12. Biodiversity

12.1 Introduction

12.1.1 This chapter of the EIAR presents the Principal Assessment of the likely significant effects of the Proposed Order on biodiversity. The assessment compares the 2029 Permitted Operation and 2029 Proposed Operation scenarios in accordance with the project-wide assessment framework described in Chapter 5: Methodology.

12.1.2 As detailed in Chapter 4: Proposed Order, the Proposed Order seeks to amend the existing planning restriction of 32 mppa to 40 mppa and does not involve new physical infrastructure. However, increased passenger numbers may affect biodiversity through changes in aircraft activity and associated operational characteristics. Accordingly, a proportionate assessment has been undertaken to assess the likely significant effects of the 2029 Proposed Operation on biodiversity.

12.1.3 As outlined in Chapter 5, Table 5-1, the Supporting Assessments are not undertaken in this chapter as these assessments would not provide meaningful additional information that assists the interpretation of the Principal Assessment.

12.1.4 This chapter considers potential direct and indirect effects of the Proposed Order on terrestrial and freshwater habitats and species. Where necessary, this chapter also provides details of mitigation and/or enhancement measures identified to minimise, avoid and/or offset adverse effects on ecological features from the Proposed Order.

12.1.5 Throughout this chapter, the term ‘ecological feature’ is used to refer to sites designated for nature conservation, habitats, and floral and faunal species. Species are given their common and scientific names when first referred to and their common names only thereafter. All distances are cited as the shortest distance ‘as the crow flies’, unless otherwise stated.

12.1.6 Due to the interdisciplinary nature of effects, this chapter cross-references to other chapters including Chapter 7: Air Quality, Chapter 8: Non-Aircraft Noise, Chapter 9: Aircraft Noise, Chapter 10: Land and Soils, Chapter 11: Water, and Chapter 13: Climate. It is also supported by the following appendices:

- Appendix 12-1 – Appropriate Assessment Screening and Natura Impact Statement
- Appendix 12-2 – Baseline Report - Amphibian Technical Appendix
- Appendix 12-3 – Baseline Report - Bat Technical Appendix
- Appendix 12-4 – Baseline Report - Bird Technical Appendix
- Appendix 12-5 – Baseline Report - Mammal Technical Appendix
- Appendix 12-6 – Baseline Report - Aquatic Technical Appendix

12.1.7 The Appropriate Assessment (AA) Screening and Natura Impact Statement (NIS) (Appendix 12-1) provides information that will be used by the Competent Authority, An Coimisiún Pleanála, when carrying out their Appropriate Assessment of the Proposed Order.

12.1.8 The chapter, and the desk study and field survey described in it and associated appendices, were completed by AECOM ecologists with experience in carrying out such assessments. The author of this chapter, Chris Hill BSc (Hons) MRes, MCIEEM, is a Technical Director who leads the AECOM Ecology Team in Ireland, Scotland, Wales and Southwest England. Chris has over 18 years’ experience in professional ecological consultancy. Examples of large-scale infrastructure developments on which Chris has acted as ecology lead (at the planning stage) include Heathrow Airport Expansion, Mynydd Carn y Cefn Wind Farm, and Mynydd y Glyn Wind Farm.

12.2 Legislation, Policy and Guidance

12.2.1 This section sets out the legislation, policy and guidance sources which have informed the scope and methods for assessment of effects on ecological features. More general sources applicable to the

method for the EIAR as a whole can be found in Chapter 5: Methodology. This chapter has taken account of all relevant national, European Union, and international legislation.

Legislation

- Dublin Airport (Passenger Capacity) Act 2026
- Directive 2011/92/EU of the European Parliament and of the Council of 13th December 2011 on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 2014/52/EU (the 'EIA Directive')
- Council Directive 92/43/EEC of 21st May 1992 on the conservation of natural habitats and of wild fauna and flora (the 'Habitats Directive')
- Directive 2009/147/EC on the conservation of wild birds (the 'Birds Directive')
- Directive 2000/60/EC establishing a framework for Community action in the field of water policy (the 'Water Framework Directive' (WFD))
- Regulation (EU) No 1143/2014 on the prevention and management of the introduction and spread of invasive alien species (the 'Invasive Alien Species Regulation')
- The European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374 of 2024)
- Convention on Wetlands of International Importance (the 'Ramsar Convention')
- European Communities (Birds and Natural Habitats) (Amendment) Regulations 2026
- The Wildlife Acts 1976-2024 (the 'Wildlife Acts')
- Flora (Protection) Order 2022 (the 'Flora Protection Order' (FPO))
- EC Environmental Objectives (Surface Waters) Regulations 2009 – 2023
- EC Environmental Objectives (Surface Waters) (Amendment) Regulations 2025.
- The Fisheries (Consolidation) Act 1959-2024

Policy

- EU Biodiversity Strategy for 2030[1]
- Project Ireland 2040: National Planning Framework (NPF)[2]
- Project Ireland 2040: National Marine Planning Framework (NMPF)[3]
- Ireland's 4th National Biodiversity Action Plan 2023-2030[4]
- Fingal Development Plan 2023-2029[5]
- Dublin Airport Local Area Plan (extended to 2030)[6]
- Fingal Biodiversity Action Plan 2023-2030[7]
- Regional Spatial and Economic Strategy for the Eastern and Midland Region[8]

[1] European Commission. (2020). Biodiversity Strategy for 2030. https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_en
[2] Government of Ireland. (2018). National Planning Framework. https://npf.ie/wp-content/uploads/Project-Ireland-2040-NPF.pdf
[3] Government of Ireland. (2021). National Marine Planning Framework. https://www.gov.ie/pdf/?file=https://assets.gov.ie/139100/f0984c45-5d63-4378-ab65-d7e8c3c34016.pdf#page=null
[4] Government of Ireland. (2024). National Biodiversity Plan. https://www.gov.ie/en/department-of-housing-local-government-and-heritage/publications/irelands-4th-national-biodiversity-action-plan-20232030/
[5] Fingal County Council. (2023) Fingal Development Plan. https://www.fingal.ie/development-plan
[6] Fingal County Council. (2020). Dublin Airport Local Area Plan. https://www.fingal.ie/sites/default/files/2020-01/dublin-airport-lap-2020.pdf
[7] Fingal County Council. (2023). Fingal Biodiversity Action Plan. https://www.fingal.ie/sites/default/files/2023-12/Fingal%20Biodiversity%20Action%20Plan%202023-2030.pdf
[8] Eastern and Midland Region Assembly. Regional Spatial & Economic Strategy 2019-2031. https://www.emra.ie/rses/

Guidance

- Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.3[9] (hereafter CIEEM EcIA guidelines)
- CIEEM Advisory Note: Ecological Assessment of Air Quality Impacts (Version 2)[10]
- Waterbird Disturbance Mitigation Toolkit (Cutts *et al.,* 2013)[11]
- EPA Guidelines on the Information to be Contained in EIARs (May 2022)[12]

12.2.2 Further guidance is referenced and described in the following Assessment Methodology sections.

12.3 Assessment Methodology

Overall Approach

12.3.1 The assessment has been carried out following the CIEEM EcIA guidelines[9] (which include similar methods as the Environmental Protection Agency (EPA) guidelines[12]) as summarised below:

- Baseline conditions are determined through targeted desk study and field survey to identify ecological features that are both present and might be significantly affected by the Proposed Order.
- The importance of identified ecological features is evaluated to place their relative biodiversity and nature conservation value into a geographic context, determining those that need to be considered further within the impact assessment.
- The potential impacts of the Proposed Order on relevant ecological features are described, considering established best practice, legislative requirements and embedded measures.
- The likely effects (adverse or beneficial) on relevant ecological features are assessed and, where possible, quantified.
- Measures to avoid or reduce (or, if necessary, offset) any predicted significant effects, if possible, are developed in conjunction with other elements of the Proposed Order (including mitigation for other environmental disciplines).
- Any residual effects of the Proposed Order and their significance are reported.
- Scope for enhancement measures is considered and recommended where relevant.

Important Ecological Features

12.3.2 CIEEM recommends that only those features that are 'important' and that could be significantly affected require detailed assessment, stating that "*It is not necessary to carry out detailed assessment of ecological features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable"*.

12.3.3 Consequently, for the purposes of the desk study, field survey and assessment described in this chapter, 'important' ecological features were taken to include:

- sites designated for biodiversity conservation, including those designated at international, EU, national and local levels;

[9] CIEEM. (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.3. https://cieem.net/resource/guidelines-for-ecological-impact-assessment-ecia/
[10] CIEEM. (2023). Advisory Note: Ecological Assessment of Air Quality Impacts (Version 2). https://cieem.net/wp-content/uploads/2020/12/Air-Quality-advice-note.pdf
[11] Cutts, N., Hemmingway, K. and Spencer, J. (2013). Waterbird Disturbance Mitigation Toolkit. Institute of Estuarine and Coastal Studies, University of Hull.
[12] EPA. (2022). Guidelines on the Information to be Contained in EIARs. https://www.epa.ie/publications/monitoring--assessment/assessment/guidelines-on-the-information-to-be-contained-in-environmental-impact-assessment-reports-eiar.php

- habitats and species listed on Annexes I and II, respectively, of the Habitats Directive, which listing indicates importance in a European context and affords protection to these features where designated as Qualifying Interests (QI) of an SAC;
- species listed on Annex IV of the Habitats Directive, which are known as 'European Protected Species' (EPS) and are subject to strict protection anywhere they occur;
- bird species listed on Annex I of the Birds Directive, which listing indicates importance in a European context and affords protection to these species where designated as a Special Conservation Interest (SCI) of an SPA;
- species listed on the Wildlife Acts[13];
- birds on the Red List of Birds of Conservation Concern in Ireland (BoCCI)[14];
- plant species listed on the FPO[15];
- species and habitats listed on the National Biodiversity Action Plan 2023-2030;
- species, habitats and important nature conservation sites identified in the *Fingal Biodiversity Action Plan 2023-2030;*
- species that are Nationally Rare, Nationally Scarce or listed in Red Data Lists, which are published by the National Parks & Wildlife Service (NPWS) in collaboration with relevant Northern Irish agencies[16]; and
- invasive non-native species of plants and animals listed on the First Schedule of the European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374 of 2024) (which in this chapter are referred to as 'Scheduled Invasive Species'), those of EU concern under the Invasive Alien Species Regulation, and those listed by the National Biodiversity Data Centre (NBDC) as 'High Risk' in Ireland[17].

Zone of Influence

12.3.4 The zone of influence (ZoI) of the Proposed Order is the area over which ecological features may be affected as a result of the Proposed Order. The Proposed Order relates solely to airport operations and does not involve construction works, land take or other physical development. However, the ZoI may extend beyond the Dublin Airport Site where there is a potential pathway for effects on ecological features, including through ecological or hydrological connectivity and as a result of changes in airport and aircraft operations.

12.3.5 Aircraft movements associated with the Proposed Order would extend beyond the Dublin Airport Site and would occur over a wide and variable geographical area. It would therefore not be practicable or ecologically meaningful to define the ZoI by reference to the full geographical extent of aircraft movements. For the purposes of providing a consistent and proportionate spatial basis for the ecological assessment, the Dublin Airport Site boundary has therefore been used as the reference point from which the ZoI for individual ecological features has been defined. This does not imply that operational activities associated with the Proposed Order, or their potential effects, would be confined to the Dublin Airport Site.

[13] Irish Statute Book. (1976). The Wildlife Act 1976. Wildlife Act, 1976
[14] Gilbert, G., Stanbury, A., and Lewis, L. (2021). Birds of Conservation Concern in Ireland 2020-2026. https://birdwatchireland.ie/birds-of-conservation-concern-in-ireland/
[15] Irish Statute Book. (2022). S.I. No. 235/2022 – Flora (Protection) Order 2022. S.I. No. 235/2022 - Flora (Protection) Order 2022
[16] National Parks & Wildlife Service. (n.d.). Red Lists. https://www.npws.ie/publications/red-lists
[17] National Biodiversity Data Centre. (n.d.). Risk of High Impact invasive Species in Ireland. https://invasives.ie/app/uploads/2022/01/Invasives_taggedlist_HighImpact_2013RA-1.pdf

12.3.6 In accordance with the Precautionary Principle, the ZoIs have been expressed as precautionary distances extending from the Dublin Airport Site boundary. The distance applied varies according to the ecological feature, its sensitivity to environmental change and the potential pathways by which it could be affected. These distances are intended to provide a sufficiently precautionary geographical extent within which potentially significant effects associated with the Proposed Order can be identified and assessed.

12.3.7 [9]Table 12-1Table 12-1It is therefore appropriate to identify different ZoIs for different ecological features. As recommended by the CIEEM EcIA Guidelines, professionally accredited or published studies and guidance, where available, have been used to inform the ZoI, together with professional judgement based on the characteristics and sensitivity of the ecological feature, the nature and scale of the potential effect, relevant impact pathways, available survey and desk-study information, and the experience of the competent ecologists. CIEEM also highlights that establishing the ZoI should be an iterative process and may be informed by further desk study and field survey. Where the geographical extent of a potential effect could not be defined with certainty, the Precautionary Principle has been applied and an appropriately precautionary ZoI identified using the available evidence and professional judgement. The ZoI of the Proposed Order for ecological features is set out and described in Table 12-1.

12.3.8 The identification of a feature within the ZoI indicates that a potential pathway for effects may exist; it does not mean that a significant effect would necessarily occur. At increasing distance from the Dublin Airport Site, potential operational effects may become increasingly diffuse and may not result in significant effects on ecological features. The assessment therefore considers the nature and magnitude of the potential change, the sensitivity and importance of the ecological feature and whether the resulting effect would be significant, in accordance with the CIEEM EcIA guidelines.

12.3.9 The study areas used for desk study and field survey were designed to allow sufficient information to be collected to establish the baseline conditions of ecological features relevant to the assessment. The field survey areas adopted (Table 12-3) do not necessarily extend across the full ZoI identified for every ecological feature (Table 12-1). This reflects the distinction between the area within which a potential impact pathway may occur and the area within which field survey is necessary to characterise ecological features sufficiently to assess potentially significant effects.

12.3.10 The desk study and field areas are therefore considered proportionate and sufficiently precautionary to characterise the ecological features that could reasonably be subject to significant effects. Their extent has been informed by the identified impact pathways, the sensitivity and mobility of relevant ecological features, the available desk-study information and professional judgement. Where a potential effect could extend beyond the field survey area, ecological features within the wider ZoI have been considered using the available desk-study evidence and other relevant information. This approach provides a robust basis for identifying and assessing potentially significant effects associated with the Proposed Order.

