7.1 INTRODUCTION

Rooaunalaghta Green Energy Limited is seeking planning consent for a renewable energy development comprising 13 no. wind turbines and ancillary works, collectively referred to as the Rooaunalaghta Wind Farm (hereafter the "proposed project").

This ornithological assessment considers the proposed project, as described in Chapter 2 of the EIAR and illustrated in Figure 7-1. The proposed project comprises the proposed wind farm site the 110 kV Substation, Turbine Delivery Route (TDR) and the Grid Connection Route (GCR) and all associated infrastructure. The assessment considers potential ornithological effects associated with all project components; however, the primary focus is the proposed wind farm site where the principal interaction pathways (e.g., disturbance, displacement, habitat loss, collision risk and barrier effects) have been identified. The TDR and GCR are considered where relevant to ornithological receptors; however, given the nature of the proposed works, their location within existing road corridors and/or disturbed environments, and the absence of identified important ornithological receptors along these routes, no significant ornithological effects are predicted.

The proposed wind farm site comprises an irregularly shaped contiguous land parcel of approximately 209 hectares (ha), located approximately 2.5 kilometres (km) southwest of Shrule, Co. Mayo and approximately 3.5 km northwest of Headford, Co. Galway.

Alternative site layouts, turbine configurations and project design options were considered during project evolution and are described in Chapter 3 of the EIAR. The ornithological assessment has informed the iterative design process through the identification and avoidance of sensitive ornithological receptors where practicable.

The assessment considers the potential for direct and indirect effects on ornithological receptors arising from all elements of the proposed project during the construction, operation and decommissioning phases. The level of assessment applied to individual project components is proportionate to the identified impact pathways and the potential for interaction with ornithological receptors, as determined through the Source-Pathway-Receptor (S-P-R) approach described in this chapter.

This chapter assesses the potential effects of the proposed project, with a primary focus on the proposed wind farm site, on ornithological receptors, including breeding, wintering, and passage bird species, as well as designated sites with potential connectivity to the proposed project (e.g., Special Protection Areas (SPAs) and proposed Natural Heritage Areas (pNHAs)). This assessment considers the effects with regard to each phase of development; construction phase, operational phase and decommissioning phase. The assessment draws on baseline study data, desk-based studies, and published guidance to identify potential impacts and sets out proposed mitigation measures designed to avoid, reduce, or offset any likely significant effects. Residual effects on Important Ornithological Features (IOFs) are then evaluated.

7.1.1 STATEMENT OF AUTHORITY

This section provides a brief summary of the qualifications and experience of the APEM Group personnel involved in the preparation of this chapter, including field surveys, data collection and

management, modelling, assessments, and technical review. Additional information on each team member is presented in Appendix 7-1.

Aron Sapsford is a Principal Ornithologist with over 30 years' experience in ornithological research, survey design, monitoring and impact assessment. He has extensive experience delivering ornithological surveys and assessments for wind energy, grid infrastructure and other major infrastructure projects across Ireland, specialising in raptors, migratory waterbirds, and collision risk assessment. Aron was the principal author of this chapter, including interpretation of survey data, evaluation of ornithological receptors and assessment of potential project effects.

Julieta Pedrana (MSc in Biol. Science and Conservation Biol., PhD) is a Senior Ecologist and GIS Analyst with over 11 years' experience in the field of ecological consultancy (including over 3 years in Ireland). Julieta is one of the authors of this chapter and associated appendices (including collision risk modelling).

James Spencer (BSc Biology with Ornithology) is Service Line Director for Ornithology with over 17 years' experience in consultancy including extensive experience of onshore wind assessments in the UK and Ireland. He is an Associate member of CIEEM (ACIEEM) and is the ornithology lead for APEM Group. James undertook technical review of the ornithology chapter.

Conn Barry (MSc Environmental Resource Management) is an Ecological Data and GIS Officer with over 4 years' experience as an Ecologist, including bird surveys and data management for large-scale projects. Conn was involved in bird data and GIS management and processing.

David Russell (MSc Environmental Forestry) is an Ecological Surveyor with 11 years' experience with various NGOs such as the National Trust for Scotland and the Royal Society for the Protection of Birds. David was involved in undertaking field surveys to inform this chapter.

James O'Connor (PhD Aquatic Sciences) is a Senior Ecologist with 15 years' experience in ecology. James has a wide range of experience in monitoring wild bird populations through vantage point, breeding bird, wetland bird (I-WeBS), and species-specific surveys. James was involved in undertaking field surveys to inform this chapter.

Seán Dundon (BSc Wildlife Biology) is Field Ecologist with 5 years' experience in bird, bat and terrestrial mammal surveys. Seán was involved in undertaking field surveys to inform this chapter.

Simon Leo Mitchell (PhD Avian Ecology) is a Freelance Ornithologist with experience delivering ornithological surveys for renewable energy and infrastructure projects across Ireland since 2022. His expertise includes vantage point surveys, breeding raptor surveys, breeding bird surveys, and wintering and wetland bird monitoring. Simon was involved in undertaking field surveys and data analysis to inform this chapter.

Brien Foley (BSc Marine Science) is a Freelance Field Ornithologist with 4 years' experience conducting bird surveys, as well as experience in GIS and environmental impact assessment. Brien was involved in undertaking field surveys to inform this chapter.

Adrian Walsh (MSc Wildlife Conservation & Management) is an Ecologist with over 4 years' ornithological monitoring experience, including I-WeBS, breeding birds and fatality monitoring at wind farm sites. Adrian was involved in undertaking field surveys to inform this chapter.

Conleth Conway (MSc Biodiversity Conservation) is a Freelance Ecologist with 9 years' experience in ecology and wildlife conservation. Conleth's expertise includes bird surveys, collision risk modelling and ecological clerk of works (ECoW) services. Conleth is one of the authors of this chapter.

Dáithí Lavelle is a Field Ecologist with 4 years' experience in a wide range of ecological surveys including birds, bats and habitats, on top of 20 years' experience in environmental outreach. Dáithí was involved in undertaking field surveys to inform this chapter.

Andrea Parisi (PhD Natural Sciences) is a Lead Project Ecologist with 9 years' experience in ecology. Andrea has extensive experience in bird field surveys, particularly passive acoustic monitoring and thermal imaging for corncrake (*Crex crex*). Andrea was involved in undertaking field surveys to inform this chapter.

Aoife Moroney (MSc Environmental Engineering) is an Ecologist with over 6 years' experience conducting bird surveys including Vantage Point (VP) surveys, breeding birds and I-WeBS, as well as carrying out collision risk modelling. Aoife was involved in undertaking field surveys to inform this chapter.

Michael Hoit (BSc Ecology) is a Freelance Ecologist and Project Consultant, with over 20 years' experience in bird surveying in upland and lowland sites, as well as targeted surveys for species such as barn owl (*Tyto alba*), red kite (*Milvus milvus*) and nightjar (*Caprimulgus europaeus*). Michael was involved in undertaking field surveys to inform this chapter.

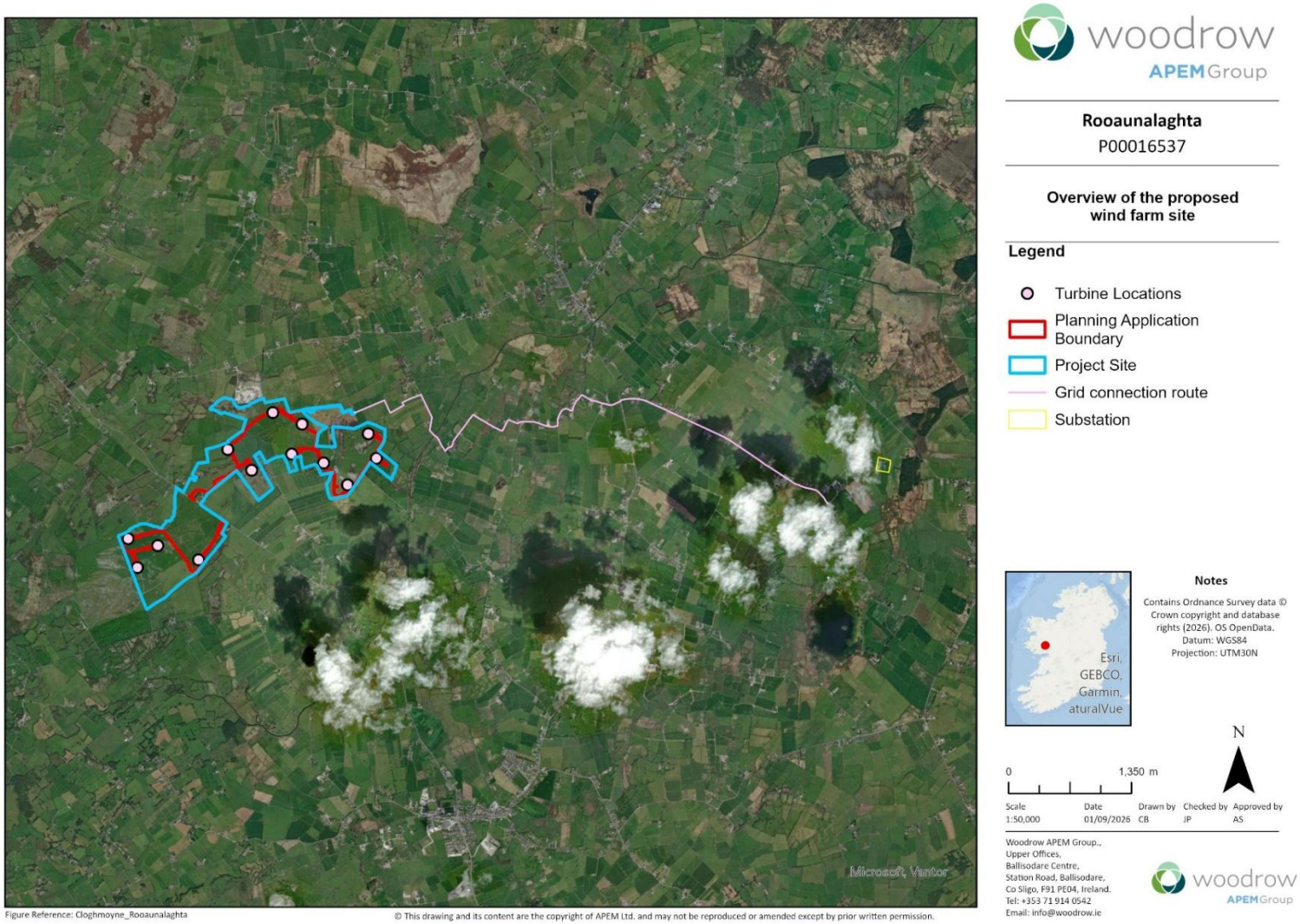


Figure 7-1: Overview of the proposed wind farm site

7.2 SCOPING AND CONSULTATION

7.2.1 SCOPE OF ASSESSMENT

This chapter has been prepared by APEM Group Woodrow to examine the potential effects that the proposed project may have on ornithological interests present within the Study Area, including IOFs.

This chapter of the Environmental Impact Assessment Report (EIAR) is supported by the following Technical Appendices:

- Appendix 7-1: Statement of Competencies;
- Appendix 7-2: Collision Risk Model (CRM) Report;
- Appendix 7-3: Baseline Ornithology Report;
- Appendix 7-4: British Trust for Ornithology (BTO) Species Codes;
- Appendix 7-5: Survey effort and weather conditions;
- Appendix 7-6: Viewshed analysis;
- Appendix 7-7: Vantage Point data for target species – maps and tables;
- Appendix 7-8: Survey results; and
- Appendix 7-9: Interpretation of NPWS records.

In addition, this chapter should also be read in conjunction with Appendix 6-6 (Habitat Management Plan (HMP)).

A Natura Impact Statement (NIS) has been prepared for the proposed project.

7.2.2 CONSULTATION

Consultation was undertaken with statutory consultees and relevant stakeholders to inform the scope, methodology and assessment of potential effects on ornithological receptors. Consultation included engagement with the NPWS, including the Development Applications Unit (DAU) and the NPWS Spatial and Scientific Data Unit, in relation to baseline conditions, survey requirements, species of conservation concern and the availability of relevant datasets, including Greenland White-fronted Goose records and telemetry information. Recommendations arising from consultation were considered and, where relevant, incorporated into the survey design, baseline characterisation and impact assessment presented in this chapter.

A summary of the consultation responses relevant to the ornithological assessment is provided in Table 7-1.

Table 7-1: Consultation conducted to inform the proposed project

Date	Consultee	Response / Key Issues Raised	How addressed in this Assessment
23 June 2026	Development Applications Unit (DAU), National Parks and Wildlife Service (NPWS)	Confirmed the presence of a Greenland white-fronted goose flock within the wider study area and advised that the proposed project lies within the core foraging range of the Shrule Turlough flock. Recommended that NPWS data be requested; that Greenland white-fronted goose be treated as a target species; that dawn, dusk and nocturnal surveys be undertaken; and that roosting, foraging and flight activity be assessed, including connectivity with the Lough Corrib SPA population.	Greenland white-fronted goose was scoped into the assessment as a key receptor and target species. Additional desk study requests and consultation were undertaken with NPWS, with data utilised. Targeted surveys, flight activity observations and assessment of potential collision risk, displacement and connectivity with designated sites, including the Lough Corrib SPA population, are presented in Sections 7.4.2, 7.5.2, and 7.6.3The rationale for the survey approach is presented in Section 7.3.10.
2 July 2026	NPWS Spatial and Scientific Data Unit	Provided Greenland White-fronted Goose records for the study area at 1 km square resolution and advised that the records should be used to supplement, rather than replace, site-specific surveys.	NPWS records were reviewed alongside project-specific survey data and incorporated into the baseline characterisation presented in Section 7.5.2.
July 2026	NPWS Spatial and Scientific Data Unit	Confirmed that telemetry data for Greenland White-fronted Goose exist through international research collaborations but are not owned by NPWS and therefore could not be released directly. NPWS offered to facilitate contact with the data owners if a justification for data access was provided.	A request seeking access to telemetry information was submitted to the NPWS on the 15July 2026. This was not made available in advance of the submission date despite continued attempts to retrieve the data. Notwithstanding this, the assessment has been informed by three years of project-specific ornithological surveys, NPWS distribution data, consultation responses, wintering waterbird data and published information regarding Greenland white-fronted goose ecology and habitat use. These data were considered sufficient to

Date	Consultee	Response / Key Issues Raised	How addressed in this Assessment
			characterise use of the study area by Greenland white-fronted goose and inform the assessment.

7.3 METHODOLOGY

7.3.1 LEGISLATION, POLICY AND GUIDANCE

This assessment was undertaken with consideration of the following planning policy, guidance, and other information. Guidance specific to Collision Risk Modelling (CRM) is listed within Appendix 7-2. The assessment presented in this chapter has been undertaken in accordance with the relevant legislative requirements identified in this section and considers the potential effects of the proposed project on ornithological features occurring within and surrounding the proposed project.

7.3.2 EUROPEAN LEGISLATION

- Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 (hereafter referred to as the "EIA Directive");
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (hereafter referred to as the "Habitats Directive");
- Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (hereafter referred to as the "Birds Directive");
- Regulation (EU) 2024/1991 of the European Parliament and of the Council of 24 June 2024 on Nature Restoration and amending Regulation (EU) 2022/869 (hereafter referred to as the "Nature Restoration Regulation"); and
- The International Convention on Wetlands of International Importance especially as Waterfowl Habitat 1971.

Irish Legislation

- The European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) (as amended);
- Irish Wildlife Acts 1976 to 2018 (as amended).

Plans and Policies

The following plans, and policies, relevant to biodiversity and ornithology, were reviewed to inform this chapter and the assessment of effects on potential effects on ornithological features within the proposed wind farm site:

- Mayo County Development Plan 2022-2028;
- Mayo Heritage & Biodiversity Strategy 2024-2030;
- County Mayo Biodiversity Action Plan 2026-2031;
- Galway County Heritage and Biodiversity Plan 2024-2030;
- Revised National Planning Framework (2025 update);
- National Biodiversity Action Plan (NBAP) 2023-2030;
- The International Convention on Wetlands of International Importance especially as Waterfowl Habitat 1971 (the "Ramsar Convention);
- The Convention on the Conservation of Migratory Species of Wild Animals 1979 (the "Bonn Convention"); and

- The Convention on the Conservation of European Wildlife and Natural Habitats 1979 (the "Bern Convention").

Relevant policies and objectives within these documents include the protection of designated sites (including SPAs), conservation of protected and notable bird species, maintenance of ecological connectivity, and the integration of biodiversity considerations into renewable energy developments.

Key policies have been identified and are summarised in Table 7-2, together with an outline of how the proposed project and the assessment presented in this chapter have taken account of these requirements.

Table 7-2: Relevant Plans and Policies considered in this assessment

Plan/Strategy	Key policy theme	Relevance to proposed project	How they are addressed in this chapter
Mayo County Development Plan 2022–2028	Protection of designated sites and species; environmentally sensitive renewable energy development	High – potential for impacts on protected bird species and designated sites	Ornithological assessment considers designated sites, SCI species, and key impact pathways (collision, displacement, disturbance); mitigation embedded in design
Mayo Heritage and Biodiversity Strategy 2024–2030 and County Mayo Biodiversity Action Plan 2026–2031	Protection and enhancement of biodiversity; evidence-based decision-making	Medium–High – relevant to maintaining ecological integrity and informing assessment	Baseline surveys undertaken to inform assessment; mitigation measures incorporated to avoid/reduce impacts
County Galway Heritage and Biodiversity Plan 2024-2030	Protection and enhancement of biodiversity; evidence-based decision-making	Medium–High – relevant to maintaining ecological integrity and informing assessment	Baseline surveys undertaken to inform assessment; mitigation measures incorporated to avoid/reduce impacts
Revised National Planning Framework (2025 update)	Compact growth; balanced regional development; integration of biodiversity, climate and environmental considerations into spatial planning	High – overarching spatial planning framework guiding development and environmental protection nationally	Assessment aligned with national spatial priorities; biodiversity and ecological constraints (including ornithology receptors) considered in site selection, design, and mitigation
Ireland's 4th National Biodiversity Action Plan 2023–2030	Halt biodiversity loss; integrate biodiversity into all sectors	High – overarching national policy framework	Precautionary approach adopted; biodiversity considerations integrated into project design and assessment

Plan/Strategy	Key policy theme	Relevance to proposed project	How they are addressed in this chapter
Ramsar Convention (1971)	Conservation and wise use of wetlands of international importance, particularly for waterfowl	High – relevant to protection of wetland habitats supporting waterbirds and migratory species	Potential effects on wetland habitats and associated bird species assessed; impact pathways evaluated with avoidance and mitigation measures incorporated
Bonn Convention (1979)	Conservation of migratory species across international ranges and habitats	Medium–High – relevant to migratory bird species using the site / Zone of Influence	Migratory bird use considered within baseline and assessment; potential impacts on movement, foraging, and seasonal use addressed through mitigation
Bern Convention (1979)	Conservation of European wildlife and natural habitats; protection of species and habitats	High – underpins protection of European bird species and their habitats	Compliance with species protection requirements embedded; sensitive habitats and protected species assessed with mitigation measures applied

Guidance

The ornithological assessment has been undertaken with reference to the following guidance and information documents:

- Chartered Institute of Ecology and Environmental Management (CIEEM) (2024), *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Version 1.3. CIEEM, Winchester (hereafter referred to as the "CIEEM Guidelines");
- Environmental Protection Agency (EPA) (2022), *Guidelines on the Information to be Contained in Environmental Impact Assessment Report*. EPA, Dublin;
- European Commission (2017). *Environmental Impact Assessment of Projects*. European Commission, Luxembourg;
- European Commission (2011). *Wind energy development and Natura 2000*. European Commission, Luxembourg;
- National Parks and Wildlife Service (NPWS) (2009, updated 2023), *Strict Protection of Certain Species: Guidance for Local Authorities and Developers*. NPWS, Department of Housing, Local Government and Heritage (DHLGH), Dublin;
- Department of Environment Community and Local Government [DoECLG], (2018). Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment. DoECLG, Dublin;
- DHLGH (2021a), *Guidelines for Planning Authorities on Biodiversity and Environmental Assessment*. DHLGH, Dublin;

- DHLGH (2021b), Appropriate Assessment Screening for Development Management – OPR Practice Note PN01;
- Office of the Planning Regulator (OPR) (2021), *Practice Note PN01: Appropriate Assessment Screening for Development Management*;
- Transport Infrastructure Ireland (TII) (formerly the National Roads Authority (NRA)) (2009), *Guidelines for the Assessment of Ecological Impacts of National Road Schemes* (Rev 2) (PE-ENV-01112). NRA, Dublin.

The following guidance documents and standard ornithology survey methodologies were followed in relation to survey design, field survey methodology, assessment of disturbance effects, connectivity with designated sites, and the assessment of significance and cumulative effects on bird populations:

- Band, W., Madders, M., and Whitfield, D.P. (2007). *Developing field and analytical methods to assess avian collision risk at wind farms*. In: de Lucas, M., Janss, G.F.E. and Ferrer, M. (eds.) Birds and Wind farms: Risk Assessment and Mitigation, pp. 259-275. Quercus, Madrid;
- Bibby, C.J., Burgess, N.D., Hill, D.A. & Mustoe, S.H. (2000). *Bird Census Techniques* (2nd Edition). Academic Press, London;
- Cutts, N., Hemingway, K. & J Spencer, J. (2013). *Waterbird Disturbance Mitigation Toolkit Informing Estuarine Planning & Construction Projects*. University of Hull, TIDE – Tidal River Development, Environment Agency;
- Gilbert, G., Gibbons, D.W. & Evans, J. (1998). *Bird Monitoring Methods*. RSPB, Sandy, Bedfordshire;
- Goodship, N. M. & Furness, R. W. (2022). *Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species*. *NatureScot Research Report* No. 1283;
- Hardey, J., Crick, H.Q.P., Wernham, C.V., Riley, H.T., Etheridge, B. & Thompson, D.B.A. (2013). *Raptors: A Field Guide for Surveys and Monitoring* (3rd Edition). The Stationery Office, Edinburgh;
- McGuinness, S., Muldoon, C., Tierney, N., Cummins, S., Murray, A., Egan, S. & Crowe, O. (2015). *Bird Sensitivity Mapping for Wind Energy Developments and Associated Infrastructure in the Republic of Ireland*. BirdWatch Ireland, Kilcoole, Wicklow;
- NatureScot (2025). *Recommended Bird Survey Methods to Inform Impact Assessment of Onshore Windfarms*. NatureScot, Inverness;
- NatureScot (2024). *Guidance on using an updated collision risk model to assess bird collision risk at onshore wind farms*. NatureScot, Inverness;
- O'Brien, M. & Smith, K.W. (1992). *Census methodology for waders breeding on lowland wet grasslands*. BTO, Thetford;
- Percival, S.M. (2003). *Birds and Wind Farms in Ireland: A Review of Potential Issues and Impact Assessment.* Sustainable Energy Ireland;
- SNH (now NatureScot) (2016a). *Assessing connectivity with Special Protection Areas (SPAs),* Version 3. NatureScot, Perth;
- SNH (now NatureScot) (2016b). *Environmental Statements and Annexes of Environmentally Sensitive Bird Information; Guidance for Developers, Consultants and Consultees,* Version 2. NatureScot, Perth;
- SNH (now NatureScot) (2017). *Recommended Bird Survey Methods to Inform Impact Assessment of Onshore Windfarms*. Version 2. NatureScot, Perth;

- SNH (now NatureScot) (2018a). *Assessing significance of impacts from onshore wind farms on birds outwith designated areas,* Version 2. NatureScot, Inverness;
- SNH (now NatureScot) (2018b). *Assessing the cumulative impacts of onshore wind farms on birds.* SNH Guidance Note. NatureScot, Inverness;
- Wetland Bird Survey (WeBS/I-WeBS) methodologies and count standards as published by BirdWatch Ireland and the BTO.

In addition, survey design and assessment methodologies were informed by professional experience and current best-practice guidance for ornithological assessment associated with onshore wind energy developments in Ireland and the UK.

7.3.3 Study Area and Zone of Influence (ZoI)

For this assessment, the Study Area comprises the maximum proposed project footprint, including all associated infrastructure (turbines, access tracks, the proposed borrow pit, the 110 kV substation, temporary construction areas, the Grid Connection Route (GCR) and associated electrical elements), as described in Chapter 2 of the EIAR and illustrated in Figure 7-2. The Study Area also incorporates the Turbine Delivery Route (TDR), with surveys undertaken where relevant to confirm the absence of ornithological constraints.

To adequately characterise baseline ornithological conditions, such as bird distribution, activity, and habitat use, surveys were undertaken over areas extending beyond the project footprint where necessary. These ornithological Survey Areas were defined according to species-specific Zones of Influence (ZoI), potential ecological connectivity, and relevant best-practice guidance (e.g., SNH, 2016) including consideration of linkages with designated sites and other important ornithological features. The Survey Areas applied to each survey type are defined in Section 7.3.6 and illustrated in Figure 7-2.

For some ornithological receptors and impact pathways, the ZoI extends beyond the defined Study Area. This reflects the potential for effects such as disturbance, displacement, collision risk, and impacts on functional connections between breeding, foraging, roosting, and commuting areas, including links to designated sites. The assessment also considers ex situ ornithological receptors where ecological linkages exist between the proposed project area and breeding, wintering, roosting or designated sites located beyond the Study Area. Where this occurs, the relevant ZoI is defined within the corresponding methodological sections.

7.3.4 Survey Programme Overview

Ornithological surveys were undertaken over three consecutive survey years (2022–2025) to characterise baseline conditions during both the breeding and non-breeding seasons. The survey programme was designed to capture inter-annual variability and to ensure adequate spatial and temporal coverage of key ornithological receptors, in accordance with *SNH (2017) Recommended Bird Survey Methods to Inform Impact Assessment of Onshore Wind Farms*, which was the applicable guidance at the time the survey programme commenced. Assessment and interpretation of survey results, including CRM, have subsequently been undertaken with reference to current NatureScot guidance where relevant, including NatureScot (2025). Although surveys were initiated with reference to SNH (2017), a review of the completed

survey programme confirms that the survey methods and survey effort achieved are compliant with the requirements of NatureScot (2025).

A range of complementary survey methods was employed, including VP surveys, walkover surveys, breeding bird and raptor surveys, wintering waterbird surveys, and species-specific surveys such as hen harrier (*Circus cyaneus*) roost counts. The survey methods applied in each year are summarised as follows:

- Year 1 (2022-2023):
  - Non-breeding season (September 2022 – March 2023):
    - VP surveys;
    - Winter walkover surveys; and
    - Wintering waterbird surveys (adapted I-WeBS methodology).
  - Breeding season (March – August 2023):
    - Breeding bird surveys;
    - Breeding raptor surveys;
    - Crepuscular/dusk surveys; and
    - VP surveys (seven locations).
- Year 2 (2023-2024):
  - Non-breeding season (September 2023 – March 2024):
    - Hen harrier roost surveys;
    - VP surveys;
    - Winter walkover surveys; and
    - Wintering waterbird surveys.
  - Breeding season (March – September 2024):
    - Breeding bird surveys;
    - Breeding raptor surveys;
    - Crepuscular/dusk surveys; and
    - VP surveys (seven locations).
- Year 3 (2024-2025):
  - Non-breeding season (September 2024 – March 2025):
    - Hen harrier roost surveys;
    - VP surveys;
    - Winter walkover surveys;
    - Wintering waterbird surveys.
  - Breeding season (March – September 2025):
    - Breeding bird surveys;
    - Breeding raptor surveys;
    - Crepuscular/dusk surveys; and
    - VP surveys (seven locations).

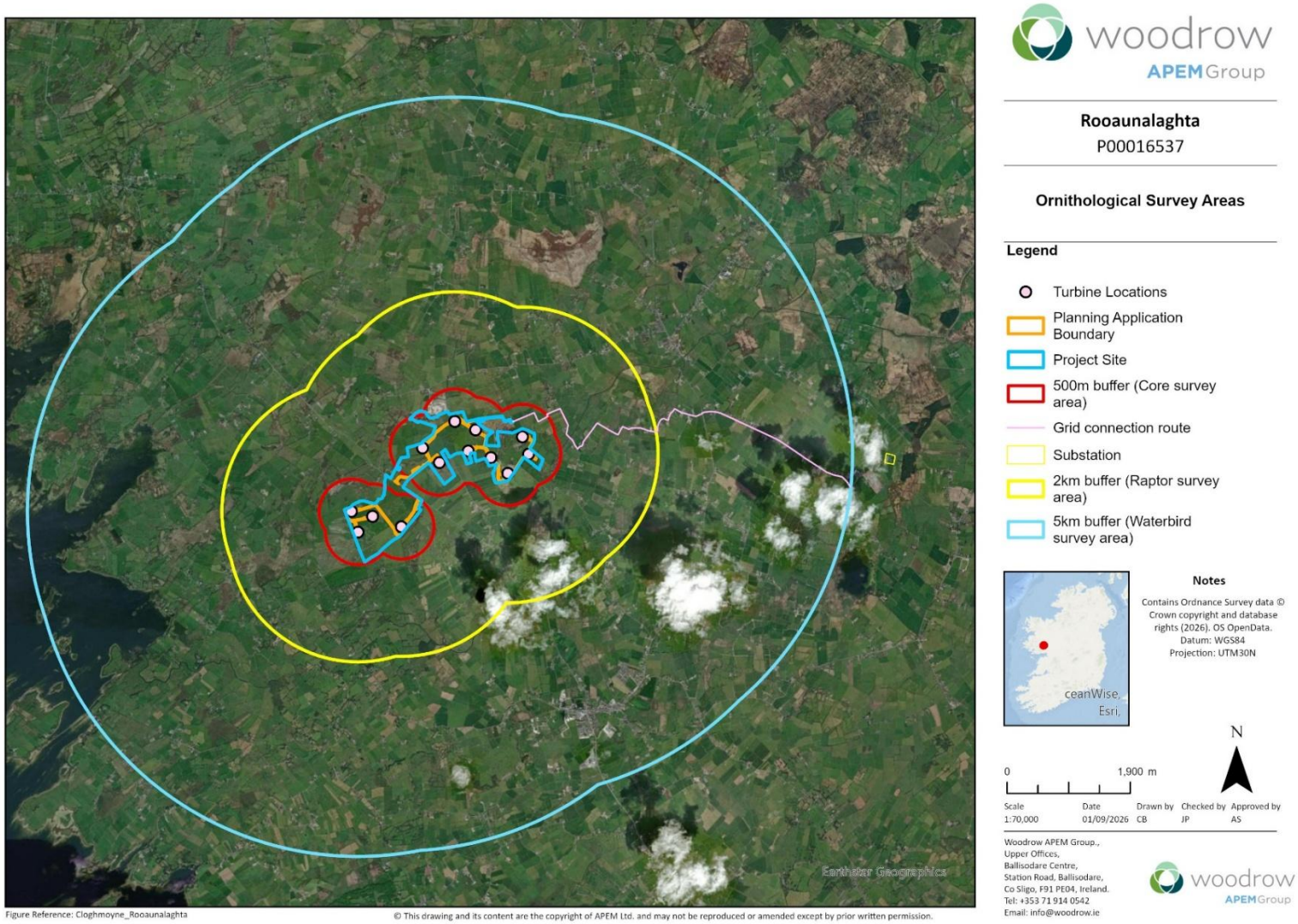


Figure 7-2: Overview of Ornithological Survey Areas

7.3.5 DESKTOP STUDY

A comprehensive desk study was undertaken to identify sensitive bird populations and evaluate potential ecological connectivity with the proposed project. The desk study informed the design and scope of field surveys and provided context for the assessment of potential effects.

In accordance with SNH (2016) guidance, which is widely applied in wind farm assessments in Ireland, a baseline search area extending 10 km from the proposed project boundary was applied for designated sites with ornithological importance.

Recognising that some ornithological receptors may interact with the proposed project beyond the standard 10 km search area, an extended search radius of 20 km was applied for designated sites supporting qualifying features or SCI populations of wintering geese. This reflects published foraging ranges and the potential for connectivity with the proposed project.

Designated sites beyond 10 km were also considered where evidence indicated a potential pathway for connectivity. This includes linkages through bird movements, shared foraging and roosting resources, or other ecological connections. For species with extensive foraging ranges, such as gulls, consideration was given to sites at greater distances where a realistic interaction pathway could occur.

The assessment did not apply a single ZoI to all ornithological receptors. The extent of assessment was informed by the ecology of individual species and species groups, including known foraging ranges, movement patterns, disturbance sensitivities and potential impact pathways. Consequently, species-specific considerations were applied where relevant to breeding raptors, wintering swans and geese, breeding and wintering waders, gulls and other mobile bird species. The assessment of ecological connectivity with designated sites was informed by published guidance, available survey data, desk study records and professional judgement, with the level of assessment proportionate to the likelihood of interaction with the proposed project.

A proportionate approach to assessment was applied throughout, with detailed assessment focusing on sites for which a credible pathway for interaction with the proposed project was identified.

Designated Sites

Designated sites considered in this assessment comprise those of national and international importance for biodiversity. SPAs are designated under the Birds Directive to protect bird species listed in Annex I of the Directive, regularly occurring populations of migratory species, and important wetland habitats for birds

Natural Heritage Areas (NHAs) are designated under the Wildlife Acts to protect habitats and species of national importance. Proposed NHAs (pNHAs), although not formally designated, are recognised as being of significant biodiversity value and are typically afforded protection through the planning system.

Potential ecological connectivity between the proposed wind farm site and designated ornithological sites was assessed using a Source–Pathway–Receptor (S-P-R) approach (OPR Practice Notes PN01 (2021a) and PN02 (2021b). This approach was used to identify potential

impact pathways, including bird movement between the site and designated areas, and the potential for effects such as disturbance, displacement, and collision risk. The assessment was informed by professional judgement and available spatial datasets. Spatial data (shapefiles) for SPAs and pNHAs were obtained from the NPWS and imported into a GIS environment for analysis.

Connectivity to a designated site may extend over considerable distances, for example via the movement of mobile species and functional linkages between habitats. As described in Section 7.3.5 a 10 km radius was used as the baseline for the desk-based assessment with 20 km used for designated sites supporting qualifying or SCI populations of wintering geese. Additional designated sites beyond 10 km were also considered for highly mobile species.

Key data sources included the NPWS Designations Viewer, EPA hydrological maps, the Irish Wetland Bird Survey (I-WeBS), and the National Biodiversity Data Centre (NBDC). Additional resources consulted included bird sensitivity mapping to wind energy (McGuinness *et al.*, 2015), national bird atlases, relevant NPWS conservation documentation, and peer-reviewed literature for key species. Details of the datasets consulted, including dataset versions and retrieval dates where available, are provided in Appendix 7-3 which should be read in conjunction with Appendix 7-4 and Appendix 7-5.

The Study Area falls within two 10 km grid squares (M24 and M25) and six 2-km grid squares (M24J, M25F, M24P, M25K, M25L and M25Q). The findings of the desk study are presented in Appendix 7-3.

