

# ECOLOGICAL IMPACT ASSESSMENT

Ballyross BESS

794-NI-P&E-02964  
Ballyross BESS  
April 2025  
A01

REPORT

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
F01	For Client Review	DMH	RW	J. McCrory	17.04.25

Approval for issue

J. McCrory



April 2025

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## SUMMARY

RPS was commissioned by Renewable Energy Systems (RES) to produce an Ecological Impact Assessment (EclA) to support a planning application for a proposed Battery Energy Storage System (BESS) on land at 34 Ballyvallagh Road, Larne.

The proposed project involves the construction of an appropriate maximum 120MW BESS facility, including the construction of battery enclosures, PCS/inverter units, associated substation infrastructure, access tracks, drainage systems and other ancillary works.

The EclA includes the results of consultation, a desk study and an Extended Phase 1 Habitat Survey to identify potential impacts associated with the proposed project; to evaluate the likely significance of effects; to implement the mitigation hierarchy; and to highlight potential opportunities for ecological enhancement.

The site of the proposed project is approximately 6.6 ha in size and consists of improved grassland, bare ground, poor improved grassland, species rich hedgerow, species poor hedgerow and hedgerow with trees, marshy grassland, running water, dry drainage ditches, fencing and walls.

The site of the proposed project is not located within the boundary of any statutory or non-statutory designated sites of international, national or local nature conservation importance. The site is hydrologically connected to Ardsley SLNCI, Slimero Mountain Wet Grassland SLNCI, Carneal ASSI, Glynn Woods ASSI, Larne Lough Ramsar, Larne Lough SPA, East Coast marine SPA, The Maidens SAC, North Channel SAC, Larne Lough ASSI, Glynn Woods ASSI and Swan Island NNR.

The following mitigation measures will be implemented in order to avoid and/ or reduce negative effects on the ecological environment:

The proposed project has been designed to improve the hedgerow and grassland habitats available within the application site, through meadow seed planting and compensatory hedgerow & treeline planting.

All construction works will be carried out in accordance with DAERA Pollution Prevention Guidance (DAERA, 2024). A 10 m land buffer will be maintained between all construction works and nearby watercourses in order to avoid and/or minimise adverse effects from pollution and runoff. In addition, a Construction Environmental Management Plan (CEMP) and Shadow Habitats Regulations Assessment (sHRA) have been prepared for the site and detail methods for reducing impact on waterbodies from sedimentation and potential hydrocarbon spills.

The proposed project will have **Significant Negative Impact** on the ecological features identified within the site due to the design of the proposed project. However, with the implementation of mitigation measures there will be a **No Significant Impact** on biodiversity at a site level with the an increase hedgerow and grassland species diversity.

# 1 INTRODUCTION

RPS was commissioned by RES to produce an Ecological Impact Assessment (EcIA) to support a planning application for a proposed BESS installation on land at 34 Ballyvallyagh Road, Larne.

## 1.1 Ecological Impact Assessment

EcIA is the process of identifying, quantifying and evaluating the potential effects of a proposed project on ecological features based on objective assessment of the best information available (CIEEM, 2018). An ecological feature is defined as a species, habitat or ecosystem that has the potential to be affected by a proposed project.

The aim of the EcIA is therefore to describe the existing ecological environment within and surrounding the proposed project; to identify important ecological features; to identify the potential impacts associated with the proposed project; to evaluate the likely significance of effects on the important ecological features; to apply the mitigation hierarchy to avoid, mitigate and compensate for significant ecological effects; to highlight potential opportunities for ecological enhancement; and to set out requirements for post-construction monitoring (CIEEM 2018).

The EcIA has been written in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) *Guidelines for Ecological Impact Assessment in the UK and Ireland* (CIEEM 2018).

## 1.2 Proposed Project

The proposed project involves the construction of an appropriate maximum 120MW BESS facility, including the construction of battery enclosures, PCS/inverter units, associated substation infrastructure, access tracks, drainage systems and other ancillary works. The location of the site and the red line boundary are illustrated in **Figure 1.0 Site Location**.

## **2 LEGISLATION & PLANNING POLICY**

### **2.1 International Directives**

#### **Ramsar Convention on Wetlands of International Importance (1971)**

The principal aims of the Convention are to halt the worldwide loss of wetlands and to provide a framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. The provisions of the Convention underlie the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985 (as amended).

#### **Bern Convention on Conservation of European Wildlife and Natural Habitats (1979)**

The principal aims of the Convention are to ensure the conservation and protection of wild plants and animal species, with particular emphasis on endangered and vulnerable species and their natural habitats. The provisions of the Convention underlie the Wildlife (Northern Ireland) Order 1985, the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985 and the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended).

#### **Bonn Convention on Conservation of Migratory Species of Wild Animals (1979)**

The principal aims of the Convention are to conserve migratory species and their habitats by providing strict protection for endangered migratory species. The provisions of the Convention underlie the Wildlife (Northern Ireland) Order 1985 and the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended).

#### **Council Directive on the Conservation of Natural Habitats of Wild Fauna and Flora (92/43/EEC) (The Habitats Directive)**

The main aim of the Directive is to promote the maintenance of biodiversity through the conservation of natural habitats and wild species listed on the Annexes of the Directive. The provisions of the Directive underlie the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended).

#### **Convention on Biological Diversity (1993)**

The principal aims of the Convention are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising from the use of genetic resources. The provisions of the Convention underlie the Wildlife and Natural Environment Act (Northern Ireland) 2011 which introduced new provisions and amendments to the Wildlife (Northern Ireland) Order 1985 (as amended).

#### **Council Directive on the Conservation of Wild Birds (2009/147/EC) (The Birds Directive)**

The Directive provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. It makes provisions for the maintenance of the wild bird populations across their natural range; conserves the habitats for rare or vulnerable species listed in Annex I and of migratory species through the classification of SPAs and provides protection for all wild birds. The provisions of the Directive underlie the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended).

## **2.2 Northern Ireland Legislation**

### **The Wildlife (Northern Ireland) Order 1985 (as amended)**

The Order prohibits the intentional killing, taking or injuring of certain wild birds or wild animals; or the intentional destruction, uprooting or picking of certain wild plants. It also allows for the establishment of Wildlife Refuges (akin to Nature Reserves) for the special protection of certain species of rare plants or animals.

### **Nature Conservation and Amenity Lands (Northern Ireland) Order 1985 (as amended)**

The Order provides for the establishment of National Nature Reserves (NNRs), Nature Reserves (NRs) and Marine Nature Reserves (MNRs). It also provides for the designation and formulation of proposals for National Parks and Areas of Outstanding Natural Beauty (AONBs).

### **Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended)**

The Regulations promote the maintenance of biodiversity through the conservation of natural habitats and wild species listed in the Annexes of the Council Directive on the Conservation of Natural Habitats of Wild Fauna and Flora (92/43/EEC) (The Habitats Directive) and the Council Directive on the Conservation of Wild Birds (2009/147/EC) (The Birds Directive). The Regulations require measures to maintain or restore, at favourable conservation status, biodiversity whilst taking account of economic, social, cultural requirements and regional and local characteristics. They give effect to site and species protection measures through establishment of the UK national site network and designation of European Sites including Special Areas of Conservation (SAC) and Special Protection Areas (SPA). They also establish a list of species (other than birds) whose habitats must be protected to secure their survival. These priority species and habitats are subject to a higher level of protection. The Regulations also requires appropriate assessment of any plan or project not directly connected with or necessary to the management of a European site, but likely to have significant effects upon a European site, either individually or in combination with other plans or projects.

### **Environment (Northern Ireland) Order 2002**

The Order provides for the designation, management and protection of Areas of Special Scientific Interest (ASSIs). ASSIs may be designated for important geology and landforms as well as for wildlife and habitats. The legislation repeals Part VI of the Nature Conservation and Amenity (Northern Ireland) Order 1985.

### **Wildlife and Natural Environment Act (Northern Ireland) 2011**

The Act makes provision about biodiversity; amends the Wildlife (Northern Ireland) Order 1985 and Part 4 of the Environment (Northern Ireland) Order 2002; abolishes game licences and game dealers' licences; prohibits hare coursing events and amends the Game Preservation Act (Northern Ireland) 1928.

### **Marine Act (Northern Ireland) 2013 (The Marine Act)**

The Marine Act establishes a network of Marine Protected Areas (MPA) in the inshore region of Northern Ireland, which comprises of the territorial sea out to twelve nautical miles, including all tidal rivers and sea loughs (including Lough Foyle and Carlingford Lough, that contributes to the conservation and improvement of the marine environment in the UK marine area.



## Invasive Alien Species (Enforcement and Permitting) Order (Northern Ireland) 2019 (as amended)

The Order imposes strict restrictions on a list of species known as ‘species of special concern’. Species whose potential adverse impacts are such that concerted action is required. Restrictions mean that (subject to certain defences or exemptions) species of special concern cannot be imported into the United Kingdom, kept, bred, transported, placed on the market, used or exchanged, allowed to reproduce, grown or cultivated, or released into the environment.

### 2.3 Northern Ireland Planning Policy

#### Strategic Planning Policy Statement for Northern Ireland (SPPS) 2015

The SPPS consolidates all planning policy in Northern Ireland and sets out strategic planning policy. The regional strategic objectives for natural heritage are delivered through regional strategic policies that must be taken into account in the determination of planning applications. Table 1 below provides a summary of regional strategic policies for natural heritage.

**Table 1 Northern Ireland Strategic Policy for Natural Heritage**

<b>International Designations</b>	<p>Planning permission will only be granted for a project proposal that, either individually or in combination with existing and/or proposed plans or projects, is not likely to have a significant effect on a European Site or Ramsar site.</p> <p>A project proposal which could adversely affect the integrity of a European or Ramsar site may only be permitted in exceptional circumstances as laid down in the relevant statutory provisions.</p>
<b>National Designations</b>	<p>Planning permission will only be granted for a project proposal that is not likely to have an adverse effect on the integrity, including the value of the site to the habitat network, or special interest of an ASSIs, NRs, NNRs or MCZs.</p> <p>A project proposal which could adversely affect any of the above-mentioned sites of national importance may only be permitted where the benefits of the proposed project clearly outweigh the value of the site. In such cases, appropriate mitigation and/or compensatory measures will be required.</p>
<b>Local Designations</b>	<p>A project proposal which could have a significant adverse impact on a site of local importance should only be permitted where the benefits of the proposed project outweigh the value of the site. In such cases, appropriate mitigation and/or compensatory measures shall be required.</p>
<b>Protected Species</b>	<p>Planning permission will only be granted for a project proposal that is not likely to harm a European Protected Species. In exceptional circumstances a project proposal that is likely to harm these species may only be permitted where:</p> <ul style="list-style-type: none"> <li>• there are no alternative solutions; and</li> <li>• it is required for imperative reasons of overriding public interest; and</li> <li>• there is no detriment to the maintenance of the population of the species at a favourable conservation status; and</li> <li>• compensatory measures are agreed and fully secured.</li> </ul> <p>Planning permission will only be granted for a project proposal that is not likely to harm any other statutorily protected species (including National Protected Species) and which can be adequately mitigated or compensated against.</p>
<b>Other Habitats, Species or Features of Natural Heritage Importance</b>	<p>Planning permission should only be granted for a project proposal which is not likely to result in the unacceptable adverse impact on, or damage to known:</p> <ul style="list-style-type: none"> <li>• priority habitats;</li> <li>• priority species;</li> <li>• active peatland;</li> <li>• ancient and long-established woodland;</li> <li>• features of earth science conservation importance;</li> <li>• features of the landscape which are of major importance for wild flora and fauna;</li> </ul>

- rare or threatened native species;
- wetlands (includes river corridors); or
- other natural heritage features worthy of protection, including trees and woodland.

A project proposal which is likely to result in an unacceptable adverse impact on, or damage to, habitats, species or features listed above may only be permitted where the benefits of the proposed project outweigh the value of the habitat, species or feature. In such cases, appropriate mitigation and/or compensatory measures will be required.

## Development Plans

### Mid & East Antrim Council Local Development Plan

Mid & East Antrim Borough Council Local Development Plan (LDP, 2023) aims to inform the public, statutory authorities, service providers, developers and other parties of the policy frameworks and land use proposals that will implement the strategic objectives set out in the Regional Development Strategy.

Key draft planning policies for the conservation, protection and enhancement of natural heritage include:

- Economic Objectives
  - *“To provide a generous supply and choice of sites for business and employment uses so as to assist in promoting sustainable economic growth in Mid and East Antrim and in meeting the locational needs of particular sections, including new and emerging sectors”*
- Social Objectives
  - *“To support rural communities by providing appropriate opportunities for sustainable development in the countryside.*
  - *“To delivery quality residential environments (including associated public open space and linkages to green infrastructure networks)”*
- Environmental Objectives
  - *“To protect, conserve and where possible enhance environmental quality, biodiversity and the natural processes underpinning the delivery of ecosystem services in Mid and East Antrim”*
  - *“To protect areas of high-quality landscape within the borough, especially those which are designated within the Antrim Coast and Glens ASSI*
  - *“To protect sites designated for their nature conservation or scientific importance and to avoid harm to protected species”*
  - *“To safeguard the unique character and amenity of our coastline (particularly the undeveloped coast), loughs and the main river corridors”*
  - *“To protect conserve and where possible enhance our historic environment, including the full suite of heritage assets associated with the historical evolution of Mid and East Antrim”*
  - *“To avoid new development in areas known to be at risk of significant flooding, coastal change or land instability”[...]*
  - *“To contribute towards climate change mitigation and adaption measures [...]*
  - *“To promote and facilitate the use of energy [...] resources in an efficient and sustainable manner”*

## 2.4 Local Biodiversity Action Plans

The site of proposed project is located within land covered by the Mid and East Antrim Local Biodiversity Action Plan which highlights the priority habitats, priority species and key threats to biodiversity within the council area and outlines action to ensure their protection and enhancement.

### **Broad habitats selected for priority action include:**

- *“Lagoons in Larne Lough. Commission surveys of flora and fauna of coastal lagoons in Larne Lough. Information obtained about the lagoon at Larne will be used to contribute to development plans for this site.”*
- *“Blanket bog. Assist RSPB and Northern Ireland Water in monitoring water levels at blanket bog at Garron as part of the Sustainable Catchment Management Plan.”*
- *“Lowland raised bog. Work in partnership with NIEA and the Biodiversity Officer for the Causeway Coast and Glens council cluster to investigate options for managing water levels at Lowland raised bogs by the River Maine.”*
- *“Ancient woodland. Contribute to the study and promotion of hazel/ash woodland throughout Mid and East Antrim and ancient woodland and parkland at Glenarm.”*
- *“Wet grassland. Examine ways of managing the wet grasslands at Ecos including rush control, grazing and grass cutting and the removal of willow biomass plantations”*

### **Species for selected for priority action include:**

- *“Red squirrel. Support the Glens Red Squirrel Group in setting up new local groups in Mid and East Antrim.”*
- *“Black guillemot. Develop a partnership among individuals and organisations to survey and promote black guillemot nesting at man-made structures along the Antrim coast from Carrickfergus to Garron including the important colony at Glenarm Harbour.”*
- *“Swift. Develop partnerships to identify and monitor swift breeding sites and investigate the possibility of installing swift nesting boxes in urban areas in Mid and East Antrim”*
- *“Common newt. Monitor the newt population in the pond at Glenravel Community Park, Martinstown and provide advice and assistance in managing vegetation in the pond. “*
- *“White-clawed crayfish. Support the conservation of crayfish in the upper reaches of the Six Mile Water”*
- *“To work in partnership with volunteers to map the distribution of rare plant and tree species, monitor and where appropriate discuss with NIEA and landowners’ options for site management and propagation through collecting seed or taking cuttings and transplanting to suitable sites.*
  - *Species selected for initial action: Irish whitebeam, reported from sites in the Glenarm/Garron area.*
  - *Juniper, found at sites along the east Antrim cliffs.*
  - *One-sided wintergreen, reported from upland cliffs including Cranny Burn.*
  - *Bog-rosemary, present at Sharvogues Bog.*
  - *Sea kale, recently noted on beaches near Garron and Glenarm.*
  - *Rock samphire, found on rocky beaches near Garron.*
  - *Wood crane’s-bill, present at Glenarm and Feystown Nature Reserves.*
  - *Wood bitter-vetch, present at a road bank by Ballyboley Forest.*
  - *Wood vetch, found mainly near the coast in County Antrim.*
  - *Hare’s foot clover, present by the coast path near Blackhead.*
  - *Bristly oxtongue, found by the path to Blackhead.”*

## 3 METHODOLOGY

### 3.1 Statement of Authority

The report has been approved for issue by James McCrory, Technical Director of Ecology with RPS. James holds a BA (Hons) in Natural Sciences (Mod) Botany and a MSc in Habitat Creation and Management. James is a Chartered Environmentalist (CEnv), a Chartered Ecologist (CEcol), a Chartered Biologist (CBiol) and a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and the Royal Society of Biology (MRSB). James is a former member of the CIEEM Irish Section Committee and CIEEM Policy Review Group in Ireland and a member of the CIEEM technical working group updating the Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland. James currently sits on the CIEEM technical working group for EcIA accreditation across the Institutes practitioner network.

The report has been reviewed and edited by Roisin Ward, a Senior Ecologist within RPS and holds a BSc (Hons) in Land Use and Environmental Management and has over 10 years of experience in environmental and ecological consultancy. Roisin has extensive experience of ecological field survey including habitat, mammal, amphibian and invertebrate survey and is a protected species licence holder. Roisin is an Associate member of CIEEM.

David Mulholland, author and lead surveyor, carried out Ecological Impact Assessment. Phase 1 Habitat Surveys, Bat Surveys, Ornithological Surveys, Smooth Newt Surveys and Badger Setts surveys. David is an Ecologist with RPS and holds a BSc (Hons) in Biological Sciences with Professional Studies, a MSc in Ecological Management and Conservation Biology and has two years of experience working in consultancy and conservation. David has experience of habitat, mammal, amphibian and bird survey. David is a Qualifying member of the CIEEM.

RPS confirm that the professional judgement expressed herein is the true and bona fide opinion of our professional ecologists. The information prepared and provided is accurate at the time of issue of this report and has been prepared and provided in accordance with the CIEEM Code of Professional Conduct (CIEEM 2024).