Table 12-1: ZoI for Ecological Features

Ecology Feature	Potential ZoI	Rationale
International (European) Statutory Designations	At least 15km (and extended to 20km for sites designated for non-breeding birds) from the Dublin Airport Site and extended further where connectivity may exist (e.g. hydrologically).	When seeking to identify International Statutory Designations within the potential ZoI of the Proposed Order, consideration was given to identified impact pathways and the source-pathway-receptor approach based on Office of the Planning Regulator (OPR) guidance.[18] and CIEEM guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine[9]. The source-pathway-receptor approach is a standard tool in environmental assessment. For several bird species, NatureScot (formerly Scottish Natural Heritage (SNH)) has published guidance on the distances up to which qualifying species may use functionally linked habitat outside of European sites[19]. The distances given in this guidance were used when searching for SPAs which may be within the ZoI of the Proposed Order. Accordingly, SPAs up to 20km were searched for, as this is given as the largest core foraging range for any species (non-breeding pink-footed goose *Anser brachyrhynchus* and greylag goose

[18] OPR. (2021). Appropriate Assessment Screening for Development Management. https://www.opr.ie/wp-content/uploads/2021/03/9729-Office-of-the-Planning-Regulator-Appropriate-Assessment-Screening-booklet-15.pdf
[19] NatureScot. (2020). Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. https://www.nature.scot/doc/naturescot-research-report-1283-disturbance-distances-review-updated-literature-review-disturbance

Ecology Feature	Potential ZoI	Rationale
		Anser anser). In accordance with SNH (2016), an initial worst-case ZoI of 20km from the Dublin Airport Site was used when considering the ZoI of SCI bird species (Special Conservation Interests).
National Nature Conservation Designations	At least 2km from the Dublin Airport Site and extended further where connectivity may exist (e.g. hydrologically).	In accordance with CIEEM EcIA guidelines the ZoI is likely to extend beyond the Dublin Airport Site, for example, where there are ecological or hydrological links.
Local Nature Conservation Designations	At least 2km from the Dublin Airport Site and extended further where connectivity may exist (e.g. hydrologically).	In accordance with CIEEM EcIA guidelines the ZoI is likely to extend beyond the Dublin Airport Site, for example, where there are ecological or hydrological links.
Habitats	Potential for waterborne pollution with direct hydrological connection to the Dublin Airport Site. Potential for airborne pollution due to increased road traffic within 200m of a road or due to increased Aviation Count.	Increased passenger throughput, including changes in aircraft movements, landside transport demand, servicing requirements and associated airport operations, has the potential to pollute watercourses and/or waterbodies. Waterborne pollution may arise through spillages of fuels, oils, chemicals or other pollutants. Increased passenger throughput, including changes in aircraft movements, landside transport demand, and associated airport operations, has the potential to increase airborne pollution. Both the IAQM[20] and the *Design Manual for Roads and Bridges (*DMRB)[21] advise that for road traffic, air quality impacts are only likely to extend to a maximum of 200m from a road, and that air pollution levels fall sharply within the first few tens of metres.
Mammals	For otter *Lutra lutra*, the potential ZoI includes watercourses with direct hydrological connection to the Dublin Airport Site up to 15km.	Studies quoted in Reid *et al.* (2013[22]) show that otter have large home ranges in Ireland (approximately 6.5- 13.2 km). Thus, a buffer of 15km, and only where there is direct hydrological connectivity to the Development, was considered. Guidance published by the National Roads Authority (NRA, now Transport Infrastructure Ireland (TII)) [23], suggests 150m for otter breeding sites, reduced to 20 m for other resting sites not used for breeding purposes.
	For badger *Meles meles*, the potential ZoI is within the Dublin Airport Site and theoretically up to 15km of the Proposed Order in potentially suitable habitat for badger.	In Ireland, badgers typically move 1 to 2km per night when foraging. However, it has been reported that badger could travel up to 22km from their setts.[24]

[20] IAQM. (2019). A guide to the assessment of air quality impacts on designated nature conservation sites. Available at: https://iaqm.co.uk/text/guidance/air-quality-impacts-on-nature-sites-2020.pdf
[21] Standards for Highways. DMRB. Available at: https://www.standardsforhighways.co.uk/dmrb
[22] Reid, N., Hayden, B., Lundy, M.G., Pietravalle, S., McDonald, R.A. & Montgomery, W.I. (2013). National Otter Survey of Ireland 2010/12. Irish Wildlife Manuals No. 76. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.
[23] NRA (2008). Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes. National Roads Authority, Ireland. https://www.tii.ie/media/wsmlbxmv/guidelines-for-the-treatment-of-otters-prior-to-the-construction-of-national-road-schemes.pdf
[24] Byrne, A. (et. al.). (2014). Large-scale movements in European badgers: has the tail of the movement kernel been underestimated. https://besjournals.onlinelibrary.wiley.com/doi/10.1111/1365-2656.12197

Ecology Feature	Potential ZoI	Rationale
	For other important mammal species, the species Irish hare *Lepus timidus hibernicus* has the largest home range and moves about 2km per day. Therefore, the potential ZoI of 2km is adopted for other important mammals species in potentially suitable habitat for these species.	Irish hare typically move 2km per day once settled during a capture and release study (Reid, 2023[25]). Other important mammals generally have smaller home range sizes. For example, home range size of the pygmy shrew *Sorex minutus*[26] can be between 530 to 1860m^2. Home ranges of 11ha and daily movement of 250m has been measured for the Irish stoat *Mustela erminea hibernica*[27]. Male hedgehogs *Erinaceous europaeus* have been recorded to cover an annual range of 56ha with female hedgehogs covering only around 16ha[28]. Therefore, on a precautionary basis, a ZoI of 2km around the Dublin Airport Site has been adopted for these other mammals.
Bats	Within the Dublin Airport Site and theoretically up to 4km from the Proposed Order in areas with potential to be used by bats.	The Bat Conservation Trust (BCT) estimate that the 'core sustenance zone' (CSZ)[29] for Natterer's bat *Myotis nattereri* extends around 4km from a roost site. All other bat species in Ireland have a CSZ of less than 4km from a roost site. The CSZ is the area surrounding a communal roost within which habitat availability and quality could have an influence on the resilience and conservation status of the colony using the roost. Therefore, on a precautionary basis, the ZoI for bats is theoretically considered to extend to 4km around the Dublin Airport Site.
Amphibians	Watercourses with a direct hydrological connection to the Dublin Airport Site. Waterbodies potentially suitable for smooth newt *Lissotriton vulgaris* within 500m of the Dublin Airport Site.	Where a direct hydrological link exists between the Dublin Airport Site and a watercourse, it was considered that there could be impacts on these species within and downstream of the Dublin Airport Site.Furthermore, based on UK published guidelines for great crested newts[30,31] *Triturus cristatus* (in the absence of similar guidance for smooth newts), suitable waterbodies for smooth newt within 500m of the Dublin Airport Site were also considered as part of the ZoI for smooth newt.
Reptiles	Within the Dublin Airport Site and up to 50m from the Dublin Airport Site in habitats with potential to be used by reptiles (i.e., common lizard Zootoca vivipara).	The maximum home range size of common lizard *Zootoca vivipara* recorded by Ortega-Ru-bio *et al*. (1990)[32], was 1692m^2, which would suggest the home range would be approximately 23m around the centre of the range. On a precautionary basis, 50m around the Dublin Airport Site in suitable habitat for common lizard was adopted.
Birds (breeding)	Within the Dublin Airport Site and theoretically up to 1km from the Dublin Airport Site in areas with potential to be used by breeding birds.	1km is the maximum distance at which NatureScot[33] consider disturbance could occur on the most sensitive bird species.
Birds (non-breeding)	Regarding potential for injury or mortality from aircraft collisions ('bird strikes'), a worst-case initial ZoI of 20km from the	Birds could also be vulnerable to injury or mortality from bird strikes. In accordance with SNH (2016)[34], an initial worst-case ZoI of 20km from the Dublin Airport Site was used when considering the potential for injury or mortality of bird species.The Waterbird Disturbance Mitigation

[25] Rei d, N. (2023). Survival, movements, home ranges and dispersal of hares after coursing and/or translocation. Irish Wildlife Manuals, No. 145. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.
[26] Vincent Wildlife Trust. (n.d.). Pygmy Shrew. https://www.vincentwildlife.ie/species/pygmy-shrew
[27] Vincent Wildlife Trust. (n.d.). Irish Stoat. https://www.vincentwildlife.ie/species/irish-stoat
[28] Vincent Wildlife Trust. (n.d.). Hedgehog. https://www.vincentwildlife.ie/species/hedgehog
[29] Bat Conservation Trust (n.d.). Bat Species Core Sustenance Zones and Habitats for Biodiversity Net Gain. https://cdn.bats.org.uk/uploads/images/Bat-Species-Core-Sustenance-Zones-and-Habitats-for-Biodiversity-Net-Gain.pdf?v=1596873761
[30] English Nature. (2001). Great Crested Newt Mitigation Guidelines. English Nature
[31] Natural England. (2015). Great crested newts: surveys and mitigation for development projects. Standing advice for local planning authorities who need to assess the impacts of development on great crested newts. https://www.gov.uk/guidance/great-crested-newts-advice-for-making-planning-decisions
[32] Ortega-Ru-bio et al. (1990). Animal Diversity Web - Common Lizard (Zootoca vivipara). https://animaldiversity.org/accounts/Zootoca_vivipara/
[33] Goodship, N.M. and Furness, R.W. (2022). NatureScot Research Report 1283 – Disturbance Distances Review: An updated literature review of disturbance distances in selected bird species. https://www.nature.scot/doc/naturescot-research-report-1283-disturbance-distances-review-updated-literature-review-disturbance.
[34] NatureScot. (2016). Guidance: Assessment and Mitigation of Impacts of Power Lines and Guyed Meteorological Masts on Birds. https://www.nature.scot/doc/guidance-assessment-and-mitigation-impacts-power-lines-and-guyed-meteorological-masts-birds

Ecology Feature	Potential ZoI	Rationale
	Dublin Airport Site was considered. Birds could be disturbed within the Dublin Airport Site and up to 300m from the Dublin Airport Site (including aircraft flying at altitudes of 300m or less) in areas with potential to be used by non-breeding birds.	Toolkit (Cutts *et al.*, 2013[35]) provides species-specific information on the sensitivity of several bird species which are qualifying features of SPAs. However, it suggests that, in general, disturbance of non-breeding waterbirds can occur up to distances of around 300m from construction works. On that basis, aircraft flying at altitudes of 300m or less could disturb non-breeding birds if present (Hoang, 2013[36]; Komenda-Zender *et al.,* 2003[37]). No significant change in the altitudes that aircraft fly approaching or leaving Dublin Airport is expected.
Fish and aquatic invertebrates	Watercourses within and downstream of the Dublin Airport Site.	The ZoI was determined based on the hydrological connectivity to the Proposed Order. Where a hydrological link exists between the Dublin Airport Site and downstream watercourses, it was considered that there could be impacts on these species.
Terrestrial invertebrates	Within the Dublin Airport Site and theoretically up to 1.5km from the Dublin Airport Site in areas with potential to be used by important terrestrial invertebrates.	Research by Wahlberg *et al.* (2002)[38] found that the average dispersal distance of male marsh fritillaries *Euphydryas aurinia* was 1.3km, and up to 510m for females. On a precautionary basis, therefore, a distance of 1.5km was adopted.Although the whorl snails *Vertigo angustior, Vertigo geyeri* and *Vertigo moulinsiana*, and the Kerry slug *Geomalacus maculosus* are all mobile species, their ability to move over any substantial distance is extremely limited. Functionally linked habitat for these species was therefore considered to exist only up to a distance of 100m. Snail and slug species have no acoustic sense (Chase, 2001)[39] and are not considered to be vulnerable to disturbance as a result of the Proposed Order.

Approach to Establishing the Baseline

Desk Study

12.3.11 A desk study was carried out to identify relevant sites designated for nature conservation, as well as records of important ecological features (as defined in the Important Ecological Features section). The desk study areas were defined using a stratified approach based on the Dublin Airport Site and the potential ZoI of the Proposed Order[40]. Therefore, a 2km search for important ecological features was carried out on a precautionary basis. Accordingly, the desk study sought to identify:

- International and EU nature conservation designations (SACs, SPAs, Wetlands of International Importance ('Ramsar sites'), and United Nations Educational, Scientific and Cultural Organization (UNESCO) Biosphere Reserves) within at least 15km of the Dublin Airport Site, but also further than this where connectivity may exist (e.g., hydrologically), in accordance with OPR guidance.[41]
- National nature conservation designations (Natural Heritage Areas (NHA) and Proposed Natural Heritage Areas (pNHA)) within 2km of the Dublin Airport Site and further afield where there is potential connectivity to the Dublin Airport Site.
- Locally designated nature conservation sites and Nature Development Areas considered in the Fingal Biodiversity Action Plan 2022-2030[42] within 2km of the Dublin Airport Site and further afield where there is potential connectivity to the Proposed Order.

[35] Cutts, N., Hemmingway, K. and Spencer, J. (2013). Waterbird Disturbance Mitigation Toolkit. Institute of Estuarine and Coastal Studies, University of Hull.
[36] Hoang, T. (2013). A literature review of the effects of aircraft disturbances on seabirds, shorebirds and marine mammals. Presented to NOAA, Greater Farallones National Marine Sanctuary and the Seabird Protection Network.
[37] Komenda-Zehnda, S., Cevallos, M. and Bruderer, B. (2003). Effects of disturbance by aircraft overflight on waterbirds – an experimental approach. International Bird Strike Committee. IBSC26/WP-LE2, Warsaw 5-9 May 2009.
[38] Wahlberg, N., Klemtti, T., Selonen, V. and Hanski, I. (2002). Metapopulation structure and movements in five species of checkerspot butterflies. *Oecologia* 130(1), pp 2074-2091.
[39] Chase, R. (2001). Sensor Organs and the Nervous System, in: Barker, G.M. (ed.). The Biology of Terrestrial Molluscs. CABI Publishing, Oxford.
[40] CIEEM. (2017). Guidelines for Preliminary Ecological Appraisal, 2nd edition. CIEEM, Winchester. https://cieem.net/resource/guidance-on-preliminary-ecological-appraisal-gpea/
[41] Office of the Planning Regulator. (2021). Appropriate Assessment Screening Booklet. https://www.opr.ie/wp-content/uploads/2021/03/9729-Office-of-the-Planning-Regulator-Appropriate-Assessment-Screening-booklet-15.pdf
[42] Fingal County Council. (2023). Fingal Biodiversity Action Plan 2023-2030. https://www.fingal.ie/sites/default/files/2023-12/Fingal%20Biodiversity%20Action%20Plan%202023-2030

- Records of important ecological features within 2km of the Dublin Airport Site (precautionary approach based on CIEEM guidelines.

12.3.12 The desk study was carried out using the data sources in Table 12-2.

Table 12-2: Desk Study Data Sources

Data Source	Date Accessed	Data Obtained
EPA maps[43]	June 2026	• International and EU nature conservation designations within at least 15km • Other national nature conservation designations within at least 2km • Local nature conservation designations within at least 2km • Information on watercourses, water quality, soils, and geology
Ireland maps and aerial photography[44]	June 2026	• Habitats and connectivity relevant to interpretation of planning policy and potential protected/important species constraints
NPWS Protected Sites in Ireland[45]	June 2026	• Details on relevant designated sites
NPWS map viewer[46]	June 2026	• Records of important ecological features within 2km
National Biodiversity Data Centre [47]	July 2024	• Records of important ecological features within 2km
The Status of EU Protected Habitats and Species in Ireland (Article 17 Report)[48]	June 2026	• Information on the status of habitats and species in Ireland
Irish Red Lists[49]	June 2026	• Conservation status of plants, amphibians, reptiles, freshwater fish, invertebrates, birds and terrestrial mammals (including bats)
BirdWatch Ireland IWeBs data[50]	July 2024	• Records of waterbirds in IWeBs sub-site locations
Bat Conservation Ireland: Bat Record Maps and Monitoring Program Reports[51]	June 2026	• Bat record maps that can also be searched for more detail on the NBDC website, which is included in this table above. • Several Irish Bat Monitoring Programme Reports which include maps of records and population trend data
Inland Fisheries Ireland (IFI) publications[52]	June 2026	• Fish records and publications throughout Ireland
Dublin Airport North Runway (10L/28R) Relevant Action Application EIAR[53]	June 2026	• EIAR for the North Runway (10L/28R) development, which includes terrestrial biodiversity and aquatic biodiversity chapters
Coastal Waterbird Disturbance Study for daa at Rogerstown Estuary SPA and Baldoyle Bay SPA[54]	June 2026	• Information from RPS on aircraft disturbance on birds at Rogerstown Estuary SPA and Baldoyle Bay SPA in 2016 and 2017
Coastal Waterbird Disturbance Study for daa at Malahide Estuary SPA and Baldoyle Bay SPA[55]	June 2026	• Information on aircraft disturbance on birds at Malahide Estuary SPA and Baldoyle Bay SPA from surveys undertaken in 2024

[43] EPA. (n.d.). Maps. https://gis.epa.ie/EPAMaps/
[44] Google Maps (https://www.google.com/maps/) and Tailte Éireann 1:25,000 maps and aerial photography (https://osi.maps.arcgis.com/apps/webappviewer/index.html?id=bc56a1cf08844a2aa2609aa92e89497e)
[45] National Parks and Wildlife Service - Protected Sites. https://www.npws.ie/protected-sites
[46] NPWS Viewer. http://webgis.npws.ie/npwsviewer/
[47] Biodiversity Maps. https://maps.biodiversityireland.ie/
[48] NPWS Article 17 Reports. (2019). https://www.npws.ie/publications/article-17-reports/article-17-reports-2019
[49] NPWS Red Lists. https://www.npws.ie/publications/red-lists
[50] BirdWatch Ireland - Research & Monitoring. https://birdwatchireland.ie/our-work/surveys-research/research-monitoring/.
[51] Bat Conservation Ireland. https://www.batconservationireland.org/
[52] Inland Fisheries Ireland - Publications. https://www.fisheriesireland.ie/publications
[53] Dublin Airport EAIR. (2021). Volume 2 – Main Report. https://www.dublinairport.com/docs/default-source/chauffeur/environmental-impact-assessment-report.pdf?sfvrsn=e92966c9_2
[54] RPS. (2018). Coastal Waterbird Disturbance Study for daa at Rogerstown Estuary SPA and Baldoyle Bay SPA.
[55] AECOM. (2025). Non-breeding Bird Disturbance Monitoring Survey Report Malahide Estuary SPA and Baldoyle Bay SPA.