7.3.6 Baseline Ornithological Surveys

Baseline ornithological surveys were undertaken over three survey years from September 2022 to September 2025, in accordance with Scottish Natural Heritage (SNH, 2017) survey guidance. Assessment and interpretation of survey results has been undertaken with reference to current NatureScot guidance (NatureScot, 2025), and the completed survey programme is considered compliant with the requirements of that guidance.

For the purposes of this assessment, survey areas were defined with reference to a project-defined 'Core Survey Area'. This comprised maximum potential development envelope (including turbines, access tracks, borrow pits, temporary construction areas, onsite electrical infrastructure the GCR, the proposed 110 kV substation and ancillary works), together with a 500 m buffer from the outer extent of all infrastructure.

The study area also incorporated the TDR, with survey effort extending beyond the proposed wind farm stie where required to identify any ornithological constraints associated with the route.

This approach reflects the survey extents recommended in NatureScot (2025), with additional buffers applied where appropriate for specific ornithological features and survey methodologies.

As the final turbine layout and Project Boundary were confirmed only following completion of the ornithological surveys, the Core Survey Area was defined conservatively to encompass the full spatial coverage of the proposed project. The survey extents were selected with reference to NatureScot (2025), species-specific survey guidance and the ecology of the target species.

Full justification for the survey design and survey area extents is provided in the Baseline Ornithology Report (Appendix 7-3). The resulting ornithological survey areas, as shown on Figure 7-2, all of which are based on the Core Survey Area (defined as the maximum infrastructure footprint plus 500 m buffer), were as follows:

- VP Survey Area – the Core Survey Area;
- Breeding Bird Survey Area – the Core Survey Area;
- Breeding Raptor Survey Area – the Core Survey Area and a 2 km buffer;
- Barn Owl Survey Area – the Core Survey Area and a 1 km buffer;
- Winter Walkover Survey Area – the Core Survey Area;
- Wintering Waterbird Survey Area – the Core Survey Area and a 5 km buffer;
- Hen Harrier Roost Survey Area – the Core Survey Area and a 2 km buffer; and
- Whooper Swan Survey Area – the Core Survey Area and a 5 km buffer.

In addition to surveys undertaken within the Core Survey Area, the GCR was covered during wintering waterbird surveys and wider field surveys, while the TDR was reviewed through walkover survey effort at locations where ornithological constraints might reasonably occur.

A summary of the ornithological survey effort completed for the proposed project is provided in Table 7-3. Survey effort exceeded the minimum two-year survey period recommended by NatureScot (2025), with ornithological surveys undertaken over three survey years between September 2022 and September 2025. The survey programme included Vantage Point surveys, breeding bird surveys, dusk surveys, breeding raptor surveys, winter walkover surveys, wintering waterbird surveys and hen harrier roost surveys. Detailed survey dates, weather conditions and survey effort are provided in Appendix 7-3.

Table 7-3: Summary of Baseline Ornithological Survey Effort

Survey Type	Survey Area	Survey Period	Survey Years	No. of Survey Visits	Effort Summary
Vantage Point Surveys	Core Survey Area (maximum infrastructure footprint + 500 m buffer)	Sept 2022 to Sept 2025	2022-23, 2023-24, 2024-25 non-breeding and 2023, 2024, 2025 breeding seasons	Continuous seasonal coverage	Seven VP locations. Target effort of 36 hrs/VP/season achieved in almost all seasons. Approx. 1,500 VP hours completed across the three survey years.
Breeding Bird Surveys	Core Survey Area	Apr-Jul annually	2023, 2024, 2025	8 visits (2023); 7 visits (2024); 4 visits (2025)	Three breeding seasons completed.
Dusk Surveys	Core Survey Area	Mar-Sep	2023, 2024	8 visits (2023); 8 visits (2024)	Targeted surveys for snipe, woodcock and owl species.
Breeding Raptor Surveys	Core Survey Area + 2 km buffer	Mar-Jul	2023, 2024, 2025	5 visits (2023); 7 visits (2024); 4 visits (2025)	Conducted in accordance with Hardey et al. (2013) and NatureScot guidance.
Winter Walkover Surveys	Core Survey Area	Oct/Nov-Mar	2022-23, 2023-24, 2024-25	5 visits (2022-23); 5 visits (2023-24); 3 visits (2024-25)	Coverage of all habitats within the Core Survey Area.
Wintering Waterbird Surveys	Core Survey Area + 5 km buffer	Sept/Oct-Mar	2022-23, 2023-24, 2024-25	22 survey dates (2022-23); 16 survey dates (2023-24); 8 survey dates (2024-25)	Targeted swan, goose and wider waterbird monitoring.
Hen Harrier Roost Surveys	Core Survey Area + 2 km buffer	Nov-Mar	2022-23, 2023-24, 2024-25	4 visits (2022-23); 3 visits (2023-24); 3 visits (2024-25)	Dedicated dawn/dusk roost surveys.



An overview of survey methodologies is provided in the following sections, and further details, including survey dates, durations, and weather conditions, are also presented in Appendix 7-3.

Vantage Point

VP watches were undertaken between September 2022 and September 2025 to record flight activity of target bird species within the Core Survey Area and to inform the assessment of collision risk, including CRM.

Seven VP locations were used to survey the Core Survey Area (i.e. the proposed infrastructure and 500 m buffer), collectively providing 99.16% coverage of the Core Survey Area at collision risk height, based on GIS-derived viewshed analysis. VP locations were selected in accordance with SNH (2017) guidance, with viewsheds restricted to a maximum distance of 2 km and a viewing arc not exceeding 180 degrees. These VP locations comply with the updated NatureScot (2025) guidance. All VP locations were ground-truthed in the field. Further details of VP data collection viewshed analysis and GIS processing are provided in Appendix 7-3 and Appendix 7-6.

VP watches were undertaken during both the breeding (mid-March to mid-September) and non-breeding (mid-September to mid-March) seasons. Surveys were carried out in accordance with NatureScot (2025) guidance, with continuous watches limited to a maximum duration of three hours to minimise observer fatigue. A target survey effort of 36 hours per VP per season was undertaken, with effort distributed throughout each season to ensure representative seasonal coverage of flight activity and is considered sufficient to characterise baseline flight activity within the Core Survey Area.

Between 2022 and 2024, VP surveys were undertaken across two discrete areas (Cloughmoyne and Rooaunalaghta), which were subsequently combined into a single survey area from the 2024–2025 non-breeding season onwards. Across the full baseline period, a total of 1,516.5 hours of VP survey effort was completed. The final Core Survey Area encompasses the spatial extent of both original survey areas. Following confirmation of the final project layout, VP coverage and viewsheds were reviewed to ensure that all proposed infrastructure was represented within the baseline dataset. This review confirmed that the combined dataset provides adequate coverage of all 13 turbine locations (refer to Appendix 7-6 Viewshed Analysis).

Flight activity records collected from both survey areas were retained and analysed as a single dataset where they fell within the final Core Survey Area, with effort standardised using recorded observation hours. This approach enabled data from all survey years to be combined while maintaining consistency in the assessment of flight activity and collision risk.

Target species recorded during VP surveys comprised bird species considered potentially vulnerable to collision risk, including waterbirds, raptors and owls, Annex I species, and species listed as Red or Amber on the Birds of Conservation Concern in Ireland 2020–2026 (BoCCI). Flight activity was recorded by mapping flight paths and estimating flight height and duration.

Breeding bird surveys

Breeding bird surveys were undertaken within the Core Survey Area (refer to Figure 7-2) during the breeding seasons of Year 1 (April-July 2023), Year 2 (April-July 2024) and Year 3 (April-July

2025). Survey effort comprised eight visits in Year 1, seven visits in Year 2 and four visits in Year 3. The Year 3 surveys comprised four visits undertaken during the core breeding season between April and July, consistent with NatureScot (2025) guidance.

The surveys aimed to characterise breeding bird communities and identify potential ecological constraints, including the presence of breeding waders, raptors, or other species of conservation concern. Survey routes were designed to sample all key habitat types, including woodland, agricultural grassland, and treelines/hedgerows.

The methodology combined elements of O'Brien and Smith (1992), developed for mapping breeding territories of lowland waders and other ground-nesting species of conservation concern, with the Common Bird Census (CBC) approach described in Gilbert et al. (1998), adapted for walkover-based coverage rather than full territory mapping. Survey coverage corresponded to the Core Survey Area described in Section 7.3.6.

Dusk (crepuscular) surveys

Dusk (crepuscular) surveys were undertaken within the Core Survey Area (refer to Figure 7-2) to target species with peak activity during low-light conditions, including woodcock (*Scolopax rusticola*), snipe (*Gallinago gallinago*), and owl species. Surveys were undertaken during the breeding seasons of Year 1 and Year 2, with a total of nine survey visits completed in Year 1 and eight visits in Year 2, providing representative coverage of the breeding season.

Surveys focused on suitable woodland and wet grassland habitats supporting potential breeding territories of crepuscular and nocturnal species and were undertaken during evening periods, typically commencing c.15 minutes before sunset and continuing for up to 60 minutes after sunset. Methods were based on species-specific guidance outlined in Gilbert et al. (1998) and Hardey et al. (2013), with particular attention to detecting roding woodcock, breeding snipe, and owl activity. Survey coverage corresponded to the Core Survey Area described in Section 7.3.6.

Breeding raptor surveys

Breeding raptor surveys were undertaken within the Raptor Survey Area (Core Survey Area plus 2 km buffer; refer to Figure 7-2) during the breeding seasons of Year 1 (March–May 2023), Year 2 (March–July 2024) and Year 3 (March–July 2025).

A total of five survey visits were completed in Year 1, seven visits in Year 2, and four visits in Year 3, providing coverage across the core breeding period for raptor species, with the shorter survey period in Year 1 supplemented by extended coverage in subsequent survey years. Surveys comprised a combination of walkover surveys and watches from suitable vantage points overlooking suitable habitats.

Survey methods followed Hardey et al. (2013) and NatureScot (2025) guidance, with the aim of identifying breeding territories, nest sites, and patterns of raptor activity within the Raptor Survey Area, based on behavioural observations such as display, nesting and foraging activity. Survey coverage incorporated the Core Survey Area and associated species-specific buffer, as described in Section 7.3.6.

Winter walkover surveys

Winter walkover surveys were undertaken within the Core Survey Area (refer to Figure 7-2) during the non-breeding seasons of Year 1 (November 2022–March 2023), Year 2 (November 2023–March 2024) and Year 3 (October 2024–February 2025).

A total of five survey visits were completed in Year 1, five visits in Year 2, and three visits in Year 3, with reduced survey effort in Year 3 considered sufficient in the context of the multi-year dataset. Surveys were designed to record the distribution and relative abundance of bird species present within the Core Survey Area during the winter period.

Survey methods followed the 'look-see' approach described by Bibby et al. (2000), with survey routes designed to sample all habitats within the Core Survey Area. All species observed were recorded, with particular emphasis on waterbirds, waders and raptors.

Wintering waterbird surveys

Wintering waterbird surveys were undertaken within the Waterbird Survey Area (Core Survey Area plus 5 km buffer; refer to Figure 7-2) during the non-breeding seasons of Year 1 (October 2022–March 2023), Year 2 (September 2023–March 2024) and Year 3 (October 2024–March 2025).

Surveys were undertaken monthly throughout each winter period, providing systematic coverage of seasonal variation in waterbird presence and distribution. Surveys were undertaken on multiple days within each month, with details provided in Appendix 7-3.

The surveys were undertaken in line with NatureScot (2025) guidance, focusing on identifying foraging and roosting locations for waterbirds, particularly swans and geese, as well as other waterbird species within and surrounding the proposed wind farm site.

Target species included whooper swan, Greenland white-fronted goose, greylag goose and other wintering waterbirds recorded within the wider study area. Records included species, flock size, location, behaviour, habitat use and flight activity where observed. Survey findings were interpreted alongside desk study information, including NPWS datasets and Irish Wetland Bird Survey (I-WeBS) data, to provide context regarding the distribution and importance of wintering waterbird populations within the wider landscape.

Survey coverage corresponded to the Wintering Waterbird Survey Area described in Section 7.3.6.

Hen harrier roost surveys

Hen harrier roost surveys were undertaken within the Hen Harrier Roost Survey Area (Core Survey Area plus 2 km buffer; refer to Figure 7-2) during the non-breeding seasons (November to March) of Year 1, Year 2 and Year 3.

A total of ten survey visits were undertaken across the three non-breeding seasons. Surveys were undertaken at dusk using vantage points overlooking suitable roosting habitat, such as areas of rough grassland and scrub, in accordance with best practice guidance (O'Donoghue, 2019).

Survey effort focused on detecting hen harriers returning to, or settling within roosting areas at dusk, with observers recording flight directions, behaviour and roost locations where present. Vantage points were selected to provide optimal visibility over suitable habitat and to maximise the detection of birds entering roosting areas.

7.3.7 Collision Risk Model

Vantage Point Surveys and Survey Effort

VP surveys were undertaken to quantify flight activity of target bird species of the within the Core Survey Area (i.e., the proposed infrastructure and 500 m buffer). Survey design followed NatureScot (2025) guidance and CIEEM best practice for onshore wind farm assessments.

- VP locations: Seven VPs were selected to ensure coverage of all proposed turbine areas and areas of elevated flight activity. Locations remained consistent across all survey years;
- Viewshed analysis: Viewshed coverage for each VP was calculated in ArcGIS Pro using a 25 m surface offset (lowest rotor swept height) and 1.75 m observer height. This was used to estimate the proportion of the Collision Risk Zone (CRZ), i.e. the rotor-swept airspace within which collisions may occur, visible from each VP;
- Survey effort: Each VP was surveyed for a minimum of 72 hours per year (equivalent to 36 hours per season, in line with NatureScot (2025) guidance), divided equally between breeding and non-breeding seasons. Survey sessions were limited to <3 hours to minimise observer fatigue, distributed to provide representative coverage of daylight hours.

Flightlines were mapped during VP surveys and subsequently digitised and analysed within a GIS environment. This enabled the spatial analysis of flight activity in relation to the proposed turbine layout, including identification of any areas of concentrated activity within the CRZ and informing CRM outputs.

Flight Activity Recording

All observed flights of target species were recorded during VP watches. Species recorded during VP surveys (i.e., target species) were subsequently assessed for inclusion in the collision risk modelling (CRM) process. Only those species exceeding a predefined activity threshold within the CRZ were scoped into CRM. A quantitative scoping threshold was applied whereby species with an aggregate recorded flight time of less than 1,000 seconds within the CRZ across all VPs and survey periods were excluded from CRM, as collision risk at this level of recorded activity was considered unlikely to be material. Accordingly, CRM was undertaken for 13 target species (see Table 7-12) that met or exceeded this threshold.

Flight duration (seconds) and height were recorded during surveys. Flight height was recorded using predefined height bands and subsequently used to calculate the proportion of observed flights occurring within the CRZ. This proportion (%Q2R) represents the percentage of recorded flights passing through the collision risk zone and is used as an input to the collision risk modelling.

Data were aggregated by species, season (breeding/non-breeding), and year to derive inputs for CRM. Flight activity data were converted into mean bird density (birds/km²) within the CRZ for use in CRM.

Species-specific areal bird density (DA) values were calculated in accordance with NatureScot (2024) guidance. Density estimates were initially derived separately for each VP viewshed. Where differences in VP-specific densities and turbine distribution indicated that a simple site-wide average could misrepresent bird activity across the proposed turbine layout, a turbine-weighted mean density approach was applied. This weighting accounts for the number of turbines within each VP viewshed and ensures that collision risk estimates reflect the spatial distribution of both bird activity and turbine locations. Full details of the density calculations, weighting approach applied and species-specific inputs are provided in Appendix 7-2.

Survey effort was broadly consistent between VPs and survey years, with approximately 72 hours of VP effort undertaken at each VP during each survey year. Differences in survey effort between VPs and years were accounted for in the analysis and derivation of CRM inputs. Detailed VP-level survey effort and species-specific CRM input data are provided in Appendix 7-2.

Table 7-4: VP Viewshed Coverage and Survey Effort

Survey period	VP	Area of CRZ visible within Core Survey Area (km²)	VP effort (hrs)
Year 1	VP1	1.77	72.00
	VP2	1.69	72.00
	VP3	2.58	72.00
	VP4	2.12	72.00
	VP5	0.93	72.00
	VP6	2.37	69.00
	VP7	3.33	71.50
Year 2	VP1	1.77	72.50
	VP2	1.69	72.50
	VP3	2.58	72.00
	VP4	2.12	72.50
	VP5	0.93	72.00
	VP6	2.37	75.50
	VP7	3.33	75.00
Year 3	VP1	1.77	72.00
	VP2	1.69	72.00

Survey period	VP	Area of CRZ visible within Core Survey Area (km²)	VP effort (hrs)
	VP3	2.58	72.00
	VP4	2.12	72.00
	VP5	0.93	72.00
	VP6	2.37	72.00
	VP7	3.33	72.00

VP survey data were analysed on a species-specific basis for target species considered potentially vulnerable to collision risk. Species-specific flight activity, areal density and proportions of flights within the collision risk zone (CRZ) were used to inform the collision risk assessment. Detailed CRM inputs and outputs are provided in Appendix 7-2.

Collision Risk Modelling

Collision risk was assessed using the NatureScot CRM (NatureScot, 2024), based on the Band collision risk framework (Band, 2000; Band et al, 2007). The assessment followed the established multi-stage framework:

1. Stage A – Flight activity: bird density and flight activity within the CRZ, including flight height distributions.
2. Stage B – Rotor transits: Estimated number of flights entering the rotor swept area.
3. Stage C – Collision probability: Probability of collision per single rotor transit.
4. Stage D – Predicted collision rates (pre-avoidance): Rotor transits multiplied by collision probability and turbine operational time (uptime).
5. Stage E – Post-avoidance collision rates: Applied avoidance rates (95%, 98%, 99%, 99.5%) to estimate likely collision rates.
6. Stage F – Uncertainty: Consideration of model uncertainty associated with survey data, model assumptions, and turbine parameters.

Turbine operational time was assumed to be 85% throughout the year, which is consistent with typical availability assumptions for onshore wind energy developments. Avoidance rates and species-specific parameters followed NatureScot (2024) and relevant published literature. As with all CRM approaches, results are subject to inherent uncertainty arising from variability in bird behaviour, limitations of observational data, and simplifications within the modelling process (Band et al., 2007; NatureScot, 2024).

Full details of CRM inputs, assumptions, turbine parameters and calculations are provided in Appendix 7-2.

Species-specific areal density (DA) and %Q2R values presented in Appendix 7-2 were used as Stage A inputs to the CRM .

Collision Risk Modelling Results

CRM was undertaken for species exceeding the predefined activity threshold within the Collision Risk Zone. Predicted collision rates were calculated across a range of avoidance scenarios (95–99.5%), with results presented in Table 7-6. Black-headed gull is modelled with a species-specific avoidance rate of 99.2% for calculation of the collisions per decade and for the 35-year lifespan of the wind farm.

Predicted collision rates for all species are extremely low, with all annual collision estimates substantially below one individual per annum and lifetime totals remaining well below a single collision over the full operational period.

Table 7-5: Proportion of Recorded Flights within the Collision Risk Zone (CRZ)

Target species	% Flights within CRZ (%Q2R)	% Flights Outside CRZ
Black-headed gull	79%	21%
Buzzard	65%	35%
Common gull	82%	18%
Golden plover	88%	12%
Great black-backed gull	84%	16%
Greylag goose	100%	0%
Herring gull	80%	20%
Kestrel	47%	53%
Lesser black-backed gull	87%	13%
Mallard	66%	34%
Peregrine	83%	17%
Snipe	67%	33%
Sparrowhawk	34%	66%

The proportion of recorded flights occurring within the CRZ varied between species, reflecting differences in flight behaviour and habitat use. Species-specific %Q2R values used within the CRM are summarised in Table 7-6. The highest proportions of flights within the CRZ were recorded for greylag goose (100%), golden plover (88%) and lesser black-backed gull (87%), while lower proportions were recorded for sparrowhawk (34%) and kestrel (47%). Full CRM inputs and calculations are provided in Appendix 7-2.

Table 7-6: Collision rates after avoidance

Target species	Collision rate 95%	Collision rate 98%	Collision rate 99%	Collision rate 99.5%	Collisions per decade	Collisions per 35-yr lifetime
Black-headed gull*	0.00075	0.0003	0.00015	0.00008	0.00121	0.00422
Buzzard	0.00045	0.00018	0.00009	0.00004	0.00179	0.00628
Common gull	0.00189	0.00076	0.00038	0.00019	0.00189	0.00663
Golden plover*	0.00009	0.00003	0.00002	0.00001	0.00034	0.0012
Great black-backed gull	0.00013	0.00005	0.00003	0.00001	0.00013	0.00046
Greylag goose	0.00007	0.00003	0.00001	0.00001	0.00003	0.0001
Herring gull	0.0001	0.00004	0.00002	0.00001	0.0001	0.00034
Kestrel	0.00021	0.00008	0.00004	0.00002	0.00211	0.00737
Lesser black-backed gull	0.00082	0.00033	0.00016	0.00008	0.00082	0.00288
Mallard	0.00005	0.00002	0.00001	0	0.00018	0.00065
Peregrine*	0.00003	0.00001	0.00001	0	0.00012	0.00043
Snipe	0.00002	0.00001	0	0	0.00009	0.00033
Sparrowhawk	0.00002	0.00001	0	0	0.00006	0.00022

7.3.8 Evaluation of Important Ornithological Features (IOF)

The importance of bird species and their associated habitats within the ZoI of the proposed wind farm site has been evaluated in accordance with the CIEEM (2024) Guidelines.

Ornithological features within the ZoI, including designated sites, habitats supporting bird populations, and species of conservation concern, have been evaluated according to the geographic hierarchy of importance as outlined in Table 7-7. Importantly, the presence of a species with international conservation status (e.g., Annex I of the EU Birds Directive) does not in itself confer international importance; the site must support a functionally significant population or play a demonstrably important role in the species' life cycle.

For this assessment, an IOF is defined as any bird species, assemblage, habitat, or designated ornithological site that:

- Occurs regularly within, or has a functional relationship with, the ZoI;
- Is of at least Local Importance (Higher value) or greater; and
- Has a credible pathway for interaction with the proposed project.

In accordance with CIEEM guidance and standard EcIA practice, the assessment focuses on Important Ornithological Features (IOFs). These receptors are taken forward for detailed assessment based on their conservation importance and their potential to interact with the proposed project.

7.3.9 Impact Assessment Methodology

This section outlines the approach used to evaluate potential effects of the proposed project during construction, operation and decommissioning on ornithological features within the ZoI. The assessment follows guidance set out in the CIEEM Guidelines for Ecological Impact Assessment (CIEEM, 2024) and is informed by the Transport Infrastructure Ireland (TII) *Guidelines for Assessment of Ecological Impacts of National Road Schemes* (PE-ENV-01112) (2009), which provide a structured framework for defining ecological receptors, characterising impacts, and assigning significance based on magnitude, extent, duration and reversibility. Potential impact pathways considered include habitat loss, disturbance and displacement, collision risk, barrier effects, changes in habitat suitability, and cumulative and in-combination effects. Construction-phase activities, including vegetation clearance, construction traffic, excavation, blasting, rock breaking and crushing associated with the proposed borrow pit and adjacent quarry operations, were considered where a credible pathway for effects on ornithological receptors was identified.

The ZoI varies between receptors depending on their sensitivity to environmental change. It may therefore be appropriate to identify different ZoIs for different features, ensuring that the assessment is proportionate and targeted to the likely effects of the proposed project. For example, the ZoI for wetlands supporting wintering waterbirds may extend further than for localised woodland habitats used by passerines. This receptor-based approach is consistent with best practice ecological assessment principles and relevant guidance for wind energy development, including NatureScot guidance on assessing impacts and cumulative effects on birds and EPA Guidelines on EIAR preparation (EPA, 2022).

Identifying Ornithological Features within the Zone of Influence

Information obtained during the desk study and field surveys has been used to identify ornithological features likely to be affected by the proposed project. The ZoI is defined in the CIEEM Guidelines as: *"The 'zone of influence' for a project is the area over which ecological features may be affected by biophysical changes arising from the Development and its associated activities."*

For ornithological features, the ZoI encompasses areas where key breeding, foraging, roosting, or other important habitats could potentially be affected, either directly or indirectly, by the proposed project. This may extend beyond the proposed project boundary where ecological connections exist, including wetlands, agricultural fields, or flight routes used by sensitive bird species.

A Source–Pathway–Receptor (S-P-R) approach has been applied to identify potential impact pathways for effects between the proposed wind farm site and IOFs. This structured approach ensures that both direct (e.g., habitat loss or disturbance) and indirect (e.g., displacement, behavioural change or collision risk) effects are systematically considered. Features with no

functional connection to the proposed project are not considered to be within the ZoI for the purposes of this assessment.

Criteria for Evaluation of Ornithological Features

The assessment of potential ornithological effects is based on a consistent framework for evaluating the importance of ornithological features within the ZoI. A geographic hierarchy of importance, from *International* to *Local*, is applied in accordance with the CIEEM Guidelines and TII PE-ENV-01112 (2009).

Professional ornithological judgement has been applied, taking into account conservation status, species abundance, functional role within the landscape, and seasonal context derived from survey data. The criteria for assigning levels of importance are summarised in Table 7-7.

Table 7-7: Evaluation criteria for determining the importance of ornithological features

Importance	Evaluation Criteria

International Importance	• European Sites designated or proposed for birds, including SPAs or Proposed SPAs (pSPAs).
	• Sites that meet the criteria for designation as an SPA, including those supporting qualifying bird species or assemblages.
	• Ramsar Sites designated for wetlands of international importance, including those supporting internationally important bird populations.
	• Resident or regularly occurring populations of birds of international importance, including:
	  ○ Species listed on Annex I of the Birds Directive; and/or
	  ○ Migratory species referred to in Article 4(2) of the Birds Directive, where populations meet recognised international importance thresholds or where the site supports a functionally significant component of the population.
	• Key habitats essential to maintaining the coherence of the Natura 2000 network for birds, including functionally important breeding, foraging, roosting, moulting, or migration stop-over habitats.
	• Sites supporting internationally important congregations of birds, as identified by recognised international criteria (e.g. population size or frequency of use).

National Importance	• Resident or regularly occurring populations of birds of national importance in Ireland, including:
	  ○ Annex I or Article 4(2) species outside SPAs;
	  ○ Species protected under the Wildlife Acts;
	  ○ Species listed on the relevant Irish Red or Amber Lists, where populations are important at the national level.
	• Bird assemblages or populations that are nationally important but do not meet international thresholds.
	• Undesignated sites supporting bird populations of high national importance, where available evidence indicates functional importance, but SPA-level thresholds are not met.
	• Key habitats that support nationally important bird populations, including functionally important breeding, foraging, roosting, or commuting habitats.

County / Regional Importance	• Resident or regularly occurring bird populations important at the county or regional level, including:
	  ○ Annex I or Article 4(2) species occurring at levels of regional importance;
	  ○ Species protected under the Wildlife Acts;
	  ○ Species listed on the relevant Red or Amber Lists.
	• County- or regionally-important concentrations or assemblages of birds.
	• Habitats that support regionally-important bird populations, including locally important breeding, foraging, roosting, or movement corridors.
	• Bird populations or habitats identified as important in National or Local Biodiversity Action Plans, where prepared.
	• Habitats supporting bird species that are uncommon or declining within the county or region, but not of national importance.



Importance	Evaluation Criteria

Local (Higher) Importance	• Locally important populations of birds, including:
	  ○ Protected species;
	  ○ Red or Amber listed species where populations are important at the local level.
	• Habitats with high local value for birds, including breeding, foraging, roosting, or sheltering habitats.
	• Ecological features that support functional connectivity for birds, such as commuting routes or habitat links between higher-value sites.

Local (Lower) Importance	• Small or fragmented habitats of limited ornithological value, supporting common or widespread bird species. • Areas used occasionally or opportunistically by birds, but which do not contribute meaningfully to population maintenance or viability. • Features of minor importance for maintaining local habitat connectivity for birds.



Ornithological features assessed as being of Local (Lower) Importance, are considered to be of negligible importance in the context of this assessment. Such features are not critical to the maintenance of bird populations at any geographic scale and are therefore scoped out of further detailed evaluation. Effects on these features are not considered to be significant in EIA terms and, in accordance with TII's PE-ENV-01112 (2009), are not considered further in this chapter.

The importance of an ornithological feature has been determined using the geographical scale of value defined in Table 7-7 and is informed by following criteria:

- For conservation status:
  - Inclusion of a species on Annex I of the Birds Directive, indicating European-level conservation concern; and
  - Listing on the BoCCI Red or Amber lists (Gilbert *et al.*, 2021), reflecting national population declines or conservation priority.
- For species abundance at relevant geographic scales:
  - The numbers of individuals recorded during baseline surveys were evaluated against established thresholds at site, county, national, and international levels; and
  - This allows determination of whether the site supports a population of sufficient size or function to contribute meaningfully to the species' conservation status at the relevant geographic scale.

Description of Effects

Ecological effects are described and evaluated in terms of nature, extent, magnitude, duration, frequency, timing, and reversibility. The ecological effects of the proposed project on ornithological features are described and assessed in terms of their significance, following the CIEEM Guidelines and TII's PE-ENV-01112 (2009) principles:

- **Beneficial or Adverse**: effects are classified as beneficial or adverse depending on whether they support or conflict with relevant nature conservation objectives, legislation, and policy. Adverse effects are not automatically significant; their significance is determined using magnitude, extent, duration, frequency, and reversibility;
- **Extent**: the extent refers to the geographical area over which an effect occurs and is described, where possible, in a quantitative term;
- **Magnitude:** magnitude reflects the scale or intensity of the interaction between the proposed project and the ornithological feature, taking into account the extent, duration, frequency, likelihood and reversibility of the effect. The criteria used to define magnitude are set out in Table 7-8;
- **Duration:** Duration refers to the period over which an effect persists, up to recovery or reinstatement of baseline conditions, which may extend beyond the period of the impact-causing activity. Duration is assessed with reference to ecological characteristics, including species' life cycles, population dynamics and habitat recovery potential. Definitions of duration (e.g. short-, medium- and long-term) follow CIEEM guidance and are adapted to the ornithological context (see Table 7-9). Particular attention is given to key seasonal periods, such as breeding or migration, when sensitivity is highest;
- **Frequency and Timing**: the frequency with which an activity and its associated effects occur, and the timing of those effects in relation to key seasonal or life-cycle constraints (e.g., breeding, migration, wintering), are assessed, as these factors can materially influence the severity of effects on ornithological features;

- **Reversibility:** it describes the likelihood of an affected feature returning to baseline conditions following cessation of the impact, either through natural recovery or mitigation. An effect is considered irreversible where recovery is not possible within a reasonable ecological timeframe or where there is no realistic opportunity for intervention to reverse the effect. Reversibility is assessed with reference to both ecological timescales and the lifetime of the proposed project.

Duration and reversibility are considered together in the assessment of impact significance, with reference to species or habitat sensitivity and resilience.

Table 7-8: Criteria for assessing impact significance

Magnitude	Criteria
High	Extent: High proportion of the population affected. Duration: Long-term, with behavioural changes lasting the lifetime of the project. Frequency: Frequent or continuous throughout the relevant project phase. Probability: Effect is highly likely or certain to occur. Consequence (Adverse): Behaviour and/or distribution of a substantial proportion of the population is affected, such that population status or trajectory at the relevant geographic scale may be altered.
Medium	Extent: Moderate proportion of the population affected. Duration: Medium-to long term. Frequency: Regular throughout the relevant project phase. Probability: Effect is likely to occur. Consequence (Adverse): Changes in behaviour and/or distribution may affect reproductive success or survival of some individuals but are unlikely to alter population trajectory at the relevant geographic scale.
Low	Extent: Small proportion of the population affected. Duration: Short-term or temporary. Frequency: Occasional throughout the relevant project phase. Probability: Effect is possible but unlikely to occur. Consequence (Adverse): Minor behavioural or displacement effects affecting a small number of individuals, with no meaningful effect on population status or trajectory.
Negligible	Extent: Very small proportion of the population affected. Duration: Very short term. Frequency: Rare or isolated occurrence. Probability: Effect is unlikely or highly unlikely to occur. Consequence (Adverse): Effects are imperceptible or minimal, with no measurable consequence of individuals or populations.

The duration categories presented in Table 7-9 are indicative and are interpreted in relation to species' life cycles, population dynamics, and habitat recovery potential, rather than being applied rigidly.

Table 7-9: Duration categories and reversibility definitions

Duration	Definition of Reversibility[1]
Temporary	Lasting less than 1 year, typically within a single season. Recovery to baseline conditions is anticipated in the short term.
Short term	Typically lasting 1–7 years. Recovery is generally possible within a small number of breeding seasons or generations of the affected species.
Medium term	Indicatively lasting 7–15 years. Recovery may require several generations and/or active mitigation, depending on species ecology and habitat recovery potential.
Long term	Lasting 15–60 years. May span multiple generations of species or long-term habitat change. Recovery is possible but likely to require targeted intervention.
Permanent	Lasting >60 years or beyond the lifetime of the proposed project. Effects are effectively irreversible on ecological timescales and recovery to baseline conditions is unlikely.
Reversible	Recovery to baseline conditions is possible naturally or through mitigation (e.g., habitat restoration or management).
Irreversible	Recovery to baseline conditions is unlikely within a reasonable ecological timeframe, or not reasonably achievable through mitigation.

Significant Effects on Important Ornithological Features

For the purposes of this assessment, a significant effect, whether beneficial or adverse, is defined as an outcome affecting an IOF that supports or undermines the achievement of conservation objectives for that feature. Significance is therefore directly related to the maintenance or deterioration of population viability or habitat integrity. Conservation objectives may be site-specific (e.g. for SPAs designated for particular bird species) or broader in scope, including national conservation priorities such as those reflected in the BoCCI Red and Amber Lists.

Significant effects may occur at a range of geographic scales, from International to Local, and are described and qualified with reference to the geographic scale of importance of the IOF, in accordance with the CIEEM Guidelines. An effect may therefore be significant at a local or county level even where no significant effect arises at a national or international scale, emphasising that significance is scale-dependent and context-specific.

Mitigation Rationale and Design

Potential effects on IOFs are addressed in accordance with the mitigation hierarchy (avoidance, mitigation, and compensation) defined in the CIEEM Guidelines. The impact assessment assumes the implementation of embedded mitigation measures as set out in Section 7.6.1, which are integral to the project design and have been incorporated into the assessment of effects.

The primary objective is to avoid significant adverse effects through early consideration of ornithological sensitivities during project design.

[1] Definitions are informed by EPA (2022) guidelines and interpreted in accordance with the CIEEM Guidelines, which advises that duration and reversibility should be defined in relation to ecological context, such as species' lifespans, habitat resilience, and recovery potential.

