site. Derryhinch is within the range of a Peregrine



breeding territory and the Annex I species is likely to hunt over the site. Meadow Pipit (Red-listed) occurs throughout much of the site, while a range of Amber-listed species also breed, including Skylark, Goldcrest, Willow Warbler and Linnet. The open peat areas provide roosting opportunities for Lapwing and Lesser Black-backed Gull. On the basis of this breeding survey, a rating of **Local Importance (higher value)** is considered appropriate for breeding birds at Derryhinch Bog.

- **Ballybeg Bog** is characterised by various types of habitats, with (i) well re-vegetated cutaway bog dominated by scrub, (ii) mostly bare peat from recent commercial production (now ceased), and (iii) a small area of fairly intact high bog (Coole Bog). Snipe (Red-listed) breeds on the high bog within the site. Sparrowhawk breeds in woodland on site, while Kestrel (Red-listed) and Buzzard regularly hunt on site. Ballybeg is within the range of a Peregrine breeding territory and the Annex I species is likely to hunt over the site. Meadow Pipit (Red-listed) occurs throughout much of the site, while a range of Amber-listed species also breed, including Skylark, Goldcrest, Willow Warbler and Linnet. On the basis of this breeding survey, a rating of **Local Importance (higher value)** is considered appropriate for breeding birds at Ballybeg Bog.

## **1.0 INTRODUCTION**

Bord na Móna is considering using some of its bogs in the midlands for wind farm development and has carried out some high level assessment of the suitability of various sites for this purpose.

As part of the planning work, Bord na Móna had commissioned baseline surveys of wintering and breeding birds on the Derryarkin Bog Group (comprising Derryarkin, Drumman, Ballybeg and Derryhinch bogs).

For Derryarkin and Drumman bogs, breeding surveys were carried out in 2013, 2014, 2016, 2018, 2019 and 2020.

For Ballybeg and Derryhinch bogs, breeding bird surveys were carried out in 2013 and 2014 only.

To progress the above further, Bord na Móna issued a request for a breeding bird study in summer 2021 on the Derryarkin Bog Group (comprising 4 bog sites). A contract to carry out the required work was awarded to BioSphere Environmental Services in March 2021.

As with the previous surveys, key requirements of the study were as follows:

- Consult with appropriate bodies, such as NPWS and BWI, regarding sightings and any existing information on the site or surrounding area and discuss / agree appropriate methodologies in the context of the scale and nature of the sites
- provide GIS maps of features and sightings of interest
- provide a detailed recommended methodology for future bird surveys should the project proceed to EIS
- provide a description of the suitability of the habitats present for key species not recorded but which could potentially occur
- provide a summary of likely constraints with regard to the known bird community.

The present report considers the results of the 2021 surveys for the Derryarkin, Drumman, Ballybeg and Derryhinch bog sites, with reference made to the earlier surveys.

## **2.0 SURVEY METHODS**

### **2.1 Desk Review and Consultations**

A thorough desk review had been carried out for available information for the sites in the Derryarkin Bog Group for the breeding bird surveys starting in 2013.

Since then, the present writer is not aware of any additional sources of external information relating to the four Derryarkin Bog Group sites.

### **2.2 Field Surveys**

The tender documentation had noted the following points in respect of survey methodology:

- The Breeding Bird Surveys should be undertaken between the months of April and September and should focus in particular on breeding waders, wildfowl, Hen Harriers and other raptors, Annex 1 species and birds of conservation interest.
- All sites should be visited a minimum of three times during the survey period, or more frequently as appropriate, with the approach and methodology varying depending on the target species.
- The survey should include all, or a selection of the following; focused wetlands surveys; transects; vantage point surveys; bog walks; roost watches; flight paths and migration studies; or other methodologies as appropriate.

The tender also noted that *‘adherence to approved methodologies is a key requirement of the project. However, given the scale and fragmented nature of the area to be surveyed, and the nature of the studies to be undertaken, a pragmatic approach is required. This must balance the detail required to be acceptable for a planning application for a wind farm project of very significant scale with the fact that much of the area is still utilised for industrial scale peat extraction or peat extraction has ceased only recently.’*

Taking the above into account, the following approach was taken at the sites:

#### **2.2.1 Site visits**

For the four bogs in the Derryarkin Group, the Vantage Point methodology was selected and hence monthly visits were carried out commencing in April 2021 and continuing on a monthly basis until September, i.e. 6 rounds of monthly surveys.

#### **2.2.2 Survey methods**

Vantage Point watches and transect surveys were the main methods used at the site.

Surveys were carried out largely in suitable weather conditions, with avoidance of persistent rain, mist/fog and winds in excess of F5.

#### **Transects surveys**

The use of transects to record birds within sites is a well-established survey method (Bibby *et al.* 2000). The method is particularly useful for open habitats such as peatlands. The value of the method is that it is repeatable over time, which is particularly relevant to the Bord na

Móna cutaway bogs where habitat conditions are somewhat transient and bird communities can be expected to change over time in response to vegetation types present.

The transects selected typically followed identifiable tracks (inc. rail tracks) which made coverage quicker and also safer compared to across open bog. Further, tracks are often slightly elevated which makes recording more efficient. The number of transects used at each site was determined by the size of the site and the diversity of habitats present.

Bird recording is normally within a zone 200-300 m wide either side of the transect though the flat nature of the sites made larger sized or obvious birds (such as Lapwing) at further distances easily visible. Birds were recorded by sight (with aid of binoculars) and sound.

### **Vantage point surveys**

Vantage point surveys were carried out in accordance with the methodology used for assessing impacts of wind farms on bird communities published by Scottish Natural Heritage (2017). The purpose of these surveys was mainly to detect birds of prey and passing waterbirds (swans, geese, duck, waders etc.), though all birds observed during watches were recorded. The full duration of 36 hours of observations over the site was achieved as required by the methodology.

The vantage points used were the same as those used in the winter bird surveys. When a target species was sighted during a watch, the flightline was plotted onto a field map along with estimated flight height<sup>1</sup>, duration of observation and any other parameters such as age and gender of bird, behaviour of bird (e.g. hunting, flying, roosting) etc.

### **General search for species of conservation value**

In addition to the transect and vantage point watches, habitats with potential for breeding birds of conservation interest were walked during the surveys so as to ensure that all bird species of conservation importance associated with the site were recorded. These habitats comprised mainly localised wetlands, ponds and regenerating bog strips.

#### **2.2.3 Target species**

The breeding surveys were focused on the potential presence of the following groups of birds or species:

- Waders, including Lapwing, Ringed Plover and Snipe
- Other waterbirds, including grebe species, Teal, and gull species
- Summering Merlin, Hen Harrier and other birds of prey
- Red Grouse
- Any other Annex 1 species of EU Birds Directive
- Any other Red or Amber listed species as given in Colhoun & Cummins (2013) – note that this reference has been superseded by Gilbert et al. (2021)

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<sup>1</sup> While actual flight height of target species was estimated in field, values are given in the following bands in Appendix 2: 0-25 m; 25-175 m; >175 m



### **2.3 Survey Limitations**

Surveys following standard methods and within the recommended time frame for breeding birds were carried out at Derryarkin Group of bogs during the 2021 breeding season. The approach generally following that used in the Breeding Atlas 2007-2011 Survey (BTO 2009).

It is considered that no constraints or limitations were associated with the survey.

### **2.4 Criteria for Evaluation of Ornithological Importance of Sites**

No particular quantitative method is available to assess the importance of sites for breeding birds. Instead, the value can be determined by the presence of ‘listed’ species as follows:

- Annex I EU Birds Directive species
- Birds of Conservation Concern - Red List (High conservation concern) species (after Gilbert et al. 2020).
- Birds of Conservation Concern – Amber List (Moderate conservation concern) species (after Gilbert et al. 2020).

Often, a subjective assessment may need to be made based on available baseline data – for instance, the regular presence within the site of a breeding pair of Merlin (Annex I species) would be of more significance than the occasional record of hunting birds.

For an overall ecological assessment of the importance of a site, taking into account not just ornithological interests but also habitats, flora and other fauna types etc., reference is made to the NRA *Guidelines for Assessment of Ecological Impacts of National Road Schemes* (NRA, 2009). Whilst the NRA guidelines were devised specifically for road schemes, they can be applied to general environmental impact assessment. The NRA system uses the following five-point scale:

- International Importance
- National Importance
- County Importance
- Local Importance (higher value)
- Local Importance (lower value)

### **3.0 RESULTS AND DISCUSSION**

#### **3.1 Sites Designated for Nature Conservation**

No parts of the bog sites which are the subject of the present report are within any site designated for nature conservation.

A list of designated sites within a distance of approximately 15 km of the study area is given below. These comprise Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs).

It is noted that apart from SPAs, these sites do not necessarily have ornithological interests though many would support some birds of conservation interest.

#### **Lough Ennell SPA (code 004040) and SAC (code 000685)**

Lough Ennell is a large, limestone lake. The lake is classified as a mesotrophic system by the EPA though it had been eutrophic in the past. The site is an SAC due to the presence of the Annex I habitat alkaline fen.

Lough Ennell is one of the most important midland lakes for wintering waterfowl, with nationally important populations of Mute Swan, Pochard, Tufted Duck and Coot. At times, the lake is utilised as a roost (with limited feeding) by the internationally important midland lakes population of Greenland White-fronted Goose (*c.*400 strong). The site also attracts Golden Plover (200) and Lapwing (673) though these feed mainly outside of the SPA site.

Lough Ennell is located approximately 10 km to the north-west of Drumman and Derryarkin bogs.

#### **Raheenmore Bog SAC (code 000582)**

Raheenmore Bog is a classic example of a largely intact raised midland bog. It is located approximately 4 km southeast of Derryarkin bog.

The NPWS site synopsis notes the site is within the breeding territory of a pair of Merlin, and supports typical bogland birds such as Red Grouse and Snipe.

#### **Mount Hevey Bog SAC (code 002342)**

Mount Heavy Bog SAC is a good example of a mostly intact raised bog. It is located to the northeast of Kinnegad and approximately 11 km north east of Drumman Bog.

This site is not of known ornithological interest.

#### **Milltownpass Bog NHA (code 002323)**

This NHA is a fine example of a relatively intact raised bog. It is located approximately 3 km north of Drumman Bog.

This site is not of known ornithological interest.

#### **Molerick Bog NHA (code 001582)**

This NHA is a fine example of a relatively intact raised bog. It is located about 4 km west

of Longwood and approximately 15 km northeast of Drumman Bog.

This site is not of known ornithological interest.

**Cloncrow Bog (New Forest) NHA (code 000677)**

This NHA, which is a fine example of a relatively intact raised bog, is located over 5 km west-northwest of Derryarkin.

The NHA is not of known ornithological interest.

**Black Castle Bog NHA (code 000570)**

This NHA is a good example of a relatively intact raised bog and is noted for its easterly location. It is located about 7 km east-southeast of Derryarkin bog.

This NHA site is not of known ornithological interest.

**Daingean Bog NHA (code 0002033)**

This NHA is a good example of a relatively intact raised bog. It is located about 9 km south west of Derryarkin bog.

This NHA site is not of known ornithological interest.

**Grand Canal pNHA (code 02104)**

The Grand Canal pNHA runs approximately 5 km to the south of Derryarkin.

The canal supports a wide range of ecological interests, including bird species such as Mute Swan, Moorhen, Mallard and Kingfisher.

**Royal Canal pNHA (code 02103)**

The Royal Canal pNHA passes approximately 7 km north of Drumman Bog.

The canal supports a wide range of ecological interests, including bird species such as Mute Swan, Moorhen, Mallard and Kingfisher.

**Murphy's Bridge Ridge Esker pNHA (code 01775)**

The pNHA is a good example of an esker ridge with calcareous grassland and supports the rare and protected hemp nettle. It is situated within about 8 km southwest of Derryarkin Bog.

This site is not of known ornithological interest.

### **3.2 Review of Past Data for Study Area**

Apart from a commissioned study of breeding birds at six bog sites, including Drumman Bog and Ballybeg Bog, in the Derrygreenagh/Ballydermot group by Dr Alex Copland (BirdWatch Ireland) in 2010 and 2011 (Copland 2010, 2011), and some general information on the two sites collated by the Bord na Móna ecology team, there is no specific past reference to the breeding birds of the Derryarkin bogs.

#### **Bird Reports**

A useful study was carried out in June 2002 on breeding waders of 12 cutaway bogs in west Co. Offaly by Hudson *et al.* (2002). While outside the Derryarkin study area, it provides a useful comparison for the present study.

The recording catchment for the report *Birds in Central Ireland – Mid Shannon Bird Report* (edited by Stephen Heery) unfortunately is just on the western margin of the Derryarkin study area (report area extends east to a strip from Raheen Lough to Lough Ennel). Nevertheless, the report is a useful comparative source of information and does make reference to sites such as Lough Ennel and Raheenmore Bog, as well as occasional reference to Bord na Móna sites further east such as Ballycon bog. Issues of the report are available for the following periods: 1992-1995, 1996-1999, 2000-2003, 2004-2007, 2008-2011, 2012-2016.

#### **Mountlucas Wind Farm EIS**

Breeding bird assessments were carried out for the Mountlucas wind farm development on 7<sup>th</sup> June 2006 and 30<sup>th</sup> June 2008. Two transects were walked during the surveys. A total of 28 species were recorded during the breeding season, include Snipe, Woodcock, Cuckoo and Skylark. Additional species recorded away from the transects included Lapwing (holding territory), Little Grebe and Kestrel (hunting). Site continues to support breeding Lapwing (casual observations by B. Madden).

While outside of the Derryarkin study area, the habitats at Mountlucas are similar to those at Derryarkin and Drumman bogs and hence the Mountlucas EIS provides a useful comparative reference.

#### **Other Sources of Information**

##### **NPWS**

The study area is covered by NPWS Conservation Ranger Mr Colm Malone. Colm has noted that NPWS would not have any specific bird information relating to the Derryarkin bog sites.

##### **Irish Peatland Conservation Council**

The IPCC does not have any information specific to Derryarkin Group of Bogs.

##### **BirdWatch Ireland**

Dr Alex Copland of BirdWatch Ireland carried out (on behalf of Bord na Móna) a breeding bird survey of Drumman Bog and Ballybeg Bog as part of a study on six bog sites in the Derrygreenagh and Ballydermot group during 2010 and 2011 (see Copland 2010, 2011).



This was a detailed study using the transect method and provides useful additional baseline information to that being collated in the present assessment.

### **Overall Appraisal of Available Information**

The breeding bird survey carried out by Dr Alex Copland on Drumman Bog and Ballybeg Bog provides a useful source of baseline information for the site which supplements the work carried out in the present study. Otherwise, there is no previous baseline information on breeding birds associated with the two bog sites.

Some comparative studies of breeding birds of cutaway bogs are available, namely a 2002 survey of breeding waders on 12 cutaway bogs in west Co. Offaly (Hudson *et al.* 2002) and the EIS for the Mountlucas wind farm.

## **3.3 Derryarkin Bog**

### **3.3.1 Site description**

Derryarkin bog is a large site located at Derrygreenagh to the western side of the R500 road. The site adjoins Drumman bog to the east and Ballybeg bog to the southeast. Access is easily available from a road leading to the Kilmurray quarry works and an active farm (latter known as Derryarkin farm for purpose of this study). Access is also available from the Roadstone quarry facility (within the site). The site extends for up to 2 km from north to south and for up to 4 km from east to west. The site has been out of commercial peat production for a considerable time.

Derryarkin bog comprises regenerating cutaway bog habitats, including extensive wetland habitats, regenerating bog and developing scrub. Associated with the Roadstone facility is one large quarry lake with a gravel islet and several smaller lakes and ponds, as well as bare or sparsely vegetated areas of gravel. Gravel excavation at the site has ceased and a gravel area to the west was being used for timber storage in 2019. Kilmurray quarry to the southwest also has a number of large ponds, with active excavations in progress at the time of the 2020 survey.

The site is adjoined by further areas of cutaway bog to the west and also to the south-east. A forest plantation (on former bog) occurs to the southwest, while agricultural lands occur to the north and to the south of the site.

### **3.3.2 Survey locations**

**Transect 1** starts from the internal access road and follows the railway line in a northwest direction for approximately 2 km. The transect continues along the railway line in a southwest direction towards the western end of the site. This transect covers a large area of regenerating cutaway bog including the wetlands on site.

**Vantage Point 1** is located along the internal access road and looks over a large area of mainly wetland habitats.

**Vantage Point 2** is located along transect 1 and looks over much of the central area of the site including the Roadstone quarries.

**Vantage Point 3** is located towards the end of transect 1 and looks over the western sector of the site (regenerating cutaway bog with scrub).

### **3.3.3 Results and Discussion**

A summary of the variables (date, time, weather etc.) for the vantage point watches carried out at Derryarkin Bog between April 2021 and September 2021 is presented in Appendix 1. Survey raw data for the vantage point watches are presented in Appendix 5.

Scientific names of bird species are given in Appendix 10.

#### **Target species recorded 2021**

##### Mute Swan

One pair bred successfully on large quarry pond, with four well grown young on 8<sup>th</sup> June. Also, up to 12 non-breeding birds through the summer period. Several flightlines recorded involving up to five birds.

##### Whooper Swan

One bird summered on Derryarkin quarry pond (April-September). No signs of injury on the bird – same bird has been present since summer 2018 (when a pair summered).

##### Teal

Three flushed from suitable breeding habitat in cutaway bog in late-May. Considered to be breeding birds.

##### Tufted Duck

Flock of c.20 on large quarry pond in April. One pair into June though no signs of breeding. Nine on quarry pond in September.

##### Little Grebe

At least three pairs bred on the various quarry ponds and cutaway bog. 12 birds on ponds in August.

##### Great Crested Grebe

Two pairs present on the main quarry pond through summer – one bred successfully with two well grown young on 8<sup>th</sup> June.

##### Coot

One pair bred successfully on Derryarkin quarry pond, with at least 3 chicks on 8<sup>th</sup> June.

##### Little Egret

One to two birds on site on several dates through the summer. Moving between Derryarkin and Drumman.

Buzzard

Recorded hunting within and flying over the site regularly through the summer. Expected that at least one pair bred locally. Two together on 22<sup>nd</sup> June and 21<sup>st</sup> September and four on 16<sup>th</sup> August.

Sparrowhawk

Regular on site through summer – pair in display on 22<sup>nd</sup> April and three together on 20<sup>th</sup> July. At least one pair considered to have bred on site.

Kestrel

Hunting birds recorded on site through the summer. Probably bred successfully on site, with three observed on 23<sup>rd</sup> June and two together on 16<sup>th</sup> July and 10<sup>th</sup> August.

Peregrine

Four sightings over site though breeding not considered to have occurred within the Roadstone complex (successful here in 2020 and 2019). Birds possibly disturbed due to increased activity near nesting location.

Ringed Plover

Estimated up to 10 pairs throughout the site. Concentrated at the Roadstone quarry complex. Fledged birds observed in June and July.

In addition, up to three pairs at the Kilmurray quarry ponds.

Lapwing

Estimated that up to eight pairs bred on site. This compares well to previous years, with nine in 2020, ten in 2019 and eight in 2018. Some success as fledged young seen in June and July.

In addition, at least two pairs bred on cut bog at Derryiron (off-site area south of access road).

A post breeding flock size of c.70 in August.

Flightlines over site on three dates in August and September.

Snipe

At least five displaying birds in May/June distributed throughout the site.

Woodcock

Bird observed roding near VP3 in the west of the site on 20<sup>th</sup> May. Roding birds have been recorded in same general area since 2016.

Common Sandpiper

One to two pairs on Derryarkin quarry pond from May through August. Confirmed breeding.

Black-headed Gull

One pair attempted to breed on cutaway bog in eastern sector of site. No success recorded.

Lesser Black-backed Gull

Birds recorded roosting at Roadstone quarry pond in August and September. Flock of 32 flew in on 10<sup>th</sup> September. Mix of sub-adults and immatures, with only a few adults. This species also frequents the wetlands at Drumman in late summer.

### **Potential for other target species**

The quarry ponds and surroundings could attract nesting Redshank.

### **Other species of note**

Greylag Goose – six birds on Roadstone quarry pond in July – probably a family party though breeding did not occur on site.

Mallard – at least eight breeding pairs were recorded on the quarry ponds.

Moorhen – at least four pairs bred.

Cuckoo – two calling birds in May and June.

Goldcrest – bred in scrub on site.

Skylark – peak of 14 singing birds in May from transect survey. Well scattered through site.

Sand Martin – recorded feeding over site through the summer. Possibly nesting at quarry works.

Swallow – recorded feeding over site through the summer – nests in the Roadstone quarry complex.

Willow Warbler – breeds on site in scrub and woodland habitats.

Grey Wagtail – one pair bred on site.

Song Thrush – minimum of two pairs recorded on site.

Mistle Thrush - one pair bred successfully. Flock of 18 birds on site on 10<sup>th</sup> August and 20+ on 17<sup>th</sup> August

Stonechat – three pairs on site, all with fledged young in June/July.

Wheatear – several migrant birds recorded in May. One bird at Roadstone quarry complex in early June but no evidence of breeding.

Meadow Pipit - estimate of at least 18 breeding pairs on site (from transect survey). Post-breeding flocks (up to 25) recorded in August and September.

Starling – bred in quarry complex buildings.

Linnet – two pairs confirmed breeding on site. Flock of up to 30 birds in August.