Data Source	Date Accessed	Data Obtained
Airfield Drainage Project EIAR (in particular Appendix A Ornithology Report, Appendix V Site Survey, Appendix 9.2 Aquatic Survey)[56]	June 2026	• Information from Jacobs on bird surveys and from Altemar on habitat surveys carried out for the Airfield Drainage project
A Water Quality and Fisheries Study of the Rivers and Stream Draining Dublin Airport in North County Dublin Using Macroinvertebrate Collections[57]	June 2026	• Information from Aquatic Service Unit (UCC) on water quality and fisheries of rivers and streams draining Dublin Airport
Marine Intertidal Surveys at Three Protected Estuaries: Malahide Estuary, Baldoyle Estuary, and Dublin Bay[58]	June 2026	• Information from Aquatic Services Unit (UCC) on habitats, species, and marine community types at Malahide Estuary, Baldoyle Estuary, and Dublin Bay
Dublin Airport Cargo Relocation Environmental Impact Assessment Report (EIAR) and associated survey data[59]	June 2026	• Survey information on bats otter, badger, breeding birds and other important species at a proposed cargo facility on the southeastern corner of the Dublin Airport Site
Dublin Infrastructure Application Environmental Impact Assessment Report (EIAR) and associated survey data[60]	June 2026	• Survey information on habitats, bats, otter, badger, amphibians, breeding birds and other important species within and adjacent to the Dublin Airport Site

Field Survey

12.3.13 The scope of field survey described in this chapter was informed by the guidance contained within published documents referenced in the Guidance section, the results of the desk study, and the results of completed ecological field surveys. The ecology survey baseline includes comprehensive data from previous applications, including the Dublin Airport Infrastructure Application (2024); this survey data includes all areas within the Dublin Airport Site. Additionally, ecology surveys completed in 2025 provided an update to the Dublin Airport Infrastructure baseline and inform a separate proposed cargo facility application (2025).

12.3.14 Habitats within the Dublin Airport Site were surveyed and mapped on 04 and 05 June, 09 July, 01 August 2019, 23 and 24 June 2020, 09 May 2023 and 23 and 31 May, and 04, 07, and 17 and 19 June 2024 and 13 and 14 October 2025. The habitat surveys completed in May and June 2024 were carried out to a finer scale, and linear boundary habitats were accurately defined and mapped (including narrow areas of scrub along treelines and double treelines) (shown on Figure 12-3). The surveys completed in 2025 provided an update to confirm the status of the habitats within the Dublin Airport Site following the detailed surveys in previous years. The surveys were carried out following the *Best Practice Guidance for Habitat Survey and Mapping*[61] and habitats were classified according to *A Guide to Habitats in Ireland*[62].

12.3.15 Habitats were mapped at an appropriate scale of 1:2,500. Notes were made for each habitat of dominant, typical and important plant species, and any relevant ecological characteristics (particularly where relevant to habitat condition), which reflect the conditions at the time of survey. Nomenclature for plant species followed that of Stace[63], and this is also adopted in this chapter. As part of the habitat survey in May and June 2024, plant species lists were collected, and a detailed classification of hedgerows and treelines was completed based on the *Hedgerow Appraisal System (HAS): Best Practice Guidance on*

[56] Nicholas O'Dwyer. (2023). Environmental Impact Assessment Report. Airfield Drainage Project.
[57] Aquatic Service Unit (UCC). (2020). A Water Quality and Fisheries Study of the Rivers and Stream Draining Dublin Airport in North County Dublin Using Macroinvertebrate Collections.
[58] Aquatic Services Unit (UCC). (2020). Marine Intertidal Surveys at Three Protected Estuaries: Malahide Estuary, Baldoyle Estuary, and Dublin Bay.
[59] AECOM. (2025). Environmental Impact Assessment Report. Dublin Airport Cargo Relocation
[60] AECOM (2024). Environmental Impact Assessment Report. Dublin Airport Infrastructure Application.
[61] Smith, G.F., O'Donoghue, P., O'Hora, K. and Delaney, E. (2011). Best Practice Guidance for Habitat Survey and Mapping. The Heritage Council, Kilkenny.
[62] Fossitt, J. (2000). A Guide to Habitats in Ireland. Heritage Council, Kilkenny.
[63] Stace, C. (2019). New Flora of the British Isles (4th Edition). C&M Floristics, Middlewood Green.

Hedgerow Surveying, Data Collection and Appraisal[64]. The HAS criteria were used to assess the significance (term used in HAS guidance but not significant in EIA terms) and condition of hedgerows. This method was also extended and adapted to assess the HAS significance and condition of treelines, using professional judgement informed by the structure, composition and ecological function of the treeline, its relationship with adjacent habitats, and the field experience of the competent ecologists

12.3.16 Full details of the field survey areas and methods used when carrying out species surveys are provided in Appendices 12-2 to 12-6. A summary of the scope of these surveys is provided in Table 12-3. The field survey areas were defined using professional judgement, informed by the identified impact pathways, the ecology and mobility of the relevant species, available desk-study information and applicable guidance. On this basis, the survey areas are considered sufficiently precautionary and proportionate to support the assessment of potentially significant effects of the Proposed Order on important ecological features. Survey areas for surveys completed in 2024 and 2025 are also described in Table 12-3 and displayed in Figure 12-2.

[64] Foulkes, N. F., Fuller, J., Little, D., McCourt, S., Murphy, P. (2013). Hedgerow Appraisal System: Best Practice Guidance on Hedgerow Surveying, Data Collation and Appraisal. The Heritage Council.

Table 12-3: Summary of Species Surveys Carried Out

Ecological Survey	Dates	Scope/Survey Area	Rationale	Appendix
Badger survey	22 January 2019 20 February 2019 10 April 2019 22 November 2019 11 March 2020 19 June 2020 09 May 2023 23 May 2024 24 May 2024 10 June 2024 14 June 2024 18 June 2024 31 July 2025 07 August 2025 14 August 2025	Walkover survey in potentially suitable habitat for badger (i.e., not including hardstanding pavement and buildings). This was supplemented by monitoring of three setts using motion sensitive trail cameras in 2019 and 2020. An update walkover survey was carried out within the Dublin Airport Site plus a 50m buffer in 2024. Additional update badger surveys were undertaken within the Dublin Airport Site in 2025.	Followed *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*[65], Transport Infrastructure Ireland (TII) (formerly National Roads Authority (NRA)) guidance for badger and otter[66,67] and published literature on badger[68] which included Harris *et al.* (1989). The survey area was determined based on an understanding of the habitats present within the Dublin Airport Site and potential impacts on mammals, especially considering the existing levels of anthropogenic activity and disturbance at Dublin Airport.	Mammal Technical Appendix (Appendix 12-5, EIAR Volume 4)
Otter survey		Walkover survey of watercourses and other waterbodies potentially suitable for otter. An update walkover survey was carried out within the Dublin Airport Site plus a 50m buffer in 2024 and 2025.		Mammal Technical Appendix (Appendix 12-5, EIAR Volume 4)
Preliminary Bat Roost Assessment and Ground Level Tree Assessments	20 February 2019 10 April 2019 01 August 2019 11 March 2020 23 June 2020 24 June 2020 09 May 2023 23 May 2024 24 May 2024 10 June 2024 14 June 2024 18 June 2024	A ground-based, external assessment of the bat roost suitability of trees and buildings (excluding occupied residences). Potential roost features (PRFs) in trees that had Moderate or High[69] bat roost suitability were also subsequently inspected in more detail using an endoscope via ladder or rope access. This work was carried out on 23 May 2019 under licence (DER/BAT 2019-13). An updated bat roost assessment survey was carried out in accessible lands within the Dublin Airport Site plus a 50m buffer in 2024 and 2025 following the updated BCT guidance[70].	Followed *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*[65] and the best practice guidelines published by the BCT[70]. The survey area was determined based on an understanding of the habitats within the Dublin Airport Site and the potential impacts on bats.	Bat Technical Appendix (Appendix 12-3, EIAR Volume 4)

[65] TII - Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes. https://www.tii.ie/media/4nthqz3a/ecological-surveying-techniques-for-protected-flora-and-fauna-during-the-planning-of-national-road-schemes.pdf

[66] NRA. (2006). Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes. National Roads Authority, Ireland. https://cieem.net/wp-content/uploads/2019/07/Guidelines-for-the-Treatment-of-Otters-prior-to-the-Construction-of-National-Road-Schemes.pdf

[67] NRA. (2006). Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes. National Roads Authority, Ireland. https://www.tii.ie/media/gtajacj2/guidelines-for-the-treatment-of-badgers-prior-to-the-construction-of-a-national-road-scheme.pdf

[68] Harris, S., Cresswell, P. and Jefferies, D. (1989). Surveying Badgers – An occasional publication of the Mammal Society, No. 9. Mammal Society, London.

[69] The classification of trees follows the previous 3rd edition of Collins (2016) when referring to surveys carried out before 2024.

[70] Collins, J. (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th Edition. Bat Conservation Trust, London.

Ecological Survey	Dates	Scope/Survey Area	Rationale	Appendix
	31 July 2025 07 August 2025 14 August 2025			
Bat roost survey (Dusk emergence survey)	30 May 2019 24 June 2020 09 July 2020 15 July 2020 28 June 2023 24 August 2023 28 May 2024 11 June 2024 12 June 2024 24 June 2024 25 June 2024 30 July 2025 31 July 2025 06 August 2025 07 August 2025 14 August 2025 21 August 2025	Dusk emergence surveys were carried out on trees and structures identified by the bat roost suitability assessment (described above) as having PRFs. Shamrock House Annex and Animal Welfare Facility located at the airport were surveyed in May 2019 and July 2020, respectively. These structures were located in a built-up section of the airport. Despite this, they were surveyed and found not to support roosting bats. Derelict Building 1 (Figure 12-7) was surveyed in July 2020. No bats were recorded emerging from this structure. One tree with PRF-I suitability[71] (in other words, it has suitability for individual bats only and is very unlikely to be of significant conservation significance) was surveyed in June and August 2023. However, no bats emerged from the tree during these surveys, and based on updated BCT guidance, no further surveys are required on trees with PRF-I suitability. Several structures along the R108 road in Sector J (S01, S04, S05, S06, S08, and S09) were surveyed in May and June 2024. Structures S01, S03, S04, S05, S06, S08, S09, Shamrock House Annex, the Animal Welfare Facility and Derelict Building 2 were surveyed in July and August 2025.	Followed *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*[65] and the best practice guidelines published by the Bat Conservation Trust[71]. The survey area was determined based on an understanding of the habitats within the Dublin Airport Site, the results of the preliminary bat roost assessment and ground level tree assessments, and the potential impacts on bats.	Bat Technical Appendix (Appendix 12-3, EIAR Volume 4)
Bat activity survey	16 May 2019 03 July 2019 19 August 2019 05 September 2019 18 May 2020 20 May 2020 27 May 2020 15 June 2020 22 June 2020 30 June 2020 24 August 2020 10 September 2020 19 July 2021 02 September 2021 30 May 2022 31 May 2022	Walked transects (Figure 12-6, EIAR Volume 3) to record bat activity were conducted at dusk, primarily focused in areas of potentially suitable habitat for bats, where accessible. Bat surveys carried out from 2019 to 2023 followed methods described in a now superseded version of the BCT guidelines[70]**Error! Bookmark not defined.**, while bat surveys carried out in 2024 and 2025 followed updated BCT guidance[70], which was published in September 2023. With the exception of adopting some new terminology, and a stationary position for the first 30 minutes of the survey under new guidance, there is little change with respect to activity survey methods, and this means the surveys and results obtained are comparable and valid for the purposes of assessing any operational effects of the Proposed Order on bats. Updated bat activity surveys were carried out in 2023, 2024 and 2025 within the Dublin Airport Site plus a 50m buffer, in accessible lands potentially suitable for bats. This survey area was extended to encompass all of the fields around Sector H; three survey visits were carried out between May and September 2023, and a further three survey visits between May and June 2024 and three visits between July and August 2025.	Followed *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*[65] and the best practice guidelines published by the Bat Conservation Trust[70]. The survey area was determined based on an understanding of the habitats within the Dublin Airport Site and the potential impacts on bats.	Bat Technical Appendix (Appendix 12-3, EIAR Volume 4)

Ecological Survey	Dates	Scope/Survey Area	Rationale	Appendix
	28 July 2022 03 August 2022 05 September 2022 26 September 2022 29 May 2023 24 July 2023 09 August 2023 06 September 2023 20 May 2024 23 May 2024 27 May 2024 05 June 2024 06 June 2024 13 June 2024 19 June 2024 20 June 2024 27 June 2024 30 July 2025 31 July 2025 06 August 2025			
Static bat detector survey	April to September 2019 June to October 2020 May to August 2023 June to July 2024 July to August 2025	Full spectrum static bat detectors were deployed at selected locations where potentially suitable habitat was present to further supplement bat activity transects (Figure 12-6, EIAR Volume 3). Static detectors were deployed in a range of locations where construction activities may occur associated with the previous Dublin Airport Infrastructure Application, with locations across the Dublin Airport Site including Sectors J, H, B, and E. In 2020, static detectors were deployed by Airport Roundabout, south of Old Airport Road, woodland north of Long-term Car Park (Red) (Sector H) and at a derelict structure north of Long-term Car Park (Red) (Sector H). In 2023, static detectors were deployed to the north of the southern runway and in 2024 static detectors were deployed at Long-term Car Park (Red) (Sector H), New Apron 7 (Sector J), and at Airport Roundabout (Sector K/H). In 2025, four static detectors were deployed in Sector H, Sector J, Sector K and to the north of the southern runway (outside Sector A). Exact dates deployed for each static detector are provided in Appendix 12-3 (EIAR Volume 4).	Followed *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*[65] and the best practice guidelines published by the Bat Conservation Trust[70]. The survey area was determined based on an understanding of the habitats within the Dublin Airport Site and the potential impacts on bats.	Bat Technical Appendix (Appendix 12-3, EIAR Volume 4)
Amphibians	*Habitat Suitability* 20 February 2019	Habitat suitability assessments for amphibians were carried out around Dublin Airport. Specific surveys for smooth newt, which involved torchlight inspections and egg searches, were carried out within potential aquatic	Followed *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*[65] and UK published	Amphibian Technical Appendix (Appendix 12-2, EIAR Volume 4)

Ecological Survey	Dates	Scope/Survey Area	Rationale	Appendix
	11 March 2020 23 June 2020 24 June 2020 09 May 2023 20 May 2024 23 May 2024 27 May 2024 *Smooth Newt* May 2019 March to June 2021 May to June 2024	breeding habitat. Common frog *Rana temporaria* surveys were also carried out to search for frog adults, tadpoles, and spawn. Updated habitat suitability assessment and smooth newt surveys were carried out from May to June 2024 within the Proposed Order plus a 50m buffer, in accessible lands potentially suitable for amphibians.	guidelines for great crested newts[71,72] which are considered a robust methodology to also survey for smooth newt. The survey area was determined based on an understanding of the habitats, especially the presence of potentially suitable waterbodies, in the vicinity of the Dublin Airport Site, informed by preliminary walkover surveys and a review of available aerial imagery and Ordnance Survey Ireland (OSi) maps.	
Breeding bird survey	Mid-April to early August 2019 (four visits) Late May to late June 2022 (two visits) Mid-May to late June 2024 (three visits) Late July to early August 2025 (two visits)	A modified version of the Common Bird Census (CBC)[73] was used to survey the breeding bird assemblage where potentially suitable habitat for breeding birds was present. Six survey visits were carried out between April 2019 and June 2022. Survey Locations (SLs) surveyed comprised: • SL4 • SL9 • SL10 Other Survey Locations were not surveyed because these locations were either not accessible, not identified as part of the Proposed Order at the time of survey and/or did not comprise suitable habitat for breeding birds. Updated surveys were carried out in 2024 and 2025 within the Dublin Airport Site plus a 50m buffer, in accessible lands potentially suitable for breeding birds. Three survey visits were carried out between May and June 2024 and two between July and August 2025. SLs surveyed comprised all those considered to contain suitable habitat for breeding birds, as follows: • SL2 • SL4 • SL6 • SL9 • SL10 • SL11 • SL12	Followed a modified version of the CBC methodology for breeding bird surveys. The survey area was determined based on an understanding of the habitats within the Dublin Airport Site and the potential impacts on birds.	Bird Technical Appendix (Appendix 12-4, EIAR Volume 4)

[71] English Nature. (2001). Great Crested Newt Mitigation Guidelines. English Nature

[72] Natural England. (2015). Great crested newts: surveys and mitigation for development projects. Standing advice for local planning authorities who need to assess the impacts of development on great crested newts. https://www.gov.uk/guidance/great-crested-newts-advice-for-making-planning-decisions

[73] Gilbert, G., Gibbons, D.W., and Evans, J. (1998). Bird Monitoring Methods: A Manual of Techniques for UK Key Species. The Royal Society for the protection of Birds, Sandy, Bedfordshire, England.