### 3.2 Zone of Influence

The Zone of Influence (Zoi) is the area over which ecological features may be affected by biophysical changes resulting from the proposed project and its associated activities. The Zoi varies for different ecological features depending on their sensitivity to environmental change and therefore further details on the specific Zoi for each ecological feature is described below under the relevant sections. In some instances, the Zoi may extend beyond the red line boundary of the site.

### 3.3 Desk Study

A desk study was undertaken to review existing information relevant to the site of the proposed project and the surrounding environment. The information gathered is third party controlled data purchased or obtained for the purposes of this report only. RPS cannot guarantee its accuracy and cannot be held liable for any inaccuracies.

The National Biodiversity Data Centre was utilised to assess bat suitability within the proposed development boundary (NBDC 2024).

The Northern Ireland Environment Agency (NIEA) Natural Environment Map Viewer (DAERA 2018) was used to identify the location of designated sites of nature conservation importance; priority habitats, priority species and other features of natural heritage importance that have the potential to be affected by the proposed project.

The NIEA Catchment Data Map Viewer (DAERA 2024b) was used to identify the river and marine waterbodies hydrological linked to the site of the proposed project.

The National Biodiversity Network (NBN) Atlas Northern Ireland (NBN Atlas Partnership 2024) was used to identify the existence of historical records of protected species or species of natural heritage importance within 1 km of the site of the proposed project.

The Woodland Trust Ancient Tree Inventory (Woodland Trust 2023) was used to identify ancient, veteran and notable trees within the site of the proposed project.

### 3.4 Extended Phase 1 Habitat Survey

An Extended Phase 1 Habitat Survey was carried out on the 15<sup>th</sup> January 2025 within the site of the proposed project. Phase 1 Habitat Survey (JNCC 2010) is the standard system used to rapidly record, categorise and map habitats. Habitats are mapped using standard colour codes and target notes are used to describe any features of ecological or natural heritage importance. Aerial photographs were used as an aid to map habitats. The survey was extended to include further information on the potential of the habitats identified to support species protected by law or of natural heritage importance.

It should be noted that whilst every effort has been made to provide a comprehensive description of the site no survey can consist of a complete characterisation and prediction of the ecological environment. The habitat survey will remain valid for a period of one year of being carried out in accordance with NIEA survey specifications (DAERA 2024c).

### 3.5 Ecological Survey for Bats

The Phase 1 Habitat Survey was extended to include a Preliminary Ecological Appraisal for Bats (PEAB) within the site of the proposed project. The aim of the survey was to observe, assess and record the potential suitability of the site to support bat roosting, commuting and/or foraging habitat within the ZoI of the proposed project and to determine the requirement for further bat surveys. Habitat features were classified as None, Negligible, Low, Moderate or High in accordance with Bat Conservation Trust (BCT) Good Practice Guidelines (Collins 2023). Trees were qualified as Further Assessment Required (FAR), Potential Roost Features (PRF) and Negligible per the same guidance (Collins 2023).

Ecological Survey for Bats including a Daytime Bat Walkover (DBW); Preliminary Roost Assessment (PRA) and Ground Level Tree Assessment (GLTA) were conducted as part of the Extended Phase 1 survey. A summary of the results can be found below in **Section 4.4 Bats**.

### 3.6 Ecological Survey for Badger

The Phase 1 Habitat Survey was extended to include a Preliminary Badger Survey within the site of the proposed project and within 30 m of the red line boundary (access permitting). The aim of the survey was to establish the presence of badger *Meles meles*, badger setts and/or badger foraging areas within the ZoI of the proposed project and determine the requirement for further badger surveys.

### 3.7 Ecological Survey for Otter

The Phase 1 Habitat Survey was extended to include a Preliminary Otter Survey within the site of the proposed project, within 30 m of the red line boundary, and 150 m upstream and downstream of any watercourse within the red line boundary. The aim of the survey was to establish the presence of otter *Lutra lutra*, otter holts and/or otter foraging areas within the ZoI of the proposed project and determine the requirement for further survey. The results can be found below in **Section 4.5**.

### 3.8 Ecological Survey for Birds

The Phase 1 Habitat Survey was extended to include incidental observations of bird species within the site of the proposed project. A summary of the results can be found below in **Section 4.7 Birds**.

### 3.9 Ecological Impact Assessment

The EclA has been prepared taking into consideration the British Standard (BS) 42020:2013 and guidelines produce by the CIEEM (CIEEM 2018).

The ecological value of a feature was determined using a geographic frame of reference as set out below in **Table 2**. Professional judgement was used to define the geographic framework based on available guidance, existing criteria, historical trends and information on the distribution, abundance and status of the ecological feature.

The assessment considers the source-pathway-receptor model. The source is defined as the individual elements of the proposed project that have the potential to affect identified ecological features. The pathway is defined as the means or route by which a source can affect the ecological feature. The receptor is defined as the ecological feature (species, habitat or ecosystem) of natural heritage importance. Each element can exist independently however an effect is created where there is a linkage between the source, pathway and receptor.

For the purposes of this assessment an impact is defined as an action that results in changes to an ecological feature. An effect is defined as the outcome to an ecological feature from an impact. The likely significance of effects is the combined function of the value of the ecological feature; the type, magnitude and duration of the impact and/or effect; the extent to which the impact and/or effect occurs; the timing and frequency of the impact and the reversibility of impacts and/or effects (CIEEM 2018). The geographic level at which the ecological feature is considered important needs to be considered when assessing the likely significance of effects.

A significant effect is a positive or negative effect that either supports or undermines the conservation objectives of a designated site; results in changes in ecosystem structure and function; or affects the conservation status of habitats or species. Effects can be considered significant at a wide range of scales from international to site level.

The CIEEM (2018) defines a significant effect as *“...an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project. A significant effect is a positive or negative ecological effect that should be given weight in judging whether to authorise a project: it can influence whether permission is given or refused and, if given, whether the effect is important enough to warrant conditions, restrictions or further requirements such as monitoring”*.

BS 42020:2013 states *“...if an effect is sufficiently important to be given weight in the planning balance or to warrant the imposition of a planning condition, e.g. to provide or guarantee necessary mitigation measures, it is likely to be “significant” in that context at the level under consideration. The converse is also true: insignificant effects would not warrant a refusal of permission or the imposition of conditions”*.



**Table 2 Geographic Frame of Reference for Important Ecological Features**

Ecological Value	Criteria
<b>International</b>	<ul style="list-style-type: none"> <li>• 'European Sites' including Special Areas of Conservation (SAC) &amp; Special Protection Areas (SPA)</li> <li>• Sites that satisfy the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended)</li> <li>• Features essential to maintaining the coherence of the UK National Site Network</li> <li>• Sites containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive</li> <li>• Resident or regularly occurring populations (assessed to be important at the national level) of the following: <ul style="list-style-type: none"> <li>– Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or</li> <li>– Species of animal and plants listed in Annex II and/or IV of the Habitats Directive</li> </ul> </li> <li>• Ramsar Sites (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971)</li> <li>• World Heritage Sites (Convention for the Protection of World Cultural &amp; Natural Heritage, 1972)</li> <li>• Sites hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979)</li> <li>• Sites hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979)</li> </ul>
<b>National</b>	<ul style="list-style-type: none"> <li>• Areas of Special Scientific Interest (ASSI)</li> <li>• National Nature Reserves (NNR)</li> <li>• Marine Nature Reserves (MNR)</li> <li>• Refuge for species protected under the Wildlife (Northern Ireland) Order 1985 (as amended)</li> <li>• Undesignated sites fulfilling the criteria for designation as an ASSI; NNR; MNR; and/or refuge for species protected under the Wildlife (Northern Ireland) Order 1985 (as amended)</li> <li>• Resident or regularly occurring populations (assessed to be important at the national level) of the following: <ul style="list-style-type: none"> <li>– Species protected under Wildlife (Northern Ireland) Order 1985 (as amended); and/or</li> <li>– Species listed on the relevant Red Data list</li> </ul> </li> <li>• Sites containing 'viable areas' of the habitat types listed in Annex I of the Habitats Directive</li> </ul>
<b>Regional</b>	<ul style="list-style-type: none"> <li>• Sites of Local Nature Conservation Importance (SLNCI) or Local Wildlife Sites (LWS)</li> <li>• Areas subject to a Tree Preservation Order</li> <li>• Resident or regularly occurring populations (assessed to be important at the Regional level) of the following: <ul style="list-style-type: none"> <li>– Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive</li> <li>– Species of animal and plants listed in Annex II and/or IV of the Habitats Directive</li> <li>– Species protected under the Wildlife (Northern Ireland) Order 1985 (as amended); and/or</li> <li>– Species listed on the relevant Red Data list</li> <li>– Sites containing areas of the habitat types listed in Annex I of the Habitats Directive that do not satisfy the criteria for valuation as of International or National importance</li> </ul> </li> <li>• Regionally important populations of species or viable areas of semi-natural habitats or natural heritage features identified in the National or Local Biodiversity Action Plan (BAP)</li> <li>• Sites containing semi-natural habitat types with high biodiversity in a regional context and a high degree of naturalness, or populations of species that are uncommon within the region</li> <li>• Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level</li> </ul>
<b>Local</b>	<ul style="list-style-type: none"> <li>• Locally important populations of priority species or habitats or features of natural heritage importance identified in the Local BAP</li> <li>• Resident or regularly occurring populations (assessed to be important at the Local level) of the following: <ul style="list-style-type: none"> <li>– Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive</li> <li>– Species of animal and plants listed in Annex II and/or IV of the Habitats Directive</li> <li>– Species protected under the Wildlife (Northern Ireland) Order 1985 (as amended); and/or</li> <li>– Species listed on the relevant Red Data list</li> </ul> </li> <li>• Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality</li> <li>• Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value</li> </ul>
<b>Site</b>	<ul style="list-style-type: none"> <li>• Sites containing small areas of semi-natural habitat that are of some local importance for wildlife</li> <li>• Sites or features containing non-native species that are of some importance in maintaining habitat links</li> </ul>

## 4 BASELINE ECOLOGICAL CONDITIONS

### 4.1 Designated Sites

The site of the proposed project is not located within the boundary of any statutory or non-statutory designated sites of international, national or local nature conservation importance.

**Table 3 Designated Sites and Features of Natural Heritage Importance** below provides descriptive details of designated sites assessed for connectivity. Local designated sites were assessed up to 1km away from the site boundary. International and National designated sites were assessed up to 5km away from the site boundary.

**Glynn Woods ASSI, Larne Lough ASSI, Larne Lough Ramsar, Larne Lough SPA and Carneal ASSI** were found to have hydrological connectivity with the application site through an eastern drainage stream running along the site's eastern boundary and via Carneal Water, Raloo Water and Glenoe Water. Connectivity is also present on the site's western boundary via a network of drainage ditches that feed into Raloo Water.

**Ardboley SLNCI and Slimero Mountain Wet Grassland SLNCI** were identified as being hydrologically connected and upstream of the eastern drainage stream.

The boundary of each of the designated sites in relation the proposed project is illustrated in **Figure 2.0 Designated Sites and Features of Natural Heritage Importance**.

**Table 3 Designated Sites & Features of Natural Heritage Importance**

Designated Site/Feature	Distance from Site (km)	Description	Connectivity Present
<b>Ardboley SLNCI</b>	0.900km upstream via Eastern Stream	Grassland & Heath Habitats	Hydrological Connectivity (Upstream)
<b>Slimero Mountain Wet Grassland SLNCI</b>	0.60km upstream via Eastern Stream	Grassland	Hydrological Connectivity (Upstream)
<b>Carneal ASSI</b>	2.72km downstream via Eastern Stream & Carneal Water	Geological Features	Hydrological Connectivity (Downstream)
<b>North Woodburn Reservoir ASSI</b>	4.77km S	Bryophyte assemblage	No connectivity
<b>Newlands ASSI</b>	3.94km NE	Species-rich dry grassland	No connectivity
<b>Glynn Woods ASSI</b>	6.53km downstream via Eastern Stream, Carneal Water & Glenoe Water  6.64km downstream via Western Drainage Ditch, Raloo Water, Glenoe Water & Glynn River	Calicolous Scarp Woodland Semi-natural woodland Downy Birch <i>Betula pubescens</i> Rowan <i>Sorbus aucuparia</i> Oak <i>Quercus</i> spp Ash <i>Fraxinus excelsior</i> Great Wood-rush <i>Luzula sylvatica</i> Wood-sorrel <i>Oxalis acetosella</i>	Hydrological Connectivity (Downstream)
<b>Larne Lough ASSI</b>	8.4km downstream via Eastern Stream, Carneal Water & Glenoe Water  9.08km downstream via Western Drainage Ditch, Raloo Water, Glenoe Water & Glynn River	Polychaete Worms Brackish Lagoons Mudflats Saltmarsh habitats Priapulid worm <i>Priapulus caudatus</i> Narrow-leaved Belgrass <i>Zostera angustifolia</i> Saline Lagoons Wintering Waterbirds Breeding Terns Roseate Terns <i>Sterna dougallii</i>	Hydrological Connectivity (Downstream)



		Common Tern <i>Sterna hirundo</i> Sandwich Tern <i>Thalasseus sandvicensis</i>	
<b>Larne Lough Ramsar</b>	8.4km downstream via Eastern Stream, Carneal Water & Glenoe Water 9.08km downstream via Western Drainage Ditch, Raloo Water, Glenoe Water & Gylinn River	Breeding Roseate Terns <i>Sterna dougallii</i> Breeding Common Tern <i>Sterna hirundo</i> Wintering Light Bellied Brent Geese <i>Branta bernicla hrota</i>	Hydrological Connectivity (Downstream)
<b>Swan Island NNR</b>	11.20km downstream via Eastern Stream, Carneal Water & Glenoe Water 11.64km downstream Western Drainage Ditch, Raloo Water, Glenoe Water & Gylinn River	<i>dougallii</i> Breeding Common Tern <i>Sterna hirundo</i> Wintering Light Bellied Brent Geese <i>Branta bernicla hrota</i>	Hydrological Connectivity (Downstream)
<b>Larne Lough SPA</b>	8.4km Downstream via Eastern Stream, Carneal Water & Glenoe Water  9.08km downstream via Western Drainage Ditch, Raloo Water, Glenoe Water & Gylinn River	Sandwich Tern breeding population Roseate Tern breeding population Common Tern breeding population Light-bellied Brent Goose wintering population Habitats Roost site locations	Hydrological Connectivity (Downstream)
<b>Antrim Hills SPA</b>	6.12km NW Overland	Merlin Hen Harrier	No connectivity
<b>The Maidens SAC</b>	17.25km downstream via eastern stream, Carneal Water & Glenoe Water  17.93km downstream via Western Drainage Ditch, Raloo Water, Glenoe Water, Gylinn River & Larne Lough.	Reef Habitats Sandbanks which are slightly covered by sea water all the time Grey Seal <i>Halichoerus grypus</i> Common Seal <i>Phoca vitulina</i> Harbour Porpoise <i>Phocoena phocoena</i>	Hydrological Connectivity (Downstream)
<b>North Channel SAC</b>	17.25km downstream via eastern stream, Carneal Water & Glenoe Water  17.93km downstream via Western Drainage Ditch, Raloo Water, Glenoe Water, Gylinn River & Larne Lough	Great Crested Grebe wintering population Red-throated Diver Sandwich Tern Common Tern Arctic Tern Manx Shearwater Eider Duck Associated habitats Roosting bird sites Harbour Porpoise <i>Phocoena phocoena</i>	Hydrological Connectivity (Downstream)
<b>East Coast (Northern Ireland) Marine Special Protection Area</b>	8.4km downstream via eastern stream, Carneal Water & Glenoe Water  9.08km downstream via Western Drainage Ditch, Raloo Water, Glenoe Water & Gylinn River	Harbour Porpoise <i>Phocoena phocoena</i>	Hydrological Connectivity (Downstream)

## 4.2 Habitats

A map illustrating the red line boundary and the existing habitats on the site can be found in **Figure 3.0 Extended Phase 1 Habitat Survey**.

### 4.2.1 Native Species Rich Intact Hedgerow

Native species rich intact hedgerows lined the boundary of several of the fields found on the site and while it consisted of native species, it lacked a developed, dense understory having been trimmed recently. A fence

was integrated into the hedgerow making it stock-proof. More developed hedgerows in better condition lined the Ballyvallagh Road.

The following species were identified: gorse *Ulex europaeus*, hawthorn *Crataegus monogyna*, brambles *Rubus fruticosus*, bracken fern *Pteridium aquilinum*, perennial rye grass, common nettles *Urtica dioica*, rumped cloverleaf *Geum sylvaticum* Pour, field speedwell *Veronica persica*, common polypody *Polypodium vulgare*, cow parsley *Anthriscus sylvestris*, wild leek *Allium tricoccum*, dogwood *Cornus sanguinea*.

Native species rich intact hedgerow is considered of ecological value at a regional level and is a Northern Ireland Priority Habitat.

### 4.2.2 Running Water

While not within the application site boundary, located at a higher elevation, 8m east is an upland unnamed drainage stream. Drainage channels have been cut into the stream (TN15, TN20 & TN19)), allowing some water to escape and flow downhill into the application site, with extremely shallow, temporary streams of water running into the area of Marshy Grassland identified on site. This shallow stream flows into the western drainage ditches, which then deposit off site through a series of nearby field drains (Plate 8, TN17) into Raloo water.

A small drainage channel was identified on the Ballyvallagh road and has been culverted and now flows under the roadway into the municipal drainage system.

Running water is considered of ecological value at a site level.

### 4.2.3 Native Species Rich Hedgerow with Trees

Several fields across the application site are bounded by hawthorn and gorse hedgerow, interspersed with Beech and Ash trees. These hedgerows have integrated fencing and are stock proofed but possess poor foliage understories, having been cut recently.

The following species were identified: gorse *Ulex europaeus*, hawthorn *Crataegus monogyna*, ash *Fraxinus excelsior*, beech *Fagus sylvatica*, bracken fern *Pteridium aquilinum*, perennial rye grass *Lolium perenne*, common nettle *Urtica dioica* and brambles *Rubus fruticosus*

Native species rich hedgerow with trees is considered of ecological value at a regional level and is a Northern Ireland Priority Habitat.