Where avoidance is not achievable, mitigation measures are applied to reduce the magnitude of effects and, where possible, reduce effects to a level that is not significant. Such measures may include, but are not limited to:

- Timing restrictions to avoid disturbance during sensitive periods (e.g., breeding or wintering);
- Micro-siting of turbines to avoid high-sensitivity areas; or
- Habitat and crop management to reduce attractiveness to sensitive species.

Where significant adverse effects remain after mitigation, compensation measures (such as habitat creation, enhancement, or management elsewhere within the wider landscape) may be considered, where appropriate.

The selection and design of mitigation and compensation measures are proportionate to the sensitivity of the IOF, the scale and nature of the predicted effect, and the precautionary principle is applied where uncertainty remains.

Residual Effects

Following the application of avoidance, mitigation and, where relevant, compensation measures, residual effects are assessed to determine whether any significant effects on IOFs remain.

This step identifies any unavoidable impacts and informs the overall judgement on the acceptability of the proposed project in ornithological terms.

Cumulative Effects

Cumulative effects on IOFs may arise where individually minor effects combine to result in a significant effect, particularly for wide-ranging or sensitive species such as raptors, geese, and swans.

Cumulative effects may be:

- Additive/incremental, where multiple developments in proximity contribute to an overall effect on an IOF (e.g., increased collision risk across a cluster of wind farms); or
- Associated/connected, where linked development activities give rise to additional effects (e.g., grid infrastructure associated with wind energy developments).

Cumulative effects are assessed in the context of the existing conservation pressures, sensitivities, and thresholds of the IOFs concerned, with reference to other relevant plans and projects within and beyond the ZoI where relevant, including consented and proposed developments. The assessment considers spatial and temporal overlap, as well as conservation thresholds.

This ensures that cumulative effects are assessed at an appropriate geographic and ecological scale.

7.3.10 Statement of Limitations and Difficulties Encountered

This section outlines the limitations of the ornithological surveys undertaken during the three-year study period. Overall, the identified limitations are minor and are not considered to materially affect the characterisation of baseline ornithological conditions or the assessment of effects.

DAU recommended that dawn, dusk and nocturnal surveys be undertaken for Greenland white-fronted goose. Dedicated nocturnal surveys were not undertaken. However, Greenland white-fronted goose was treated as a target species and the assessment was informed by three years of VP surveys, wintering waterbird surveys, walkover surveys, NPWS records, consultation responses and published information on the species' ecology and habitat use. Collectively, these data provided sufficient information to characterise the distribution, habitat use and flight activity of Greenland white-fronted goose within the study area. No evidence was identified that the proposed turbine layout supports a regularly used feeding area, roost site or key flight corridor. Consequently, the available evidence was considered sufficient to inform the assessment without additional dedicated nocturnal surveys.

VP surveys were designed to provide comprehensive coverage of the proposed turbine locations. The target survey effort of approximately 72 hours per VP location per survey year (comprising breeding and non-breeding season coverage) was achieved in almost all cases, with only minor shortfalls in Year 1 at two VP locations. These minor deviations are not considered to materially affect the robustness of the dataset, particularly given the availability of three years of flight activity data.

Breeding raptor surveys undertaken during Year 1 were completed between March and May 2023 and therefore did not extend across the full breeding season. However, breeding raptor surveys undertaken during Years 2 and 3 covered the full breeding survey period in accordance with NatureScot (2025). Given the availability of two complete years of breeding raptor survey data, together with supporting VP survey and breeding bird survey information, this is not considered to be a limitation on the breeding raptor survey data.

Hen harrier roost surveys were undertaken across three non-breeding seasons. On some occasions, surveys commenced less than the recommended 40 minutes prior to sunset, reducing the opportunity to detect individuals arriving unusually early at potential roost sites. However, surveys continued through the principal roost arrival period, no roosts were identified within the survey area, and this minor variation in survey timing is not considered to have materially affected the characterisation of hen harrier use of the site.

While some surveys were occasionally shortened or interrupted due to weather or temporary disturbance events, surveys were paused and resumed once conditions improved and overall survey effort remained sufficient to characterise baseline conditions.

Overall, the identified limitations are considered minor in nature and are not considered likely to have resulted in sensitive ornithological receptors being overlooked. The assessment is informed by a comprehensive three-year survey dataset and is considered robust for the purposes of evaluating the potential ornithological effects of the proposed development..

7.3.11 SCIENTIFIC NOMENCLATURE CONVENTIONS

Bird species referenced in this chapter follow binomial nomenclature at the first mention of each species' common name, with the scientific name written in full and italicised. Subsequent references use only the common name. Irish (English language) common and scientific names of bird species referred to in this report follow those used by the British Ornithologists' Union (BOU)[2]. Where appropriate, geographic prefixes such as "common," "European," or "Eurasian" are not included to maintain consistency and readability.

[2] Bird nomenclature follows the British Ornithologists' Union (BOU) and the Avilist World Bird List, with English and scientific names aligned to the most recent BOU taxonomic recommendations (BOU, 2022; updated online).

7.4 RECEIVING ENVIRONMENT

7.4.1 SITE DESCRIPTION

The proposed project comprises a 13-turbine wind farm and associated ancillary infrastructure, including a 33 kV private grid connection cable, a 110 kV substation, and two alternative 110 kV grid connection options. The proposed wind farm site is located within the townlands of Cloughmoyne, Carrowoughteragh, Toorard, Rooaunalaghta, Brodullagh South and Killough, County Mayo.

The proposed grid connection infrastructure extends through lands in Counties Mayo and Galway. The 33 kV underground cable connection associated with the GCR traverses the townlands of Brodullagh South, Killough and Cloonbanaun in County Mayo, and Largan, Joyce's Park, Carrowmore, Tonacooleen, Ralusk, Abbeytown, Ballinvoher, Killamanagh and Bunnasillagh in County Galway.

7.4.2 DESK STUDY

A comprehensive desk-based review was undertaken to characterise the ornithological receiving environment and identify ornithological receptors with the potential to interact with the proposed project. In accordance with the methodology described in Section 7.3.5, designated sites with ornithological interest were reviewed within 10 km of the proposed project boundary, with the search area extended to 20 km for wintering geese and other receptors where ecological connectivity could occur beyond the standard search area.

Data sources included the NPWS, NBDC, BirdWatch Ireland's I-WeBS and CBS datasets and bird atlas data and published sensitivity mapping for wind energy, and relevant ornithological literature.

The desk study indicates that the proposed project lies within a wider wetland–farmland landscape supporting internationally and nationally important assemblages of wintering waterbirds, alongside regionally important populations of waders, gulls, raptors and farmland passerines. Detailed desk study outputs are presented in Appendix 7-3.

Bird Sensitivity

Based on BirdWatch Ireland sensitivity mapping (McGuinness et al. 2015), the proposed wind farm site and its surrounding 2 km buffer are classified as having low to medium sensitivity to wind energy development. Sensitive species identified within the encompassing 10 km grid squares (M24, M25) include hen harrier, whooper swan (*Cygnus cygnus*), golden plover (*Pluvialis apricaria*) and breeding waders associated primarily with off-site wetlands and turlough systems.

The sensitivity classification reflects:

- The presence of higher sensitivity species within the wider landscape rather than within the proposed wind farm site itself;
- The importance of surrounding wetland systems for these species; and
- The availability of extensive alternative habitat within the wider Corrib Basin landscape.

Wintering Waterbirds

The Corrib Basin and associated turlough systems support large assemblages of wintering waterbirds. Within the local area, the nearest key wetland systems include:

- Rostaff Turlough (c.1.2 km to the southeast);
- Shrule Turlough (c. 2.1 km to the north); and
- Mocorha Lough (c. 2.8 km to the northwest).

These sites form part of a wider network of turloughs and lakes within the Corrib catchment.

While the proposed wind farm site does not contain core roosting or open-water habitats, it forms part of a wider farmland network used by waterbird species for foraging and movement between wetlands during the non-breeding season.

Species recorded during the desk study include whooper swan, Greenland white-fronted goose (*Anser albifrons flavirostris*), greylag goose (*Anser anser*), and a range of dabbling and diving ducks including mallard (*Anas platyrhynchos*), teal (*Anas crecca*), wigeon (*Mareca penelope*), tufted duck (*Aythya fuligula*), shoveler (*Spatula clypeata*) and pochard (*Aythya ferina*).

Breeding Waders

The proposed wind farm site comprises areas of improved grassland and seasonally damp ground that may provide suitable habitat for wader species during the non-breeding season and occasionally during the breeding season. The proposed wind farm site lies within a wider agricultural landscape characterised by a mosaic of pasture, wet grassland and wetland habitats, including turlough systems and associated low-lying wet ground.

The distribution and occurrence of wader species in the wider area is influenced by soil moisture, sward height and seasonal conditions, which determine local suitability for foraging and roosting.

Desk study records at 10 km grid resolution indicate the presence of wader species within the wider landscape, including curlew (*Numenius arquata*), golden plover, lapwing (*Vanellus vanellus*), snipe and woodcock. However, these records are spatially coarse and do not confirm the presence of these species within the proposed wind farm site. Field survey data indicate that any records of wader species within the Survey Areas were generally dispersed and predominantly located outside the proposed wind farm site, with no evidence of concentrated or regularly used wader assemblages within the development footprint.

Gulls

Gull species occur in the area primarily in association with nearby lakes, turloughs and agricultural land. Gull activity within the wider area is typically associated with movements between wetlands and agricultural land used for foraging.

Species recorded include black-headed gull (*Chroicocephalus ridibundus*), common gull (*Larus canus*), herring gull (*Larus argentatus*), lesser black-backed gull (*Larus fuscus*) and great black-backed gull (*Larus marinus*).

Raptors and Owls

Raptors occur within the wider landscape and are typically associated with large home ranges spanning farmland, woodland and wetland habitats. The proposed wind farm site lies within these ranges; with breeding activity generally associated with suitable nesting habitats located outside turbine locations.

Species recorded include buzzard (*Buteo buteo)*, kestrel (*Falco tinnunculus)*, sparrowhawk (*Accipiter nisus)*, peregrine (*Falco peregrinus)*, merlin (*Falco columbarius*) and hen harrier. Owls recorded include barn owl, long-eared owl (*Asio otus)* and short-eared owl (*Asio flammeus)*.

Other Species of Conservation Concern

Desk study sources indicate the presence of a range of BoCCI4 Red- and BoCCI4 Amber-listed passerines and riparian species, including swift (*Apus apus)*, meadow pipit (*Anthus pratensis)*, grey wagtail (*Motacilla cinerea)* and yellowhammer (*Emberiza citrinella*). These species are associated with farmland and riparian habitats

Summary

Higher densities and core habitat use are generally associated with off-site lakes, turloughs and wetlands, while the proposed wind farm site contributes to landscape-scale connectivity.

7.4.3 Designated Sites

This section describes designated sites within the wider receiving environment that have qualifying or supporting ornithological interests. The purpose of this section is to characterise the baseline context of designated sites surrounding the proposed wind farm site.

Designated sites were identified using the NPWS Designations Viewer, applying a 20 km search radius from the proposed wind farm site. This distance reflects the potential mobility of bird species associated with wetlands and open landscapes and is commonly applied for the descriptive baseline stage of ornithological assessment. The locations of designated sites considered within the assessment are shown in Appendix 7-3, comprising Figure 1 (SPAs within 20 km of the proposed project), Figure 2 (SACs within 20 km of the proposed project), and Figure 3 (NHAs and pNHAs within 20 km of the proposed project).

Sites of International Importance

Several sites designated under European legislation for ornithological interests occur within 20 km of the proposed wind farm site. These comprise SPAs designated under the EU Birds Directive, which support important populations of resident and migratory bird species.

The principal SPAs within the defined search area include:

- Lough Corrib SPA;
- Lough Mask SPA; and
- Lough Carra SPA.

These sites are designated primarily for wintering waterbird assemblages, including swans, geese, ducks, gulls and terns, and a range of Annex I and regularly occurring migratory species.

The locations of these sites in relation to the proposed project are shown in Appendix 7-3, Figure 1, with further details provided in Table 7-10.

Sites of National Importance

A wider network of sites designated at national level occurs within the receiving environment, including NHAs and pNHAs. Many of these sites comprise turloughs, lakes, wet grasslands and other wetlands that are known to support waterbirds and waders on a seasonal basis.

Nationally designated sites within the 20 km search area include:

- Turlough systems (e.g., Rostaff Turlough, Shrule Turlough);
- Lakes and wetland complexes associated with the Corrib Basin; and
- Other designated features where wetlands form part of the cited conservation interest.

Some national sites overlap spatially with European sites or lie within the same wider landscape. Others are isolated features of more localised extent. A summary of nationally designated sites, their designation status and proximity to the proposed wind farm site is provided in Table 7-10. The locations of NHAs and pNHAs within the study area are shown in Appendix 7-3, Figure 3.

7.4.4 TURLOUGH NETWORK

The Project Site is situated within a wider network of turloughs and associated wetlands connected to the Corrib catchment, including Rostaff Turlough pNHA, Shrule Turlough SAC, Mocorha Lough SAC/pNHA and other seasonally inundated wetlands within the surrounding study area. These wetlands provide important feeding, roosting and refuge habitat for wintering waterbirds, including Greenland white-fronted goose, whooper swan, shoveler, greylag goose, wigeon, lapwing and curlew. Surveys undertaken between 2022 and 2025 indicate that the principal concentrations of waterbirds occur within the turloughs and associated farmland habitats rather than within the proposed turbine layout. Accordingly, the turlough network forms an important component of the wider ornithological baseline and is considered further in the assessment of indirect effects.

Table 7-10: Designated sites within 20 km of the proposed wind farm site

Designated site and approx. distance to proposed wind farm	Qualifying ornithological features and seasonal status[3]	Potential S-P-R connectivity considered (i.e., proximity of the feature4 or hydrological connectivity[5])
Lough Corrib SPA (004042) Lough Corrib SAC (000297) 2.9 km west	Gadwall (*Mareca strepera*) [A051] - wintering Shoveler (*Spatula clypeata*) [A056] - wintering Pochard (*Aythya ferina*) [A059] - wintering Tufted duck (*Aythya fuligula*) [A061] - wintering Common scoter (*Melanitta nigra*) [A065] - wintering Hen harrier (*Circus cyaneus*) [A082] - wintering Coot (*Fulica atra*) [A125] - wintering Golden plover (*Pluvialis apricaria*) [A140] - wintering Black-headed gull (*Chroicocephalus ridibundus*) [A179] - wintering Common gull (*Larus canus*) [A182] - wintering Common tern (*Sterna hirundo*) [A193] - breeding Arctic tern (*Sterna paradisaea*) [A194] - breeding Greenland white-fronted goose (*Anser albifrons flavirostris*) [A395] - wintering Wetland and waterbirds [A999] - wintering	Yes – potential ecological connectivity due to proximity and known use of surrounding farmland by waterbirds associated with the site.

[3] Seasonal status refers to the principal period for which the ornithological feature is designated, recorded, or considered ecologically relevant in the context of this assessment. "Wintering" includes non-breeding migratory and over-wintering populations.
[4] Measured in a straight line between the proposed wind farm site and closest point of European site boundary.
[5] Hydrological connections indicated in river kilometres, 'rkm'.

Designated site and approx. distance to proposed wind farm	Qualifying ornithological features and seasonal status[3]	Potential S-P-R connectivity considered (i.e., proximity of the feature4 or hydrological connectivity[5])
Lough Mask SPA (004062) 14.1 km northwest	Tufted duck (*Aythya fuligula*) [A061] - wintering Black-headed gull (*Chroicocephalus ridibundus*) [A179] - wintering Common gull (*Larus canus*) [A182] - wintering Lesser black-backed gull (*Larus fuscus*) [A183] -breeding/post-breeding Common tern (*Sterna hirundo*) [A193] breeding Greenland white-fronted goose (*Anser albifrons flavirostris*) [A395] - wintering Wetland and waterbirds [A999] - wintering	Yes – potential ecological connectivity for mobile gull and tern species cannot be excluded due to species foraging ranges.
Lough Carra SPA (004058) 17.8 km northwest	Common gull (*Larus canus*) [A182] - wintering Common tern (*Sterna hirundo*) [A193] - breeding Wetland and waterbirds [A999] - wintering	Yes – potential ecological linkage via the Carra–Mask–Corrib system.
Rostaff Turlough pNHA (000385) 750 m southeast	Ducks, geese, swans and waders (e.g., snipe, lapwing, curlew) – primarily wintering	Yes – potential ecological connectivity identified due to the close proximity of the site.
Shrule Turlough SAC & pNHA (000525) 1.6 km north	Supports large numbers of wintering waterbirds.	Yes – potential ecological connectivity identified due to the close proximity of the site.
Lough Corrib pNHA (000297) 2.9 km west	Strong waterbird interest; overlaps with SPA designation.	Yes – direct ecological connectivity.
Mocorha Lough SAC (001536)	Wetland birds (e.g., snipe, mallard).	Yes – ecological linkage to Corrib catchment.

Designated site and approx. distance to proposed wind farm	Qualifying ornithological features and seasonal status[3]	Potential S-P-R connectivity considered (i.e., proximity of the feature4 or hydrological connectivity[5])
2.6 km northwest		
Lough Hacket pNHA (001294) 4.4 km east-southeast	Regionally important for wigeon, pochard, tufted duck, lapwing, curlew - wintering	Yes – ecological linkage to Corrib catchment.
Clyard Kettle-Holes SAC (000480) 6.6 km north-northwest	Known or likely to support waterbirds.	Yes – ecological linkage to Corrib catchment.
Turlough Monaghan pNHA (001322) 7.7 km southeast	Lapwing and wintering waterfowl recorded.	Yes – ecologically connected turlough.
Turlough O'Gall pNHA (000331) 7.8 km east	Known or likely to support waterbirds (Goodwillie, 1992).	Yes – ecologically connected turlough.
Skealoghan Turlough SAC (000541) 10.3 km north	No qualifying ornithological features relevant to this assessment identified.	No – no qualifying ornithological features relevant to this assessment; therefore, no meaningful pathway for effects identified.
Ardkill Turlough SAC (000461) 10.4 km north-northeast	No qualifying ornithological features relevant to this assessment identified.	No – no qualifying ornithological features relevant to this assessment; therefore, no meaningful pathway for effects identified.
Killower Turlough SAC (000282) 10.8 km east-northeast	No SCI species listed (non-SPA site); however, the site is of regional ornithological importance, supporting at least 14 species of waterfowl, including whooper Swan and Greenland white-fronted goose.	Yes – ecological connectivity with the Corrib catchment.
Belclare Turlough pNHA (000234) 11.0 km east	No SCI species listed (non-SPA site); however, the site supports notable wintering and migratory waterbird assemblages, including wigeon, teal, mallard, lapwing, golden plover, curlew and dunlin.	Yes – ecological connectivity with the Corrib system.

Designated site and approx. distance to proposed wind farm	Qualifying ornithological features and seasonal status[3]	Potential S-P-R connectivity considered (i.e., proximity of the feature4 or hydrological connectivity[5])
	Regular use by Greenland white-fronted goose (c. 100–150 individuals).	
Greaghans Turlough SAC (000503) 11.2 km northeast	Greylag goose, whooper swan, wigeon, mallard, etc. - wintering	Yes – turlough within Corrib basin.
Kilglassan/Caheravoostia Turlough Complex SAC (000504) 11.7 km north-northeast	Waterbirds recorded (I-WeBS) - wintering	Yes – ecological connectivity with the turlough system
Lough Carra/Mask Complex SAC (001774) 17.8 km northwest	Designated primarily for habitats; functionally linked to SPA waterbird assemblages at Lough Carra SPA and Lough Mask SPA.	Yes – ecological connectivity with the Carra–Mask–Corrib basin
Carrowkeel Turlough SAC (000475) 17.0 km north-northeast	Known or likely to support waterbirds.	Yes – ecological connectivity with the Corrib basin.

7.4.5 Ornithological Survey Results

This section summarises the results of field-based ornithological surveys undertaken to establish baseline conditions within and around the proposed wind farm site. The purpose of this section is to describe species presence, activity and seasonal use, thereby characterising the receiving ornithological environment. Interpretation of these results, including evaluation of importance and identification of IOFs, is undertaken in Section 7.5. The assessment of potential effects associated with the proposed project, including construction, operation, decommissioning and cumulative effects, is presented separately in Sections 7.6.

Species recorded with greater regularity, defined as those recorded on more than one survey visit and/or showing repeated occurrence within the Survey Area across survey periods, and therefore considered to demonstrate evidence of repeated use of the proposed wind farm site or surrounding area, are assessed through individual species accounts. These accounts are presented for all regularly occurring species within the Core Survey Area, including those identified as IOFs based on their conservation status, ecological sensitivity, or population context. The species accounts are intended to provide a description of baseline distribution, abundance, habitat use and conservation importance and do not include assessment of project effects, which are considered separately within the impact assessment sections.

Species names in Table 7-11 are colour-coded according to their conservation status as defined by BoCCI4 2020–2026 (Gilbert *et al.*, 2021), as follows:

- Red-listed: high conservation concern;
- Amber-listed: medium conservation concern; and
- Green-listed: low conservation concern.

Surveys recorded a diverse assemblage of bird species typical of an agricultural landscape within a broader wetland-dominated region. This included waterbirds, waders, gulls, raptors, owls, and a range of farmland and riparian passerines.

Bird use of the proposed wind farm site varied:

- Seasonally, with higher use by waterbirds and waders during the non-breeding period;
- Spatially, reflecting habitat availability, wet ground conditions, and surrounding land use; and
- By activity type, including foraging, flight, commuting, breeding, and occasional roosting behaviour.

No large aggregations of birds were recorded within the proposed wind farm site itself, with higher densities generally associated with nearby lakes, turloughs, and other wetlands located outside of the proposed wind farm site.

Flight activity

Flight activity recorded during VP surveys comprised predominantly commuting movements across the proposed wind farm site, alongside occasional foraging flights by raptors and gulls. Observed flight heights varied by species, season and behaviour.

Overall, activity levels were low and dispersed, with the most records comprising of single birds or small groups, and no large or regularly occurring flocks recorded within the turbine envelope.

The most frequently recorded species included common gull, black-headed gull, lesser black-backed gull, buzzard and kestrel, reflecting the general use of the proposed wind farm site by widespread and adaptable species. Activity associated with waterbirds and waders increased seasonally but remained limited in scale.

No regular flight paths or defined movement corridors were identified across the proposed wind farm site. Recorded flights were distributed across the survey area and did not show consistent spatial concentration or directional pattern indicative of established commuting routes.

There was no clear spatial bias in flight activity, with use of the proposed wind farm site occurring at a similarly low level across VP locations. Activity was consistently higher in the surrounding landscape, particularly in association with nearby wetlands and designated sites.

Patterns of flight activity were consistent across survey years, with no evidence of increasing use of the proposed wind farm site or the establishment of regular flight routes over time.

Detailed summaries of VP observations and flight activity by species and season are provided in Table 7-11, with full VP datasets and mapped flightlines presented in Appendix 7-7.

Breeding and seasonal use

Breeding bird surveys identified a range of breeding passerines and occasional breeding attempts by ground-nesting and open-habitat species within the wider Survey Areas. Evidence of breeding by raptors was confined to off-site locations, with raptor activity within the proposed wind farm site relating primarily to foraging and commuting.

Winter surveys confirmed seasonal use of the proposed wind farm site by waterbirds and waders, principally for foraging and commuting between off-site wetlands. Patterns of winter use varied between years in response to weather conditions and the availability of standing water within the proposed wind farm site.

Species-specific survey results, including breeding evidence, counts and distribution, are presented in Appendices 7-2 and 7-8.

Summary of ornithological surveys

The ornithological surveys undertaken established that the proposed wind farm site is used by a range of bird species throughout the year, consistent with its location within a wider agricultural and wetland landscape. Use of the proposed wind farm site was primarily associated with foraging, commuting and transient movement, with core breeding, roosting and wintering areas occurring predominantly off-site.

These baseline survey results provide the evidence base for the identification and evaluation of IOFs in Section 7.5, and for the assessment of potential effects in Section 7.6.

Table 7-11: Summary of VP observations recorded during Year 1, Year 2 and Year 3

	Activity – No. of observations during VP watches						
Species*[6]	Year 1 non-breeding	Year 1 Breeding season	Year 2 non-breeding	Year 2 breeding season	Year 3 non-breeding	Year 3 breeding season	Total
Black-headed gull	55	19	92	33	166	16	381
Buzzard	8	15	55	40	90	19	227
Canada goose	-	-	-	4	-	-	4
Common gull	79	13	79	6	361	13	551
Coot	1	-	2	8	-	-	11
Cormorant	5	1	14	4	3	-	27
Curlew *	3	3	2	-	3	-	11
Domestic goose	-	-	-	-	1	-	1
Dunlin *	-	-	-	-	1	-	1
Gadwall	-	-	3	-	1	-	4
Golden plover *	-	-	16	1	26	1	44
Great black-backed gull	3	3	37	2	13	-	58

[6] *denotes Annex I listed species

Species*[6]	Activity – No. of observations during VP watches						
	Year 1 non-breeding	Year 1 Breeding season	Year 2 non-breeding	Year 2 breeding season	Year 3 non-breeding	Year 3 breeding season	Total
Great white egret	-	-	-	-	1	-	1
Greenland white-fronted goose	-	-	2	-	1	-	3
Grey heron	6	6	15	8	6	2	43
Greylag goose	3	-	10	1	17	-	31
Gull sp	6	13	41	-	-	-	60
Hen harrier *	-	-	-	-	7	-	7
Herring gull	9	1	26	10	12	1	59
Kestrel	32	23	37	25	79	10	206
Lapwing	3	-	3	1	5	3	15
Lesser black-backed gull	16	120	29	113	150	36	464
Little egret *	1	2	2	10	4	2	21
Mallard	30	18	21	2	10	1	82
Merlin *	2	-	4	-	3	-	9

Species*[6]	Activity – No. of observations during VP watches						
	Year 1 non-breeding	Year 1 Breeding season	Year 2 non-breeding	Year 2 breeding season	Year 3 non-breeding	Year 3 breeding season	Total
Moorhen	-	-	2	-	-	-	2
Mute Swan	-	2	7	-	2	-	11
Peregrine *	5	23	13	12	7	2	62
Pheasant	-	-	1	-	-	-	1
Shoveler	-	-	1	-	-	-	1
Snipe	12	-	14	-	32	-	58
Sparrowhawk	10	9	8	5	21	-	53
Swift	-	7	-	-	-	-	7
Teal	5	1	3	-	2	1	12
Tufted duck	2	-	2	-	-	-	4
Water rail	-	-	1	-	-	-	1
Whooper swan *	4	1	4	-	10	-	19
Wigeon	6	-	5	-	-	-	11
Woodcock	1	-	-	-	1	-	2



Waterbirds

The following species accounts provide summaries of occurrence recorded during baseline surveys (excluding VP watches). Accounts are presented for all species recorded regularly during the baseline surveys, including those identified as IOFs. Full details of all records are provided in Appendix 7-3 and Appendix 7-8.

Coot

Coot (*Fulica atra)* was recorded during winter surveys in small numbers, primarily associated with wet grassland and areas of standing water within and adjacent to the proposed wind farm site. Use of the proposed wind farm site was intermittent and localised, typically involving single birds or small groups, with no evidence of aggregation or consistent use of any particular area or proposed infrastructure location.

No breeding activity was recorded within the proposed wind farm site, and it is not considered to provide suitable or important breeding habitat. Recorded use reflects opportunistic foraging during periods of suitable conditions (e.g., seasonal inundation), with more regular and sustained use occurring at off-site wetlands and turlough systems within the wider Corrib catchment.

Desk study information indicates that coot occurs in nationally important numbers within the surrounding wetland network, particularly within the Corrib Basin. The small numbers recorded within the proposed wind farm site therefore represent a negligible proportion of the wider population, and the proposed wind farm site does not support a functionally important component of that population.

Accordingly, coot is considered to be of Local (Lower) importance within the proposed wind farm site.

Cormorant

Cormorant (*Phalacrocorax carbo*) was recorded during surveys as occasional individuals, typically observed in flight over the proposed wind farm site or associated with nearby waterbodies rather than using habitats within it. Records generally comprised single birds or occasional pairs (1–2 individuals), indicating infrequent and transient occurrence.

No breeding activity was recorded within the proposed wind farm site, and it does not provide suitable breeding or roosting habitat for cormorant. The species is strongly associated with larger waterbodies within the wider landscape, including lakes and turlough systems within the Corrib catchment, where activity is concentrated.

Use of the proposed wind farm site is therefore considered to represent incidental passage or commuting between off-site habitats, rather than functional habitat use. In this context, the proposed wind farm site does not support a meaningful proportion of the local or wider population, and there is no evidence that it contributes to any key ecological function for the species.

Accordingly, cormorant is considered to be of Local (Lower) importance within the proposed wind farm site.

Gadwall

Gadwall (*Mareca strepera*) was recorded during winter surveys in small numbers, typically associated with wet grassland and areas of shallow standing water within and adjacent to the proposed wind farm site. Observations generally comprised very small numbers (typically ≤1–3 individuals), indicating limited and intermittent use.

No breeding activity was recorded within the proposed wind farm site, and it is not considered to provide suitable or important breeding habitat. Occurrence within the proposed wind farm site reflects opportunistic foraging during favourable conditions, with more consistent use of off-site wetlands within the wider Corrib catchment.

Gadwall is present within nearby designated sites, including Lough Corrib SPA, where it forms part of the qualifying waterbird assemblage. In this context, the very small numbers recorded within the proposed wind farm site represent a negligible proportion of the wider population, and there is no evidence that it supports any functionally important role (e.g., roosting, key feeding habitat).

Accordingly, gadwall is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting infrequent occurrence and reliance on higher-value habitats in the surrounding wetland network.

Great crested grebe

Great crested grebe (*Podiceps cristatus*) was recorded only occasionally, typically associated with nearby waterbodies and not habitats within the proposed wind farm site. Records were extremely limited and reflect use of off-site lakes and wetlands within the wider Corrib catchment.

No breeding or foraging activity was recorded within the proposed wind farm site, which does not provide suitable open water habitat required by the species. Occurrence is therefore considered incidental and restricted to the wider landscape.

Given the absence of suitable habitat and the extremely limited level of recorded activity, the proposed wind farm site does not support a functionally important component of the population. Accordingly, great crested grebe is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting rare and incidental occurrence only.

Greenland white-fronted goose

Greenland white-fronted goose was recorded on 17 occasions within the wider study area during winter surveys. Of the 17 recorded occurrences, only three records were located within the boundary of the proposed wind farm site. The vast majority of observations (14 records) were heavily clustered outside the development footprint, primarily associated with Rostaff Turlough and its adjacent agricultural hinterland. . Flock sizes were variable, with an average of 16 individuals and a maximum flock of 73 recorded in October 2023. While Greenland white-fronted goose forms part of a nationally important population within the wider landscape, use of the proposed wind farm site itself is infrequent and spatially limited and does not represent an important feeding, roosting or movement area for the species.

In view of the species' status as a qualifying interest of nearby SPAs, particular consideration was given to its distribution and use of the proposed wind farm site during the evaluation process.

Records were spatially clustered to the northeast and south of the proposed wind farm site, with mapped observations indicating clear separation from the development footprint. The nearest clusters were located at approximately 834 m to the northeast and 829 m to the south of the proposed turbine layout. Spatial mapping of survey data (refer to Appendix 7-3, Figure 31 and 35 and Appendix 7-7, Figures 75 and 76 and Appendix 7-9, Figures 1, 2, 3 and 4) confirms that occurrences were restricted to fields outside the core development area, with no evidence of repeated use of fields within the turbine footprint or immediate infrastructure corridors.

No breeding or roosting activity was recorded within the proposed wind farm site, and habitats present are not considered to provide important roosting or core foraging areas. Fields used by Greenland white-fronted goose were consistently located outside the proposed wind farm site, principally around Rostaff Turlough and associated farmland. Despite three winters of survey effort, no regularly used feeding areas, loafing areas or roost sites were identified within the proposed wind farm site. The habitats within the turbine layout therefore do not appear to contribute materially to the feeding or roosting requirements of the local flock. Instead, the species is more strongly associated with turlough systems and larger wetlands within the Corrib catchment, which support known wintering populations and provide key feeding and roosting habitat. Flight activity within the proposed wind farm site was very limited, with only three VP records obtained during the survey programme. No consistent flight line, commuting route or movement corridor through the turbine layout was identified, and observed birds were generally associated with movements between habitats outside the development footprint.

Greenland white-fronted goose is a qualifying interest of nearby SPAs, including Lough Corrib and Lough Mask, and forms part of a regionally and nationally important wintering population in Ireland. The maximum flock of 73 individuals was recorded outside the proposed wind farm site and was associated with the wider Rostaff Turlough area. While the species forms part of a regionally and nationally important wintering population in Ireland, survey data indicate that use of the proposed wind farm site itself is limited.

However, application of the site-specific baseline evidence indicates that the proposed wind farm site does not support a nationally important component of that population. The species was recorded within the wider landscape but did not exhibit functional reliance on habitats within the proposed wind farm site, nor did the site form part of a key feeding area, roosting area or movement corridor.

Accordingly, Greenland white-fronted goose is considered to be of County importance, reflecting the species' conservation status, association with nationally important wintering flocks and regular occurrence within the wider study area. However, survey evidence demonstrates that the proposed wind farm site itself does not comprise an important feeding area, roost site or movement corridor for the species.

Grey heron

Grey heron (*Ardea cinerea*) was recorded during surveys as infrequent individuals, typically associated with wet grassland, drainage features and nearby waterbodies. Observations were

generally limited to single birds, with a maximum of three individuals recorded, indicating low-level and intermittent use.

Records were limited to isolated locations within the wider Survey Area, with no evidence of repeated use of any particular area within the proposed wind farm site. The species was recorded only occasionally and no identifiable areas of concentration, breeding activity or regular site use were identified.

No breeding activity was recorded within the proposed wind farm site, and it does not provide suitable nesting habitat, which is typically associated with off-site woodland or waterside locations. The species is more closely associated with larger waterbodies and wetlands within the Corrib catchment, where regular foraging and breeding activity occurs.

Grey heron is a widespread species in Ireland, with a national population estimated at approximately 1,000–1,500 breeding pairs (equating to c. 3,000–5,000 individuals). The very small number of individuals recorded within the proposed wind farm site (maximum count of three) therefore represents a negligible proportion of the national population.

Accordingly, grey heron is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting infrequent use by very small numbers of individuals and the absence of functionally important habitat.

Greylag goose

Greylag goose was recorded regularly during winter surveys, with a total of 32 records across the survey period. Flock sizes were variable, with an average flock size of 43 individuals and a maximum of 155 recorded in December 2022, indicating frequent use of the wider area by small to moderate flocks.