Ecological Survey	Dates	Scope/Survey Area	Rationale	Appendix
		Further details are presented in Appendix 12-4 (EIAR Volume 4).		
Non-breeding bird survey	Late November 2018 to early March 2019 Early September 2019 to mid-March 2020 Late January and early February 2021 Mid-October 2022 to late March 2023 Mid-September 2024 to early March 2025 January 2024 to December 2024*	Non-breeding bird surveys adopted the method used for the Irish Wetland Bird Survey (I-WeBS), as described in the BirdWatch Ireland Counter Manual[74], which itself is based on the 'look-see' method described by Bibby *et al.* (2000)[75]. Surveys of waterbirds[76] and other non-breeding bird species present (denoted herein as raptors and 'farmland birds') were carried out during the non-breeding bird season, which is taken to be between October and March (inclusive). Surveys were typically carried out monthly during the non-breeding season between 2018 and 2025; however, some months were not surveyed due to limitations such as Covid-19, access restrictions, and programme timings. Surveys comprised all land within the Dublin Airport Site that was considered suitable for non-breeding birds, plus survey buffers surrounding it. Survey buffers around the Dublin Airport Site varied from 100m to 1.5km in 2018-21, while a 500m buffer zone was used in 2022-23 and 2024-25. Further details are presented in Appendix 12-4 (EIAR Volume 4). *Additional non-breeding bird surveys were undertaken between January and March 2024 and October to December 2024 to monitor coastal waterbirds at Baldoyle Bay SPA and Malahide Estuary SPA. The surveys were typically stratified according to tide times and focused on high and low tides, to investigate use of the area by birds under different tidal conditions.	Followed I-WeBs methodology for non-breeding bird surveys. The survey area was determined based on an understanding of the habitats within the Dublin Airport Site, potential sensitive sites within the ZoI of the Order Boundary and the potential impacts on birds.	Bird Technical Appendix (Appendix 12-4, EIAR Volume 4)
Aquatics	September 2019 August 2020[77,78] June 2024	The watercourses Cuckoo Stream, Mayne River, Santry River, and St Margaret's channels were surveyed to determine the availability of suitable habitats for salmonids (Atlantic salmon *Salmo salar* and trout *Salmo trutta*), eel *Anguila anguila* and lamprey species. They were also surveyed for aquatic macrophytes and macroinvertebrates.	The survey area was determined based on hydrological connectivity and nearby watercourses to the Dublin Airport.	Aquatic Ecology Appendix (Appendix 12-6, EIAR Volume 4)

[74] BirdWatch Ireland and NPWS (undated). Counter Manual – Guidelines for Irish Wetland Bird Survey counters.
[75] Bibby, C.J., Burgess, N.D., Hill, D.A. and Mustoe, S. (2000). Bird Census Techniques (2nd Edition). Academic Press, London.
[76] Waterbirds comprise wildfowl (ducks, geese and swans), waders, rails, divers, grebes, cormorants, herons, gulls and terns.
[77] Aquatic Service Unit (UCC). (2020). A Water Quality and Fisheries Study of the Rivers and Stream Draining Dublin Airport in North County Dublin Using Macroinvertebrate Collections.
[78] Aquatic Services Unit (UCC). (2020). Marine Intertidal Surveys at Three Protected Estuaries: Malahide Estuary, Baldoyle Estuary, and Dublin Bay.

12.3.17 No targeted field surveys were carried out for invertebrates, common lizard, hedgehog *Erinaceus europaeus*, Irish hare, Irish stoat, pine marten *Martes martes*, pygmy shrew, and red squirrel *Sciurus vulgaris* because these species are common and widespread across Ireland and/or because the completed habitat surveys suggest limited availability or the absence of suitable habitat within the relevant ZoI.

12.3.18 Habitat suitability for these species within the Dublin Airport Site was assessed during the habitat surveys. Invertebrates, such as bees and butterflies, are likely to be present in areas of vegetation within the Proposed Order. Irish hare are known to be abundant at Dublin Airport but are subject to licensed management to ensure that they do not pose a risk to aircraft. Although hedgehog, Irish stoat, pygmy shrew, and common lizard are of conservation concern (they are all protected under the Wildlife Acts), these are commonly recorded and very widespread (categorised as 'Least Concern' in the Ireland Red List for terrestrial mammals[79] and for reptiles[80]). There are habitats present within and around the Dublin Airport Site which could support these species for foraging and shelter. It has therefore been assumed that hedgehog, Irish stoat, pygmy shrew, and common lizard are present within the ZoI of the Proposed Order. Pine marten and red squirrel, however, prefer large areas of woodland habitat which is absent from the Dublin Airport Site and relevant ZoIs. Therefore, these species are considered likely to be absent from the ZoI of the Proposed Order.

Approach to Ecological Impact Assessment

12.3.19 The method employed for assessment of impacts and effects on ecological features followed that recommended by CIEEM EcIA guidelines[9] as summarised in the above Paragraph 12.3.1. CIEEM is the leading professional membership body for ecologists in Ireland and the UK. It provides advice to government, upholds standards, and promotes best practice.

12.3.20 Only those ecological features that are 'important' and that could be significantly affected by the Proposed Order require detailed assessment. As stated by CIEEM: "*it is not necessary to carry out detailed assessment of ecological features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable*". This is consistent with the EIA Directive, which requires investigation of likely significant effects, as accordingly emphasised in the EPA Guidelines.

12.3.21 For the purposes of the EcIA described in this chapter, effects predicted to be significant on an ecological feature at the County, National, EU or International geographic levels are considered to be 'Significant' in the broader term used in this EIA, whereas those predicted to be significant only at the Local or Site (or Negligible) levels are considered to be 'Not Significant'.

12.3.22 Therefore, ecological features of less than 'Local' importance are not subject to detailed assessment (see further below).

12.3.23 Existing data and criteria are considered when determining the importance of ecological features. Where these are lacking, it is necessary to apply professional judgement. Factors considered include:

- rarity, endemicity, mobility and geographic range (particularly if this is changing)
- size/extent, rate of decline and vulnerability
- typicalness, species-richness, habitat structure and connectivity/fragmentation
- function/value to other features (e.g., habitats of important species or buffers against impacts); and
- restoration potential.

12.3.24 The importance of ecological features is described using a geographic scale. Examples of the types of ecological features which may fall into each category are given in Table 12-4, which is adapted from the CIEEM EcIA guidelines[9]. For this assessment, 'Local' is defined as the area within 5km of the Proposed Order.

[79] NPWS - Red List No. 12 Mammals. https://www.npws.ie/sites/default/files/publications/pdf/Red%20List%20No.%2012%20Mammals.pdf
[80] NPWS - RL5. https://www.npws.ie/sites/default/files/publications/pdf/RL5.pdf

Table 12-4: Examples of Ecological Importance

Importance	Examples
International and EU	• Internationally designated nature conservation site (or candidate/proposed international site), or site satisfying criteria for such designation, or feature essential to maintaining such sites. • Sustainable area (or part of a larger sustainable area) of best examples of Annex I habitat. • A regularly occurring internationally significant population (e.g., 1% of the international population, or potentially less for critical parts of wider populations or those at a critical life-cycle stage) of internationally important species listed on Annex I of the Birds Directive or Annex II of the Habitats Directive.
National	• Nationally designated nature conservation site (or proposed such site), or site satisfying criteria for such designation. • Sustainable area of good quality Annex I habitat not deemed to be of international importance, or of national priority habitat, which is a significant proportion of the resource. • Regularly occurring nationally significant population (e.g., 1% of the national population, or potentially less for critical parts of wider populations or those at a critical life-cycle stage) of species listed or protected under the Wildlife Acts or Red Data Lists, or site supporting one.
County	• County designated nature conservation site (or proposed such site). • Sustainable area of Annex I habitat or national priority habitat not deemed to be of higher importance (e.g., lower quality, highly fragmented, small and/or low restoration potential), or priority habitat under a Local Biodiversity Action Plan if this exists and applies at county level. • Regularly occurring County significant population (e.g., 1% of county resource, or potentially less for critical parts of wider populations or those at a critical life-cycle stage) of species listed or protected under the Habitats/Birds Directives, Wildlife Acts, Red Data Lists or Local Biodiversity Action Plan (if this exists and applies at county level), or site supporting one.
Local	• Priority habitat of insufficient size or quality for higher importance or degraded with low restoration potential. • Habitat providing biodiversity or important ecological corridors in a local context. • Small sustainable population of important species not qualifying for higher importance or uncommon locally.
Site	• Common, heavily managed and/or modified habitat, and common, widespread and/or managed species.

12.3.25 In line with the CIEEM EcIA guidelines, the terminology used within this chapter draws a clear distinction between the terms ‘impact’ and ‘effect’. For the purposes of the assessment, these terms are defined as follows:

- Impact – an action or change resulting in a change to an ecological feature. For example, a change in emissions associated with airport operations resulting in a change in air quality and associated nitrogen deposition at a sensitive ecological habitat.
- Effect – the ecological outcome resulting from an impact acting upon the conservation status or structure and/or function of an ecological feature. For example, increased nitrogen deposition may alter habitat composition or condition, resulting in an adverse effect on the structure and function of the ecological feature concerned.

12.3.26 Potential impacts on relevant ecological features are assessed and a judgement reached on whether or not the resultant effect on the conservation status or structure and function is likely to be significant. This process takes into consideration the characteristics of the impact, the sensitivity of the ecological feature concerned, and the geographic scale at which the feature is considered important. Consideration is also given to cumulative effects, since impacts acting in-combination may have a cumulative effect exceeding that of separate individual impacts. Cumulative effects may arise from a combination of impacts from the Proposed Order itself or the combined impacts from different developments.

12.3.27 The Proposed Order does not include construction and therefore only operational impacts have been considered. They may be direct or indirect (also termed ‘secondary’). Direct impacts are attributable to an action associated with the Proposed Order. Indirect impacts are often produced away from a site or as a result of other initial impacts.

12.3.28 Likely impacts/effects are characterised using those parameters below derived from CIEEM guidance that are necessary to understand them:

- direction/quality – whether the impact will have a beneficial, neutral or adverse effect
- magnitude – the 'size', 'amount' or 'intensity' of an impact, described in quantitative terms as far as possible
- extent – the spatial or geographical area or distance over which the impact or effect occurs
- duration – the time over which an impact/effect is expected to last prior to recovery or replacement (if possible) of the feature. Where appropriate, ecological aspects such as lifecycles are considered. The duration of an effect may be longer than the duration of an activity or impact
- timing and frequency – timing is important since an effect might not occur if critical seasons or life stages are avoided, and frequency considers repetition of an activity, which may result in a greater effect; and
- reversibility – whether the effect is temporary or permanent. A temporary impact/effect is one from which recovery is possible or for which effective mitigation is possible and enforceable. A permanent effect is one from which recovery is either not possible or cannot be achieved within a reasonable timescale (in the context of the feature being assessed).

12.3.29 Impacts are assessed in view of the conservation status of the habitats and species under consideration. CIEEM EcIA guidelines[9] state that, for habitats, "*conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area*". For species, "*conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area*".

12.3.30 An effect (Beneficial or Adverse) is significant at a specified geographical level if it affects the ecological integrity of a site or ecosystem or the conservation status of a habitat or species. If not significant at the level it was considered important, an effect could be significant at a lower geographic level (for example, an effect on a nationally important species may not be significant to the national population). These assessments are based on quantitative evidence where available and, where necessary, professional judgement informed by the ecological characteristics and sensitivity of the feature, the nature, scale and duration of the effect, the available survey and desk-study evidence, and the experience of the competent ecologists.

12.3.31 Initially, the effect significance does not consider mitigation or offset measures unless it is part of the embedded approach. The residual effect significance takes such measures into account, with the aim that, wherever possible, residual effects are not significant or are significant at a lower geographic level.

12.3.32 The CIEEM EcIA guidelines[9] advise that where there is reasonable doubt and a conclusion of no significant effect cannot be robustly reached, this uncertainty should be acknowledged and a significant effect assumed, in line with the Precautionary Principle.

Approach to Mitigation

12.3.33 Where impacts on relevant ecological features are predicted, the approach to mitigation engages the following hierarchy:

- avoid features where possible;
- minimise impact by method of working or other measures, for example by enhancing existing features; and
- compensate for significant residual effects (e.g., by providing suitable habitats elsewhere).

12.3.34 This hierarchy requires the highest level to be applied where possible (i.e., avoidance). Only where this cannot be reasonably adopted are lower levels considered, giving rationale including sufficient detail to show that the measures are feasible and will be provided.

Application of the Assessment Framework

12.3.35 This chapter focuses on the Principal Assessment, as described in Chapter 4: Proposed Order and Chapter 5: Methodology. The Principal Assessment compares the 2029 Permitted Operation (32 mppa) with the 2029 Proposed Operation (40 mppa). Both operational conditions are assessed for the same future year and against the same Future Receiving Environment and other baseline assumptions. The comparison therefore identifies the change in biodiversity effects associated with the Proposed Order relative to the Permitted Operation. This provides the basis for determining the likely significant environmental effects of the Proposed Order.

12.3.36 An assessment of effects following the Principal Assessment alone is considered sufficient for this environmental topic, because the Proposed Order does not involve physical development or habitat loss and the anticipated operational changes (including increases in passenger numbers, aircraft movements, and associated traffic) are addressed through the relevant ecological impact pathways assessed within the Principal Assessment. Accordingly, no Supporting Assessments have been undertaken because they would not provide meaningful additional information that would assist interpretation of the Principal Assessment.

12.3.37 The Current State of the Environment (Section 12.4) relevant to this chapter has been established through a combination of desk studies and field surveys undertaken between 2018 and 2026 (most recent field surveys were undertaken in 2025). The Future Receiving Environment (Section 12.5) considers the evolution of the biodiversity baseline from the current receiving environment to the Principal Assessment Year 2029 (which is unlikely to substantially change in the absence of any influencing factors, e.g., land use, development).

Limitations and Assumptions

12.3.38 Baseline survey data used to inform this assessment has been gathered from a range of sources between 2018 and 2026, some of which were undertaken to inform a previous Dublin Airport Infrastructure Application. The Dublin Airport Site covers a similar spatial area where survey effort was focused.

12.3.39 CIEEM advises that survey data between 12 and 18 months old is "*likely to be valid in most cases*" (CIEEM, 2019)[81]. Moreover, CIEEM also advises that survey data between 18 months and three years old may still be valid if there have been no significant changes to the habitats present and the local distribution of species in the wider area is not known to have changed. NatureScot (the statutory nature conservation agency in Scotland) similarly advise that ornithological data collected within the last five years, or three years if populations of key species are known to be changing rapidly, can be used to inform impact assessments for proposed wind farms (SNH, 2017).

12.3.40 These criteria are all met in the case of the data used to describe the Current State of the Environment, where there has been no material change to baseline habitats between 2019 and 2025 (when update surveys were conducted), and the distribution of important ecological features is not known to have changed locally. The data collected, which have been used to establish the Current State of the Environment and inform the Future Receiving Environment upon which the Principal Assessment is based, are therefore robust and valid, and there is no limitation to the reliability of the assessment presented in this document arising from the age of field survey data. The aim of the desk study was to help characterise the baseline context of the Proposed Order and provide valuable background information that may not be captured by field survey alone. Information obtained during the desk study is dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for particular species does not necessarily mean that they do not occur in the study area. Likewise, the presence of records for particular species does not automatically mean that these still occur within the area of interest or are relevant to the Proposed Order. Elements of the desk study, such as species records from within 2km of the Dublin Airport Site, were gathered in 2024; these data are still considered valid and sufficient to inform an assessment of effects from the Proposed Order.

[81] CIEEM. (2019). Advice note on the Lifespan of Ecological Reports and Surveys. Available: https://cieem.net/resource/advice-note-on-the-lifespan-of-ecological-reports-and-surveys.

12.3.41 Details of specific limitations associated with the surveys for protected and important species are presented in Appendices 12-2 to 12-6 (EIAR Volume 4). All identified limitations were minor and do not affect the robustness of the baseline data collected, or the assessment of ecological impacts and effects presented in this chapter.