### 4.2.4 Improved Grassland

A majority of the application site is covered in improved agricultural grassland. The grassland present on the site is highly enriched by animal faeces and fertiliser and is heavily grazed to a short height by sheep.

The following species were identified: perennial rye grass *Lolium perenne*, white clover *Trifolium repens* common plantain *Plantago major*, broadleaved dock *Rumex obtusifolius* and dandelion *Taraxacum officinale*.

Improved grassland is considered of ecological value at a site level.

### 4.2.5 Spoil

Two large mounds of excavated earth had been piled in the southern field. Interspersed among these piles of exposed earth were the sacks it had previously been transported within. No vegetation was found to be growing on these areas.

Spoil is of negligible ecological value.

### 4.2.6 Marshy Grassland

An area of poor quality marshy grassland was located within the southern field (Plate 4). The temporary streams (Plate 3) flow into this area resulting in the soil being highly waterlogged.

The following species were identified: sharp rush *Juncus acutus*, compact rush *Juncus conglomeratus*, perennial rye grass *Lolium perenne*, white clover *Trifolium repens*, common plantain *Plantago major*, broadleaved dock *Rumex obtusifolius*.

Marshy grassland is considered of ecological value at a site level.

### 4.2.7 Dry Ditch

A dry ditch ran along the south-western boundary of the application site (Plate 7). While mostly dry, this drainage ditch possessed small areas of pooling, stagnant water. This ditch flows off site via a network of field drains into Raloo Water during periods of high rainfall. It is located at a lower elevation than the eastern drainage ditch, therefore any runoff or pollutants will flow downhill into this ditch.

The following species were identified: sharp rush *Juncus acutus*, compact rush *Juncus conglomeratus*, perennial rye grass *Lolium perenne*, common plantain *Plantago major*, broadleaved dock *Rumex obtusifolius*.

Dry Ditch is considered of ecological value at a site level.

### 4.2.8 Fence

Metal wire fencing with wooden poles bounded the application site and several adjacent properties along Ballyvallagh Road.

Fences are considered to be of negligible ecological value.

### 4.2.9 Wall

A short wall is present at the entrance of a nearby dwelling, facing onto Ballyvallagh Road. It possessed no vegetation.

Walls are considered to be of negligible ecological value.

## 4.3 Invasive Non-Native Species

No invasive non-native species listed under Schedule 9 of the Wildlife (Northern Ireland) Order 1985 were found within the application site boundary.

No significant impacts on the application site, nearby designated sites or nearby habitats are expected due to invasive non-native species.

## 4.4 Bats

Consultation with the NBN Atlas NI identified no historical records of bat species within the site boundary of the proposed project (Appendix A).

Further data searches using the National Biodiversity Data Centre of the 2km grid square containing the site (J57C) indicated an average bat suitability index of 20.33 (**see Table 4.1**). Bat Suitability Index ranges from 0 (least suitable) to 100 (most suitable) with maximum entropy modelling used to construct an index number using National Bat Database data. Therefore, an index score of 20.33 would indicate a low suitability for bats within the site and its immediate area.

The site was assessed during the Preliminary Roost Assessment of Trees, aiming to determine if any trees on the site had bat roost suitably. Two trees were found to have potential roof features, with all other trees showing

negligible suitability. Of the two trees with potential roost features, both will be retained under the proposed developments design. The findings of this survey are outlined in **Appendix B Preliminary Roost Assessment of Trees**.

**Table 4.1 Bat Suitability Index (NBDC, 2024)**

Bat Species	Bat Suitability Index
All Bats	20.22
Soprano Pipistrelle ( <i>Pipistrellus pygmaeus</i> )	31
Brown long-eared bat ( <i>Plecotus auratus</i> )	18
Common Pipistrelle ( <i>Pipistrellus pipistrellus</i> )	39
Lesser horseshoe bat ( <i>Rhinolophus hipposideros</i> )	0
Leisler's Bat ( <i>Nyctalus leisler</i> )	34
Whiskered Bat ( <i>Myotis mystacinus</i> )	3
Daubenton's Bat ( <i>Myotis daubentonii</i> )	22
Nathusius Pipistrelle ( <i>Pipistrellus nathusii</i> )	4
Natterer's Bat ( <i>Myotis nattereri</i> )	31

4.5 Otter

The NBN Atlas NI (NBN Atlas Partnership 2024) identified no historical records of otter within 1 km of the site. There were no otter underground holts, above ground couches or evidence of otter recorded within the site or within 150 m of the boundary of the site where access was permitted. Otter has therefore been removed from any further assessment.

4.6 Badger

The NBN Atlas NI (NBN Atlas Partnership 2024) identified no historical records of badger within 1 km of the site. There were no badger setts or evidence indicating the presence of badger recorded within the site or within 30m of the site of the proposed project.

Badger has therefore been removed from any further assessment.

4.7 Birds

The NBN Atlas NI (NBN Atlas Partnership 2024) identified 52 historical records of birds within 1 km of the site. The site has potential to provide habitat for an assemblage of common and widespread breeding bird species associated with the hedgerow and treeline habitat on the site.

While no specific bird survey was carried out, all incidental sightings were recorded and identified during the Extended Phase 1 Habitat survey were recorded (see table 4.2).

**Table 4.2 Incidental Bird Recordings**

Bird Species	UK Species of Conservation Concern	Schedule 1
Hooded Crow	n/a	No
Robin	Green	No

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Buzzard	Green	No
Wood Pigeon	Amber	No
Mallard	Amber	No
Moorhen	Amber	No

## 5 IMPACT ASSESSMENT

### 5.1 Designated Sites

#### Legislation & Policy

The principal legislation in Northern Ireland relating to designated sites includes the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended), which provides for the designation on European Sites (SPAs and SACs); the Environment (Northern Ireland) Order 2002, which provides for the designation of ASSIs; and the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985, which provides for the designation of NRs, NNRs and MNRs.

Designated sites are a material consideration in the determination of the planning application as set out in the SPPS (DOE 2015). The strategic policies state that; a project, either individually or in combination with existing and/or proposed plans or projects, must not have a significant effect on a designated site of international importance; must not have an adverse effect on the integrity, including the value of the site to the habitat network, on a designated site of national importance; and must not have a significant negative impact on a designated site of local importance.

#### Potential Impacts & Effects

Sites identified as having connectivity to the application site have been assessed below. All designated sites screened out in the baseline have not been assessed further.

#### International Designated Sites (SACs, SPAs & Ramsar Sites)

The site is linked to Larne Lough Ramsar (8.4km downstream), East Coast Marine pSPA (8.4km downstream), North Channel SAC (17.25km downstream), The Maidens SAC (17.25km downstream) and Larne Lough SPA (8.4km downstream) with two hydrological connectivity pathways via Carneal Water (8.40km) and Raloo Water (9.08km) as outlined in **Table 4 Designated Sites & Features of Natural Heritage Importance** and **Table 2 Designated Sites**.

The Carneal Water pathway will be referred to as the **Eastern Stream** (Plate 6) and the Raloo Water pathway will be referred to as the **Western Drainage Ditch** (Plate 7) for the remainder of this assessment.

Antrim Hill SPA shares no hydrological connectivity pathways with the application site, no significant impacts are expected due to pollution, noise or visual pathways.

**No Significant Impacts** are expected on any of these designated sites due to noise, dust or visual impacts derived from construction and operation of the site due to the substantial distance overland any impacts would have to travel.

The application site is located on a hill, with the site possessing a substantial gradient. The Eastern Stream is located (estimated 10m) outside the application site boundary and at the highest elevation of the sites gradient. The Eastern Stream deposits water onto the application site through areas where its embankment has been degraded or damaged (Plate 1), resulting in several small, shallow streams (Plate 3) flowing through the sites improved grassland, downhill towards the Western Drainage Ditch at the sites lowest elevation.

As the Eastern Stream is located outside the sites boundary and at a higher elevation, buffered by an established hedgerow, it is unlikely that any pollutants or runoff from construction will be able to enter this watercourse or travel upstream and uphill through the shallow streams running across the application site. Therefore, in the absence of mitigation measures we can screen out the Eastern Stream as a pathway for pollutants to exit the site and cause diminution of water quality in Larne Lough SPA, East Coast Marine pSPA, The Maidens SAC, North Channel SAC and Larne Lough Ramsar.

Therefore, this connectivity pathway has been screened out of further assessment.

However, the Western Drainage Ditch is located at the sites lowest elevation, with the Eastern Stream depositing water downhill into this ditch through the areas where its embankment is degraded. The Western Drainage Ditch is connected to several other adjacent field drainage ditches and is therefore able to carry pollutants and runoff from construction and operation off site, into Raloo Water. The proposed development has the potential to give rise to water quality and habitat deterioration effects through the inadvertent release of suspended sediments or pollutants into the freshwater environment which may subsequently enter Larne Lough SPA, East Coast Marine pSPA and Larne Lough Ramsar.

Pre-construction site clearance and construction of the proposed project therefore has the potential to have a **Significant Negative Effect** on internationally important designated sites in the absence of mitigation measures.

Operation of the proposed project has the potential to have a **No Significant Effect** on internationally important designated sites in the absence of mitigation measures as while the increased areas of hardstanding will increase surface water runoff, best-practice drainage design and the creation of several SuDs ponds will minimise the ability for any pollutants to escape the site.

### National Designated Sites (ASSI, NNR & MCZs)

The site is hydrologically linked to Carneal ASSI (2.72km) Glynn Woods ASSI (6.63km), Larne Lough ASSI (9.40km) and Swan Island NNR (11.64km).

Pre-construction site clearance and construction works have the limited potential to directly impact on Raloo Water, Glynn River and Larne Lough by causing deterioration of water quality flowing into the designated sites located downstream of the proposed project via the Western Drainage Stream.

As the Eastern Stream is located outside the sites boundary and at a higher elevation, buffered by an established hedgerow, it is unlikely that any pollutants or runoff from construction will be able to enter this watercourse or travel upstream and uphill through the shallow streams running across the application site. Therefore, in the absence of mitigation measures we can screen out the Eastern Stream as a pathway for pollutants to exit the site and cause diminution of water quality in Carneal ASSI, Glynn Woods ASSI, Larne Lough ASSI and Swan Island NNR. Therefore, this connectivity pathway has been screened out of further assessment.

The Western Drainage Ditch is located at the sites lowest elevation, with the Eastern Stream depositing water downhill into this ditch through the areas where its embankment is degraded. The Western Drainage Ditch is connected to several other adjacent field drainage ditches and is therefore able to carry pollutants and runoff from construction and operation off site, into Raloo Water. The proposed development has the potential to give rise to water quality and habitat deterioration effects through the inadvertent release of suspended sediments or pollutants into the freshwater environment which may subsequently travel downstream into Carneal ASSI, Glynn Woods ASSI, Larne Lough ASSI and Swan Island NNR.

Construction of the proposed project therefore has the potential to have a **Significant Negative Effect** on nationally important designated sites in the absence of mitigation measures.

Operation of the proposed project has the potential to have a **No Significant Effect** on internationally important designated sites in the absence of mitigation measures as while the increased areas of hardstanding will increase surface water runoff, best-practice drainage design and the creation of several SuDs ponds will minimise the ability for any pollutants to escape the site.

### Local Designated Sites (SLNCI & LWS)

The site is hydrologically linked to Ardboley SLNCI (0.86km) and from Slimero Mountain Wet Grassland SLNCI (0.616km) via the Eastern Stream.

The proposed project is located at a lower elevation than the potential hydrological connectivity pathway with pollutants required to travel uphill and upstream to affect Ardboley SLNCI and Slimero Mountain Wet



Grassland SLNCI. Pre-construction site clearance and construction works have a low potential to impact the water quality and habitats within these designated sites.

Construction of the proposed project has the potential to have a **No Significant Effect** on locally important designated sites in the absence of mitigation measures.

Operation of the proposed project has the potential to have a **No Significant Effect** on locally important designated sites in the absence of mitigation measures.

## Mitigation Measures

DAERA Standing Advice for Pollution Prevention Guidance (DAERA 2025) will be adhered to in order to protect watercourses from potential adverse effects during all phases of the proposed project.

A 10 m buffer will be maintained between all construction works and the eastern drainage ditch in order to avoid and/or minimise adverse effects from pollution and runoff and to ensure the project will not have adverse effects on the integrity of any designated sites located downstream of the proposed project.

Mitigation measures to protect watercourses from adverse effects associated with the proposed project are detailed in the associated CEMP and **Appendix C sHRA**. The CEMP and **Appendix C sHRA** set out details of contractor standards that must be implemented throughout the life of the project; provides details of construction activities and environmental management measures that will be put in place to mitigate environmental impacts; and provides details of monitoring. The measures outlined in these associated reports will supplement those outlined in the DAERA Standing Advice for Pollution Prevention Guidance (DAERA, 2025).

The implementation of the mitigation measures as set out above will ensure the likely significance of effects on international and national designated sites from remain at **No Significant Effect**.

## Significance of Residual Effects

The proposed project will have, **No Significant Effect** on any designated site with the implementation of the mitigation measures outlined above.

## 5.2 Habitats

### Legislation & Policy

Priority habitats include both those listed on Annex I of the Habitats Directive, which is transposed into national law by means of the Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 (as Amended) and those identified under the Northern Ireland Biodiversity Strategy (NIBS). Priority habitats require conservation action due to their decline, rarity and importance.

The presence of priority habitat, active peatland, ancient and long-established woodland and wetlands is a material consideration in the determination of the planning application as set out in the SPPS (DOE 2015). The strategic policies state that a project must not have an unacceptable adverse impact on, or damage to, these habitats.

## Potential Impacts & Effects

The proposed project has been designed, as far as possible, to avoid the loss of Native Species Poor Hedgerow with Trees, Native Species Rich Intact Hedgerow and Improved Grassland.

Pre-construction site clearance and construction works will result in a loss of marshy grassland, improved grassland and species-rich hedgerow with trees. The drainage channel (TN 18) will be rerouted around the proposed BESS installation. Two standalone Rowan Trees will be lost under the development footprint. **Table 5.1** below provides a summary of the habitat loss associated with the proposed project.



**Table 5.1 Habitat Loss**

Habitat Type	Total Area/Length (m/m <sup>2</sup> )	Habitat Loss (m/m <sup>2</sup> )
Wall	4 m	0 m
Fence	577 m	16 m
Native Species Rich Intact Hedgerow	459 m	25 m (estimated 180m of planting will occur)
Native Species Poor Intact Hedgerows	57 m	57 m
Running Water	735 m	315 m
Dry Ditch	284 m	73 m
Improved Grassland	55374 m <sup>2</sup>	25936 m <sup>2</sup>
Bare Ground	4102 m <sup>2</sup>	622 m <sup>2</sup>
Spoil	276 m <sup>2</sup>	276 m <sup>2</sup>
Marshy Grassland	1679 m <sup>2</sup>	1679 m <sup>2</sup>
Buildings	0 m <sup>2</sup>	0 m <sup>2</sup>
Amenity Grassland	0 m <sup>2</sup>	0 m <sup>2</sup>

The proposed project will have a **Significant Negative Effect** at a regional scale with the permanent loss of small areas of NIPHS: Native Species Rich Intact Hedgerow and Hedgerow with Trees and **Significant Negative Effect** at a site level with the permanent loss of Improved Grassland and Marshy Grassland.

## Avoidance & Mitigation Measures

All trees that are to be retained on site will be protected in accordance with *BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations* (BSI 2012) prior to pre-construction site preparation and construction works.

DAERA Standing Advice for Pollution Prevention Guidance (DAERA 2025) will be adhered to in order to protect watercourses from potential adverse effects during all phases of the proposed project. This guidance will be supplemented by the best practice measures outlined in the CEMP and Appendix C sHRA.

A 10 m land buffer will be maintained between all construction works and the Eastern Stream and Western Drainage Ditch in order to avoid and/or minimise adverse effects from pollution and runoff and to ensure the project will not have adverse effects on the integrity of any designated sites located downstream of the proposed project.

## Biodiversity Enhancement

Landscape design should aim to deliver no net loss of habitat; incorporate planting that prioritises the use of native and wildlife friendly species; include both species diversity and structural diversity; leave areas of the site for natural succession with no active management; and enhance the ecological connectivity of the site to the surrounding environment.

The proposed planting regime aims to connect the site to habitat in the surrounding environment by planting continuous lines of trees, or hedgerows which are not obstructed by infrastructure or illuminated and allow the free movement of mammals.

Hedgerow planting will occur, using a native species hedgerow mix to aid in developing a more established, dense and species diverse understory which many hedgerows on the site currently lack. An estimated 180m of hedgerow will occur, replacing the existing fencing on site.

All hedgerow or treelines removed will be compensatory planted at a 2:1 ratio, ensuring a net-gain of habitats.

Native meadow seed mix may be planted on retained areas of improved grassland: if so, it should consist only of native species of Irish provenance, include a mixture of perennial flowers and grasses, and be tailored to the sites' soils and hydrology. Non-native 'wildflower' seed mixes should never be used, as they are typically of low biodiversity value.

The improved grassland should be managed as meadows, (such as those along the access routes and outside the BESS compound) by mowing only once per growing season. Guidance regarding this planting is provided in the All-Ireland Pollinator Plan (AIPP, 2021).

The creation of a pond or similar semi-natural wetland feature with native fringing vegetation. Ponds may also be suitable for frogs/newts. These measures may be feasible for the above-ground SUDS features (e.g. attenuation ponds, swales) proposed on the site.

Roads should be in central parts of a development where possible, away from biodiversity features and other site boundaries where treelines/hedgerows are located, retained or might be created as part of the design. The infrastructure associated with pathways, human disturbance, vegetation management, lighting, etc can substantially reduce the biodiversity value of these features.

## Significance of Residual Effects

The proposed project will have a **No Significant Effect** on habitats.

The implementation of the mitigation and enhancement measures as set out above will ensure a **No Significant Effect** for biodiversity at a site level with a no significant loss in habitats of wildlife value in a rural environment.

