

Survey Site, Rathcoole, Co. Dublin

Wintering Bird Report

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This report describes work commissioned by James Phelan, on behalf of South Dublin County Council, by an email dated 17/12/2020. William Mulville and Malin Lundberg of JBA Consulting carried out this work.

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Purpose

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Contents

1	Introduction	4
1.1	Background	4
1.2	Site Location	5
2	Methodology	6
2.1	Policy and legislation.....	6
2.2	Desktop Study - Wintering Bird Data Collection	6
2.3	Wintering Bird Surveys.....	6
2.3.1	GIS Mapping	7
2.4	Constraints and Limitations.....	7
3	Result of Desktop Study and Wintering Bird Surveys	8
3.1	Desktop study	8
3.2	Wintering Bird Surveys.....	9
3.2.1	Surveying Environment.....	9
3.2.2	Wintering Bird Survey Results.....	10
3.2.3	Observations of Protected BD Annex and Qualifying Interest Species	11
3.2.4	Observations of Birds of Conservation Concern	12
4	Discussion and Conclusion	14
4.1	BoCCI: Amber List - Breeding / BD Annex Species	14
4.2	BoCCI: Amber and Red List - Wintering Species	14
4.2.1	Amber List (QI species).....	14
4.2.2	Red List.....	14
4.3	Recommended Operational Mitigations for Redwing	14
4.4	Conclusion	15

List of Figures

Figure 1-1:	Site location.....	5
Figure 3-1:	Immature woodland located within the western section of the site.....	9
Figure 3-2:	The natural dry grassland area, with surrounding scrub, to the east of the site	10
Figure 3-3:	Birds of conservation concern & BD Annex / QI species recorded during the surveys	13

List of Tables

Table 1-1:	Natura 2000 SPA sites, their distance from site and respective QI bird species	4
Table 3-1:	Bird species of conservation concern within 5km of the site (NBDC, 2021; JBA 2021)	8
Table 3-2:	Wintering bird survey results for the 2020-2021 winter period.....	10

Abbreviations

BD	Birds Directive
BoCCI	Birds of Conservation Concern Ireland
CIEEM	Chartered Institute of Ecology and Environmental Management
DoEHLG	Department of the Environment, Heritage and Local Government
EC	European Community
EclA	Ecological Impact Assessment
EIA	Environmental Impact Assessment
EU	European Union
GIS	Geographical Information System
GPS	Global Positioning System
NBDC	National Biodiversity Data Centre
NPWS	National Parks and Wildlife Services
NRA	National Roads Authority
SDCC	South Dublin County Council

1 Introduction

JBA Consulting was commissioned by South Dublin County Council to provide baseline wintering bird surveys that will inform any future EclA and EIA Screening/EIAR of any future development proposal that is brought forward on the survey site.

1.1 Background

Wintering bird surveys are required at this survey site as all bird species are protected under the Wildlife Act (1976 and subsequent amendments) in Ireland and there is the potential for wintering bird species to take up residence within this area during the winter period. Furthermore, the Qualifying Interest bird species from the Dublin Bay and Wicklow Mountains Special Protection Areas (SPAs) (Table 1-1 below), which are afforded international protections from EU Birds Directive, must also be considered within the scope of these surveys, as these species may use the site as lay over location during winter migrations, whether local, national or international.

Table 1-1: Natura 2000 SPA sites, their distance from site and respective QI bird species

Natura 2000 SPA sites	QI Bird Species	Distance from site
Wicklow Mountains SPA [004040]	- Merlin <i>Falco columbarius</i> [A098] - Peregrine <i>Falco peregrinus</i> [A103]	10.4km
Poulaphouca Reservoir SPA [004063]	- Greylag Goose <i>Anser anser</i> [A043] - Lesser Black-backed Gull <i>Larus fuscus</i> [A183]	10.5km
South Dublin Bay and River Tolka Estuary SPA [004024]	- Light-bellied Brent Goose <i>Branta bernicla hrota</i> [A046] - Oystercatcher <i>Haematopus ostralegus</i> [A130] - Ringed Plover <i>Charadrius hiaticula</i> [A137] - Grey Plover <i>Pluvialis squatarola</i> [A141] - Knot <i>Calidris canutus</i> [A143] - Sanderling <i>Calidris alba</i> [A144] - Dunlin <i>Calidris alpina</i> [A149] - Bar-tailed Godwit <i>Limosa lapponica</i> [A157] - Redshank <i>Tringa totanus</i> [A162] - Black-headed Gull <i>Chroicocephalus ridibundus</i> [A179] - Roseate Tern <i>Sterna dougallii</i> [A192] - Common Tern <i>Sterna hirundo</i> [A193] - Arctic Tern <i>Sterna paradisaea</i> [A194]	17.2km
North Bull Island SPA [004006]	- Light-bellied Brent Goose <i>Branta bernicla hrota</i> [A046] - Teal <i>Anas crecca</i> [A052] - Pintail <i>Anas acuta</i> [A054] - Shoveler <i>Anas clypeata</i> [A056] - Oystercatcher <i>Haematopus ostralegus</i> [A130] - Golden Plover <i>Pluvialis apricaria</i> [A140] - Grey Plover <i>Pluvialis squatarola</i> [A141] - Knot <i>Calidris canutus</i> [A143] - Sanderling <i>Calidris alba</i> [A144] - Dunlin <i>Calidris alpina</i> [A149] - Black-tailed Godwit <i>Limosa limosa</i> [A156] - Bar-tailed Godwit <i>Limosa lapponica</i> [A157] - Eurasian Curlew <i>Numenius arquata</i> [A160] - Redshank <i>Tringa totanus</i> [A162] - Turnstone <i>Arenaria interpres</i> [A169] - Black-headed Gull <i>Chroicocephalus ridibundus</i> [A179]	20.2km