**TABLE 1: DERRYARKIN – TRANSECT SURVEYS, 2021**

Species	13 <sup>th</sup> May	10 <sup>th</sup> June	10 <sup>th</sup> July	BoCCI Status
<b>Mute Swan</b>	<b>5</b>	<b>8</b>	<b>4</b>	<b>A</b>
<b>**Whooper Swan</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>A</b>
Mallard	9	21	13	<b>G</b>
Pheasant	2	5	1	<b>G</b>
Grey Heron	3	2	9	<b>G</b>
Little Egret	0	1	0	<b>G</b>
Little Grebe	2	5	4	A
<b>Great Crested Grebe</b>	<b>5</b>	<b>6</b>	<b>3</b>	<b>A</b>
Buzzard	1	0	0	<b>G</b>
Sparrowhawk	0	0	0	<b>G</b>
<b>Kestrel</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>A</b>
<b>**Peregrine</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>G</b>
Moorhen	3	6	5	<b>G</b>
Ringed Plover	4	5	8	<b>A</b>
<b>Lapwing</b>	<b>14</b>	<b>10</b>	<b>22</b>	<b>R</b>
<b>Snipe</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>R</b>
<b>Common Sandpiper</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>A</b>
<b>Black-headed Gull</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>A</b>
<b>Lesser Black-back Gull</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>A</b>
Woodpigeon	6	9	18	<b>G</b>
Cuckoo	2	1	0	<b>G</b>
Magpie	5	3	0	<b>G</b>
Hooded Crow	4	3	9	<b>G</b>
<b>Goldcrest</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>G</b>
Blue Tit	2	2	5	<b>G</b>
Great Tit	2	1	1	<b>G</b>
Coal Tit	6	7	12	<b>G</b>
<b>Skylark</b>	<b>14</b>	<b>20</b>	<b>24</b>	<b>A</b>
<b>Sand Martin</b>	<b>10+</b>	<b>10+</b>	<b>20+</b>	<b>A</b>
<b>Swallow</b>	<b>10+</b>	<b>20+</b>	<b>40+</b>	<b>A</b>
<b>Willow Warbler</b>	<b>6</b>	<b>10</b>	<b>3</b>	<b>A</b>
Whitethroat	2	6	3	<b>G</b>
Sedge Warbler	9	10	4	<b>G</b>
Wren	8	14	10	<b>G</b>
Blackbird	8	4	8	<b>G</b>
Song Thrush	1	3	3	<b>G</b>
Mistle Thrush	2	0	6	G
Robin	9	7	4	G
Stonechat	4	5	8	G
<b>Wheatear</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>A</b>
<b>Starling</b>	<b>6</b>	<b>20+</b>	<b>20+</b>	<b>A</b>
Pied Wagtail	3	3	5	<b>G</b>
<b>Meadow Pipit</b>	<b>18</b>	<b>20+</b>	<b>30+</b>	<b>R</b>
Chaffinch	9	10	17	<b>G</b>
<b>Linnet</b>	<b>2</b>	<b>2</b>	<b>6</b>	<b>A</b>
Lesser Redpoll	14	8	4	<b>G</b>
Reed Bunting	2	5	6	<b>G</b>

BoCCI Status (after Gilbert et al. 2021): **R – Red**; **A – Amber**; **G – Green**

**TABLE 2: DERRYARKIN – STATUS OF BREEDING BIRDS 2021**

Species	Maximum Breeding Evidence	No. of pairs (where relevant)	Breeding Status	BoCCI Status
<b>Mute Swan</b>	<b>FL</b>	<b>1-2</b>	<b>Probable</b>	<b>A</b>
<b>**Whooper Swan</b>	<b>U</b>	<b>1 i</b>	<b>Lone bird</b>	<b>A</b>
Mallard	FL		Confirmed	<b>G</b>
<b>Teal</b>	<b>P</b>	<b>1?</b>	<b>Probable</b>	<b>A</b>
<b>Tufted Duck</b>	<b>P</b>	<b>2</b>	<b>Probable</b>	<b>A</b>
Grey Heron	U		Non-breeding	<b>G</b>
Little Egret	U	1-2i	Non-breeding	<b>G</b>
Pheasant	FL		Confirmed	<b>G</b>
Little Grebe	FL	3	Confirmed	G
<b>Great Crested Grebe</b>	<b>FL</b>	<b>2</b>	<b>Confirmed</b>	<b>A</b>
Buzzard	P	1-2	Probable	<b>G</b>
Sparrowhawk	D	1-2	Probable	A
<b>Kestrel</b>	<b>FL</b>	<b>1</b>	<b>Confirmed</b>	<b>R</b>
<b>**Peregrine</b>	<b>H</b>	<b>1</b>	<b>Possible</b>	<b>G</b>
<b>Coot</b>	<b>FL</b>	<b>1</b>	<b>Confirmed</b>	<b>A</b>
Moorhen	FL	3+	Confirmed	<b>G</b>
Ringed Plover	FL	10	Confirmed	<b>G</b>
<b>Lapwing</b>	<b>FL</b>	<b>8</b>	<b>Confirmed</b>	<b>R</b>
<b>Snipe</b>	<b>D</b>	<b>5</b>	<b>Probable</b>	<b>R</b>
<b>Woodcock</b>	<b>D</b>	<b>1</b>	<b>Probable</b>	<b>R</b>
<b>Common Sandpiper</b>	<b>FL</b>	<b>1-2</b>	<b>Confirmed</b>	<b>A</b>
<b>Black-headed Gull</b>	<b>H</b>	<b>1</b>	<b>Possible</b>	<b>A</b>
<b>Lesser Black-back Gull</b>	<b>U</b>		<b>Non-breeding</b>	<b>A</b>
Woodpigeon	P		Probable	<b>G</b>
Cuckoo	S		Possible	<b>G</b>
Magpie	H		Probable	<b>G</b>
Hooded Crow	FL		Confirmed	<b>G</b>
<b>Goldcrest</b>	<b>P</b>		<b>Probable</b>	<b>A</b>
Blue Tit	FL		Confirmed	<b>G</b>
Great Tit	P		Probable	<b>G</b>
Coal Tit	FL		Confirmed	<b>G</b>
<b>Skylark</b>	<b>FL</b>	<b>14</b>	<b>Confirmed</b>	<b>A</b>
<b>Sand Martin</b>	<b>P</b>		<b>Probable</b>	<b>A</b>
<b>Swallow</b>	<b>ON</b>		<b>Confirmed</b>	<b>A</b>
Long-tailed Tit	P		Probable	<b>G</b>
<b>Willow Warbler</b>	<b>T</b>		<b>Probable</b>	<b>A</b>
Whitethroat	P		Probable	<b>G</b>
Sedge Warbler	T		Probable	<b>G</b>
Wren	FL		Confirmed	<b>G</b>
Blackbird	FF		Confirmed	<b>G</b>
Song Thrush	FL		Confirmed	<b>G</b>
Mistle Thrush	FL	1	Confirmed	G
Robin	FL		Confirmed	G
Stonechat	FL	3	Confirmed	G
<b>Wheatear</b>	<b>H</b>	<b>1</b>	<b>Possible</b>	<b>A</b>
<b>Grey Wagtail</b>	<b>P</b>	<b>1</b>	<b>Probable</b>	<b>R</b>

Pied Wagtail	FL		Confirmed	<b>G</b>
<b>Starling</b>	<b>N</b>		<b>Probable</b>	<b>A</b>
<b>Meadow Pipit</b>	<b>FL</b>	<b>18</b>	<b>Confirmed</b>	<b>R</b>
Chaffinch	FL		Confirmed	<b>G</b>
Goldfinch	FL		Confirmed	<b>G</b>
<b>Linnet</b>	<b>FL</b>	<b>2</b>	<b>Confirmed</b>	<b>A</b>
Lesser Redpoll	P		Probable	<b>G</b>
Reed Bunting	FL		Confirmed	<b>G</b>

Breeding Status Codes are detailed in Appendix 2

BoCCI Status (after Gilbert et al. 2021): **R – Red; A – Amber; G – Green**

\*\* Annex I listed

### **Overview of importance of site for breeding birds**

Derryarkin bog, with a substantial area of regenerating wetland habitats and a large quarry complex, is of significant conservation importance for breeding birds. The 2021 breeding bird survey has added to the baseline breeding assessments carried out at this site in 2013, 2014, 2016, 2018, 2019 and 2020.

Of particular note are the breeding wetland bird species and especially waders, with Lapwing (Red-listed) and Snipe (Red-listed), as well as Ringed Plover and Common Sandpiper (both Amber listed). The Red-listed Woodcock also breeds on site. The Lapwing population is of particular note with at least eight pairs on site and a further 2-3 pairs on adjoining land at Derryiron (all considered part of one breeding population).

Other breeding wetland birds included Little Grebe, Great Crested Grebe, Coot, Teal and Tufted Duck. The presence of a summering Whooper Swan is of interest and this bird is presumed one of the pair that summered in 2018.

Only one pair of Black-headed Gull attempted to breed in 2021 – it is notable that a nationally important colony of Black-headed Gulls had been present on the quarry lake in 2013 and 2014 but since then breeding has been poor (probably due to continual predation by American mink).

Kestrel (Red-listed) bred successfully on site though Peregrine abandoned any breeding attempt early in season. Meadow Pipit (Red listed) occurs widely throughout the site. Grey Wagtail (Red-listed) also bred on site.

A range of other Amber listed species were recorded nesting on site, including Skylark (widespread), Swallow, Willow Warbler and Linnet.

### **3.3.4 Evaluation and Rating of Derryarkin Bog for Breeding Birds**

There follows a summary of the conservation status of species recorded on Derryarkin Bog in summer 2021 (breeding includes categories possible, probable, confirmed):

#### **EU Birds Directive Annex I listed species**

Whooper Swan (summering)

Little Egret (summering)  
Peregrine (breeding territory)

**Red Listed species (after Gilbert et al. 2021)**

Kestrel (breeding)  
Lapwing (breeding)  
Snipe (breeding)  
Woodcock (breeding)  
Grey Wagtail (breeding)  
Meadow Pipit (breeding)

**Amber Listed species (after Gilbert et al. 2021)**

Mute Swan (breeding)  
Great Crested Grebe (breeding)  
Teal (breeding)  
Tufted Duck (breeding)  
Common Sandpiper (breeding)  
Black-headed Gull (breeding)  
Lesser Black-backed Gull (non-breeding)  
Goldcrest (breeding)  
Skylark (breeding)

Sand Martin (breeding ?)  
Swallow (breeding)  
Willow Warbler (breeding)  
Wheatear (breeding ?)  
Starling (breeding)  
Linnet (breeding)

Derryarkin supports a range of breeding species of conservation importance, including six Red-listed species. While much of the interest is as a result of the presence of the quarry complex, the developing wetlands in the cutaway bog are important for various species and notably Lapwing. It appears that regular predation by American mink, and probably fox and crows, is causing high losses among breeding species such as Tufted Duck and Black-headed Gull, as well as possibly Lapwing.

On the basis of the results of the breeding bird survey in 2021, and taking the results of past surveys into account, it is recommended that a rating of **National Importance** is considered appropriate for breeding birds at Derryarkin Bog.



**Derryarkin Map 1:** Map showing transect and vantage point locations, with flightlines for Mute Swan, summer 2021. See Appendix 5 for map reference number details.

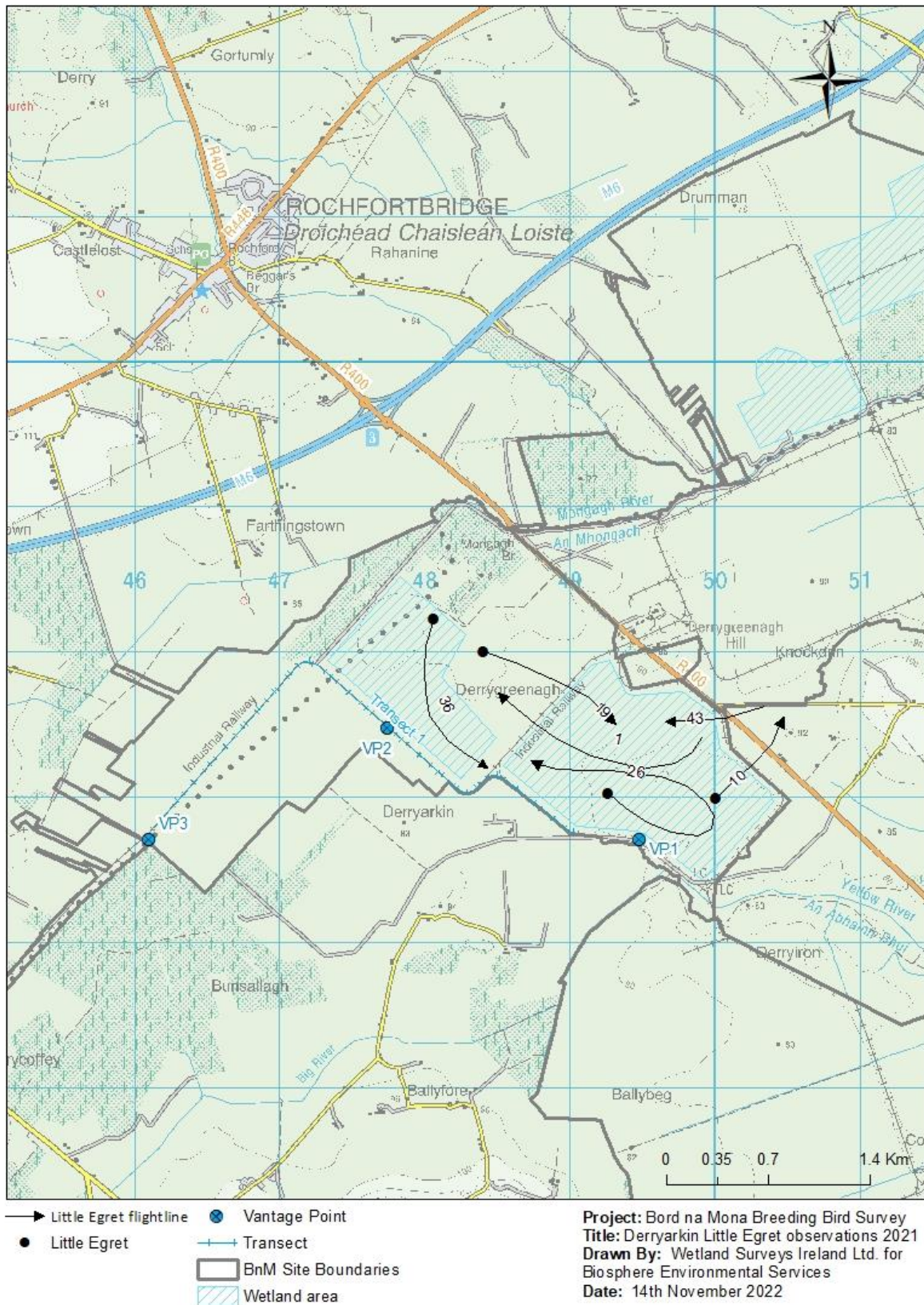


- Mute Swan
- Mute Swan
- Vantage Point
- +— Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

**Project:** Bord na Mona Breeding Bird Survey  
**Title:** Derryarkin Mute Swan observations 2021  
**Drawn By:** Wetland Surveys Ireland Ltd. for Biosphere Environmental Services  
**Date:** 14th November 2022



**Derryarkin Map 2:** Map showing transect and vantage point locations, with flightlines for Little Egret, summer 2021. See Appendix 5 for map reference number details.





**Derryarkin Map 3:** Map showing transect and vantage point locations, with flightlines for Sparrowhawk, summer 2021. See Appendix 5 for map reference number details.



- Sparrowhawk flightline
- Vantage Point
- +— Transect
- BnM Site Boundaries
- ▨ Wetland area

**Project:** Bord na Mona Breeding Bird Survey  
**Title:** Derryarkin Sparrowhawk observations 2021  
**Drawn By:** Wetland Surveys Ireland Ltd. for Biosphere Environmental Services  
**Date:** 14th November 2022



**Derryarkin Map 4:** Map showing transect and vantage point locations, with flightlines for Buzzard, summer 2021. See Appendix 5 for map reference number details.



- Buzzard flightline
- Vantage Point
- +— Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

Project: Bord na Mona Breeding Bird Survey  
 Title: Derryarkin Buzzard observations 2021  
 Drawn By: Wetland Surveys Ireland Ltd. for  
 Biosphere Environmental Services  
 Date: 14th November 2022



**Derryarkin Map 5:** Map showing transect and vantage point locations, with flightlines for Peregrine, summer 2021. See Appendix 5 for map reference number details.





**Derryarkin Map 6:** Map showing transect and vantage point locations, with flightlines for Kestrel, summer 2021. See Appendix 5 for map reference number details.





**Derryarkin Map 7:** Map showing transect and vantage point locations, with flightlines for Lapwing and location of Woodcock roding, summer 2021. See Appendix 5 for map reference number details.



- Lapwing flight line
- Lapwing
- Woodcock roding
- Vantage Point
- +— Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

**Project:** Bord na Mona Breeding Bird Survey  
**Title:** Derryarkin Lapwing and Woodcock (roding) observations 2021  
**Drawn By:** Wetland Surveys Ireland Ltd. for Biosphere Environmental Services  
**Date:** 14th November 2022



**Derryarkin Map 8:** Map showing transect and vantage point locations, with flightlines for Lesser Black-backed Gull Egret, summer 2021. See Appendix 5 for map reference number details.



- Lesser Black-backed Gull flightline
- Vantage Point
- +— Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

**Project:** Bord na Mona Breeding Bird Survey  
**Title:** Derryarkin Lesser Black-backed Gull observations 2021  
**Drawn By:** Wetland Surveys Ireland Ltd. for Biosphere Environmental Services  
**Date:** 14th November 2022





**Plate 1.** Derryarkin: The regenerating wetland habitat in northeast sector which supports breeding Lapwing, Snipe and Teal.



**Plate 2.** Derryarkin: The Roadstone quarry pond supports a range of breeding wetland species, including Ringed Plover, Common Sandpiper, Great Crested Grebe and Tufted Duck.



### **3.4 DRUMMAN BOG**

#### **3.4.1 Site Description**

Drumman Bog is a large site located between the M6 motorway (which skirts its northwest boundary) and the R400 road (which skirts its western boundary). The site adjoins Derryarkin bog to the southwest (though sites are divided by the R400). The main access to the site is along an internal road from the R400. The site extends for up to 3.5 km from north to south and for up to 4 km from east to west. In addition to recent commercial peat production, the site has been used extensively for quarrying and is also used for stockpiling of logs. The Mongagh River flows through the central area of the site.

Much of the sector of Drumman bog to the south of the Mongagh River has been in recent industrial peat production and comprises mainly bare peat. Scattered throughout are strips and patches of pioneering vegetation of cutaway bog, mostly birch scrub, dry grassland and poor fen communities. Also in recent commercial production is a sector in the northeast (Carrick bog), which is somewhat separated from the rest of the site by the Mongagh River and local topography. This area is almost bare peat in commercial use

An extensive area of cutaway bog occurs north of the Mongagh River. A large wetland area with ponds and standing water has been created in the northeast section after an outfall was blocked in 2005. The open water forms a mosaic with emergent reedbeds and extensive fringing poor fen communities. Strips of birch scrub are also present.

The established gravel and sand extraction area to the south of the cutaway (and north of Mongagh River) includes one large artificial lake, several smaller lakes or ponds and large mounds of aggregates. Recently, extraction has occurred to the south of the Mongagh River and access road, with a large lake now present.

A substantial conifer plantation in the northeast sector was developed by Coillte in the 1990s, with a further plantation in the northwest.

In recent years felled trees have been stored along parts of the main access road through the site and the storage area has been extended into the quarry zone.

The Mongagh River, which is within the Boyne catchment, is the main watercourse associated with the site. The channel has been deepened and is skirted by large berms. Natural riparian zones are poorly developed along the river.

The site is adjoined by slivers of bog to the east and north-west, with agricultural land to the south.

#### **3.4.2 Survey Locations**

**Transect 1** starts from the internal access road and traverses the northern sector of the site along a straight line with two offline loops. This transect covers a large area of regenerating cutaway bog including the wetlands on site.

**Transect 2** also starts from the internal access road and traverses the southern sector of the site. The transect includes two offline sections. This transect covers a large area of regenerating cutaway bog as well as bare peat areas.

**Transect 3** runs from the centre of the site eastwards along the Mongagh River towards the eastern offshoot (commercial peat field).

**Vantage Point 1** is located along transect 1 and looks over much of the northern sector of the site including wetland habitats.

**Vantage Point 2** is located along transect 2 and looks over much of the southern sector of the site.

**Vantage Point 3** is located off the R500 road and looks over the south-western part of the site, though large parts of the central area of the site are visible.

**Vantage Point 4** is located in the extreme north-eastern offshoot (Carrick bog) and looks over this entire sector. All of the area is recently worked commercial peat fields.

### **3.4.3 Results and Discussion**

A summary of the variables (date, time, weather etc.) for the vantage point watches carried out at Drumman Bog between April 2021 and September 2021 is presented in Appendix 2. Survey raw data for the vantage point watches are presented in Appendix 6.

Data from transect surveys are given in Table 3.

Scientific names of bird species are given in Appendix 10.

#### **Target species recorded**

##### Mute Swan

Appears that two pairs bred successfully on quarry ponds to north of Mongagh River, with broods of 7 and 6 cygnets on 14<sup>th</sup> June.

Herd of non-breeding birds present through summer, with numbers varying from 57 to 66. Birds mainly adults but some immature birds. This herd had been present since winter.

##### Tufted Duck

Up to 14 birds were present on the quarry ponds in April and early May (mostly males). Four males and one female in mid-June though no evidence of breeding.

##### Great Crested Grebe

One to two birds on quarry ponds through summer but no evidence that breeding occurred.

##### Little Grebe

Three pairs holding territory on quarry ponds in May.

##### Teal

Small numbers occasional on ponds, with peak count of 14 in September.

##### Little Egret

Various sightings through the summer – all single bird. Birds commute between Drumman and Derryarkin.

##### Sparrowhawk

Regular sightings of soaring/displaying birds and/or hunting birds through the season. Recorded throughout site and especially in the east and north-east sector. Pair in display on 19<sup>th</sup> April and sightings of three interacting on 15<sup>th</sup> July and 14<sup>th</sup> September. Probably bred on site in the conifer plantation.

#### Buzzard

Buzzard is regular on site and is expected to breed locally (1-2 pairs), with birds hunting on site. Pairs recorded on six dates, with three together on 12<sup>th</sup> August.

#### Merlin

There were two records: male hunting through scrub in eastern sector on 13<sup>th</sup> April and one (unsexed) flew along track in northern sector on 17<sup>th</sup> May.

It is expected that Merlin breeds locally.

#### Kestrel

Kestrel used the site for hunting purposes throughout the summer period. Breeds locally but no evidence of nesting on site. All records were of single birds.

#### Peregrine

Recorded over the site (flying or circling) on four occasions. These birds are considered to be associated with the breeding pair at Derryarkin.

#### Lapwing

Four pairs holding territories in developing wetlands in northern sector of site in April and May. Three territorial pairs present into June, with one recently fledged bird seen on 14<sup>th</sup> June.

Lapwing had also been recorded breeding in 2018, 2019 and 2020 and had previously bred on site in 2013 and 2014.

Flocking birds present in July and August (up to 22), with 27 observed flying into site on 14<sup>th</sup> September. Expected that birds commute between Drumman and Derryarkin.

#### Ringed Plover

Up to six pairs estimated holding territories in quarry areas. Fledged young seen.

#### Snipe

At least five territories in northern wetland area in May and June.

#### Common Sandpiper

Pair on large quarry pond in May – probably bred.

#### Lesser Black-backed Gull

As in previous summers (2018-2020), Lesser Black-backed Gull was recorded regularly in the northern sector of the site from June to September. The birds use the area for resting purposes and are mainly sub-adult and immature birds. Numbers peaked at over 160 on 23<sup>rd</sup> August.

Flightlines recorded several times over site.

### **Potential for other target species**

Teal was considered to nest on site in 2010 and could do so again. Also, Black-headed Gull has bred on site in the past and could do so again.

### **Other species of note**

Mallard – bred on quarry ponds and elsewhere on site, probably between 5 and 10 pairs. Peak of 61 birds on quarry ponds on 24<sup>th</sup> August.

Sand Martin – 50+ active nests in quarry sand banks in June.

Skylark – nests throughout the site. Count of 16 birds from transects in May.

Mistle Thrush – At least on pair bred in northern sector of site. Post-breeding flocks regular from late July onwards (peak of 15 birds on 23<sup>rd</sup> August).

Robin – breeds on site in scrub and woodland habitats.

Stonechat – at least three territorial pairs on site. Young birds successfully fledged.

Wheatear – several birds on site in April and May were migrant birds, with six on 7<sup>th</sup> May.

Goldcrest – breeds on site in scrub and woodland habitats.

Willow Warbler – breeds on site in scrub and woodland habitats.

Meadow Pipit - well scattered throughout the site where suitable habitats exist – estimate of a minimum population of 22 territorial birds along transects in May.

Starling – small numbers on site through summer, with post breeding flocks (up to 200+ birds in July and August).

Linnet – two pairs recorded with young in area of quarries in July and August.