Records were concentrated around Shrule Turlough to the north and Rostaff Turlough to the south of the proposed wind farm site, with spatial mapping (refer to Appendix 7-3, Figures 25, 26, 28, 31, 35 and 39 and Appendix 7-7, Figure 29) indicating that observations were not principally concentrated within the turbine layout or immediate infrastructure footprint. There were no identifiable core feeding areas and no evidence of consistent or repeated use of specific fields within the proposed wind farm site.

Greylag goose was recorded regularly within the wider Survey Area, however, there was no evidence of consistent or repeated use of fields within the proposed development footprint, and no core feeding areas were identified on-site.

No breeding or roosting activity was recorded within the proposed wind farm site. The species is more strongly associated with off-site wetlands, lakes and turlough systems within the Corrib catchment, which support regular feeding and roosting activity. Use of the proposed wind farm site is therefore considered to reflect opportunistic foraging within the wider agricultural landscape, rather than reliance on habitats within the proposed wind farm site.

Greylag goose is a widespread species in Ireland, with a large and increasing national wintering population estimated in the tens of thousands of individuals. The maximum flock recorded within the Survey Area (155 individuals) therefore represents a small proportion of the national population, and the absence of repeated use of fields within the proposed development footprint indicates that the proposed wind farm site does not support a functionally important component of that population.

Accordingly, greylag goose is considered to be of Local (Higher) importance within the proposed wind farm site, reflecting regular use of the surrounding landscape by moderate-sized flocks, but with no evidence of reliance on habitats within the proposed project area.

Little egret

Little egret (*Egretta garzetta)* was recorded during surveys as occasional individuals and small groups, with records comprising one to three individuals on seven occasions, and a maximum of 10 individuals recorded in March 2025. These observations indicate infrequent but recurring use of the wider Survey Area, typically involving small numbers of birds.

Records were limited to isolated locations within the wider Survey Area and were not concentrated within the proposed wind farm site, with spatial mapping (refer to Appendix 7-7, Figure 45) indicating that occurrences were scattered and localised, with no evidence of repeated use of particular fields within the development footprint or turbine layout.

No breeding activity was recorded within the proposed wind farm site, and it does not provide suitable nesting habitat, which is typically associated with off-site woodland or wetland colonies. Use of the proposed wind farm site is therefore considered to reflect opportunistic foraging within the wider landscape, particularly in association with wet grassland and drainage features, rather than reliance on site habitats.

Little egret has undergone significant range expansion in Ireland in recent decades and now forms part of a growing national population estimated to be in the hundreds to low thousands of individuals. In this context, the small numbers recorded within the proposed wind farm site (maximum of 10 individuals) represent a small proportion of the national population, and there is no evidence that the proposed wind farm site supports a functionally important role for the species.

Accordingly, little egret is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting infrequent use by small numbers of individuals and the absence of functionally important habitat. Details of records relating to CRM are provided in Appendix 7-2.

Little grebe

Little grebe (*Tachybaptus ruficollis*) was recorded within the proposed wind farm site as infrequent but recurring individuals associated with off-site waterbodies, with a total of 34 records across the survey period. Observations typically comprised very small numbers (average two individuals), with a maximum count of six individuals recorded in October 2024, indicating consistent but low-level use of aquatic habitats within the wider proposed wind farm site.

As a BoCCI4 Green-listed species, little grebe was not identified as an Important Ornithological Feature (IOF) requiring detailed assessment. In accordance with the proportionate approach

adopted throughout the assessment, detailed spatial mapping was focused on IOFs and other species of elevated conservation concern. Consequently, while little grebe records were retained within the survey dataset, detailed spatial mapping of individual records was not undertaken. All observations of this species were made outside the proposed wind farm development boundary, and no use of terrestrial habitats within the proposed wind farm site was recorded. Occurrence is therefore considered to be restricted to nearby waterbodies, reflecting the species' strong dependence on open water for foraging and breeding.

No breeding activity was recorded within the proposed wind farm site, and habitats present within the development footprint are not suitable for this species. Little grebe is typically associated with sheltered waterbodies with emergent vegetation, and its presence within the proposed wind farm site is therefore linked entirely to off-site aquatic habitats.

Little grebe is a widespread species in Ireland, forming part of a broadly distributed national population. The very small numbers recorded (maximum of six individuals) represent a negligible proportion of the wider population, and there is no evidence that the proposed wind farm site supports any functionally important role for the species.

Accordingly, little grebe is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting low-level use confined to off-site habitats, with no reliance on the proposed wind farm site.

Mallard

Mallard was recorded regularly within the proposed wind farm site, with a total of 159 records across the survey period. Observations during the non-breeding season typically comprised small groups (average six individuals), with a maximum of 54 individuals recorded in January 2024, indicating frequent but generally low-density use of the wider landscape.

During the breeding season, most records comprised very low numbers of individuals, with limited activity recorded across the proposed wind farm site. Breeding activity was not consistent across years; however, one confirmed breeding record was identified in 2024, where incubation behaviour was observed within wetland habitat in the northwest of the proposed wind farm site. No breeding activity was recorded within the proposed wind farm site during 2023 or 2025, although breeding was confirmed within the wider area (e.g., Rostaff Turlough).

Spatial mapping of survey data (refer to Appendix 7-3, Figures 10, 14, 17, 25, 26, 28, 32, 36 and 40 and Appendix 7-7, Figures 46-51) indicates that mallard records were widely distributed across the proposed wind farm site, with no evidence of consistent or repeated use of specific areas within the development footprint. Use of the proposed wind farm site reflects opportunistic exploitation of wet features and suitable ground conditions, rather than reliance on any habitat.

Mallard is a BoCCI4 Amber-listed species in Ireland, but remains common and widespread, forming part of a large national population. The occasional breeding record within the proposed wind farm site represents a very small and non-significant component of the wider population, and there is no evidence that the proposed wind farm site supports an important breeding or wintering function.

Accordingly, mallard is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting common and widespread occurrence, limited and inconsistent breeding activity, and the absence of functionally important habitat within the proposed wind farm site.

Moorhen

Moorhen (*Gallinula chloropus*) was recorded on several occasions within the Survey Area, typically as single individuals or pairs associated with wetland habitats. There were a total of 39 records across the survey period. Observations typically comprised very small numbers (average two individuals), with a maximum count of ten individuals recorded in October 2024, indicating low-level but consistent use of aquatic habitats within the wider Survey Area.

As a BoCCI4 Green-listed species, moorhen was not identified as an Important Ornithological Feature (IOF) for the purposes of detailed assessment. Consistent with the proportionate approach adopted for non-IOF species, detailed spatial mapping of records is not presented. Survey observations confirm that the majority of records occurred outside the proposed wind farm site, with only limited and occasional use of habitats within it. Occurrence is therefore considered to be primarily associated with off-site waterbodies and other small wetland features, reflecting the species' strong affinity for vegetated waterbodies.

No evidence of breeding concentrations or functionally important habitat was identified within the proposed wind farm site. While the species may breed locally where suitable wetland conditions occur, its presence within the proposed wind farm site is indicative of common and widespread use of small-scale wet habitats, rather than reliance on any one location within the proposed wind farm site.

Moorhen is a BoCCI4 Green-listed species in Ireland, reflecting its favourable conservation status and stable population, and is both common and widespread across suitable habitats. The small numbers recorded within the Survey Area therefore represent a negligible proportion of the national population, and there is no evidence that the proposed wind farm site supports any functionally important role for the species.

Accordingly, moorhen is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting common status, low sensitivity, small group sizes, and use largely confined to off-site wetland features with minimal reliance on the proposed wind farm site.

Mute Swan

Mute swan (*Cygnus olor)* was recorded within the Survey Area as infrequent individuals and small groups associated with nearby waterbodies and wetland features, with a total of 45 records across the survey period. Observations typically comprised very small numbers (average two individuals), with a maximum count of seven individuals recorded in December 2022 and October–November 2024, indicating low-level but recurring use of aquatic habitats within the wider Survey Area.

Spatial mapping of survey data (refer to Appendix 7-3, Figures 31, 35 and 39 and Appendix 7-7, Figure 53) indicates that records occurred primarily outside the proposed wind farm site, with only limited and occasional use of habitats within it. Occurrence is therefore considered to be closely associated with off-site waterbodies, reflecting the species' strong dependence on lakes, ponds and slow-flowing watercourses.

No evidence of breeding concentrations or important nesting locations was identified within the proposed wind farm site. Mute swans are typically resident breeders associated with waterbody margins, and any breeding within the wider Survey Area is likely to occur at nearby lakes or turlough systems, rather than within the terrestrial habitats that dominate the development footprint.

Mute swan is a common and widespread species in Ireland, forming part of a large and stable national population estimated in the thousands of individuals. The small numbers recorded within the Survey Areas (maximum of seven individuals) therefore represent a negligible proportion of the national population, and there is no evidence that the proposed wind farm site supports any functionally important role for the species.

Accordingly, mute swan is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting low densities, strong reliance on off-site aquatic habitats, and minimal use of the proposed wind farm site.

Pochard

Pochard was recorded within the Survey Areas during the non-breeding season as infrequent individuals and small groups, with a total of 18 records across the survey period. Observations typically comprised small numbers (average four individuals), with a maximum count of 15 individuals recorded in October 2022, indicating low-level but recurring use of aquatic habitats within the wider Survey Area.

All records were associated with Rostaff Turlough to the south of the proposed wind farm development. Spatial mapping of survey data (refer to Appendix 7-3, Figures 29, 33 and 37) indicates that occurrence was therefore restricted to this off-site aquatic feature, with no records within the proposed development footprint or surrounding terrestrial habitats.

No breeding activity was recorded within the proposed wind farm site, which does not provide suitable open water habitat required by the species. Pochard is typically associated with larger lakes and deeper waterbodies, forming wintering flocks at suitable wetlands, including sites within the wider Corrib Basin.

Pochard is a BoCCI4 Red-listed species in Ireland, reflecting population decline, and forms part of the qualifying waterbird assemblage at nearby SPAs (e.g., Lough Corrib SPA). However, the limited numbers recorded and the restriction of all observations to a single off-site waterbody indicate that the proposed wind farm site supports a negligible proportion of the wider population, with no evidence of reliance on habitats within the proposed wind farm site.

Accordingly, pochard is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting its elevated conservation status but complete absence from the proposed wind farm site and confinement to a discrete off-site location.

Shoveler

Shoveler was recorded within the Survey Area during the non-breeding season as infrequent to occasional individuals and small flocks, with a total of 68 records across the survey period. Observations typically comprised small groups (average seven individuals), with a maximum count of 44 individuals recorded in February 2023, indicating regular but generally low to moderate use of aquatic habitats within the wider Survey Area.

Spatial mapping of survey data (refer to Appendix 7-3, Figures 27, 29, 33 and 37) indicates that all records occurred outside the proposed wind farm site, with no observations recorded within it. Occurrence is therefore considered to be entirely associated with off-site wetlands, reflecting the species' strong dependence on shallow lakes, turlough systems and other open water habitats.

No breeding activity was recorded within the proposed wind farm site, which does not provide suitable habitat for feeding or nesting for this species. Shoveler is typically associated with wetland habitats within the Corrib Basin, where it forms part of the wintering waterbird assemblage.

Shoveler is a BoCCI4 Red-listed species in Ireland, reflecting recent population declines, and forms part of the qualifying waterbird assemblage of nearby SPAs (e.g., Lough Corrib SPA). However, the restriction of all records to off-site habitats, combined with the absence of any observations within the development footprint, indicates that the proposed wind farm site supports a negligible proportion of the wider population, with no evidence of functional use by the species.

Accordingly, shoveler is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting its elevated conservation status but complete absence from the development footprint and lack of reliance on habitats within the proposed wind farm site.

Teal

Teal was recorded frequently within the Survey Area during the non-breeding season, with a total of 94 records across the survey period. Observations typically comprised small to moderate flocks (average 12 individuals), with a maximum count of 135 individuals recorded in January 2024, indicating regular use of the wider landscape by locally moderate-sized flocks.

Spatial mapping of survey data (refer to Appendix 7-3, Figures 17, 28, 32, 36 and 40 and Appendix 7-7, Figure 70) indicates that the majority of records occurred outside the proposed wind farm development boundary, with occurrences primarily associated with wet grassland, shallow inundation, drainage features and nearby wetlands. While some use of the proposed wind farm site may occur under suitable conditions, there is no evidence of consistent or concentrated use of fields within the turbine layout or immediate development footprint, with distribution largely reflecting opportunistic use of temporary wet habitats within the wider landscape.

No breeding activity was recorded within the proposed wind farm site. Teal is primarily a wintering species in Ireland, with breeding occurring at low density and typically associated with well-vegetated wetlands, habitats which are more prevalent within the surrounding Corrib Basin than within the proposed wind farm site itself.

Teal is a BoCCI4 Amber-listed species in Ireland and forms part of the wintering waterbird assemblage at nearby SPAs, including Lough Corrib SPA. The maximum flock of 135 individuals represents a small proportion of the wider population, and the dispersed distribution of records, combined with the limited use of the development footprint, indicates that the proposed wind farm site does not support a functionally important component of that population.

Accordingly, teal is considered to be of Local (Higher) importance within the proposed wind farm site, reflecting regular occurrence of moderate-sized flocks within the wider landscape and

its BoCCI4 Amber-listed status, but with no evidence of reliance on habitats within the proposed wind farm site itself.

Tufted duck

Tufted duck was recorded regularly within the Survey Area during the non-breeding season, with a total of 111 records across the survey period. Observations typically comprised moderate-sized flocks (average 36 individuals), with a maximum count of 440 individuals recorded in December 2022, indicating frequent use of the wider landscape by locally large aggregations at suitable waterbodies.

Spatial mapping of survey data (refer to Appendix 7-3, Figures 32, 36 and 40) indicates that the majority of records were concentrated at Shrule Turlough to the north and Rostaff Turlough to the south of the proposed wind farm site, with additional smaller numbers recorded at Lough Hacket. All records were located outside the proposed wind farm site.

No breeding activity was recorded within the proposed wind farm site, which does not provide suitable open water habitat required by the species for feeding or nesting. Tufted duck is strongly associated with larger lakes and deeper waterbodies, where it forms wintering flocks, including within the wider Corrib Basin wetland network.

Tufted duck is a BoCCI4 Amber-listed species in Ireland and forms part of the wintering waterbird assemblage of nearby SPAs, including Lough Corrib SPA. While relatively large flocks were recorded within the Survey Area, these were entirely confined to off-site waterbodies, and the proposed wind farm site itself supports no functional role for the species, either in terms of feeding, roosting or movement.

Accordingly, tufted duck is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting regular occurrence within the wider landscape but complete spatial separation from the proposed wind farm site and absence of any reliance on habitats within it.

Water rail

Water rail (*Rallus aquaticus*) was recorded within the Survey Area as infrequent individuals associated with wetland habitats, with a total of five records across the survey period. Observations typically comprised very small numbers (average two individuals), with a maximum count of four individuals, reflecting the species' secretive behaviour and low detectability.

As a BoCCI4 Green-listed species, water rail was not identified as an Important Ornithological Feature (IOF) for the purposes of detailed assessment. Consistent with the proportionate approach adopted for non-IOF species, detailed spatial mapping of records is not presented. However, observations indicate that the species is associated with dense wetland vegetation, including drainage features and localised areas of wet grassland. While records were limited, available information suggests that occurrence is confined to suitable wet habitat patches within and adjacent to the proposed wind farm site.

A confirmed breeding record was identified during the 2024 breeding season, with two water rails, including a juvenile, recorded on 24 May 2024 within suitable wetland habitat outside the proposed wind farm site boundary. No confirmed breeding activity was recorded in other survey years, suggesting that breeding occurrence in the wider survey area may be intermittent

and dependent on local habitat conditions, such as the availability of dense emergent vegetation and suitable water levels.

Water rail is typically associated with dense vegetation along water margins, including reeds, rushes and wet ditches, habitats which are limited in extent within the development footprint but occur locally within the proposed wind farm site and more extensively within the surrounding landscape.

Water rail is a BoCCI4 Green-listed species in Ireland, reflecting a favourable conservation status and widespread distribution, albeit at low densities due to its secretive nature. The small number of records, combined with the limited extent of suitable habitat, indicates that the proposed wind farm site supports a very small and localised component of the wider population.

Accordingly, water rail is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting its common conservation status, low numbers, and limited and intermittent breeding activity within a small extent of suitable habitat.

Whooper swan

Whooper swan was recorded regularly throughout the survey programme, with records derived from a combination of dedicated wintering waterbird surveys (41 records), VP surveys (19 records), winter walkover surveys (four records) and incidental observations (five records). These records frequently related to the same flocks using the wider landscape over multiple survey visits and therefore should not be interpreted as independent occurrences. Flock sizes were variable, with a maximum flock of 108 individuals recorded at a single location during surveys. Counts greater than 29 individuals were derived from wintering waterbird surveys. A peak cumulative count of 201 individuals was recorded during December 2022; however, this figure comprised multiple observations during a survey visit rather than a single flock.

Records were spatially clustered to the north/northeast, east and south of the proposed wind farm site boundary, reflecting use of agricultural fields in proximity to suitable off-site wetlands. Spatial mapping of survey data (refer to Appendix 7-3, Figures 28, 31, 35 and 39 and Appendix 7-7, Figure 71) indicates that occurrences were not concentrated within the turbine layout or immediate development footprint, with no evidence of repeated or consistent use of fields within the proposed development area.

Despite regular occurrence within the wider study area, survey evidence demonstrates that use of the proposed wind farm site was limited. The largest concentrations were associated with Rostaff Turlough and adjacent agricultural land outside the development footprint. No roosting areas, core feeding fields or regularly used flight corridors were identified within the proposed wind farm site.

Whooper swan forms part of a nationally important wintering population in Ireland, estimated at approximately 10,000–12,000 individuals. The largest flock recorded during the survey programme comprised 108 individuals and was recorded outside the proposed wind farm site. Although cumulative peak counts of up to 201 individuals were recorded within the wider study area, these records were associated with Rostaff Turlough and surrounding agricultural land outside the proposed wind farm site. No comparable concentrations were recorded within the proposed wind farm site or turbine envelope. Records within the proposed wind farm site and

500 m turbine buffer were substantially lower and primarily comprised commuting flights and occasional use of peripheral farmland habitats.

Accordingly, whooper swan is considered to be of County importance, reflecting its conservation status, regular occurrence within the wider study area and association with nationally important wintering populations. However, survey evidence demonstrates that the proposed wind farm site does not comprise an important roosting area, core feeding area or regularly used movement corridor for the species. Details of records relating to CRM are provided in Appendix 7-2.

Wigeon

Wigeon was recorded regularly within the Survey Area during the non-breeding season, with a total of 140 records across the survey period. Observations typically comprised small to moderate flocks (average 21 individuals), with a maximum count of 247 individuals recorded in February 2025, indicating frequent use of the wider landscape by locally moderate to occasionally large flocks.

Spatial mapping of survey data (refer to Appendix 7-3, Figures 28, 32, 36 and 40 and Appendix 7-7, Figure 72) indicates that all records occurred outside the proposed wind farm development boundary, with the main concentration of records associated with Shrule Turlough to the north and Rostaff Turlough to the south of the proposed wind farm site, and smaller numbers recorded along its periphery. There were no records within the proposed wind farm site, and no evidence of consistent or repeated use of any fields within the turbine layout. Occurrence is therefore considered to reflect use of off-site wetlands and adjacent farmland, rather than functional use of habitats within the proposed wind farm site itself.

No breeding activity was recorded within the proposed wind farm site. Wigeon is primarily a wintering species in Ireland, with breeding occurring only at very low densities and typically associated with wetland margins rather than agricultural habitats.

Wigeon is a BoCCI4 Amber-listed species in Ireland and forms part of the wintering waterbird assemblage at nearby SPAs, including Lough Corrib SPA. The maximum count of 247 individuals represents a small proportion of the wider population, and the absence of records within the development footprint indicates that the proposed wind farm site does not support a functionally important component of that population.

Accordingly, wigeon is considered to be of Local (Higher) importance within the proposed wind farm site, reflecting regular use of the surrounding landscape by moderate-sized flocks and its BoCCI4 Amber-listed status, but with no evidence of reliance on habitats within the proposed development footprint itself.

Waders

Curlew

Curlew was recorded within the Survey Area during both the breeding and non-breeding seasons, with a total of 74 records across the survey period. Observations typically comprised small to moderate numbers (average 15 individuals), with a maximum count of 65 individuals

recorded in January 2024, indicating regular use of the wider landscape during the non-breeding season, primarily for foraging.

Spatial mapping of survey data (refer to Appendix 7-3, Figures 12, 27, 29, 33 and 37 and Appendix 7-7, Figure 20) indicates very limited use of the proposed wind farm site, with only occasional in-flight records. All other records were confined to surrounding habitats, with clusters associated with Shrule Turlough to the north, Rostaff Turlough to the south, and Lough Hacket to the east. There is no evidence of consistent or repeated use of fields within the proposed wind farm site, and no indication of field-level dependency.

During the breeding season, records were extremely limited, restricted to April and May 2024, and comprised single individuals only. These observations may reflect transient or exploratory behaviour within suitable habitat, but no confirmed breeding activity was recorded within the proposed wind farm site, and there is no evidence of territory establishment. Suitable breeding habitat is limited within the proposed wind farm site and more extensive in the surrounding landscape, particularly in association with wetter ground conditions and off-site wetlands.

Curlew is a BoCCI4 Red-listed species in Ireland, reflecting severe long-term population decline and high conservation concern, particularly for breeding populations. Despite this status, the very limited breeding-season presence, absence of confirmed breeding, and clear spatial separation between key activity areas and the proposed wind farm site indicate that it supports only a small and non-significant component of the wider population.

Accordingly, curlew is considered to be of Local (Higher) importance within the proposed wind farm site, reflecting its conservation status and regular occurrence within the wider landscape, but with no evidence of reliance on habitats within the proposed wind farm site itself.

Golden plover

Golden plover was recorded within the wider Survey Area during the non-breeding season, with a total of 15 records across the survey period. Flock sizes were variable, with an average count of 44 individuals and a maximum flock of 200 individuals recorded in December 2023, indicating regular use of the wider landscape by moderate-sized flocks.

Records were associated with fields within the wider Survey Area rather than concentrated within the proposed wind farm site, reflecting the species' typical use of open agricultural land for foraging. Spatial mapping of survey data (refer to Appendix 7-3, Figure 24, Figures 27, 29, 33 and Figure 37 and Appendix 7-7, Figure 21) indicates that occurrences were distributed within the surrounding landscape, with no evidence of consistent or repeated use of fields within the turbine layout or immediate development footprint.

No breeding activity was recorded within the proposed wind farm site. Golden plover is strongly associated with nearby wetlands and turlough systems for roosting, including sites within the Corrib Basin, and typically utilises surrounding farmland as part of a wider foraging range. In this context, the proposed wind farm site is considered to provide secondary foraging habitat within a broader landscape matrix, rather than supporting core habitat use.

Golden plover is a qualifying interest of nearby SPAs, including Lough Corrib SPA, and forms part of an internationally important wintering population in Ireland. The maximum flock recorded within the Survey Area (200 individuals) represents a small proportion of the wider population, and the absence of repeated or concentrated use of the proposed wind farm site

indicates it does not support a functionally important component of that population. Details of records relating to CRM are provided in Appendix 7-2.

Accordingly, golden plover is considered to be of Local (Higher) importance within the proposed wind farm site, reflecting its conservation status and regular occurrence within the wider landscape, but with no evidence of reliance on habitats within the proposed wind farm site itself.

Lapwing

Lapwing was recorded within the Survey Area during both the breeding and non-breeding seasons, with a total of 73 records across the survey period. Non-breeding observations comprised moderate-sized flocks (average 40 individuals), with a maximum count of 300 individuals recorded in February 2023, indicating regular use of the wider landscape during the winter period.

Spatial mapping of survey data (refer to Appendix 7-3, Figures 16, 29, 33 and 37 and Appendix 7-7, Figure 38) indicates that all non-breeding records occurred outside the proposed wind farm site, with the main concentrations associated with Shrule Turlough to the north and Rostaff Turlough to the south. There were no significant wintering flocks within the proposed wind farm site, and no evidence of field-level dependency.

During the breeding season, records were limited but included a confirmed breeding event in 2023, where territorial display was observed near a small waterbody just beyond the north-west boundary of the proposed wind farm site, followed by observation of a female on a nest. No further breeding activity was recorded within the proposed wind farm site in 2024, and only limited evidence of territorial behaviour (a displaying pair) was recorded along the north-west boundary in April 2025, with no confirmation of nesting.

These observations indicate that breeding activity is restricted to marginal wetland habitats at or just beyond the proposed wind farm site, with no evidence of sustained or established breeding territories inside this. Suitable breeding habitat is limited within the proposed wind farm site and more extensive in the surrounding landscape, particularly in association with wetter ground conditions and adjacent waterbodies.

Lapwing is a BoCCI4 Red-listed species in Ireland, reflecting significant long-term population declines and high conservation concern, particularly for breeding populations. Despite this status, the clear spatial separation between both wintering concentrations and breeding activity and the proposed wind farm site indicates that the latter supports only a limited and non-significant component of the wider population.

Accordingly, lapwing is considered to be of Local (Higher) importance within the proposed wind farm site, reflecting its conservation status and confirmed, but peripheral and intermittent, breeding activity within the wider landscape, but with no evidence of reliance on habitats within the proposed development footprint itself. Details of records relating to CRM are provided in Appendix 7-2.

Snipe

Snipe was recorded frequently within the Survey Area during both the breeding and non-breeding seasons, with a total of 98 records across the survey period. Observations typically comprised very small numbers (average two individuals), with a maximum count of 13

individuals recorded in February 2025, indicating regular but low-density use of suitable wet habitats within the wider landscape.

The majority of records were obtained during winter walkover surveys, with observations widely distributed across the proposed wind farm site, particularly within the northern section, and with a distinct cluster of activity recorded in the south-west corner of the southern section. A similar spatial pattern was observed during the breeding season, with records associated with areas of suitable wet grassland, bogland and scrub habitats.

During the breeding season, no confirmed breeding activity (e.g., nests or chicks) was recorded within the proposed wind farm site. However, repeated observations of small numbers of individuals (typically 1–2 birds) within suitable habitat during April and June surveys indicate possible breeding within the Survey Area. In 2023 and 2024, records included observations in grassland habitats in the northeast and bogland habitats in the southeast of the proposed wind farm site, as well as breeding behaviour recorded outside of it at Rostaff Turlough. In 2025, up to five individuals were recorded during early April, with no further records later in the season, suggesting no confirmed breeding in that year.

These patterns indicate that, while the proposed wind farm site supports suitable habitat and intermittent presence during the breeding season, there is no evidence of consistent breeding territory establishment within the proposed wind farm site, and any breeding activity is likely sporadic and dependent on local ground conditions. More suitable and stable breeding habitat is available within the surrounding landscape, including nearby wetlands and turlough systems.

Snipe is an BoCCI4 Amber-listed species in Ireland, reflecting moderate conservation concern. Despite its regular occurrence, the consistently low numbers recorded, and lack of confirmed breeding indicate that the proposed wind farm site supports only a small and localised component of the wider population, with no evidence of functionally important habitat within the development footprint.

Accordingly, snipe is considered to be of Local (Higher) importance within the proposed wind farm site, reflecting its conservation status and regular presence in suitable wet habitats within the wider landscape, but with no evidence of reliance on habitats within the proposed wind farm site itself.

Woodcock

Woodcock was recorded within the Survey Area during the non-breeding season, with single individuals recorded on 13 occasions between mid-November and early March. Records were obtained during winter walkover surveys, when birds were flushed from woodland edge and scrub habitats, predominantly along the northern and north-western sections of the wind farm site.

Spatial mapping of survey data (refer to Appendix 7-3, Figures 24, 27 and 37) indicates that records were restricted to habitat edges along the boundary of the proposed wind farm site, with no observations recorded within the interior of this. Occurrence reflects use of dense cover habitats, rather than open farmland.

No woodcock were recorded during the breeding season surveys, and there is no evidence of breeding activity within the proposed wind farm site.

Woodcock is a BoCCI4 Red-listed species in Ireland, reflecting conservation concern. However, the limited number of records, all confined to winter months and to boundary habitats, indicates that the proposed wind farm site supports only a small and localised component of the wider population, with no evidence of functionally important use of the development footprint.

Accordingly, woodcock is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting infrequent winter occurrence confined to boundary habitats and absence of breeding or core use within the proposed wind farm site.

Gulls

Black-headed gull

Black-headed gull was recorded regularly during surveys, predominantly as birds in flight across the proposed wind farm site, reflecting commuting movements between nearby wetlands and foraging areas. Ground use within the proposed wind farm site was limited, typically involving small flocks generally fewer than c.10 individuals at any one time, with only short-term foraging activity observed.

No breeding activity was recorded within the proposed wind farm site, which does not provide suitable breeding or roosting habitat. More regular and substantial use occurs within off-site wetlands and turlough systems in the Corrib catchment, where the species forms part of larger wintering assemblages.

Black-headed gull is widespread in Ireland, with a national wintering population estimated to be in the tens of thousands and is a qualifying interest of nearby SPAs (e.g., Lough Corrib and Lough Mask). In this context, the small numbers recorded within the proposed wind farm site represent a very minor proportion of the wider population, and it does not contribute meaningfully to population support.

Accordingly, black-headed gull is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting predominantly transitory use and lack of reliance on its habitats. Details relating to CRM are provided in Appendix 7-2.

Common gull

Common gull was recorded regularly during surveys, primarily in flight over the proposed wind farm site, with occasional use of agricultural fields for opportunistic foraging, typically involving small groups generally fewer than c.10–15 individuals at any one time.

No evidence of breeding or roosting activity was recorded within the proposed wind farm site. The species is more strongly associated with off-site wetland habitats, including lakes and turloughs within the Corrib Basin, where higher densities occur.

Common gull forms part of the widespread national wintering population (estimated in the tens of thousands of individuals) and is a qualifying interest of nearby SPAs. The proposed wind farm site supports only a very small fraction of this population, with usage reflecting movement between key habitats rather than dependence on the proposed wind farm site's resources.

Accordingly, common gull is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting non-critical, predominantly transitory use. Details relating to CRM are provided in Appendix 7-2.

Great black-backed gull

Great black-backed gull was recorded infrequently during surveys, typically as single individuals (occasionally two birds) passing over the proposed wind farm site, and there was no evidence of foraging, roosting, or repeated use of habitats within it.

No breeding activity was recorded, and the proposed wind farm site does not provide suitable nesting or roosting habitat. The species is more typically associated with coastal environments and large inland waterbodies, with any presence within the proposed wind farm site reflecting occasional commuting movements.

Great black-backed gull occurs at relatively low densities compared to other gull species but nonetheless forms part of a widespread national population. The very limited occurrence within the proposed wind farm site indicates that it does not support any meaningful component of that population.

Accordingly, great black-backed gull is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting rare and incidental occurrence only.

Herring gull

Herring gull was recorded during surveys as infrequent individuals or small groups, typically observed in flight over the proposed wind farm site, with limited and short-duration ground use, usually involving fewer than c.10 individuals at any one time. Activity within the proposed wind farm site was generally opportunistic and transitory in nature.

No breeding or roosting activity was recorded within the proposed wind farm site, which does not provide suitable breeding habitat for this species. More regular use is associated with off-site habitats, including larger lakes, turlough systems and, more widely, coastal environments, where higher concentrations occur.

Herring gull is a widespread species in Ireland, although it is BoCCI4 Amber-listed due to population decline, and forms part of a large national population. Despite its conservation status, the limited number of records within the proposed wind farm site indicates that it supports only a very small and non-significant proportion of the wider population, with birds using it primarily as part of wider commuting movements between key habitats.

Accordingly, herring gull is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting low-frequency, non-critical use of habitats and absence of any functionally important role. Details relating to CRM are provided in Appendix 7-2.

Lesser black-backed gull

Lesser black-backed gull was recorded during surveys as occasional individuals or very small groups (typically one to three birds), usually observed flying over the proposed wind farm site, and there was no evidence of regular ground use or sustained activity within it.

No breeding or roosting activity was recorded, and the proposed wind farm site does not provide suitable or important supporting habitat for this species. Activity is more closely associated with larger off-site waterbodies, including lakes and coastal or inland wetland systems.

The species forms part of a large and widely distributed national population, and the limited records within the proposed wind farm site represent a negligible proportion of that population. Use of the proposed wind farm site is therefore considered to reflect incidental movement within the wider landscape.

Accordingly, lesser black-backed gull is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting very limited and transient use. Details of records relating to CRM are provided in Appendix 7-2.

Raptors

Buzzard

Buzzard was recorded regularly within the Survey Area, with a total of 92 records across the survey period. Observations typically comprised single individuals (average one bird), with a maximum of three individuals recorded in February and July 2025, indicating frequent but low-intensity use of the wider landscape.

Spatial mapping of survey data (refer to Appendix 7-3, Figure 21 and Appendix 7-7, Figures 7-11) indicates that records were widely distributed across the Survey Area, with no evidence of consistent or concentrated activity within the proposed wind farm site. Observations primarily reflect general flight and foraging activity, rather than repeated use of specific locations within the proposed wind farm site.

Breeding raptor surveys recorded low to moderate activity, with buzzard forming a dominant component of the assemblage. Across the three survey years:

- 2023: repeated observations of individuals and a pair, including pair-bonding behaviour, indicating possible breeding within or adjacent to the proposed wind farm site;
- 2024: frequent records, including two birds together and courtship behaviour, indicating possible breeding within the wider 2 km survey area;
- 2025: regular observations of single birds and a group of three soaring together, again indicating possible breeding within the wider area, although no nest or juvenile birds were recorded.

These data indicate that buzzard is regularly present and likely breeds within the wider landscape, but there is no confirmed breeding activity within the proposed wind farm site, and no evidence of site-specific dependency.

Buzzard is a BoCCI4 Green-listed species in Ireland, reflecting a favourable conservation status and stable population. The low numbers recorded at any one time and the absence of concentrated activity indicate that the proposed wind farm site supports a small and non-significant component of the wider population, used primarily as part of a wider ranging territory.

Accordingly, buzzard is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting its widespread occurrence, low-density use of the proposed wind farm site, and absence of any functionally important habitat within it. Details of records relating to CRM are provided in Appendix 7-2.

Hen harrier

Hen harrier was recorded within the Survey Area during the non-breeding season only, with a total of 14 records obtained during the survey programme. These comprised four records from dedicated hen harrier roost surveys, three incidental records recorded during wintering waterbird surveys and seven records obtained during VP surveys. All records involved single birds and indicated low-frequency, seasonal use of the wider landscape.

Three records were obtained incidentally during winter waterbird surveys, when single birds were recorded between 2,211 m and 2,466 m north-east of the proposed wind farm site during daylight hours, and were considered to be foraging within the wider area. The four records obtained during dedicated roost surveys also involved individual birds and no roosting activity was confirmed within the proposed wind farm site or raptor study area. All records indicate occasional use of the wider landscape, with no evidence of repeated use of any particular location.