1.2 Site Location

The survey site is located along the south-east border of Rathcoole town (Figure 1-1). The neighbouring town of Saggart is located 100m east of the site. The River Camac system drains the lands within and surrounding the site as it flows north towards the N7 (approx. 250m north of the site).

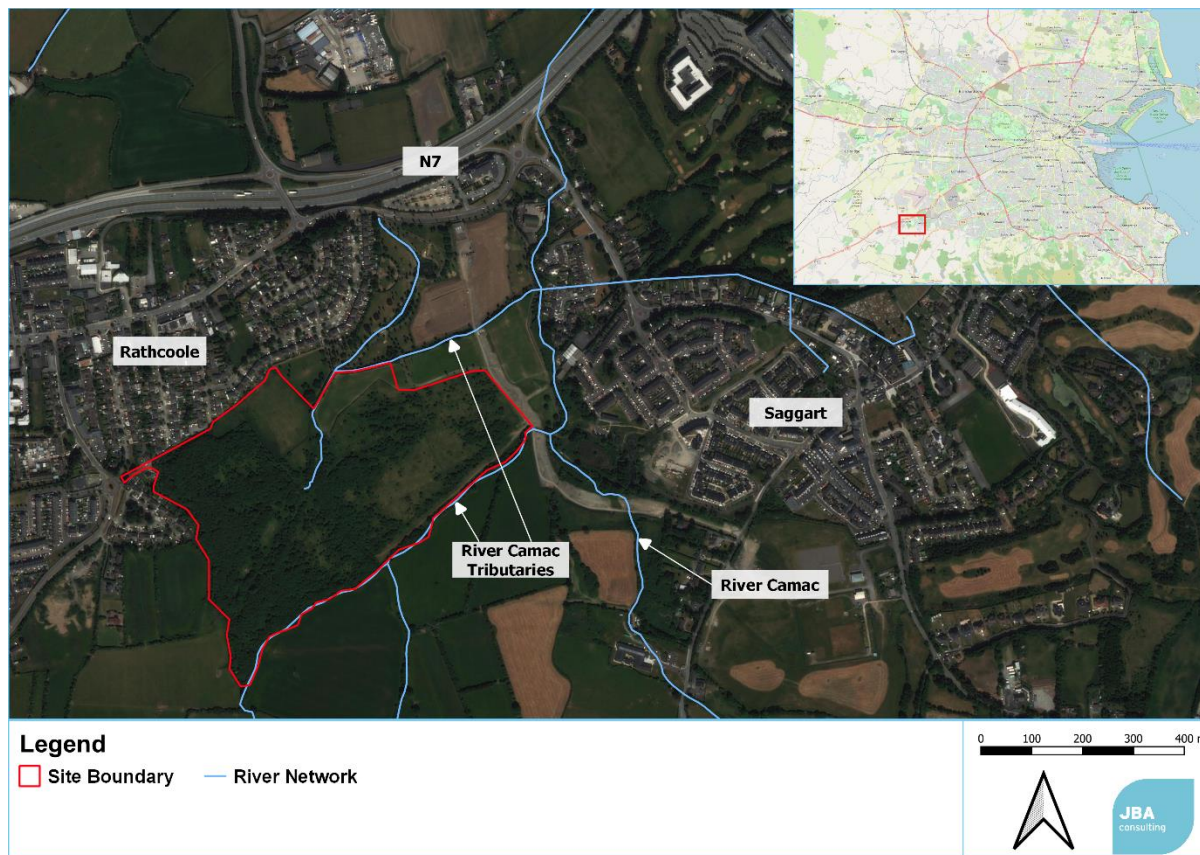


Figure 1-1: Site location

2 Methodology

This section provides details of the survey methodology used, the relevant guidelines followed and any relevant existing data. Conclusions in Section 1 were determined based on the above and on empirical evidence gained from the surveys.