**TABLE 3: DRUMMAN – TRANSECT SURVEYS, 2021**

Species	9 <sup>th</sup> May	12 <sup>th</sup> June	12 <sup>th</sup> July	BoCCI Status
<b>Mute Swan</b>	<b>32</b>	<b>39</b>	<b>54</b>	<b>A</b>
Mallard	9	25	20	<b>G</b>
Pheasant	2	0	0	<b>G</b>
Little Egret	0	1	0	<b>G</b>
Grey Heron	5	7	12	<b>G</b>
Little Grebe	3	2	6	<b>G</b>
Buzzard	1	0	2	<b>G</b>
Sparrowhawk	0	0	1	<b>G</b>
<b>Kestrel</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>R</b>
<b>Peregrine</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>G</b>
Moorhen	4	2	5	<b>G</b>
Ringed Plover	8	5	8	<b>G</b>
<b>Lapwing</b>	<b>6</b>	<b>8</b>	<b>4</b>	<b>R</b>
<b>Snipe</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>R</b>
<b>Lesser Black-back Gull</b>	<b>0</b>	<b>36</b>	<b>65</b>	<b>A</b>
Woodpigeon	6	6	4	<b>G</b>
Cuckoo	2	0	0	<b>G</b>
Magpie	5	2	3	<b>G</b>
Hooded Crow	4	12	15	<b>G</b>
<b>Goldcrest</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>A</b>
Blue Tit	3	1	2	<b>G</b>
Great Tit	2	2	4	<b>G</b>
Coal Tit	6	7	12	<b>G</b>
<b>Skylark</b>	<b>16</b>	<b>23</b>	<b>28</b>	<b>A</b>
<b>Sand Martin</b>	<b>60+</b>	<b>100+</b>	<b>20</b>	<b>A</b>
<b>Swallow</b>	<b>30</b>	<b>20+</b>	<b>50+</b>	<b>A</b>
<b>Willow Warbler</b>	<b>12</b>	<b>14</b>	<b>4</b>	<b>A</b>
Whitethroat	2	2	5	<b>G</b>
Blackcap	1	0	0	<b>G</b>
Grasshopper Warbler	1	0	0	<b>G</b>
Sedge Warbler	14	9	7	<b>G</b>
Wren	11	12	5	<b>G</b>
Blackbird	9	12	6	<b>G</b>
Song Thrush	3	2	1	<b>G</b>
Mistle Thrush	2	6	0	<b>G</b>
Robin	4	5	3	<b>G</b>
Stonechat	3	7	2	<b>G</b>
<b>Wheatear</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>A</b>
<b>Starling</b>	<b>5</b>	<b>20+</b>	<b>40+</b>	<b>A</b>
Dunnock	1	0	0	<b>G</b>
Pied Wagtail	5	5	4	<b>G</b>
<b>Meadow Pipit</b>	<b>22</b>	<b>30+</b>	<b>50+</b>	<b>R</b>
Chaffinch	12	18	10	<b>G</b>
<b>Linnet</b>	<b>3</b>	<b>7</b>	<b>2</b>	<b>A</b>
Bullfinch	0	0	3	<b>G</b>
Lesser Redpoll	8	12	15+	<b>G</b>
Reed Bunting	3	2	7	<b>G</b>

BoCCI Status BoCCI Status (after Gilbert et al. 2021): **R – Red; A – Amber; G – Green**

**TABLE 4: DRUMMAN – STATUS OF BREEDING BIRDS 2021**

Species	Maximum Breeding Evidence	No. of pairs (where relevant)	Breeding Status	BoCCI Status
<b>Mute Swan</b>	<b>FL</b>	<b>2</b>	<b>Confirmed</b>	<b>A</b>
Mallard	FL	5-10	Confirmed	<b>G</b>
<b>Teal</b>	<b>M</b>		<b>Non-breeding</b>	<b>A</b>
<b>Tufted Duck</b>	<b>P</b>	<b>1</b>	<b>Probable</b>	<b>A</b>
Pheasant	P		Probable	<b>G</b>
Grey Heron	U		Non-breeding	<b>G</b>
Little Egret	U		Non-breeding	<b>G</b>
Little Grebe	T	2-3	Probable	<b>G</b>
<b>Great Crested Grebe</b>	<b>H</b>	<b>1</b>	<b>Possible</b>	<b>A</b>
Buzzard	F		Non-breeding	<b>G</b>
Sparrowhawk	D	1	Probable	<b>G</b>
<b>Kestrel</b>	<b>F</b>		<b>Non-breeding</b>	<b>R</b>
<b>**Peregrine</b>	<b>F</b>		<b>Non-breeding</b>	<b>G</b>
Moorhen	FL		Confirmed	<b>G</b>
Water rail	S	1+	Possible	<b>G</b>
Ringed Plover	FL	6	Confirmed	<b>G</b>
<b>Lapwing</b>	<b>FL</b>	<b>3-4</b>	<b>Confirmed</b>	<b>R</b>
<b>Snipe</b>	<b>D</b>	<b>5</b>	<b>Probable</b>	<b>R</b>
<b>Common Sandpiper</b>	<b>H</b>	<b>1</b>	<b>Possible</b>	<b>A</b>
<b>Lesser Black-backed Gull</b>	<b>U</b>		<b>Non-breeding</b>	<b>A</b>
Woodpigeon	P		Probable	<b>G</b>
Cuckoo	S	2	Possible	<b>G</b>
Magpie	H		Probable	<b>G</b>
Hooded Crow	FL		Confirmed	<b>G</b>
<b>Goldcrest</b>	<b>P</b>		<b>Probable</b>	<b>G</b>
Blue Tit	FL		Confirmed	<b>G</b>
Great Tit	T		Probable	<b>G</b>
Coal Tit	FL		Confirmed	<b>G</b>
<b>Skylark</b>	<b>FL</b>	<b>16</b>	<b>Confirmed</b>	<b>A</b>
<b>Sand Martin</b>	<b>ON</b>	<b>50+</b>	<b>Confirmed</b>	<b>A</b>
<b>Swallow</b>	<b>F</b>		<b>Non-breeding</b>	<b>A</b>
<b>Willow Warbler</b>	<b>T</b>		<b>Probable</b>	<b>A</b>
Whitethroat	FL		Confirmed	<b>G</b>
Blackcap	S		Possible	<b>G</b>
Grasshopper Warbler	S	1	Possible	<b>G</b>
Sedge Warbler	FL		Confirmed	<b>G</b>
Wren	FL		Confirmed	<b>G</b>
Blackbird	FL		Confirmed	<b>G</b>
Song Thrush	FF		Confirmed	<b>G</b>
Mistle Thrush	FL	1	Confirmed	<b>G</b>
Robin	FL		Confirmed	<b>G</b>
Stonechat	FL	3	Confirmed	<b>G</b>
<b>Wheatear</b>	<b>M</b>		<b>Non-breeding</b>	<b>A</b>
<b>Starling</b>	<b>FL</b>		<b>Confirmed</b>	<b>A</b>

Dunnoch	S		Possible	<b>G</b>
Pied Wagtail	FL		Confirmed	<b>G</b>
<b>Meadow Pipit</b>	<b>FL</b>	<b>22</b>	<b>Confirmed</b>	<b>R</b>
Chaffinch	FL		Confirmed	<b>G</b>
<b>Linnet</b>	<b>FL</b>	<b>1</b>	<b>Confirmed</b>	<b>A</b>
Bullfinch	H		Possible	<b>G</b>
Lesser Redpoll	FL		Confirmed	<b>G</b>
Reed Bunting	FF		Confirmed	<b>G</b>

Breeding Status Codes are detailed in Appendix 9

BoCCI Status (after Gilbert et al. 2021): **R – Red; A – Amber; G – Green**

\*\* listed on Annex I of Birds Directive

### **Overview of importance of site for breeding birds**

The 2021 breeding bird survey at Drumman bog has added to the baseline breeding assessments carried out in 2013, 2014, 2016, 2018, 2019 and 2020 (and an earlier survey in 2010 carried out by Alex Copland). These surveys indicate that Drumman Bog has substantial importance for breeding birds.

The primary sector of interest is that to the north of the Mongagh River channel. Here there is a complex of well-established wetland habitats on cutaway bog as well as quarry ponds with marginal wetland vegetation. Re-vegetating cutaway bog also occurs in the southern sector of the site (along with peat fields still fairly bare since recent production). The northeast sector (Carrick bog) is still largely bare peat since recent production and presently of low interest for breeding birds.

Various wetland bird species nest on site, including Mute Swan, Little Grebe, Tufted Duck, Water Rail and Ringed Plover. As since 2018 Lapwing has bred on site (up to 4 pairs) and young were fledged in 2020. Snipe has a good presence on site, with several breeding territories. Common Sandpiper was present and is expected to nest on site. Great Crested Grebe was present but there was no evidence of nesting in 2021 (similar to 2019-20). A Little Egret was present at times through the summer.

A non-breeding herd of Mute Swan (60+ birds) summered on the site and had been present since the previous winter. A non-breeding flock of Lesser Black-backed Gulls has been a feature of the in recent years. These are mostly sub-adult and immature birds and use the site mainly for roosting purposes.

Sparrowhawk breeds on site, while Peregrine, Kestrel and Buzzard breed locally and use Drumman for hunting. As in 2018 and 2019, Merlin was recorded on site in early summer and it is expected that breeding occurs locally.

The site supports Meadow Pipit (Red-listed), along with good populations of Skylark and Sand Martin (both Amber-listed). A range of other Amber-listed passerine species bred on site, including Goldcrest, Willow Warbler and Linnet. Several Cuckoos were present in spring and early summer, reflecting the widespread occurrence of its main host Meadow Pipit. Other breeding birds include Stonechat, Sedge Warbler, Grasshopper Warbler, Blackcap and Reed Bunting. Wheatears were recorded on migration (and nesting by this species in the quarried areas cannot be ruled out).

### **3.4.4 Evaluation and Rating of Drumman Bog for Breeding Birds**

There follows a summary of the conservation status of species recorded on Drumman Bog in summer 2021:

#### **EU Birds Directive Annex I listed species**

- Merlin (expected to breed locally)
- Peregrine (non-breeding but breeds locally)
- Little Egret (non-breeding)

#### **Red Listed species (after Gilbert et al. 2021)**

- Kestrel (regular, breeds locally)
- Lapwing (breeding)
- Snipe (breeding)
- Meadow Pipit (breeding widespread)

#### **Amber Listed species (after Gilbert et al. 2021)**

- Mute Swan (breeding)
- Great Crested Grebe (possible breeding)
- Teal (non-breeding though breeding habitat is present)
- Tufted Duck (may breed)
- Common Sandpiper (breeding)
- Lesser Black-backed Gull (non-breeding)
- Skylark (breeding)
- Sand Martin (breeding)
- Swallow (non-breeding)
- Wheatear (non-breeding migrant)
- Willow Warbler (breeding)
- Goldcrest (breeding)
- Starling (breeding)
- Linnet (breeding)

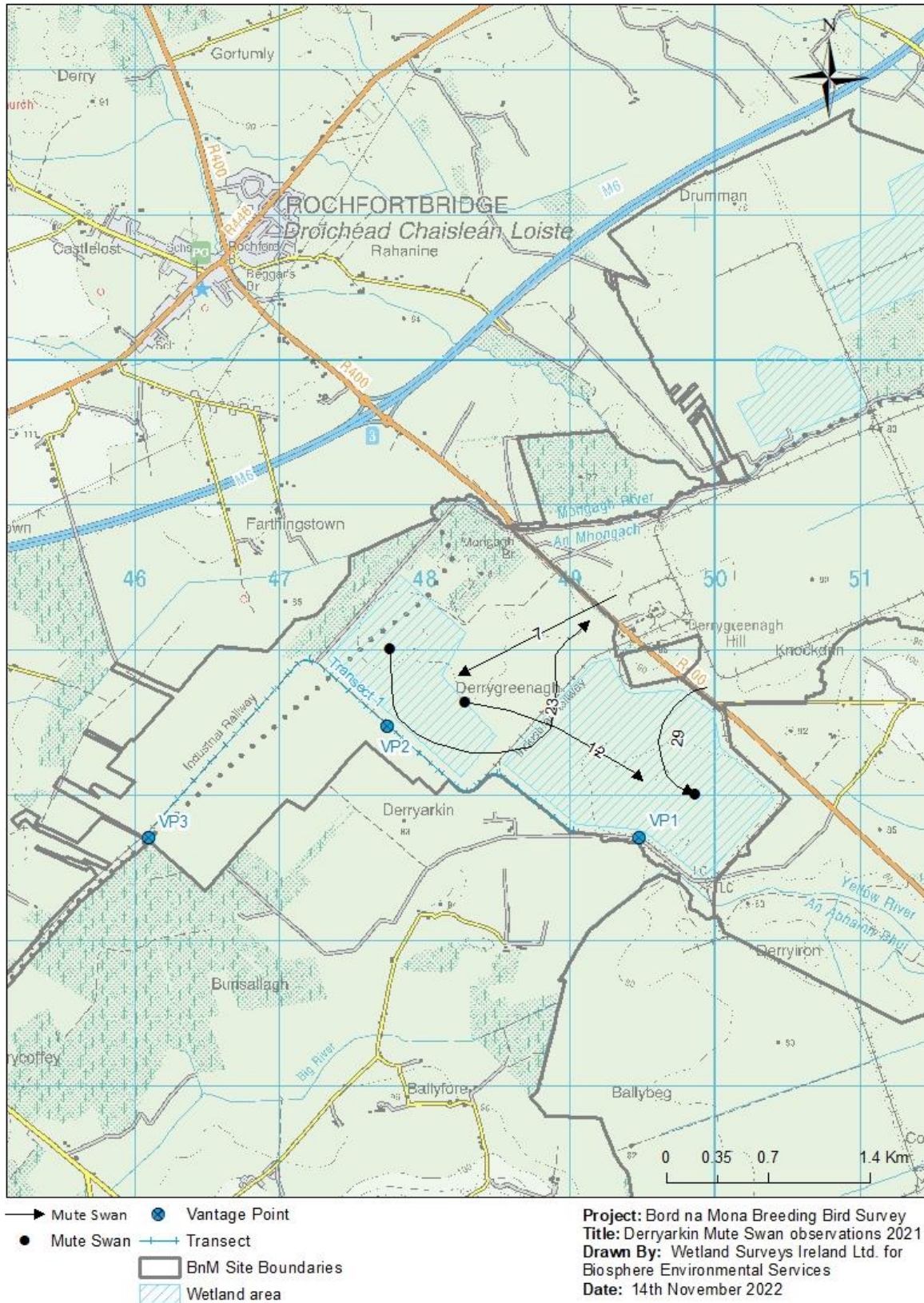
While substantial parts of Drumman are only recently out of commercial production and are of relatively low interest for breeding birds, the site has well developed wetland habitat on cutaway bog, an extensive quarry complex with ponds and other regenerating cutaway habitats, which provide important areas for breeding birds.

Of particular note is the suite of wetland species (inc. breeding Lapwing and Snipe), as well as Meadow Pipit and other nesting species of cutaway habitats. The site also provides habitat for woodland species such as Sparrowhawk. A further suite of species uses the site for hunting, including Kestrel and Peregrine. Merlin is expected to breed nearby, though site could support a nesting attempt.

On the basis of the results of the breeding survey in 2021, and taking the results of past surveys into account, it is recommended that a rating of **County Importance** is considered appropriate for breeding birds at Drumman Bog.

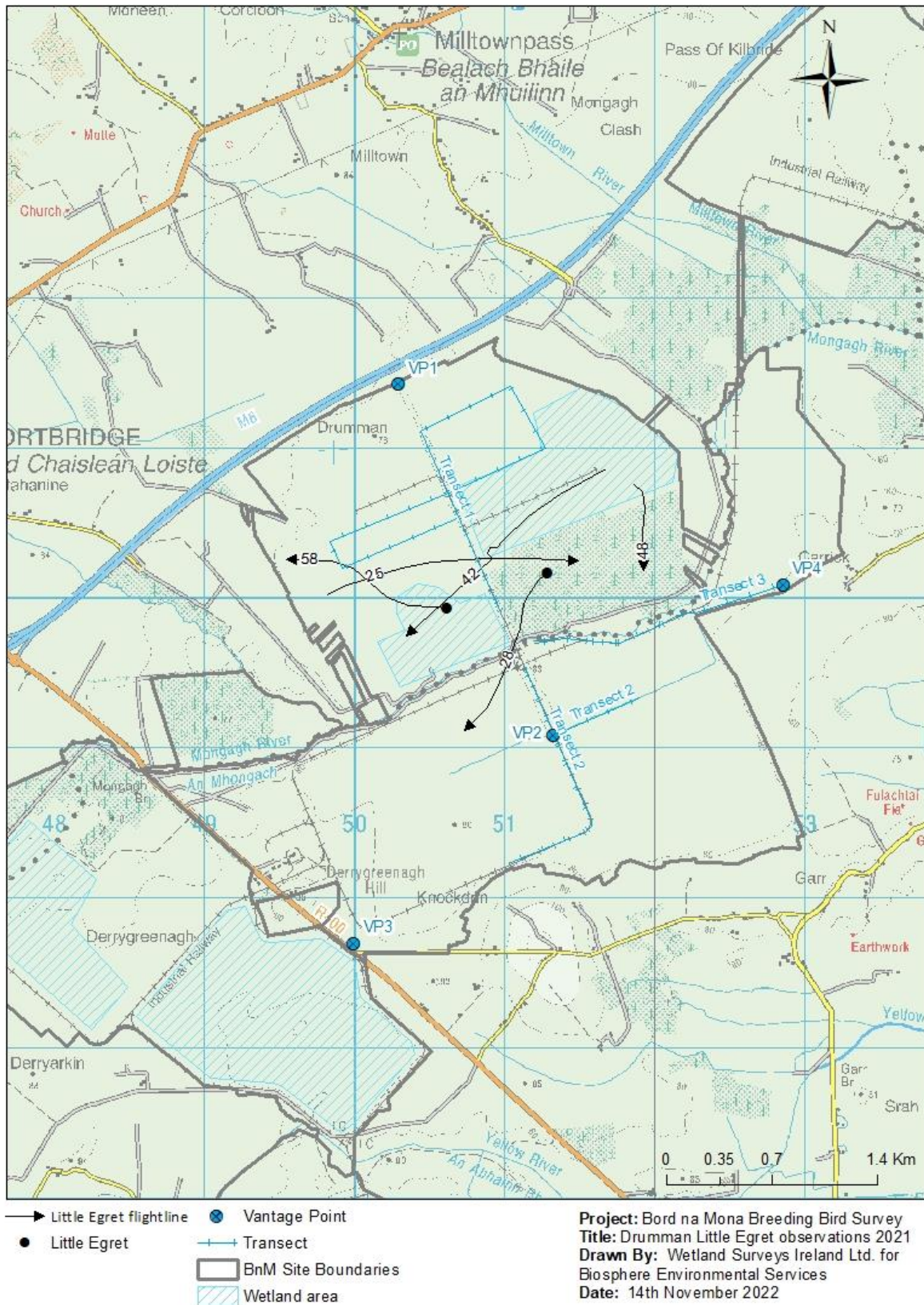


**Drumman Map 1:** Map showing transect and vantage point locations, with flightlines for Mute Swan, summer 2021. See Appendix 6 for map reference number details.



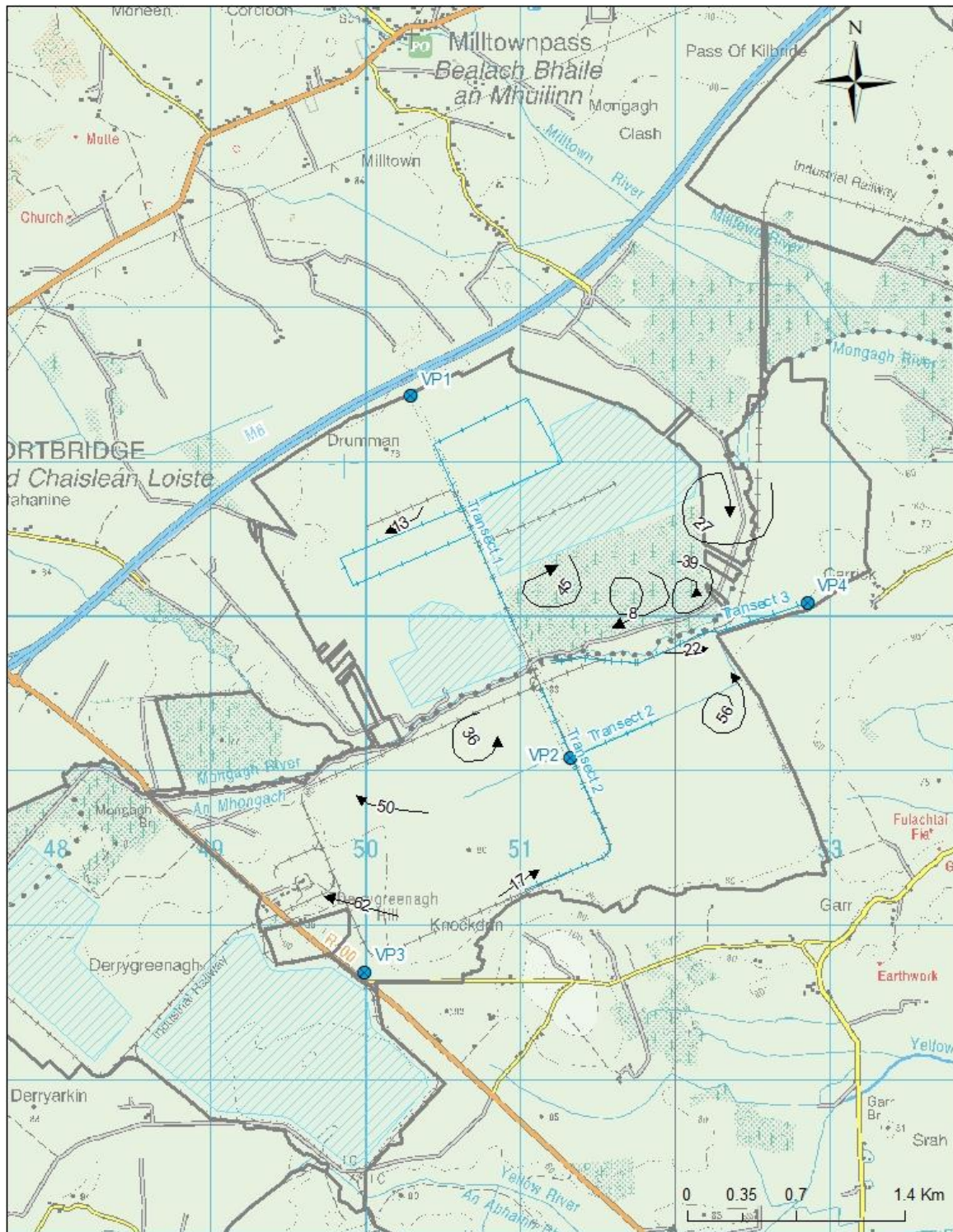


**Drumman Map 2:** Map showing transect and vantage point locations, with flightlines for Little Egret, summer 2021. See Appendix 6 for map reference number details.





**Drumman Map 3:** Map showing transect and vantage point locations, with flightlines for Sparrowhawk, summer 2021. See Appendix 6 for map reference number details.

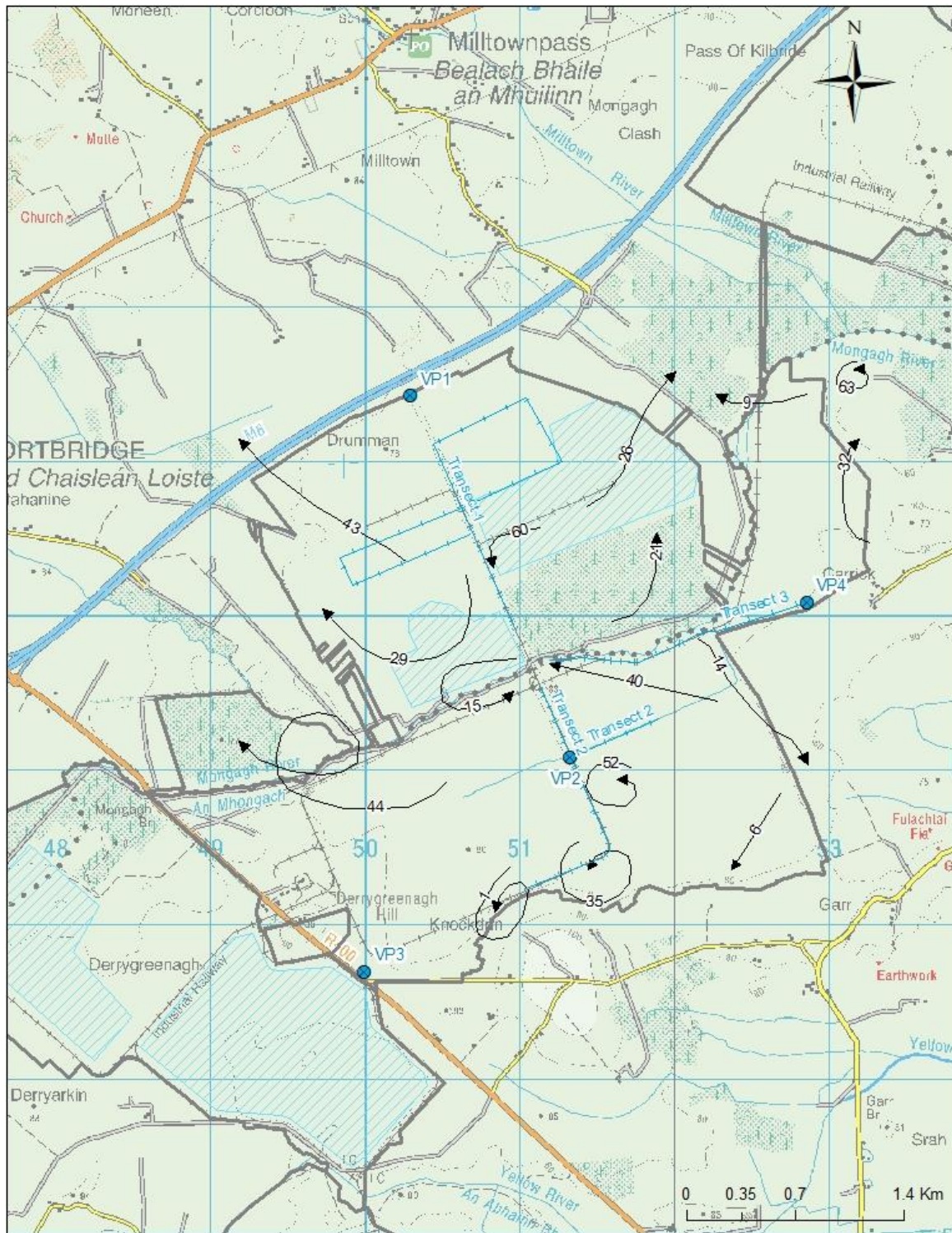


- Sparrowhawk flightline
- Vantage Point
- +— Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

Project: Bord na Mona Breeding Bird Survey  
 Title: Drumman Sparrowhawk observations 2021  
 Drawn By: Wetland Surveys Ireland Ltd. for  
 Biosphere Environmental Services  
 Date: 14th November 2022



**Drumman Map 4:** Map showing transect and vantage point locations, with flightlines for Buzzard, summer 2021. See Appendix 6 for map reference number details.