12.3.42 As set out in the Field Survey method section, no targeted field survey was carried out for invertebrates, common lizard, hedgehog, Irish hare, Irish stoat, pine marten, pygmy shrew, and red squirrel. However, Irish hare is known to occur at Dublin Airport, and it can also reliably be assumed that common lizard, hedgehog, Irish stoat, and pygmy shrew are present within the ZoI of the Proposed Order. The potential for impacts on these species, which are all relatively common and widespread, can be adequately assessed without requiring detailed field survey data. In addition, no infrastructure is proposed as part of the Proposed Order, and therefore there would be no physical impacts on species. Furthermore, there are no large areas of woodland habitat in the Dublin Airport Site and adjacent lands, and therefore it can also be reasonably assumed that pine marten and red squirrel are absent from the ZoI of the Proposed Order. Therefore, the lack of field surveys carried out for these species does not represent a limitation to the assessment.

12.4 Current Receiving Environment

12.4.1 This section presents the current baseline relevant to this chapter, established from desk studies and field surveys described above (Section 12.3).

12.4.2 For the purpose of describing the current receiving environment, the operational airport (Dublin Airport Site) is divided into various sectors (Sectors A to K). The locations of these sectors are set out in Chapter 2: Site and Surroundings and shown in Figure 2.2.

12.4.3 Ecological data to inform this chapter has been gathered between 2018 and 2025. This multi-year record provides a robust baseline to inform the Principal Assessment (comparing the 2029 Permitted Operation (32 mppa) and the 2029 Proposed Operation (40 mppa)).

12.4.4 The biodiversity baseline has been gathered over a time period which includes the 2023 Baseline Operation scenario (32 mppa) and 2025 Current Operation (36.4 mppa). The multi-year survey record indicates no material change in habitats or important ecological features attributable to post-2023 airport growth between 2023 and 2025.

12.4.5 The use of survey data collected after 2023 is therefore not considered to reduce the sensitivity of ecological features or otherwise understate the effects of the Proposed Order. Potential operational pathways by which increased airport activity could affect ecological features, including changes in air quality, water quality, noise and aircraft activity, are assessed separately using the corresponding 2029 Permitted Operation and 2029 Proposed Operation assumptions.

Internationally, EU and Nationally Designated Sites

12.4.6 There are 33 sites designated for nature conservation within the potential ZoI of the Proposed Order. This comprises ten SACs, ten SPAs, five Ramsar sites (which overlap with their respective SPAs), nine pNHAs, and the Dublin Bay UNESCO Biosphere Reserve. Details of these sites are given in Table 12-5 and their locations are shown on Figure 12-1 (EIAR Volume 3). The Dublin Bay UNESCO Biosphere Reserve also includes protected areas managed for conservation of biodiversity, including designated sites within North Bull Island and Dublin Bay. As outlined in Table 12-1 the areas of search have been extended where a designated site may be subject to an impact outside the minimum expected ZoI, for instance, if a site is within 200m of a major road which may be subject to increased traffic/air quality impacts from the Proposed Order or may be hydrologically connected to the Dublin Airport Site. For example, the potential ZoI for National Nature Conservation Designations is 2km from the Dublin Airport Site; however, pNHA sites such as the Royal Canal pNHA (5.4km from the boundary) have been included due to their proximity to a major road.

Table 12-5: Sites Designated for Nature Conservation

Site Name	Reason(s) for Designation/Site Summary	Location in Relation to the Dublin Airport Site
Santry Demesne pNHA [000178]	This site comprises the remnants of a former demesne woodland which includes species such as beech *Fagus sylvatica*, wych elm *Ulmus glabra*, ash *Fraxinus excelsior*, sycamore *Acer pseudoplatanus*, hawthorn *Crataegus monogyna* and Scots pine *Pinus sylvestris*. The primary importance of this site is that it contains a legally protected plant species called hairy St. John's-wort *Hypericum hirsutum*. Hairy St. John's-wort has been recorded from only five counties in eastern Ireland, concentrated in the River Liffey valley. In addition, the woodland is of general ecological interest as it occurs in an area where little has survived of the original vegetation, including species such as wood speedwell *Veronica montana*, sanicle *Sanicula europaea*, ramsons *Allium ursinum*, early dog-violet *Viola reichenbachiana*, goldilocks buttercup *Ranunculus auricomus*, giant fescue *Festuca gigantea* and false brome *Brachypodium sylvaticum*.	1.5km south
Malahide Estuary SPA [004025] and Broadmeadow Estuary Ramsar Site [833]	• Great crested grebe *Podiceps cristatus* [A005] • Light-bellied brent goose *Branta bernicla hrota* [A046] • Shelduck *Tadorna tadorna* [A048] • Pintail *Anas acuta* [A054] • Goldeneye *Bucephala clangula* [A067] • Red-breasted merganser *Mergus serrator* [A069] • Oystercatcher *Haematopus ostralegus* [A130] • Golden plover *Pluvialis apricaria* [A140] • Grey plover *Pluvialis squatarola* [A141] • Knot *Calidris canutus* [A143] • Dunlin *Calidris alpina* [A149] • Black-tailed godwit *Limosa limosa* [A156] • Bar-tailed godwit *Limosa lapponica* [A157] • Redshank *Tringa totanus* [A162] • Wetland and waterbirds [A999]	4.0km north-east
Malahide Estuary SAC [000205]	• Tidal mudflats and sandflats [1140] • Salicornia mud and other annuals colonising mud and sand [1310] • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] • Mediterranean salt meadows (*Juncetalia maritiml*) [1410] • Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] • Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	4.0km north-east

Site Name	Reason(s) for Designation/Site Summary	Location in Relation to the Dublin Airport Site
Sluice River Marsh pNHA [001763]	This pNHA has been designated for marsh, wet grassland, wet woodland and waterfowl. It comprises a freshwater marsh along the Sluice River with some wet grassland, wet woodland and scrub surrounding the marsh. Several waterbirds have been recorded in this location, such as mallard *Anas platyrhynchos*, snipe *Gallinago gallinago*, grey heron *Ardea cinerea*, moorhen *Gallinula chloropus*, and reed bunting *Emberiza schoeniclus*. Some waterfowl from Baldoyle Estuary may use this marsh on occasion.	4.8km east Sluice River is located approximately 150m north of the Dublin Airport Site. This pNHA is located approximately 6.1km downstream of this location.
Baldoyle Bay SPA [004016], Baldoyle Bay Ramsar Site [413] and Baldoyle Bay pNHA [000199]	• Light-bellied brent goose [A046] • Shelduck [A048] • Ringed plover *Charadrius hiaticula* [A137] • Golden plover [A140] • Grey plover [A141] • Bar-tailed godwit [A157] • Wetland and waterbirds [A999]	5.3km east Baldoyle Bay is located 6.5km downstream of the Dublin Airport Site via the Cuckoo Stream and the Mayne River.
Baldoyle Bay SAC [000199]	• Tidal mudflats and sandflats [1140] • Salicornia mud [1310] • Atlantic salt meadows [1330] • Mediterranean salt meadows [1410]	5.3km east Baldoyle Bay is located 6.5km downstream of the Dublin Airport Site via the Cuckoo Stream and the Mayne River.
Royal Canal pNHA [002103]	This pNHA is designated for hedgerows, calcareous grassland, reed fringe, open water, scrub and woodland habitats. The Royal Canal is a man-made waterway linking the River Liffey at Dublin to the River Shannon near Tarmonbarry. Otters are known to use the canal. Protected plant species included opposite leaved pondweed *Groenlandia densa* and stonewort *Tolypella intricata*.	5.4km south
South Dublin Bay and River Tolka Estuary SPA [004024] and Sandymount Strand/Tolka Estuary Ramsar Site [832]	• Light-bellied brent goose [A046] • Oystercatcher [A130] • Ringed plover [A137] • Grey plover [A141] • Knot [A143] • Sanderling [A144] • Dunlin [A149] • Bar-tailed godwit [A157] • Redshank [A162] • Black-headed gull [A179] • Roseate tern *Sterna dougallii* [A192] • Common tern *Sterna hirundo* [A193] • Arctic tern *Sterna paradisaea* [A194] • Wetland and waterbirds [A999]	5.8km south

Site Name	Reason(s) for Designation/Site Summary	Location in Relation to the Dublin Airport Site
North Bull Island SPA [004006], North Bull Island Ramsar Site [406], North Dublin Bay pNHA	• Light-bellied brent goose [A046] • Shelduck [A048] • Teal *Anas crecca* [A052] • Pintail [A054] • Shoveler *Anas clypeata* [A056] • Oystercatcher [A130] • Golden plover [A140] • Grey plover [A141] • Knot [A143] • Sanderling *Calidris alba* [A144] • Dunlin [A149] • Black-tailed godwit [A156] • Bar-tailed godwit [A157] • Curlew *Numenius arquata* [A160] • Redshank [A162] • Turnstone *Arenaria interpres* [A169] • Black-headed gull [A179] • Wetland and waterbirds [A999]	6.1km south-east
North Dublin Bay SAC [000206]	• Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210] • Salicornia and other annuals colonising mud and sand [1310] • Atlantic salt meadows [1330] • Mediterranean salt meadows [1410] • Embryonic shifting dunes [2210] • Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] • Fixed dunes with herbaceous vegetation (grey dunes) [2130] • Humid dune slacks [2190] • Petalwort *Petalophyllum ralfsii* [1390]	6.1km south-east
North-West Irish Sea SPA [004236]	• Common scoter *Melanitta nigra* [A065] • Red-throated diver *Gavia stellata* [A001] • Great northern diver *Gavia immer* [A003] • Fulmar *Fulmarus glacialis* [A009] • Manx shearwater *Puffinus puffinus* [A013] • Shag *Phalacrocorax aristotelis* [A018] • Cormorant *Phalacrocorax carbo* [A017]	6.8km east

Site Name	Reason(s) for Designation/Site Summary	Location in Relation to the Dublin Airport Site
	• Little gull *Larus minutus* [A177] • Kittiwake *Rissa tridactyla* [A188] • Black-headed gull *Chroicocephalus ridibundus* [A179] • Common gull *Larus canus* [A182] • Lesser black-backed gull *Larus fuscus* [A183] • Herring gull *Larus argentatus* [A184] • Great black-backed gull *Larus marinus* [A187] • Roseate tern [A192] • Common tern [A193] • Arctic tern [A194] • Little tern *Sterna albifrons* [A195] • Puffin *Fratercula arctica* [A204] • Razorbill *Alca torda* [A200] • Guillemot *Uria aalge* [A199]	
Rogerstown Estuary SAC [000208]	• Estuaries [1130] • Tidal mudflats and sandflats [1140] • Salicornia and other annuals colonising mud and sand mud [1310] • Atlantic salt meadows [1330] • Mediterranean salt meadows [1410] • Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] • Fixed dunes with herbaceous vegetation (grey dunes) [2130] Three rare plants are also known to be present: hairy violet *Viola hirta*, meadow barley *Hardeum secalinum* and green-winged orchid *Orchis morio.*	7.8km north
Rogerstown Estuary SPA [004015] and Rogerstown Estuary Ramsar Site [412]	• Greylag goose *Anser anser* [A043] • Light-bellied brent goose [A046] • Shelduck [A048] • Shoveler [A056] • Oystercatcher [A130] • Ringed plover [A137] • Grey plover [A141] • Knot [A143] • Dunlin [A149] • Black-tailed godwit [A156] • Redshank [A162]	8.0km north

Site Name	Reason(s) for Designation/Site Summary	Location in Relation to the Dublin Airport Site
	• Wetland and waterbirds [A999]	
Liffey Valley pNHA [000128]	This pNHA is designated for mixed deciduous woodland, wet marsh, and species such as salmon and green figwort *Scrophularia umbrosa*.	8.4km south-west
South Dublin Bay SAC [000210]	• Tidal mudflats and sandflats [1140] • Annual vegetation of drift lines [1210] • Salicornia and other annuals colonising mud and sand [1310] • Embryonic shifting dunes [2210]	8.7km south-east
Grand Canal pNHA [002104]	This pNHA is designated for open water, calcareous grassland, reed, scrub, woodland, and species such as otter and opposite-leaved pondweed *Groenlandia densa*.	9.7km south
Rockabill to Dalkey Island SAC [003000]	• Reefs [1170] • Harbour porpoise *Phocoena phocoena* [1351]	10.0km east
Howth Head SAC [000202]	• Vegetated sea cliffs [1230] • Dry heath [4020]	10.1km east
Ireland's Eye SPA [004117]	• Cormorant [A017] • Herring gull [A184] • Kittiwake [A188] • Guillemot [A199] • Razorbill [A200]	10.1km east
Ireland's Eye SAC [002193]	• Perennial vegetation of stony banks [1220] • Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	10.3km east
Howth Head Coast SPA [004113]	• Kittiwake [A188]	11.5km east
Lambay Island SAC [000204]	• Reefs [1170] • Vegetated sea cliffs of the Atlantic and Baltic Coasts [1230] The site also supports a breeding colony of grey seal *Halichoerus grypus*, as well as harbour seals *Phoca vitulina*.	14.6km north-east
Lambay Island SPA [004069]	• Fulmar [A009] • Cormorant [A017] • Shag [A018] • Greylag goose [A043] • Lesser black-backed gull [A183] • Herring gull [A184] • Kittiwake [A188]	14.6km north-east

Site Name	Reason(s) for Designation/Site Summary	Location in Relation to the Dublin Airport Site
	• Guillemot [A199] • Razorbill [A200] • Puffin [A204]	
Rye Water Valley/Carton SAC [001398]	• Petrifying springs with tufa formation [7220] • Narrow-mouthed whorl snail *Vertigo angustior* [1014] • Desmoulin's whorl snail *Vertigo moulinsiana* [1016]	15.0km west
Bog of the Ring pNHA [001204]	This pNHA has been designated for peatland, marsh, and bird habitat. It is located in a flat, low-lying area with impeded drainage, showing signs of peat development in its upper horizons. Previously drained peatland but contains pockets of wet and damp ground where marsh vegetation occurs. Site used in winter by golden plover and whooper swan *Cygnus cygnus*. Breeding species include snipe, skylark *Alauda arvensis*, meadow pipit *Anthus pratensis*, reed bunting, stonechat *Saxicola rubicola*, and sedge warbler *Acrocephalus schoenobaenus*.	15.5km north
Dalkey Islands SPA [004172]	*Breeding and passage (post-breeding/pre-mitigation roosting) waterbirds:* • Roseate tern [A192] • Common tern [A193] • Arctic tern [A194]	17.5km south-east

Local Nature Conservation Designations

12.4.7 Several sites with Annex I habitats found outside the boundary of the designated areas are located within the Fingal area. However, all of these habitats are located more than 2km from the Dublin Airport Site. The closest of these Annex I habitats which are outside designated sites is located adjacent to the Baldoyle Bay SAC and approximately 5.6km to the east of the Dublin Airport Site.

12.4.8 Nature development areas (NDAs) as outlined in the Fingal Biodiversity Action Plan 2023-2030 consist of nature conservation areas that can be combined with existing land use functions such as farming, golf courses and demesnes to act as secondary core areas in the countryside and/or will act as stepping stones along ecological corridors. Within 2km of the Proposed Order Boundary, there are five NDAs relevant to the Proposed Order. These are the Forrest Little Golf Club located along the northern boundary, Feltrim Hill located approximately 1.3km to the north-east, Silloge Park Golf Club located approximately 190m to the south, a farmland located approximately 185m to the north, and a demesne located approximately 2km east of the Dublin Airport Site. There are different strategies depending on the land use function listed within the Fingal Biodiversity Action Plan. For example, regarding farmlands, NDAs are the focus and search areas for demonstration farms and possible agri-environment schemes

Watercourses

12.4.9 As detailed within Chapter 11: Water, and Appendix 11-2: Water Framework Directive (WFD) Assessment (EIAR Volume 4), the surface water at Dublin Airport drains to one primary catchment, subdivided into two sub catchments, and further into four sub-basins, as shown in Table 12-6.

12.4.10 The Mayne River sub-basin, which includes the Cuckoo Stream, is a sub-basin of the Liffey and Dublin Bay Catchment. The majority of the Dublin Airport Site is within the Mayne River sub-basin, which covers the majority of the airport footprint, including Sectors A to J. The Cuckoo Stream flows into the Mayne River, which subsequently flows into the Baldoyle Estuary SPA and SAC.

12.4.11 The Sluice sub-basin includes the Forrest Little Stream, Kealy's Stream and Wad Stream. This sub-basin drains the majority of the North Runway (10L/28R), the North Apron, and GTC, all located within sectors A, B, E, G, H, K. Forrest Little Stream and Kealy's Stream flow into the Sluice River, which then flows into the Baldoyle SPA and SAC.