2.1 Policy and legislation

Policies and European / national legislation relevant to the carrying out of the Wintering Bird Report are listed below:

- EC Birds Directive (2009/147/EC)
- EC Habitats Directive (92/43/EC)
- 1976 Wildlife Act and Wildlife (Amendment) Acts (2000 & 2010) and revision 2018
- Conservation of Habitat and Species Regulations 2017 (as amended)

2.2 Desktop Study - Wintering Bird Data Collection

Prior to the field surveys, a desk-based assessment was carried out to collate information regarding protected bird species in, or within close proximity to, the study area. This included a data search for protected and notable bird species using the National Biodiversity Data Centre Mapping System (National Biodiversity Data Centre, 2021). A customised polygon was created to extract all the bird species data from the local area.

Information on protected bird species from Wicklow and Dublin designated sites including Special Protection Areas (SPAs), Ramsar Sites, Natural Heritage Areas (NHAs) and proposed NHAs (pNHA) was collected from the online resources provided by the National Parks and Wildlife Service (NPWS).

The following reports and online resources were consulted during this process:

- NPWS (2019a). The Status of EU Protected Habitats and Species in Ireland. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.
- NPWS (2019b). The Status of EU Protected Habitats and Species in Ireland. Habitats Assessment Volume 2. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.
- Online data available on wintering bird species as held by the National Parks and Wildlife Service (NPWS, 2021) from www.npws.ie;
- National Biodiversity Data Centre – Species Distribution Maps; Available online at www.biodiversityireland.ie Accessed on various dates;
- Birds of Conservation Concern in Ireland 2020- 2026 (Gilbert et al., 2021);
- International Union for Conservation of Nature and Natural Resources (IUCN) Red List of Threatened Species (available online at <http://www.iucnredlist.org>).

2.3 Wintering Bird Surveys

The survey methodology was designed to determine the wintering bird community within the site. The main objectives of the field surveys were to identify and record all birds present within the study area with particular emphasis on Birds of Conservation Concern and any Annex species listed on the EU Birds Directive.

The Wintering Bird surveys, four in total as per SDCC request, were conducted on the following dates:

- 17 December 2020 (optimal survey period)
- 14 January 2021 (optimal survey period)
- 09 February 2021 (optimal survey period)
- 23 March 2021 (sub-optimal survey period)

A combination of stationary and roving styled wintering bird surveying was conducted by JBA Ecologists, William Mulville, Malin Lundberg and Eilis Hogan, within the survey site.

Surveying techniques were in line with those outlined in the Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes (NRA, 2008).

2.3.1 GIS Mapping

The location of any wintering bird species noted during these surveys was recorded using a high-resolution GPS / GIS software application (QField / QGIS). All recorded GPS and GIS field data was compiled into digitised geospatial files for the purpose of high-quality mapping, to be used within this report.

2.4 Constraints and Limitations

Data from biological records centres or online databases is historical information, and datasets might be incomplete, inaccurate or missing. It is important to note that even where data is held, a lack of records for a defined geographical area does not necessarily mean that the species is absent; the area may simply be under-recorded.

The conclusion of this report necessarily relies on some assumptions and it is inevitably subject to some limitations. Most of these would not affect the conclusion but the following points are recorded and taken into consideration during the assessment to ensure the basis of the assessment is clear:

- The scrub and immature woodland landscape limited the surveyors' ability to view the majority of the site at any one time, potential resulting in missed recordings of bird species of note.
- One sub-optimal wintering bird surveying month (November) from winter 2020-2021 period, was not surveyed as commission for these works began in December 2020.

3 Result of Desktop Study and Wintering Bird Surveys

3.1 Desktop study

A general desktop study utilising relevant verified resources (e.g. NBDC and JBA reports within the local area) was conducted to highlight all bird species of conservation concern, which has been recorded within 5km radius of the site in the last 10 years. While the study and following surveys focused on wintering bird species, bird species that were either protected under the EU Birds Directive (BD) or noted as having declining breeding populations were also considered within the scope of this report.

Table 3-1 below lists the bird species recorded within a 5km radius of the site (5km polygon circle mapped around the site, sourcing data from 10km Grid tiles - N92, N92, O02 and O03) and splits them into the relevant categories of concern / protection.