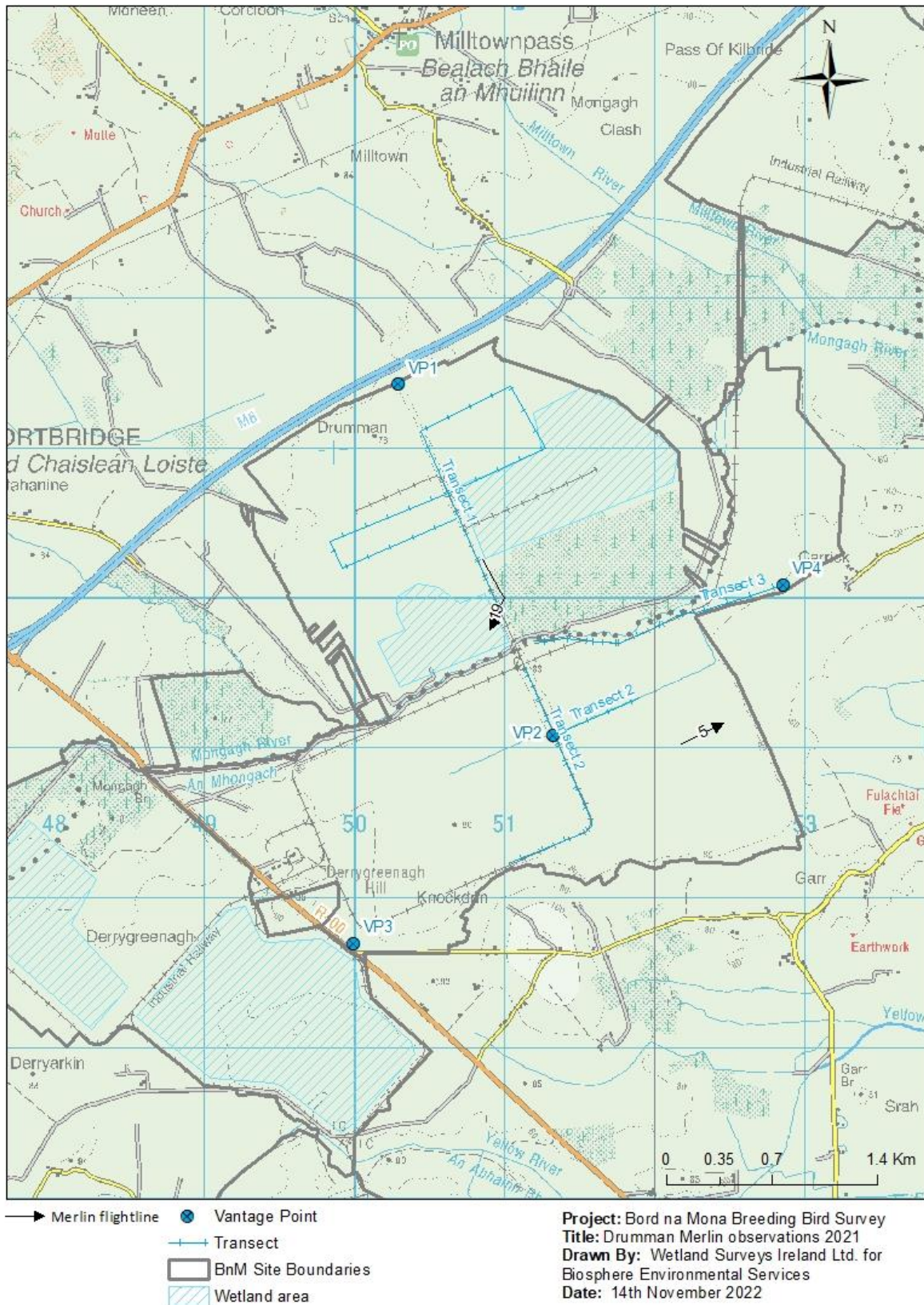


- ▶ Buzzard flightline
- Vantage Point
- +— Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

Project: Bord na Mona Breeding Bird Survey  
 Title: Drumman Buzzard observations 2021  
 Drawn By: Wetland Surveys Ireland Ltd. for  
 Biosphere Environmental Services  
 Date: 14th November 2022

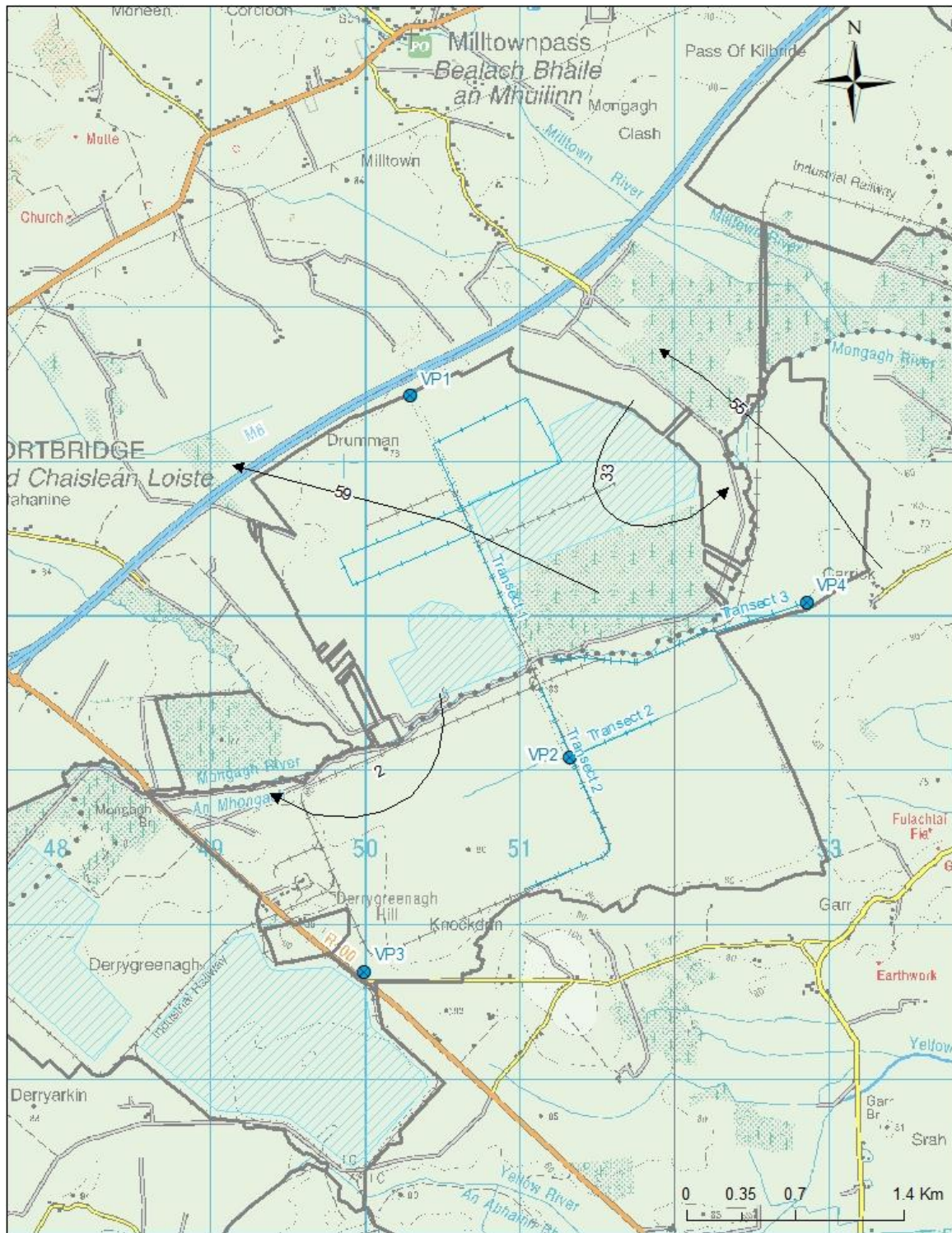


**Drumman Map 5:** Map showing transect and vantage point locations, with flightlines for Merlin, summer 2021. See Appendix 6 for map reference number details.





**Drumman Map 6:** Map showing transect and vantage point locations, with flightlines for Peregrine, summer 2021. See Appendix 6 for map reference number details.



- ▶ Peregrine flightline
- Vantage Point
- +— Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

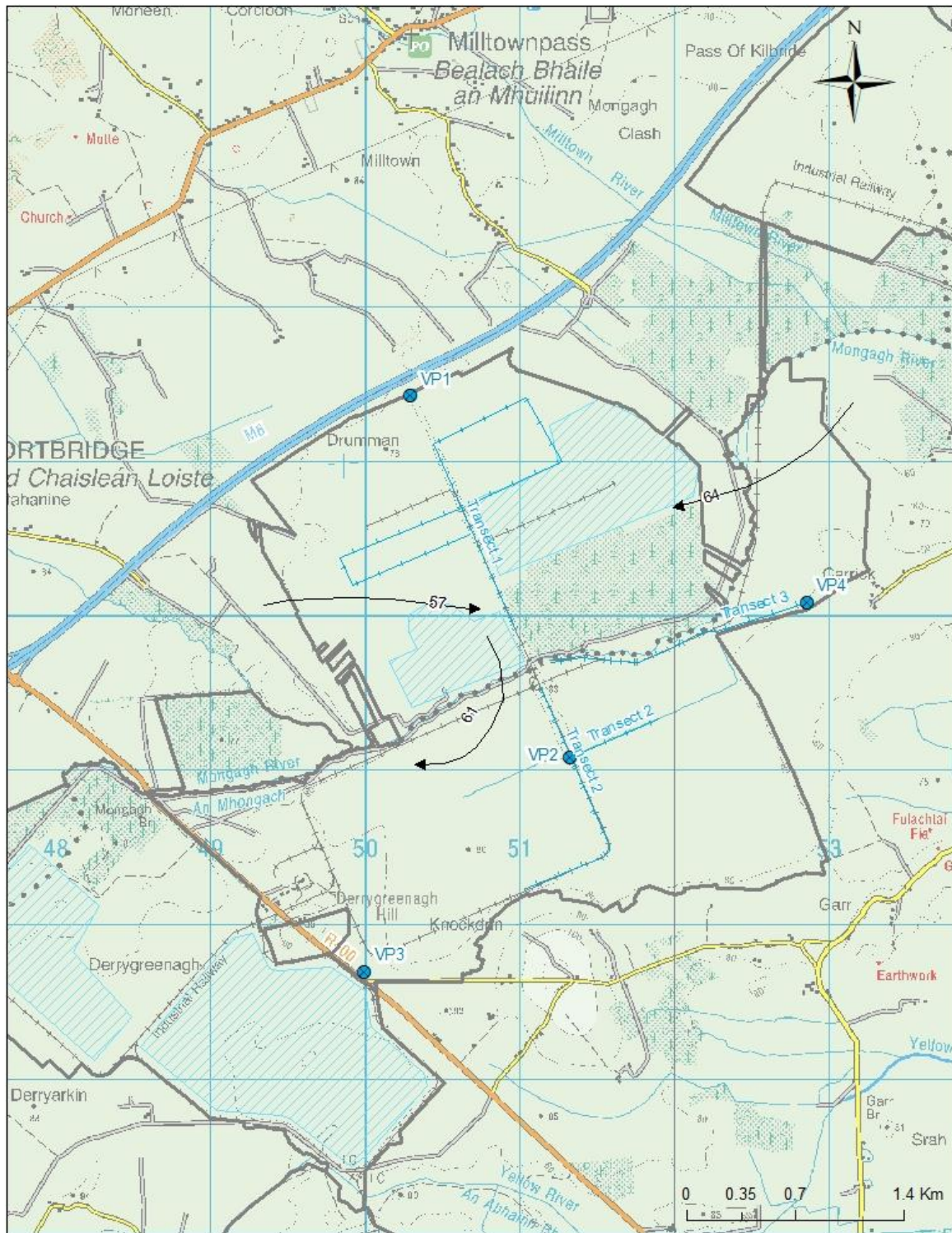
Project: Bord na Mona Breeding Bird Survey  
 Title: Drumman Peregrine observations 2021  
 Drawn By: Wetland Surveys Ireland Ltd. for  
 Biosphere Environmental Services  
 Date: 14th November 2022







**Drumman Map 8:** Map showing transect and vantage point locations, with flightlines for Lapwing, summer 2021. See Appendix 6 for map reference number details.

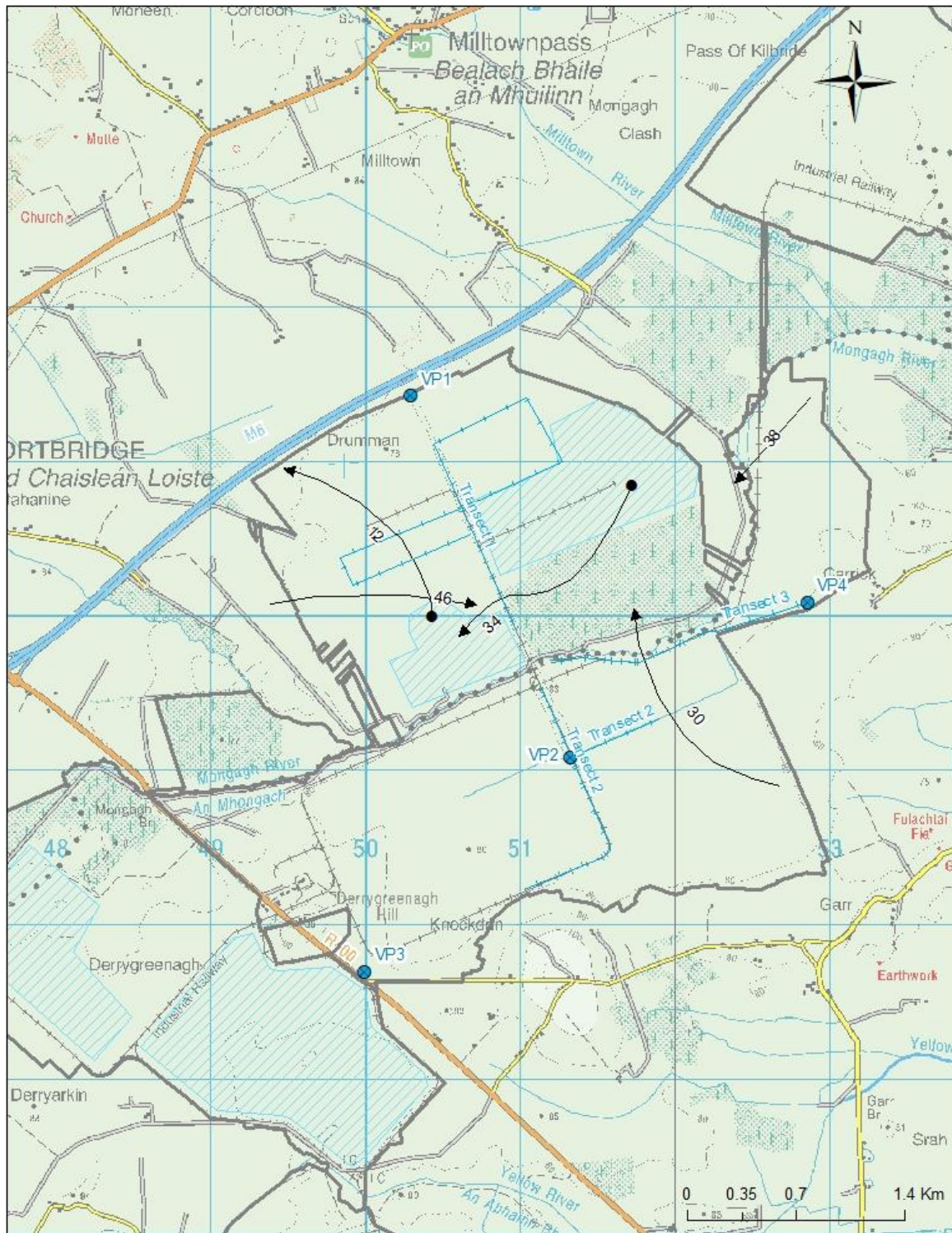


- Lapwing flightline
- Vantage Point
- +— Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

Project: Bord na Mona Breeding Bird Survey  
 Title: Drumman Lapwing observations 2021  
 Drawn By: Wetland Surveys Ireland Ltd. for  
 Biosphere Environmental Services  
 Date: 14th November 2022



**Drumman Map 9:** Map showing transect and vantage point locations, with flightlines for Lesser Black-backed Gull, summer 2021. See Appendix 6 for map reference number details.



- ▶ Lesser Black-backed Gull flightline
- Lesser Black-backed Gull
- Vantage Point
- +— Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

**Project:** Bord na Mona Breeding Bird Survey  
**Title:** Drumman Lesser Black-backed Gull observations 2021  
**Drawn By:** Wetland Surveys Ireland Ltd. for Biosphere Environmental Services  
**Date:** 14th November 2022





**Plate 3.** Drumman: Wetland habitat in northeast sector which supports breeding Lapwing and Snipe.



**Plate 4.** Drumman: Well-vegetated quarry pond which supports breeding wetland species such as Little Grebe and Mute Swan.

### **3.5 Derryhinch Bog**

#### **3.5.1 Site Description**

Derryhinch Bog is a medium sized site located approximately 1.5 km east of Milltownpass. It is connected by a rail line to Drumman Bog, which is located approximately 1 km to the south-southwest. The main access to the site is from a private lane leading from a third class road to the north. The entire western boundary of the bog is bounded by the M6 motorway. The site extends for up to 1.5 km from north to south and for approximately 2.5 km from east to west.

Until recently (January 2021), the majority of Derryhinch Bog had been in commercial production and was almost entirely bare peat. A small mineral island is located in the mid-west section and is dominated by birch scrub. Further stands of birch dominated scrub occur in the extreme northwest corner of the site and along the eastern boundary. Fringe habitats found along the boundaries of the site include dry grassland and scrub. A small area of cutover and remnant high bog occurs along the southern boundary (south of the railway).

Since production ceased, the site is in early stage of re-vegetation, though wetlands with permanent water are largely absent. During wet periods, ponding forms and especially in the southwest sector where some wetland vegetation is developing.

A substantial area of cutover bog adjoins the site to the east and northeast. Agricultural land occurs to the north and southwest, while there are stands of commercial conifer forest to the south.

#### **3.5.2 Survey locations**

**Transect 1** runs along the northern, eastern and much of the southern boundary of the site.

**Vantage Point 1** is located in the centre of the northern boundary and gives a sweeping southwards view over almost the entire site.

**Vantage Point 2** is located off the motorway and gives a view eastwards over the entire western half of the site.

#### **3.5.3 Results and Discussion**

A summary of the variables (date, time, weather etc.) for the vantage point watches carried out at Derryhinch Bog between April and September 2021 is presented in Appendix 3. Survey raw data for the vantage point watches are presented in Appendix 7.

Scientific names of bird species are given in Appendix 10.



**Plate 5.** Derryhinch Bog – much of the site is bare peat at early revegetation stage. Looking northeast across site (April 2021).

### **Target species recorded**

#### Sparrowhawk

There were seven records of Sparrowhawk on site through the summer period.

With a pair circling over woodland in April and three together in late July, it is expected that breeding occurs on site. Site provides good foraging habitat for Sparrowhawk.

#### Buzzard

Buzzard was recorded regularly within the site during the summer, with a total of nine records. Breeding is expected to have occurred in the immediate area of the site, with a pair over the site on 26<sup>th</sup> April and three together on 29<sup>th</sup> July. A total of seven circling birds was recorded over western boundary of site and over motorway on 25<sup>th</sup> September.

#### Kestrel

Derryhinch provides excellent hunting habitat for Kestrel, with a total of nine records through the summer. All were of single birds, involving both males and females. Most of the birds were hunting actively on site.

Kestrel breeds locally (though probably not on site).

#### Peregrine

Peregrine was recorded flying over the site on four occasions through the summer. A female was observed perched on bare peat on 23<sup>rd</sup> May and then flew eastwards.

The birds observed in summer at Derryhinch are considered to be associated with the



breeding pair at Derryarkin (which nests on a man-made structure and failed in 2022). However, a further breeding pair has been known from the Lagan facility at Kinnegad.

#### Lapwing

A flock of 12 birds was observed roosting on bare peat on 25<sup>th</sup> September, and then flew westwards.

#### Lesser Black-backed Gull

A roosting flock of 12 birds was recorded on bare peat on 26<sup>th</sup> September. The birds then flew south towards Drumman.

### **Potential for other target species**

Golden Plover on migration could be expected to roost on the areas of bare peat in spring and autumn. Parts of the site provide habitats suitable for hunting Merlin.

### **Other species of note**

Mallard – pair in large drain along south boundary may have bred.

Sand Martin – 20+ feeding over site in April and May but breeding on site not expected.

Skylark – nests throughout much of the site. Count of 11 birds from transect in May.

Robin – breeds on site in scrub and woodland habitats.

Stonechat – at least two territorial pairs on site. Young birds successfully fledged.

Wheatear – four birds on site in early May were migrant birds.

Goldcrest – breeds on site in scrub and woodland habitats.

Willow Warbler – breeds on site in scrub and woodland habitats.

Meadow Pipit - well scattered throughout the site where suitable habitats exist – estimate of a minimum population of 17 territorial birds along transect in May.

Starling – small numbers on site through summer, with post breeding flocks (up to 100+ birds in August).

Linnet – one pair bred along western boundary.

**TABLE 5: DERRYHINCH – TRANSECT SURVEYS, 2021**

Species	25 <sup>th</sup> May	21 <sup>st</sup> June	30 <sup>th</sup> July	BoCCI Status
Mallard	3	0	0	<b>G</b>
Pheasant	2	0	1	<b>G</b>
Grey Heron	0	0	2	<b>G</b>
Buzzard	0	0	1	<b>G</b>
Sparrowhawk	0	0	1	<b>G</b>
<b>Kestrel</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>R</b>
<b>Peregrine</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>G</b>
Moorhen	1	0	2	<b>G</b>
Woodpigeon	7	0	12	<b>G</b>
Cuckoo	1	0	0	<b>G</b>
Magpie	0	0	3	<b>G</b>
Hooded Crow	2	3	7	<b>G</b>
<b>Goldcrest</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>A</b>
Blue Tit	2	3	0	<b>G</b>
Great Tit	3	2	2	<b>G</b>
Coal Tit	4	2	8	<b>G</b>
<b>Skylark</b>	<b>11</b>	<b>14</b>	<b>19</b>	<b>A</b>
<b>Sand Martin</b>	<b>10+</b>	<b>0</b>	<b>0</b>	<b>A</b>
<b>Swallow</b>	<b>9</b>	<b>20+</b>	<b>52+</b>	<b>A</b>
<b>Willow Warbler</b>	<b>6</b>	<b>9</b>	<b>3</b>	<b>A</b>
Whitethroat	1	4	3	<b>G</b>
Sedge Warbler	2	0	0	<b>G</b>
Wren	8	11	6	<b>G</b>
Blackbird	5	10	6	<b>G</b>
Song Thrush	2	1	4	<b>G</b>
Mistle Thrush	3	0	0	<b>G</b>
Robin	5	5	2	<b>G</b>
Stonechat	2	4	1	<b>G</b>
<b>Wheatear</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>A</b>
<b>Starling</b>	<b>12</b>	<b>20+</b>	<b>20+</b>	<b>A</b>
Dunnock	0	1	0	<b>G</b>
Pied Wagtail	3	3	7	<b>G</b>
<b>Meadow Pipit</b>	<b>17</b>	<b>27</b>	<b>30+</b>	<b>R</b>
Chaffinch	6	8	13	<b>G</b>
<b>Linnet</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>A</b>
Bullfinch	2	0	0	<b>G</b>
Lesser Redpoll	12	16	15+	<b>G</b>
Reed Bunting	4	3	3	<b>G</b>

BoCCI Status BoCCI Status (after Gilbert et al. 2021): **R – Red**; **A – Amber**; **G – Green**

**TABLE 6: DERRYHINCH – STATUS OF BREEDING BIRDS 2021**

Species	Maximum Breeding Evidence	No. of pairs (where relevant)	Breeding Status	BoCCI Status
Mallard	H		Possible	<b>G</b>
Pheasant	P		Probable	<b>G</b>
Grey Heron	U		Non-breeding	<b>G</b>
Buzzard	F		Non-breeding	<b>G</b>
Sparrowhawk	D	1	Probable	<b>G</b>
<b>Kestrel</b>	<b>F</b>		<b>Non-breeding</b>	<b>R</b>
<b>**Peregrine</b>	<b>F</b>		<b>Non-breeding</b>	<b>G</b>
Moorhen	H		Possible	<b>G</b>
<b>Lapwing</b>	<b>M</b>		<b>Non-breeding</b>	<b>R</b>
<b>Lesser Black-back Gull</b>	<b>U</b>		<b>Non-breeding</b>	<b>A</b>
Woodpigeon	P		Probable	<b>G</b>
Cuckoo	S	1	Possible	<b>G</b>
Magpie	H		Probable	<b>G</b>
Hooded Crow	FL		Confirmed	<b>G</b>
<b>Goldcrest</b>	<b>P</b>		<b>Probable</b>	<b>G</b>
Blue Tit	FL		Confirmed	<b>G</b>
Great Tit	T		Probable	<b>G</b>
Coal Tit	FL		Confirmed	<b>G</b>
<b>Skylark</b>	<b>FL</b>	<b>11</b>	<b>Confirmed</b>	<b>A</b>
<b>Sand Martin</b>	<b>F</b>		<b>Non-breeding</b>	<b>A</b>
<b>Swallow</b>	<b>F</b>		<b>Non-breeding</b>	<b>A</b>
<b>Willow Warbler</b>	<b>T</b>		<b>Probable</b>	<b>A</b>
Whitethroat	FL		Confirmed	<b>G</b>
Sedge Warbler	H		Possible	<b>G</b>
Wren	FL		Confirmed	<b>G</b>
Blackbird	FL		Confirmed	<b>G</b>
Song Thrush	T		Probable	<b>G</b>
Mistle Thrush	T		Probable	<b>G</b>
Robin	FL		Confirmed	<b>G</b>
Stonechat	FL	2	Confirmed	<b>G</b>
<b>Wheatear</b>	<b>M</b>		<b>Non-breeding</b>	<b>A</b>
<b>Starling</b>	<b>H</b>		<b>Possible</b>	<b>A</b>
Duncock	S		Possible	<b>G</b>
Pied Wagtail	FL		Confirmed	<b>G</b>
<b>Meadow Pipit</b>	<b>FL</b>	<b>17</b>	<b>Confirmed</b>	<b>R</b>
Chaffinch	FL		Confirmed	<b>G</b>
<b>Linnet</b>	<b>FL</b>	<b>1</b>	<b>Confirmed</b>	<b>A</b>
Bullfinch	H		Possible	<b>G</b>
Lesser Redpoll	FL		Confirmed	<b>G</b>
Reed Bunting	T		Probable	<b>G</b>

Breeding Status Codes are detailed in Appendix 9

BoCCI Status (after Gilbert et al. 2021): **R – Red**; **A – Amber**; **G – Green**

\*\* listed on Annex I of Birds Directive

## **General discussion**

The 2021 summer survey at Derryhinch bog has established a baseline since commercial peat production has ceased.