12.4.12 The Santry River sub-basin extends across the western part of the South Runway (10R/28L) and airport car parking within Sector A. The Santry River flows into Dublin Bay behind North Bull Island SPA. This sub-basin is not hydrologically connected to any elements of the Dublin Airport Site.

12.4.13 The Ward River sub-basin includes the Barberstown Stream and Huntstown Stream which flow into the Ward River to the north of the Dublin Airport Site. The Ward River's natural catchment extends across the western part of the North Runway (10L/28R); however, it does not receive drainage from the North Runway (10L/28R), which extends across sectors A and J. The Ward River flows into the Malahide Estuary SAC. This sub-basin is not directly hydrologically connected to the Dublin Airport Site.

Table 12-6: Summary of WFD Catchment, Sub catchments and Waterbodies

WFD Catchment	WFD Sub catchments	WFD River Sub Basin	Water Body	Water body within Sector	Sector within catchment
Liffey and Dublin Bay	Mayne_SC_010	Mayne River	Mayne Stream	None	A
			Cuckoo Stream	A, D, E, H	J, I, B, C, F, G
		Sluice River	Forrest Little Stream	A	
			Kealy Stream	F, G	H, E
			Wad Stream	None	K, F, B
		Santry River	Santry River	None	A

WFD Catchment	WFD Sub catchments	WFD River Sub Basin	Water Body	Water body within Sector	Sector within catchment
	Broadmeadow_SC_010	Ward River	Barberstown Stream	A (although the North Runway (10L/28R) itself does not drain to the Ward River)	J
			St. Margaret's Stream	A (although the North Runway (10L/28R) itself does not drain to the Ward River)	

Records of Important Species

12.4.14 Records of important species within 2km of the Dublin Airport Site within the last 30 years (up to 2024) returned by the NBDC and NPWS are provided in Table 12-7. Furthermore, there is a known area of Japanese knotweed *Reynoutria japonica,* at the Irish Transverse Mercator (ITM) coordinate 715109, 742944, which has been actively managed by daa since 2019.

12.4.15 For the purposes of this chapter, important bird species are defined as:

- species listed on Annex I of the Birds Directive;
- all qualifying bird species (known in Ireland as 'Special Conservation Interests' (SCI)) of SPAs or Wetlands of International Importance ('Ramsar sites') within 15km of the Dublin Airport (extended to 20km for certain non-breeding species);
- all qualifying bird species of nationally designated sites (Natural Heritage Areas (NHAs) and Proposed Natural Heritage Areas (pNHAs)) within 2km of the Dublin Airport or further afield where there is potential connectivity to the Dublin Airport Site; and
- red-listed species in the BoCCI 2020-2026[14].

Table 12-7: Records of Important Ecological Features Returned by NBDC and NPWS Within 2km of the Site

Taxon	Common Name	Scientific Name	Legally Protected[1]	Red List Status[2]	Number of Records
Amphibians	Common frog	*Rana temporaria*	b		13
	Smooth newt	*Lissotriton vulgaris*	b		3
Invertebrates	Buffish mining bee	*Andrena nigroaenea*		VU	3
	Grayling	*Hipparchia semele*		NT	4
	Gooden's nomad bee	*Nomada goodeniana*		EN	2
	Large red tailed bumble bee	*Bombus lapidaries*		NT	12
	Moss carder bee	*Bombus muscorum*		NT	2
	Narrow-bordered five-spot burnet	*Zygaena lonicerae*		VU	3
Mammals – bats	Brown long-eared bat	*Plecotus auritus*	a, b		3
	Common pipistrelle	*Pipistrellus pipistrellus*	a, b		13
	Daubenton's bat	*Myotis daubentonii*	a, b		23
	Leisler's bat	*Nyctalus leisleri*	a, b		23
	Natterer's bat	*Myotis nattereri*	a, b		2

Taxon	Common Name	Scientific Name	Legally Protected[1]	Red List Status[2]	Number of Records
	Soprano pipistrelle	*Pipistrellus pygmaeus*	a, b		11
Mammals – other terrestrial	Badger	*Meles meles*	b		4
	Hedgehog	*Erinaceus europaeus*	b		18
	Irish stoat	*Mustela erminea* subsp. *hibernica*	b		1
	Irish hare	*Lepus timidus* subsp. *hibernicus*	b		109
	Otter	*Lutra lutra*	a, b		6
	Pine marten	*Martes martes*	b		1
	Pygmy shrew	*Sorex minutus*	b		3
	Red squirrel	*Sciurus vulgaris*	b		1
Birds	Arctic tern	*Sterna paradisaea*	b, c		3
	Barn owl	*Tyto alba*	b	f	7
	Bar-tailed godwit	*Limosa lapponica*	b, c	f	3
	Black-headed gull	*Larus ridibundus*	b		12
	Black-necked grebe	*Podiceps nigricollis*	b	f	1
	Black-tailed godwit	*Limosa limosa*	b	f	3
	Black-throated diver	*Gavia arctica*	b, c		1
	Common scoter	*Melanitta nigra*	b	f	2
	Cormorant	*Phalacrocorax carbo*	b		6
	Curlew	*Numenius arquata*	b	f	7
	Dunlin	*Calidris alpina*	b	f	4
	Fulmar	*Fulmarus glacialis*	b		4
	Golden plover	*Pluvialis apricaria*	b, c	f	4
	Goldeneye	*Bucephala clangula*	b, c	f	3
	Great black-backed gull	*Larus marinus*	b		7
	Great crested grebe	*Podiceps cristatus*	b		3
	Great northern diver	*Gavia immer*	b, c		2
	Grey partridge	*Perdix perdix*	b	f	3
	Grey plover	*Pluvialis squatarola*	b		3
	Grey wagtail	*Motacilla cinerea*	b	f	13
	Guillemot	*Uria aalge*	b		5
	Hen harrier	*Circus cyaneus*	b, c		1
	Herring gull	*Larus argentatus*	b		11
	Kestrel	*Falco tinnunculus*	b	f	18
	Kingfisher	*Alcedo atthis*	b, c		9
	Kittiwake	*Rissa tridactyla*	b	f	4
	Knot	*Calidris canutus*	b	f	2

Taxon	Common Name	Scientific Name	Legally Protected[1]	Red List Status[2]	Number of Records
	Lesser black-backed gull	*Larus fuscus*	b		6
	Light-bellied brent goose	*Branta bernicla*	b		4
	Little egret	*Egretta garzetta*	b, c		5
	Little gull	*Larus minutus*	b, c		3
	Long-tailed duck	*Clangula hyemalis*	b	f	2
	Meadow pipit	*Anthus pratensis*	b	f	13
	Mediterranean gull	*Larus melanocephalus*	b, c		2
	Merlin	*Falco columbarius*	b, c		2
	Northern lapwing	*Vanellus vanellus*	b	f	13
	Oystercatcher	*Haematopus ostralegus*	b	f	8
	Peregrine	*Falco peregrinus*	b, c		6
	Pintail	*Anas acuta*	b		2
	Puffin	*Fratercula arctica*	b	f	3
	Purple sandpiper	*Calidris maritima*	b	f	1
	Razorbill	*Alca torda*	b	f	4
	Red-breasted merganser	*Mergus serrator*	b		3
	Redshank	*Tringa totanus*	b	f	8
	Red-throated diver	*Gavia stellata*	b, c		2
	Redwing	*Turdus iliacus*	b	f	8
	Ringed plover	*Charadrius hiaticula*	b		5
	Ruff	*Philomachus pugnax*	b, c		2
	Sanderling	*Calidris alba*	b		2
	Shag	*Phalacrocorax aristotelis*	b		5
	Shelduck	*Tadorna tadorna*	b		9
	Short-eared owl	*Asio flammeus*	b, c		4
	Shoveler	*Anas clypeata*	b	f	2
	Snipe	*Gallinago gallinago*	b	f	9
	Swift	*Apus apus*	b	f	14
	Teal	*Anas crecca*	b		4
	Whooper swan	*Cygnus cygnus*	b, c		2
	Woodcock	*Scolopax rusticola*	b	f	3
	Yellowhammer	*Emberiza citrinella*	b	f	17
Protected plants	Smooth brome	*Bromus racemosus*		NT	1
Invasive species	Brown rat	*Rattus norvegicus*			4
	Cherry laurel	*Prunus laurocerasus*			5
	Grey squirrel	*Sciurus carolinensis*			5
	Japanese knotweed	*Reynoutria japonica*			2

Taxon	Common Name	Scientific Name	Legally Protected[1]	Red List Status[2]	Number of Records
	Giant hogweed	*Heracleum mantegazzianum*			1

Table footnotes

1. Key to Legally Protected Species: a) Habitats Directive (excluding Annex V), b) Wildlife Acts, c) Annex I of Birds Directive, d) Irish Fisheries Acts, e) Flora Protection Order (FPO).
2. Key to Red Lists: f) BoCCI red list, CR) Critically Endangered, EN) Endangered, VU) Vulnerable, NT) Near Threatened, DD) Data deficient (Marnell *et al.*, 2019[82]; Fitzpatrick *et al.*, 2006[83]; Regan *et al.*, 2010[84]; Gilbert *et al.*, 2021[14]; Byrne *et al*., 2009[85]; King *et al*., 2011[86]; Nelson *et al.*, 2019[87]). Note: excludes amber listed birds and Least Concern.

Habitats and Species at Sectors of Dublin Airport

Sector A

12.4.16 Sector A mainly comprises aircraft runways and taxiways. It is dominated by amenity grassland (Fossitt[55] code: GA2) and paved artificial surfaces (BL3). There are also some artificial drainage ditches (FW4) present. The habitats within Sector A are of low ecological importance as they are composed of species-poor and/or disturbed hardstanding habitats.

12.4.17 Notable species that are likely present in this Sector include Irish hare, common frog, and birds. Irish hare and birds, which both pose a hazard to aircraft due to the potential for collisions, are both known to be present in this Sector. Important bird species recorded in Sector A are presented in Table 12-8. Note that, due to the proximity of the Dublin Airport runways to the bird survey locations, records of flyover (commuting) birds have also been included due to the risk of aircraft bird strike.

12.4.18 The grassland within this sector is managed to deter the presence of Irish hare and birds. The grassland in this sector is maintained at a short sward length to reduce the suitability of the area for hares as well as birds, particularly those that may nest on the ground, as it does not provide adequate cover. Further, as part of their wildlife management programme, daa removes Irish hares from Dublin Airport via licensed capture and relocation.

12.4.19 Common frog spawn has been identified within drainage ditches of Sector A (Figure 12-4). However, these drainage ditches were notably polluted during the surveys carried out and were primarily dry during the field surveys in May and June 2024. Therefore, these drainage ditches are unlikely to sustain any large populations of this species.

[82] Marnell, F., Looney, D. and Lawton, C. (2019). Ireland Red List No. 12: Terrestrial Mammals. National Parks and Wildlife Service, Department of the Culture, Heritage and the Gaeltacht, Dublin, Ireland. https://www.npws.ie/sites/default/files/publications/pdf/Red%20List%20No.%2012%20Mammals.pdf
[83] Fitzpatrick Ú., Murray T.E., Byrne A., Paxton R.J. and Brown M.J.F. (2006). Regional Red List of Irish Bees. https://researchrepository.ucd.ie/server/api/core/bitstreams/1a3254f3-6b32-483d-b455-b81713d78f39/content
[84] Regan, E.C., Nelson, B., Aldwell, B., Bertrand, C., Bond, K., Harding, J., Nash, D., Nixon, D. and Wilson, C.J. (2010). Ireland Red List No. 4 – Butterflies. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Ireland. https://www.npws.ie/sites/default/files/publications/pdf/RL_2010_Butterflies.pdf
[85] Byrne, A., Moorkens, E.A., Anderson, R., Killeen, I.J. and Regan, E.C. (2009). Ireland Red List No. 2 – Non-marine Molluscs. National Parks and Wildlife Service. Pdf
[86] King, J.L., Marnell, F., Kingston, N., Rosell, R., Boylan, P., Caffrey, J.M., FitzPatrick, Ú., Gargan, P.G., Kelly, F.L., O'Grady, M.F., Poole, R., Roche, W.K. and Cassidy, D. (2011). Ireland Red List No. 5: Amphibians, Reptiles and Freshwater Fish. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland. https://www.npws.ie/sites/default/files/publications/pdf/RL5.pdf
[87] Nelson, B., Cummins, S., Fay, L., Jeffrey, R., Kelly, S., Kingston, N., Lockhart, N., Marnell, F., Tierney, D. and Wyse Jackson, M. (2019). Checklists of protected and threatened species in Ireland. Irish Wildlife Manuals, No. 116. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland. https://edepositireland.ie/handle/2262/91246

Table 12-8: Records of Important Bird Species from Sector A between 2018 and 2025

Common Name	Scientific Name	Season Recorded		Number of Records	Survey Visit Peak Count	Survey Visit Peak Count Date	Latest Record
		Breeding	Non-breeding				
European Golden Plover	*Pluvialis apricaria*	✗	✓	2	16	06/12/2018	29/01/2019
Eurasian Curlew	*Numenius arquata*	✓	✓	19	137	30/01/2019	14/08/2025
Black-headed Gull	*Chroicocephalus ridibundus*	✗	✓	69	110	30/01/2019	05/02/2025
Common Gull*	*Larus canus*	✗	✓	1	1	08/02/2019	08/02/2019
European Herring Gull*	*Larus argentatus*	✗	✓	9	2	08/01/2025	08/01/2025
Lesser Black-backed Gull*	*Larus fuscus*	✗	✓	1	1	09/01/2019	09/01/2019
Red Kite	*Milvus milvus*	✓	✗	1	1	16/05/2024	16/05/2024
Common Kestrel	*Falco tinnunculus*	✗	✓	3	1	16/09/2024	16/09/2024
Meadow Pipit	*Anthus pratensis*	✓	✓	16	7	19/12/2018	14/08/2025
Yellowhammer*	*Emberiza citrinella*	✗	✓	1	1	15/02/2019	15/02/2019

* Species recorded as a flyover only.

Sector B

12.4.20 Sector B comprises the northern section of the central built-up part of Dublin Airport. It is dominated by hardstanding, buildings and artificial surfaces (BL3) and comprises small sections of amenity grassland (GA2) and semi-mature to mature treelines (WL2) to the east.

12.4.21 The buildings and artificial surfaces within this sector are of low ecological importance and are frequently subject to anthropogenic disturbance by way of use by the staff at the airport. Furthermore, as previously discussed, daa uses habitat management and other measures to actively deter birds from Dublin Airport to reduce the potential for collisions with aircraft (lethal control measures are also used as a last resort). Therefore, these habitats are not considered likely to support any important species in notable numbers.

12.4.22 The amenity grassland and treelines in the south-eastern section of this sector provide limited suitability to important species, including small mammals such as hedgehog and also breeding birds, which may nest in these treelines. However, this habitat is surrounded by hardstanding and is well-lit. Therefore, it is unlikely to support any notable populations of important species, even if present.

12.4.23 Important bird species recorded in Sector B between 2018 and 2025 are presented in Table 12-9. Note that, due to the proximity of the Dublin Airport runways to the bird survey locations, records of flyover (commuting) birds have also been included due to the risk of aircraft bird strike.

Table 12-9: Records of Important Bird Species from Sector B between 2018 and 2025

Common Name	Scientific Name	Season Recorded		Number of Records	Survey Visit Peak Count	Survey Visit Peak Count Date	Latest Record
		Breeding	Non-breeding				
Eurasian Curlew	*Numenius arquata*	✗	✓	1	2	27/11/2018	27/11/2018
Black-headed Gull	*Chroicocephalus ridibundus*	✗	✓	7	85	27/11/2018	24/11/2022
European Herring Gull*	*Larus argentatus*	✓	✓	3	2	14/08/2025	14/08/2025

* Species recorded as a flyover only.

Sector C

12.4.24 Sector C is located in the built-up central part of Dublin Airport that is dominated by buildings and artificial surfaces (BL3) and comprises a small area of amenity grassland (GA2) with planted immature trees to the north.

12.4.25 These habitats are of low ecological importance as they are primarily hardstanding. Therefore, these habitats are not considered to support any important species in notable numbers. Important bird species recorded in Sector C between 2018 and 2025 are presented in Table 12-10. Note that, due to the proximity of the Dublin Airport runways to the bird survey locations, records of flyover (commuting) birds have also been included due to the risk of aircraft bird strike.

Table 12-10: Records of Important Bird Species from Sector C between 2018 and 2025

Common Name	Scientific Name	Season Recorded		Number of Records	Survey Visit Peak Count	Survey Visit Peak Count Date	Latest Record
		Breeding	Non-breeding				
European Herring Gull*	*Larus argentatus*	✓	✓	2	1	14/08/2025	14/08/2025

* Species recorded as a flyover only.