Table 3-1: Bird species of conservation concern within 5km of the site (NBDC, 2021; JBA 2021)

Bird Species	Amber List	Red List	Birds Directive
Barn Swallow <i>Hirundo rustica</i>	Breeding*	-	-
Black-headed Gull [^] <i>Larus ridibundus</i>	Breeding* & Wintering	-	-
Common Coot <i>Fulica atra</i>	Breeding* & Wintering	-	Annexes II & III
Common Goldeneye <i>Bucephala clangula</i>	-	Wintering	Annex II
Common Kestrel <i>Falco tinnunculus</i>	-	Breeding*	-
Common Linnet <i>Carduelis cannabina</i>	Breeding*	-	-
Common Pheasant <i>Phasianus colchicus</i>	-	-	Annexes II & III
Common Snipe <i>Gallinago gallinago</i>	-	Breeding* & Wintering	Annexes II & III
Common Starling <i>Sturnus vulgaris</i>	Breeding*	-	-
Common Swift <i>Apus apus</i>	-	Breeding*	-
Common Wood Pigeon <i>Columba palumbus</i>	-	-	Annexes II & III
Eurasian Curlew <i>Numenius arquata</i>	-	Breeding* & Wintering	Annex II
Eurasian Teal <i>Anas crecca</i>	Breeding* & Wintering	-	Annexes II & III
Eurasian Tree Sparrow <i>Passer montanus</i>	Breeding*	-	-
Great Crested Grebe <i>Podiceps cristatus</i>	Breeding* & Wintering	-	-
Grey Wagtail <i>Motacilla cinerea</i>	-	Breeding*	-
Herring Gull <i>Larus argentatus</i>	Breeding* & Wintering	-	-
House Martin <i>Delichon urbicum</i>	Breeding*	-	-
House Sparrow <i>Passer domesticus</i>	Breeding*	-	-
Mallard <i>Anas platyrhynchos</i>	Breeding* & Wintering	-	Annexes II & III
Meadow Pipit <i>Anthus pratensis</i>	Breeding*	-	-
Mute Swan <i>Cygnus olor</i>	Breeding* & Wintering	-	-
Northern Lapwing <i>Vanellus vanellus</i>	-	Breeding* & Wintering	Annex II
Northern Wheatear <i>Oenanthe oenanthe</i>	Breeding*	-	-
Redwing <i>Turdus iliacus</i>	-	Wintering	-

Bird Species	Amber List	Red List	Birds Directive
Rock Pigeon <i>Columba livia</i>	-	-	Annex II
Sand Martin <i>Riparia riparia</i>	Breeding*	-	-
Skylark <i>Alauda arvensis</i>	Breeding*	-	Annex II
Tufted Duck <i>Aythya fuligula</i>	Breeding* & Wintering	-	Annexes II & III
Yellowhammer <i>Emberiza citrinella</i>	-	Breeding*	-

[^] = **Black-headed Gull is not currently a BD Annex species but is a QI of both Dublin Bay SPAs**

^{*} = **Only potential breeding status within the site**

The above list provided JBA Ecologists a base of expected protected bird species to find on site, allowing the surveyors to familiarise themselves with the preferred roosting and foraging habitats of each individual species.

3.2 Wintering Bird Surveys

3.2.1 Surveying Environment

JBA Ecologists conducted dynamic roving and stationary surveying styles across a range of habitats, though the site area was typically dominated by immature woodland (Figure 3-1) and dry grassland (Figure 3-2 overleaf) with transitional scrubland bordering these habitats, which was comprised of tree saplings, Bramble *Rubus fruticosus* agg. and Gorse *Ulex europaeus*. The immature woodland was dominated by tree species such as Willow *Salix* spp. as well as Silver Birch *Betula pendula* and Ash *Fraxinus excelsior*. The immature woodland also contained a stream and a series of drainage ditches, as well as a groundwater spring towards the south-western corner of the site.

These varied habitats resulted in a clear geospatial relationship between specific habitats and bird species observed.



Figure 3-1: Immature woodland located within the western section of the site



Figure 3-2: The natural dry grassland area, with surrounding scrub, to the east of the site

3.2.2 Wintering Bird Survey Results

The data collected by JBA Ecologists during the 2020-2021 wintering bird surveys is displayed below (Table 3-2). This table is unfiltered and displays information (the maximum number of individuals recorded within a single sighting and total within a survey) on all bird species observed, regardless of legal protections or levels of conservation concern. The raw survey data, including behaviours, can be view in Appendix A.