While bog rehabilitation, and especially wetland development, is still at an early development stage at Derryhinch, the site provides useful habitat for various bird of prey species and especially Kestrel (Red listed), Buzzard and Sparrowhawk (latter breeds on site). The site is within the range of a Peregrine breeding territory, with one observed perched on the bare peat.

As of yet, the site does not have potential to support breeding wetland birds (other than mallard & moorhen) as permanent ponds have yet to develop.

The site supports a range of other species of conservation interest. Meadow Pipit, Red listed on basis of breeding population, breeds throughout much of the site. Other species of note breeding on site include Skylark, Goldcrest, Willow Warbler and Linnet (all Amber-listed).

### **3.5.4 Evaluation and Rating of Derryhinch Bog for Breeding Birds**

There follows a summary of the conservation status of species recorded on Derryhinch Bog in summer 2021:

#### **EU Birds Directive Annex I listed species**

Peregrine

#### **Red Listed species (after Gilbert et al. 2021)**

Kestrel

Lapwing (non-breeding)

Meadow Pipit

#### **Amber Listed species (after Gilbert et al. 2021)**

Lesser Black-backed Gull (roosting)

Skylark

Sand Marten

Swallow

Wheatear

Goldcrest

Willow Warbler

Starling

Linnet

Overall, the site has developing habitats suitable for supporting a range of breeding birds, including Meadow Pipit (Red-listed).

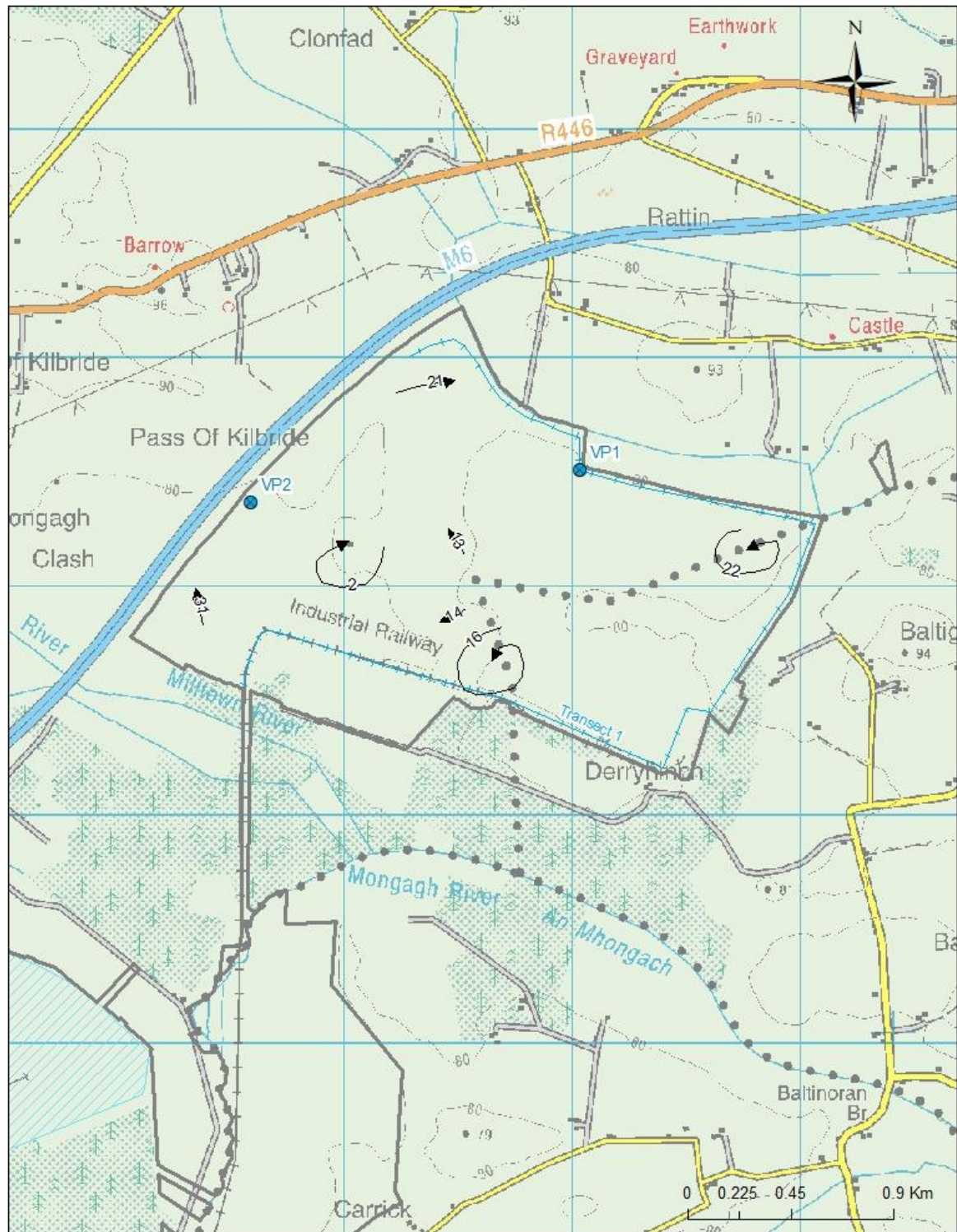
A feature of Derryhinch Bog is that it is used regularly for hunting by birds of prey, notably Kestrel, Buzzard, Sparrowhawk (breeds on site) and Peregrine.



From the location of the site, it can be considered as part of a larger complex of cutaway bog sites, comprising Drumman, Derryarkin and Ballybeg bogs.

On the basis of usage of the site by Annex I listed species, plus some Red- and Amber-listed species, it is recommended that a rating of **Local Importance (higher value)** is considered appropriate for breeding birds at Derryhinch Bog.

**Derryhinch Map 1:** Map showing transect and vantage point locations, with flightlines for Sparrowhawk, summer 2021. See Appendix 7 for map reference number details.

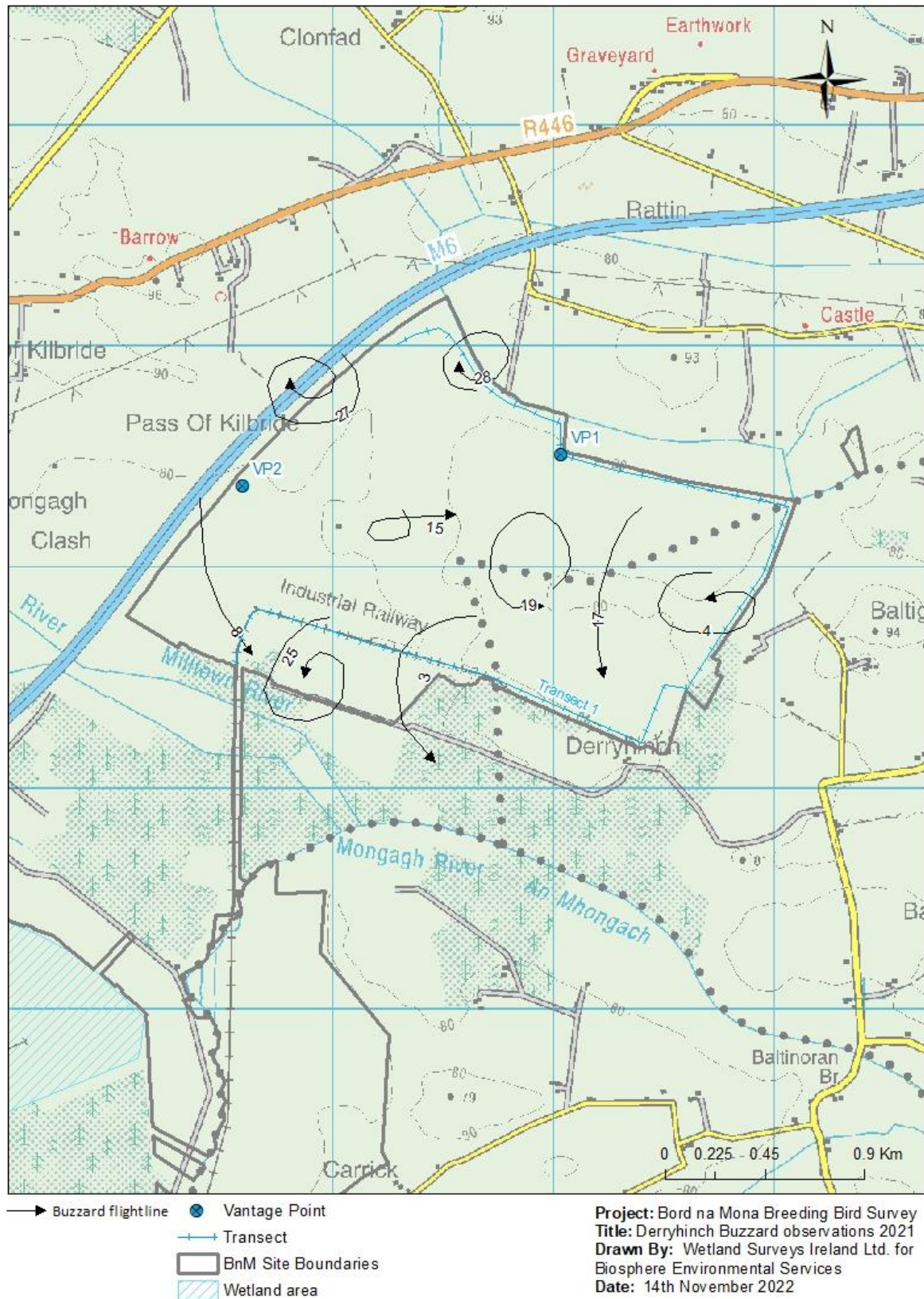


- ▶ Sparrowhawk flightline
- Vantage Point
- +— Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

Project: Bord na Mona Breeding Bird Survey  
 Title: Derryhinch Sparrowhawk observations 2021  
 Drawn By: Wetland Surveys Ireland Ltd. for  
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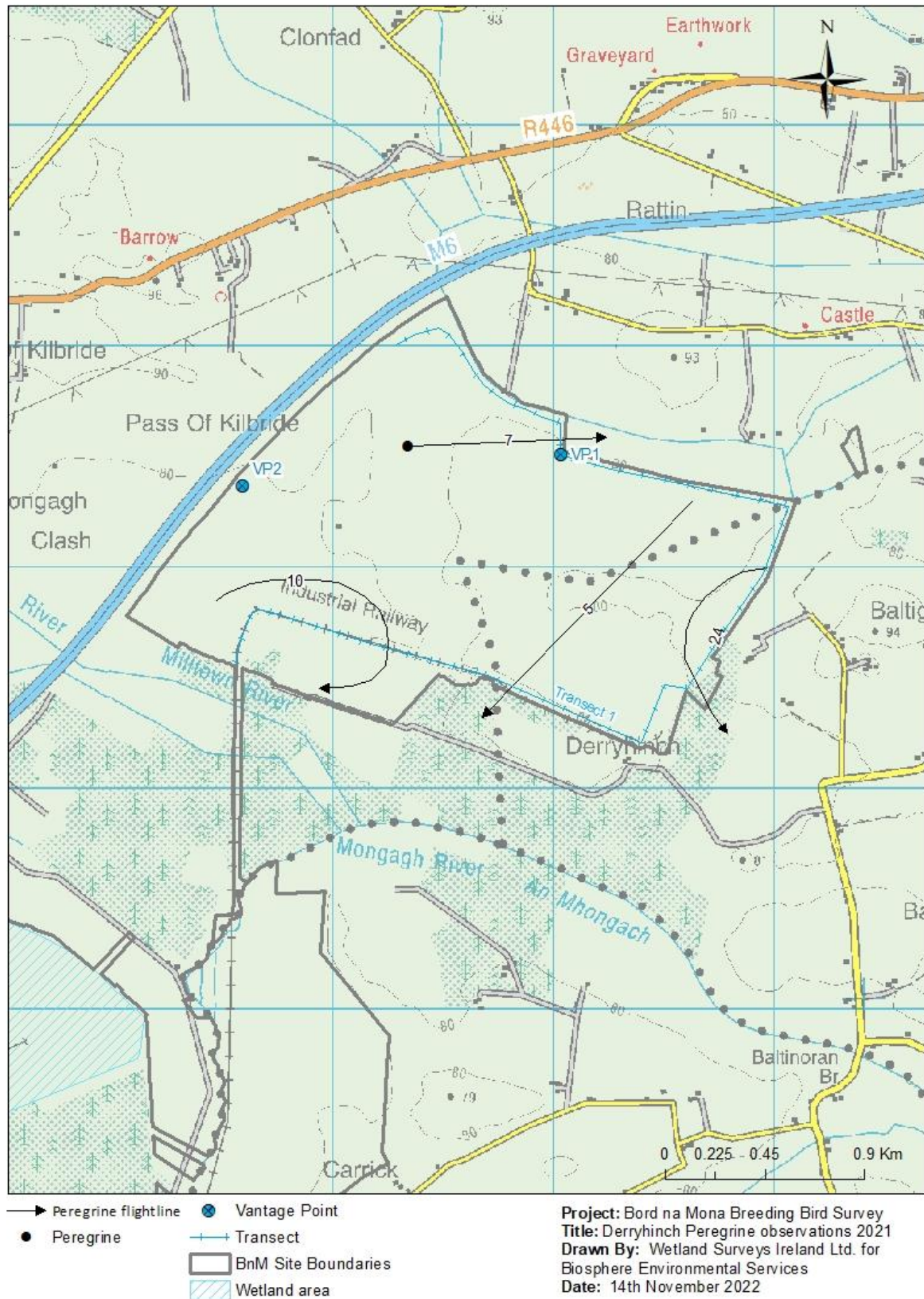


**Derryhinch Map 2:** Map showing transect and vantage point locations, with flightlines for Buzzard, summer 2021. See Appendix 7 for map reference number details.



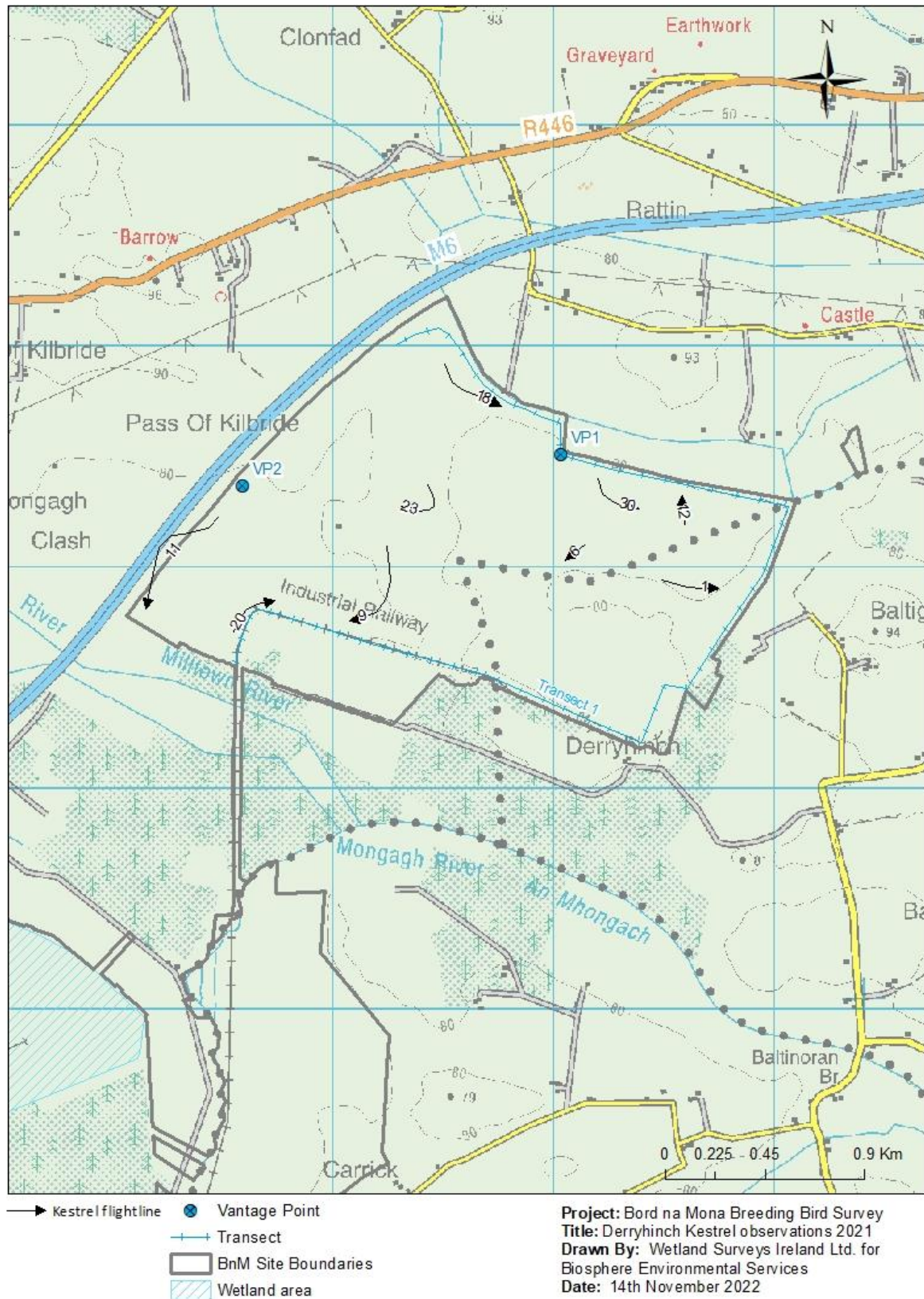


**Derryhinch Map 3:** Map showing transect and vantage point locations, with flightlines for Peregrine, summer 2021. See Appendix 7 for map reference number details.

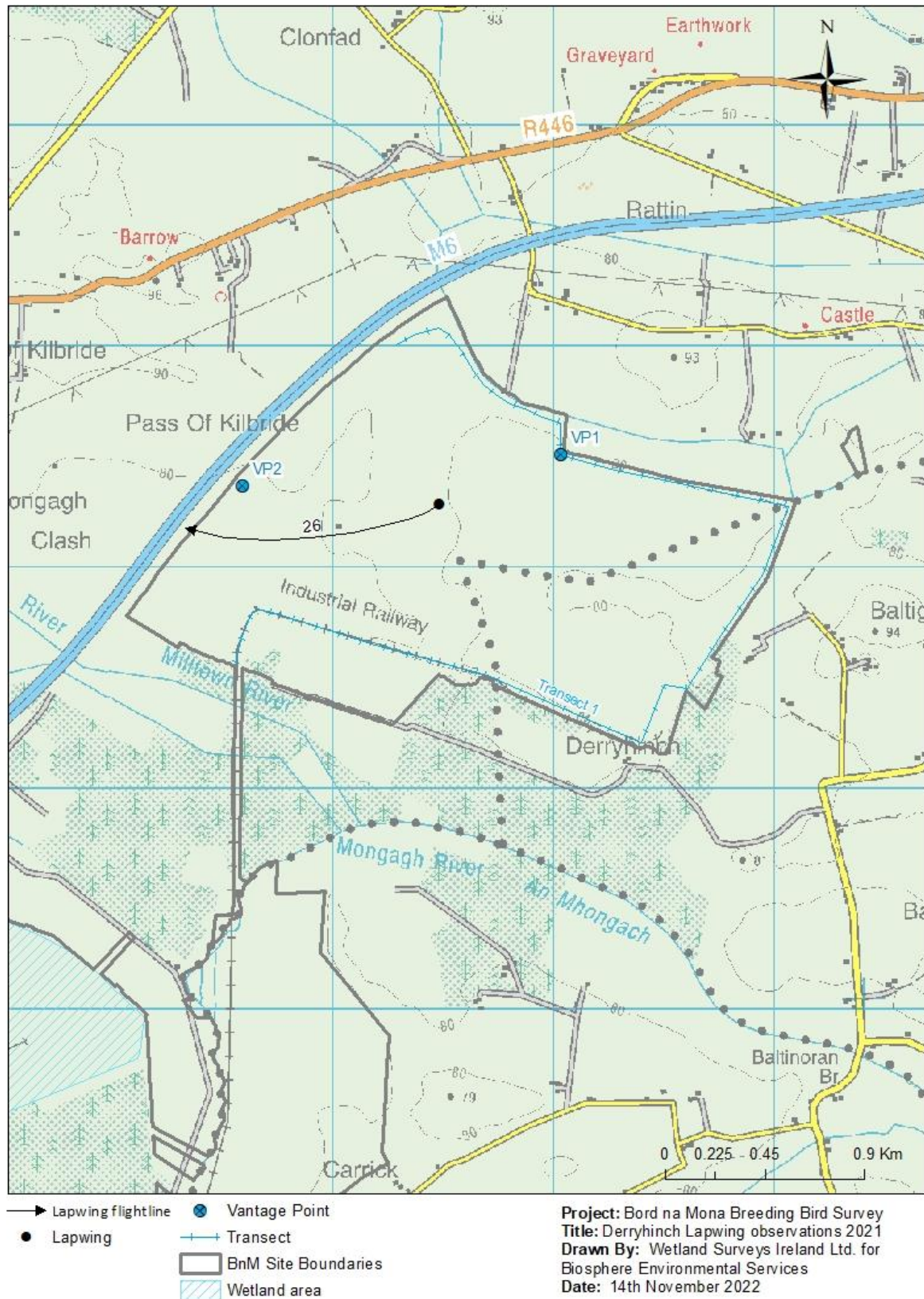




**Derryhinch Map 4:** Map showing transect and vantage point locations, with flightlines for Kestrel, summer 2021. See Appendix 7 for map reference number details.