Sector D

12.4.26 Sector D is located in the southern section of the built-up central part of the Dublin Airport that is dominated by buildings and artificial structures (BL3) and comprises small areas of amenity grassland (GA2) to the north along the roads leading to the terminal.

12.4.27 These habitats are of low ecological importance as they are primarily hardstanding. Therefore, these habitats are not considered to support any important species in notable numbers. Important bird species recorded in Sector D between 2018 and 2025 are presented in Table 12-11. Note that, due to the proximity of the Dublin Airport runways to the bird survey locations, records of flyover (commuting) birds have also been included due to the risk of aircraft bird strike.

Table 12-11: Records of Important Bird Species from Sector D between 2018 and 2025

Common Name	Scientific Name	Season Recorded		Number of Records	Survey Visit Peak Count	Survey Visit Peak Count Date	Latest Record
		Breeding	Non-breeding				
European Herring Gull	*Larus argentatus*	✓	✓	3	3	14/08/2025	14/08/2025

Sector E

12.4.28 Sector E is located in the south-eastern section of Dublin Airport and is dominated by amenity grassland (GA2). It also comprises buildings and artificial surfaces (BL3) associated with South Apron, the Cuckoo Stream (FW2), and drainage ditches (FW4).

12.4.29 The buildings and artificial surfaces within this sector are not considered to support any protected species.

12.4.30 Given the location, size, and habitats present within this sector, the baseline information on habitats and species is summarised in the sub-headings below. Further details on amphibians, bats, birds, mammals and aquatics are included in their respective Appendices 12-2 to 12-6 (EIAR Volume 4).

Habitats

12.4.31 The Fossitt habitat types present within Sector E are described in each paragraph below. Habitats within the Dublin Airport Site are displayed in Figure 12-3 (EIAR Volume 3).

12.4.32 **FW2 Depositing/lowland rivers:** The Cuckoo Stream is located in the northern section of Sector E. The Cuckoo Stream is heavily modified in this sector as it forms the main drainage channel within Dublin Airport. It has bank heights of approximately 2.5 to 3m, and water levels range from low to high depending on the flow. The watercourse is typically discoloured, either reddish or grey-blue in colour and at times covered in algae. The water typically has a slow flow to the east. Bankside vegetation includes branched bur-reed *Sparganium erectum*, reed canary grass *Phalaris arundinacea*, water-cress *Nasturtium officinale*, water-plantain *Alisma plantago-aquatica*, tall fescue *Festuca arundinacea*, perennial rye-grass *Lolium perenne*, false oat-grass *Arrhenatherum elatius*, Yorkshire-fog *Holcus lanatus*, cock's-foot *Dactylus glomerata*, creeping buttercup *Ranunculus repens*, creeping cinquefoil *Potentilla reptans*, silverweed *Potentilla anserina*, hedge bindweed *Calystegia sepium*, thistle *Cirsium* spp., rosebay willowherb *Chamaenerion angustifolium*, common nettle *Urtica dioica*, bramble *Rubus fruticosus* agg., hogweed *Heracleum sphondylium*, winter heliotrope *Petasites pyrenaicus*, and butterfly-bush *Buddleja davidii*.

12.4.33 **FW4 Drainage ditches:** There are several drainage ditches within Sector E. These are typically 1 to 2m wide and had little to no water present during surveys. The upper reaches of the Mayne River are present along the southern boundary of Sector E, which comprise small, heavily modified channels. These drainage ditches drain the industrial area near the long-stay airport carparks to the south of Dublin Airport. The drainage ditches within this sector are typically overgrown with rushes and grasses such as Yorkshire-fog, false-oat grass and cock's-foot. Instream vegetation includes occasional duckweed *Lemna* sp. and bullrush *Typha latifolia*. Other species present along the banksides also include bramble, creeping buttercup, creeping cinquefoil, horsetail *Equisetum* sp., bush vetch *Vicia sepium*, silverweed, broad-leaved dock *Rumex obtusifolius*, and willowherb *Epilobium* spp. species.

12.4.34 **GA2 Amenity grassland:** Sector E is dominated by amenity grassland that is managed similarly to the grassland in Sector A. It is often cut short as aircraft fly over the grassland here to land on the adjacent runways (and grass cutting is used to dissuade use by animals which pose a risk to aircraft). The grass species in this area mainly comprise Yorkshire-fog, perennial rye-grass, false-oat grass, and cock's-foot. There are also occasional herbaceous species present, including white clover *Trifolium repens*, dandelion *Taraxacum officinale* agg., creeping buttercup, creeping cinquefoil, and common ragwort *Jacobaea vulgaris*.

12.4.35 **WL2 Treelines:** There are two treelines within Sector E along the Cuckoo Stream, which range from 8 to 10m tall and are dominated by hazel *Corylus avellana*, ash, and elder *Sambucus nigra,* with bramble and hawthorn in the understorey. There is also a treeline at the southern boundary of Sector E that comprises 30m tall conifer trees with some scrub below beside a berm with butterfly-bush.

12.4.36 **BL3 Buildings and artificial surfaces:** There are various structures and paved surfaces for vehicles and aircraft associated with South Apron in the northern section of Sector E. There are also some smaller paved roads throughout the southern section of this sector for vehicles.

12.4.37 **ED2 Spoil and bare ground/ED3 Recolonising bare ground:** There is an area dominated by spoil and bare ground with occasional recolonising bare ground in the southern section of Sector E, which appears to be frequently used for storage and other works associated with the airport. This area comprises gravel and storage containers. There is also a vegetated berm present around the edge of this habitat, which comprises mainly ruderal species such as thistle, broad-leaved dock, rosebay willowherb, and common nettle and occasional grasses including false oat-grass.

Notable and Invasive Plant Species

12.4.38 No protected or high-impact and/or scheduled invasive plant species were recorded within Sector E.

Bats

12.4.39 There is very limited suitability for bats within Sector E due to lighting and the type of habitats present, which include mainly hardstanding, mowed amenity grassland, and frequently polluted sections of the Cuckoo Stream.

12.4.40 The trees within this sector had *Negligible* suitability for roosting bats. A structure called the Animal Welfare Facility located within the northern section of this sector was considered to have *Low* suitability for roosting bats (Figure 12-7). However, no bats emerged from this structure during dusk emergence surveys. Furthermore, the surrounding habitats are well-lit, and the incidental bat activity recorded at this location was limited to a single pass.

12.4.41 There were only low levels of bat activity recorded during walked bat activity surveys and static detector surveys (Figure 12-8, EIAR Volume 3). In 2020, only one Leisler's bat *Nyctalus leisleri,* was recorded in Sector E during walked bat activity surveys, which briefly passed through the southern part of this sector. The static detector deployed along the Cuckoo Stream in August and September 2019 recorded low levels of soprano pipistrelle *Pipistrellus pygmaeus* and Leisler's bat. In 2024, a single common pipistrelle *Pipistrellus pipistrellus* was recorded in May and another in June.

12.4.42 Overall, this sector is not considered to be suitable for foraging, commuting or roosting bats (with the exception of the occasional bat passing) due to the habitats present and lighting and noise disturbance.

Other Mammals

12.4.43 No evidence of otter was recorded during field surveys in Sector E. Furthermore, no potential breeding or resting sites were identified. The watercourses in this sector, including the Cuckoo Stream, have low suitability for otter given the lack of suitable feeding and dispersal areas and historically poor water quality.

12.4.44 No evidence of badger was recorded during field surveys in Sector E. Furthermore, no potential breeding or resting sites were identified. Given the habitats present, which are mainly hardstanding and managed amenity grassland, badgers are unlikely to be present within this Sector.

12.4.45 Irish hare was recorded throughout the amenity grassland within Dublin Airport, including Sector E. However, as described previously regarding Sector A, as part of their wildlife management programme, daa removes hares from Dublin Airport due to potential damage to aircraft and the threat to passenger safety.

12.4.46 A hedgehog was recorded within amenity grassland during a bat survey in May 2024 in Sector E. Other mammals, such as Irish stoat and pygmy shrew, could also occasionally use this area for foraging.

12.4.47 Overall, this area is not considered to be important for any important mammals due to the habitats present, disturbance levels, and the wildlife management programme.

Amphibians and Reptiles

12.4.48 The watercourses, including the Cuckoo Stream within Sector E, provide low suitability for amphibians as these are considered polluted (as detailed within Chapter 11: Water) and have low water levels. No smooth newts were identified in this Sector during night-time torching surveys carried out between March and June 2021 and May to June 2024.

12.4.49 Common frog spawn and tadpoles were also identified in a drainage ditch immediately south-west of Sector E to the south of Old Airport Road in March and April 2021. These results are displayed in Figure 12-4 (EIAR Volume 3). The drainage ditches where common frog were recorded airside in 2020 and 2021 were primarily dry during the field surveys in May and June 2024.

12.4.50 Common lizard was not incidentally recorded during field surveys. However, this species is fairly common and widespread; therefore, it is presumed that small numbers of common lizard could be present within this sector.

Birds

12.4.51 Birds are known to be present in the amenity grassland within Dublin Airport. However, daa uses habitat management to maintain a short sward in areas of grassland to minimise the suitability of the area for nesting birds and reduce the risk of bird strike. However, the scrub and treeline vegetation within this area, particularly along the Cuckoo Stream, has potential suitability for nesting and roosting birds.

12.4.52 The only important non-breeding season bird records are of herring gull flyovers (Figure 12-9, EIAR Volume 3). During the breeding season, an individual meadow pipit was identified in the treeline adjacent to the Cuckoo Stream (Figure 12-9, EIAR Volume 3) and a Red Kite was observed hunting in flight to the west and partially within Sector E.

12.4.53 Important bird species recorded in Sector E between 2018 and 2025 are presented in Table 12-12. Note that, due to the proximity of the Dublin Airport runways to the bird survey locations, records of flyover (commuting) birds have also been included due to the risk of aircraft bird strike.

Fish

12.4.54 No fish were observed during the aquatic surveys in Sector E. The majority of Dublin Airport currently drains to the Cuckoo Stream and, as detailed within Chapter 11: Water, water quality monitoring indicates the stream is polluted. During field surveys, the stream was often seen to be discoloured, either a reddish or a grey-blue colour and/or covered in algae. Water quality of the Cuckoo Stream is monitored for increases in chemical oxygen demand at a sampling station within this sector. The upper reaches of the Mayne River along the southern boundary of Sector E comprise small, heavily modified channels that are typically dry or have low water levels that are considered unsuitable for notable fish.

12.4.55 According to Inland Fisheries Ireland (IFI), the Mayne River and tributaries, including the Cuckoo Stream, are currently non-salmonid[88].

12.4.56 Therefore, the watercourses in this sector, including the Cuckoo Stream and upper reaches of the Mayne River, do not provide any suitable habitat for notable fish species as they are heavily modified and/or of poor quality.

Invertebrates

12.4.57 The habitats within this sector are not particularly suitable for important terrestrial or aquatic invertebrates given the disturbance of frequent mowing regimes and run-off into the Cuckoo Stream and drainage ditches (as detailed within Chapter 11: Water).

12.4.58 No protected and/or notable macroinvertebrate species were identified at any of the survey sites. The non-native New Zealand mud snail *Potamopyrgus antipodarum* was found at Cuckoo upper stream. Aquatic assessments (Aquatic Technical Appendix, 12-5 (EIAR Volume 4)) indicated poor water habitat quality and demonstrated slow and homogeneous flow and a high degree of fine sedimentation, all of which are influencing the macroinvertebrate community structure at all sites, resulting in low diversity, as reflected by the suppressed Q values.

[88] Freshwater capable of supporting salmon or trout.

Table 12-12: Records of Important Bird Species from Sector E between 2018 and 2025

Common Name	Scientific Name	Season Recorded		Number of Records	Survey Visit Peak Count	Survey Visit Peak Count Date	Latest Record
		Breeding	Non-breeding				
European Herring Gull*	*Larus argentatus*	✓	✓	5	3	14/08/2025	14/08/2025
Red Kite*	*Milvus milvus*	✓	✗	1	1	16/05/2024	16/05/2024
Meadow Pipit	*Anthus pratensis*	✓	✗	3	3	14/08/2025	14/08/2025

* Species recorded as a flyover only.

Sector F

12.4.59 Sector F includes built up areas within the Dublin Airport such as the Ground Transport Centre (GTC), hotels, public transport bus locations and car parks including multi-storey car parks (MSCP) (BL3), and associated amenity grassland (GA2) and ornamental trees (WL2) and scrub (WS3).

12.4.60 A structure located in the northern section of this sector, called the Shamrock House Annex, was also considered to have Low bat roost suitability (Figure 12-7, EIAR Volume 3). However, this structure is located in an existing well-lit area with no habitat features providing connectivity to potential bat feeding habitats. Furthermore, no bats emerged from this structure during the dusk emergence survey, and there was also no incidental bat activity recorded at this location. Therefore, this structure is considered unlikely to support roosting bats.

12.4.61 Given the hardstanding habitats that are frequently disturbed by vehicles and are well-illuminated, this sector is considered unlikely to support any protected or important species in notable numbers. Important bird species recorded in Sector F between 2018 and 2025 are presented in Table 12-13. Note that, due to the proximity of the Dublin Airport runways to the bird survey locations, records of flyover (commuting) birds have also been included due to the risk of aircraft bird strike.

Table 12-13: Records of Important Bird Species from Sector F between 2018 and 2025

Common Name	Scientific Name	Season Recorded		Number of Records	Survey Visit Peak Count	Survey Visit Peak Count Date	Latest Record
		Breeding	Non-breeding				
Black-headed Gull*	*Chroicocephalus ridibundus*	✗	✓	1	1	21/10/2024	21/10/2024
European Herring Gull*	*Larus argentatus*	✗	✓	2	6	05/02/2025	05/02/2025

* Species recorded as a flyover only.

Sector G

12.4.62 Sector G is located to the east of Dublin Airport and includes built up areas within Dublin Airport such as the Ground Transportation Centre (GTC), hotels, public transport bus locations and car parks including MSCP (BL3), and associated amenity grassland (GA2). In the survey area of these elements, there are also some ornamental treelines (WL2), hedgerows (WL1), scrub (WS1), and grassy verges (GS2) associated with the buildings and roadsides.

12.4.63 Given the hardstanding/building and discrete areas of semi-natural habitats that are frequently disturbed by vehicles/lighting, these areas are not considered likely to support any protected or important species.

12.4.64 Important bird species recorded in Sector G between 2018 and 2025 are presented in Table 12-14. Note that, due to the proximity of the Dublin Airport runways to the bird survey locations, records of flyover (commuting) birds have also been included due to the risk of aircraft bird strike.

Table 12-14: Records of Important Bird Species from Sector G between 2018 and 2025

Common Name	Scientific Name	Season Recorded		Number of Records	Survey Visit Peak Count	Survey Visit Peak Count Date	Latest Record
		Breeding	Non-breeding				
European Herring Gull*	*Larus argentatus*	✗	✓	2	1	08/01/2025	08/01/2025

* Species recorded as a flyover only.

Sector H

12.4.65 Sector H is located to the south-east of Dublin Airport and predominantly comprises fields surrounded by treelines and hedgerows. Habitats within this sector include amenity grassland (GA2), dry meadows and grassy verges (GS2), wet grassland (GS4), the Cuckoo Stream (FW2), mixed broadleaved woodland (WD1), scattered trees and parkland (WD5), hedgerows (WL1), treelines (WL2), scrub (WS1), recolonising bare ground (ED3), and buildings and artificial surfaces (BL3) associated with car parks and the Aer Lingus Social and Athletic Association (ALSAA) Sports Centre.

12.4.66 Given the location, size, and habitats present within this Sector, the baseline information on habitats and species is summarised in the following sub-headings. Further details on amphibians, bats, birds and mammals are included in their respective Appendices 12-2 to 12-5 (EIAR Volume 4).

Habitats

12.4.67 The Fossitt habitat types present within Sector H are described in the following paragraphs. Habitats within the Dublin Airport Site are displayed in Figure 12-3 (EIAR Volume 3).