There were no records of hen harrier within the proposed wind farm development footprint arising from the dedicated roost survey programme. However, VP surveys recorded seven observations of single birds within the proposed development and 500 m turbine buffer, involving hunting, commuting and transient flight behaviour.

Dedicated non-breeding season surveys (2023–24 and 2024–25) identified no suitable roosting habitat within proposed wind farm site or raptor study area, and no roosting activity was confirmed. During the 2023–24 non-breeding season, two observations of a female hen harrier were recorded immediately south of the raptor study area in proximity to a known roost site. During the 2024–25 non-breeding season, a female hen harrier was recorded approximately 700 m north of the raptor study area and was observed flying and subsequently landing in the vicinity of Mocorha Turlough. Additional incidental observations within 1 km of this location suggest that any roosting activity is associated with the wider landscape rather than the proposed wind farm site.

VP surveys recorded seven observations of hen harrier, all during the non-breeding season and involving single birds undertaking hunting, commuting or transient flight movements. Of these seven VP observations, six entered the CRZ and were taken forward for assessment. Total recorded flight activity within the CRZ amounted to 464 seconds. Although hen harrier is an Annex I species, recorded flight activity within the collision risk zone was very limited. Furthermore, the recorded activity was restricted to occasional winter movements, with no evidence of repeated use of specific areas, regular foraging activity, breeding activity, roosting activity or functional reliance on habitats within the proposed wind farm site. The species was therefore not taken forward for CRM.

Hen harrier is an Annex I species and of high conservation importance. However, the very low number of records, all records were confined to the non-breeding season and indicate only occasional use of the wider landscape, with no evidence of functional use of the proposed wind farm site for roosting, breeding, or regular foraging activity.

Hen harrier would ordinarily be considered of National importance on the basis of its Annex I status and conservation significance, the survey evidence demonstrates only infrequent and incidental use of the wider landscape, with no reliance on habitats within the proposed wind

farm site. On this basis, the valuation has been reduced to County importance within the proposed wind farm site.

Accordingly, hen harrier is considered to be of County importance within the proposed wind farm site, reflecting its conservation status, but with very limited and sporadic use of the wider area and no reliance on habitats within the proposed wind farm site.

Kestrel

Kestrel was recorded regularly within the Survey Area, with a total of 51 records across the survey period. Observations typically comprised single individuals, with a maximum of two birds recorded in April and November 2024, indicating frequent but low-density use of the wider landscape.

Breeding raptor surveys recorded variable activity between years:

- 2023: a single observation of one individual, with no evidence of breeding behaviour;
- 2024: increased activity, with up to two individuals recorded on 11 occasions between April and July, and frequent foraging within the Project Site, indicating probable breeding within the wider surrounding area, although no nest or fledged young were recorded; and
- 2025: reduced activity, with five observations of single individuals, and no evidence of breeding behaviour.

Spatial mapping of survey data (refer to Appendix 7-3, Figures 8, 12, 16, 20, 24 and 27 and Appendix 7-7, Figures 32-37) indicates that kestrel records were widely distributed across the Survey Area, including farmland within and around the proposed wind farm site. Records reflect foraging behaviour across open habitats, with no evidence of concentrated activity or repeated use of specific locations within the proposed wind farm site, and no confirmed nest sites identified.

Kestrel is a BoCCI4 Red-listed species in Ireland, reflecting population decline. The dataset indicates regular presence at low densities, with evidence of probable breeding in the wider landscape in 2024, but no confirmed breeding within the proposed wind farm site.

Accordingly, kestrel is considered to be of Local (Higher) importance within the proposed wind farm site, reflecting its conservation status and evidence of breeding within the wider area, but with no evidence of reliance on habitats within the proposed wind farm site itself. Details of records relating to CRM are provided in Appendix 7-2.

Merlin

Merlin was recorded very infrequently within the Survey Area, with two records of single individuals, both occurring in February 2025.

Both records were located along the edge of the eastern section of the proposed wind farm development boundary, where birds were observed in hunting flight, indicating transient use of the wider landscape during the non-breeding season.

There were no additional records across the survey period, and the species was not recorded during breeding season surveys. There is no evidence of repeated use of the proposed wind farm site, site fidelity, or association with any specific habitat within it.

The limited observations indicate sporadic and opportunistic use of the wider landscape, with no indication that the proposed wind farm site provides suitable or regularly used habitat for the species. There is no evidence of breeding activity within the Survey Area.

Merlin is an BoCCI4 Amber-listed species in Ireland, reflecting moderate conservation concern, and is also listed under Annex I of the Birds Directive. However, the extremely limited number of records, together with their restriction to two isolated non-breeding season observations at the proposed wind farm site's boundary, indicates that it supports no functionally important component of the population.

Accordingly, merlin is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting its conservation status but very limited and incidental occurrence and absence of any reliance on habitats within the proposed wind farm site.

Peregrine

Peregrine was recorded regularly within the Survey Area during raptor surveys, with a total of 42 records across the survey period. Observations typically comprised single individuals, with a maximum of two individuals recorded in June 2023, May 2024 and June 2024, indicating frequent but low-density use of the wider landscape.

All records were associated with a known breeding site at Kinlough Castle, located approximately 700 m to the southeast of the proposed wind farm development boundary. Survey observations across all three years were spatially consistent with this established nesting location and involved birds flying to and from, or calling from, this area.

Survey findings indicate:

- 2023: observations of male and female birds in late March, indicating possible breeding at the known site;
- 2024: repeated observations during April and May, again indicating possible breeding at this location;
- 2025: a single calling individual recorded in late May from the direction of Kinlough Castle, consistent with continued breeding at the established site.

There were no records indicating nesting or breeding within the proposed wind farm site, and no evidence of repeated or concentrated use of habitats within it. All activity is interpreted as part of the species' wider ranging behaviour associated with the off-site breeding territory.

Peregrine is a BoCCI4 Green-listed species in Ireland and is also listed under Annex I of the Birds Directive, reflecting its conservation importance. The data indicate that while peregrine regularly utilises the wider landscape, the proposed wind farm site itself does not provide functionally important habitat and is not relied upon for breeding or other key activities.

Accordingly, peregrine is considered to be of Local (Higher) importance within he proposed wind farm site lies within the wider foraging range associated with a known breeding territory. Details of records relating to CRM are provided in Appendix 7-2.

Sparrowhawk

Sparrowhawk was recorded infrequently within the Survey Area, with a total of 16 records across the survey period. Observations typically comprised single individuals, with a small number of records involving more than one bird, including a group of four recently fledged birds recorded in July 2025.

As a BoCCI4 Green-listed species, detailed spatial mapping of records is not presented; however, observations indicate that activity is dispersed across the wider Survey Area, with no evidence of concentrated activity or repeated use of specific locations within the proposed wind farm development boundary. Records are interpreted as representing general hunting and movement within the wider landscape, rather than site-specific use.

During the breeding season, the observation of four recently fledged birds in July 2025 confirmed breeding within the Raptor Survey Area. However, there were no observations of nests or breeding activity within the proposed wind farm site, and no indication that breeding territories are centred on it.

Sparrowhawk is a BoCCI4 Green-listed species in Ireland, reflecting a favourable conservation status and widespread distribution. The relatively low number of records, combined with the absence of repeated or concentrated activity within the proposed wind farm site, indicates that the proposed wind farm supports only a small component of the wider population, primarily as part of a broader foraging range.

Accordingly, sparrowhawk is considered to be of Local (Lower) importance within the proposed wind farm site, reflecting low-frequency occurrence, confirmed breeding within the wider landscape only, and absence of any functional reliance on habitats within the proposed wind farm site. Details of records relating to CRM are provided in Appendix 7-2.

BoCCI4 Red- and BoCCI4 Amber-listed passerines

A range of BoCCI4 Red- and BoCCI4 Amber-listed passerine and near-passerine species were recorded within the Survey Area, including grey wagtail, meadow pipit, swift and yellowhammer, primarily associated with farmland, riparian and settlement habitats.

These species were recorded at low to moderate densities typical of the wider agricultural landscape and, where present, reflect general breeding and foraging activity rather than concentrated or site-specific use. While some species (e.g. meadow pipit and swift) were recorded breeding within or adjacent to the proposed wind farm site, their distribution was dispersed and representative of the wider landscape. The presence of a breeding colony of swift at Kinlough Castle is acknowledged; however, the Proposed Development would not affect nesting habitat and no credible impact pathway has been identified linking the Proposed Development to significant effects on the colony.

These species were not identified as Important Ornithological Features (IOFs) and are not considered likely to be significantly affected by the impact pathways associated with the proposed development. Accordingly, they are not considered further within the detailed impact assessment.

Additional Species of Conservation Concern

A number of additional bird species were recorded during baseline surveys; however, these were recorded only occasionally and at very low frequency, typically of isolated observations.

These species did not demonstrate regular occurrence, repeated seasonal use, or consistent spatial association with the proposed wind farm site. Records generally reflect transient behaviour (e.g. passage, occasional foraging, or sporadic overflight), with no evidence of breeding, roosting, or clustering within the proposed wind farm site.

Accordingly, these species are considered incidental to the baseline and do not represent ecologically important features of the proposed wind farm site.

7.4.6 Flight Activity Relevant to Collision Risk

Flight Activity and Bird Density (Stage A)

VP surveys recorded generally low levels of flight activity across the proposed wind farm site. Mean areal bird density values varied between species and seasons as shown in Table 7-12 but were consistently low within the CRZ. These low densities further indicate limited levels of flight activity across the proposed wind farm site.

Table 7-12: Mean bird density (birds/km²) for target species

Target species	Analysis period	Non-breeding: Mean density	SD Non-breeding	Breeding: Mean density	SD Breeding
Black-headed gull	Year-round	0.00353	0.00382	0.00075	0.00075
Buzzard	Year-round	0.00241	0.00411	0.00210	0.00213
Common gull	Year-round	0.00886	0.01130	0.00056	0.00084
Golden plover*	Non-breeding (+ April)	0.00061	0.00118	–	–
Great black-backed gull	Non-breeding	0.00100	0.00134	–	–
Greylag goose	Non-breeding	0.00036	0.00051	–	–
Herring gull	Year-round	0.00035	0.00036	0.00013	0.00024
Kestrel	Year-round	0.00211	0.00365	0.00145	0.00253
Lesser black-backed gull	Year-round	0.00274	0.00388	0.00209	0.00209
Mallard	Year-round	0.00017	0.00026	0.00027	0.00027
Peregrine*	Year-round	0.00014	0.00023	0.00240	0.00240
Snipe	Non-breeding	0.00028	0.00040	–	–
Sparrowhawk	Year-round	0.00021	0.00026	0.00022	0.00022

Proportion of Flight at Rotor Risk Height (%Q2R)

The proportion of recorded flight activity occurring within the turbine rotor-swept height (%Q2R) was calculated for each species and is presented in Table 7-13. However, overall levels of activity within the turbine envelope were low, reflecting the limited volume of flight recorded across the proposed wind farm site and supporting the low levels of collision risk predicted by CRM.

Full flight activity data, flightline tables, and maps are provided in Appendix 7-7 with full CRM outputs in Appendix 7-2.

Table 7-13: Proportion of flight within rotor risk height (%Q2R)

Target species	Number of birds observed	%Q2R
Black-headed gull	334	0.79
Buzzard	223	0.65
Common gull	509	0.82
Golden plover*	40	0.88
Great black-backed gull	81	0.84
Greylag goose	20	1.00
Herring gull	54	0.80
Kestrel	186	0.47
Lesser black-backed gull	498	0.87
Mallard	47	0.66
Peregrine*	36	0.83
Snipe	43	0.67
Sparrowhawk	50	0.34

7.5 IDENTIFICATION AND EVALUATION OF IMPORTANT ORNITHOLOGICAL FEATURES

This section applies the evaluation criteria and definitions set out earlier in Chapter 7 to identify those ornithological features that constitute IOFs for the purposes of assessment. The identification process draws on baseline information presented in Section 7.4, including desk-based review (within a 20 km study area) and detailed field survey data, and applies professional judgement in accordance with the established evaluation framework and the CIEEM Guidelines.

While the CIEEM Guidelines pre-date the EU Nature Restoration Regulation, the approach to identifying IOFs is sufficiently flexible to incorporate the key ecological principles underpinning the NRR, including the protection of Annex I species, maintenance of ecological connectivity, and the restoration and enhancement of degraded habitats.

An IOF is defined as any bird species, population, assemblage, habitat, or designated ornithological site considered to be of ecological value and potentially subject to significant effects arising from the proposed project.

Only those features assessed as being of Local Importance (Higher Value) or greater are brought forward for assessment of effects in Section 7.6. Features of Local Importance (Lower Value) are not considered further, as any effects would be limited, localised, and not significant in ecological terms.

In addition, designated ornithological sites are considered with reference to potential S-P-R linkages, including ecological connectivity (e.g. species movement), and functional linkages.

A summary of all IOFs, including those scoped in and out of assessment are presented in Table 7-15.

7.5.1 DESIGNATED CONSERVATION SITES

Sites of International Importance

Three Sites of International Importance occur within 20 km of the proposed wind farm site:

- Lough Corrib SPA;
- Lough Mask SPA; and
- Lough Carra SPA.

These sites are designated for internationally important assemblages of waterbirds, including Annex I and regularly occurring migratory species. Applying the evaluation criteria set out earlier in this chapter, these sites are identified as ornithological features of International Importance.

The 20 km search radius was selected in accordance with guidance e.g. Mitchell (2012) and exceeds the typical foraging distances identified for key receptors, including Greenland white-fronted goose. It is therefore considered sufficient to identify designated sites with potential ornithological connectivity to the proposed development.

Each SPA has been subject to further screening to determine whether a viable S-P-R linkage exists between the proposed wind farm site and the SPA's qualifying interests, taking into account ecological and hydrological connectivity, and functional habitat relationships.

A strong ecological and hydrological connection exists between the proposed wind farm site and Lough Corrib SPA, via the shared catchment, with potential downstream pathways for effects on water quality, including both surface water and groundwater pathways. In line with the Screening for Appropriate Assessment and the conclusions of the NIS, Lough Corrib SPA is retained as an IOF of International Importance and is brought forward for further assessment.

Lough Mask SPA supports a range of qualifying waterbird interests, including Greenland white-fronted goose and wintering gull species. Baseline survey data demonstrate that use of the proposed wind farm site by species associated with the SPA is limited to occasional, low-density and transient activity, with no evidence of aggregation, roosting or consistent use of the site. Although a theoretical hydrological connection exists within the wider Corrib-Mask catchment system, the pathway is remote and attenuated and no viable hydrological or ecological pathway capable of giving rise to significant effects has been identified. Accordingly, Lough Mask SPA is not taken forward for further assessment.

Lough Carra SPA is designated solely for common gull. Baseline survey data indicate that the proposed wind farm site does not provide functionally important habitat for this species and does not form part of any regular movement, breeding or foraging network associated with the SPA. Although a theoretical hydrological connection exists through the wider Corrib-Mask-Carra catchment system, no viable hydrological or ecological pathway capable of giving rise to significant effects has been identified. Consistent with the findings of the Screening for Appropriate Assessment, Lough Carra SPA is therefore not taken forward for further assessment.

Sites of National Importance

A number of sites designated at national level (NHAs and pNHAs) supporting ornithological interests occur within the receiving environment, predominantly comprising turloughs, lakes and associated wetland habitats within the wider Corrib Basin.

Applying the evaluation criteria, those nationally designated sites that:

- Support waterbirds or waders; and
- Form part of the wider functional wetland network are identified as ornithological features of National Importance and are retained as IOFs for assessment.

These sites are ecologically or hydrologically connected to the proposed wind farm site and provide supporting habitat for wintering and breeding waterbirds, including ducks, geese, swans, waders, and associated wetland assemblages.

Nationally designated sites that are designated primarily for non-avian interests, or which lack ornithological function or connectivity relevant to bird populations, are not identified as IOFs and are scoped out of further assessment.

A summary of designated sites screened in and out at this stage, including S-P-R evaluation, is provided in **Table 7-14**.

Table 7-14: Designated Conservation Sites scoped in or out from further assessment

IOF (Distance and Direction from Project Boundary)	Conservation status[7]	Importance	Rationale	Connectivity Pathway	S-P-R identified and considered further
Lough Corrib (3.8 km W)	SPA, SAC & pNHA	International	Supports internationally important assemblages of wintering waterbirds	Hydrological (surface water and groundwater) and ecological connectivity via the Corrib catchment and waterbird movements	Yes
Lough Mask (14.1 km NW)	SPA & SAC	International	Supports SPA-qualifying waterbird populations; however, no hydrological or functional ecological linkage identified with the proposed wind farm site	No viable hydrological or ecological pathway identified following S-P-R assessment	No
Lough Carra (17.8 km NW)	SPA & SAC	International	Supports SPA-qualifying waterbird populations with indirect ecological linkage to the receiving environment	No viable hydrological or ecological pathway identified following S-P-R assessment	No
Rostaff Turlough (c. 0.6 km S) (also referred to as Rostaff Lake in I-WeBS datasets)	pNHA	National	Regular use by wintering waterbirds; I-WeBS count location	Ecological connectivity through wintering waterbird movements and associated wetland habitats	Yes
Shrule Turlough (c. 1.5 km N)	SAC & pNHA	National	Important turlough supporting waterbirds	Hydrological and ecological connectivity; supports functionally linked wetland bird populations	Yes

[7] NPWS Designation

IOF (Distance and Direction from Project Boundary)	Conservation status[7]	Importance	Rationale	Connectivity Pathway	S-P-R identified and considered further
Mocorha Lough (c. 2.3 km NW)	SAC	National	Wetland supporting waterbird foraging and roosting habitat	Ecological connectivity through use by mobile waterbird species	Yes
Lough Hacket (c.8.3 km SE)	pNHA	National	Regionally important waterbird site	Ecological connectivity via waterbird movements	Yes
Clyard Kettle Holes (c.6.6 km NNW)	SAC	National	Turlough and wetland habitats with potential to support waterbirds and contribute to the wider wetland network of north Galway/south Mayo	Ecological connectivity through use by mobile waterbird species and functionally linked wetland habitats	Yes
Turlough Monaghan (c.7.67 km SE)	pNHA	National	Wintering waterfowl recorded	Ecological connectivity via wintering waterbirds	Yes
Turlough O'Gall (c.7.67 km SE)	pNHA	National	Known or likely to support waterbirds	Ecological connectivity via wintering waterbirds	Yes
Greaghans Turlough (c.11.16 km NE)	SAC	National	Regular waterbird use	Ecological connectivity via wintering waterbirds	Yes
Kilglassan/Caheravoostia Turlough Complex (c.11.71 km NNE)	SAC	National	Waterbirds regularly recorded (I-WeBS)	Ecological connectivity via wintering waterbirds	Yes
Carrowkeel Turlough (c.17.04 km NNE)	SAC	National	Typical turlough waterbird assemblages	Ecological connectivity via wintering waterbirds	Yes

IOF (Distance and Direction from Project Boundary)	Conservation status[7]	Importance	Rationale	Connectivity Pathway	S-P-R identified and considered further
Lough Carra / Mask Complex (c.11.74 km NW)	SAC	National	Hydrologically and functionally linked to SPA waterbird receptors	Hydrological and ecological connectivity	Yes
Cloughmoyne (c.10 m SW)	SAC & pNHA	National	Designated for non-avian interests; baseline surveys did not identify functionally important ornithological use	No identified ornithological S-P-R pathway requiring detailed assessment	No

7.5.2 Species

The baseline species accounts (refer to Section 7.4, with detailed records provided in Appendix 7-3) describe the geographic and ecological context for the avifauna associated with the proposed wind farm site. This evaluation considers species' conservation status (including Annex I and BoCCI classification), population size and trends, frequency and regularity of occurrence, behaviour, and the nature of functional use of the proposed wind farm site and its ZoI (e.g., breeding, foraging, commuting and roosting).

Applying these criteria, ornithological features have been evaluated to determine whether they constitute IOFs, taking account of both their conservation importance and the presence of a credible Source-Pathway-Receptor linkage to the proposed project, and therefore require further consideration in the assessment of effects in Section 7.6.

Species Scoped In for Further Assessment (IOFs)

Table 7-15 identifies those species (or groups of species) that are considered IOFs and are brought forward for further assessment. This includes all species assessed under the CRM where baseline data and/or desk-based assessment indicate a realistic pathway to a significant effect to significant effects, together with species for which construction-phase, operational, decommissioning or cumulative impact pathways have been identified. Potential pathways considered include habitat loss, disturbance, displacement, barrier effects, collision risk, changes in habitat suitability and indirect effects on supporting habitats or ecological connectivity.

These species are typically those for which the proposed wind farm site:

- Supports regular breeding, foraging, roosting or commuting activity; and/or
- Contributes meaningfully to local, regional or national populations.

Broadly, the species scoped in comprise receptors for which one or more project phases may result in significant effects, including:

- Wintering waterbirds (including swans and geese) using the proposed wind farm site as part of a wider wintering and commuting landscape;
- Wintering waders exhibiting repeated seasonal use;
- Gull species regularly commuting across or foraging within the proposed wind farm site;
- Raptors, including winter-ranging species and regularly foraging individuals; and
- Selected species where evidence indicates consistent functional use of the proposed wind farm site.

Species Scoped Out of Further Assessment

Species for which baseline data indicate no likely significant effects are also presented in Table 7-15 but are not considered IOFs and are therefore scoped out of further detailed assessment.

These are typically species that:

- Occur infrequently or in low numbers;
- Exhibit incidental or transitory behaviour;

- Are wide-ranging with no functional reliance on the proposed wind farm site; or
- Are associated with habitats or ecological functions not meaningfully represented within the site.

Such species are generally evaluated as being of Local Importance (Lower Value) in accordance with the CIEEM Guidelines.

Species in this category, including widespread or adaptable taxa with no site-specific conservation dependency (e.g., widespread and adaptable species such as buzzard, coot and cormorant), are considered unlikely to experience effects beyond short-term, localised and non-significant changes in behaviour or distribution. As such, potential effects would not undermine conservation objectives at any geographic scale.

This approach ensures that the assessment remains proportionate and focused on those ornithological features for which the proposed wind farm site may contribute to maintaining favourable conservation status, and where significant effects (beneficial or adverse) could reasonably arise.

Table 7-15: Ornithological features brought forward for further assessment

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Barn owl	Conservation Status Barn owl is a BoCCI4 Red-listed species in Ireland due to significant long-term population declines associated with agricultural intensification, habitat loss and reduced prey availability. The species remains highly localised nationally and is considered of high conservation concern. Baseline Results Barn owl was recorded on four occasions during the survey programme, comprising three dusk survey records and one winter walkover record. Records were isolated and dispersed, with no evidence of breeding, roosting, regular foraging activity or repeated commuting routes associated with the proposed wind farm site. No barn owl flights were recorded during VP surveys. Accordingly, barn owl was not considered a relevant collision risk receptor and was not taken forward for CRM. No dedicated barn owl roost survey was undertaken. However, barn owl was considered during the wider ornithological survey programme, including dedicated dusk surveys undertaken during Years 1 and 2 and winter walkover surveys. In addition, buildings with potential to support barn owl within the wider area were subject to observation during survey work. No evidence of active nesting or roosting barn owls was identified during the survey programme.	Local (Lower)	No regular usage of the proposed wind farm site was identified and therefore it is not considered a key resource for this species. Any potential occurrence would relate only to occasional wide-ranging foraging movements within the wider landscape.	No

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Black-headed gull	Conservation Status Black-headed gull is an BoCCI4 Amber-listed species in Ireland due to moderate conservation concern associated with declines in breeding populations and localised colony vulnerability Baseline Results Recorded regularly during surveys, predominantly as birds commuting through the proposed wind farm site between nearby wetlands and foraging areas. Ground use within the proposed wind farm site was limited, typically involving fewer than ten birds at any one time, with only short-duration foraging activity recorded. No breeding or roosting activity was identified within the proposed wind farm site. The species is associated more strongly with off-site wetlands and turlough systems within the Corrib catchment.	Local (Higher)	Connectivity is limited to transient commuting and occasional opportunistic foraging flights across the proposed wind farm site. No regular roosting, breeding or functionally important feeding areas were identified within the proposed wind farm site.	Yes
Black-tailed godwit (*Limosa limosa)*	Conservation Status Black-tailed godwit is a BoCCI4 Red-listed species in Ireland due to international conservation concern and declines within breeding and wintering populations. Ireland supports internationally important wintering numbers. Baseline Results Very infrequent and isolated observations only; no evidence of repeated use or reliance on the proposed wind farm site habitats	Local (Lower)	Very infrequent/ passage only	No

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Brent goose (*Branta bernicla*)	Conservation Status Brent goose is BoCCI4 Green-listed in Ireland, reflecting stable wintering populations, although the species remains associated with internationally important coastal wetland habitats. Baseline Results Infrequent observations only.	Local (Lower)	Very infrequent/ wide-ranging	No
Buzzard	Conservation Status Buzzard is a widespread and increasing BoCCI4 Green-listed raptor species in Ireland, reflecting favourable conservation status and stable national population trends. Baseline Results Frequently recorded at low densities; likely breeding within wider landscape but no confirmed breeding or site dependency within the proposed wind farm site.	Local (Lower)	Regular overflight and foraging within wider ranging territory	No
Canada goose	Conservation Status Canada goose is a widespread and non-native, BoCCI4 Green-listed species in Ireland with a stable and increasing wintering population Baseline Results Infrequent observations only of this non-native species;	Local (Lower)	Very infrequent/ wide-ranging	No

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Common gull	Conservation Status Common gull is an BoCCI4 Amber-listed species in Ireland due to moderate conservation concern associated with breeding population declines and localisation of breeding colonies. Baseline Results Recorded regularly, primarily in flight with occasional opportunistic foraging by small groups; no breeding or roosting activity recorded within the proposed wind farm site.	Local (Higher)	Connectivity is limited to transient commuting and occasional opportunistic foraging flights across the proposed wind farm site. No regular roosting, breeding or functionally important feeding areas were identified within the proposed wind farm site.	Yes
Coot	Conservation Status Coot is an BoCCI4 Amber-listed species in Ireland due to moderate declines in breeding populations and reliance on wetland habitats vulnerable to degradation. Baseline Results Small numbers recorded intermittently during winter surveys, associated with wet grassland and standing water; no breeding activity or functionally important habitat identified.	Local (Lower)	Intermittent wetland foraging associated with wider Corrib catchment wetlands	No
Cormorant	Conservation Status Cormorant is an BoCCI4 Amber-listed species in Ireland due to the localisation of breeding colonies and sensitivity of coastal and inland wetland habitats. Baseline Results Occasional individuals recorded, primarily in flight or associated with nearby waterbodies; no breeding or roosting activity within the proposed wind farm site.	Local (Lower)	Incidental passage and commuting between off-site wetlands	No

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Curlew	Conservation Status Curlew is a BoCCI4 Red-listed species in Ireland due to severe long-term breeding population declines and contraction of breeding range. The species is recognised as being of high conservation concern nationally. Baseline Results A total of 74 records were obtained across the survey period, with observations typically involving small to moderate flocks (average 15 birds) and a peak count of 65 birds in January 2024. Spatial mapping demonstrated that activity was concentrated around Shrule Turlough, Rostaff Turlough and Lough Hacket, with only occasional overflight of the proposed wind farm site itself. Breeding season records were extremely limited and no confirmed breeding activity was identified within the proposed wind farm site.	Local (Higher)	The wider Survey Area forms part of a broader winter foraging landscape associated with nearby wetlands and turlough systems; however, there was no evidence of field-level dependency or regular use of habitats within the turbine layout.	Yes
Dunlin (*Calidris alpina*)	Conservation Status Dunlin is a BoCCI4 Red-listed species in Ireland due to significant declines in breeding populations and vulnerability of internationally important wintering populations. Baseline Results Very infrequent and isolated observations only; no evidence of repeated use or reliance on the proposed wind farm site habitats.	Local (Lower)	Very infrequent / passage only	No

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Gadwall	Conservation Status Gadwall is an BoCCI4 Amber-listed species in Ireland due to localisation of breeding populations and dependence on suitable wetland habitats. Baseline Results Infrequent individuals and small groups recorded during winter surveys; no breeding activity and no evidence of functional reliance on the proposed wind farm site habitats.	Local (Lower)	Opportunistic wetland foraging associated with off-site wetlands	No
Golden plover	Conservation Status Golden Plover is listed on Annex I of the EU Birds Directive and is Red-listed on the Birds of Conservation Concern in Ireland, reflecting substantial long-term population declines. It is a species of high conservation priority in Ireland, breeding primarily in upland blanket bog and moorland habitats, and wintering in lowland farmland, coastal grasslands, and estuarine areas. It is a qualifying species for SPAs where key breeding or wintering populations occur. Baseline Results Regular winter use by moderate-sized flocks within wider landscape; no evidence of repeated or concentrated use within the proposed wind farm site.	Local (Higher)	Regular winter foraging and commuting flights within wider landscape	Yes

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Great black-backed gull	Conservation Status Great black-backed gull is BoCCI4 Green-listed in Ireland, reflecting a widespread and relatively stable population. Baseline Results Very infrequent and incidental occurrence, typically single birds in flight; no foraging, breeding or roosting activity recorded within the proposed wind farm site.	Local (Lower)	Occasional overflight	No
Great crested grebe	Conservation Status Great crested grebe is an BoCCI4 Amber-listed species in Ireland due to localised breeding populations and dependence on freshwater habitats. Baseline Results Very occasional records associated with off-site waterbodies only; no functional use of the proposed wind farm site.	Local (Lower)	Incidental association with off-site aquatic habitats	No
Great white egret (*Egretta alba)*	Conservation Status Great white egret is a BoCCI4 Green-listed species in Ireland and represents a recent range-expanding colonist associated with wetland habitats. Baseline Results Infrequent observations only; incidental occurrence within wider landscape.	Local (Lower)	Very infrequent / passage only	No

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Greenland white-fronted goose	Conservation Status Greenland white-fronted goose is an BoCCI4 Amber-listed species in Ireland due to the importance of Irish wintering populations and reliance on internationally important wetland systems. Baseline Results Recorded on 17 occasions during winter surveys, with an average flock size of 16 birds and a maximum flock of 73 birds recorded in October 2023. Records were clustered to the northeast and south of the proposed wind farm site, with the nearest observations approximately 830 m from the turbine layout. No repeated use of fields within the development footprint, roosting activity or core feeding areas were identified. The maximum flock represented approximately 1.5–2.5% of the national wintering population	County	Connectivity is limited to occasional winter foraging and commuting movements within the wider agricultural landscape associated with nearby turlough systems and wetlands. The proposed wind farm site itself does not function as a core feeding or roosting area	Yes
Green sandpiper (*Tringa ochropus*)	Conservation Status Green sandpiper is BoCCI4 Green-listed in Ireland and occurs primarily as a passage and winter visitor in low numbers Baseline Results Infrequent observations only; incidental use of wider landscape.	Local (Lower)	Very infrequent /wide-ranging	No

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Grey heron	Conservation Status Grey heron is a widespread, BoCCI4 Green-listed species in Ireland with a relatively stable breeding population. Baseline Results Infrequent use by very small numbers associated with wet grassland and nearby waterbodies; no breeding activity or functionally important habitat identified.	Local (Lower)	Regular wetland foraging within wider landscape	No
Greylag goose	Conservation Status Greylag goose is an BoCCI4 Amber-listed species in Ireland due to the localisation of breeding and wintering populations and increasing association with managed wetland habitats. Baseline Results Although greylag goose was recorded regularly within the wider study area, records were associated principally with Rostaff Turlough and other off-site wetland habitats. Use of the proposed wind farm site was limited and no important feeding areas, roost sites or regularly used movement corridors were identified within the proposed wind farm site.	Local (Lower)	Use of the proposed wind farm site was limited and no important feeding areas, roost sites or regularly used movement corridors were identified.	No

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Hen harrier	Conservation Status Hen harrier is listed under Annex I of the Birds Directive and is BoCCI4 Amber-listed in Ireland due to the small and vulnerable national breeding population and continued persecution pressures. Baseline Results Fourteen records of single birds were obtained during the non-breeding season only, all between mid-November and late February. All observations occurred outside the proposed development, and no repeated use of any location was identified. Dedicated winter roost surveys identified no suitable roost habitat within the proposed wind farm site, and no roosting behaviour was recorded. Observations suggest only low-frequency winter ranging activity within the wider landscape.	County	Connectivity is limited to occasional winter ranging behaviour within the wider agricultural and wetland landscape. No regular foraging areas, roost sites or breeding activity were identified within the proposed wind farm site and therefore it is not considered a key resource for the species.	Yes
Herring gull	Conservation Status Herring gull is a BoCCI4 Amber-listed species in Ireland due to substantial long-term breeding population decline and contraction in breeding range. Baseline Results Infrequent individuals and small groups recorded, predominantly in flight with limited opportunistic ground use; no breeding or roosting activity recorded within the proposed wind farm site.	Local (Lower)	Occasional foraging and commuting flights	No

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Jack snipe (*Lymnocryptes minimus*)	Conservation Status Jack snipe is BoCCI4 Green-listed in Ireland and occurs primarily as a scarce winter visitor and passage migrant. Baseline Results Infrequent observations only; incidental use of wider landscape.	Local (Lower)	Very infrequent / wide-ranging	No
Kestrel	Conservation Status Kestrel is a BoCCI4 Red-listed species in Ireland due to documented long-term population declines and reductions in breeding range Baseline Results Regularly recorded at low densities with evidence of probable breeding within wider landscape in 2024, but no confirmed breeding within the proposed wind farm site.	Local (Higher)	Regular hunting and ranging flights across open habitats	Yes
Lapwing	Conservation Status Lapwing is a BoCCI4 Red-listed species in Ireland due to severe declines in breeding populations associated with agricultural intensification and wet grassland loss. Baseline Results A total of 73 records were obtained across the survey period, with winter observations involving moderate-sized flocks averaging 40 birds and a maximum count of 300 birds in February 2023. Wintering activity was concentrated around Shrule Turlough and Rostaff Turlough outside the proposed wind farm site. One confirmed breeding attempt was recorded adjacent to the north-west Site boundary in 2023, while only	Local (Higher)	Connectivity relates to wider winter foraging and occasional peripheral breeding activity associated with nearby wetlands and wet grassland habitats. The turbine layout itself is not considered to support key breeding or wintering habitat	Yes

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
	limited territorial behaviour was recorded in subsequent years. No established breeding territories or significant wintering flocks were identified within the proposed wind farm site.			
Lesser black-backed gull	Conservation Status Lesser black-backed gull is a BoCCI4 Amber-listed species in Ireland due to localised breeding colonies and moderate population declines Baseline Results Occasional individuals and very small groups recorded in flight only; no evidence of sustained ground use or reliance on the proposed wind farm site.	Local (Lower)	Occasional commuting and overflight	No
Little egret	Conservation Status Little Egret is listed on Annex I of the EU Birds Directive and is BoCCI4 Green-listed on the Birds of Conservation Concern in Ireland, reflecting its favourable conservation status and continued population expansion. Now a well-established breeding species in Ireland, it is strongly associated with estuarine, coastal, and freshwater wetland habitats, and has shown a marked increase in range and numbers in recent decades Baseline Results Infrequent but recurring use by small numbers associated with wet grassland and drainage features; no breeding activity or functionally important habitat identified.	Local (Lower)	Opportunistic wetland foraging within wider landscape	No