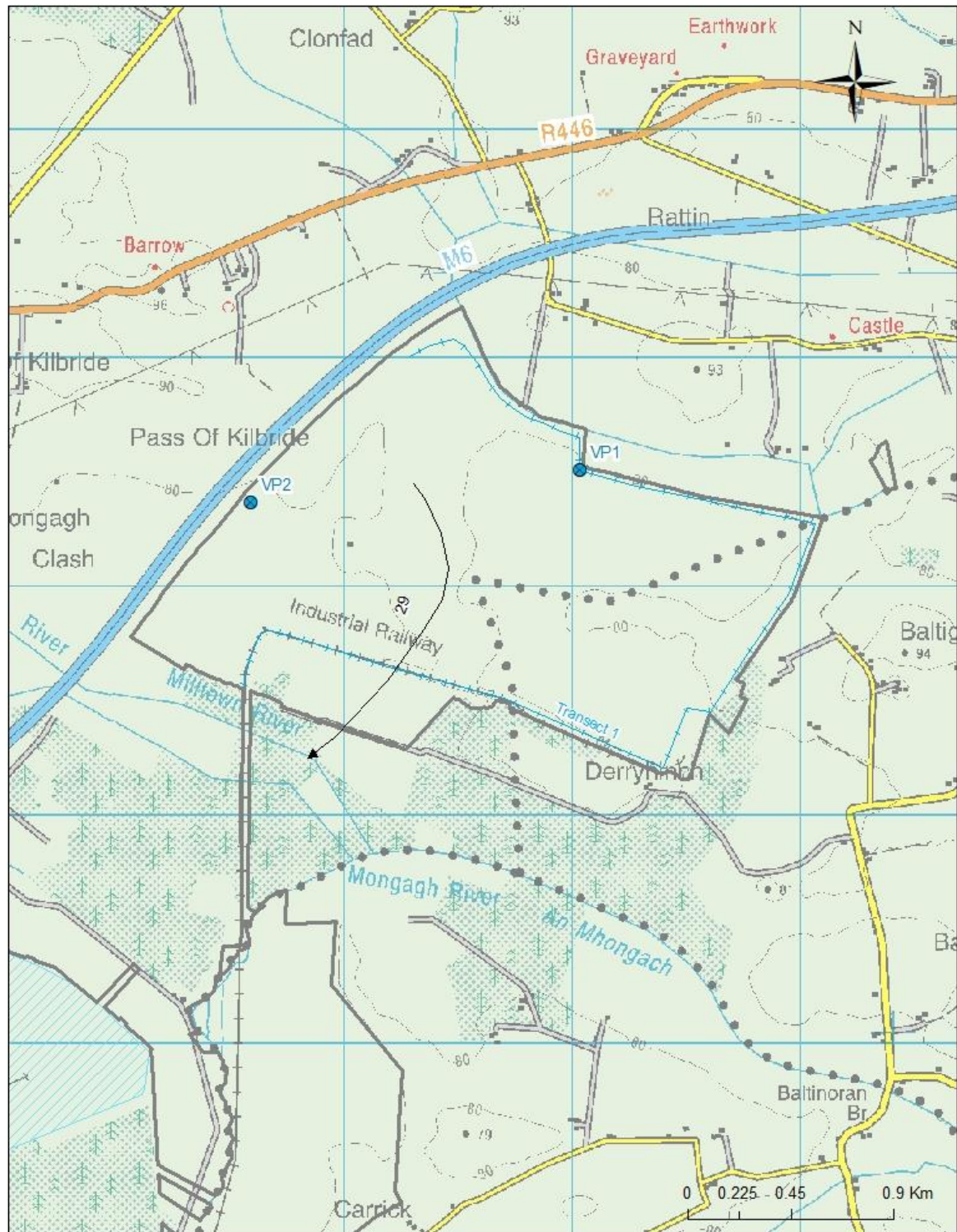


**Derryhinch Map 5:** Map showing transect and vantage point locations, with flightlines for Lapwing, summer 2021. See Appendix 7 for map reference number details.





**Derryhinch Map 6:** Map showing transect and vantage point locations, with flightlines for Lesser Black-backed Gull, summer 2021. See Appendix 7 for map reference number details.



- Lesser Black-backed Gull flightline
- Vantage Point
- +— Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

Project: Bord na Mona Breeding Bird Survey  
 Title: Derryhinch Lesser Black-backed Gull observations 2021  
 Drawn By: Wetland Surveys Ireland Ltd. for Biosphere Environmental Services  
 Date: 14th November 2022

### **3.6 Ballybeg Bog**

#### **3.6.1 Site Description**

Ballybeg Bog is located to the west of the R400 road and between Croghan Hill and the town of Rhode. It is contiguous with Derryarkin bog to the north and Cavemount bog to the south. The most southern sector is an outlier from the main site and lies between a local road and the Grand Canal pNHA.

In addition to recent commercial peat production (now ceased since January 2021), a large area (c.60 ha) of cutaway east of the main railway line had been planted with alder as a biomass trial for East Offaly Power. The extreme northeast section of the site had been used for gravel extraction.

Ballybeg Bog is sharply divided into three main ecological units: the northern part which has been out of production for some time and is re-vegetating cutaway, the southern part which has been in recent commercial industrial production, and the small southern outlier of largely intact raised bog, known as Coole bog.

The northern cutaway sector contains a range of habitats but is dominated by birch scrub or developing bog woodland. There are some small wetlands with permanent or temporary water. Wetland vegetation, however, is poorly developed. Bare peat still occurs in places. As noted, a substantial portion of the cutaway has been developed as an Alder biomass trial, and is classified as short rotation coppice.

The southern part of the site is in the early stage of re-vegetation though as of yet vegetation cover is sparse. A portion to the east of the railway line and west-southwest of the (former) Works area comprises disturbed ground associated with the old Rhode Power Station. This area is dominated by scrub, dense bracken and dry grassland.

An area of undeveloped high bog occurs in the southernmost sector of the site (part of this bog is not within Bord na Móna ownership). This is largely intact bog though there is active turbarry along the western margin and a network of surface drains had been inserted in the past. A remnant strip of high bog also occurs along the northeast boundary, while patches of cutover bog occur in places along the margins of the site.

The site is adjoined by slivers of bog to the east and north-west, with agricultural land to the south and west.

#### **3.6.2 Survey locations**

**Transect 1** follows the train track through the site.

**Vantage Point 1** is located along the northeast boundary of the site and gives a view over the entire northern sector of the site.

**Vantage Point 2** is located on a peat track in the central areas of the site (at edge of the established cutaway) and gives a view over much of the southern sector of the site.



**Vantage Point 3** is located on the train track near the southern entrance to the site and gives a view over the extreme southernmost parts of site, including the Coole Bog outlier.

### **3.6.3 Results and Discussion**

A summary of the variables (date, time, weather etc.) for the vantage point watches carried out at Ballybeg Bog between April and September 2021 is presented in Appendix 4. Survey raw data for the vantage point watches are presented in Appendix 8.

Scientific names of bird species are given in Appendix 10.

#### **Target species recorded**

##### Mute Swan

Three flightlines were recorded, two involving three birds each and one a single bird.

It is expected that these birds breed at Cavemount bog and may at times commute to Derryarkin.

##### Little Egret

One bird was recorded flying across the northern tip of the site on 26<sup>th</sup> June.

##### Sparrowhawk

There were seven records of Sparrowhawk on site through the summer period.

A displaying pair over the northern part of site on 10<sup>th</sup> April and three there on 21<sup>st</sup> August suggests breeding occurred. Site provides good foraging habitat for Sparrowhawk.

##### Buzzard

Buzzard was recorded regularly within the site during the summer, with a total of 12 records. Breeding is expected to have occurred in the immediate area of the site, with pairs observed over the site on 18<sup>th</sup> April and 12<sup>th</sup> July and three together on 8<sup>th</sup> August. Site provides good foraging habitat for Buzzard.

##### Kestrel

Ballybeg provides excellent hunting habitat for Kestrel, with a total of 14 records (one off-site) through the summer. All were of single birds, other than two together on 24<sup>th</sup> July and three on 8<sup>th</sup> September (latter involved adult and juveniles). Most of the birds were hunting actively on site.

Kestrel breeds locally (at Derryarkin).

##### Peregrine

Peregrine was recorded flying over the site on two occasions through the summer (10<sup>th</sup> May, 8<sup>th</sup> September).

The birds observed in summer at Ballybeg are considered to be associated with the breeding pair at Derryarkin (which nests on a man-made structure but failed in 2022).



**Plate 6.** The southern sector of Ballybeg Bog is still largely bare peat after recent commercial production. Looking west across site towards Croghanhill, May 2021.



**Plate 7.** The former works area in easter sector of Ballybeg Bog supports breeding Ringed Plover, May 2021.

Lapwing

There were two flightlines of Lapwing over the site, involving seven birds on 12<sup>th</sup> July and six birds on 21<sup>st</sup> August.

Snipe

One territory at high bog in southernmost part of site in May and June.

**Potential for other target species**

Golden Plover on migration could be expected to roost on the areas of bare peat in spring and autumn.

**Other species of note**

Mallard – bred in settling ponds and large drains in easternmost part of site.

Ringed Plover – one pair bred at old works area in easternmost part of site.

Sand Martin – 20+ feeding over site in early May but breeding on site not expected.

Skylark – nests throughout much of the site. Count of 14 birds from transect in May.

Robin – breeds on site in scrub and woodland habitats.

Stonechat – at least two territorial pairs on site. Young birds successfully fledged.

Wheatear – two birds on site in early May were migrant birds. One in August (juvenile).

Goldcrest – breeds on site in scrub and woodland habitats.

Willow Warbler – breeds on site in scrub and woodland habitats.

Meadow Pipit - well scattered throughout the site where suitable habitats exist – estimate of a minimum population of 24 territorial birds along transect in May.

Starling – small numbers on site through summer, with post breeding flocks (up to 200+ birds in August and September).

Linnet – two pairs bred on site.

**TABLE 7: BALLYBEG – TRANSECT SURVEYS, 2021**

Species	20 <sup>th</sup> May	13 <sup>th</sup> June	20 <sup>th</sup> July	BoCCI Status
Mallard	5	2	6	<b>G</b>
Pheasant	3	1	2	<b>G</b>
Grey Heron	1	0	3	<b>G</b>
Buzzard	0	0	1	<b>G</b>
Sparrowhawk	1	0	0	<b>G</b>
<b>Kestrel</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>R</b>
<b>Peregrine</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>G</b>
Moorhen	2	0	0	<b>G</b>
Woodpigeon	4	6	20+	<b>G</b>
Cuckoo	2	1	0	<b>G</b>
Magpie	2	5	3	<b>G</b>
Hooded Crow	4	6	14	<b>G</b>
<b>Goldcrest</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>A</b>
Blue Tit	4	2	7	<b>G</b>
Great Tit	2	2	4	<b>G</b>
Coal Tit	5	12	8	<b>G</b>
<b>Skylark</b>	<b>14</b>	<b>17</b>	<b>23</b>	<b>A</b>
<b>Sand Martin</b>	<b>20+</b>	<b>0</b>	<b>4</b>	<b>A</b>
<b>Swallow</b>	<b>12+</b>	<b>30+</b>	<b>20+</b>	<b>A</b>
<b>Willow Warbler</b>	<b>8</b>	<b>11</b>	<b>5</b>	<b>A</b>
Whitethroat	2	1	5	<b>G</b>
Sedge Warbler	3	2	0	<b>G</b>
Wren	12	11	14	<b>G</b>
Blackbird	7	8	8	<b>G</b>
Song Thrush	2	3	0	<b>G</b>
Mistle Thrush	0	5	4	<b>G</b>
Robin	8	11	7	<b>G</b>
Stonechat	4	5	7	<b>G</b>
<b>Wheatear</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>A</b>
<b>Starling</b>	<b>12</b>	<b>20+</b>	<b>20+</b>	<b>A</b>
Dunnock	2	0	0	<b>G</b>
Pied Wagtail	4	0	7	<b>G</b>
<b>Meadow Pipit</b>	<b>24</b>	<b>18</b>	<b>30+</b>	<b>R</b>
Chaffinch	9	7	14	<b>G</b>
<b>Linnet</b>	<b>2</b>	<b>6</b>	<b>4</b>	<b>A</b>
Bullfinch	0	3	0	<b>G</b>
Lesser Redpoll	10	18	15+	<b>G</b>
Reed Bunting	2	2	6	<b>G</b>

BoCCI Status BoCCI Status (after Gilbert et al. 2021): **R – Red; A – Amber; G – Green**



**TABLE 8: BALLYBEG – STATUS OF BREEDING BIRDS 2021**

Species	Maximum Breeding Evidence	No. of pairs (where relevant)	Breeding Status	BoCCI Status
Mallard	P		Probable	<b>G</b>
Pheasant	P		Probable	<b>G</b>
Grey Heron	U		Non-breeding	<b>G</b>
Buzzard	F		Non-breeding	<b>G</b>
Sparrowhawk	D	1	Probable	<b>G</b>
<b>Kestrel</b>	<b>F</b>		<b>Non-breeding</b>	<b>R</b>
<b>**Peregrine</b>	<b>F</b>		<b>Non-breeding</b>	<b>G</b>
Moorhen	P		Probable	<b>G</b>
<b>Lapwing</b>	<b>F</b>		<b>Non-breeding</b>	<b>R</b>
Ringed Plover	P	1	Probable	<b>G</b>
Woodpigeon	P		Probable	<b>G</b>
Cuckoo	S	2	Possible	<b>G</b>
Magpie	P		Probable	<b>G</b>
Hooded Crow	FL		Confirmed	<b>G</b>
<b>Goldcrest</b>	<b>P</b>		<b>Probable</b>	<b>G</b>
Blue Tit	FL		Confirmed	<b>G</b>
Great Tit	T		Probable	<b>G</b>
Coal Tit	FL		Confirmed	<b>G</b>
<b>Skylark</b>	<b>FL</b>	<b>14</b>	<b>Confirmed</b>	<b>A</b>
<b>Sand Martin</b>	<b>F</b>		<b>Non-breeding</b>	<b>A</b>
<b>Swallow</b>	<b>F</b>		<b>Non-breeding</b>	<b>A</b>
<b>Willow Warbler</b>	<b>T</b>		<b>Probable</b>	<b>A</b>
Whitethroat	FL		Confirmed	<b>G</b>
Sedge Warbler	H		Possible	<b>G</b>
Wren	FL		Confirmed	<b>G</b>
Blackbird	FL		Confirmed	<b>G</b>
Song Thrush	T		Probable	<b>G</b>
Mistle Thrush	T		Probable	<b>G</b>
Robin	FL		Confirmed	<b>G</b>
Stonechat	FL	2	Confirmed	<b>G</b>
<b>Wheatear</b>	<b>M</b>		<b>Non-breeding</b>	<b>A</b>
<b>Starling</b>	<b>H</b>		<b>Possible</b>	<b>A</b>
Duncock	S		Possible	<b>G</b>
Pied Wagtail	FL		Confirmed	<b>G</b>
<b>Meadow Pipit</b>	<b>FL</b>	<b>24</b>	<b>Confirmed</b>	<b>R</b>
Chaffinch	FL		Confirmed	<b>G</b>
<b>Linnet</b>	<b>FL</b>	<b>2</b>	<b>Confirmed</b>	<b>A</b>
Bullfinch	H		Possible	<b>G</b>
Lesser Redpoll	FL		Confirmed	<b>G</b>
Reed Bunting	T		Probable	<b>G</b>

Breeding Status Codes are detailed in Appendix 9

BoCCI Status (after Gilbert et al. 2021): **R – Red**; **A – Amber**; **G – Green**

\*\* listed on Annex I of Birds Directive

## **General discussion**

The 2021 summer survey at Ballybeg bog has established a baseline since commercial peat production ceased early in 2021.

With bog rehabilitation already underway in the northern parts of the site, and some high bog present in the southernmost part, the site provides useful habitat for various bird of prey species and especially Kestrel (Red listed), Buzzard and Sparrowhawk (latter breeds on site). The site is within the range of a Peregrine breeding territory, with one observed perched on the bare peat.

Snipe (Red listed) breeds on the bog to the south of the site, while Ringed Plover breeds in the eastern sector (old works area). [While A. Copland recorded Snipe as possibly breeding in the northern sector of the site in 2011, this area is now heavily vegetated with scrub and mostly unsuitable for Snipe.]

The site supports a range of other species of conservation interest. Meadow Pipit, Red listed on basis of breeding population, breeds throughout much of the site. Other species of note breeding on site include Skylark, Goldcrest, Willow Warbler and Linnet (all Amber-listed).

### **3.6.4 Evaluation and Rating of Ballybeg Bog for Breeding Birds**

There follows a summary of the conservation status of species recorded on Ballybeg Bog in summer 2021:

#### **EU Birds Directive Annex I listed species**

Peregrine (non-breeding)

#### **Red Listed species (after Gilbert et al. 2021)**

Kestrel

Lapwing (non-breeding)

Snipe

Meadow Pipit

#### **Amber Listed species (after Gilbert et al. 2021)**

Skylark

Sand Marten

Swallow

Wheatear

Goldcrest

Willow Warbler

Starling

Linnet

Overall, the site has developing habitats suitable for supporting a range of breeding birds, including Snipe and Meadow Pipit (both Red-listed).

A feature of Ballybeg Bog is that it is used regularly for hunting by birds of prey, notably Kestrel, Buzzard, Sparrowhawk (breeds on site) and Peregrine.

From the location of the site, it can be considered as part of a larger complex of cutaway bog sites, comprising Derryarkin and Drumman bogs.

On the basis of usage of the site by an Annex I listed species, plus some Red- and Amber-listed species, it is recommended that a rating of **Local Importance (higher value)** is considered appropriate for breeding birds at Ballybeg Bog.



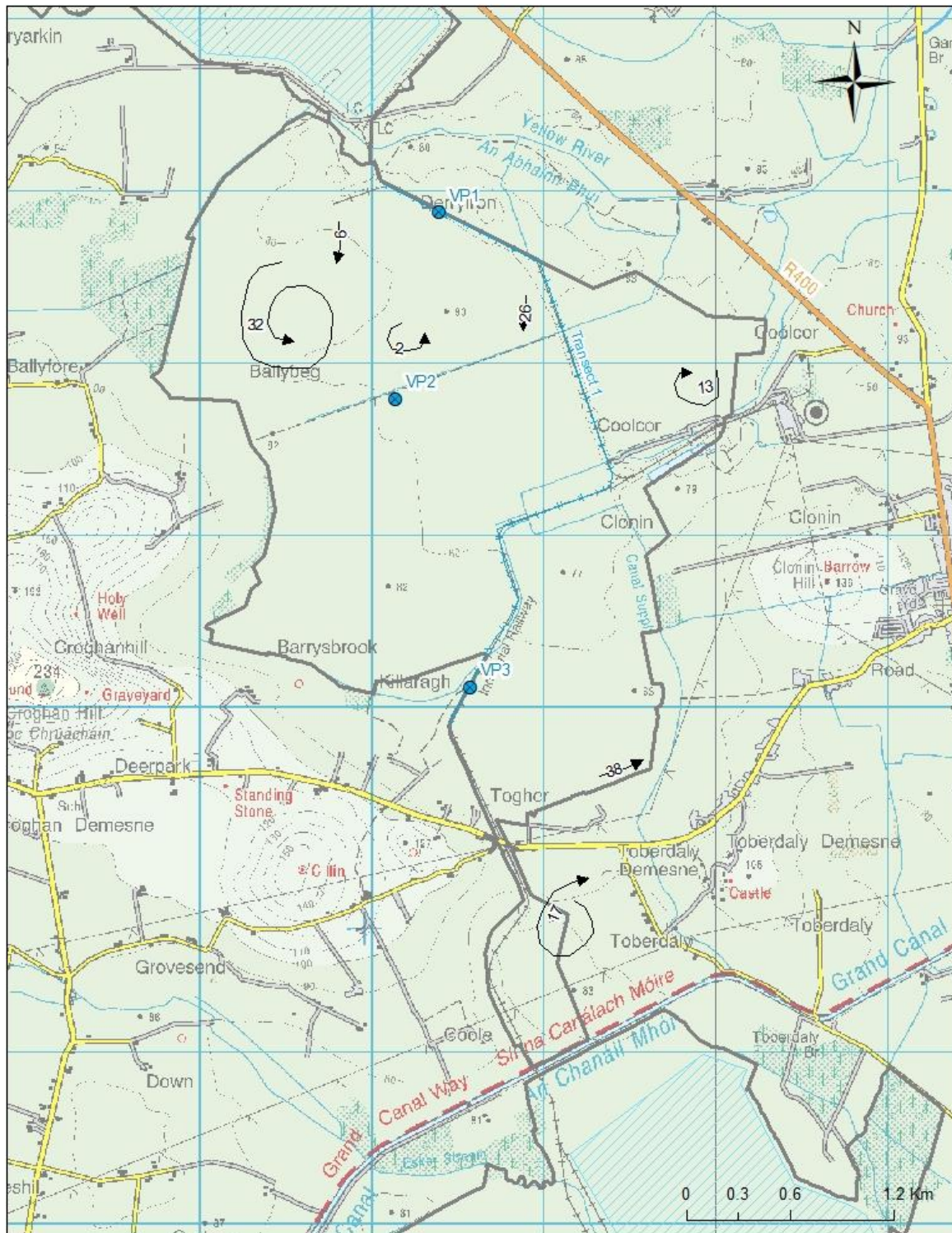


**Ballybeg Map 2:** Map showing transect and vantage point locations, with flightlines for Little Egret, summer 2021. See Appendix 8 for map reference number details.





**Ballybeg Map 3:** Map showing transect and vantage point locations, with flightlines for Sparrowhawk, summer 2021. See Appendix 8 for map reference number details.

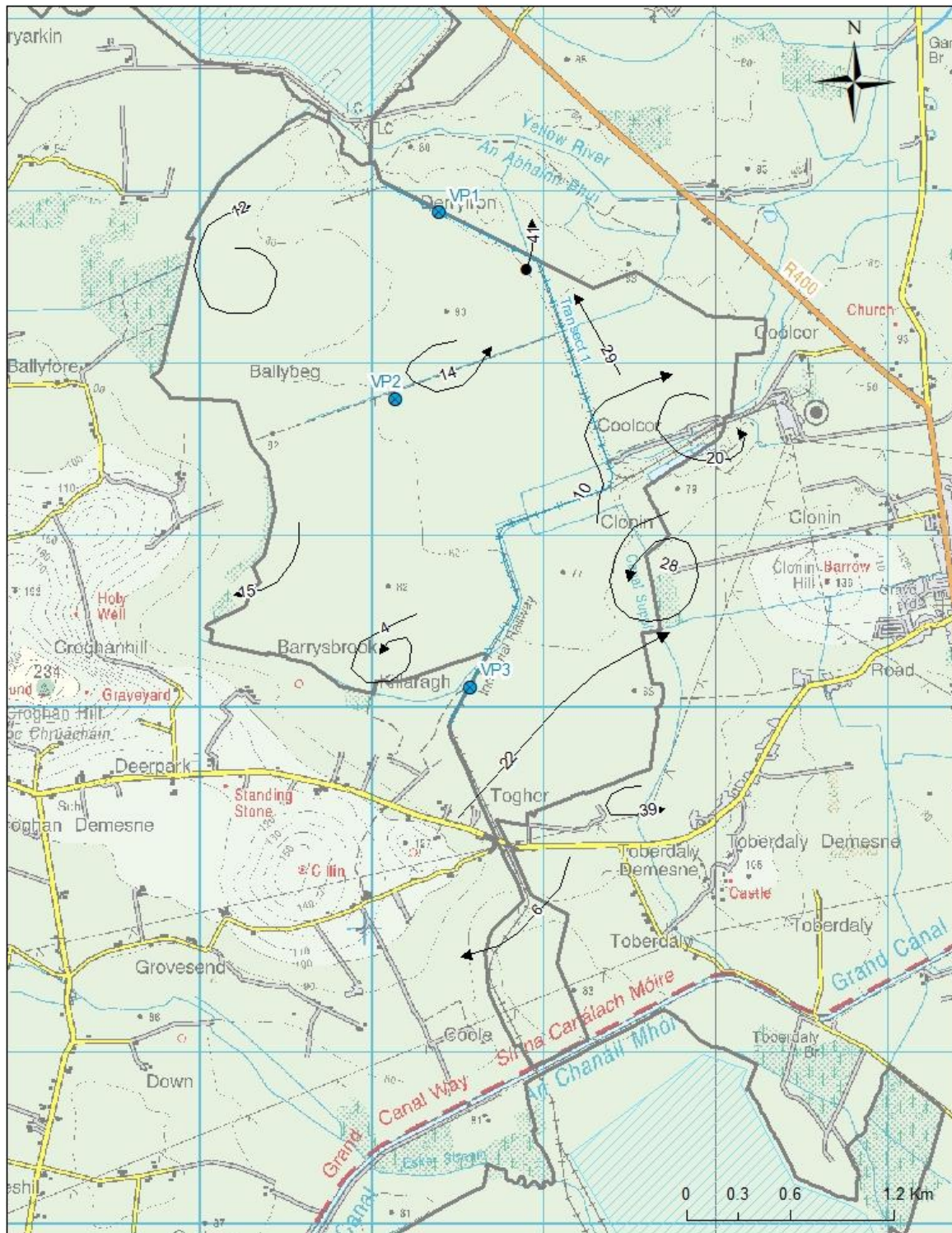


- Sparrowhawk flightline
- Vantage Point
- - - Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

Project: Bord na Mona Breeding Bird Survey  
 Title: Ballybeg Sparrowhawk observations 2021  
 Drawn By: Wetland Surveys Ireland Ltd. for  
 Biosphere Environmental Services  
 Date: 14th November 2022



**Ballybeg Map 4:** Map showing transect and vantage point locations, with flightlines for Buzzard, summer 2021. See Appendix 8 for map reference number details.