Table 3-2: Wintering bird survey results for the 2020-2021 winter period

Date	17/12/20	14/01/21	09/02/21	23/03/21
Weather Conditions	Sun / cloud (11°C) 20km/h S wind	Sun / cloud (7°C) 22km/h NW wind	Snow (1°C) 33km/h E wind	Sun / cloud (9°C) 28km/h SW wind
Bird Species	(Max./Total)	(Max./Total)	(Max./Total)	(Max./Total)
Blackbird <i>Turdus merula</i>	2 / 7	3 / 13	3 / 19	2 / 8
Black-headed Gull <i>Chroicocephalus ridibundus</i>	1 / 1	3 / 4	-	-
Blue Tit <i>Cyanistes caeruleus</i>	1 / 1	1 / 2	1 / 1	-
Bullfinch <i>Pyrrhula pyrrhula</i>	-	-	8 / 10	2 / 4
Buzzard <i>Buteo buteo</i>	-	-	-	1 / 1
Chaffinch <i>Fringilla coelebs</i>	-	1 / 2	-	-
Coal Tit <i>Periparus ater</i>	-	1 / 1	-	-
Collared Dove <i>Streptopelia decaocto</i>	-	-	-	2 / 2
Dunnock <i>Prunella modularis</i>	-	-	-	1 / 1
Great Tit	4 / 8	1 / 1	-	2 / 6

Date	17/12/20	14/01/21	09/02/21	23/03/21
Weather Conditions	Sun / cloud (11°C) 20km/h S wind	Sun / cloud (7°C) 22km/h NW wind	Snow (1°C) 33km/h E wind	Sun / cloud (9°C) 28km/h SW wind
Bird Species	(Max./Total)	(Max./Total)	(Max./Total)	(Max./Total)
<i>Parus major</i>				
Grey Heron <i>Ardea cinerea</i>	-	-	-	1 / 1
Herring Gull <i>Larus argentatus</i>	2 / 3	1 / 2	-	-
Hooded Crow <i>Corvus cornix</i>	1 / 1	-	1 / 2	-
House Sparrow <i>Passer domesticus</i>	-	1 / 1	4 / 4	-
Jackdaw <i>Coloeus monedula</i>	2 / 2	-	-	-
Long-tailed Tit <i>Aegithalos caudatus</i>	4 / 4	4 / 4	-	-
Magpie <i>Pica pica</i>	2 / 3	2 / 7	1 / 3	2 / 11
Meadow Pipit <i>Anthus pratensis</i>	-	-	-	25 / 26
Redwing <i>Turdus iliacus</i>	-	-	5 / 9	-
Robin <i>Erithacus rubecula</i>	1 / 1	1 / 5	2 / 10	2 / 7
Rook <i>Corvus frugilegus</i>	5 / 12	3 / 8	6 / 14	3 / 12
Song Thrush <i>Turdus philomelos</i>	-	-	2 / 2	-
Sparrowhawk <i>Accipiter nisus</i>	-	1 / 1	-	-
Starling <i>Sturnus vulgaris</i>	-	-	1 / 1	-
Wood Pigeon <i>Columba palumbus</i>	1 / 2	5 / 7	2 / 5	4 / 20
Wren <i>Troglodytes troglodytes</i>	2 / 2	1 / 2	1 / 1	1 / 2

3.2.3 Observations of Protected BD Annex and Qualifying Interest Species

Of the bird species recorded on site by JBA Ecologists during the 2020-2021 winter period, two bird species with European legal protections were observed. These species are as follows:

- Wood Pigeon - BD Annex II & III species
- Black-headed Gull - QI species of Dublin Bay SPA sites

Both bird species were previously identified during the desktop study as potential inhabitants of the site. Figure 3-3 overleaf displays the locations where these birds were recorded during the surveys. Specific habitat utilisation by individual species is clearly evident with Wood Pigeon predominantly occupying the immature woodland areas, while Black-headed Gull are associated with managed grasslands and adjacent urban areas.

3.2.4 Observations of Birds of Conservation Concern

Of the bird species recorded on site by JBA Ecologists during the 2020-2021 winter period, six species of conservation concern were observed. These species are as follows:

- House Sparrow - BoCCI: Amber List - Breeding*
- Meadow Pipit - BoCCI: Amber List - Breeding*
- Starling - BoCCI: Amber List - Breeding*
- Redwing - BoCCI: Red List - Wintering
- Black-headed Gull - BoCCI: Amber List - Breeding* & Wintering
- Herring Gull - BoCCI: Amber List - Breeding* & Wintering

*** = Only potential breeding status within the site**

All six of these bird species were previously identified during the desktop study as potential inhabitants of the site. In addition to the mapping of the protected Wood Pigeon, Figure 3-3 overleaf also displays the locations where these birds of conservation concern were recorded during the surveys. Specific habitat utilisation by individual species is clearly evident with Meadow Pipit and Redwing utilising the natural grasslands and bordering scrub; while House Sparrow; Starling; Black-headed Gull and Herring Gull are associated with managed grasslands and adjacent urban areas.

The wintering species, namely Redwing, Black-headed Gull and Herring Gull, were not consistently recorded during wintering bird season, with Redwing only present in small group numbers during the February, while the gull species were only recorded in small numbers during December and January. Behaviourally, Redwing were observed perched in scrub / trees on the edge of the immature woodland, occasionally landing to forage in adjacent dry grassland areas. Redwing have been previously documented taking refuge in and around immature woodland areas during harsh weather, which is in line with the snowy weather conditions recorded during the February survey. Black-headed Gull and Herring Gull were observed roosting /resting or in-flight in the northern grassland areas.