## 5.3 Invasive Non-Native Species

### Legislation & Policy

Invasive non-native species are considered under the Wildlife (Northern Ireland) Order 1985 (as amended), where it is an offence to plant or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9 of the Order, which includes Japanese knotweed and under the Invasive Alien Species (Enforcement and Permitting) Order (Northern Ireland) 2019, where it is an offence under Article 3 of the Order for any person to plant or otherwise cause to grow in the wild any plant or hybrid of any plant which is included in Part 2 of the Schedule, which includes Himalayan balsam.

### Potential Impacts & Effects

Pre-construction site clearance and construction works will not result in the disturbance and potential spread of the non-native species present on site. No Schedule 9 listed invasive species with the ability to aggressively spread (e.g Japanese Knotweed, Himalayan Balsam) were present on site.

The proposed development is expected to have **No Significant Effect** on local invasive species spread as none are present within the site boundary.

### Biodiversity Enhancement

Removal of invasive non-native species, including both legally restricted species (e.g. Japanese knotweed, Himalayan Balsam, three-cornered garlic if found) and other nuisance species (rhododendron, winter heliotrope, cherry laurel).

## Significance of Residual Effects

The proposed project will have **No Significant Effects** on invasive species spread.

### 5.4 Bats

#### Legislation & Policy

All species of bats are European Protected Species (EPS) listed on Schedule 2 of the Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 (as Amended). Under the Regulations it is illegal to deliberately capture, injure or kill a EPS; deliberately disturb a EPS while it is occupying a structure or place it uses for shelter or protection; or deliberately disturb a EPS in such a way as is likely to affect its local distribution or abundance; impair its ability to survive, breed, reproduce or care for its young; impair its ability to hibernate or migrate; or deliberately obstruct access to or damage or destroy a resting or breeding site.

The presence of bat species is a material consideration in the determination of the planning application as set out in the SPPS and described above in Section 2.3, Table 1. The strategic policies state that the proposed development must not harm EPS; must be sensitive to all protected species; and must be sited and designed to protect EPS, their habitats and prevent deterioration and destruction of their breeding or resting sites.

#### Potential Impacts & Effects

Construction works will result in moderate changes to the physical characteristics of the site alongside visual and noise disturbance from physical construction over the construction period. Operation of the proposed development will result in a permanent increase in visual, noise, artificial light and human disturbance levels across the site.

The proposed project will have a **Significant Negative effect** on bats with the loss of foraging and commuting habitat of a species of regional importance in the absence of mitigation measures.

#### Avoidance & Mitigation Measures

The Lighting Strategy for the proposed project will be designed in accordance with the Institution of Lighting Professionals (ILP) Guidance Notes for the Reduction of Obtrusive Light (ILP 2021) and Bats and Artificial Lighting in the UK (ILP 2023).

Lighting design will only be installed where and when necessary, i.e. when it is needed for safety reasons or to comply with statutory guidelines. There will be no direct illumination of existing woodland or trees to be retained, and a dark buffer zone will be maintained around these areas where light levels will not exceed 1 Lux.

Lighting design will aim to use narrow spectrum lights with no UV content; warm white light emitting diodes (LED) (Colour Temperature <2700 K and UV Wavelength >550 nm); directional downlights illuminating below the horizontal plane; bollard or low level downward directional luminaires; external security lighting should be set on motion-sensors and/or short timers; and use accessories such as baffles, shields, louvres or adjusting the angle of the lamp where necessary (ILP 2021).

## Significance of Residual Effects

The proposed project will have a **Significant Negative** on bats in the absence of mitigation.

The implementation of the mitigation as set out above will ensure that **No Significant Effects** on Bats at a site level.

## 5.5 Badger

### Legislation & Policy

Badger is protected under the Wildlife (Northern Ireland) Order 1985 (as amended). Under the Order it is illegal to kill, injure or take a badger; damage, destroy or obstruct access to badger sett; damage or destroy anything which conceals or protects a badger sett; or disturb a badger while it is occupying a sett. Badger setts are protected by law even when badgers are not presently occupying a sett.

The presence of badger is a material consideration in the determination of the planning application as set out in the SPPS and described above in Section 2.3, Table 1. The strategic policies state that the proposed development must not harm nationally protected species; must be sensitive to all protected species; and must be sited and designed to protect them, their habitats and prevent deterioration and destruction of their breeding or resting sites

### Potential Impacts & Effects

No badger setts or signs of badger activity were found within the application site boundary or within 30m of the site boundary where access was permitted.

The proposed development will have **No Significant Effect** on badger at a local level in the absence of mitigation measures.

## 5.6 Birds

### Legislation & Policy

Birds are protected under the Wildlife (Northern Ireland) Order 1985 (as Amended). Under Article 4 it is an offence to intentionally or recklessly kill, injure or take any wild bird; or take, damage or destroy the nest of any wild bird while that nest is in use or being built; or at any other time take, damage or destroy the nest of any wild bird included in Schedule A1; or obstruct or prevent any wild bird from using its nest; or take or destroy an egg of any wild bird. Under Article 6 it is an offence to intentionally or recklessly disturb any wild bird other than one included in Part II of Schedule 2 while it is building a nest or is in, on or near a nest containing eggs or young; or disturb dependent young of such a bird. Disturbance of birds included in Schedule 1 is liable to special penalties. It is also an offence if any person knowingly causes or permits an act which is made unlawful by any of the foregoing provisions of Article 6.

### Potential Impacts & Effects

Pre-construction site clearance and construction works will require to removal of two small sections of hedgerow, two standalone rowan trees and areas of improved and marshy grassland. Road construction and earthworks in the southern field will result in substantial changes to the physical characteristics of the site. The works have potential to result in destruction of bird nests and disturbance to breeding birds, if carried out during the bird breeding season, which extends between 1st March and 31st August inclusive. Construction works will result in visual and noise disturbance from physical construction over the construction period.

Operation of the proposed project will result in a permanent increase in visual, noise and human disturbance levels across the site.

There is a large amount of habitat on site that provides nesting and foraging habitat for bird species. The hedgerow and trees along the field boundaries will be retained outside of the small areas being removed outlined above. As the project will result in the loss of small sections of hedgerow, trees of moderate ecological value to birds and grassland of low ecological value, we expect it will have **Significant Negative Effect** on breeding bird species in the absence of mitigation.

### Avoidance & Mitigation Measures

Timing of works will ensure that the removal or management of vegetation including trees and hedgerows will take place outside the bird breeding season, which extends between 1st March and 31st August inclusive, to ensure breeding birds are protected from harm. If pre-construction site clearance and removal of vegetation is deemed unavoidable within the bird breeding season an Ecological Clerk of Works (ECoW) will undertake a survey to check for breeding birds immediately prior to works. If breeding birds are found to be present the ECoW will establish species-specific Ecological Exclusion Zones around active nests to ensure birds will be protected from disturbance or harm during works.

All hedgerows removed due to the proposed developments construction will be replaced at a 2:1 ratio, resulting in a gain of foraging and nesting habitat.

### Significance of Residual Effects

The implementation of the mitigation and enhancement measures as set out above will ensure that there is **No Significant Effect** for biodiversity at a site level.

## 5.7 In-Combination Effects

### Pressures on Larne Lough

Larne Lough is heavily influenced by human activities, such as industry, shipping, commercial fishing, shellfish aquaculture and leisure usage.

There are currently a number of impacts occurring on Larne Lough SPA, East Coast Marine pSPA and Ramsar that have an influence on its conservation and management including outdoor sports, leisure and recreational activities; changes in abiotic conditions; mining and pollution to surface; fishing and harvesting aquatic resources; shipping lanes, ports and marine constructions and marine water pollution.

With the implementation of best-practice pollution mitigation measures (Appendix C, sHRA), the proposed development will not introduce synergistic marine water pollution in combination with ongoing activities in Larne Lough. No significant in-combination effects are expected due to the proposed development on Larne Lough.

### Planning Applications

A search of the Northern Ireland Planning Register (NI Planning Portal, 2025) was conducted, assessing projects of similar scale in the immediate area of the proposed development. Developments related to energy infrastructure, large scale residential developments and large-scale industrial developments were to be scoped in, however none were found within the proposed developments immediate zone of interest (2km zone around the application site)

All other applications in the surrounding area were either historic record (10 years or older), minor additions to existing properties of much smaller scale than the proposed development (e.g individual dwelling construction or barn construction). None of these nearby projects had a Shadow Habitats Regulation Assessment or Screening reports submitted with their applications and are therefore indicated to be sub-threshold for any impacts on designated sites. No significant in-combination effects are expected due to the proposed development alone or in-combination with any of these nearby planning applications.

### Mid & East Antrim Local Development Plan 2030

As part of our assessment of potential impacts on nearby designated sites, the Mid & East Antrim Local Development 2030 was reviewed to determine if the proposed expansion of public services and changes in land use outlined in the plan would have in-combination effects with the proposed developments approval.

LDP Policy TE11 Telecommunications & Electricity Infrastructure outlines the following criteria:

- a) There is a need for the proposed development at that location*
- b) The proposal minimises visual intrusion*
- c) The proposal avoids sensitive locations or features unless it is clearly demonstrated to the satisfaction of the council as to why this cannot be achieved: and*
- d) The proposal meet the ICNIRP guidelines for public exposure to electromagnetic fields"*

Section 9.4.15 Electricity Infrastructure outlines the following:

*"New and upgraded electricity infrastructure including poles, pylons, transformers, substations and cables are vital in contributing towards our wider sustainable energy objectives but need to be balanced carefully against the potential impacts on the environment and amenity. Investing in our electricity infrastructure is critical for maintaining energy security and ensuring we can meet these objectives and contribute towards a diverse energy mix. Proposals for strategic energy infrastructure and development will be assessed against Policy TEI1, Policy GP1 and other relevant policies of this plan as appropriate."*

Policy GP1 General Policy for all Development outlines the following relevant information:

*"e) Criteria relating to Sustainable Development*

- i) Development proposals., particularly major applications will be expected to generally align with the LDP Spatial Growth Strategy.*
- ii) Essential infrastructure to facilitate the development or if lacking there must be a firm commitment in regard to its timely provision*
- iii) The development shall utilise sustainable drainage systems as the preferred drainage solution, where feasible and practicable to ensure that surface water run off is managed in a sustainable way*
- iv) The development does not have an unacceptable adverse impact on the quality and integrity of the environment, particularly upon local biodiversity and the delivery of ecosystem services beneficial to the community [...]"*

As any potential pathways for significant adverse effects to impact Larne Lough by a proposed development will be screened out and mitigated for through the guidelines outlined above, we expect that there will be no significant alone or in-combination with the proposed development and any developments constructed as part of the Mid & East Antrim LDP.

## Conclusion of In-Combination Assessment

While the proposed development will produce no significant effects alone or in-combination with the Mid & East Antrim LDP or any nearby projects. Following the implementation of best-practice pollution mitigation measures, we expect that there will be no significant impact on Larne Lough Ramsar, East Coast Marine pSPA and Larne Lough SPA.

**Therefore, we can exclude in-combination effects occurring due to the proposed development on Larne Lough Ramsar, East Coast Marine pSPA and Larne Lough SPA.**

## 5.8 Ecological Clerk of Works

An Ecological Clerk of Works (ECoW) will be employed during pre-construction and construction works. In accordance with BS 42020:2013 Biodiversity, an ECoW is a person who has the ecological qualifications, training, skills and relevant experience to undertake appropriate monitoring and to provide specialist advice to site personnel on the necessary working practices required to safeguard ecological features on site and to aid compliance with any consents and relevant wildlife legislation (BSI 2013).

The ECoW as an independent professional who will have responsibility for monitoring and reporting compliance with planning conditions in relation to ecology features. The ECoW will provide advice in relation

to relevant international and national legislation relating to the protection of ecology; to provide advice on the timing of works and the implementation of mitigation and compensation measures; to apply for relevant derogation licences; to monitor identified works; and to produce site inspection reports. There may be more than one ECoW required depending on the specialist advice required throughout the project.

### **5.9 Pre-Construction Protected Species Surveys**

Pre-construction protected species surveys will be undertaken by an ECoW, immediately prior to construction works, to update the status of protected species recorded on site; to provide information to support any derogation licences; and to ensure that proposed mitigation measures are still appropriate.

### **5.10 Post-Construction Site Visit**

A post-construction site visit will be carried out by the ECoW to confirm mitigation, compensation and biodiversity enhancement measures have been implemented and this will be documented in a site inspection report.



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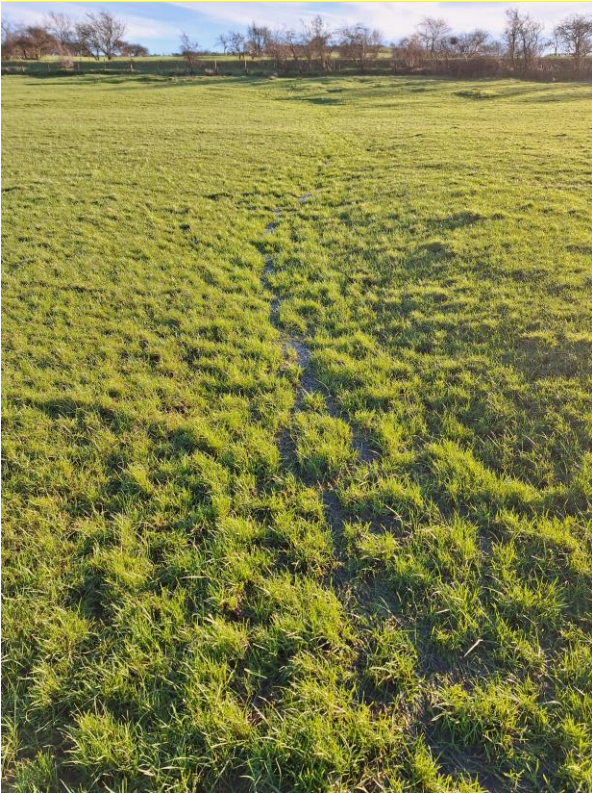