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Little grebe	Conservation Status Little grebe is a widespread, BoCCI4 Green-listed wetland species with relatively stable breeding populations in Ireland Baseline Results Low-level recurring use of off-site aquatic habitats only; no use of terrestrial habitats within the proposed wind farm site.	Local (Lower)	Use confined to nearby waterbodies	No
Long-eared owl	Conservation Status Long-eared owl is BoCCI4 Green-listed in Ireland, although breeding populations remain poorly understood due to the species' nocturnal behaviour. Baseline Results Infrequent observations only; incidental occurrence within wider landscape.	Local (Lower)	Very infrequent / wide-ranging	No

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Mallard	Conservation Status Mallard is an BoCCI4 Amber-listed species in Ireland due to moderate declines in breeding populations despite remaining widespread. Baseline Results Common and widespread species recorded regularly within the wider study area, including a single confirmed breeding record within the proposed wind farm site in 2024. Records were dispersed and associated with a range of wetland features and waterbodies throughout the wider landscape. No evidence was obtained that the proposed wind farm site supports an important breeding population, key wintering concentration, roost site or other functionally important habitat for the species. Accordingly, mallard was not identified as an Important Ornithological Feature (IOF) requiring detailed assessment.	Local (Lower)	Widespread occurrence within the wider landscape, with no evidence of important or concentrated use of the proposed wind farm site.	No
Merlin	Conservation Status Merlin is listed under Annex I of the Birds Directive and is BoCCI4 Amber-listed in Ireland due to the small, localised and vulnerable national breeding population. The species is strongly associated with upland and bog habitats and is considered sensitive to habitat change and disturbance, particularly during the breeding season. Baseline Results Two isolated winter records only, both involving transient hunting flights. No breeding or repeated use recorded within the proposed wind farm site.	Local (Lower)	Occasional winter ranging	No

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Moorhen	Conservation Status Moorhen is a widespread, BoCCI4 Green-listed species in Ireland associated with freshwater and wetland habitats. Baseline Results Regular but low-density occurrence associated primarily with off-site wetland features; no breeding concentrations or important habitat identified within the proposed wind farm site.	Local (Lower)	Widespread low-density use of off-site wetland habitats, with no important habitat identified within the proposed wind farm site.	No
Mute swan	Conservation Status Mute swan is an BoCCI4 Amber-listed species in Ireland due to localised breeding populations and reliance on wetland habitats. Baseline Results Infrequent individuals and small groups associated with nearby waterbodies; no breeding concentrations or reliance on habitats within the proposed wind farm site.	Local (Lower)	Regular use of off-site aquatic habitats	No

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Peregrine	Conservation Status Peregrine is listed under Annex I of the Birds Directive and is BoCCI4 Green-listed in Ireland, reflecting a recovering and relatively stable breeding population following historic declines linked to persecution and pesticide impacts. Despite population recovery, breeding territories remain sensitive to disturbance, particularly during the nesting season, and the species remains of high conservation importance as a protected breeding raptor. Baseline Results Regular activity associated with known off-site breeding location at Kinlough Castle; however, no evidence of breeding or concentrated activity within the proposed wind farm site.	Local (Higher)	Regular overflight and hunting associated with wider breeding territory	Yes
Pintail (*Anas acuta*)	Conservation Status Pintail is an BoCCI4 Amber-listed species in Ireland due to the importance of Irish and reliance on wetland habitats wintering populations. Baseline Results Infrequent observations only; incidental occurrence within wider landscape.	Local (Lower)	Very infrequent / wide-ranging	No

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Pochard	Conservation Status Pochard is a BoCCI4 Red-listed species in Ireland due to severe declines in breeding and wintering populations across Europe. Baseline Results Low-level recurring winter use confined to Rostaff Lough outside the proposed wind farm site. No records within the proposed project area and no credible pathway for significant effects identified.	Local (Lower)	Use restricted to off-site aquatic habitats	No
Redshank (*Tringa tetanus)*	Conservation Status Redshank is a BoCCI4 Red-listed species in Ireland due to breeding population declines and wetland habitat loss. Baseline Results Infrequent observations only; incidental use of wider landscape.	Local (Lower)	Very infrequent / passage only	No
Ringed plover (*Charadrius hiaticula*)	Conservation Status Ringed plover is a BoCCI4 Amber-listed species in Ireland due to localised breeding populations and pressures on coastal breeding habitats Baseline Results Infrequent observations only; incidental use of wider landscape	Local (Lower)	Very infrequent / passage only	No

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Ring-necked duck (*Aythya collaris*)	Conservation Status Ring-necked duck is a scarce, BoCCI4 Green-listed winter visitor in Ireland. Baseline Results Infrequent observations only; incidental use of wider landscape.	Local (Lower)	Very infrequent / passage only	No
Short-eared owl	Conservation Status Short-eared owl is a BoCCI4 Amber-listed species in Ireland due to the small and fluctuating breeding population and sensitivity to habitat change. Baseline Results Infrequent observations only; incidental use of wider landscape.	Local (Lower)	Very infrequent / wide-ranging	No
Shoveler	Conservation Status Shoveler is a BoCCI4 Red-listed species in Ireland due to declines in breeding populations and dependence on vulnerable wetland habitats. Baseline Results Use confined to off-site wetlands and turlough systems. No records within development footprint and no credible pathway for significant effects identified.	Local (Lower)	Use confined to off-site wetlands and turlough systems	No

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Snipe	Conservation Status Snipe is a BoCCI4 Amber-listed species in Ireland due to moderate breeding population declines and wetland habitat loss. Baseline Results Frequent low-density use of suitable wet habitats, with possible but unconfirmed breeding and no evidence of established breeding territories within the proposed wind farm site.	Local (Higher)	Regular wintering and potential breeding use of wet habitats	Yes
Teal	Conservation Status Teal is a BoCCI4 Amber-listed species in Ireland due to moderate declines in breeding populations and reliance on wetland habitats. Baseline Results Frequent winter occurrence by small to moderate flocks associated with wider wetland network; no evidence of concentrated use within the proposed wind farm site.	Local (Higher)	Regular wetland foraging and commuting within wider landscape	Yes
Tufted duck	Conservation Status Tufted duck is a BoCCI4 Amber-listed species in Ireland due to localised breeding populations and wetland dependency. Baseline Results Frequent winter use of off-site waterbodies by moderate to occasionally large flocks; no records within the proposed wind farm site.	Local (Lower)	Use confined to off-site wetlands and lakes	No

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Water rail	Conservation Status Water rail is BoCCI4 Green-listed in Ireland and remains a widespread but localised wetland species Baseline Results Infrequent and localised occurrence associated with dense wetland vegetation; intermittent breeding recorded within the proposed wind farm site.	Local (Lower)	Localised wetland use within and adjacent to Site	No
White-tailed eagle (*Haliaeetus albicilla*)	Conservation Status White-tailed eagle is listed under Annex I of the Birds Directive and is a BoCCI4 Red-listed species in Ireland due to the extremely small recovering breeding population following historic extinction and subsequent reintroduction efforts. The Irish population remains localised and of high conservation concern nationally. Baseline Results Infrequent observations only; incidental occurrence within wider landscape.	Local (Lower)	Very infrequent / wide-ranging	No

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Whooper swan	Conservation Status Whooper swan is listed under Annex I of the Birds Directive and is BoCCI4 Amber-listed in Ireland due to its localisation as a wintering species and association with internationally important wetland assemblages. Baseline Results Recorded on 69 occasions during winter surveys, with an average flock size of 14 birds and a maximum flock of 70 birds in November 2023. Records were clustered north/northeast, east and south of the proposed wind farm site, associated with agricultural fields in proximity to Rostaff Turlough, Shrule Turlough and Lough Corrib. No roosting activity or repeated use of fields within the turbine layout was identified. The maximum flock represented approximately 0.6–0.7% of the Irish wintering population.	County	Connectivity relates to regular commuting flights between off-site wetland roosts and surrounding agricultural feeding areas. The proposed wind farm site provides secondary foraging habitat within a wider landscape mosaic rather than a core feeding or roosting resource.	Yes
Wigeon	Conservation Status Wigeon is a BoCCI4 Amber-listed species in Ireland due to the importance of Irish wintering populations and reliance on wetland habitats. Baseline Results Regular winter use of off-site wetlands and adjacent farmland by moderate-sized flocks; no records within the proposed wind farm site.	Local (Higher)	Regular winter foraging and commuting flights	Yes

Species / IOF	Rationale	Ornithological Evaluation/ Importance	Connectivity Pathway	Scoped in for further assessment?
Woodcock	Conservation Status Woodcock is a BoCCI4 Red-listed species in Ireland due to long-term breeding population decline and woodland habitat pressures Baseline Results Infrequent winter records confined to woodland edge and scrub habitats along proposed wind farm site boundary; no breeding activity recorded.	Local (Higher)	Winter foraging associated with boundary habitats	Yes

Valuation of IOFs Scoped into the Assessment

The following IOFs have been scoped into the assessment:

- IOFs of International Importance:
  - Designated sites:
    - Lough Corrib SPA.
- IOFs of National Importance:
  - Designated sites:
    - Rostaff Turlough;
    - Shrule Turlough;
    - Mocorha Lough;
    - Lough Hacket;
    - Clyard Kettle Holes;
    - Turlough Monaghan;
    - Turlough O'Gall;
    - Greaghans Turlough;
    - Kilglassan/Caheravoostia Turlough Complex;
    - Carrowkeel Turlough.
- IOFs of County Importance:
  - Species: Hen harrier.
- IOFs of Local (Higher) Importance:
  - Black-headed gull;
  - Curlew;
  - Golden plover;
  - Greenland white-fronted goose;
  - Kestrel;
  - Lapwing;
  - Peregrine;
  - Snipe;
  - Teal;
  - Whooper swan;
  - Wigeon;
  - Woodcock.

7.6 LIKELY SIGNIFICANT EFFECTS

This section assesses the likely significant effects of the proposed project on the IOFs identified in Section 7.5, arising during the construction, operational and decommissioning phases.

The assessment is informed by:

- The detailed description of the proposed project and construction methodologies set out in Chapter 2; and
- The wider ecological context, including designated sites, hydrology and surface water management, described in Chapter 6.

The assessment considers the nature, magnitude, duration, frequency and reversibility of effects and identifies whether any effects are likely to be significant at the appropriate geographical scale.

7.6.1 EMBEDDED MITIGATION

Mitigation by design has been applied from the earliest stages to avoid or reduce potential impacts. Key design-led measures include:

- **Strategic siting of infrastructure:** Turbines, access tracks, and associated infrastructure has been located through a constraints-led design process to avoid turloughs, wetlands, riparian features, and areas identified in baseline surveys as sensitive for waterbirds, waders or raptors (see Section 7.5).
- **Avoidance of bird-sensitive areas**: The layout has been designed to avoid areas of concentrated bird activity and does not align with known or potential flight corridors linking off-site wetlands, based on VP surveys (Appendix 7-7).
- **Buffering of sensitive habitats:** Appropriate buffers have been maintained from drainage features, wetland margins and field boundary habitats, reducing disturbance risk and maintaining habitat function.
- **Hydrological and ecological protection:** Infrastructure layout and drainage design have been developed to minimise alteration to natural surface water pathways. As concluded in Chapter 9 (Hydrology, Hydrogeology and Aquatic Ecology), no significant effects on the hydrological functioning of connected wetlands and turlough systems are predicted following implementation of embedded and secondary mitigation measures.
- **Reduction of habitat loss:** Micro-siting of infrastructure has been employed to minimise vegetation clearance and reduce fragmentation of foraging and commuting habitats.
- **Timing of works:** Construction programming will allow flexibility to avoid sensitive periods (e.g., peak breeding and wintering seasons) where practicable.

In addition to the above design-led measures, a Bird Protection Plan (BPP) will be implemented prior to and during construction to ensure compliance with relevant wildlife legislation and to safeguard breeding birds and other ornithological receptors.

The BPP will be prepared prior to commencement of construction by a suitably qualified Ecological Clerk of Works (ECoW), with appropriate ornithological expertise and experience of wind farm developments. Where required by the planning authority or consent conditions, the BPP will be submitted for review and approval prior to implementation. The BPP will include the following measures:

- Ecological Clerk of Works (ECoW): A suitably experienced ECoW will oversee implementation of ornithological mitigation, undertake pre-construction checks, and provide ongoing advice to ensure compliance with breeding bird legislation during construction;
- Pre-construction surveys: Targeted surveys will be undertaken prior to construction to identify active nests, breeding territories, and sensitive species (including hen harrier roosts where relevant). Survey scope will be informed by current best practice guidance and professional judgement;
- Nesting bird protection: Where active nests are identified, appropriate exclusion zones will be established in accordance with current guidance, and no works will proceed within these buffers until breeding activity has ceased;
- Toolbox talks: Site personnel will receive regular ecological toolbox talks delivered by the ECoW to ensure awareness of ornithological sensitivities and legal obligations;
- Vegetation clearance controls: Vegetation removal will, where practicable, be undertaken outside the breeding season. Where this is not possible, works will be subject to nesting bird checks and supervision by the ECoW;
- Disturbance minimisation: Measures such as speed restrictions, control of vehicle movements, and avoidance of unnecessary lighting or idling will be implemented to reduce disturbance to breeding birds.

These measures will operate together to ensure that residual risks to breeding birds are minimised through avoidance, timing controls, and active site supervision.

Operational and decommissioning phase activities will be subject to the same principles where relevant, with the ECoW advising on appropriate safeguards should significant works occur during sensitive periods.

7.6.2 Do-nothing Scenario

The do-nothing scenario describes the likely evolution of the ornithological receiving environment in the absence of the proposed project but taking account of reasonably foreseeable changes over time. In accordance with the EPA's *'Guidelines on the Information to be Contained in Environmental Impact Assessment Reports'* (2022), the future baseline considers both natural trends and external drivers that could influence ornithological receptors, independent of the proposed development.

In the absence of the proposed project, the proposed wind farm site is expected to remain in its current land use, which is predominantly agricultural grassland with associated drainage features, hedgerows, treelines and small areas of scrub and wet ground. No significant changes to land use are anticipated within the proposed wind farm site boundary, although minor alterations associated with agricultural practices (e.g., grazing intensity, silage regimes and seasonal ground conditions) may continue to influence habitat suitability for certain bird species on an annual or seasonal basis.

At a wider landscape scale, gradual changes in ornithological populations may occur as a result of broader factors such as agricultural intensification or extensification, climate change, national and regional biodiversity policies, and ongoing conservation initiatives. For example, continued population trends for certain farmland birds, waders and waterbirds may reflect national patterns identified through monitoring programmes, while the distribution and

seasonal use of surrounding wetlands and turlough systems may vary interannually in response to rainfall and hydrological conditions.

Designated sites within the wider receiving environment, including SPAs and pNHAs, are expected to remain protected under existing European and national legislation. Their conservation objectives and management frameworks are not dependent on the proposed project and will continue to guide site-level conservation measures and population trends.

No other known or reasonably foreseeable developments are expected to result in substantive changes to the ornithological character of the proposed wind farm site itself. While other plans and projects within the wider landscape are considered as part of the cumulative assessment (Section 7.9), these do not alter the essential character of the future baseline at the site level.

Overall, under the do-nothing scenario, the ornithological baseline is anticipated to remain broadly similar to the current baseline described in Section 7.4, subject to normal temporal variation and wider regional trends. This provides the reference condition against which the potential effects of the proposed development are assessed in Section 7.6. In the absence of the proposed development, the opportunity to contribute towards national renewable energy generation, decarbonisation and energy security objectives would not be realised.

7.6.3 Assessment of Effects on Important Ornithological Features

Potential effects of the proposed project on each IOF are assessed below. The assessment considers the significance of potential impacts following implementation of the embedded mitigation measures proposed in Section 7.6.1. The assessment considers effects arising during construction, operation and decommissioning, including habitat loss, disturbance and displacement, noise and vibration, blasting, excavation and dewatering activities, dust deposition, changes in habitat suitability, barrier effects, collision risk and indirect effects on supporting habitats and ecological connectivity.

The assessment considers all components of the proposed development, including turbines, crane hardstands, access tracks, borrow pit areas, construction compounds, the substation, the Grid Connection Route (GCR) and Turbine Delivery Route (TDR). Potential effects arising from all project components have been considered in the assessment of each Important Ornithological Feature (IOF).

For the purposes of this assessment, references to construction disturbance include the effects of vehicle movements, construction traffic, excavation, earthworks, blasting, rock breaking, crushing, increased human activity, noise, vibration, dust generation and any temporary hydrological changes associated with construction activities, including dewatering where relevant. The significance of these effects has been assessed in the context of the distribution, abundance and sensitivity of each receptor.

Where relevant, the assessment also considers whether activities associated with the GCR and TDR have the potential to affect ornithological receptors through habitat loss, disturbance, displacement or indirect effects on supporting habitats.

Collision risk assessments referred to in the following sections are based on the species-specific CRM analyses presented in Appendix 7-2. Where CRM was undertaken, reference is made to

the relevant model outputs. Where CRM was not undertaken, justification is provided based on the level of recorded flight activity and the agreed CRM screening criteria.

Likely Effects Associated with the proposed GCR

For the proposed grid connection, a new proposed 110 kV loop-in substation compound (with associated works) is proposed in the townland of Killamanagh, County Galway.

In order to gather all the power from the individual turbines and feed it into the proposed grid connection, there will be a proposed on-site control building at the northeastern edge of the proposed wind farm site (near T8).

A triple circuit 33 kV GCR with a length of approximately 8.7 km will leave the proposed on-site control building and will follow off road sections through private lands, in addition to sections within the public road corridor to connect into the proposed 110 kV loop-in substation in the townland of Killamanagh, County Galway (see Planning Drawing 11981-2017 and Chapter 2, Figure 2-2).

It is intended that the proposed 110 kV loop-in substation will connect to the existing adjacent 110 kV overhead line (OHL) via an underground connection. The overall length of the grid connection between the proposed 110 kV loop-in substation and the existing 110 kV OHL is approximately 1 km (two circuits, each measuring 0.9 km and 1.1 km).

A walkover survey of the GCR confirmed that the route is predominantly associated with improved agricultural grassland, field boundaries, road verges and other habitats that are widely represented throughout the surrounding landscape (see Chapter 6 of the EIAR). Waterbird activity along the GCR was generally low. While a small area associated with the Black River is subject to occasional winter flooding and periodically supports small groups of foraging waterbirds, including whooper swan and curlew, these records generally occurred >200 m from the GCR corridor. No areas supporting significant concentrations of birds, important breeding habitat, roost sites or other key ornithological features were identified within the areas affected by the GCR works

The required works along the 33 kV GCR are minor, localised and largely confined to existing agricultural lands and sections of the existing road network. The works will be temporary in nature and are not expected to give rise to disturbance levels beyond those typically associated with routine maintenance and operational activities along the local road network. While some temporary disturbance may occur during the GCR works, given the limited scale and duration of the works, together with the extent of similar habitat in the wider surroundings, direct, indirect, disturbance or displacement effects are not predicted.

Accordingly, effects associated with the GCR are predicted to be **negligible** and **not significant** for all IOFs.

Likely Effects Associated with the proposed TDR

It is proposed that the turbine components will be delivered to the proposed wind farm site via Galway Harbour. The route out of Galway city has been used for multiple wind farms with similar sized components. The street furniture has already been made demountable for these previous projects and as such there are minimal disruptions anticipated within the city. The road

from Galway city to the proposed wind farm site is generally quite straight, utilising National and regional road networks, reducing the potential for pinch points.

There is one location along the TDR requiring temporary accommodation works in order to facilitate the delivery of turbine components to the proposed wind farm site, which is referred to as a Node. Details of this are provided in the Turbine Delivery Route Report presented in Appendix 2 -4, which includes Swept Path Analysis (SPA).

This involves modifying a small area of footpath to allow it to support the turbine transport vehicle weight in the townlands of Ballybaan Beg, within Galway City. Hedgerow/vegetation trimming and temporary demounting of signage will also be required at various locations along the route prior to delivery, but no other significant works or hardstanding areas are required.

All of the accommodation works required are contained within the extents of the road infrastructure and verge.

On a precautionary basis, it is assumed that some temporary disturbance may occur along sections where hedgerow / vegetation trimming is required. However, given the scale of the works direct, indirect, disturbance or displacement effects are not predicted.

Accordingly, effects associated with the TDR are predicted to be **negligible** and **not significant** for all IOFs.

Species of County Importance

Hen harrier

Hen harrier is an Annex I species of high conservation importance. Within the Survey Area, it was recorded on 14 occasions during the survey programme, comprising seven records during VP surveys, four records during targeted hen harrier roost surveys and three incidental observations. All records related to the non-breeding season. No evidence of breeding, roosting activity was identified, and observations indicate only occasional and low-intensity use of the wider landscape. Given the limited number of records and the wide-ranging behaviour of the species, it is likely that some observations relate to repeat records of the same individual rather than multiple birds regularly using the area.

Potential Construction Effects

Potential construction effects considered include temporary habitat loss, disturbance arising from construction activities (including vehicle movements, earthworks, crushing and, where required, blasting), dust generation and indirect effects on supporting habitats. No breeding territories, roost sites or regularly used foraging areas were identified within the proposed wind farm site, and no evidence was obtained that the proposed wind farm site forms part of a functionally important area for hen harrier. In addition, potential effects on wetlands, turloughs and associated habitats are assessed separately within the Hydrology, Hydrogeology and Aquatic Ecology chapters, which conclude that no significant effects are predicted following mitigation.

Given the absence of breeding or roosting activity, the low number of records, and the lack of evidence that the proposed wind farm site forms part of a core foraging area, any displacement effects would be **negligible** and **not significant**.

No hen harrier roosts were identified within the Survey Area. As such, disturbance to roosting birds is not considered a credible pathway for impact. Accordingly, any potential effects during construction are considered to be **negligible** and **not significant**.

Overall construction effects on hen harrier are considered **negligible** and **not significant**.

Potential Operational Effects

During the operational phase, potential effects include disturbance, displacement, and collision risk.

Given the absence of regular use, breeding or roosting, the proposed wind farm site does not form part of a core foraging area. Any displacement effects would therefore be **negligible** and **not significant**.

Available evidence indicates that responses of hen harrier to wind farms are variable and context dependent; however, in this case, the very limited and incidental use of the proposed wind farm site indicates that any displacement effects would not affect the local population.

Operational disturbance effects are also considered negligible and not significant. Hen harrier was recorded only infrequently within the wider study area, with no breeding territories, roost sites or regularly used foraging areas identified within the proposed wind farm site. Consequently, the regular presence of turbines, maintenance activities and associated operational infrastructure is not predicted to result in any meaningful disturbance effect on the local population.

No indirect effects arising from changes in habitat suitability are predicted. Given the absence of functionally important hen harrier habitat within the proposed wind farm site, no indirect effects on habitat availability or suitability are predicted.

CRM was not undertaken due to the very low level of recorded activity. In the absence of regular flight within the turbine envelope, collision risk is considered **negligible** and **not significant**.

VP flightline mapping (**Appendix 7-7**, Figure 30) did not identify any consistent flight paths or commuting routes or movement corridors through the proposed wind farm site. Barrier effects are therefore considered **negligible** and **not significant**.

Overall operational effects on hen harrier are considered **negligible** and **not significant**.

Greenland white-fronted goose

Greenland white-fronted goose occurs regularly within the wider Survey Area, principally in association with Rostaff Turlough and adjacent agricultural land. However, use of the proposed wind farm site itself was very limited, with no evidence of roosting, regular foraging or site dependency.

Potential Construction Effects

Potential construction effects considered include temporary habitat loss, disturbance arising from construction activities (including vehicle movements, construction traffic, earthworks, crushing, blasting, dust generation and dewatering activities), and indirect effects on supporting habitats.

Greenland white-fronted goose was recorded within the wider study area and use of the proposed wind farm site was limited. The nearest regularly used feeding areas were located more than 800 m from the proposed turbine layout and no roosting, breeding or functionally important habitat was identified within the proposed wind farm site. Disturbance distances for wintering geese are typically reported in the range of 300-500 m (Cutts et al., 2013; NatureScot, 2022). At the distances recorded during baseline surveys, disturbance and displacement effects arising from construction activities are considered **negligible** and **not significant**.

Habitat loss effects are also considered **negligible** and **not significant**, as no feeding areas, roost sites or other habitats regularly used by Greenland white-fronted geese occur within areas affected by the proposed development.

Potential indirect effects on supporting habitats, including wetlands and turlough systems associated with the wider Greenland white-fronted goose population, are assessed separately within Chapter 9. Potential effects on hydrology, hydrogeology, water quality and connected wetland habitats, including turlough systems, are assessed separately within the Hydrology, Hydrogeology and Aquatic Ecology chapters, which conclude that no significant effects are predicted following mitigation.Consequently, no indirect effects on Greenland white-fronted goose habitat availability or suitability are predicted.

Overall, construction effects on Greenland white-fronted goose are considered **negligible** and **not significant**.

Potential Operational Effects

During the operational phase, potential effects include disturbance, displacement, collision risk, and barrier effects.

Given the absence of regular use of the proposed wind farm site, disturbance and displacement effects are considered **negligible** and **not significant**, as birds are not reliant on habitats associated with the proposed wind farm site.

Indirect operational effects arising from changes in habitat availability or suitability are not predicted. Potential effects on wetlands, turlough systems, hydrology and supporting habitats are assessed separately within Chapter 9, which concludes that no significant effects are predicted following mitigation. Consequently, no indirect operational effects on Greenland white-fronted goose are predicted.

CRM was not undertaken for Greenland white-fronted goose. The species was infrequently recorded in flight during the survey programme, with only three flights recorded within the CRZ (refer to Appendix 7-2). Activity levels were therefore extremely low and there was no evidence of regular use of the proposed wind farm site, roosting behaviour, core feeding areas, or consistent commuting movements through the site. Records were associated primarily with the wider landscape rather than the proposed wind farm site itself. On this basis, Greenland White-fronted Goose did not meet the criteria for detailed collision risk assessment.

VP flightline mapping (Appendix 7-7, Figures 75 and 76) demonstrates that recorded Greenland white-fronted goose movements were limited, dispersed and irregular and did not indicate a regular movement corridor between Rostaff Turlough, Shrule Turlough or other wetland sites. The turbine layout does not intersect any identified flight corridor and barrier effects are therefore considered **negligible** and **not significant**.

Overall operational phase effects on Greenland white-fronted goose are considered **negligible** and **not significant**.

Whooper swan

Whooper swan is an Annex I species of high conservation importance and is also BoCCI4 Amber-listed in Ireland. Within the Survey Area, it was recorded regularly during the non-breeding season, with birds using off-site wetland roosts and surrounding agricultural land for foraging. Records were obtained through a combination of wintering waterbird surveys, VP surveys, winter walkover surveys and incidental observations, with activity concentrated around Rostaff Turlough, Shrule Turlough and other wetlands within the wider landscape. The largest flock recorded during the survey programme comprised 108 individuals and was recorded outside the proposed wind farm site. A peak cumulative count of 201 individuals was recorded during a survey visit, although this comprised multiple observations rather than a single flock. No roosting activity or repeated use of fields within the proposed wind farm site was identified.

Roosting activity is associated with nearby wetlands, including Shrule Turlough (c.1.6 km to the north) and Rostaff Turlough (c.750 m southeast). Foraging was concentrated in agricultural fields surrounding these sites. Use of the proposed wind farm site was limited and infrequent, and no regularly used feeding fields were identified within the site, indicating that it lies peripheral to core foraging areas.

VP surveys recorded limited whooper swan activity within the turbine buffer, with flight time below the threshold required for CRM. This indicates minimal use of the airspace within the turbine envelope.

Potential Construction Effects

Whooper swan does not breed or roost within the proposed development and is functionally linked to off-site wetlands and associated feeding areas. Construction may result in temporary disturbance to birds using nearby farmland; however, the proposed wind farm site does not include regularly used feeding fields and lies outside core foraging areas. Given the availability of extensive alternative habitat within the surrounding landscape, any displacement would be limited and temporary and would not affect the availability of functionally important feeding or roosting resources. Habitat loss does not affect any key resources associated with nearby roost sites and is not functionally significant. Construction effects are of **low magnitude** and **not significant**.

Potential indirect effects on wetlands, turlough systems and supporting habitats are assessed separately in Chapter 9 of the EIAR. Those assessments conclude that no significant effects are predicted following mitigation and therefore no indirect construction effects on whooper swan habitat availability or suitability are predicted.

Overall construction effects on whooper swan are considered **low magnitude** and **not significant**.

Potential Operational Effects

During the operational phase, potential effects include disturbance, displacement, collision risk and barrier effects.

Operational disturbance effects are considered to be of **low magnitude** and **not significant**. No roosting sites, regularly used feeding fields or other functionally important habitat occur within the proposed wind farm site and the routine presence of turbines and maintenance activities is not predicted to influence the wider whooper swan population.

Operational displacement effects are considered to be of **low magnitude** and **not significant**. Baseline data indicate that the proposed development lies outside the core feeding areas associated with nearby roosting sites and is used only incidentally by whooper swan. The proposed wind farm site does not include regularly used feeding fields and lies outside core foraging areas. Given the availability of extensive alternative habitat within the surrounding landscape, any displacement would affect only a small proportion of available habitat and would not influence the wider distribution of birds.

Indirect effects on wetlands, turlough systems and supporting habitats are assessed separately in Chapter 9. Those assessments conclude that no significant effects are predicted following mitigation and therefore no indirect effects on whooper swan habitat availability or suitability are predicted.

Collision risk is considered **negligible** and **not significant**. Flight activity did not meet the threshold for CRM, indicating minimal exposure to turbine blades.

Barrier effects are considered **negligible** and **not significant**. No consistent flight corridor, concentrated movement route or regular directional commuting behaviour was identified during VP surveys. While Rostaff Turlough and Shrule Turlough are known wintering waterbird sites within the wider landscape, survey data did not identify regular movements across the proposed wind farm site between these wetlands or between roosting and feeding areas. Recorded flights were infrequent, dispersed and non-directional, indicating that the proposed wind farm site does not function as a key movement corridor.

Overall, operational effects on whooper swan are predicted to be of **low magnitude** and **not significant**, reflecting the limited and infrequent use of the proposed wind farm site and the absence of important feeding, roosting or movement corridors.

Species of Local (Higher) Importance

Black-headed gull

Black-headed gull is a BoCCI4 Amber-listed and widespread species. It was recorded frequently within the Survey Area, primarily as birds in flight, with only small and dispersed groups recorded on the ground. There was no evidence of breeding, roosting, aggregation or consistent use of habitats within the proposed wind farm site, indicating incidental use only.

CRM indicates that, despite relatively frequent flight activity, movements are dispersed and non-directional, with no evidence of defined commuting routes or linkage with key ecological resources. Predicted collision mortality is extremely low and reduces to negligible levels following the application of avoidance rates.

Potential Construction Effects

No breeding or roosting activity was recorded within the proposed wind farm site, and there is no evidence that it supports functionally important habitat.

Disturbance effects arising from construction activities, including vehicle movements, earthworks, crushing, blasting and increased human activity, are considered negligible and **not significant**. Black-headed gull was recorded primarily as a highly mobile species commuting through the wider landscape and is not dependent on habitats within the proposed wind farm site.

Displacement effects are also considered negligible and **not significant**. No important feeding areas, roost sites or concentrations of birds were identified within the proposed wind farm site and any temporary avoidance of the area during construction would be short-term and readily accommodated within the wider landscape.

Habitat loss effects are negligible and **not significant**, as no important feeding, breeding or roosting habitat for black-headed gull was identified within areas affected by the proposed development.

Indirect effects arising from changes to supporting habitats are not predicted. Potential effects on wetlands, turlough systems, surface water, groundwater and habitat suitability are assessed separately within Chapter 9, which conclude that no significant effects are predicted following mitigation. Habitat loss does not affect any important areas and is therefore **negligible** and **not significant**.

Overall construction effects for black-headed gull are considered **negligible** and **not significant**.

Potential Operational Effects

Black-headed gull was recorded primarily as a highly mobile species commuting through the wider landscape, with no evidence of reliance on habitats within the proposed wind farm site. No breeding colonies, roost sites or important feeding areas were identified that could be affected by the routine operation and maintenance of the proposed development. Operational disturbance effects are considered **negligible** and **not significant**.

Baseline data indicate that activity within the proposed wind farm site is limited to dispersed, non-directional movements with no association with core foraging or roosting areas. Any displacement would affect only a very small proportion of the available habitat and would be of low magnitude. Operational displacement effects are considered **negligible** and **not significant**.

Indirect effects arising from changes in habitat suitability are not predicted. Potential effects on wetlands, turlough systems, hydrology and supporting habitats are assessed separately within Chapter 9, which concludes that no significant effects are predicted following mitigation.

Collision risk has been assessed through CRM. Predicted collision mortality is extremely low and, following the application of avoidance rates, equates to fewer than one collision over the operational lifetime of the proposed project. Such levels of mortality are **negligible** and **not significant**.

No consistent flight paths, commuting routes or movement corridors were identified, and activity was widely dispersed. The proposed wind farm site does not lie between key ecological resources, and barrier effects are therefore considered **negligible** and **not significant**.

Overall operation effects for black-headed gull are considered **negligible** and **not significant**.

Common gull

Common gull is a BoCCI4 Amber-listed and widespread species. It was recorded frequently within the Survey Area, primarily as birds in flight, with only small and dispersed groups recorded on the ground. There was no evidence of breeding, roosting, aggregation or consistent use of habitats within the proposed wind farm site, indicating incidental use only.

CRM indicates that, despite relatively frequent flight activity, movements are dispersed and non-directional, with no evidence of defined commuting routes or linkage with key ecological resources. Predicted collision mortality is extremely low and reduces to negligible levels following the application of avoidance rates.

Potential Construction Effects

No breeding or roosting activity was recorded within the proposed wind farm site, and there is no evidence that it supports functionally important habitat.

Disturbance effects arising from construction activities, including vehicle movements, earthworks, crushing, blasting and increased human activity, are considered **negligible** and **not significant**. Common gull was recorded primarily as a highly mobile species commuting through the wider landscape and is not dependent on habitats within the proposed wind farm site.

Displacement effects are also considered **negligible** and **not significant**. No important feeding areas, roost sites or concentrations of birds were identified within the proposed wind farm site and any temporary avoidance of the area during construction would be short-term and readily accommodated within the wider landscape.

Habitat loss effects are **negligible** and **not significant**, as no important feeding, breeding or roosting habitat for common gull was identified within areas affected by the proposed development.