- ➔ Buzzard flightline
- Buzzard
- Vantage Point
- +— Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

Project: Bord na Mona Breeding Bird Survey  
 Title: Ballybeg Buzzard observations 2021  
 Drawn By: Wetland Surveys Ireland Ltd. for Biosphere Environmental Services  
 Date: 14th November 2022

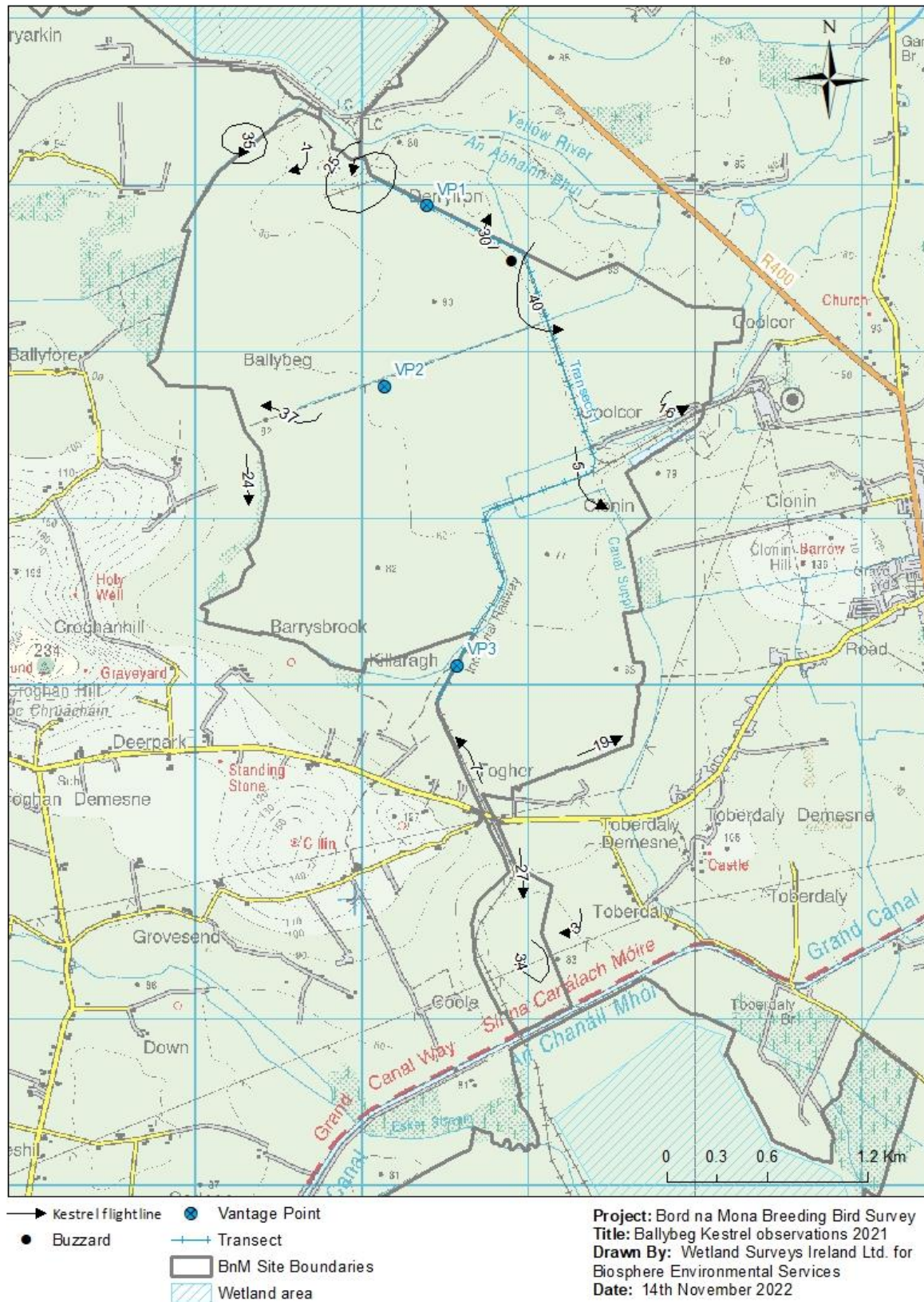


**Ballybeg Map 5:** Map showing transect and vantage point locations, with flightlines for Peregrine, summer 2021. See Appendix 8 for map reference number details.



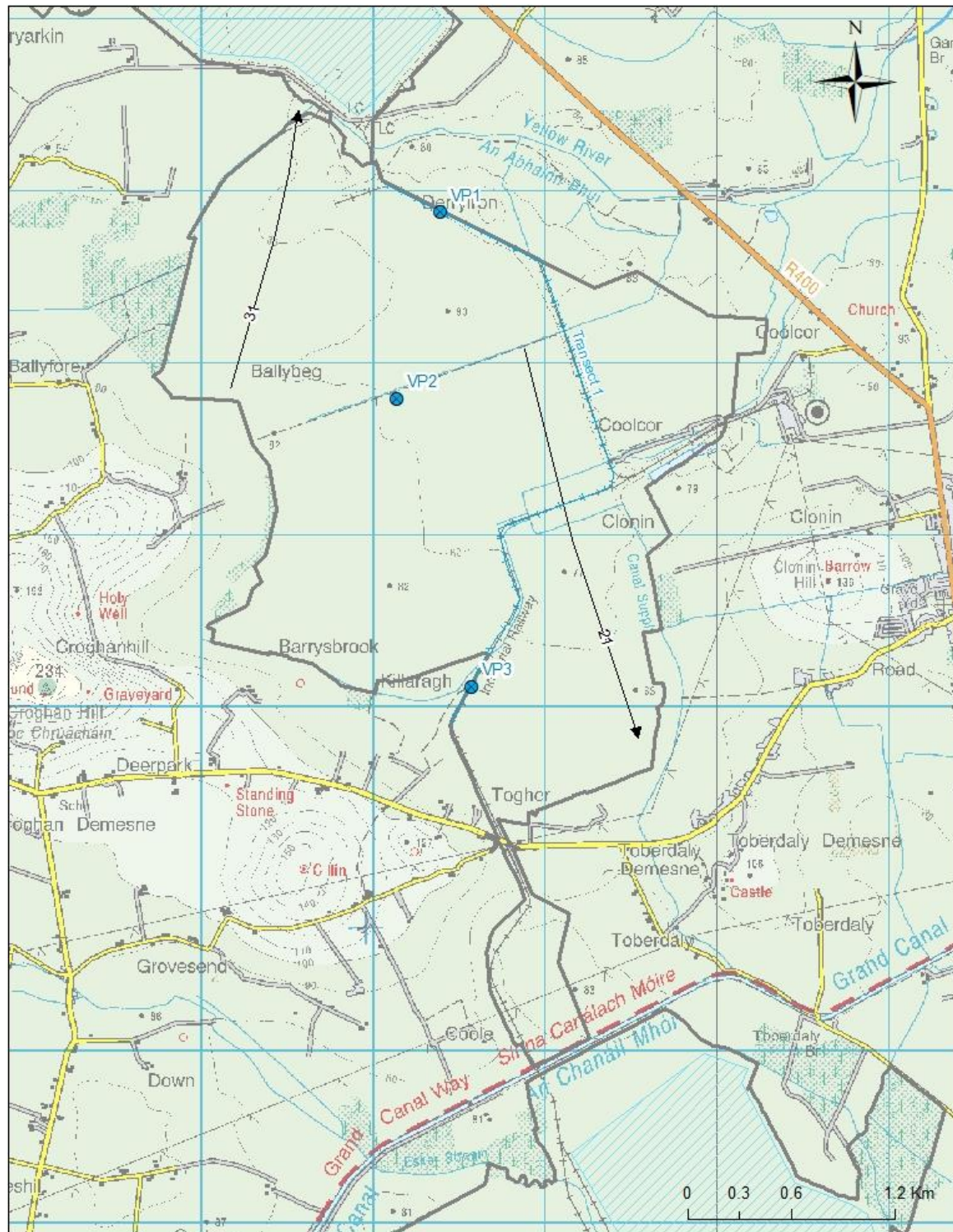


**Ballybeg Map 6:** Map showing transect and vantage point locations, with flightlines for Kestrel, summer 2021. See Appendix 8 for map reference number details.





**Ballybeg Map 7:** Map showing transect and vantage point locations, with flightlines for Lapwing, summer 2021. See Appendix 8 for map reference number details.



- Lapwing flightline
- Vantage Point
- +— Transect
- ▭ BnM Site Boundaries
- ▨ Wetland area

Project: Bord na Mona Breeding Bird Survey  
 Title: Ballybeg Lapwing observations 2021  
 Drawn By: Wetland Surveys Ireland Ltd. for Biosphere Environmental Services  
 Date: 14th November 2022

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**APPENDIX 1.**

**Summary of vantage point (VP) watch variables, Derryarkin Bog,  
April 2021 to September 2021**

Date	Season	VP no.	Duration (hrs)	Start Time	Weather conditions
15/04/2021	Breeding	1	3	08:15	Showers, Mod-Good visibility, SE wind, F2
15/04/2021	Breeding	3	3	12:30	Showers, Mod-good visibility, SE wind, F3
22/04/2021	Breeding	2	3	09:30	Dry, Good visibility, SW wind, F2
22/04/2021	Breeding	1	3	14.30	Dry, Good visibility, SW wind, F2
23/04/2021	Breeding	2	3	07:45	Dry, Good visibility, W wind, F1
23/04/2021	Breeding	3	3	11.45	Dry, Good visibility, W wind, F2
12/05/2021	Breeding	1	3	07.30	Dry, Good visibility, NW wind, F3
12/05/2021	Breeding	2	3	12.00	Dry, Good visibility, NW wind, F3
20/05/2021	Breeding	3	3	11:00	Occ showers, Good visibility, W wind, F3
20/05/2021	Breeding	2	3	16:00	Occ showers, Good visibility, W wind, F3
21/05/2021	Breeding	1	3	08:00	Dry, Good visibility, SW wind, F2
21/05/2021	Breeding	3	3	12.30	Dry, Good visibility, SW wind, F2
08/06/2021	Breeding	2	3	09:30	Dry, Good visibility, N wind, F1
08/06/2021	Breeding	1	3	14:00	Dry, Good visibility, N wind, F2
22/06/2021	Breeding	1	3	07.15	Dry, Good visibility, SW wind, F2
22/06/2021	Breeding	3	3	11:30	Dry, Good visibility, SW wind, F3
23/06/2021	Breeding	2	3	08.30	Dry, Good visibility, SW wind, F2
23/06/2021	Breeding	3	3	16:00	Dry, Good visibility, SW wind, F2
09/07/2021	Breeding	1	3	07:30	Dry, Good visibility, W wind, F1
09/07/2021	Breeding	2	3	12:00	Dry, Good visibility, W wind, F2
16/07/2021	Breeding	3	3	10:15	Dry, Good visibility, SW wind, F2
16/07/2021	Breeding	2	3	14.00	Dry, Good visibility, SW wind, F2
20/07/2021	Breeding	1	3	08.45	Dry, Good visibility, S wind, F1
20/07/2021	Breeding	3	3	13:00	Dry, Good visibility, S wind, F1
10/08/2021	Breeding	2	3	10:00	Showers, Good visibility, E wind, F2
10/08/2021	Breeding	1	3	14:00	Showers, Good visibility, SE wind, F2
16/08/2021	Breeding	3	3	08:30	Dry, Good visibility, SW wind, F3
16/08/2021	Breeding	1	3	13:00	Dry, Good visibility, SW wind, F3
17/08/2021	Breeding	2	3	09:00	Dry, Good visibility, W wind, F2
17/08/2021	Breeding	3	3	13:00	Dry, Good visibility, W wind, F2
10/09/2021	Breeding	1	3	08:00	Dry, Good visibility, SE wind, F2
10/09/2021	Breeding	3	3	13:30	Dry, Good visibility, SE wind, F2



*Bord na Móna Breeding Bird Survey 2021: Derryarkin Group*

<b>Date</b>	<b>Season</b>	<b>VP no.</b>	<b>Duration (hrs)</b>	<b>Start Time</b>	<b>Weather conditions</b>
20/09/2021	Breeding	2	3	09:30	Dry, Good visibility, NW wind, F3
20/09/2021	Breeding	1	3	13:30	Dry, Good visibility, NW wind, F3
21/09/2021	Breeding	2	3	08:45	Dry, Good visibility, W Wind, F3
21/09/2021	Breeding	3	3	13:00	Showers, Good visibility, W Wind, F3

## APPENDIX 2

### Summary of vantage point (VP) watch variables, Drumman Bog, April 2021 to September 2021

Date	Observer	VP no.	Duration (hrs)	Start Time	Weather conditions
12/04/2021	Breeding	3	3	08:45	Dry, good visibility, SW wind, F2
12/04/2021	Breeding	1	3	13:30	Dry, good visibility, SW wind, F3
13/04/2021	Breeding	2	3	09:00	Showers, good visibility, S wind, F2
13/04/2021	Breeding	4	3	14:00	Showers, good visibility, S wind, F2
19/04/2021	Breeding	1	3	08:00	Dry, good visibility, W wind, F2
19/04/2021	Breeding	4	3	12:15	Dry, good visibility, W wind, F2
20/04/2021	Breeding	3	3	07:30	Dry, good visibility, NW wind, F3
20/04/2021	Breeding	2	3	12:00	Dry, good visibility, NW wind, F2
07/05/2021	Breeding	1	3	07:45	Dry, Good visibility, W wind, F2
07/05/2021	Breeding	2	3	12:00	Dry, Good visibility, W wind, F3
08/05/2021	Breeding	3	3	09:30	Dry, Good visibility, SW wind, F2
08/05/2021	Breeding	4	3	13:00	Dry, Good visibility, SW wind, F2
17/05/2021	Breeding	3	3	07:30	Dry, Good visibility, SW wind, F3
17/05/2021	Breeding	1	3	12:30	Dry, Good visibility, SW wind, F2
18/05/2021	Breeding	4	3	10:00	Showers, Good visibility, NW wind, F3
18/05/2021	Breeding	2	3	14:30	Showers, Good visibility, NW wind, F3
09/06/2021	Breeding	2	3	08:30	Dry, Good visibility, SE wind, F2
09/06/2021	Breeding	1	3	12:30	Dry, Good visibility, SE wind, F2
10/06/2021	Breeding	3	3	07:45	Dry, Good visibility, SW Wind, F3
10/06/2021	Breeding	4	3	12:30	Dry, Good visibility, SW Wind, F3
17/06/2021	Breeding	1	3	10:30	Showers, Good visibility, W wind, F3
17/06/2021	Breeding	2	3	15:00	Showers, Good visibility, W wind, F2
25/06/2021	Breeding	3	3	07:30	Dry, Good visibility, SW wind, F1
25/06/2021	Breeding	4	3	11:30	Dry, Good visibility, SW wind, F2
10/07/2021	Breeding	1	3	09:15	Dry, Good visibility, SW wind, F2
10/07/2021	Breeding	4	3	13:00	Dry, Good visibility, SW wind, F2
14/07/2021	Breeding	3	3	08:00	Dry, Good visibility, W wind, F2
14/07/2021	Breeding	2	3	12:15	Dry, Good visibility, W wind, F2
15/07/2021	Breeding	4	3	10:00	Dry, Good visibility, NW wind, F1
15/07/2021	Breeding	2	3	14:15	Dry, Good visibility, NW wind, F1
22/07/2021	Breeding	3	3	07:30	Excellent visibility, SW wind, F2
22/07/2021	Breeding	1	3	12:00	Excellent visibility, SW wind, F3
12/08/2021	Breeding	3	3	08:30	Dry, Good visibility, NE wind, F2

*Bord na Móna Breeding Bird Survey 2021: Derryarkin Group*

<b>Date</b>	<b>Observer</b>	<b>VP no.</b>	<b>Duration (hrs)</b>	<b>Start Time</b>	<b>Weather conditions</b>
12/08/2021	Breeding	1	3	13:00	Dry, Good visibility, NE wind, F3
13/08/2021	Breeding	2	3	09:30	Dry, Good visibility, E wind, F2
13/08/2021	Breeding	4	3	13:30	Dry, Good visibility, E wind, F2
23/08/2021	Breeding	1	3	08:45	Dry, Good visibility, SW wind, F4
23/08/2021	Breeding	4	3	12:45	Dry, Good visibility, SW wind, F3
24/08/2021	Breeding	3	3	10:00	Dry, Good visibility, SW wind, F1
24/08/2021	Breeding	2	3	14:00	Dry, Good, SW wind, F1
13/09/2021	Breeding	3	3	08:30	Occ showers, Good visibility, SW wind, F4
13/09/2021	Breeding	4	3	12:30	Dry, Good visibility, SW wind, F2
14/09/2021	Breeding	2	3	10:00	Dry, Good visibility, W wind, F3
14/09/2021	Breeding	1	3	14:00	Dry, Good visibility, W wind, F3
23/09/2021	Breeding	1	3	09:15	Dry, Good visibility, NW wind, F2
23/09/2021	Breeding	2	3	13:30	Dry, Good visibility, NW wind, F3
24/09/2021	Breeding	3	3	08:15	Showers, Good visibility, SW wind, F3
24/09/2021	Breeding	4	3	12:30	Showers, Good visibility, SW wind, F3

**APPENDIX 3**

**Summary of vantage point (VP) watch variables, Derryhinch Bog,  
April 2021 to September 2021**

Date	Season	VP no.	Duration (hrs)	Start Time	Weather conditions
25/04/2021	Breeding	1	3	08:00	Dry, Good visibility, SW wind, F2
25/04/2021	Breeding	2	3	12:15	Dry, Good visibility, SW wind, F2
26/04/2021	Breeding	2	3	09:30	Showers, Good visibility, SW wind, F3
26/04/2021	Breeding	1	3	14.00	Showers, Good visibility, SW wind, F3
23/05/2021	Breeding	1	3	07.15	Dry, Good visibility, S wind, F1
23/05/2021	Breeding	2	3	11.30	Dry, Good visibility, S wind, F2
24/05/2021	Breeding	2	3	08.45	Showers, Good visibility, SE wind, F3
24/05/2021	Breeding	1	3	14:30	Dry, Good visibility, SE wind, F3
20/06/2021	Breeding	2	3	07:30	Dry, Good visibility, W wind, F2
20/06/2021	Breeding	1	3	15:00	Dry, Good visibility, W wind, F2
24/06/2021	Breeding	1	3	10.00	Dry, Good visibility, NW wind, F3
24/06/2021	Breeding	2	3	14:00	Dry, Good visibility, NW wind, F3
28/07/2021	Breeding	1	3	08:45	Dry, Good visibility, SW wind, F1
28/07/2021	Breeding	2	3	13:30	Dry, Good visibility, SW wind, F2
29/07/2021	Breeding	1	3	07:15	Dry, Good visibility, SW wind, F2
29/07/2021	Breeding	2	3	11.30	Dry, Good visibility, SW wind, F2
20/08/2021	Breeding	2	3	11:30	Dry, Good visibility, NW wind, F2
20/08/2021	Breeding	1	3	16:00	Dry, Good visibility, NW wind, F2
27/08/2021	Breeding	1	3	08:00	Dry, Good visibility, W wind, F3
27/08/2021	Breeding	2	3	12:00	Dry, Good visibility, W wind, F3
25/09/2021	Breeding	1	3	09:15	Showers, Good visibility, SW wind, F3
25/09/2021	Breeding	2	3	14:30	Showers, Good visibility, SW wind, F3
26/09/2021	Breeding	1	3	07:30	Dry, Good visibility, S wind, F2
26/09/2021	Breeding	2	3	12:00	Dry, Good visibility, S wind, F2



**APPENDIX 4**

**Summary of vantage point (VP) watch variables, Ballybeg Bog,  
April 2021 to September 2021**

Date	Season	VP no.	Duration (hrs)	Start Time	Weather conditions
10/04/2021	Breeding	1	3	08:00	Showers, Good visibility, SW wind, F2
10/04/2021	Breeding	2	3	12:00	Showers, Good visibility, SW wind, F3
17/04/2021	Breeding	3	3	07:30	Showers, Good visibility, W wind, F3
17/04/2021	Breeding	1	3	14.30	Dry, Good visibility, W wind, F3
18/04/2021	Breeding	2	3	10:30	Dry, Good visibility, NW wind, F2
18/04/2021	Breeding	3	3	15.00	Showers, Good visibility, NW wind, F2
10/05/2021	Breeding	3	3	07.15	Dry, Good visibility, SE wind, F2
10/05/2021	Breeding	1	3	12.00	Dry, Good visibility, SE wind, F2
19/05/2021	Breeding	2	3	09:30	Showers, Good visibility, NW wind, F3
19/05/2021	Breeding	3	3	14:00	Dry, Good visibility, W wind, F2
23/05/2021	Breeding	1	3	07:45	Dry, Good visibility, SW wind, F3
23/05/2021	Breeding	2	3	12.30	Dry, Good visibility, SW wind, F3
11/06/2021	Breeding	1	3	10:00	Dry, Good visibility, E wind, F2
11/06/2021	Breeding	2	3	16:00	Dry, Good visibility, E wind, F2
12/06/2021	Breeding	3	3	08.15	Dry, Good visibility, SE wind, F1
12/06/2021	Breeding	2	3	13:00	Dry, Good visibility, SE wind, F2
26/06/2021	Breeding	1	3	09.00	Dry, Good visibility, SW wind, F3
26/06/2021	Breeding	3	3	13:00	Dry, Good visibility, SW wind, F3
12/07/2021	Breeding	2	3	07:45	Dry, Good visibility, S wind, F1
12/07/2021	Breeding	1	3	12:00	Dry, Good visibility, S wind, F2
19/07/2021	Breeding	3	3	09:30	Dry, Good visibility, SW wind, F3
19/07/2021	Breeding	2	3	13.30	Dry, Good visibility, SW wind, F3
24/07/2021	Breeding	1	3	08:15	Dry, Good visibility, SW wind, F2
24/07/2021	Breeding	3	3	12:15	Dry, Good visibility, SW wind, F3
08/08/2021	Breeding	3	3	07:30	Dry, Good visibility, SW wind, F2
08/08/2021	Breeding	2	3	11:30	Dry, Good visibility, SW wind, F2
15/08/2021	Breeding	1	3	10:00	Showers, Good visibility, W wind, F3
15/08/2021	Breeding	2	3	15:00	Dry, Good visibility, W wind, F3
21/08/2021	Breeding	1	3	08:00	Dry, Good visibility, NW wind, F2
21/08/2021	Breeding	3	3	12:00	Dry, Good visibility, NW wind, F2
08/09/2021	Breeding	2	3	09:30	Dry, Good visibility, NW wind, F2

*Bord na Móna Breeding Bird Survey 2021: Derryarkin Group*

<b>Date</b>	<b>Season</b>	<b>VP no.</b>	<b>Duration (hrs)</b>	<b>Start Time</b>	<b>Weather conditions</b>
08/09/2021	Breeding	1	3	14:00	Showers, Good visibility, NW wind, F3
09/09/2021	Breeding	3	3	07:15	Dry, Good visibility, SW wind, F3
09/09/2021	Breeding	2	3	12:00	Dry, Good visibility, SW wind, F3
19/09/2021	Breeding	3	3	11:00	Drizzle, Mod-good visibility, SE Wind, F3
19/09/2021	Breeding	1	3	15:00	Dry, Good visibility, SE Wind, F2

**APPENDIX 5**

**Vantage Point raw data & flight activity, Derryarkin Bog,  
April 2021 - September 2021**

Date	VP No	Map Reference	Species	No.	Flight Time	Flight Duration (s)	Band 1 (0-25m)	Band 2 (25-175m)	Band 3 (175+m)	Comments
15/04/2021	1	1	Little Egret	1	09.36	90	60	30	0	Flying - had probably been feeding in ponds
		2	Buzzard	1	10.04	120	30	90	0	Flying / hunting
15/04/2021	3	3	Kestrel	1	13.40	300	100	200	0	Male hunting very actively
22/04/2021	2	4	Peregrine	1	10.26	250	0	120	130	Bird circling & rising high
		5	Sparrow hawk	2	11.14	300	0	200	100	Pair in display
22/04/2021	1	6	Kestrel	1	15.15	90	30	60	0	Hunting
23/04/2021	2	7	Mute Swan	5	08:55	90	90	0	0	Party of imms flew in to pond (presumably from Drumman)
		8	Buzzard	1	10.13	120	30	90	0	Hunting
23/04/2021	3									No target species
12/05/2021	1	9	Sparrow hawk	1	08.54	20	20	0	0	Hunting in scrub
		10	Little Egret	1	10.10	60	30	30	0	Feeding bird up & flew towards Drumman
12/05/2021	2	11	Kestrel	1	12.18	180	90	90	0	Male hunting in gravel area
		12	Mute Swan	4	13.39	90	60	30	0	Flew up from pond
20/05/2021	3	13	Peregrine	1	11:54	60	0	60	0	Bird flew fast northwards
20/05/2021	2	14	Sparrow hawk	1	17.06	45	45	0	0	Female flying / hunting
21/05/2021	1	15	Buzzard	1	09.15	120	120	0	0	Bird actively hunting – dropped to ground & not seen again
		16	Buzzard	1	09:40	90	0	90	0	Flying – probably bird seen earlier
21/05/2021	3	17	Kestrel	1	13.40	120	120	0	0	Hunting low over ridge
08/06/2021	2	18	Peregrine	1	10.13	90	0	90	0	Bird flew across site – no interest in nest site
		19	Little	1	11:35	75	75	0	0	Feeding bird got up