**Plate 1 – TN15 Drainage channel flowing from nearby stream onto Application Site**



**Plate 2 – TN14 Storm damaged Rowan Tree, uprooted.**





**Plate 3 – Shallow stream running through southern field**



**Plate 4 – Marshy/Wet Grassland present in centre of southern field.**





**Plate 5 – Improved grassland with hawthorn dominated intact hedgerows.**



**Plate 6 – Drainage stream running along eastern site boundary. Flowing North.**





**Plate 7 – Western Drainage Ditch**



**Plate 8 – TN17 Drainage Stream Exiting Site via Culvert**





**Plate 9 – TN18 Culverted Stream**



**Plate 10 – TN19 Embankment Damage, water flowing into site.**

**Figures**  
**Figure 1.0 Site Location**

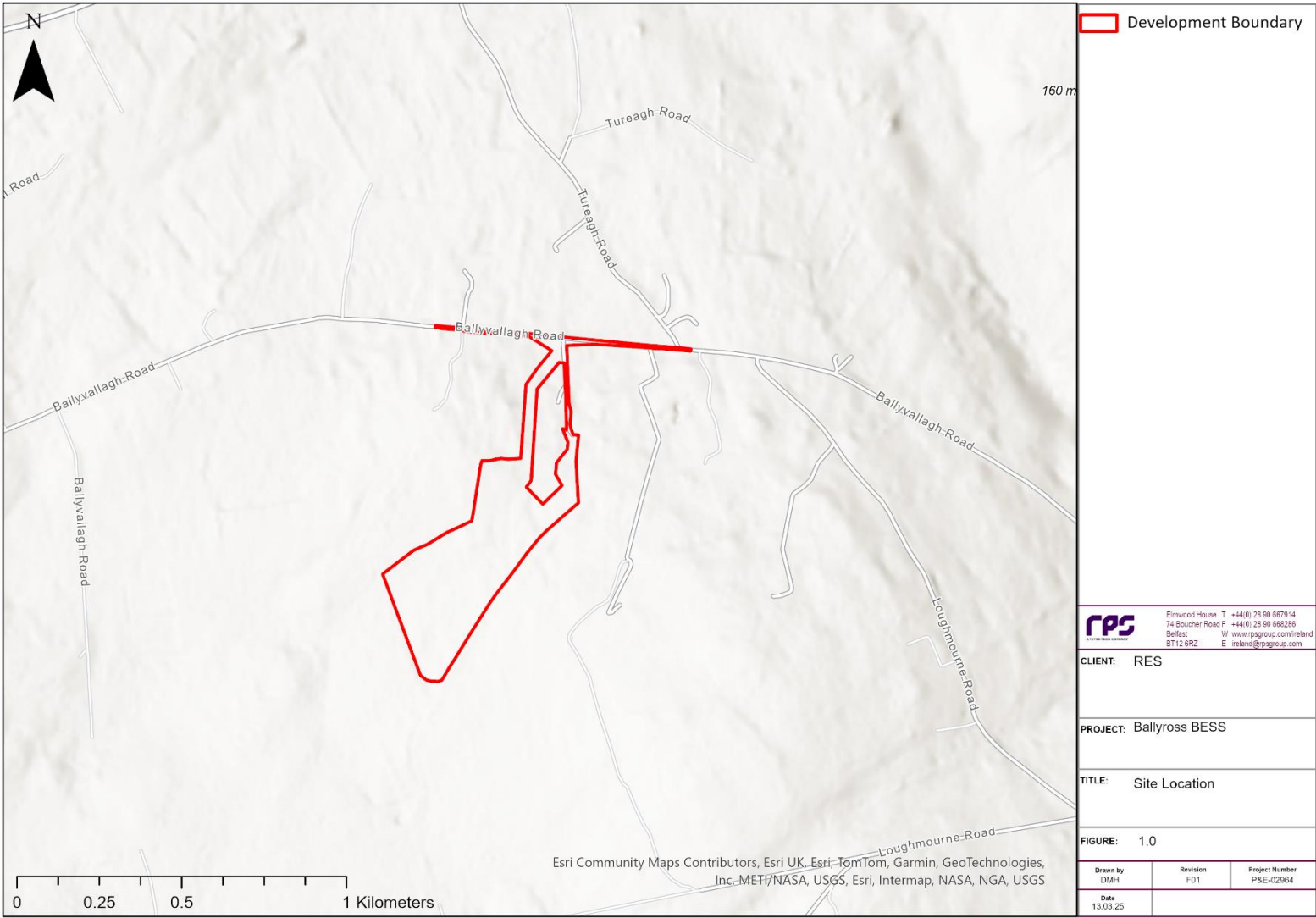




Figure 2 Designated Sites

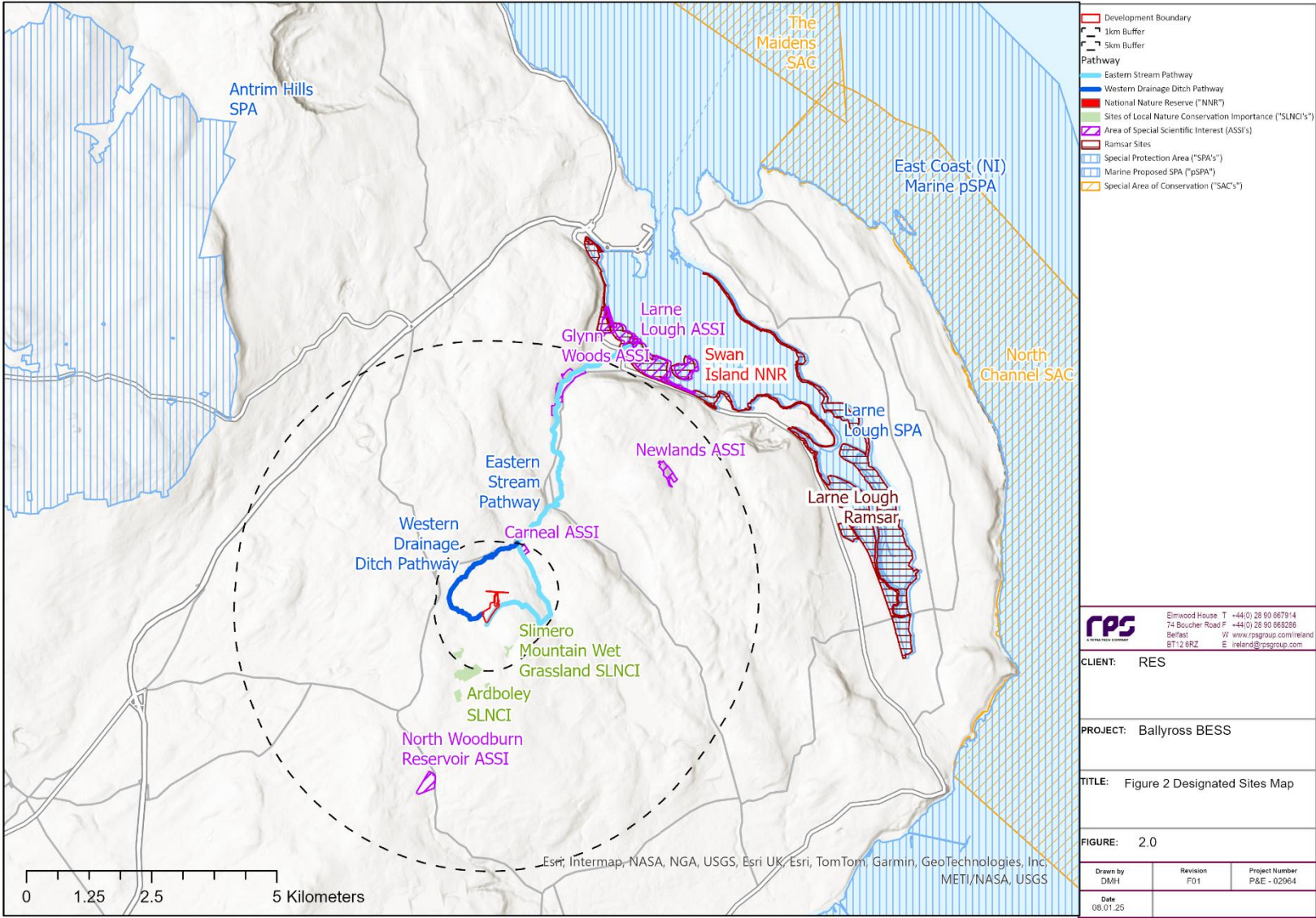
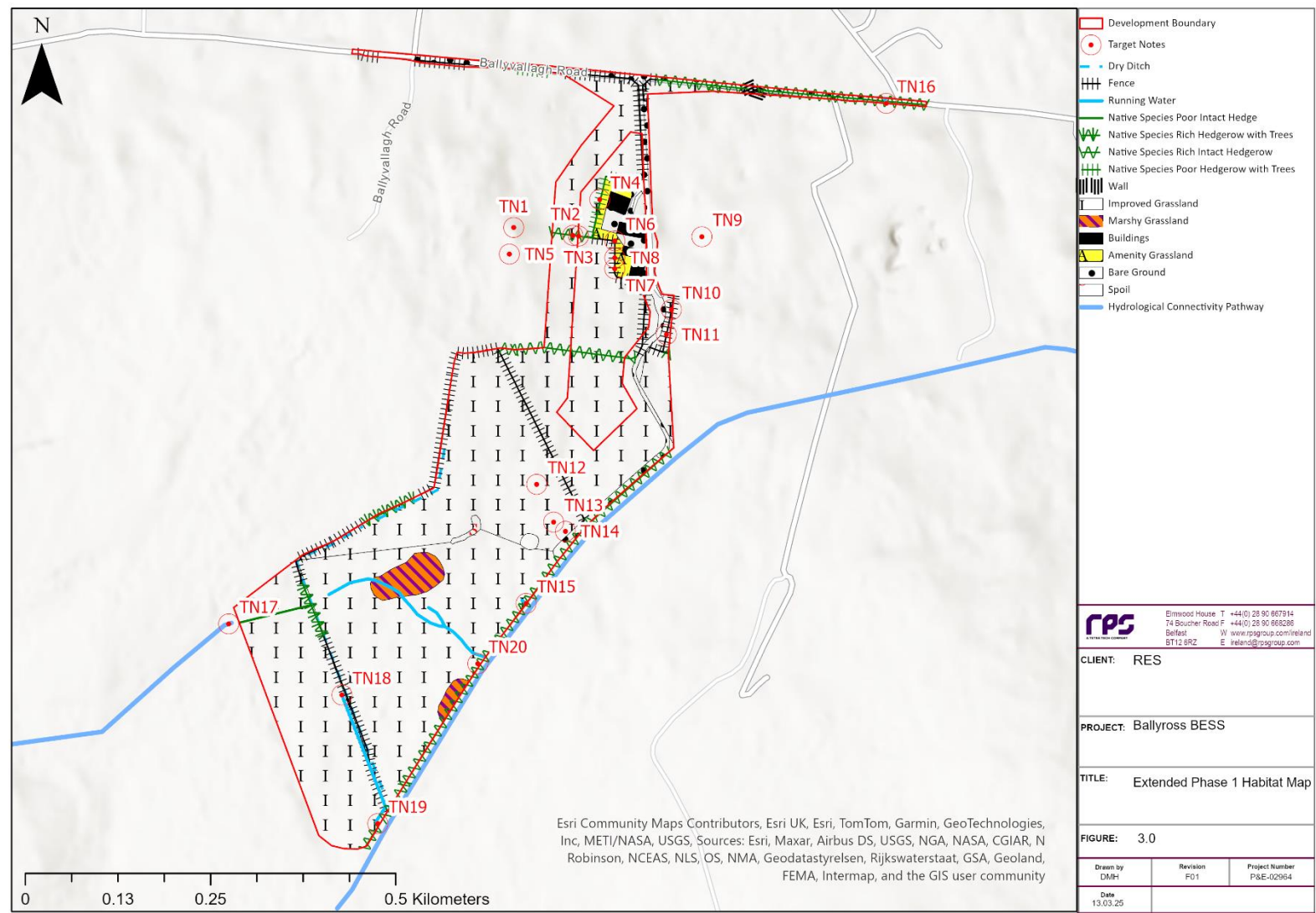




Figure 3 Extended Phase 1 Habitat Map



## Appendix A

### National Biodiversity Network Dataset Citations

Common Name	Taxon Latin Name	Event Date	Location
Small White	Pieris rapae	26.07.2011	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	11.07.2006	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	26.07.2011	Carrickfergus, Northern Ireland
Small White	Pieris rapae	26.07.2011	Carrickfergus, Northern Ireland
Great Tit	Parus major	11.07.2006	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	31.07.2016	Carrickfergus, Northern Ireland
Ringlet	Aphantopus hyperantus	26.07.2011	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	11.07.2006	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	31.07.2016	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	31.07.2017	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	31.07.2017	Carrickfergus, Northern Ireland
Rock Dove	Columba livia	11.07.2006	Carrickfergus, Northern Ireland
Small Tortoiseshell	Aglais urticae	31.07.2017	Carrickfergus, Northern Ireland
Small Tortoiseshell	Aglais urticae	26.07.2011	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	11.07.2006	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	26.07.2011	Carrickfergus, Northern Ireland
Small Tortoiseshell	Aglais urticae	31.07.2017	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	11.07.2006	Carrickfergus, Northern Ireland
Small Tortoiseshell	Aglais urticae	26.07.2011	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	31.07.2016	Carrickfergus, Northern Ireland
Greenfinch	Chloris chloris	11.07.2006	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	31.07.2016	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	26.07.2011	Carrickfergus, Northern Ireland
Ringlet	Aphantopus hyperantus	26.07.2011	Carrickfergus, Northern Ireland
Grey Wagtail	Motacilla cinerea	11.07.2006	Carrickfergus, Northern Ireland
Small Tortoiseshell	Aglais urticae	26.07.2011	Carrickfergus, Northern Ireland
Ringlet	Aphantopus hyperantus	26.07.2011	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	26.07.2011	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	31.07.2016	Carrickfergus, Northern Ireland
Chiffchaff	Phylloscopus collybita	11.07.2006	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	11.07.2006	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	11.07.2006	Carrickfergus, Northern Ireland
Small Tortoiseshell	Aglais urticae	26.07.2011	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	31.07.2017	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	11.07.2006	Carrickfergus, Northern Ireland
Magpie	Pica pica	11.07.2006	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	26.07.2011	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	11.07.2006	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	31.07.2017	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	11.07.2006	Carrickfergus, Northern Ireland
Coal Tit	Periparus ater	11.07.2006	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	31.07.2017	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	11.07.2006	Carrickfergus, Northern Ireland
Ringlet	Aphantopus hyperantus	26.07.2011	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	11.07.2006	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	31.07.2016	Carrickfergus, Northern Ireland

## APPENDICES

Common Name	Taxon Latin Name	Event Date	Location
Wren	Troglodytes troglodytes	11.07.2006	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	26.07.2011	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	26.07.2011	Carrickfergus, Northern Ireland
Meadow Brown	Maniola jurtina	26.07.2011	Carrickfergus, Northern Ireland
Lesser Redpoll	Acanthis cabaret	11.07.2006	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	31.07.2016	Carrickfergus, Northern Ireland
Ringlet	Aphantopus hyperantus	26.07.2011	Carrickfergus, Northern Ireland
Meadow Brown	Maniola jurtina	31.07.2016	Carrickfergus, Northern Ireland
Meadow Brown	Maniola jurtina	31.07.2017	Carrickfergus, Northern Ireland
Ringlet	Aphantopus hyperantus	26.07.2011	Carrickfergus, Northern Ireland
Herring Gull	Larus argentatus	11.07.2006	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	23.06.2019	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	23.06.2019	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	23.06.2019	Carrickfergus, Northern Ireland
Pheasant	Phasianus colchicus	25.06.2020	Carrickfergus, Northern Ireland
Brown Rat	Rattus norvegicus	13.06.1996	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	25.06.2020	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	05.06.1999	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	05.06.1999	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	26.06.2021	Carrickfergus, Northern Ireland
Magpie	Pica pica	13.06.1996	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	13.06.1996	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	26.06.2021	Carrickfergus, Northern Ireland
Magpie	Pica pica	05.06.1999	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	05.06.1999	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	25.06.2020	Carrickfergus, Northern Ireland
Blackcap	Sylvia atricapilla	25.06.2020	Carrickfergus, Northern Ireland
Kestrel	Falco tinnunculus	17.06.2000	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	13.06.1996	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	17.06.2000	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	25.06.2020	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	05.06.1999	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	23.06.2019	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	25.06.2020	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	23.06.2019	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	23.06.2019	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	23.06.2019	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	23.06.2019	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	05.06.1999	Carrickfergus, Northern Ireland
Herring Gull	Larus argentatus	17.06.2000	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	17.06.2000	Carrickfergus, Northern Ireland
Mountain Hare	Lepus timidus	13.06.1996	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	17.06.2000	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	25.06.2020	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	05.06.1999	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	23.06.2019	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	26.06.2021	Carrickfergus, Northern Ireland
Collared Dove	Streptopelia decaocto	23.06.2019	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	13.06.1996	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	13.06.1996	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	13.06.1996	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	13.06.1996	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	25.06.2020	Carrickfergus, Northern Ireland
Coal Tit	Parus ater	23.06.2019	Carrickfergus, Northern Ireland

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Common Name	Taxon Latin Name	Event Date	Location
Song Thrush	Turdus philomelos	25.06.2020	Carrickfergus, Northern Ireland
Mistle Thrush	Turdus viscivorus	17.06.2000	Carrickfergus, Northern Ireland
Mistle Thrush	Turdus viscivorus	13.06.1996	Carrickfergus, Northern Ireland
Lapwing	Vanellus vanellus	13.06.1996	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	25.06.2020	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	26.06.2021	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	26.06.2021	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	17.06.2000	Carrickfergus, Northern Ireland
European Rabbit	Oryctolagus cuniculus	26.06.2021	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	26.06.2021	Carrickfergus, Northern Ireland
Magpie	Pica pica	25.06.2020	Carrickfergus, Northern Ireland
Sedge Warbler	Acrocephalus schoenobaenus	26.06.2021	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	05.06.1999	Carrickfergus, Northern Ireland
Grey Wagtail	Motacilla cinerea	05.06.1999	Carrickfergus, Northern Ireland
Great Tit	Parus major	13.06.1996	Carrickfergus, Northern Ireland
Sedge Warbler	Acrocephalus schoenobaenus	17.06.2000	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	05.06.1999	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	13.06.1996	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	17.06.2000	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	17.06.2000	Carrickfergus, Northern Ireland
Lesser Black-backed Gull	Larus fuscus	17.06.2000	Carrickfergus, Northern Ireland
Collared Dove	Streptopelia decaocto	25.06.2020	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	13.06.1996	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	25.06.2020	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	23.06.2019	Carrickfergus, Northern Ireland
Great Tit	Parus major	23.06.2019	Carrickfergus, Northern Ireland
Coal Tit	Parus ater	05.06.1999	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	26.06.2021	Carrickfergus, Northern Ireland
Pied Wagtail	Motacilla alba	17.06.2000	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	13.06.1996	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	26.06.2021	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	26.06.2021	Carrickfergus, Northern Ireland
Great Tit	Parus major	05.06.1999	Carrickfergus, Northern Ireland
House Martin	Delichon urbicum	17.06.2000	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	26.06.2021	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	26.06.2021	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	26.06.2021	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	17.06.2000	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	26.06.2021	Carrickfergus, Northern Ireland
Sparrowhawk	Accipiter nisus	17.06.2000	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	26.06.2021	Carrickfergus, Northern Ireland
Lesser Redpoll	Acanthis cabaret	13.06.1996	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	25.06.2020	Carrickfergus, Northern Ireland
Pied Wagtail	Motacilla alba	05.06.1999	Carrickfergus, Northern Ireland
Curlew	Numenius arquata	05.06.1999	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	05.06.1999	Carrickfergus, Northern Ireland
Magpie	Pica pica	17.06.2000	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	17.06.2000	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	25.06.2020	Carrickfergus, Northern Ireland
Spotted Flycatcher	Muscicapa striata	13.06.1996	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	13.06.1996	Carrickfergus, Northern Ireland
Great Tit	Parus major	25.06.2020	Carrickfergus, Northern Ireland
Red Fox	Vulpes vulpes	26.06.2021	Carrickfergus, Northern Ireland
Sedge Warbler	Acrocephalus schoenobaenus	23.06.2019	Carrickfergus, Northern Ireland

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Common Name	Taxon Latin Name	Event Date	Location
Magpie	Pica pica	23.06.2019	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	13.06.1996	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	17.06.2000	Carrickfergus, Northern Ireland
Coal Tit	Parus ater	25.06.2020	Carrickfergus, Northern Ireland
Greenfinch	Chloris chloris	17.06.2000	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	23.06.2019	Carrickfergus, Northern Ireland
European Rabbit	Oryctolagus cuniculus	13.06.1996	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	05.06.1999	Carrickfergus, Northern Ireland
European Rabbit	Oryctolagus cuniculus	25.06.2020	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	13.06.1996	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	26.06.2021	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	17.06.2000	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	05.06.1999	Carrickfergus, Northern Ireland
Coal Tit	Parus ater	13.06.1996	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	13.06.1996	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	13.06.1996	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	25.06.2020	Carrickfergus, Northern Ireland
Linnet	Linaria cannabina	05.06.1999	Carrickfergus, Northern Ireland
House Martin	Delichon urbicum	13.06.1996	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	23.06.2019	Carrickfergus, Northern Ireland
Cuckoo	Cuculus canorus	13.06.1996	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	17.06.2000	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	17.06.2000	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	17.06.2000	Carrickfergus, Northern Ireland
Magpie	Pica pica	26.06.2021	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	23.06.2019	Carrickfergus, Northern Ireland
Lesser Redpoll	Acanthis cabaret	05.06.1999	Carrickfergus, Northern Ireland
Whitethroat	Curruca communis	13.06.1996	Carrickfergus, Northern Ireland
Linnet	Linaria cannabina	13.06.1996	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	17.06.2000	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	25.06.2020	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	13.06.1996	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	25.06.2020	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	23.06.2019	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	05.06.1999	Carrickfergus, Northern Ireland
Great Tit	Parus major	26.06.2021	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	26.06.2021	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	23.06.2019	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	17.06.2000	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	05.06.1999	Carrickfergus, Northern Ireland
European Rabbit	Oryctolagus cuniculus	23.06.2019	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	17.06.2000	Carrickfergus, Northern Ireland
Reed Bunting	Emberiza schoeniclus	13.06.1996	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	17.06.2000	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	23.06.2019	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	05.06.1999	Carrickfergus, Northern Ireland
Great Tit	Parus major	17.06.2000	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	23.06.2019	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	05.06.1999	Carrickfergus, Northern Ireland
Collared Dove	Streptopelia decaocto	26.06.2021	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	26.06.2021	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	25.06.2020	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	05.06.1999	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	15.08.2011	Carrickfergus, Northern Ireland