Indirect effects arising from changes to supporting habitats are not predicted. Potential effects on wetlands, turlough systems, surface water, groundwater and habitat suitability are assessed separately within Chapter 9, which conclude that no significant effects are predicted following mitigation.

Overall construction effects for common gull are considered **negligible** and **not significant**.

Potential Operational Effects

Operational disturbance effects are considered **negligible** and **not significant**. Common gull was recorded primarily as a highly mobile species commuting through the wider landscape, with no evidence of reliance on habitats within the proposed wind farm site. No breeding colonies, roost sites or important feeding areas were identified that could be affected by the routine operation and maintenance of the proposed development.

Operational displacement effects are considered **negligible** and **not significant**. Baseline data indicate that activity within the proposed wind farm site is limited to dispersed, non-directional movements with no association with core foraging or roosting areas. Any displacement would affect only a very small proportion of the available habitat and would be of low magnitude.

Indirect effects arising from changes in habitat suitability are not predicted. Potential effects on wetlands, turlough systems, hydrology and supporting habitats are assessed separately within Chapter 9, which concludes that no significant effects are predicted following mitigation.

Collision risk has been assessed through CRM. Predicted collision mortality is extremely low and, following the application of avoidance rates, equates to fewer than one collision over the operational lifetime of the proposed project. Such levels of mortality are **negligible** and **not significant**.

No consistent flight paths, commuting routes or movement corridors were identified, and activity was widely dispersed. The proposed wind farm site does not lie between key ecological resources, and barrier effects are therefore considered **negligible** and **not significant**.

Overall operational effects for common gull are considered **negligible** and **not significant**.

Curlew

Curlew is a BoCCI4 Red-listed species of high conservation concern in Ireland. Within the Survey Area, it was recorded regularly, primarily during the non-breeding season, with activity concentrated in off-site wetland habitats including Shrule Turlough, Rostaff Turlough and Lough Hacket. Use of the proposed wind farm site was limited and infrequent, with no evidence of breeding or consistent foraging activity.

VP surveys recorded very low levels of flight activity within the CRZ (six observations; 233 seconds), indicating limited use of the proposed wind farm site.

Potential Construction Effects

Curlew was not recorded breeding within or adjacent to the proposed wind farm site. Activity was concentrated in off-site habitats associated with Rostaff Turlough, Shrule Turlough, Lough Hacket and other wetlands within the wider landscape.

Disturbance associated with construction traffic, vehicle movements, earthworks, blasting, rock breaking, crushing, noise, vibration, dust generation and dewatering activities is unlikely to affect a significant proportion of the local population given that recorded curlew activity was concentrated in off-site habitats generally located more than 750 m from the proposed development footprint. Construction disturbance effects are therefore considered **negligible** and **not significant**.

The proposed wind farm site does not form part of a core foraging area and extensive alternative habitat remains available within the surrounding landscape. Any temporary avoidance of the area would therefore be limited, short-term and reversible. Construction displacement effects are therefore considered negligible and not significant.

Direct habitat loss effects are considered **negligible** and **not significant**, as no important feeding areas, breeding territories, roosting sites or other functionally important habitat for curlew were identified within areas affected by the proposed development.

Indirect hydrological effects on wetlands, turlough systems and supporting habitats are assessed separately within Chapter 9. Those assessments conclude that no significant effects are predicted following mitigation and therefore no indirect effects on habitat availability or suitability for curlew are predicted.

Overall, effects during the construction phase are considered **negligible** and **not significant**.

Potential Operational Effects

During the operational phase, potential effects include disturbance, displacement, collision risk and barrier effects.

No breeding territories, regularly used feeding areas, or other functionally important habitats occur within the proposed wind farm site, and the routine presence of turbines and maintenance activities is not predicted to influence the wider curlew population. Operational disturbance effects are therefore considered **negligible** and **not significant**.

Baseline data indicate that curlew activity is largely confined to the wider landscape, with only limited and infrequent use of the proposed wind farm site. Any displacement would affect only a small proportion of available habitat and would not affect the wider distribution of birds. Operational displacement effects are therefore considered **negligible** and **not significant**.

Indirect operational effects on habitat availability or suitability are not predicted. Potential indirect effects on wetlands, turlough systems, downstream hydrological connectivity and supporting habitats are assessed separately within Chapter 9, which concludes that no significant effects are predicted following mitigation.

CRM was not undertaken as recorded flight activity (233 seconds) was substantially below the applied threshold. This indicates minimal exposure to turbine collision risk, and collision effects are therefore considered **negligible** and **not significant**.

No evidence was identified of regular flight routes or movement corridors across the proposed wind farm site. Activity was associated with discrete off-site habitats, and the proposed development is not expected to impede movement between key resources. Barrier effects are therefore considered **negligible** and **not significant**.

Overall, operational effects on curlew are considered **negligible** and **not significant**.

Golden plover

Golden plover is an Annex I and BoCCI4 Red-listed species of high conservation concern. Within the Survey Area, it was recorded on 15 occasions during the non-breeding season, typically as flocks within the wider farmland landscape. There was no evidence of breeding or consistent use of habitats within the proposed wind farm site, indicating that the site does not support functionally important habitat for the species.

CRM indicates low levels of flight activity within the CRZ, despite a relatively high proportion of flights occurring at rotor height. This reflects generally limited use of the proposed wind farm site.

Potential Construction Effects

Disturbance arising from construction traffic, vehicle movements, earthworks, blasting, rock breaking, crushing, noise, vibration, dust generation and dewatering activities is unlikely to affect a significant proportion of the local population, given that Golden Plover activity was concentrated within the wider landscape and no functionally important habitat was identified within the proposed wind farm site. Construction disturbance effects are therefore considered negligible and not significant.

The proposed wind farm site does not form part of a core feeding area and extensive alternative habitat remains available within the surrounding landscape. Construction displacement effects are therefore considered negligible and not significant.

Direct habitat loss effects are considered ***negligible*** and ***not significant***, as no important feeding areas, roosting sites or other functionally important habitat for Golden Plover were identified within areas affected by the proposed development.

Indirect effects on wetlands, turlough systems and supporting habitats are assessed separately within Chapter 9. Those assessments conclude that no significant effects are predicted following mitigation and therefore no indirect effects on habitat availability or suitability for Golden Plover are predicted.

Overall, effects during the construction phase are considered **negligible** and **not significant**.

Potential Operational Effects

During the operational phase, potential effects include disturbance, displacement, collision risk and barrier effects.

Golden plover was recorded primarily within the wider landscape and no regularly used feeding areas, roosting sites or other functionally important habitats were identified within the proposed wind farm site. The routine presence of turbines and associated maintenance activities is therefore not expected to influence the wider population. Operational disturbance effects are therefore considered **negligible** and **not significant**.

Baseline data indicate that golden plover activity is largely confined to the wider landscape, with only limited and infrequent use of the proposed wind farm site. Any displacement would affect only a small proportion of available habitat and would not affect the wider distribution of birds. Operational displacement effects are therefore considered **negligible** and **not significant**.

Indirect operational effects on habitat availability or suitability are not predicted. Potential effects on wetlands, turlough systems, hydrology and supporting habitats are assessed separately within Chapter 9, which concludes that no significant effects are predicted following mitigation.

Collision risk has been assessed through CRM. Although a proportion of recorded flights occurred within the collision risk zone, overall flight activity was low. CRM predicts an extremely low level of collision mortality which, following the application of avoidance rates, reduces to negligible levels. Collision effects are therefore considered **negligible** and not **significant**.

VP flightline mapping (Appendix 7-7, Figure 21) demonstrates that recorded Golden Plover movements were dispersed across the wider landscape and did not indicate a regular movement corridor between Rostaff Turlough, Shrule Turlough or other wetland sites. The turbine layout does not intersect any identified flight corridor, and barrier effects are therefore considered negligible and not significant.

Overall, operational effects on golden plover are considered **negligible** and **not significant**.

Kestrel

Kestrel is a BoCCI4 Red-listed species in Ireland and is widespread within open farmland habitats. Within the Survey Area, it was recorded regularly (51 records), primarily as single individuals foraging across the landscape. Activity occurred throughout the proposed wind farm site and wider area but was dispersed and indicative of general use rather than reliance on specific habitats. No breeding was confirmed within the proposed wind farm site.

CRM indicates regular use of the airspace within the proposed wind farm site (149 observations; 11,057 seconds), with a moderate proportion of flights at rotor height (47%), reflecting foraging activity within the site.

Potential Construction Effects

Kestrel was not confirmed breeding within the proposed wind farm site, and there is therefore no potential for direct impacts on nesting birds during construction.

Kestrel was recorded regularly foraging within the proposed wind farm site and wider landscape; however, activity was dispersed and not associated with specific locations. Disturbance arising from construction traffic, vehicle movements, earthworks, blasting, rock breaking, crushing, noise, vibration, dust generation and dewatering activities may result in temporary avoidance of affected areas but would not affect the local population. Construction disturbance effects are therefore considered to be of **low magnitude** and **not significant**.

Suitable alternative foraging habitat is widely available throughout the surrounding landscape and any displacement would be limited, short-term and reversible. Construction displacement effects are therefore considered to be of **low magnitude** and **not significant**.

Although a small area of foraging habitat will be lost, kestrel activity was dispersed throughout the wider landscape and no functionally important foraging areas or breeding sites were identified within the proposed development footprint. Habitat loss effects are considered to be of **low magnitude** and **not significant**.

Indirect effects on habitat availability or suitability are not predicted. Potential effects on hydrology, wetlands, groundwater and supporting habitats are assessed separately within Chapter 9 of the EIAR, which concludes that no significant effects are predicted following mitigation.

Overall, effects during the construction phase are considered to be **low magnitude** and **not significant**.

Overall, construction effects on kestrel are considered **negligible** and **not significant**.

Potential Operational Effects

During the operational phase, potential effects include disturbance, displacement, collision risk and barrier effects.

Kestrel uses the proposed wind farm site for foraging; however, this reflects typical behaviour across a large home range and there is no evidence of reliance on specific locations within the site. Operational disturbance effects are therefore considered to be of **low magnitude** and **not significant**.

Any displacement in proximity to turbines would affect only a small proportion of available habitat and extensive alternative foraging habitat would remain available within the wider landscape. Operational displacement effects are therefore considered to be of **low magnitude** and **not significant**.

Indirect operational effects on habitat availability or suitability are not predicted. Potential effects on hydrology and supporting habitats are assessed separately within Chapter 9 of the EIAR, which concludes that no significant effects are predicted following mitigation.

Collision risk has been assessed through CRM. Predicted activity equates to approximately 14 annual rotor transits, resulting in a very low collision rate. Following the application of avoidance rates, predicted mortality reduces to negligible levels, equating to fewer than one collision over the operational lifetime of the proposed project. Collision risk is therefore considered to be **negligible** and **not significant**.

No evidence of regular commuting routes, movement corridors or directional flight behaviour was identified, with activity reflecting localised foraging behaviour. The proposed development is therefore not expected to impede movement. The proposed project is therefore not expected to impede movement, and barrier effects are **negligible** and **not significant**.

The proposed development will not result in any measurable impact on the kestrel population at a local or wider scale, and effects are therefore assessed as **low magnitude** and **not significant**.

Overall, operational phase effects on kestrel are considered **low magnitude** and **not significant**.

Lapwing

Lapwing is a BoCCI4 Red-listed species of conservation concern in Ireland. Within the Survey Area, it was recorded on 73 occasions, primarily during the non-breeding season, with flocks located within the wider farmland landscape. Limited breeding activity was recorded in the wider area, but no breeding territories were confirmed within the proposed wind farm site. Use of the site itself was limited and infrequent, with activity largely concentrated in peripheral areas, indicating that it does not form part of a functionally important foraging area.

VP surveys recorded low levels of flight activity within the CRZ (eight observations; 601 seconds), indicating limited use of the proposed wind farm site.

Potential Construction Effects

Lapwing was not confirmed breeding within the proposed wind farm site. While some breeding activity occurs in the wider landscape, no breeding territories were identified within areas affected by the proposed development. Activity during the non-breeding season was largely concentrated in the wider landscape, indicating that the proposed wind farm site does not support functionally important habitat.

Disturbance arising from construction traffic, vehicle movements, earthworks, blasting, rock breaking, crushing, noise, vibration, dust generation and dewatering activities may result in temporary avoidance of parts of the proposed wind farm site. However, lapwing activity was concentrated within the wider landscape and no functionally important habitat was identified within the development footprint. Construction disturbance effects are therefore considered **negligible** and **not significant**.

The proposed wind farm site does not support a breeding population or important non-breeding concentration of lapwing, and extensive alternative habitat remains available within the surrounding landscape. Any displacement would therefore be limited, short-term and reversible. Construction displacement effects are therefore considered **negligible** and **not significant**.

Habitat loss does not affect breeding territories, key feeding areas or other habitats supporting significant numbers of lapwing. Habitat loss effects are therefore considered **negligible** and **not significant**.

Indirect effects on wetlands, turlough systems and supporting habitats are assessed separately within Chapter 9 of the EIAR. Those assessments conclude that no significant effects are predicted following mitigation and therefore no indirect effects on habitat availability or suitability for lapwing are predicted.

Overall, effects during the construction phase are considered **negligible** and **not significant**.

Potential Operational Effects

During the operational phase, potential effects include disturbance, displacement, collision risk and barrier effects.

No breeding territories, regularly used feeding areas or other functionally important habitats occur within the proposed wind farm site and the routine presence of turbines and associated maintenance activities is not predicted to influence the wider lapwing population. Operational disturbance effects are considered **negligible** and **not significant**.

Baseline data indicate that lapwing activity is largely confined to the wider landscape, with limited use of the proposed wind farm site. Any displacement would affect only a small proportion of available habitat and would not represent a meaningful change in habitat use. Operational displacement effects are considered **negligible** and **not significant**.

Indirect operational effects on habitat availability or suitability are not predicted. Potential effects on wetlands, turlough systems, hydrology and supporting habitats are assessed separately within Chapter 9 of the EIAR, which concludes that no significant effects are predicted following mitigation.

CRM was not undertaken as flight activity within the CRZ was below the threshold for assessment. This indicates limited exposure to turbine collision risk, which is therefore considered **negligible** and **not significant**.

No evidence of regular flight routes or movement corridors across the proposed wind farm site was identified. Movements were limited and non-directional, and barrier effects are therefore considered **negligible** and **not significant**.

Effects arising from the operational phases are therefore assessed as **negligible** and **not significant**.

Overall, effects during the operational phase are considered **negligible** and **not significant**

Peregrine

Peregrine is an Annex I species of high conservation importance. Within the Survey Area, it was recorded on 33 occasions, primarily as single birds in flight. Breeding was confirmed at Kinlough Castle approximately 700 m from the proposed development boundary (and approximately 256 m from the outer edge of the 500 m turbine buffer), indicating that the site lies within the wider territory of a breeding pair. Activity within the proposed wind farm site was limited and dispersed, with no evidence of regular use or core foraging behaviour.

CRM indicates low levels of activity within the CRZ (33 observations; 4,158 seconds), although a relatively high proportion of flights occurred at rotor height (83%). However, overall activity levels remain relatively low.

Potential Construction Effects

Given the proximity of a breeding site (c.700 m from the proposed development boundary), there is potential for disturbance during construction. Peregrine is sensitive to disturbance at nesting locations, particularly during the breeding season.

Construction disturbance effects on the breeding peregrine territory are therefore considered to be of **medium magnitude** and **significant** in the absence of mitigation due to the proximity of the confirmed nesting location and the sensitivity of peregrine to disturbance during the breeding season.

Peregrine activity within the proposed wind farm site was limited and dispersed, with no evidence that the site forms a core foraging area for the breeding pair. Any temporary avoidance of the area during construction would not affect territory viability. Construction displacement effects are therefore considered **negligible** and **not significant**.

Habitat loss associated with the proposed development does not affect the nesting location at Kinlough Castle and would result in only a minor reduction in the availability of foraging habitat within the wider territory, where extensive suitable habitat remains available. Habitat loss effects are therefore considered **negligible** and **not significant**.

Indirect construction effects on habitat availability or suitability are not predicted.

Away from the nest, construction disturbance would affect only occasional foraging individuals and would be temporary and reversible. Habitat loss does not affect any key foraging areas. Following implementation of the embedded mitigation measures described above, residual construction effects on peregrine are considered to be **negligible** and **not significant**.

Overall, effects during the construction phase are considered to be of **medium magnitude** and **significant**

Potential Operational Effects

Although the proposed wind farm site lies within the wider territory of a breeding pair, no evidence was obtained that it forms part of a core foraging area and the routine presence of turbines and maintenance activities is not predicted to affect breeding success or territory viability. Operational disturbance effects are therefore considered **negligible** and **not significant**.

Any displacement in proximity to turbines would be limited and would not affect territory viability. Operational displacement effects are considered **negligible** and **not significant**.

Indirect operational effects on habitat availability or suitability are not predicted.

Collision risk has been assessed through CRM. Predicted collision mortality is extremely low and, following the application of avoidance rates, reduces to negligible levels. Collision effects are therefore considered **negligible** and **not significant**.

Although the proposed wind farm site lies within the wider territory of the breeding pair, survey data indicate that use of the site was limited and dispersed. VP surveys recorded only 33 observations and 4,158 seconds of flight activity within the collision risk zone over the three-year survey period, with no evidence of concentrated foraging activity, regular hunting behaviour, repeated use of particular areas, or directional movements between the nesting location and feeding areas. This indicates that the proposed wind farm site does not form part of a core foraging area or regularly used movement corridor for the breeding pair and barrier effects are therefore **negligible** and **not significant**.

Effects on peregrine during the operational phase are therefore assessed as **negligible** and **not significant**.

Snipe

Snipe is a BoCCI4 Red-listed species of conservation concern in Ireland. Within the Survey Area, it was recorded regularly at low density and was widely distributed across suitable wet habitats within the proposed wind farm site and wider landscape. While some observations during the breeding season indicate potential for breeding within the site, no confirmed breeding activity was recorded, and any breeding is likely to occur at very low density.

CRM identified 1,557 seconds of flight activity within the CRZ, with approximately 67% of recorded flights occurring at rotor height. Overall exposure remains limited.

Potential Construction Effects

Given the presence of suitable habitat within the proposed wind farm site, there is potential for snipe to breed at low density within the proposed development. However, baseline data indicate no confirmed breeding and only limited evidence suggestive of possible breeding. Any breeding activity is therefore likely to be sporadic and restricted to a small number of individuals.

Disturbance arising from construction traffic, vehicle movements, earthworks, blasting, rock breaking, crushing, noise, vibration, dust generation and dewatering activities may result in temporary avoidance of suitable habitat within the proposed wind farm site. However, the species was recorded at low density and extensive suitable habitat remains available throughout the surrounding landscape. Construction disturbance effects are therefore considered to be of **low magnitude** and **not significant**.

Any displacement would be localised, temporary and reversible and would affect only a small proportion of the habitat available to the local population. Construction displacement effects are considered to be of **low magnitude** and **not significant**.

Habitat loss effects are considered to be of **low magnitude** and **not significant**. Habitat loss associated with the proposed development will result in the loss of some potentially suitable breeding and foraging habitat; however, this represents a very small proportion of the suitable habitat available within the wider area and is not considered functionally significant.

Indirect construction effects on habitat availability or suitability are not predicted. Potential effects on hydrology, wetlands and supporting habitats are assessed separately within Chapter 9, which concludes that no significant effects are predicted following mitigation. Consequently, no indirect effects on snipe habitat availability or suitability are predicted.

Overall, construction phase effects are considered to be **low magnitude** and **not significant**.

Potential Operational Effects

During the operational phase, potential effects include disturbance, displacement, collision risk and barrier effects.

Snipe occurs within the proposed wind farm site at low density and without evidence of regular use of particular locations or functionally important habitat. The routine presence of turbines and maintenance activities is therefore not predicted to affect the local population. Operational disturbance effects are therefore considered to be of **low magnitude** and **not significant**.

Any displacement in proximity to turbines would affect only a small proportion of available habitat and would not result in a meaningful reduction in habitat availability for the species. Operational displacement effects are therefore considered to be of **low magnitude** and **not significant**.

Indirect operational effects on habitat availability or suitability are not predicted. Potential effects on hydrology, wetlands and supporting habitats are assessed separately within Chapter 9, which concludes that no significant effects are predicted following mitigation.

Collision risk has been assessed through CRM, which predicts very low levels of activity and extremely low mortality following avoidance, equating to substantially less than one collision over the operational lifetime of the proposed project. Collision risk is therefore **negligible** and **not significant**.

No evidence was identified to indicate that the proposed development lies within a regular movement corridor between key habitats. Barrier effects are therefore considered **negligible** and **not significant**.

Overall, operational effects on snipe are therefore of **low magnitude** and **not significant**.

Teal

Teal is a BoCCI4 Amber-listed species in Ireland associated with shallow wetlands, flooded grassland and turloughs, occurring primarily as a wintering species. Within the Survey Area, it was recorded infrequently and was confined to off-site aquatic habitats. There were no records within the proposed wind farm site, and there was no evidence of terrestrial habitat use.

Teal were recorded infrequently during VP surveys, with only limited flight activity recorded within the turbine buffer.. The species did not meet the threshold required for CRM, indicating negligible interaction with the turbine envelope.

Potential Construction Effects

Teal does not utilise habitats within the proposed wind farm site. All records were associated with off-site wetlands and turlough systems, with no records from within the proposed wind farm site itself and no evidence of terrestrial habitat use. The habitats used by teal are therefore spatially separated from the proposed development footprint and will not be directly affected by construction activities.

Indirect effects on wetlands, turlough systems and supporting habitats are assessed separately within Chapter 9. Those assessments conclude that no significant effects are predicted following mitigation and therefore no indirect effects on teal habitat availability or suitability are predicted.

Overall, effects during construction are **negligible** and **not significant**.

Potential Operational Effects

Operational disturbance effects are not considered relevant, as teal was recorded only infrequently and there was no evidence of regular use of habitats within the proposed wind farm site. Operational displacement effects are not considered relevant, as no evidence of habitat use within the proposed wind farm site was identified.

Indirect operational effects on habitat availability or suitability are not predicted. Potential effects on wetlands, turlough systems, hydrology and supporting habitats are assessed separately within Chapter 9, which concludes that no significant effects are predicted following mitigation.

Flight activity was recorded during VP surveys, but was infrequent and limited in extent. The species did not meet the threshold adopted for CRM assessment and collision risk; therefore, collision risk is considered **negligible** and **not significant**.

No evidence of movement across the site was identified, and barrier effects are therefore **negligible** and **not significant**.

Overall, operational effects on teal are considered **negligible** and **not significant**.

Wigeon

Wigeon is a BoCCI4 Amber-listed species in Ireland associated with wetlands, flooded grassland and adjacent farmland, occurring primarily as a wintering species. Within the Survey Area, it was recorded infrequently and was confined to off-site wetland habitats and adjacent farmland. No individuals were recorded within the proposed wind farm site, and there was no evidence of repeated use of any fields within the Survey Areas.

No wigeon were recorded during VP surveys, and no flight activity was recorded within the turbine buffer. The species did not meet the threshold for CRM, indicating negligible interaction with the turbine envelope.

Potential Construction Effects

Wigeon does not utilise habitats within the proposed wind farm site. All records are associated with off-site wetlands, flooded grassland and adjacent farmland, with no records from within the proposed wind farm site itself. The habitats used by wigeon are therefore spatially separated

from the proposed development footprint and will not be directly affected by construction activities.

Indirect effects on wetlands, turlough systems and supporting habitats are assessed separately within Chapter 9 of the EIAR. Those assessments conclude that no significant effects are predicted following mitigation and therefore no indirect effects on wigeon habitat availability or suitability are predicted.

Habitat loss does not affect any suitable habitat. Effects during construction are **negligible** and **not significant**.

Overall, effects on Wigeon during construction are **negligible** and **not significant**.

Potential Operational Effects

Operational disturbance effects are not considered relevant, as no evidence of habitat use within the proposed wind farm site was identified.

Operational displacement effects are not considered relevant, as wigeon was not recorded using habitats within the proposed wind farm site.

Indirect operational effects on habitat availability or suitability are not predicted. Potential effects on wetlands, turlough systems, hydrology and supporting habitats are assessed separately within Chapter 9 of the EIAR, which concludes that no significant effects are predicted following mitigation.

No flight activity was recorded during VP surveys, indicating negligible exposure to collision risk. Collision risk is therefore considered **negligible** and **not significant**.

No evidence of movement across the proposed wind farm site was identified, and barrier effects are therefore considered **negligible** and **not significant**.

Overall, operational effects on wigeon are considered **negligible** and **not significant**.

Woodcock

Woodcock is a BoCCI4 Amber-listed species in Ireland. It occurs as both a breeding species and wintering species and is typically associated with woodland, scrub and adjacent habitats. Within the Survey Area, it was recorded infrequently at low density, with no evidence of regular or concentrated use of the proposed wind farm site and no confirmed breeding.

Woodcock activity recorded during VP surveys was very limited, and no meaningful flight activity was recorded within the CRZ. Flight activity did not meet the threshold for CRM, indicating minimal exposure to the turbine envelope.

Potential Construction Effects

Woodcock occurred infrequently within the proposed wind farm site at low density (one occurrence in February 2023 of one individual), particularly in association with woodland edges or scrub habitats. No confirmed breeding activity was recorded during surveys.

Construction disturbance effects are considered to be of **low magnitude** and **not significant**. Disturbance arising from construction traffic, vehicle movements, earthworks, blasting, rock breaking, crushing, noise, vibration, dust generation and dewatering activities may result in

temporary avoidance of suitable habitat; however, the species was recorded infrequently and at low density.

Construction displacement effects are considered to be of **low magnitude** and **not significant**. Suitable habitat is widely available within the surrounding landscape and any displaced individuals would be able to utilise adjacent habitats.

Habitat loss effects are considered to be of **low magnitude** and **not significant**. Habitat loss associated with the proposed development would affect only a small proportion of potentially suitable habitat and is not considered functionally significant.

Indirect construction effects on habitat availability or suitability are not predicted.

Overall, construction effects on woodcock are considered to be of **low magnitude** and **not significant**.

Potential Operational Effects

During the operational phase, potential effects include disturbance, displacement, collision risk and barrier effects.

Operational disturbance effects are considered to be of **low magnitude** and **not significant**. Woodcock was recorded infrequently and at low density and did not exhibit regular or concentrated use of the proposed wind farm site.

Operational displacement effects are considered to be of **low magnitude** and **not significant**. Any displacement in proximity to turbines would affect only a small proportion of available habitat and would not materially alter habitat availability for the local population.

Indirect operational effects on habitat availability or suitability are not predicted.

No flight activity was recorded within the CRZ, indicating minimal exposure to turbine blades. Collision risk is therefore considered **negligible** and **not significant**.

No evidence of regular movement across the proposed wind farm site was identified, and barrier effects are therefore **negligible** and **not significant**.

Overall, operational effects on woodcock are considered to be of **low magnitude** and **not significant**.

Designated Sites of International Importance

Two SPAs are located within the wider Survey Area and have been assessed below in relation to potential connectivity with the proposed development and its qualifying species.

Lough Corrib

Lough Corrib SPA is designated under the Birds Directive as it is of special conservation interest for a range of wintering waterbirds and breeding species. The qualifying interests include gadwall, shoveler, pochard, tufted duck, common scoter, hen harrier, coot, golden plover, black-headed gull, common gull, common tern, Arctic tern, Greenland white-fronted goose and a wetland and waterbird assemblage.

The SPA is located approximately 3.79 km west of the proposed wind farm site.

Baseline Context

Baseline surveys recorded a number of qualifying interest species within the wider Survey Area, including golden plover, black-headed gull, common gull, shoveler, pochard, hen harrier and Greenland white-fronted goose. However, these species were generally recorded at low frequency and were associated with habitats outside the proposed wind farm site.

Waterfowl species such as shoveler, pochard and other duck species were recorded exclusively in association with off-site waterbodies. There were no records of these species within the proposed wind farm site.

Golden plover, black-headed gull and common gull were recorded within the wider landscape; however, activity within the proposed wind farm site was limited, dispersed and not associated with breeding, roosting or consistent foraging.

Hen harrier and Greenland white-fronted goose were recorded infrequently and did not exhibit any regular use of the proposed wind farm site. No breeding, roosting or core foraging activity was identified within the site.

No records of common tern or Arctic tern were obtained during baseline surveys.

Overall, baseline data indicate that the proposed wind farm site does not overlap with any core habitat used by qualifying species of Lough Corrib SPA, and is used only incidentally.

Potential Construction Effects

All construction activities will occur outside the boundaries of Lough Corrib SPA; therefore, no direct habitat loss or disturbance within the SPA will occur.

A precautionary hydrological linkage exists via the wider Corrib catchment. However, given the separation distance, the limited scale and duration of construction activities, and the mobility of qualifying species, there is no realistic pathway by which any changes in water quality within the proposed development could influence SPA waterbird populations. Any potential effects would be localised, temporary and imperceptible at the scale of the SPA.

Given the absence of breeding, roosting or regular foraging activity within the proposed wind farm site, disturbance and displacement effects associated with construction activities, including traffic movements, excavation, blasting, rock breaking, crushing and associated quarrying activities, are considered negligible and not significant.

Effects on Lough Corrib SPA during construction are therefore **negligible** and **not significant**.

Potential Operational Effects

Baseline data demonstrate limited interaction between qualifying species of Lough Corrib SPA and the proposed wind farm site.

Coot was recorded only infrequently and in association with off-site wetland habitats. No records were obtained within the proposed wind farm site and there is no evidence of any functional linkage between the proposed development and coot populations associated with Lough Corrib SPA.

Other waterfowl species such as shoveler, pochard and gadwall were not recorded within the proposed wind farm site or during VP surveys, indicating negligible exposure to turbine interactions.

Golden plover and Greenland white-fronted goose were recorded infrequently, and flight activity did not meet the threshold required for CRM, indicating minimal exposure to turbine blades.

Black-headed gull and common gull were recorded more frequently; however, activity within the proposed wind farm site was dispersed and not associated with core habitats. CRM predicts extremely low mortality, which is considered **negligible** and **not significant** and would represent an imperceptible proportion of the SPA populations.

Hen harrier was recorded on seven occasions only, all involving single birds during the non-breeding season. Flight activity within the Collision Risk Zone did not meet the threshold for inclusion within the CRM assessment (Appendix 7-2). Together with the absence of evidence for regular foraging, roosting or breeding activity within the proposed wind farm site, this indicates negligible exposure to collision risk.

No consistent flight lines or commuting routes were identified across the proposed wind farm site, and it does not lie within a key movement corridor between important habitats.

There is no pathway for effects on water quality during operation.

Overall, disturbance, displacement, collision and barrier effects are considered **negligible** and **not significant**.

Nationally Important Sites (NHAs / pNHAs and relevant SACs)

A number of nationally designated sites were identified at the IOF screening stage as having potential relevance to the proposed development. These sites are associated with wetland habitats and waterbird assemblages within the wider landscape.

With the exception of Rostaff Turlough pNHA, for which a localised ecological linkage has been identified, connectivity between the proposed development and these sites is limited and, in most cases, indirect. The assessment below considers the potential pathways through which the proposed development could affect these sites and evaluates the likelihood and significance of any resulting effects.

Rostaff Turlough pNHA

Rostaff Turlough pNHA is designated for its wetland habitat and associated bird assemblage and is located approximately 1.2 km from the proposed development. The pNHA occurs downstream of the proposed development and a potential hydrological linkage exists via the Black River.

Baseline surveys confirmed that Rostaff Turlough supports important wintering waterbird populations, including Greenland white-fronted goose and whooper swan, with surrounding agricultural land used for foraging. While Greenland white-fronted goose, whooper swan and other waterbirds were recorded within the wider study area, survey data demonstrated limited use of the proposed wind farm site itself. No regularly used feeding fields, roost sites or

functionally important habitats associated with Rostaff Turlough were identified within the proposed wind farm site.

Potential Construction Effects

All construction activities will occur outside Rostaff Turlough pNHA, located approximately 1.2 km southeast of the proposed development (measured from the proposed wind farm boundary to the mapped pNHA boundary). No direct habitat loss or land-take will occur within Rostaff Turlough pNHA.

A hydrological source–pathway–receptor linkage exists between the proposed development and Rostaff Turlough pNHA via the Black River. Potential effects associated with hydrology, groundwater, water quality and water levels, including temporary dewatering activities associated with construction, have been assessed within Chapter 9.

The Hydrology, Hydrogeology and Aquatic Ecology assessments conclude that no significant effects on the wetland habitats or ecological functioning of Rostaff Turlough are predicted following mitigation. Consequently, no significant effects on the waterbird assemblage associated with the site, including Greenland white-fronted goose, whooper swan and other wintering waterbirds, are predicted.

Baseline surveys did not identify any regularly used feeding fields, roost sites or other functionally important supporting habitats associated with Rostaff Turlough within the proposed wind farm site. Consequently, direct disturbance and displacement effects arising from construction activities are considered **negligible** and **not significant**.

Overall, construction effects on Rostaff Turlough pNHA and its associated waterbird assemblage are considered **negligible** and **not significant**.

Potential Operational Effects

The proposed development will not result in the direct loss or alteration of habitats within Rostaff Turlough pNHA, and no reliance on the proposed wind farm site by the waterbird assemblage associated with Rostaff Turlough was identified during baseline surveys. No regularly used feeding fields, roost sites or functionally important supporting habitat associated with the pNHA occur within the proposed wind farm site.

Wintering waterbird surveys, vantage point surveys and baseline field observations identified limited use of the proposed wind farm site by Greenland white-fronted goose, whooper swan and other species associated with Rostaff Turlough. Survey data did not identify any regular movement corridor between Rostaff Turlough and feeding areas passing through the proposed wind farm site. Flight activity within the turbine envelope was limited and dispersed, and no consistent directional movements were recorded.

Consequently, operational disturbance and displacement effects on the Rostaff Turlough waterbird assemblage are considered negligible and not significant. Similarly, collision risk and barrier effects are considered negligible and not significant.

The Hydrology, Hydrogeology and Aquatic Ecology assessments conclude that no significant effects on the hydrological regime, wetland habitats or ecological functioning of Rostaff Turlough are predicted during operation of the proposed development. As a result, no

consequential effects on the waterbird assemblage associated with Rostaff Turlough, including Greenland white-fronted goose, whooper swan and other wintering waterbirds, are predicted.

Overall, operational effects on Rostaff Turlough pNHA and its associated waterbird assemblage are considered **negligible** and **not significant**.

Other Nationally Designated Sites

The following nationally designated sites are located within the wider study area:

- Shrule Turlough SAC and pNHA;
- Mocorha Lough SAC;
- Lough Hacket pNHA;
- Clyard Kettle Holes SAC;
- Turlough Monaghan pNHA;
- Turlough O'Gall pNHA;
- Greaghans Turlough SAC;
- Kilglassan/Caheravoostia Turlough Complex SAC;
- Carrowkeel Turlough SAC; and
- The Lough Carra / Mask Complex SAC.