Legend

- | | | | |
|------------------|--------------------------------|------------------------------|---------------------------|
| □ Site Boundary | ● Meadow Pipit | BoCCI - Breeding & Wintering | BD Annex II & III Species |
| BoCCI - Breeding | ● Starling | △ Black-headed Gull | + Wood Pigeon |
| ● House Sparrow | BoCCI - Wintering Bird Species | ▲ Herring Gull | |
| ★ Redwing | | | |

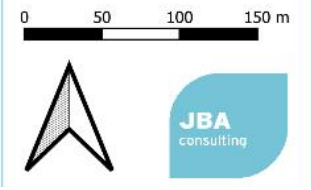


Figure 3-3: Birds of conservation concern & BD Annex / QI species recorded during the surveys

4 Discussion and Conclusion

4.1 BoCCI: Amber List - Breeding / BD Annex Species

House Sparrow, Starling, Meadow Pipit and Wood Pigeon are all likely frequent residents of the site year-round, potentially nesting within the site. A dedicated breeding bird survey is recommended in order to establish baseline data on these breeding species so that the impact of the development of the site can be assessed and suitably mitigated against.

4.2 BoCCI: Amber and Red List - Wintering Species

4.2.1 Amber List (QI species)

Although Black-headed Gull and Herring Gull breeding populations have improved in Ireland (downgraded from Red to Amber), their wintering populations have now been added to the BoCCI Amber list (Gilbert et al., 2021). Furthermore, the SPA QI status of the Black-headed Gull adds to level of impact considerations for this species. These gull species were only recorded in low numbers within northern areas of the site; and were likely small outliers of the main flocks which were observed in green amenity areas to the north of the site.

In regard to impacts from any future development, while there will be temporary physical, noise and visual disturbance during the construction phase, there are ample green areas to the north of the site to accommodate for the temporary displacement of these small numbers of Black-headed Gull and Herring Gull frequenting the site. Operational impacts from the development on these gull species is not anticipated given their well-documented adaptability to utilise urbanised areas with green spaces.

4.2.2 Red List

Wintering Redwing populations have recently been reassessed and as a result have been given a Red List status (Gilbert et al., 2021). While Redwing were only recorded in small numbers during the month of February, this newly elevated Red List status makes them the wintering bird species of most concern within the site. It should also be noted that the Redwing likely utilise the majority of the immature woodland and adjacent dry grassland (excluding sections directly adjacent to urbanised areas) within the site, as well as the agricultural grasslands to the south-east and south-west of the site.

The development of this site will give rise to potential adverse impacts on Redwing, from both the construction and operational phases; given that Redwing will be subject to temporary physical, noise and visual disturbance during the construction phase; and habitat loss during the operational phase, as Redwing generally display aversive behaviour towards urbanised areas. The magnitude and extent of these adverse impacts will be dependent on the nature and scale of the development within the site, as well as its accompanying mitigation measures.

4.3 Recommended Operational Mitigations for Redwing

The operational mitigation for Redwing should be based solely on the prioritised retention of existing immature woodland and natural grassland over additional amenity grassland space. The natural grassland areas provide insect-based foraging grounds for Redwings during the winter, while the immature woodland provides refuge and foraging opportunities during harsh winter weather, as documented during the surveys. Ideally, this retained area would be a non-linear, block section of immature woodland set aside from the core development area, preferably the southern pointed border section of the site (approx. 1 hectare), with a linear section of unmanaged grassland along its northern fringe. From this area, Redwing would then be able to forage in all areas surrounding the immature woodland refuge, as well as the foraging opportunities provided by the immature woodland ground floor. The provision of this retained immature woodland area will mean that wintering Redwing will not have to navigate through aversive urban areas to reach a harsh winter weather refuge. In this case, block retention of immature woodland was chosen over linear, as block sections of immature woodland provide greater insulative characteristics in terms of extreme winter weather events and anthropogenic disturbance. These greater insulative characteristics are provided by the physical diversity of canopy, understorey, shrub and ground vegetative layers. Furthermore, pedestrian walkways should not dissect this retained area, as human disturbance will discourage its use by Redwing.

4.4 Conclusion

As mentioned above there is a clear need for dedicated breeding bird surveys to be conducted on site, during the months of April to June, so that impacts on breeding bird populations of concern can be identified and ameliorated through suitable mitigations measure within the scope of the over-arching ecological assessment for the Rathcoole Masterplan development.

In regard to the wintering bird species of conservation concern (Redwing, Black-headed Gull and Herring), the data from these surveys and identification of potential construction and operational impacts on these species from any future developments within this site, must be examined within the scope of the over-arching ecological assessment when designing appropriate mitigations measures for these species.