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Common Name	Taxon Latin Name	Event Date	Location
Speckled Wood	Pararge aegeria	18.08.2017	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	15.08.2011	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	18.08.2017	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	18.08.2017	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	18.08.2017	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	15.08.2011	Carrickfergus, Northern Ireland
Small Tortoiseshell	Aglais urticae	18.08.2017	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	15.08.2011	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	15.08.2011	Carrickfergus, Northern Ireland
Peacock	Aglais io	18.08.2017	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	18.08.2017	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	15.08.2011	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	18.08.2017	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	15.08.2011	Carrickfergus, Northern Ireland
Pheasant	Phasianus colchicus	23.04.2019	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	23.04.2019	Carrickfergus, Northern Ireland
Collared Dove	Streptopelia decaocto	23.04.2019	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	23.04.2019	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	23.04.2019	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	23.04.2019	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	17.04.2013	Carrickfergus, Northern Ireland
Redshank	Tringa totanus	17.04.2014	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	23.04.2019	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	17.04.2014	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	17.04.2013	Carrickfergus, Northern Ireland
Lapwing	Vanellus vanellus	17.04.2014	Carrickfergus, Northern Ireland
Magpie	Pica pica	23.04.2019	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	17.04.2014	Carrickfergus, Northern Ireland
Collared Dove	Streptopelia decaocto	17.04.2014	Carrickfergus, Northern Ireland
Herring Gull	Larus argentatus	17.04.2013	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	17.04.2014	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	23.04.2019	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	17.04.2014	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	23.04.2019	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	17.04.2014	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	17.04.2014	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	23.04.2019	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	23.04.2019	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	17.04.2013	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	17.04.2014	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	23.04.2019	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	17.04.2014	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	17.04.2014	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	17.04.2013	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	23.04.2019	Carrickfergus, Northern Ireland
Magpie	Pica pica	17.04.2014	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	17.04.2014	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	23.04.2019	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	17.04.2013	Carrickfergus, Northern Ireland
Coal Tit	Parus ater	17.04.2014	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	17.04.2013	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	23.04.2019	Carrickfergus, Northern Ireland
Great Tit	Parus major	23.04.2019	Carrickfergus, Northern Ireland
Pied Wagtail	Motacilla alba	23.04.2019	Carrickfergus, Northern Ireland

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Common Name	Taxon Latin Name	Event Date	Location
Black-headed Gull	Chroicocephalus ridibundus	17.04.2013	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	23.04.2019	Carrickfergus, Northern Ireland
European Rabbit	Oryctolagus cuniculus	23.04.2019	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	17.04.2013	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	23.04.2019	Carrickfergus, Northern Ireland
Coal Tit	Periparus ater	23.04.2019	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	23.04.2019	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	17.04.2014	Carrickfergus, Northern Ireland
House Martin	Delichon urbicum	17.04.2014	Carrickfergus, Northern Ireland
White-lipped Snail	Cepaea (Cepaea) hortensis	11.04.2021	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	23.04.2019	Carrickfergus, Northern Ireland
Mallard	Anas platyrhynchos	03.05.1999	Carrickfergus, Northern Ireland
Skylark	Alauda arvensis	13.05.1996	Carrickfergus, Northern Ireland
Greenfinch	Chloris chloris	03.05.1999	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	13.05.1996	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	28.05.2013	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	27.05.2006	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	13.05.2000	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	09.05.2021	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	23.05.2014	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	03.05.1998	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	09.05.2021	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	09.05.2021	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	19.05.2005	Carrickfergus, Northern Ireland
Collared Dove	Streptopelia decaocto	23.05.2014	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	27.05.2006	Carrickfergus, Northern Ireland
Mistle Thrush	Turdus viscivorus	13.05.1996	Carrickfergus, Northern Ireland
Lapwing	Vanellus vanellus	13.05.2000	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	09.05.2021	Carrickfergus, Northern Ireland
Lapwing	Vanellus vanellus	13.05.1996	Carrickfergus, Northern Ireland
Linnet	Linaria cannabina	03.05.1998	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	03.05.1998	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	09.05.2021	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	13.05.2000	Carrickfergus, Northern Ireland
Goldcrest	Regulus regulus	03.05.1999	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	03.05.1998	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	13.05.1996	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	23.05.2014	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	27.05.2006	Carrickfergus, Northern Ireland
Greenfinch	Chloris chloris	19.05.2005	Carrickfergus, Northern Ireland
Collared Dove	Streptopelia decaocto	09.05.2021	Carrickfergus, Northern Ireland
Pheasant	Phasianus colchicus	13.05.2000	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	13.05.2000	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	09.05.2021	Carrickfergus, Northern Ireland
Sedge Warbler	Acrocephalus schoenobaenus	03.05.1998	Carrickfergus, Northern Ireland
Orange-tip	Anthocharis cardamines	02.05.2011	Carrickfergus, Northern Ireland
Lesser Redpoll	Acanthis cabaret	03.05.1999	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	19.05.2005	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	23.05.2014	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	03.05.1999	Carrickfergus, Northern Ireland
Orange-tip	Anthocharis cardamines	29.05.2016	Carrickfergus, Northern Ireland
Pied Wagtail	Motacilla alba	03.05.1998	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	13.05.2000	Carrickfergus, Northern Ireland
House Martin	Delichon urbicum	03.05.1998	Carrickfergus, Northern Ireland



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Common Name	Taxon Latin Name	Event Date	Location
Great Tit	Parus major	28.05.2013	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	13.05.1996	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	23.05.2014	Carrickfergus, Northern Ireland
Magpie	Pica pica	03.05.1998	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	19.05.2005	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	13.05.1996	Carrickfergus, Northern Ireland
Herring Gull	Larus argentatus	03.05.1998	Carrickfergus, Northern Ireland
Dipper	Cinclus cinclus	13.05.2000	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	23.05.2014	Carrickfergus, Northern Ireland
Collared Dove	Streptopelia decaocto	28.05.2013	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	27.05.2006	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	03.05.1999	Carrickfergus, Northern Ireland
Linnet	Linaria cannabina	03.05.1999	Carrickfergus, Northern Ireland
Greenfinch	Chloris chloris	23.05.2014	Carrickfergus, Northern Ireland
Great Tit	Parus major	19.05.2005	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	03.05.1998	Carrickfergus, Northern Ireland
Great Tit	Parus major	03.05.1998	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	13.05.2000	Carrickfergus, Northern Ireland
Lesser Redpoll	Acanthis cabaret	13.05.1996	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	13.05.1996	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	28.05.2017	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	28.05.2017	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	13.05.1996	Carrickfergus, Northern Ireland
Lesser Redpoll	Acanthis cabaret	13.05.2000	Carrickfergus, Northern Ireland
Mistle Thrush	Turdus viscivorus	19.05.2005	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	13.05.2000	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	13.05.1996	Carrickfergus, Northern Ireland
House Martin	Delichon urbicum	28.05.2013	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	13.05.1996	Carrickfergus, Northern Ireland
Goldcrest	Regulus regulus	27.05.2006	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	19.05.2005	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	27.05.2006	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	03.05.1998	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	23.05.2014	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	13.05.1996	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	19.05.2005	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	13.05.2000	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	13.05.1996	Carrickfergus, Northern Ireland
Lesser Redpoll	Acanthis cabaret	03.05.1998	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	03.05.1998	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	03.05.1998	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	09.05.2021	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	28.05.2013	Carrickfergus, Northern Ireland
Great Tit	Parus major	23.05.2014	Carrickfergus, Northern Ireland
Pied Wagtail	Motacilla alba	13.05.2000	Carrickfergus, Northern Ireland
Mountain Hare	Lepus timidus	03.05.1999	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	28.05.2013	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	13.05.1996	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	03.05.1999	Carrickfergus, Northern Ireland
Curlew	Numenius arquata	03.05.1998	Carrickfergus, Northern Ireland
Tree Sparrow	Passer montanus	28.05.2013	Carrickfergus, Northern Ireland
Greenfinch	Chloris chloris	13.05.2000	Carrickfergus, Northern Ireland
Magpie	Pica pica	23.05.2014	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	13.05.2000	Carrickfergus, Northern Ireland

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Common Name	Taxon Latin Name	Event Date	Location
Wren	Troglodytes troglodytes	03.05.1999	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	03.05.1999	Carrickfergus, Northern Ireland
House Martin	Delichon urbicum	27.05.2006	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	03.05.1999	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	23.05.2014	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	03.05.1998	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	13.05.1996	Carrickfergus, Northern Ireland
Herring Gull	Larus argentatus	28.05.2013	Carrickfergus, Northern Ireland
Bullfinch	Pyrrhula pyrrhula	03.05.1998	Carrickfergus, Northern Ireland
Grey Heron	Ardea cinerea	27.05.2006	Carrickfergus, Northern Ireland
Coal Tit	Periparus ater	13.05.1996	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	03.05.1998	Carrickfergus, Northern Ireland
Whitethroat	Curruca communis	03.05.1998	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	09.05.2021	Carrickfergus, Northern Ireland
Magpie	Pica pica	19.05.2005	Carrickfergus, Northern Ireland
Blackcap	Sylvia atricapilla	09.05.2021	Carrickfergus, Northern Ireland
Coal Tit	Periparus ater	27.05.2006	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	03.05.1999	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	13.05.2000	Carrickfergus, Northern Ireland
Cuckoo	Cuculus canorus	19.05.2005	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	29.05.2016	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	09.05.2021	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	19.05.2005	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	09.05.2021	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	23.05.2014	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	13.05.2000	Carrickfergus, Northern Ireland
Magpie	Pica pica	03.05.1999	Carrickfergus, Northern Ireland
Meadow Brown	Maniola jurtina	28.05.2017	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	03.05.1999	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	13.05.1996	Carrickfergus, Northern Ireland
Sedge Warbler	Acrocephalus schoenobaenus	28.05.2013	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	03.05.1998	Carrickfergus, Northern Ireland
Magpie	Pica pica	13.05.1996	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	09.05.2021	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	28.05.2013	Carrickfergus, Northern Ireland
Coal Tit	Periparus ater	09.05.2021	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	09.05.2021	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	28.05.2013	Carrickfergus, Northern Ireland
Great Tit	Parus major	03.05.1999	Carrickfergus, Northern Ireland
Green Dock Beetle	Gastrophysa viridula	16.05.2021	Carrickfergus, Northern Ireland
Greenfinch	Chloris chloris	27.05.2006	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	28.05.2013	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	03.05.1999	Carrickfergus, Northern Ireland
Grey Heron	Ardea cinerea	13.05.2000	Carrickfergus, Northern Ireland
House Martin	Delichon urbicum	13.05.2000	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	13.05.1996	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	28.05.2013	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	03.05.1999	Carrickfergus, Northern Ireland
Orange-tip	Anthocharis cardamines	29.05.2016	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	28.05.2013	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	02.05.2011	Carrickfergus, Northern Ireland
Reed Bunting	Emberiza schoeniclus	13.05.1996	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	13.05.1996	Carrickfergus, Northern Ireland
Buzzard	Buteo buteo	28.05.2013	Carrickfergus, Northern Ireland

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Common Name	Taxon Latin Name	Event Date	Location
Rook	Corvus frugilegus	03.05.1999	Carrickfergus, Northern Ireland
Sedge Warbler	Acrocephalus schoenobaenus	19.05.2005	Carrickfergus, Northern Ireland
Sedge Warbler	Acrocephalus schoenobaenus	13.05.2000	Carrickfergus, Northern Ireland
Mistle Thrush	Turdus viscivorus	27.05.2006	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	03.05.1998	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	13.05.2000	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	27.05.2006	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	03.05.1998	Carrickfergus, Northern Ireland
Magpie	Pica pica	09.05.2021	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	03.05.1999	Carrickfergus, Northern Ireland
Whitethroat	Curruca communis	13.05.1996	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	28.05.2013	Carrickfergus, Northern Ireland
Skylark	Alauda arvensis	03.05.1999	Carrickfergus, Northern Ireland
Coal Tit	Parus ater	28.05.2013	Carrickfergus, Northern Ireland
Mistle Thrush	Turdus viscivorus	13.05.2000	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	03.05.1998	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	03.05.1999	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	09.05.2021	Carrickfergus, Northern Ireland
Pied Wagtail	Motacilla alba	03.05.1999	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	23.05.2014	Carrickfergus, Northern Ireland
Coal Tit	Parus ater	19.05.2005	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	03.05.1999	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	13.05.2000	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	28.05.2017	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	13.05.1996	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	27.05.2006	Carrickfergus, Northern Ireland
House Martin	Delichon urbicum	23.05.2014	Carrickfergus, Northern Ireland
Herring Gull	Larus argentatus	09.05.2021	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	03.05.1998	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	02.05.2011	Carrickfergus, Northern Ireland
Meadow Brown	Maniola jurtina	28.05.2017	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	23.05.2014	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	13.05.2000	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	27.05.2006	Carrickfergus, Northern Ireland
Great Tit	Parus major	09.05.2021	Carrickfergus, Northern Ireland
Lesser Black-backed Gull	Larus fuscus	03.05.1999	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	23.05.2014	Carrickfergus, Northern Ireland
Grey Wagtail	Motacilla cinerea	03.05.1998	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	19.05.2005	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	02.05.2011	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	13.05.2000	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	03.05.1998	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	09.05.2021	Carrickfergus, Northern Ireland
Magpie	Pica pica	13.05.2000	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	27.05.2006	Carrickfergus, Northern Ireland
Magpie	Pica pica	27.05.2006	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	23.05.2014	Carrickfergus, Northern Ireland
Herring Gull	Larus argentatus	13.05.2000	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	27.05.2006	Carrickfergus, Northern Ireland
European Rabbit	Oryctolagus cuniculus	13.05.1996	Carrickfergus, Northern Ireland
Great Tit	Parus major	13.05.1996	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	27.05.2006	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	13.05.1996	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	03.05.1998	Carrickfergus, Northern Ireland

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Common Name	Taxon Latin Name	Event Date	Location
Great Tit	Parus major	13.05.2000	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	09.05.2021	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	03.05.1998	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	29.05.2016	Carrickfergus, Northern Ireland
European Rabbit	Oryctolagus cuniculus	09.05.2021	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	09.05.2021	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	28.05.2013	Carrickfergus, Northern Ireland
Sedge Warbler	Acrocephalus schoenobaenus	03.05.1999	Carrickfergus, Northern Ireland
Dipper	Cinclus cinclus	27.05.2006	Carrickfergus, Northern Ireland
Sparrowhawk	Accipiter nisus	03.05.1998	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	13.05.2000	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	23.05.2014	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	13.05.2000	Carrickfergus, Northern Ireland
Sedge Warbler	Acrocephalus schoenobaenus	27.05.2006	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	03.05.1999	Carrickfergus, Northern Ireland
Lesser Black-backed Gull	Larus fuscus	09.05.2021	Carrickfergus, Northern Ireland
Cormorant	Phalacrocorax carbo	03.05.1999	Carrickfergus, Northern Ireland
Cuckoo	Cuculus canorus	13.05.1996	Carrickfergus, Northern Ireland
Lesser Black-backed Gull	Larus fuscus	13.05.2000	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	27.05.2006	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	13.05.2000	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	23.05.2014	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	13.05.2000	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	27.05.2006	Carrickfergus, Northern Ireland
Small White	Pieris rapae	26.07.2011	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	11.07.2006	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	26.07.2011	Carrickfergus, Northern Ireland
Small White	Pieris rapae	26.07.2011	Carrickfergus, Northern Ireland
Great Tit	Parus major	11.07.2006	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	31.07.2016	Carrickfergus, Northern Ireland
Ringlet	Aphantopus hyperantus	26.07.2011	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	11.07.2006	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	31.07.2016	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	31.07.2017	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	31.07.2017	Carrickfergus, Northern Ireland
Rock Dove	Columba livia	11.07.2006	Carrickfergus, Northern Ireland
Small Tortoiseshell	Aglais urticae	31.07.2017	Carrickfergus, Northern Ireland
Small Tortoiseshell	Aglais urticae	26.07.2011	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	11.07.2006	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	26.07.2011	Carrickfergus, Northern Ireland
Small Tortoiseshell	Aglais urticae	31.07.2017	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	11.07.2006	Carrickfergus, Northern Ireland
Small Tortoiseshell	Aglais urticae	26.07.2011	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	31.07.2016	Carrickfergus, Northern Ireland
Greenfinch	Chloris chloris	11.07.2006	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	31.07.2016	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	26.07.2011	Carrickfergus, Northern Ireland
Ringlet	Aphantopus hyperantus	26.07.2011	Carrickfergus, Northern Ireland
Grey Wagtail	Motacilla cinerea	11.07.2006	Carrickfergus, Northern Ireland
Small Tortoiseshell	Aglais urticae	26.07.2011	Carrickfergus, Northern Ireland
Ringlet	Aphantopus hyperantus	26.07.2011	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	26.07.2011	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	31.07.2016	Carrickfergus, Northern Ireland
Chiffchaff	Phylloscopus collybita	11.07.2006	Carrickfergus, Northern Ireland