*Bord na Móna Breeding Bird Survey 2021: Derryarkin Group*

Date	VP No	Map Reference	Species	No.	Flight Time	Flight Duration (s)	Band 1 (0-25m)	Band 2 (25-175m)	Band 3 (175+m)	Comments
			Egret							and flew towards cutaway bog
08/06/2021	1	20	Kestrel	1	15.09	180	60	120	0	Hunting along edge of track - female
22/06/2021	3	21	Buzzard	2	09.28	300	0	100	200	Circling – probable pair
22/06/2021	1									No target species
23/06/2021	2	22	Kestrel	1	09.18	120	90	30	0	Hunting along edge of lake – then dropped to ground
		23	Mute Swan	3	10.10	240	180	60	0	Left pond, circled and flew towards Drumman
23/06/2021	3	24	Kestrel	3	17:13	240	140	100	0	Hunting along edge of track then flew over conifers
09/07/2021	1	25	Sparrow hawk	1	08:50	210	0	210	0	Circling quite low
		26	Little Egret	2	10.11	180	180	0	0	Two got up and flew east then west
09/07/2021	2	27	Buzzard	1	13.14	90	0	90	0	Flying over conifers
16/07/2021	3	28	Kestrel	2	11.44	600	200	400	0	2 birds flying / hunting (one appeared juvenile)
16/07/2021	2									No target species
20/07/2021	1	29	Mute swan	5	09.12	180	80	100	0	Flew in and landed - all imms
		30	Sparrow hawk	3	09.48	500	0	200	300	Trio circling & rising – local breeders presumably
20/07/2021	3									No target species
10/08/2021	2	31	Peregrine	1	11.38	90	10	80	0	Bird along edge of lake – flew SW – probable male
		32	Kestrel	2	11.56	300	100	200	0	2 birds circling
10/08/2021	1									No target species
				60						
16/08/2021	3	33	Buzzard	4	10.40	600	0	200	400	Party of 4 circling & interacting, drifting
16/08/2021	1	34	Lapwing	50+	15.23	300	100	150	50	Flock drifted in and landed
		35	Kestrel	1	15.48	90	30	60	0	Male hunting - dropped



*Bord na Móna Breeding Bird Survey 2021: Derryarkin Group*

Date	VP No	Map Reference	Species	No.	Flight Time	Flight Duration (s)	Band 1 (0-25m)	Band 2 (25-175m)	Band 3 (175+m)	Comments
17/08/2021	2	36	Little Egret	1	10.14	60	60	0	0	Bird got up and flew to one of the smaller ponds
17/08/2021	3	37	Buzzard	1	15.00	45	0	45	0	Flying
10/09/2021	1	38	Lapwing	44	09.14	120	120	0	0	Flock got up and flew low towards fields
		39	Sparrow hawk	1	09.55	30	30	0	0	Hunting
10/09/2021	3	40	Lesser Black-backed Gull	32	16.09	300	180	120	0	Flock flew in towards quarry pond – roosting – mostly imms
20/09/2021	2	41	Lapwing	19	09.48	150	90	60	0	Flock edge of pond flew up towards 20 LBBGs on pond – mostly imms
		42	Kestrel	1	11.02	90	30	60	0	Hunting female
20/09/2021	1	43	Little Egret	1	14:15	60	20	40	0	Flew in, then feeding
21/09/2021	2									No target species
21/09/2021	3	44	Buzzard	2	15:24	180	60	120	0	Probable pair

**APPENDIX 6**

**Vantage Point raw data & flight activity, Drumman Bog,  
April 2021 - September 2021**

Date	V P N o	Map Referenc e	Species	No .	Flight Time	Flight Durati on (s)	Band 1 (0- 25m)	Band 2 (25- 175m)	Band 3 (175+ m)	Comments
12/04/ 2021	3	1	Buzzard	2	10:05	180	0	100	80	Pair circling
		2	Peregrin e	1	10.44	90	0	90	0	Male
12/04/ 2021	1	3	Kestrel	1	14:05	200	100	100	0	Hunting edge of track
		4	Mute Swan	3	15.46	90	90	0	0	
13/04/ 2021	2	5	Merlin	1	09.50	45	45	0	0	Male bird hunting thru scrub
		6	Buzzard	1	10.20	90	30	60	0	Flying
13/04/ 2021	4	7	Kestrel	1	15.32	120	60	60	0	Hunting edge of bog
19/04/ 2021	1	8	Sparrow hawk	2	09.35	300	0	200	100	Pair circling, rising over conifers
19/04/ 2021	4	9	Buzzard	1	13:24	90	0	90	0	Flying
20/04/ 2021	3	10	Kestrel	1	08.21	45	0	45	0	Flying
		11	Kestrel	1	09.32	120	60	60	0	Hunting
20/04/ 2021	2									No target species
07/05/ 2021	1	12	Lesser Black back gull	14	08:15	180	60	120	0	Roosting birds got up – mostly imms
		13	Sparrow hawk	1	10.00	30	30	0	0	Hunting
07/05/ 2021	2	14	Buzzard	1	12:45	120	0	120	0	Flying along margin
08/05/ 2021	3	15	Buzzard	2	10.52	300	0	100	200	Two interacting
08/05/ 2021	4	16	Kestrel	1	14:16	90	90	0	0	Hovering low then dropped
17/05/ 2021	3	17	Sparrow hawk	1	08.34	20	20	0	0	Hunting
17/05/ 2021	1	18	Mute Swan	4	13:14	120	100	20	0	Flew on to pond
		19	Merlin	1	15.15	45	45	0	0	Flew low along central track
18/05/ 2021	4									No target species
18/05/ 2021	2	21	Buzzard	1	14.57	60	0	60	0	Over conifers
		22	Sparrow	1	15.43	30	30	0	0	Male hunting

*Bord na Móna Breeding Bird Survey 2021: Derryarkin Group*

Date	V P N o	Map Referenc e	Species	No .	Flight Time	Flight Durati on (s)	Band 1 (0- 25m)	Band 2 (25- 175m)	Band 3 (175+ m)	Comments
			hawk							
09/06/ 2021	2	23	Mute Swan	3	09.01	75	50	25	0	Flew in to pond – 3 imms
09/06/ 2021	1	24	Kestrel	1	12:44	300	100	200	0	Flying / hunting
		25	Little Egret	1	14.03	120	120	0	0	Flew low onto ponds
		26	Buzzard	2	14.54	240	0	140	100	Rising, flew offsite
10/06/ 2021	3									No target species
10/06/ 2021	4	27	Sparrow hawk	1	14.35	180	0	100	80	Female circling
17/06/ 2021	1	28	Little Egret	1	11.25	90	60	30	0	Seen earlier on pond – got up, flew SW
		29	Buzzard	1	12.12	180	80	100	0	Hunting over quarry area
17/06/ 2021	2	30	Lesser Black back gull	9	16.24	120	0	120	0	Flying loosely – most appeared imms
25/06/ 2021	3	31	Kestrel	1	08.40	180	60	120	0	Hunting in quarry area
25/06/ 2021	4	32	Buzzard	1	12.45	45	0	45	0	Flew on and off site
10/07/ 2021	1	33	Peregrin e	1	10.05	90	0	0	90	Circling high
		34	Lesser black back gull	19	10.12	180	60	120	0	Roosting birds got up – all imms / sub ads
10/07/ 2021	4									No target species
14/07/ 2021	3	35	Buzzard	2	08.54	300	0	180	120	Pair interacting
		36	Sparrow hawk	1	10.14	180	0	180	0	Bird circling
14/07/ 2021	2	37	Kestrel	1	13.12	120	90	30	0	Bird hovering low
15/07/ 2021	4	38	Lesser Black backed gull	6	10.18	90	0	90	0	
		39	Sparrow hawk	3	11.11	300	60	180	60	Trio loosely associating & rising
15/07/ 2021	2	40	Buzzard	1	14:48	120	0	120	0	
22/07/ 2021	3	41	Mute swan	6	08.10	90	60	30	0	Got up from pond

*Bord na Móna Breeding Bird Survey 2021: Derryarkin Group*

Date	V P N o	Map Reference	Species	No .	Flight Time	Flight Duration (s)	Band 1 (0-25m)	Band 2 (25-175m)	Band 3 (175+m)	Comments
22/07/2021	1	42	Little egret	1	12.22	120	60	60	0	Bird may have been feeding and got up – landed at quarry ponds
		43	Buzzard	1	13.34	90	0	90	0	Flew out of site
12/08/2021	3	44	Buzzard	3	09.24	600	60	300	240	Trio interacting, drifting NW
12/08/2021	1	45	Sparrow hawk	2	15.09	240	0	240	0	Pair over conifers
		46	Lesser Black back Gull	24	15.48	300	100	200	0	Flock flew in to join c.40 roosting on ponds
13/08/2021	2									No target species
13/08/2021	4	47	Kestrel	1	14:04	120	30	90	0	Hunting male at VP
23/08/2021	1	48	Little Egret	1	09.20	45	0	45	0	Flying
		49	Mute Swan	7	09.50	60	40	20	0	Flew onto large pond
23/08/2021	4									No target species
24/08/2021	3	50	Sparrow hawk	1	11:22	45	45	0	0	Hunting thru scrub - female
24/08/2021	2	51	Kestrel	1	14:48	90	0	90	0	Hunting
		52	Buzzard	2	16.16	360	0	160	200	Circling / rising
13/09/2021	3	53	Kestrel	1	09.44	90	0	90	0	Male flying out of site
		54	Kestrel	1	10.08	300	200	100	0	Male hovering low – may have dropped
13/09/2021	4	55	Peregrine	1	14.01	180	0	80	100	Rising high over site
14/09/2021	2	56	Sparrow hawk	3	12.12	420	0	200	220	Trio interacting & rising high
14/09/2021	1	57	Lapwing	27	15.32	180	60	120	0	Loose flock flew in and settled on pond
		58	Little Egret	1	16.18	90	0	90	0	Seen feeding earlier
23/09/2021	1	59	Peregrine	1	09.54	120	0	120	0	Flew fast over site – probable male
		60	Buzzard	1	11.04	60	60	0	0	Hunting low along edge of wood
23/09/2021	2									No target species



*Bord na Móna Breeding Bird Survey 2021: Derryarkin Group*

<b>Date</b>	<b>V P N o</b>	<b>Map Referenc e</b>	<b>Species</b>	<b>No .</b>	<b>Flight Time</b>	<b>Flight Durati on (s)</b>	<b>Band 1 (0- 25m)</b>	<b>Band 2 (25- 175m)</b>	<b>Band 3 (175+ m)</b>	<b>Comments</b>
24/09/ 2021	3	61	Lapwing	12	09.21	90	30	60	0	Presumably landed on pond
		62	Sparrow hawk	1	09.53	30	30	0	0	Female hunting
24/09/ 2021	4	63	Buzzard	2	13.12	180	0	90	90	Offsite
		64	Lapwing	9	14.15	120	0	120	0	

APPENDIX 7

Vantage Point raw data & flight activity, Derryhinch Bog,  
April 2021 – September 2021

Date	V P N o	Map Ref.	Species	N o.	Flight Time	Flight Durati on (s)	Band 1 (0- 25m)	Band 2 (25- 175m)	Band 3 (175+ m)	Comments
25/04/ 2021	1	1	Kestrel	1	09.23	240	90	150	0	Hunting male bird
25/04/ 2021	2	2	Sparrow hawk	2	12.56	300	0	100	200	Pair circling over wood
		3	Buzzard	1	14.13	90	0	90	0	Flew off site
26/04/ 2021	2									No target species
26/04/ 2021	1	4	Buzzard	2	15.15	180	0	120	60	Probable pair
		5	Peregrine	1	15.55	120	0	120	0	Flew across site – probable male
23/05/ 2021	1	6	Kestrel	1	09.07	60	60	0	0	Hovering low, then dropped
23/05/ 2021	2	7	Peregrine	1	11.54	60	15	45	0	Perched bird (female) got up and flew east
		8	Buzzard	1	12.35	180	60	120	0	Flew in - hunted
24/05/ 2021	2									No target species
24/05/ 2021	1	9	Kestrel	1	15.45	120	0	120	0	Male flying
20/06/ 2021	2	10	Peregrine	1	08.56	180	0	100	80	Bird circling / gliding
		11	Kestrel	1	10.08	180	0	180	0	Hunting along edge & motorway
20/06/ 2021	1	12	Kestrel	1	15.39	60	60	0	0	Hovering low
24/06/ 2021	1	13	Sparrow hawk	1	10.44	20	20	0	0	Hunting
		14	Sparrow hawk	1	10.56	30	30	0	0	Hunting – probable same bird
24/06/ 2021	2	15	Buzzard	1	14.51	240	0	100	140	Circling
28/07/ 2021	1	16	Sparrow hawk	3	09.48	300	0	100	200	Trio rising
		17	Buzzard	1	10.34	120	0	120	0	Flying
28/07/ 2021	2	18	Kestrel	1	15.01	180	60	120	0	Flying / hunting

*Bord na Móna Breeding Bird Survey 2021: Derryarkin Group*

Date	V P N o	Map Ref.	Species	N o.	Flight Time	Flight Duration (s)	Band 1 (0-25m)	Band 2 (25-175m)	Band 3 (175+m)	Comments
				1	15.42	90	90	0	0	
29/07/2021	1	19	Buzzard	3	09.18	600	0	250	350	Trio rising / calling
29/07/2021	2									No target species
20/08/2021	2	20	Kestrel	1	11.54	120	90	30	0	Hovering low
		21	Sparrow hawk	1	13.40	20	20	0	0	Hunting
20/08/2021	1	22	Sparrow hawk	1	16.29	120	0	60	60	Circling
27/08/2021	1	23	Kestrel	1	09.05	180	60	120	0	Hunting
		24	Peregrine	1	10.14	90	0	90	0	Flew over east sector
27/08/2021	2	25	Buzzard	3	13.40	300	0	200	300	Circling / interacting
25/09/2021	1	26	Lapwing	12	09.40	120	30	90	0	Roosting flock on bare peat got up
		27	Buzzard	7	11.25	600	0	300	300	Loose flock circling over edge of site & motorway
25/09/2021	2	28	Buzzard	2	14.55	180	0	120	60	Two circling
26/09/2021	1	29	Lesser Black-backed gull	11	07.46	180	60	120	0	Roosting flock got up – mostly imms & sub-ads
		30	Kestrel	1	09.09	60	60	0	0	Hovering low - male
26/09/2021	2	31	Sparrow hawk	1	12.43	30	30	0	0	Hunting thru scrub

APPENDIX 8

Vantage Point raw data & flight activity, Ballybeg Bog,  
April 2021 – September 2021

Date	V P N o	Map Ref.	Species	N o.	Flight Time	Flight Durati on (s)	Band 1 (0- 25m)	Band 2 (25- 175m)	Band 3 (175+ m)	Comments
10/04/ 2021	1	1	Kestrel	1	09.40	90	45	45	0	Hovering at old pits
		2	Sparrow hawk	2	10.44	300	0	180	120	Pair rising
10/04/ 2021	2									No target species
17/04/ 2021	3	3	Kestrel	1	09.10	60	0	60	0	Flying
				1	09.28	180	60	120	0	
17/04/ 2021	1									No target species
18/04/ 2021	2	4	Buzzard	2	11.10	300	50	150	100	Probably pair
		5	Kestrel	1	11.34	90	60	30	0	Male hunting
18/04/ 2021	3	6	Buzzard	1	15.54	120	0	120	0	Flying
10/05/ 2021	3	7	Kestrel	1	08.43	120	60	60	0	Male hunting along track Cuckoo calling Swallows
10/05/ 2021	1	8	Peregrine	1	13:14	90	0	90	0	Flying north
		9	Sparrow hawk	1	14.24	20	20	0	0	Hunting in scrub
19/05/ 2021	2	10	Buzzard	1	09.56	120	0	120	0	Flying / hunting
19/05/ 2021	3									No target species
23/05/ 2021	1	11	Mute Swan	3	08.32	90	0	90	0	3 imms
		12	Buzzard	1	10.11	150	30	120	0	Circling / hunting
23/05/ 2021	2	13	Sparrow hawk	1	14.16	120	0	120	0	Probable female circling
11/06/ 2021	1	14	Buzzard	1	11.12	180	90	90	0	Low over scrub – dropped to ground
11/06/ 2021	2	15	Buzzard	1	16.34	90	0	90	0	Flying
		16	Kestrel	1	17.15	120	30	90	0	Hovering
12/06/ 2021	3	17	Sparrow hawk	1	09.34	300	0	150	150	Bird circling & rising high
12/06/ 2021	2									No target species



Bord na Móna Breeding Bird Survey 2021: Derryarkin Group

Date	V P N o	Map Ref.	Species	N o.	Flight Time	Flight Durati on (s)	Band 1 (0- 25m)	Band 2 (25- 175m)	Band 3 (175+ m)	Comments
26/06/ 21	1	18	Little Egret	1	11.07	90	90	0	0	Flew low – may have landed along river c.50 sand martins overhead
26/06/ 21	3	19	Kestrel	1	14.32	120	60	60	0	Hunting along margin – female type
12/07/ 2021	2	20	Buzzard	2	09.04	300	0	150	150	Probable pair rising high
		21	Lapwing	7	10.25	180	60	120	0	Loose flock (local breeders) south (Cavemount ?)
12/07/ 2021	1									No target species – lots (100s) of hirundines
19/07/ 2021	3	22	Buzzard	1	10.22	120	0	120	0	Flew across site
		23	Mute swan	3	10.38	90	90	0	0	Flew low parallel to canal – looked like adults
19/07/ 2021	2	24	Kestrel	1	13.54	60	60	0	0	Hunting off site
24/07/ 2021	1	25	Kestrel	2	09.40	600	150	300	150	Two interacting – one prob. Juv – partly offsite
		26	Sparrow hawk	1	10.34	30	30	0	0	Hunting
24/07/ 2021	3									No target species
08/08/ 2021	3	27	Kestrel	1	08.14	120	30	90	0	Flying edge of track
08/08/ 2021	2	28	Buzzard	3	13.09	720	0	300	420	Trio interacting – family group.
		29	Buzzard	1	13.49	60	60	0	0	Flying low
15/08/ 2021	1	30	Kestrel	1	10.32	45	15	30	0	Perched on side of line – got up and out
15/08/ 2021	2									No target species
21/08/ 2021	1	31	Lapwing	6	08.17	120	120	0	0	Flying low north
		32	Sparrow hawk	3	10.30	660	0	200	460	Trio (presumed as & young) rising
21/08/ 2021	3	33	Mute Swan	1	12.43	145	0	145	0	Flew over pylons - adult
		34	Kestrel	1	14.14	120	30	90	0	Hovering near/at pylon

*Bord na Móna Breeding Bird Survey 2021: Derryarkin Group*

Date	V P N o	Map Ref.	Species	N o.	Flight Time	Flight Durati on (s)	Band 1 (0- 25m)	Band 2 (25- 175m)	Band 3 (175+ m)	Comments
08/09/ 2021	1	35	Kestrel	3	10.17	300	100	200	0	Adult with 2 juvs – interacting
08/09/ 2021	2	36	Peregrine	1	16.15	90	0	90	0	Flew out of site
		37	Kestrel	1	16.43	60	60	0	0	Male hunting along edge of scrub
09/09/ 2021	3	38	Sparrow hawk	1	09.09	30	30	0	0	Hunting male
09/09/ 2021	2									No target species
19/09/ 2021	3	39	Buzzard	1	11.52	120	120	0	0	Bird hunting low over bog off site
19/09/ 2021	1	40	Kestrel	1	16.06	90	0	90	0	Flying
		41	Buzzard	1	16.26	45	45	0	0	Flew onto adjoining bog

## **APPENDIX 9**

### **Breeding Status Codes as used in Bird Atlas**

All codes for **Possible**, **Probable** and **Confirmed** Breeding have to relate to individuals in **potentially suitable nesting habitat**.

#### **Non-breeding**

- F** Flying over
- M** Species observed but suspected to be still on **M**igration
- U** Species observed but suspected to be **sU**mmerring non-breeder

#### **Possible breeder**

- H** Species observed in breeding season in suitable nesting **H**abitat
- S** **S**inging male present (or breeding calls heard) in breeding season in suitable breeding habitat

#### **Probable breeding**

- P** **P**air observed in suitable nesting habitat in breeding season
- T** **P**ermanent **T**erritory presumed through registration of territorial behaviour (song etc) on at least two different days a week or more apart at the same place or many individuals on one day
- D** **C**ourtship and **D**isplay (judged to be in or near potential breeding habitat; be cautious with wildfowl)
- N** **V**isiting probable **N**est site
- A** **A**gitated behaviour or anxiety calls from adults, suggesting probable presence of nest or young nearby
- I** **B**rood patch on adult examined in the hand, suggesting **I**ncubation
- B** **N**est **B**uilding or excavating nest-hole

#### **Confirmed breeding**

- DD** **D**istraction-**D**isplay or injury feigning
- UN** **U**sed **N**est or eggshells found (occupied or laid within period of survey)
- FL** **R**ecently **F**ledged young (nidicolous species) or downy young (nidifugous species). Careful consideration should be given to the likely provenance of any fledged juvenile capable of significant geographical movement. Evidence of dependency on adults (e.g. feeding) is helpful. Be cautious, even if the record comes from suitable habitat.
- ON** **A**dults entering or leaving nest-site in circumstances indicating **O**ccupied **N**est (including high nests or nest holes, the contents of which can not be seen) or adults seen incubating
- FF** **A**dult carrying **F**aecal sac or **F**ood for young
- NE** **N**est containing **E**ggs
- NY** **N**est with **Y**oung seen or heard

## APPENDIX 10

### Scientific Names of Bird Species

Little Grebe	<i>Tachybaptus ruficollis</i>
Great Crested Grebe	<i>Podiceps cristatus</i>
Grey Heron	<i>Ardea cinerea</i>
Little Egret	<i>Egretta garzetta</i>
Mute Swan	<i>Cygnus olor</i>
Whooper Swan	<i>Cygnus cygnus</i>
Teal	<i>Anas crecca</i>
Wigeon	<i>Anas penelope</i>
Mallard	<i>Anas platyrhynchos</i>
Tufted Duck	<i>Aythya fuligula</i>
Buzzard	<i>Buteo buteo</i>
Hen Harrier	<i>Circus cyaneus</i>
Sparrowhawk	<i>Accipiter nisus</i>
Kestrel	<i>Falco tinnunculus</i>
Merlin	<i>Falco columbarius</i>
Peregrine	<i>Falco peregrinus</i>
Moorhen	<i>Gallinula chloropus</i>
Pheasant	<i>Phasianus colchicus</i>
Water Rail	<i>Rallus aquaticus</i>
Ringed Plover	<i>Charadrius hiaticula</i>
Golden Plover	<i>Pluvialis apricaria</i>
Lapwing	<i>Vanellus vanellus</i>
Snipe	<i>Gallinago gallinago</i>
Woodcock	<i>Scolopax rusticola</i>
Curlew	<i>Numenius arquata</i>
Black-headed Gull	<i>Chroicocephalus ridibundus</i>
Long-eared Owl	<i>Asio otus</i>
Woodpigeon	<i>Columba palumbus</i>
Skylark	<i>Alauda arvensis</i>
Meadow Pipit	<i>Anthus pratensis</i>
Pied Wagtail	<i>Motacilla alba</i>
Wren	<i>Troglodytes troglodytes</i>
Robin	<i>Erithacus rubecula</i>
Stonechat	<i>Saxicola torquata</i>
Blackbird	<i>Turdus merula</i>
Fieldfare	<i>Turdus pilaris</i>
Song Thrush	<i>Turdus philomelos</i>
Mistle Thrush	<i>Turdus viscivorus</i>
Goldcrest	<i>Regulus regulus</i>
Coal Tit	<i>Parus ater</i>
Blue Tit	<i>Parus caeruleus</i>
Great Tit	<i>Parus major</i>
Magpie	<i>Pica pica</i>
Hooded Crow	<i>Corvus corone</i>
Raven	<i>Corvus corax</i>
Starling	<i>Sturnus vulgaris</i>
Chaffinch	<i>Fringilla coelebs</i>
Goldfinch	<i>Carduelis carduelis</i>



*Bord na Móna Breeding Bird Survey 2021: Derryarkin Group*

Siskin

Linnet

Lesser Redpoll

Bullfinch

Reed Bunting

*Carduelis spinus*

*Carduelis cannabina*

*Carduelis flammea*

*Pyrrhula pyrrhula*

*Emberiza schoeniclus*