A Raw Wintering Bird Survey Data

Bird Species	No.	Date	Behaviour
Great Tit	1	17/12/2020	Perched
Blackbird	1	17/12/2020	Foraging
Wood Pigeon	1	17/12/2020	Perched
Rooks	5	17/12/2020	Perched
Magpie	1	17/12/2020	Perched
Wood Pigeon	1	17/12/2020	In-flight
Great Tit	2	17/12/2020	Perched / In-flight
Wren	1	17/12/2020	Perched
Blackbird	2	17/12/2020	In-flight
Great Tit	4	17/12/2020	Perched
Robin	1	17/12/2020	Foraging
Hooded Crow	1	17/12/2020	Perched / In-flight
Herring Gull	2	17/12/2020	Roosting / In-flight
Rooks	4	17/12/2020	Perched
Wren	2	17/12/2020	Perched
Rooks	3	17/12/2020	In-flight
Long-tailed Tit	4	17/12/2020	Perched
Blackbird	1	17/12/2020	Foraging
Jackdaw	2	17/12/2020	Perched / In-flight
Black-headed Gull	1	17/12/2020	Roosting / In-flight
Magpie	2	17/12/2020	Foraging
Blue Tit	1	17/12/2020	Perched
Blackbird	1	17/12/2020	Perched / In-flight / Foraging
Blackbird	2	17/12/2020	Foraging
Great Tit	1	17/12/2020	Perched / In-flight
Herring Gull	1	17/12/2020	Roosting / In-flight
Blue Tit	1	14/01/2021	Perched
Herring Gull	1	14/01/2021	Roosting
Blackbird	1	14/01/2021	Perched / In-flight
Robin	1	14/01/2021	In-flight
Magpie	1	14/01/2021	Perched / In-flight
Long-tailed Tit	4	14/01/2021	Perched
Blackbird	1	14/01/2021	Foraging
Robin	1	14/01/2021	Foraging
Blackbird	1	14/01/2021	Perched / In-flight
Robin	1	14/01/2021	Perched
Robin	1	14/01/2021	In-flight
Wood Pigeon	1	14/01/2021	Foraging
Magpie	1	14/01/2021	Perched
Magpie	1	14/01/2021	Perched / In-flight

Bird Species	No.	Date	Behaviour
Herring Gull	1	14/01/2021	Roosting
Blue Tit	1	14/01/2021	Perched
Blackbird	2	14/01/2021	Foraging
Magpie	1	14/01/2021	Perched / In-flight
Chaffinch	1	14/01/2021	Perched
Blackbird	2	14/01/2021	In-flight
Rook	2	14/01/2021	In-flight
Wren	1	14/01/2021	Perched
Black-headed Gull	3	14/01/2021	Roosting
Wren	1	14/01/2021	Foraging
Robin	1	14/01/2021	Perched / In-flight / Foraging
Rook	1	14/01/2021	Perched
Black-headed Gull	1	14/01/2021	Roosting
Sparrowhawk	1	14/01/2021	Perched / Active hunting
Magpie	2	14/01/2021	Perched
Blackbird	1	14/01/2021	Foraging
Chaffinch	1	14/01/2021	Perched
Rook	3	14/01/2021	Perched
Blackbird	1	14/01/2021	In-flight
Wood Pigeon	1	14/01/2021	Perched
House Sparrow	1	14/01/2021	Foraging
Great Tit	1	14/01/2021	Perched
Wood Pigeon	5	14/01/2021	Perched
Magpie	1	14/01/2021	In-flight
Blackbird	1	14/01/2021	Perched / In-flight
Rook	2	14/01/2021	Perched
Coal Tit	1	14/01/2021	Perched / In-flight
Blackbird	3	14/01/2021	Foraging
Blackbird	2	09/02/2021	Foraging
Wood Pigeon	1	09/02/2021	Perched
Robin	1	09/02/2021	In-flight
Blackbird	1	09/02/2021	Perched
Wood Pigeon	1	09/02/2021	Perched
Blackbird	2	09/02/2021	In-flight
Long-tailed Tit	2	09/02/2021	Perched
Bullfinch	8	09/02/2021	Perched
Blackbird	2	09/02/2021	Perched
Blackbird	1	09/02/2021	In-flight
Rook	1	09/02/2021	Perched / In-flight
Robin	2	09/02/2021	Foraging
Wren	1	09/02/2021	Foraging
Rook	6	09/02/2021	In-flight