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Common Name	Taxon Latin Name	Event Date	Location
Willow Warbler	Phylloscopus trochilus	11.07.2006	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	11.07.2006	Carrickfergus, Northern Ireland
Small Tortoiseshell	Aglaia urticae	26.07.2011	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	31.07.2017	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	11.07.2006	Carrickfergus, Northern Ireland
Magpie	Pica pica	11.07.2006	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	26.07.2011	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	11.07.2006	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	31.07.2017	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	11.07.2006	Carrickfergus, Northern Ireland
Coal Tit	Periparus ater	11.07.2006	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	31.07.2017	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	11.07.2006	Carrickfergus, Northern Ireland
Ringlet	Aphantopus hyperantus	26.07.2011	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	11.07.2006	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	31.07.2016	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	11.07.2006	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	26.07.2011	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	26.07.2011	Carrickfergus, Northern Ireland
Meadow Brown	Maniola jurtina	26.07.2011	Carrickfergus, Northern Ireland
Lesser Redpoll	Acanthis cabaret	11.07.2006	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	31.07.2016	Carrickfergus, Northern Ireland
Ringlet	Aphantopus hyperantus	26.07.2011	Carrickfergus, Northern Ireland
Meadow Brown	Maniola jurtina	31.07.2016	Carrickfergus, Northern Ireland
Meadow Brown	Maniola jurtina	31.07.2017	Carrickfergus, Northern Ireland
Ringlet	Aphantopus hyperantus	26.07.2011	Carrickfergus, Northern Ireland
Herring Gull	Larus argentatus	11.07.2006	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	23.06.2019	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	23.06.2019	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	23.06.2019	Carrickfergus, Northern Ireland
Pheasant	Phasianus colchicus	25.06.2020	Carrickfergus, Northern Ireland
Brown Rat	Rattus norvegicus	13.06.1996	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	25.06.2020	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	05.06.1999	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	05.06.1999	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	26.06.2021	Carrickfergus, Northern Ireland
Magpie	Pica pica	13.06.1996	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	13.06.1996	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	26.06.2021	Carrickfergus, Northern Ireland
Magpie	Pica pica	05.06.1999	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	05.06.1999	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	25.06.2020	Carrickfergus, Northern Ireland
Blackcap	Sylvia atricapilla	25.06.2020	Carrickfergus, Northern Ireland
Kestrel	Falco tinnunculus	17.06.2000	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	13.06.1996	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	17.06.2000	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	25.06.2020	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	05.06.1999	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	23.06.2019	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	25.06.2020	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	23.06.2019	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	23.06.2019	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	23.06.2019	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	23.06.2019	Carrickfergus, Northern Ireland



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Common Name	Taxon Latin Name	Event Date	Location
Starling	<i>Sturnus vulgaris</i>	05.06.1999	Carrickfergus, Northern Ireland
Herring Gull	<i>Larus argentatus</i>	17.06.2000	Carrickfergus, Northern Ireland
Song Thrush	<i>Turdus philomelos</i>	17.06.2000	Carrickfergus, Northern Ireland
Mountain Hare	<i>Lepus timidus</i>	13.06.1996	Carrickfergus, Northern Ireland
Woodpigeon	<i>Columba palumbus</i>	17.06.2000	Carrickfergus, Northern Ireland
Blackbird	<i>Turdus merula</i>	25.06.2020	Carrickfergus, Northern Ireland
Swallow	<i>Hirundo rustica</i>	05.06.1999	Carrickfergus, Northern Ireland
Dunnock	<i>Prunella modularis</i>	23.06.2019	Carrickfergus, Northern Ireland
Swallow	<i>Hirundo rustica</i>	26.06.2021	Carrickfergus, Northern Ireland
Collared Dove	<i>Streptopelia decaocto</i>	23.06.2019	Carrickfergus, Northern Ireland
Blackbird	<i>Turdus merula</i>	13.06.1996	Carrickfergus, Northern Ireland
Swallow	<i>Hirundo rustica</i>	13.06.1996	Carrickfergus, Northern Ireland
Dunnock	<i>Prunella modularis</i>	13.06.1996	Carrickfergus, Northern Ireland
House Sparrow	<i>Passer domesticus</i>	13.06.1996	Carrickfergus, Northern Ireland
Blue Tit	<i>Cyanistes caeruleus</i>	25.06.2020	Carrickfergus, Northern Ireland
Coal Tit	<i>Periparus ater</i>	23.06.2019	Carrickfergus, Northern Ireland
Song Thrush	<i>Turdus philomelos</i>	25.06.2020	Carrickfergus, Northern Ireland
Mistle Thrush	<i>Turdus viscivorus</i>	17.06.2000	Carrickfergus, Northern Ireland
Mistle Thrush	<i>Turdus viscivorus</i>	13.06.1996	Carrickfergus, Northern Ireland
Lapwing	<i>Vanellus vanellus</i>	13.06.1996	Carrickfergus, Northern Ireland
Meadow Pipit	<i>Anthus pratensis</i>	25.06.2020	Carrickfergus, Northern Ireland
House Sparrow	<i>Passer domesticus</i>	26.06.2021	Carrickfergus, Northern Ireland
Hooded Crow	<i>Corvus cornix</i>	26.06.2021	Carrickfergus, Northern Ireland
Robin	<i>Erithacus rubecula</i>	17.06.2000	Carrickfergus, Northern Ireland
European Rabbit	<i>Oryctolagus cuniculus</i>	26.06.2021	Carrickfergus, Northern Ireland
Blackbird	<i>Turdus merula</i>	26.06.2021	Carrickfergus, Northern Ireland
Magpie	<i>Pica pica</i>	25.06.2020	Carrickfergus, Northern Ireland
Sedge Warbler	<i>Acrocephalus schoenobaenus</i>	26.06.2021	Carrickfergus, Northern Ireland
Song Thrush	<i>Turdus philomelos</i>	05.06.1999	Carrickfergus, Northern Ireland
Grey Wagtail	<i>Motacilla cinerea</i>	05.06.1999	Carrickfergus, Northern Ireland
Great Tit	<i>Parus major</i>	13.06.1996	Carrickfergus, Northern Ireland
Sedge Warbler	<i>Acrocephalus schoenobaenus</i>	17.06.2000	Carrickfergus, Northern Ireland
Rook	<i>Corvus frugilegus</i>	05.06.1999	Carrickfergus, Northern Ireland
Song Thrush	<i>Turdus philomelos</i>	13.06.1996	Carrickfergus, Northern Ireland
Meadow Pipit	<i>Anthus pratensis</i>	17.06.2000	Carrickfergus, Northern Ireland
House Sparrow	<i>Passer domesticus</i>	17.06.2000	Carrickfergus, Northern Ireland
Lesser Black-backed Gull	<i>Larus fuscus</i>	17.06.2000	Carrickfergus, Northern Ireland
Collared Dove	<i>Streptopelia decaocto</i>	25.06.2020	Carrickfergus, Northern Ireland
Jackdaw	<i>Coloeus monedula</i>	13.06.1996	Carrickfergus, Northern Ireland
Swallow	<i>Hirundo rustica</i>	25.06.2020	Carrickfergus, Northern Ireland
Jackdaw	<i>Coloeus monedula</i>	23.06.2019	Carrickfergus, Northern Ireland
Great Tit	<i>Parus major</i>	23.06.2019	Carrickfergus, Northern Ireland
Coal Tit	<i>Periparus ater</i>	05.06.1999	Carrickfergus, Northern Ireland
Jackdaw	<i>Coloeus monedula</i>	26.06.2021	Carrickfergus, Northern Ireland
Pied Wagtail	<i>Motacilla alba</i>	17.06.2000	Carrickfergus, Northern Ireland
Woodpigeon	<i>Columba palumbus</i>	13.06.1996	Carrickfergus, Northern Ireland
Woodpigeon	<i>Columba palumbus</i>	26.06.2021	Carrickfergus, Northern Ireland
Starling	<i>Sturnus vulgaris</i>	26.06.2021	Carrickfergus, Northern Ireland
Great Tit	<i>Parus major</i>	05.06.1999	Carrickfergus, Northern Ireland
House Martin	<i>Delichon urbicum</i>	17.06.2000	Carrickfergus, Northern Ireland
Blue Tit	<i>Cyanistes caeruleus</i>	26.06.2021	Carrickfergus, Northern Ireland
Rook	<i>Corvus frugilegus</i>	26.06.2021	Carrickfergus, Northern Ireland
Chaffinch	<i>Fringilla coelebs</i>	26.06.2021	Carrickfergus, Northern Ireland
Rook	<i>Corvus frugilegus</i>	17.06.2000	Carrickfergus, Northern Ireland

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Common Name	Taxon Latin Name	Event Date	Location
Goldfinch	Carduelis carduelis	26.06.2021	Carrickfergus, Northern Ireland
Sparrowhawk	Accipiter nisus	17.06.2000	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	26.06.2021	Carrickfergus, Northern Ireland
Lesser Redpoll	Acanthis cabaret	13.06.1996	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	25.06.2020	Carrickfergus, Northern Ireland
Pied Wagtail	Motacilla alba	05.06.1999	Carrickfergus, Northern Ireland
Curlew	Numenius arquata	05.06.1999	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	05.06.1999	Carrickfergus, Northern Ireland
Magpie	Pica pica	17.06.2000	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	17.06.2000	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	25.06.2020	Carrickfergus, Northern Ireland
Spotted Flycatcher	Muscicapa striata	13.06.1996	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	13.06.1996	Carrickfergus, Northern Ireland
Great Tit	Parus major	25.06.2020	Carrickfergus, Northern Ireland
Red Fox	Vulpes vulpes	26.06.2021	Carrickfergus, Northern Ireland
Sedge Warbler	Acrocephalus schoenobaenus	23.06.2019	Carrickfergus, Northern Ireland
Magpie	Pica pica	23.06.2019	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	13.06.1996	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	17.06.2000	Carrickfergus, Northern Ireland
Coal Tit	Periparus ater	25.06.2020	Carrickfergus, Northern Ireland
Greenfinch	Chloris chloris	17.06.2000	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	23.06.2019	Carrickfergus, Northern Ireland
European Rabbit	Oryctolagus cuniculus	13.06.1996	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	05.06.1999	Carrickfergus, Northern Ireland
European Rabbit	Oryctolagus cuniculus	25.06.2020	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	13.06.1996	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	26.06.2021	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	17.06.2000	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	05.06.1999	Carrickfergus, Northern Ireland
Coal Tit	Periparus ater	13.06.1996	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	13.06.1996	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	13.06.1996	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	25.06.2020	Carrickfergus, Northern Ireland
Linnet	Linaria cannabina	05.06.1999	Carrickfergus, Northern Ireland
House Martin	Delichon urbicum	13.06.1996	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	23.06.2019	Carrickfergus, Northern Ireland
Cuckoo	Cuculus canorus	13.06.1996	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	17.06.2000	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	17.06.2000	Carrickfergus, Northern Ireland
Duncock	Prunella modularis	17.06.2000	Carrickfergus, Northern Ireland
Magpie	Pica pica	26.06.2021	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	23.06.2019	Carrickfergus, Northern Ireland
Lesser Redpoll	Acanthis cabaret	05.06.1999	Carrickfergus, Northern Ireland
Whitethroat	Curruca communis	13.06.1996	Carrickfergus, Northern Ireland
Linnet	Linaria cannabina	13.06.1996	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	17.06.2000	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	25.06.2020	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	13.06.1996	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	25.06.2020	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	23.06.2019	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	05.06.1999	Carrickfergus, Northern Ireland
Great Tit	Parus major	26.06.2021	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	26.06.2021	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	23.06.2019	Carrickfergus, Northern Ireland



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Common Name	Taxon Latin Name	Event Date	Location
Blackbird	Turdus merula	17.06.2000	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	05.06.1999	Carrickfergus, Northern Ireland
European Rabbit	Oryctolagus cuniculus	23.06.2019	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	17.06.2000	Carrickfergus, Northern Ireland
Reed Bunting	Emberiza schoeniclus	13.06.1996	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	17.06.2000	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	23.06.2019	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	05.06.1999	Carrickfergus, Northern Ireland
Great Tit	Parus major	17.06.2000	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	23.06.2019	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	05.06.1999	Carrickfergus, Northern Ireland
Collared Dove	Streptopelia decaocto	26.06.2021	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	26.06.2021	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	25.06.2020	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	05.06.1999	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	15.08.2011	Carrickfergus, Northern Ireland
Speckled Wood	Pararge aegeria	18.08.2017	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	15.08.2011	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	18.08.2017	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	18.08.2017	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	18.08.2017	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	15.08.2011	Carrickfergus, Northern Ireland
Small Tortoiseshell	Aglais urticae	18.08.2017	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	15.08.2011	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	15.08.2011	Carrickfergus, Northern Ireland
Peacock	Aglais io	18.08.2017	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	18.08.2017	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	15.08.2011	Carrickfergus, Northern Ireland
Large White	Pieris brassicae	18.08.2017	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	15.08.2011	Carrickfergus, Northern Ireland
Pheasant	Phasianus colchicus	23.04.2019	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	23.04.2019	Carrickfergus, Northern Ireland
Collared Dove	Streptopelia decaocto	23.04.2019	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	23.04.2019	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	23.04.2019	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	23.04.2019	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	17.04.2013	Carrickfergus, Northern Ireland
Redshank	Tringa totanus	17.04.2014	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	23.04.2019	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	17.04.2014	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	17.04.2013	Carrickfergus, Northern Ireland
Lapwing	Vanellus vanellus	17.04.2014	Carrickfergus, Northern Ireland
Magpie	Pica pica	23.04.2019	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	17.04.2014	Carrickfergus, Northern Ireland
Collared Dove	Streptopelia decaocto	17.04.2014	Carrickfergus, Northern Ireland
Herring Gull	Larus argentatus	17.04.2013	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	17.04.2014	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	23.04.2019	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	17.04.2014	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	23.04.2019	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	17.04.2014	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	17.04.2014	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	23.04.2019	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	23.04.2019	Carrickfergus, Northern Ireland

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Common Name	Taxon Latin Name	Event Date	Location
Chaffinch	Fringilla coelebs	17.04.2013	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	17.04.2014	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	23.04.2019	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	17.04.2014	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	17.04.2014	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	17.04.2013	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	23.04.2019	Carrickfergus, Northern Ireland
Magpie	Pica pica	17.04.2014	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	17.04.2014	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	23.04.2019	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	17.04.2013	Carrickfergus, Northern Ireland
Coal Tit	Periparus ater	17.04.2014	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	17.04.2013	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	23.04.2019	Carrickfergus, Northern Ireland
Great Tit	Parus major	23.04.2019	Carrickfergus, Northern Ireland
Pied Wagtail	Motacilla alba	23.04.2019	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	17.04.2013	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	23.04.2019	Carrickfergus, Northern Ireland
European Rabbit	Oryctolagus cuniculus	23.04.2019	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	17.04.2013	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	23.04.2019	Carrickfergus, Northern Ireland
Coal Tit	Periparus ater	23.04.2019	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	23.04.2019	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	17.04.2014	Carrickfergus, Northern Ireland
House Martin	Delichon urbicum	17.04.2014	Carrickfergus, Northern Ireland
White-lipped Snail	Cepaea (Cepaea) hortensis	11.04.2021	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	23.04.2019	Carrickfergus, Northern Ireland
Mallard	Anas platyrhynchos	03.05.1999	Carrickfergus, Northern Ireland
Skylark	Alauda arvensis	13.05.1996	Carrickfergus, Northern Ireland
Greenfinch	Chloris chloris	03.05.1999	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	13.05.1996	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	28.05.2013	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	27.05.2006	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	13.05.2000	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	09.05.2021	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	23.05.2014	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	03.05.1998	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	09.05.2021	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	09.05.2021	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	19.05.2005	Carrickfergus, Northern Ireland
Collared Dove	Streptopelia decaocto	23.05.2014	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	27.05.2006	Carrickfergus, Northern Ireland
Mistle Thrush	Turdus viscivorus	13.05.1996	Carrickfergus, Northern Ireland
Lapwing	Vanellus vanellus	13.05.2000	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	09.05.2021	Carrickfergus, Northern Ireland
Lapwing	Vanellus vanellus	13.05.1996	Carrickfergus, Northern Ireland
Linnet	Linaria cannabina	03.05.1998	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	03.05.1998	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	09.05.2021	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	13.05.2000	Carrickfergus, Northern Ireland
Goldcrest	Regulus regulus	03.05.1999	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	03.05.1998	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	13.05.1996	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	23.05.2014	Carrickfergus, Northern Ireland

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Common Name	Taxon Latin Name	Event Date	Location
Jackdaw	Coloeus monedula	27.05.2006	Carrickfergus, Northern Ireland
Greenfinch	Chloris chloris	19.05.2005	Carrickfergus, Northern Ireland
Collared Dove	Streptopelia decaocto	09.05.2021	Carrickfergus, Northern Ireland
Pheasant	Phasianus colchicus	13.05.2000	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	13.05.2000	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	09.05.2021	Carrickfergus, Northern Ireland
Sedge Warbler	Acrocephalus schoenobaenus	03.05.1998	Carrickfergus, Northern Ireland
Orange-tip	Anthocharis cardamines	02.05.2011	Carrickfergus, Northern Ireland
Lesser Redpoll	Acanthis cabaret	03.05.1999	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	19.05.2005	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	23.05.2014	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	03.05.1999	Carrickfergus, Northern Ireland
Orange-tip	Anthocharis cardamines	29.05.2016	Carrickfergus, Northern Ireland
Pied Wagtail	Motacilla alba	03.05.1998	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	13.05.2000	Carrickfergus, Northern Ireland
House Martin	Delichon urbicum	03.05.1998	Carrickfergus, Northern Ireland
Great Tit	Parus major	28.05.2013	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	13.05.1996	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	23.05.2014	Carrickfergus, Northern Ireland
Magpie	Pica pica	03.05.1998	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	19.05.2005	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	13.05.1996	Carrickfergus, Northern Ireland
Herring Gull	Larus argentatus	03.05.1998	Carrickfergus, Northern Ireland
Dipper	Cinclus cinclus	13.05.2000	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	23.05.2014	Carrickfergus, Northern Ireland
Collared Dove	Streptopelia decaocto	28.05.2013	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	27.05.2006	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	03.05.1999	Carrickfergus, Northern Ireland
Linnet	Linaria cannabina	03.05.1999	Carrickfergus, Northern Ireland
Greenfinch	Chloris chloris	23.05.2014	Carrickfergus, Northern Ireland
Great Tit	Parus major	19.05.2005	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	03.05.1998	Carrickfergus, Northern Ireland
Great Tit	Parus major	03.05.1998	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	13.05.2000	Carrickfergus, Northern Ireland
Lesser Redpoll	Acanthis cabaret	13.05.1996	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	13.05.1996	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	28.05.2017	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	28.05.2017	Carrickfergus, Northern Ireland
Duncock	Prunella modularis	13.05.1996	Carrickfergus, Northern Ireland
Lesser Redpoll	Acanthis cabaret	13.05.2000	Carrickfergus, Northern Ireland
Mistle Thrush	Turdus viscivorus	19.05.2005	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	13.05.2000	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	13.05.1996	Carrickfergus, Northern Ireland
House Martin	Delichon urbicum	28.05.2013	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	13.05.1996	Carrickfergus, Northern Ireland
Goldcrest	Regulus regulus	27.05.2006	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	19.05.2005	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	27.05.2006	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	03.05.1998	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	23.05.2014	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	13.05.1996	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	19.05.2005	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	13.05.2000	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	13.05.1996	Carrickfergus, Northern Ireland