Baseline surveys did not identify any regularly used feeding areas, roost sites, breeding locations or other functionally important supporting habitats associated with these designated sites within the proposed wind farm site. Similarly, VP surveys did not identify regular movement corridors linking the proposed wind farm site with these designated sites.

Hydrological connectivity between the proposed development and nationally designated wetland sites has been assessed within Chapter 9 of the EIAR. Rostaff Turlough pNHA and Lough Corrib SAC are hydrologically connected to the proposed development via the Black River catchment, while no direct hydrological connection has been identified to Shrule Turlough SAC/pNHA. Although a hydraulic connection to Shrule Turlough cannot be entirely ruled out due to the karstified limestone aquifer, Chapter 9 concludes that no significant effects on groundwater quality, groundwater levels, wetland habitats or ecological functioning are predicted following mitigation. Consequently, no significant effects on the habitats supporting waterbirds at these designated sites are predicted, and no consequential effects on the bird assemblages associated with these sites are expected.

In addition, baseline ornithological surveys did not identify any functionally important use of the proposed wind farm site by species associated with these designated sites, and no regular movement corridors between the proposed wind farm site and these sites were recorded. Disturbance, displacement, collision risk and barrier effects are therefore considered **negligible** and **not significant**.

Overall, effects on these nationally designated sites and their associated bird assemblages are considered **negligible** and **not significant**.

Overview of Ornithological Effects

Ornithological surveys undertaken over a three-year period indicate that the proposed wind farm site supports a typical assemblage of species associated with agricultural landscapes within

a wider wetland-dominated region. Use of the site is characterised by low-density foraging, commuting and transient movement, with no evidence of the site supporting core breeding, roosting or wintering habitat for species of conservation concern.

Higher levels of activity are associated with nearby lakes, turloughs and wetlands, and the proposed wind farm site functions as part of the wider landscape rather than a key resource.

Flight activity within the turbine envelope was low and dispersed, and no regularly used flight corridors were identified. CRM indicates that predicted mortality rates were extremely low and are considered **negligible** and **not significant**.

These findings support the assessment presented in Sections 0 to 0, and indicate that the proposed development is predicted to result in negligible and not significant effects on ornithological receptors, with the exception of peregrine, for a medium magnitude and significant effect is determined for construction phase without species-specific mitigation. The principal waterbird concentrations identified during baseline surveys were associated with nearby lakes, turloughs and wetlands rather than the proposed wind farm site, and survey data indicate low levels of flight activity within the turbine envelope. Potential effects on European sites are considered separately within the Natura Impact Statement.

Decommissioning Phase

Decommissioning effects have been considered for all ornithological receptors assessed in Sections 0to 0 and are presented collectively below due to the similarity of the impact pathways across receptors.

Decommissioning of the proposed development would involve the removal of turbines and associated infrastructure, including dismantling works and localised ground disturbance.

Potential effects on ornithological receptors during this phase would be similar in nature to those identified during construction, comprising temporary disturbance and displacement of birds in the immediate area of works.

Given the absence of core breeding, roosting or wintering habitat within the proposed wind farm site, and its limited and transient use by bird species, any disturbance effects would be localised, short-term and reversible. Birds displaced during decommissioning activities would utilise alternative habitats within the surrounding landscape, where extensive suitable habitat is available.

There is no pathway for long-term effects on designated sites, and the removal of turbine structures eliminates any potential for collision risk.

Following decommissioning, site reinstatement would restore habitats to baseline conditions, and no residual effects are anticipated.

Effects during decommissioning are therefore considered **negligible** and **not significant**.

7.7 MITIGATION

This section outlines good practice measures incorporated into the design, construction and operation of the proposed development to ensure that potential effects on ornithological features remain negligible and not significant. These measures are consistent with the mitigation hierarchy and include embedded mitigation through design and construction management, supplemented where appropriate by monitoring and adaptive management.

The measures outlined below are informed by the assessment presented in Section 7.6 and by commitments already described in Chapter 2 and Chapter 6 of the EIAR, including the Construction Environmental Management Plan (CEMP) and Surface Water Management Plan (SWMP).

7.7.1 MITIGATION MEASURES – CONSTRUCTION PHASE

Construction activities have the potential to result in temporary disturbance, displacement, habitat loss and indirect effects via water quality pathways. The following measures will be implemented to avoid or reduce these effects.

- **Construction management and disturbance control**:
  - Construction activities will be confined to defined working areas, and unnecessary encroachment into adjacent habitats will be avoided;
  - Works will be phased spatially and temporally, reducing the extent of disturbance at any one time;
  - High-intensity activities (e.g., blasting, rock breaking, turbine erection and other major construction activities) will, where practicable, be staggered across the proposed wind farm site to avoid cumulative disturbance;
  - Pre-construction surveys for Peregrine will determine if the nest site is active in the year of construction and mitigation measures will be applied if the nest is determined to be active as follows (unless otherwise agreed with NPWS):

    - A 500m -750m construction phase disturbance buffer for nesting Peregrine will be adhered to where required, in line with current NatureScot (2025) guidance. The exact buffer boundary will be determined by an Ecological Clerk of Works (ECoW) based on site-specific topography, line of sight to the nest and pre-construction survey data.

    - The peregrine nest will be monitored during the breeding season by an appointed ornithologist while construction works are ongoing. Nest site monitoring will commence in late March / April to determine what stage the birds are at and to manage any buffer restrictions to determine when they are no longer required.

    - Fledging success and dispersal will be surveyed to investigate how fledged birds disperse into the wider area in relation to the turbines being constructed.

    - Reporting will be supplied as required to the Mayo County Council and the NPWS.
- **Timing of works**:
  - Vegetation clearance will be undertaken outside the main bird breeding season (March–August), where practicable;
  - Where works are required during the breeding season, pre-construction surveys will be undertaken by a suitably qualified ecologist, and appropriate buffers will be established around any active nests in accordance with legislative requirements.
- **Habitat protection and reinstatement**:

- The extent of temporary habitat loss will be minimised as far as practicable;
- All temporary working areas will be reinstated following completion of works, restoring habitat structure and function;
- Key linear features, and semi-natural habitats identified in Chapter 6, including hedgerows (WL1), treelines (WL2), and areas of scrub and woodland (WS1/WN2), will be retained and protected throughout construction wherever they occur outside the immediate infrastructure footprint;

  These features will be demarcated prior to construction using fencing or equivalent measures to prevent accidental damage, and no works or storage of materials will be permitted within these protected areas;

  Where removal of any such features is unavoidable, the extent of removal will be minimised, and reinstatement will be undertaken post-construction to restore connectivity and habitat function, in line with the habitat reinstatement measures set out in Chapter 6;
- Drainage ditches and minor water features (FW4) will be retained where possible and protected through the implementation of water management measures to maintain their ecological function.

- **Water quality protection**: Detailed water quality and pollution prevention measures that are set out in Chapter 9, within the CEMP (Appendix 2-2) and, within Appendix 2-6 SWMP, will control surface water runoff, prevent sediment and pollutant release, and maintain baseline water quality. These measures ensure that no pathway exists for indirect effects on habitats supporting ornithological receptors.
- **Ecological Clerk of Works (ECoW)**: An ECoW, supported by suitably qualified specialist ornithological expertise where required, will be appointed for the duration of construction. The ECoW will:
  - Oversee implementation of mitigation measures;
  - Undertake, or coordinate appropriately qualified specialists to undertake, pre-construction checks for breeding birds;
  - Monitor compliance with the CEMP and SWMP; and
  - Advise on adaptive mitigation where required.

7.7.2 Mitigation Measures – Operational Phase

Operational phase effects will be limited to potential collision risk, localised displacement and occasional maintenance-related disturbance. Given the low magnitude of predicted effects (refer to Section 7.6), mitigation will focus on maintaining this low level of impact and verifying predictions.

Key operational mitigation measures include:

- **Turbine operation and maintenance**: Turbines will be operated and maintained in accordance with manufacturer specifications and industry best practice to ensure safe and efficient functioning. Maintenance activities will be infrequent, of short duration, and will utilise existing access infrastructure, thereby limiting disturbance. Given the absence of significant ornithological receptors within the proposed wind farm site, no specific seasonal restrictions on maintenance activities are required.
- **Lighting**: Permanent lighting on-site will be limited to that required for aviation safety.
  - Permanent lighting will be limited to that required for aviation safety and operational health and safety purposes;

- Aviation safety lighting will be installed on turbines only as required by statutory guidance;
- No additional permanent lighting will be provided unless required for operational or safety reasons;
- Where operational lighting is required, it will be designed and directed to minimise unnecessary light spill beyond the immediate area requiring illumination.

The limited extent of permanent lighting, together with the absence of important nocturnal ornithological receptors within the proposed wind farm site, means that significant effects associated with operational lighting are not predicted.

- **Habitat management**: Vegetation management within the proposed wind farm site will be undertaken in accordance with the HMP (Appendix 6-6), where applicable.

  Management will include:
  - Maintaining access tracks and infrastructure;
  - Ensuring safe turbine operation;
  - Maintaining existing habitat structure;
  - Retention and enhancement of existing hedgerows and linear landscape features; and
  - habitat enhancement measures designed to improve ecological connectivity and habitat quality within the wider site.

  These measures will help maintain habitat availability for a range of bird species and, where relevant, reduce the attractiveness of areas immediately surrounding turbines to certain foraging species.
- **Water quality protection**: Operation of the proposed development will be undertaken in accordance with the water management measures set out in Chapter 6 and Chapter 9 of the EIAR, including the ongoing maintenance of surface water drainage infrastructure. This will include:
  - Periodic inspection and maintenance of drainage systems; and
  - Management of runoff in line with established design measures.

  These measures will avoid or reduce the potential for deterioration in water quality, thereby avoiding indirect effects on habitats supporting ornithological receptors.

7.7.3 Mitigation Measures – Decommissioning Phase

Decommissioning will aim to restore the proposed wind farm site to a condition comparable to the pre-development baseline, where practicable. As decommissioning will occur more than 35 years after construction, the following measures are indicative and will be reassessed nearer the time:

- **Controlled dismantling:** Turbines, tracks and ancillary structures will be removed in a manner that avoids unnecessary disturbance to adjacent habitats;
- **Seasonal timing considerations:** Where practical, decommissioning will avoid key breeding and wintering periods to reduce potential disturbance to sensitive species;
- **Habitat reinstatement:** Vegetation, hydrological features and microtopography disturbed during construction and operation will be restored, with focus on wetlands, wet grasslands, and turlough-associated habitats;
- **Water quality protection:** Appropriate drainage and pollution prevention measures will be implemented to prevent impacts on surface water quality;

- **Post-decommissioning monitoring:** Follow-up surveys will be undertaken to assess the recovery of bird habitat use and ecological function, with corrective measures implemented where required. A project-specific ornithological reassessment will be carried out prior to decommissioning to account for any changes in baseline conditions, species distributions, and conservation status

Given the long timeframe to decommissioning, a project-specific decommissioning plan will be prepared prior to works, taking account of the ecological conditions prevailing at that time.

7.8 RESIDUAL EFFECTS

Following the implementation of proposed mitigation measures described in Section 7.7, the residual effects of the proposed wind farm on ornithological IOFs, habitats, and species have been reassessed. Residual effects reflect the application of avoidance, reduction and reinstatement measures across all project phases and are considered in the context of baseline ecological conditions described in Section 7.4.

7.8.1 CONSTRUCTION PHASE

Following the implementation of construction-phase mitigation measures, residual effects on ornithological receptors during the construction phase are predicted to be **negligible** to **minor adverse, localised**, **temporary** and **not significant**.

Residual construction-phase effects are limited to short-term behavioural responses, such as temporary avoidance of active work areas by birds, and minor, localised disturbance in the immediate vicinity of works. These effects are reversible and confined to the duration of works, with no lasting alteration to habitats or functional use of the proposed wind farm site by ornithological receptors.

7.8.2 OPERATIONAL PHASE

During operation, residual effects on ornithological receptors are predicted to be negligible and **not significant**.

Residual effects are limited to small-scale disturbance in the vicinity of turbines and negligible collision risk, as demonstrated by the CRM described in Section 7.3.7. Predicted collision rates remain well below thresholds of ecological concern and do not result in population-level effects.

Accordingly, no residual operational-phase effects are predicted for any IOF or designated site.

7.8.3 DECOMMISSIONING PHASE

Residual effects during decommissioning are predicted to be negligible and **not significant** and are comparable in nature to those identified for the construction phase, albeit of shorter duration.

Residual effects are limited to temporary disturbance during dismantling and removal of infrastructure and will cease following completion of works and site reinstatement. No long-term effects on habitats or ornithological receptors are anticipated.

7.8.4 SUMMARY OF RESIDUAL EFFECTS

Across all project phases of the proposed development, residual effects on ornithological receptors are characterised as negligible and **not significant**, localised, and temporary or reversible where applicable.

Residual effects are limited to minor, short-term behavioural responses and do not result in population-level effects or sustained changes in habitat use.

No residual effects are predicted that would alter the conservation status of any Important Ornithological Feature.

7.9 MONITORING

While no potential significant operational effects have been identified, and the assessment predicts negligible and not significant residual effects, operational phase monitoring of the proposed project will be implemented to assess the efficacy of mitigation measures, detect any unforeseen impacts, and inform adaptive management strategies, alongside the mitigation measures relating to peregrine during construction. The purpose of the monitoring is to verify the assessment conclusions.

The monitoring programme has been designed in accordance with current best practice guidance and is proportionate to the level of impact identified within this assessment. Operational monitoring will be undertaken in Years 1, 2, 3 and 5 following commissioning of the Proposed Development and will focus on those receptors and impact pathways for which post-construction verification is considered appropriate.

The monitoring programme provides an evidence-based framework for reviewing post-construction ornithological effects and confirming the effectiveness of the mitigation and design measures incorporated into the Proposed Development.

7.9.1 VANTAGE POINT SURVEYS

Vantage point (VP) surveys will be undertaken during operational Years 1, 2, 3 and 5 to verify the assessment conclusions relating to collision risk, displacement and barrier effects. Surveys will target those species and receptor groups identified within this assessment as being most relevant to the Proposed Development, including raptors, swans, geese, waterfowl and waders.

Surveys will be undertaken from the same VP locations used during the baseline assessment, thereby enabling direct comparison between pre- and post-construction flight activity. Survey effort will be agreed with NPWS prior to commencement of monitoring and will be informed by the principles set out in NatureScot (2025) guidance.

Observations will focus on flight frequency, flight height, flight direction, behaviour in the vicinity of turbines, and evidence of avoidance, displacement or barrier effects. Monitoring results will be reviewed in conjunction with the findings of the winter walkover, nocturnal survey and fatality monitoring programmes to assess whether post-construction bird activity is consistent with the predictions of this assessment.

7.9.2 WINTERING WALKOVER SURVEYS

Winter walkover surveys will be undertaken within a 500m buffer of the proposed wind farm in accordance with NatureScot (2025) guidance. Surveys will be undertaken during the non-breeding season (October to March inclusive) and will focus on the distribution and abundance of wintering waterbirds and other species of conservation interest within the vicinity of the Proposed Development.

Survey methods will follow the ‘look-see’ approach described by Bibby et al. (2000) and will record all birds observed within the survey area. The surveys will provide information on the continued use of habitats surrounding the Proposed Development and will assist in identifying any evidence of displacement or changes in habitat use following construction.

7.9.3 Fatality Monitoring

Post-construction fatality monitoring will be undertaken during operational Years 1, 2, 3 and 5. The purpose of this monitoring will be to verify the collision-risk assessment, identify any unforeseen mortality and determine whether adaptive management measures are required.

Carcass searches will be undertaken by suitably qualified surveyors and may utilise trained detection dogs where appropriate. Monitoring will include:

- systematic searches around each turbine using a standardised methodology;
- site-specific searcher-efficiency and carcass-persistence trials;
- consideration of factors influencing detectability, including vegetation cover, scavenger removal and accessibility;
- photographic and written records of all bird remains encountered; and
- calculation of corrected fatality rates using appropriate adjustment factors.

Results will be assessed against the CRM outcomes and used to inform any adaptive management measures where necessary.

7.9.4 Nocturnal Monitoring Surveys

Taking cognisance of the consultation undertaken with statutory consultees as outlined in Chapter 1, Section 1.10.3, in line with best practice and the precautionary principle and given the importance of wintering geese within the wider area, nocturnal surveys will be undertaken during operational Years 1, 2, 3 and 5 to verify the assessment conclusions relating to nocturnal movements.

Surveys will be undertaken during the non-breeding season (October to March inclusive) using a methodology agreed with NPWS prior to commencement. Survey timing will be designed to sample periods shortly after dusk, and before dawn, thereby capturing the principal periods of nocturnal goose activity.

The surveys will be used to identify if any unanticipated nocturnal flight activity associated with the Proposed Development occur, and to determine whether adaptive management measures are required.

7.9.5 Reporting

Monitoring results will be compiled into a report following completion of each monitoring period (e.g., annually during the first three years and in following monitoring years) and will be submitted to Mayo County Council and NPWS. Reports will summarise survey effort, methods, results and any recommendations arising from the monitoring programme.

Monitoring results will be reviewed in consultation with NPWS and Mayo County Council to evaluate the accuracy of the assessment predictions and identify any unforeseen ornithological effects. Where monitoring identifies effects materially different from those predicted by this assessment, appropriate adaptive management measures will be developed and implemented in consultation with the relevant authorities.

Following completion of the Year 5 monitoring programme, the overall results will be reviewed and the need for any further ornithological monitoring will be considered in consultation with NPWS and Mayo County Council. In the absence of unforeseen or significant effects, the monitoring programme will be considered complete.

The Applicant welcomes a condition, set by the Consenting Authority, covering the agreement and implementation of a Bird Monitoring Plan which encompasses the surveys as outlined.

Table 7-16: Summary of residual effects on designated sites and key ornithological species

Receptor	Project Phase	Potential effects	Significance of effects	Proposed mitigation	Significance of residual effect
Lough Corrib SPA	All phases	No pathway for significant effects other than indirect hydrological linkage.	Negligible	Construction water quality protection and runoff control measures as set out in Chapter 6 (Biodiversity); avoidance of direct works within SPA.	Negligible and Not Significant
Nationally important sites (turloughs, lakes)	All phases	Localised, short-term disturbance due to construction activity.	Negligible	Construction phasing, habitat protection and reinstatement.	Negligible and Not Significant
Waterbirds (geese, swans and ducks)	Construction & Decommissioning	Temporary localised disturbance and displacement.	Negligible to Low Magnitude	Disturbance management, phasing of works, habitat reinstatement.	Negligible to Low Magnitude and Not Significant
	Operation	Very limited disturbance; negligible collision risk.	Negligible	Embedded mitigation by design, resulting in low turbine interaction.	Negligible and Not Significant
Waders (e.g., curlew, lapwing, golden plover, snipe)	Construction & Decommissioning	Temporary disturbance within footprint.	Negligible to Low Magnitude	Timing controls, defined work areas, reinstatement.	Negligible to Low Magnitude and Not Significant
	Operation	Very limited displacement; negligible collision risk.	Negligible	No specific mitigation required (embedded design ensures low interaction).	Negligible and not significant
Gulls (black-headed, common, lesser and great black-backed)	All phases	Minimal disturbance; negligible collision risk.	Negligible	No specific mitigation required.	Negligible and Not Significant

Receptor	Project Phase	Potential effects	Significance of effects	Proposed mitigation	Significance of residual effect
Raptors (buzzard, kestrel, peregrine, hen harrier, sparrowhawk)	Construction & Decommissioning	Temporary disturbance near works areas.	Negligible to Moderate	Construction phasing; pre-construction breeding raptor checks; implementation of species-appropriate exclusion/disturbance buffers around any active nests; restrictions on blasting and other high-disturbance activities where required following ECoW advice.	Negligible to Low Magnitude and Not Significant
	Operation	Minor avoidance; low collision risk.	Negligible	Embedded mitigation by design and low rotor-swept activity.	Negligible and Not Significant
Other species (incl., swift)	All phases	Swift is a BoCCI4 Red-listed species in Ireland. A breeding colony is known from Kinlough Castle adjacent to the wider study area, and limited foraging activity was recorded during VP surveys. A total of 214 seconds of flight activity was recorded during Year 1 breeding-season VP surveys, substantially below the 1,000-second threshold applied for inclusion in the CRM assessment. No evidence was identified that the proposed wind farm site supports a functionally important proportion of the local population, and recorded activity was limited	Negligible	No mitigation required.	Negligible and Not Significant

Receptor	Project Phase	Potential effects	Significance of effects	Proposed mitigation	Significance of residual effect
		to occasional foraging flights within the wider landscape.			

7.10 HABITAT ENHANCEMENT

Habitat enhancement measures are set out in Appendix 6-6 (Habitat Management Plan). While these measures are not relied upon to avoid or reduce ornithological effects identified within this assessment, a number are expected to provide indirect benefits for avian receptors through the enhancement and long-term management of habitats within the wider site.

Measures include grassland and woodland restoration, hedgerow and treeline enhancement, and ditch creation. The primary purpose of these measures is biodiversity enhancement and habitat improvement and they are additional to the mitigation measures described in Section 7.7.

7.11 CUMULATIVE EFFECTS

Cumulative effects may arise where the effects of the proposed project act in combination with those of other existing, permitted, or proposed developments, which may result in effects greater than those arising from the proposed project alone. This section assesses the potential for cumulative effects on IOFs arising from the proposed project in combination with other projects.

The cumulative assessment has been undertaken in accordance with the EPA Guidelines (2022), the CIEEM Guidelines (2024), and relevant best-practice guidance for the assessment of cumulative effects associated with onshore wind energy developments.

Projects considered in the cumulative assessment are listed in Table 7-17 and Table 7-18 and include developments that:

- Are located within approximately 20 km of the proposed wind farm site and/or within the same hydrological catchment; and
- Have the potential to give rise to similar impact pathways affecting ornithological receptors, including disturbance, displacement, collision risk, habitat loss, and water quality effect.

The 20 km search area was selected with reference to published guidance (Mitchell, 2012), species ecology and known movement distances of key ornithological receptors, including waterbirds and geese, and is considered sufficient to identify developments with potential ornithological connectivity to the proposed development.

The cumulative assessment considers the following potential impact pathways:

- Disturbance and displacement of birds;
- Habitat loss and fragmentation;
- Collision risk; and
- Indirect effects via water quality and hydrological connectivity.

Cumulative effects have been assessed for the construction, operational, and decommissioning phases of the proposed project, with professional judgement applied to determine whether spatial and temporal overlap between developments could give rise to meaningful interaction effects.

Wind Farms

A number of operational, permitted, and proposed wind energy developments are located within the wider 20 km study area, as shown in Table 7-18.

Disturbance and Displacement

Disturbance effects associated with wind farm construction and operation are spatially limited. Given the separation distances between developments, as shown in Table 7-18, the absence of overlapping disturbance zones, and the availability of extensive alternative habitat, cumulative disturbance and displacement effects on IOFs are considered **negligible** and **not significant**. Any disturbance would be localised and temporary and would not act in combination to give rise to significant cumulative effects.

Habitat Loss and Fragmentation

Habitat loss associated with individual developments is localised and site-specific. No cumulative habitat loss affecting functionally important habitats used by IOFs has been identified. Accordingly, cumulative habitat loss and fragmentation effects are considered **negligible** and **not significant**.

Indirect Effects

Potential cumulative indirect effects arising from hydrological change, water quality impacts and supporting habitat modification have been considered. The relevant hydrology assessments conclude that no significant effects on wetland habitats, hydrological functioning or water quality are predicted following mitigation. Consequently, no cumulative effects on the habitats supporting ornithological receptors are predicted and cumulative indirect effects on ornithological receptors are considered **negligible** and **not significant**.

Collision Risk

CRM undertaken for the proposed development predicted extremely low collision mortality for all modelled species, with predicted collision rates substantially below one individual over the operational lifetime of the wind farm. A cumulative collision risk assessment was undertaken in accordance with NatureScot (2018c) guidance using available CRM outputs for relevant wind energy developments within the cumulative study area.

The nearest wind farm development is Shancloon Wind Farm, located approximately 6.4 km northeast of the proposed development. Shancloon CRM predicted negligible collision mortality for black-headed gull and common gull, neither species generating sufficient flight activity to warrant CRM assessment. Predicted collision mortality for lesser black-backed gull and kestrel was low, with lifetime collision estimates of approximately 4.43 and 29.61 individuals respectively. The Shancloon assessment concluded that these collision rates would not result in significant population-level effects.

A comparison of CRM outputs for both developments indicates that cumulative collision mortality remains extremely low for all species considered, including common gull, black-headed gull, lesser black-backed gull and kestrel. The predicted contribution of the proposed development to cumulative collision mortality is negligible in all cases. Furthermore, survey results indicate low levels of flight activity within the proposed development site and no evidence of regular commuting movements or shared flight corridors linking the proposed development with Shancloon Wind Farm. Consequently, cumulative collision mortality is not predicted to result in population-level effects for any modelled species or SPA qualifying species, including common gull and black-headed gull, and cumulative collision effects are therefore assessed as **not significant**.

Table 7-17: Comparison of CRM-derived collision mortality estimates for Rooaunalaghta and Shancloon wind farms

Species	Rooaunalaghta (lifetime collisions)	Shancloon (lifetime collisions)	Combined lifetime collisions	Assessment
Black-headed gull	0.004	Negligible / not modelled	Negligible	Not significant
Common gull	0.007	Negligible / not modelled	Negligible	Not significant
Lesser black-backed gull	0.003	4.43	4.43	Not significant
Kestrel	0.007	29.61	29.62	Not significant

The cumulative assessment demonstrates that predicted collision mortality associated with the proposed development is negligible when compared with the nearest wind farm proposal considered in the cumulative assessment (Shancloon Wind Farm). For common gull and black-headed gull, cumulative mortality remains negligible. For lesser black-backed gull and kestrel, cumulative mortality remains at levels that are not predicted to result in population-level effects. In addition, survey results indicate low baseline flight activity and no evidence of regular flight corridors linking the developments. Accordingly, cumulative collision effects are assessed as not significant.

CRM outputs were only publicly available for Shancloon Wind Farm. Given the substantially greater separation distances (>16 km) to all other wind farm developments, the absence of identified flight corridors linking these developments with the proposed development, and the negligible collision mortality predicted for the proposed development itself, inclusion of additional developments would not materially alter the conclusions of the cumulative collision assessment.

Table 7-18: Wind farms considered for cumulative impact assessment within 20 km of the proposed wind farm site

Wind Farm Name (Planning reference)	No. of Turbines	Location (approx. distance from proposed wind farm site*)	Status
Shancloon Wind Farm (ACP Ref. 323699)	11	In the townlands of Beagh, Beagh More, Cloonbar, Cloonweelaun, Cloonnaglasha, Cloonteen, Corillaun, Derrymore, Ironpool, Shancloon, Toberroe and Tonacooleen, Co. Galway (approx. 6.4 km northeast)	Refused planning permission
Laurclavagh Wind Farm (ACP Ref. 319307)	8	Laurclavagh and adjacent townlands, Co. Galway (11.6 km southeast)	Pending planning decision
Ardderro Wind Farm (ACP Ref. 303086)	25**	Townlands of Ardderroo, Letter and Finnaun, Co. Galway (16.1 km southwest)	Operational

Wind Farm Name (Planning reference)	No. of Turbines	Location (approx. distance from proposed wind farm site*)	Status
Knockranny Wind Farm (ACP Ref. 243094 and 318723)	11	Knockranny, Ardderroo, Letter, Moycullen, Co. Galway (16.3 km southwest)	Currently under construction
Uggool Wind Farm (GCC Ref. 111735)	16	Uggool, Co. Galway (16.9 km southwest)	Operational
Seecon Wind Farm (GCC Ref. 11429 and ACP Ref. 307117***)	7**	Seecon, Finnaun, Co. Galway (18.2 km southwest)	Pending construction
	16**	Seecon, Lettercraffro, Derradda, Finnaun and Shannapheasteen, Co. Galway (18.3 km southwest)	Operational
Lettercraffroe Wind Farm (GCC Ref. 101454)	8	Lettercraffroe, Co. Galway (18.6 km southwest)	Operational
Cloonascragh Turbine (GCC Ref. 221175)	1	Cloonascragh, Tuam, Co. Galway (19.5 km east)	Pending construction

*Measured from the boundary of the proposed wind farm site to the closest wind turbine of the wind farm considered for cumulative impacts.

**Some of which are >20 km from the proposed wind farm site.

***This application concerns nine turbines across two wind farms; the two turbines within the Cloosh Wind Farm (GCC Ref. 20198) are located >20 km from the proposed wind farm site and therefore not considered in the cumulative impacts assessment.

Other Developments

In addition to wind energy developments, a number of other projects were identified within the study area that could, in principle, contribute to cumulative effects, primarily through disturbance or water quality pathways; these are listed in Table 7-19 and include quarry operations, overhead line infrastructure, and solar PV developments.

Disturbance and Displacement

Other developments within the study area are generally spatially discrete and sufficiently separated from the proposed wind farm site that cumulative disturbance and displacement effects are unlikely. Existing quarrying activity, including blasting, heavy vehicle movements, noise and dust emissions, has been considered as part of the cumulative assessment. However, baseline survey data did not identify any important ornithological receptors reliant on habitats located between the proposed development and the quarry, and no functionally important feeding areas, roost sites or movement corridors were identified that would be subject to overlapping disturbance effects. Consequently, cumulative disturbance and displacement effects are considered **negligible** and **not significant**.

Habitat Loss and Fragmentation

Habitat loss associated with other developments is localised and does not overlap with the proposed wind farm site. Given the availability of suitable alternative habitat within the surrounding landscape, no meaningful cumulative habitat loss or fragmentation effects are predicted. Effects are therefore **not significant**.

Water Quality and Hydrology and Supporting Habitats

Potential cumulative effects on hydrology, water quality, groundwater and wetland habitats, including turlough systems within the wider study area, have been considered. Relevant hydrological assessments conclude that no significant cumulative effects on water quality, hydrological functioning, groundwater levels or wetland habitats are predicted following implementation of mitigation measures.

As no significant cumulative effects on wetlands, turlough systems or supporting habitats are predicted, no consequential cumulative effects on associated ornithological receptors, including wintering waterbirds and other wetland-associated species, are predicted.

Accordingly, cumulative indirect effects arising from hydrological change, water quality impacts or habitat modification are considered **negligible** and **not significant**.

Table 7-19: Projects considered for cumulative impact assessment with the proposed project

Planning Ref. no.	Description of development	Location [approx. distance from proposed project]*	Status	Grant Date	Reason for inclusion
MCC 22970	Retention permission for the extraction of rock to an elevation of 25m OD over an area of 2.6 ha and further permission to extract rock by blasting methods to an elevation of 25m OD over an area of 0.87 ha within the existing quarry boundary.	Carrowoughteragh, Shrule, Co. Mayo [adjacent]	Operational	01/12/2023	Long-term, noisy activities with potential for cumulative disturbance effects rather than collision risk.
MCC 24510	Waste recovery facility for the acceptance, recovery and processing of up to 5,000 tonnes per annum of construction and demolition to produce recycled aggregates for export and use in the construction industry. This development is located within the active quarry associated with Planning Ref. MCC 22970.	Carrowoughteragh, Shrule, Co. Mayo [adjacent]	Approved. Status of construction unknown.	06/02/2025	Associated with above development.
MCC 2560928	For works to uprate the existing Castlebar-Dalton 110 kV overhead line (OHL) (27.8 km in length, with a total of 144 no. supporting structures). The proposed development will comprise, amongst other works, the replacement ("restringing") of the existing OHL circuit conductor wires with a new higher capacity conductor between substations; the replacement of some structures; the strengthening of some tower foundations; painting of some towers; associated temporary site development works to gain access to the existing structures; etc.	Existing Castlebar - Dalton 110 kV overhead power line, See Particulars for multiple townlands, Co. Mayo [620 m northwest]	Approved. Status of construction unknown.	12/02/2026	Due to their length, scale, and potential interaction with bird flight activity, particularly for larger waterbirds and raptors
GCC 2560750 ACP 500662	For continued use of an existing quarry, including drilling, blasting, crushing, processing, and stockpiling of materials, and the continued use of existing permitted structures and facilities. In addition, the development also seeks permission for additional works, including, amongst others, the construction of a new quarry storage yard (approx. 1.1 ha) to the east of the existing quarry, the relocation of existing sheds, importation of soil and stone	Cartron, Belclare, Co. Galway [6 km east]	Pending decision.	N/A	Long-term, noisy activities with potential for cumulative disturbance effects rather than collision risk.



Planning Ref. no.	Description of development	Location [approx. distance from proposed project]*	Status	Grant Date	Reason for inclusion
	(both waste and non-waste). The proposed development will facilitate the continued operation and the restoration of the site to agricultural and natural uses upon resource exhaustion. The proposed development is within an overall application area of c. 16.3 ha.				
MCC 2560055 ACP 322336	For the deepening of 19 ha. of the existing permitted quarry extraction area from 5 mOD to -12 mOD, as well as landscaping and restoration of the site and all associated ancillary facilities/works.	Cregaree, Cong, Co. Mayo [10.3 km northwest]	Operational	17/12/2025	Long-term, noisy activities with potential for cumulative disturbance effects rather than collision risk.
GCC 201387 ACP 310226	Solar PV farm and ancillary infrastructure, including, amongst others, 20 no. single storey MV substations, three single storey customer substations, boundary security fencing, one communications pole, associated electricity cabling and ducting, provision of access tracks, access gates, landscaping works, etc. The site extends over approx. 62.6 ha.	Cloontoa, Rinkippeen, Cloonascragh, Barnacurragh and Ballykeaghra, Tuam, Co Galway [12 km east]	Approved. Status of construction unknown.	13/09/2021	While collision risk is negligible, this development can contribute to cumulative habitat loss and displacement effects for ground feeding and commuting birds.
GCC 191315 ACP 306685	Solar PV farm and associated ancillary development, including, amongst others, an electrical substation compound, control building, up to nine inverter units, underground cable ducts, boundary fencing, access track, landscaping, and all associated enabling works. The site extends over approx. 43 ha.	Cloonascragh, Co. Galway [12.4 km east]	Approved. Status of construction unknown.	04/08/2020	As per above.

Planning Ref. no.	Description of development	Location [approx. distance from proposed project]*	Status	Grant Date	Reason for inclusion
GCC 2260819 ACP 317330	For quarrying operations, including, amongst others, the extraction of minerals (sand and gravel) over an area of 6.5 ha to a final depth of 34 m AOD, mineral processing activities, the transportation of materials from the quarry, the recovery of inert waste arising from construction and demolition activity, an inert waste recycling facility, all related ancillary works, and the recovery of natural materials for site restoration.	Cloonascragh, Co. Galway [13.2 km east]	Operational	21/08/2024	Long-term, noisy activities with potential for cumulative disturbance effects rather than collision risk.
*Measured from the closest element of the proposed project, including all GCR options.					



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