Bird Species	No.	Date	Behaviour
Magpie	1	09/02/2021	Perched / In-flight
Robin	1	09/02/2021	Foraging
Blackbird	1	09/02/2021	Perched / In-flight
Bullfinch	2	09/02/2021	Perched / In-flight / Foraging
Wood Pigeon	2	09/02/2021	Perched / In-flight
Rook	1	09/02/2021	In-flight
Rook	1	09/02/2021	In-flight
Magpie	1	09/02/2021	Perched / In-flight
Song Thrush	2	09/02/2021	Foraging
Redwing	4	09/02/2021	Perched / In-flight
Hooded Crow	1	09/02/2021	In-flight
Robin	1	09/02/2021	Perched
Redwing	5	09/02/2021	Perched / In-flight / Foraging
Starling	1	09/02/2021	Perched
Robin	1	09/02/2021	Perched / In-flight
House Sparrow	4	09/02/2021	Foraging
Robin	1	09/02/2021	Perched
Rook	1	09/02/2021	In-flight
Blackbird	1	09/02/2021	Perched
Rook	2	09/02/2021	Perched / In-flight
Blackbird	1	09/02/2021	Foraging
Wood Pigeon	1	09/02/2021	Foraging
Hooded Crow	1	09/02/2021	Perched
Blackbird	1	09/02/2021	In-flight
Magpie	1	09/02/2021	Perched
Blue Tit	1	09/02/2021	Perched / In-flight
Blackbird	1	09/02/2021	Foraging
Rook	2	09/02/2021	Perched / In-flight
Blackbird	2	09/02/2021	Perched
Robin	1	09/02/2021	In-flight
Blackbird	1	09/02/2021	Perched / In-flight / Foraging
Blackbird	3	09/02/2021	Perched / In-flight
Robin	2	09/02/2021	Perched
Collared Dove	2	23/03/2021	Perched / In-flight
Magpie	1	23/03/2021	Perched
Robin	1	23/03/2021	Perched / In-flight
Rook	1	23/03/2021	In-flight
Blackbird	1	23/03/2021	In-flight
Wood Pigeon	4	23/03/2021	Perched
Wood Pigeon	1	23/03/2021	In-flight
Blackbird	1	23/03/2021	Perched

Bird Species	No.	Date	Behaviour
Wood Pigeon	1	23/03/2021	Perched
Wood Pigeon	1	23/03/2021	In-flight
Wood Pigeon	1	23/03/2021	Perched
Great Tit	2	23/03/2021	Foraging
Wood Pigeon	3	23/03/2021	Perched
Wren	1	23/03/2021	Perched / In-flight
Wood Pigeon	2	23/03/2021	In-flight
Rook	1	23/03/2021	Perched
Magpie	1	23/03/2021	Foraging
Wood Pigeon	1	23/03/2021	Perched / In-flight
Robin	1	23/03/2021	Perched
Blackbird	1	23/03/2021	In-flight
Dunnock	1	23/03/2021	Perched / In-flight
Wren	1	23/03/2021	Perched
Great Tit	2	23/03/2021	Perched / In-flight
Wood Pigeon	1	23/03/2021	Perched
Robin	1	23/03/2021	Perched / In-flight / Foraging
Rook	2	23/03/2021	Perched
Magpie	1	23/03/2021	In-flight
Robin	1	23/03/2021	Perched
Buzzard	1	23/03/2021	Perched / In-flight
Magpie	1	23/03/2021	Perched
Meadow Pipit	1	23/03/2021	Perched / In-flight
Wood Pigeon	1	23/03/2021	Foraging
Rook	1	23/03/2021	Perched
Wood Pigeon	1	23/03/2021	In-flight
Great Tit	1	23/03/2021	Foraging
Bullfinch	2	23/03/2021	Perched / In-flight
Blackbird	1	23/03/2021	Perched / In-flight
Blackbird	1	23/03/2021	In-flight
Rook	1	23/03/2021	Perched
Meadow Pipit	25	23/03/2021	Perched / In-flight
Bullfinch	1	23/03/2021	Perched / In-flight / Foraging
Wood Pigeon	1	23/03/2021	Foraging
Great Tit	1	23/03/2021	Perched
Rook	3	23/03/2021	Perched / In-flight
Blackbird	2	23/03/2021	Perched / In-flight
Robin	1	23/03/2021	Perched / In-flight
Magpie	2	23/03/2021	In-flight
Bullfinch	1	23/03/2021	Foraging
Grey Heron	1	23/03/2021	In-flight

Bird Species	No.	Date	Behaviour
Rook	1	23/03/2021	Perched
Magpie	2	23/03/2021	Perched / In-flight
Robin	2	23/03/2021	Foraging
Wood Pigeon	1	23/03/2021	Foraging
Magpie	2	23/03/2021	Perched
Blackbird	1	23/03/2021	Perched / In-flight / Foraging
Wood Pigeon	1	23/03/2021	Perched / In-flight
Rook	2	23/03/2021	In-flight
Magpie	1	23/03/2021	Perched / In-flight

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