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Common Name	Taxon Latin Name	Event Date	Location
Lesser Redpoll	Acanthis cabaret	03.05.1998	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	03.05.1998	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	03.05.1998	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	09.05.2021	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	28.05.2013	Carrickfergus, Northern Ireland
Great Tit	Parus major	23.05.2014	Carrickfergus, Northern Ireland
Pied Wagtail	Motacilla alba	13.05.2000	Carrickfergus, Northern Ireland
Mountain Hare	Lepus timidus	03.05.1999	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	28.05.2013	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	13.05.1996	Carrickfergus, Northern Ireland
Starling	Sturnus vulgaris	03.05.1999	Carrickfergus, Northern Ireland
Curlew	Numenius arquata	03.05.1998	Carrickfergus, Northern Ireland
Tree Sparrow	Passer montanus	28.05.2013	Carrickfergus, Northern Ireland
Greenfinch	Chloris chloris	13.05.2000	Carrickfergus, Northern Ireland
Magpie	Pica pica	23.05.2014	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	13.05.2000	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	03.05.1999	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	03.05.1999	Carrickfergus, Northern Ireland
House Martin	Delichon urbicum	27.05.2006	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	03.05.1999	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	23.05.2014	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	03.05.1998	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	13.05.1996	Carrickfergus, Northern Ireland
Herring Gull	Larus argentatus	28.05.2013	Carrickfergus, Northern Ireland
Bullfinch	Pyrrhula pyrrhula	03.05.1998	Carrickfergus, Northern Ireland
Grey Heron	Ardea cinerea	27.05.2006	Carrickfergus, Northern Ireland
Coal Tit	Periparus ater	13.05.1996	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	03.05.1998	Carrickfergus, Northern Ireland
Whitethroat	Curruca communis	03.05.1998	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	09.05.2021	Carrickfergus, Northern Ireland
Magpie	Pica pica	19.05.2005	Carrickfergus, Northern Ireland
Blackcap	Sylvia atricapilla	09.05.2021	Carrickfergus, Northern Ireland
Coal Tit	Periparus ater	27.05.2006	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	03.05.1999	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	13.05.2000	Carrickfergus, Northern Ireland
Cuckoo	Cuculus canorus	19.05.2005	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	29.05.2016	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	09.05.2021	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	19.05.2005	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	09.05.2021	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	23.05.2014	Carrickfergus, Northern Ireland
Willow Warbler	Phylloscopus trochilus	13.05.2000	Carrickfergus, Northern Ireland
Magpie	Pica pica	03.05.1999	Carrickfergus, Northern Ireland
Meadow Brown	Maniola jurtina	28.05.2017	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	03.05.1999	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	13.05.1996	Carrickfergus, Northern Ireland
Sedge Warbler	Acrocephalus schoenobaenus	28.05.2013	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	03.05.1998	Carrickfergus, Northern Ireland
Magpie	Pica pica	13.05.1996	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	09.05.2021	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	28.05.2013	Carrickfergus, Northern Ireland
Coal Tit	Periparus ater	09.05.2021	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	09.05.2021	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	28.05.2013	Carrickfergus, Northern Ireland

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Common Name	Taxon Latin Name	Event Date	Location
Great Tit	Parus major	03.05.1999	Carrickfergus, Northern Ireland
Green Dock Beetle	Gastrophysa viridula	16.05.2021	Carrickfergus, Northern Ireland
Greenfinch	Chloris chloris	27.05.2006	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	28.05.2013	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	03.05.1999	Carrickfergus, Northern Ireland
Grey Heron	Ardea cinerea	13.05.2000	Carrickfergus, Northern Ireland
House Martin	Delichon urbicum	13.05.2000	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	13.05.1996	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	28.05.2013	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	03.05.1999	Carrickfergus, Northern Ireland
Orange-tip	Anthocharis cardamines	29.05.2016	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	28.05.2013	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	02.05.2011	Carrickfergus, Northern Ireland
Reed Bunting	Emberiza schoeniclus	13.05.1996	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	13.05.1996	Carrickfergus, Northern Ireland
Buzzard	Buteo buteo	28.05.2013	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	03.05.1999	Carrickfergus, Northern Ireland
Sedge Warbler	Acrocephalus schoenobaenus	19.05.2005	Carrickfergus, Northern Ireland
Sedge Warbler	Acrocephalus schoenobaenus	13.05.2000	Carrickfergus, Northern Ireland
Mistle Thrush	Turdus viscivorus	27.05.2006	Carrickfergus, Northern Ireland
Black-headed Gull	Chroicocephalus ridibundus	03.05.1998	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	13.05.2000	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	27.05.2006	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	03.05.1998	Carrickfergus, Northern Ireland
Magpie	Pica pica	09.05.2021	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	03.05.1999	Carrickfergus, Northern Ireland
Whitethroat	Curruca communis	13.05.1996	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	28.05.2013	Carrickfergus, Northern Ireland
Skylark	Alauda arvensis	03.05.1999	Carrickfergus, Northern Ireland
Coal Tit	Parus ater	28.05.2013	Carrickfergus, Northern Ireland
Mistle Thrush	Turdus viscivorus	13.05.2000	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	03.05.1998	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	03.05.1999	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	09.05.2021	Carrickfergus, Northern Ireland
Pied Wagtail	Motacilla alba	03.05.1999	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	23.05.2014	Carrickfergus, Northern Ireland
Coal Tit	Parus ater	19.05.2005	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	03.05.1999	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	13.05.2000	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	28.05.2017	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	13.05.1996	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	27.05.2006	Carrickfergus, Northern Ireland
House Martin	Delichon urbicum	23.05.2014	Carrickfergus, Northern Ireland
Herring Gull	Larus argentatus	09.05.2021	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	03.05.1998	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	02.05.2011	Carrickfergus, Northern Ireland
Meadow Brown	Maniola jurtina	28.05.2017	Carrickfergus, Northern Ireland
Meadow Pipit	Anthus pratensis	23.05.2014	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	13.05.2000	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	27.05.2006	Carrickfergus, Northern Ireland
Great Tit	Parus major	09.05.2021	Carrickfergus, Northern Ireland
Lesser Black-backed Gull	Larus fuscus	03.05.1999	Carrickfergus, Northern Ireland
Hooded Crow	Corvus cornix	23.05.2014	Carrickfergus, Northern Ireland
Grey Wagtail	Motacilla cinerea	03.05.1998	Carrickfergus, Northern Ireland



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Common Name	Taxon Latin Name	Event Date	Location
Chaffinch	Fringilla coelebs	19.05.2005	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	02.05.2011	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	13.05.2000	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	03.05.1998	Carrickfergus, Northern Ireland
Swallow	Hirundo rustica	09.05.2021	Carrickfergus, Northern Ireland
Magpie	Pica pica	13.05.2000	Carrickfergus, Northern Ireland
Dunnock	Prunella modularis	27.05.2006	Carrickfergus, Northern Ireland
Magpie	Pica pica	27.05.2006	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	23.05.2014	Carrickfergus, Northern Ireland
Herring Gull	Larus argentatus	13.05.2000	Carrickfergus, Northern Ireland
Chaffinch	Fringilla coelebs	27.05.2006	Carrickfergus, Northern Ireland
European Rabbit	Oryctolagus cuniculus	13.05.1996	Carrickfergus, Northern Ireland
Great Tit	Parus major	13.05.1996	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	27.05.2006	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	13.05.1996	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	03.05.1998	Carrickfergus, Northern Ireland
Great Tit	Parus major	13.05.2000	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	09.05.2021	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	03.05.1998	Carrickfergus, Northern Ireland
Green-veined White	Pieris napi	29.05.2016	Carrickfergus, Northern Ireland
European Rabbit	Oryctolagus cuniculus	09.05.2021	Carrickfergus, Northern Ireland
Robin	Erithacus rubecula	09.05.2021	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	28.05.2013	Carrickfergus, Northern Ireland
Sedge Warbler	Acrocephalus schoenobaenus	03.05.1999	Carrickfergus, Northern Ireland
Dipper	Cinclus cinclus	27.05.2006	Carrickfergus, Northern Ireland
Sparrowhawk	Accipiter nisus	03.05.1998	Carrickfergus, Northern Ireland
Blackbird	Turdus merula	13.05.2000	Carrickfergus, Northern Ireland
House Sparrow	Passer domesticus	23.05.2014	Carrickfergus, Northern Ireland
Blue Tit	Cyanistes caeruleus	13.05.2000	Carrickfergus, Northern Ireland
Sedge Warbler	Acrocephalus schoenobaenus	27.05.2006	Carrickfergus, Northern Ireland
Woodpigeon	Columba palumbus	03.05.1999	Carrickfergus, Northern Ireland
Lesser Black-backed Gull	Larus fuscus	09.05.2021	Carrickfergus, Northern Ireland
Cormorant	Phalacrocorax carbo	03.05.1999	Carrickfergus, Northern Ireland
Cuckoo	Cuculus canorus	13.05.1996	Carrickfergus, Northern Ireland
Lesser Black-backed Gull	Larus fuscus	13.05.2000	Carrickfergus, Northern Ireland
Wren	Troglodytes troglodytes	27.05.2006	Carrickfergus, Northern Ireland
Song Thrush	Turdus philomelos	13.05.2000	Carrickfergus, Northern Ireland
Jackdaw	Coloeus monedula	23.05.2014	Carrickfergus, Northern Ireland
Rook	Corvus frugilegus	13.05.2000	Carrickfergus, Northern Ireland
Goldfinch	Carduelis carduelis	27.05.2006	Carrickfergus, Northern Ireland

## National Biodiversity Network Dataset Citations

## NBN Atlas Datasets Citations


Name	DOI	Citation	Rights	More Information	Records in Download
CEDaR Online Recording	10.15468/ke4kw8	Records provided by CEDaR Online Recording, accessed through NBN Atlas website.	Creative Commons with Attribution 4.0 (CC-BY) CC BY Attribution	For more information: <a href="https://registry.nbnatl.as.org/public/show/dr1954">https://registry.nbnatl.as.org/public/show/dr1954</a>	2
Wider Countryside Butterfly Scheme (WCBS)	10.15468/jgm7ci	Contains UK Butterfly Monitoring Scheme (UKBMS) data Â© copyright and database right Butterfly Conservation, the Centre for Ecology & Hydrology, British Trust for Ornithology, and the Joint Nature Conservation Committee	Open Government Licence (OGL)	For more information: email <a href="mailto:brc@ceh.ac.uk">brc@ceh.ac.uk</a> , or <a href="https://registry.nbnatl.as.org/public/show/dr1383">https://registry.nbnatl.as.org/public/show/dr1383</a>	64
Birds (BTO/JNCC/RS PB partnership)		Records provided by BTO, accessed through NBN Atlas website	Open Government Licence (OGL)	For more information: <a href="https://registry.nbnatl.as.org/public/show/dr2370">https://registry.nbnatl.as.org/public/show/dr2370</a>	425
British Trust for Ornithology		Records provided by British Trust for Ornithology, accessed through NBN Atlas website.		For more information: email <a href="mailto:info@bto.org">info@bto.org</a> , or <a href="https://registry.nbnatl.as.org/public/show/dp29">https://registry.nbnatl.as.org/public/show/dp29</a>	436
UK Butterfly Monitoring Scheme		Records provided by UK Butterfly Monitoring Scheme, accessed through NBN Atlas website.		For more information: email <a href="mailto:ukbms@ceh.ac.uk">ukbms@ceh.ac.uk</a> , or <a href="https://registry.nbnatl.as.org/public/show/dp235">https://registry.nbnatl.as.org/public/show/dp235</a>	64
Non-avian taxa (BTO/JNCC/RS PB partnership)		Records provided by BTO, accessed through NBN Atlas website	Open Government Licence (OGL)	For more information: <a href="https://registry.nbnatl.as.org/public/show/dr2331">https://registry.nbnatl.as.org/public/show/dr2331</a>	11




Appendix B

Preliminary Roost Assessment for Bats



Preliminary Roost Assessment for Bats

Structure Ref No.	Photograph	Description	Bat Roost Suitability
TN1 Beech Tree		<p>Target Note 1 is a Beech Tree (<i>Fagus sylvatica</i>) embedded within a hedgerow on the north western boundary of the application site.</p> <p>The tree lacked any ivy cladding but possessed a few examples of deep notches or cracks that could be used a roosting habitat for individual bats.</p> <p>This tree is to be retained.</p>	PRF-I (Notches/Cracks)


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Structure Ref No.	Photograph	Description	Bat Roost Suitability
TN2 Beech		<p>Target Note 2 is a Beech Tree (<i>Fagus sylvatica</i>) embedded within a hedgerow west of the farmyard.</p> <p>The tree lacked any ivy cladding and possessed no deep notches or crevices that could be used by roosting bats.</p> <p>This tree is to be retained.</p>	Negligible



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Structure Ref No.	Photograph	Description	Bat Roost Suitability
TN3 Ash		<p>Target Note 3 is an Ash Tree (<i>Fraxinus excelsior</i>) embedded within a hedgerow west of the farmyard.</p> <p>The tree lacked any ivy cladding and possessed no deep notches or crevices that could be used by roosting bats.</p> <p>This tree is to be retained.</p>	Negligible
TN4 Row of Red Cedar		<p>Target Note 4 is a row of Red Cedar (<i>Thuja plicata</i>) embedded planting along the boundary of the farmhouse garden.</p> <p>The trees lacked any ivy cladding and possessed no deep notches or crevices that could be used by roosting bats.</p> <p>These trees will be retained.</p>	Negligible

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Structure Ref No.	Photograph	Description	Bat Roost Suitability
TN5 Ash		<p>Target Note 5 is an Ash Tree (<i>Fraxinus excelsior</i>) embedded within a hedgerow on the north western boundary of the application site.</p> <p>The tree lacked any ivy cladding but possessed numerous examples of deep notches or cracks on its bark that could be used a roosting habitat for individual bats.</p> <p>This tree is to be retained.</p>	PRF-I (Notches/Cracks)

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Structure Ref No.	Photograph	Description	Bat Roost Suitability
			
TN6 Ash		<p>Target Note 6 is an Ash Tree (<i>Fraxinus excelsior</i>) embedded within a fence on the farmyard boundary.</p> <p>The tree lacked any ivy cladding and possessed no deep notches or crevices that could be used by roosting bats.</p> <p>This tree is to be retained.</p>	Negligible

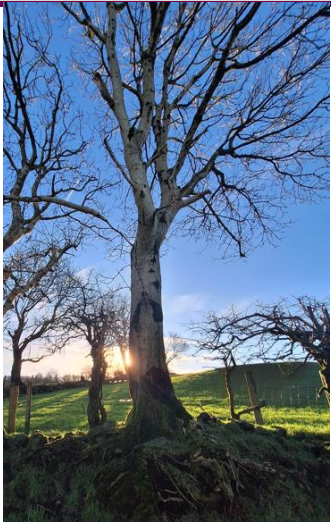



APPENDICES




Structure Ref No.	Photograph	Description	Bat Roost Suitability
TN7 Ash		<p>Target Note 7 is an Ash Tree (<i>Fraxinus excelsior</i>) embedded within a fence on the farmyard boundary.</p> <p>The tree lacked any ivy cladding and possessed no deep notches or crevices that could be used by roosting bats.</p> <p>This tree is to be retained.</p>	Negligible
TN8 Ash		<p>Target Note 7 is an Ash Tree (<i>Fraxinus excelsior</i>) embedded within a fence on the farmyard boundary.</p> <p>The tree lacked any ivy cladding and possessed no deep notches or crevices that could be used by roosting bats.</p> <p>This tree is to be retained.</p>	Negligible



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Structure Ref No.	Photograph	Description	Bat Roost Suitability
TN9 Ash		<p>Target Note 9 is an Ash Tree (<i>Fraxinus excelsior</i>) embedded within a fence on the eastern boundary of the application site.</p> <p>The tree lacked any ivy cladding and possessed no deep notches or crevices that could be used by roosting bats.</p> <p>This tree is to be retained.</p>	Negligible
TN10 Ash		<p>Target Note 10 is an Ash Tree (<i>Fraxinus excelsior</i>) embedded within a fence to the rear of the farmyard .</p> <p>The tree lacked any ivy cladding and possessed no deep notches or crevices that could be used by roosting bats.</p> <p>This tree is to be retained.</p>	Negligible

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Structure Ref No.	Photograph	Description	Bat Roost Suitability
TN11 Ash		<p>Target Note 11 is an Ash Tree (<i>Fraxinus excelsior</i>) embedded within a fence to the rear of the farmyard .</p> <p>The tree lacked any ivy cladding and possessed no deep notches or crevices that could be used by roosting bats.</p> <p>This tree is to be retained.</p>	Negligible
TN12 Standalone Rowan		<p>Target Note 12 is a standalone Rowan Tree (<i>Sorbus aucuparia</i>) embedded located in the southernmost field of the application site.</p> <p>The tree lacked any ivy cladding and possessed no deep notches or crevices that could be used by roosting bats.</p> <p><b>This tree will be removed as it is under the proposed developments footprint.</b></p>	Negligible
TN13 Standalone Rowan		<p>Target Note 13 is a standalone Rowan Tree (<i>Sorbus aucuparia</i>) embedded located in the southernmost field of the application site and to the east of TN12.</p> <p>The tree lacked any ivy cladding and possessed no deep notches or crevices that could be used by roosting bats.</p> <p><b>This tree will be removed as it is under the proposed developments footprint.</b></p>	Negligible

## Appendix C Shadow Habitats Regulations Assessment