12.4.68 **FW2 Depositing/lowland rivers:** The Cuckoo Stream (FW2) is located in the northern section of Sector H. This section of the Cuckoo Stream is located downstream of Dublin Airport and ranges from being clear to turbid depending on the water flow and water quality.' The Cuckoo Stream in Sector H is approximately 2m wide with shallow water that flows to the east and contains limited instream vegetation. Based on the assessments of the Cuckoo Stream carried out by Altemar in August and October 2022, the only species recorded included a filamentous green algae *Cladophora* sp., various-leaved water-starwort *Callitrich platycarpa*, and greater water-moss *Fontinalis antipyretica*. The banks range from 2 to 6m deep and are typically unvegetated with bare soil. Occasional species at the edges of the stream include common nettle, bramble, willowherb, broad-leaved dock, common hogweed, bush vetch, cleavers *Galium aparine*, hedge bindweed, creeping thistle *Cirsium arvense*, and rushes such as soft-rush *Juncus effuses*. The majority of the Cuckoo Stream in this sector is shaded by adjacent hedgerows. These hedgerows, which often also have occasional scattered trees, are dominated by elder and hawthorn. There are also drainage ditches along hedgerows and treelines that lead to the Cuckoo Stream.

12.4.69 **GA2 Amenity grassland:** There are a few sports pitches within Sector H that are regularly managed and frequently used by the public. These fields are reseeded, grass dominated and cut short.

12.4.70 **GS2 Dry meadows and grassy verges:** Sector H comprises a few semi-improved dry meadows and grassy verges. These fields are typically left to grow and then cut for hay in late-summer or early-autumn. The northernmost dry meadow field comprises some scattered scrubs and trees, predominantly ash. The dominant grass species were false oat-grass, Yorkshire-fog, and perennial rye-grass, with occasional cock's-foot, sweet vernal-grass *Anthoxanthum odoratum,* red fescue *Festuca rubra* agg. and rough meadow-grass *Poa trivialis.* Other plant species include creeping thistle, broad-leaved dock, ribwort plantain *Plantago lanceolata*, dandelion, creeping buttercup, white clover, and red clover *Trifolium pratense*.

12.4.71 **GS4 Wet grassland:** The fields located in the eastern section of Sector H comprise wet grasslands that often have saturated and flooded areas. These fields are often dominated by grasses including Yorkshire-fog, sedges *Carex* spp., and silverweed, with frequent rushes also present. Additional species also include horsetail, mosses, willowherbs, creeping cinquefoil, common ragwort, creeping thistle, spear thistle *Cirsium vulgare*, creeping buttercup, meadow buttercup *Ranunculus acris*, white clover, broad-leaved dock, common hogweed, and occasional juvenile willow *Salix* spp. trees. The small south-eastern field is the wettest of these fields, and it often contains a pool of water at the centre. It also has some scattered scrub throughout. This field was inaccessible during the survey due to fencing and was viewed from the adjacent field.

12.4.72 **WD1 Mixed broadleaved woodland:** There are small parcels of mixed broadleaved woodland within Sector H. These mainly comprise ash in the canopy and bramble and common nettle in the understorey.

12.4.73 **WD5 Scattered trees and parkland:** There is an area of scattered trees and parkland with occasional scattered scrub in the north-eastern section of Sector H that used to be part of a mini golf course that is no longer in use. Species are typically ornamental and also include ash, bramble and gorse *Ulex europaeus*. The grassland in this area is infrequently mown and comprises mainly Yorkshire-fog and perennial rye-grass.

12.4.74 **WL1 Hedgerows:** There are several hedgerows along the boundaries of the sports pitches and grassy fields within Sector H. There are also hedgerows present on either side of the Cuckoo Stream within this Sector. Along the Cuckoo Stream, the hedgerows typically have gaps in between the vegetation and are only approximately 0.5m wide. There are also occasional approximately 6 to 8m tall hawthorn and elder trees present. However, the majority of hedgerows are dense and generally 2 to 4m tall. These are typically dominated by bramble and hawthorn and include scattered ash trees. Other species include elder, blackthorn *Prunus spinosa*, holly *Ilex aquifolium*, common nettle, cleavers, cow parsley *Anthriscus sylvestris*, Alexanders *Smyrnium olusatrum*, and Atlantic ivy *Hedera hibernica*.

12.4.75 **WL2 Treelines:** There are several treelines along the boundaries of the sports pitches and grassy fields within Sector H. The treelines within this Sector generally range from 6 to 12m tall. They are often dominated by ash and hawthorn, with bramble, blackthorn, and common nettle frequently in the understory. Other tree species also include wild cherry *Prunus avium*, silver birch *Betula pendula*, elder, beech, sycamore, alder *Alnus glutinosa*., Leyland cypress *Cupressus × leylandii*, and horse-chestnut *Aesculus hippocastanum*.

12.4.76 **WS1 Scrub:** There are several small areas of scrub and also linear scrub present along the boundaries of fields within Sector H. Scrub in the western section of Sector H is often in a mosaic with grassland as well. It is mainly composed of bramble with frequent common hogweed and cleavers and occasional gorse, sycamore, hedge bindweed, and common nettle. In the northern section of Sector H, there is dense linear scrub along the road leading to the existing long-term car park. It is approximately 10m wide, 4m tall, and comprises bramble, butterfly-bush, common nettle, elder, hogweed, thistle, common ragwort, and silverweed. There is also a section of linear scrub in the south-eastern section of Sector H. This linear scrub is very dense, approximately 15m wide, and approximately 3 to 4m tall. It is dominated by bramble and blackthorn with rushes, hawthorn, elder, common ragwort, gorse, thistle, and willowherb species.

12.4.77 **BL3 Buildings and artificial surfaces:** Sector H comprises buildings and artificial surfaces that are mainly associated with roads, car parks, derelict structures and the ALSAA Sports Centre. There is also an existing construction compound and an existing road associated with the existing long-term car park and car rental facilities.

12.4.78 **ED3 Recolonising bare ground:** There are a few areas of recolonising bare ground in Sector H. One of the larger areas of recolonising bare ground is located to the north of the Cuckoo Stream. This area is dominated by broadleaved plants with occasional tall grass and has patches of gravel present as well. Species include teasel *Dipsacus fullonum*, creeping thistle, spear thistle, broad-leaved dock, bramble, common ragwort, silverweed, bristly oxtongue *Helminthotheca echioides*, creeping buttercup, curled dock, common nettle, ribwort plantain, and butterfly-bush. Another relatively larger area of recolonising bare ground is located adjacent to the R132 road. This area was likely a previous construction site or set down area. Species include winter heliotrope, teasel, herb-Robert *Geranium robertianum*, weld *Reseda luteola,* American willowherb *Epilobium ciliatum*, forget-me-not species *Myosotis* spp., and common ragwort.

Notable and Invasive Plant Species

12.4.79 No protected or high-impact and/or scheduled invasive plant species were recorded within Sector H.

Bats

12.4.80 There are several linear features including treelines, hedgerows, and the Cuckoo Stream in Sector H that provide suitability for foraging and commuting bats.

12.4.81 One derelict structure (referred to as Derelict Building 1) with *Moderate* bat roost suitability was identified in Sector H (Figure 12-7). It was found to have several potential roost features, including lifted roof tiles and holes in the wooden soffits. No bats were recorded emerging from this structure, and no bat activity was incidentally noted during surveys.

12.4.82 Another derelict structure (referred to as Derelict Building 2) with *Low* bat roost suitability was identified in Sector H (Figure 12-7). It had cavities in the inner stone walls with potential access for a small number of bats. A dusk emergence survey was not conducted at this structure due to safety issues, so a static detector was deployed at this location. The static detector recorded a very low level of bat activity by common pipistrelle, soprano pipistrelle, and Leisler's bat.

12.4.83 Bat activity within this sector was generally low during each survey carried out between 2019 and 2025 (Figure 12-8a-e). The most frequent species recorded at this location was Leisler's bat, followed by common pipistrelle and soprano pipistrelle. A single pass of Nathusius' pipistrelle *Pipistrellus nathusii,* was also recorded along a hedgerow in the 2020 walked transect survey. In July 2022, low levels of activity by Leisler's bat, soprano pipistrelle, and common pipistrelle were recorded foraging along a hedgerow which forms the northern boundary of the Dardistown Cemetery. In May 2022, bat activity was limited to a single pass of common pipistrelle along an internal hedgerow. Furthermore, the static detector deployed in the woodland and previous golf course area in the northern part of the area additionally recorded low levels of brown long-eared bat *Plecotus auritus* and an unidentified *Myotis* species.

12.4.84 In 2023, there were low levels of bat activity recorded; soprano pipistrelle and common pipistrelle were the only bat species recorded in May. Records were associated with hedgerows in a field to the north of Dardistown Cemetery, with two brief passes of common pipistrelle and foraging of a single soprano pipistrelle. Leisler's bat, soprano pipistrelle and common pipistrelle were all recorded in the August survey. Species were typically recorded as brief passes along hedgerows, with the exception of a single common pipistrelle recorded foraging in the field to the north of Dardistown Cemetery. Two brief passes of soprano pipistrelle were recorded along a hedgerow to the north of Dardistown Cemetery, and a single soprano pipistrelle and common pipistrelle were also recorded as brief passes near the Cuckoo Stream. The only bat activity noted during the September survey was a single brief pass of Leisler's bat along a hedgerow in the field to the north of Dardistown Cemetery.

12.4.85 Similarly to previous years, activity was low across all transects in 2024, with occasional periods of prolonged foraging by small numbers of individual bats accounting for the majority of bat registrations recorded during the surveys. Areas of relatively elevated levels of activity were associated with linear corridors, particularly boundary and internal hedgerows and treelines. A total of five bats were recorded in May, and four bats were recorded in June, comprising common pipistrelle, soprano pipistrelle, and Leisler's bat. Two common pipistrelle bats were recorded foraging and commuting along internal field boundaries of the central fields in May, and one common pipistrelle was also recorded foraging in this location in June. One soprano pipistrelle was recorded briefly passing, likely commuting along the Cuckoo Stream in May and June. One common pipistrelle was also recorded briefly passing in May and in June along a hedgerow in the south-eastern field. One Leisler's bat was also recorded briefly passing in a southern field in May and also in late June.

12.4.86 In 2025, the static detector deployed within Sector H area recorded relatively low levels of bat activity, with an average of 58 passes per night from three species, comprising soprano pipistrelle, Leisler's bat, and common pipistrelle. The most frequently recorded species was soprano pipistrelle, which accounted for approximately 61% of all registrations. The next most commonly recorded species were common pipistrelle and Leisler's bat, which accounted for 24% and 15% of all registrations, respectively. The transect conducted in July 2025 only recorded two passes, one soprano pipistrelle and one common pipistrelle commuting along the field boundaries.

12.4.87 In summary, given the habitats present, levels of bat activity, and potential roosting features, this sector is considered to have *Low* suitability for foraging, commuting and roosting bats.

Other Mammals

12.4.88 A single otter spraint was recorded along the Cuckoo Stream, in Sector H (Figure 12-5, EIAR Volume 3) in the southeast of the Dublin Airport Site. No potential otter breeding or resting sites were identified during the surveys. No other otter evidence was identified, including within the Dublin Airport Site. The banks of the Cuckoo Stream are unlikely to support otter holts or layups, due to a lack of suitable habitat in the Dublin Airport Site. In addition, extensive disturbance from the adjacent airfield may preclude otter from venturing this far upstream.

12.4.89 No evidence of other mammals, including any badger setts, was recorded within this sector. However, the grasslands, hedgerows, treelines, woodlands and scrub could provide suitable habitat for badger, hedgehog, Irish hare, Irish stoat, and pygmy shrew, and these species could be present.

Amphibians and Reptiles

12.4.90 Common frog and smooth newt were not identified within Sector H. The aquatic habitat, such as the Cuckoo Stream, drainage ditches leading to the Cuckoo Stream, and flooded areas in the wet grassland could support common frog. However, the water quality is poor in this location, and there is very limited instream vegetation for smooth newt to lay eggs and no suitable ponds within Sector H. Therefore, this sector is unlikely to support any substantial populations of smooth newt or common frog.

12.4.91 Common lizard was not incidentally recorded during field surveys. However, this species is fairly common and widespread; therefore, given the habitats present, it is presumed that small numbers of common lizard could be in this sector.

Birds

12.4.92 The fields within this sector are limited in size when compared to other nearby blocks of similar habitat and are frequently used by the public, leading to the potential for disturbance. During the non-breeding bird surveys (Figure 12-9, EIAR Volume 3), one important waterbird species, Black-headed Gull, was recorded in Sector H in 2018 to 2019, along with a single record of five loafing Yellowhammer, an important farmland bird species. There were no important non-breeding bird species recorded within this Sector during 2021 surveys. However, during the 2022 to 2023 surveys, Black-headed Gull and Herring Gull were recorded, primarily in the north of Sector H, roosting on the ALSAA Sports Centre playing field. Herring Gull and Common Snipe were also recorded as flyovers to the south of the sector at the Dardistown Cemetery. Notably, the Common Snipe record consisted of a single record of a lone individual.

12.4.93 The vegetation within Sector H, particularly the hedgerows, treelines, scrub, and woodland, provides suitable nesting habitat for breeding birds. The only important bird species recorded using Sector H during breeding bird surveys (Figure 12-9, EIAR Volume 3) was Meadow Pipit, which was observed holding territory in the south-east of the Sector in 2022, and it is considered probable that the species bred in this area in 2022. Meadow Pipit was also recorded holding territory in Sector H during the 2024 breeding bird surveys.

12.4.94 Furthermore, the important species Common Swift and Lesser Black-backed Gull were both recorded as flyovers in this sector, albeit infrequently, with a single record of one individual from each species in 2024 and 2025, respectively.

12.4.95 Important bird species records from the surveys of Sector H are presented in Table 12-15.

Fish

12.4.96 No fish were observed during the aquatic survey of the Cuckoo Stream in Sector H. The aquatic surveys (Aquatic Technical Appendix, 12-5 (EIAR Volume 4)) found the Cuckoo Stream to be heavily modified, subject to both habitat diversity and water quality pressures, and likely to support only minor fish species. Furthermore, the Cuckoo Stream appears to be impacted by pollution; this is supported by water quality monitoring results presented in Chapter 11: Water. The Cuckoo Stream is not suitable for important fish such as salmonids and lamprey, with Inland Fisheries Ireland (IFI) outlining that the Mayne River and tributaries including the Cuckoo Stream are currently non-salmonid.

Invertebrates

12.4.97 Based on the habitats present, in particular dry meadows, wet grasslands, and hedgerows, there is suitability for invertebrates such as various butterflies, bees, beetles, and snails. Therefore, common terrestrial invertebrates are presumed to be present within Sector H.

12.4.98 No protected and/or notable macroinvertebrate species were identified at any of the survey sites. The non-native New Zealand mud snail was found at Cuckoo upper stream. Aquatic assessments indicated poor water habitat quality and demonstrated slow and homogeneous flow and a high degree of fine sedimentation, all of which are influencing the macroinvertebrate community structure at all sites, resulting in low diversity, as reflected by the suppressed Q values.

Table 12-15: Records of Important Bird Species from Sector H between 2018 and 2025

Common Name	Scientific Name	Season Recorded		Number of Records	Survey Visit Peak Count	Survey Visit Peak Count Date	Latest Record
		Breeding	Non-breeding				
Common Snipe*	*Gallinago gallinago*	✗	✓	1	1	13/12/2022	13/12/2022
Black-headed Gull	*Chroicocephalus ridibundus*	✗	✓	10	27	19/10/2022	05/02/2025
European Herring Gull	*Larus argentatus*	✓	✓	19	12	19/10/2022	14/08/2025
Lesser Black-backed Gull*	*Larus fuscus*	✓	✗	1	1	14/08/2025	14/08/2025
Common Swift*	*Apus apus*	✓	✗	1	1	20/06/2024	20/06/2024
Meadow Pipit	*Anthus pratensis*	✓	✗	6	8	26/06/2024	26/06/2024
Yellowhammer	*Emberiza citrinella*	✗	✓	1	5	07/03/2019	07/03/2019

* Species recorded as a flyover only.

Sector I

12.4.99 Sector I is located to the west of the Dublin Airport and comprises the West Apron and other facilities, including the Irish Aviation Authority (IAA) Control Tower and the Dublin Airport Fire Station. This Sector is dominated by buildings and artificial surfaces (BL3) and comprises associated amenity grassland (GA2).

12.4.100 These habitats have low ecological importance as they are composed of species-poor and/or disturbed hardstanding habitats. However, there is potential for the presence of Irish hare and birds within the amenity grassland habitat. However, as previously discussed, these species are managed to deter them from Dublin Airport as they pose a risk to aircraft. This area is also not considered to be suitable for bats due to the lighting and hardstanding habitats present. A static detector deployed in a car park located adjacent to this sector boundary in August and September 2019 further validated this, as no bats were recorded at this location (Figure 12-6b, EIAR Volume 3).

12.4.101 Two important bird species, Curlew and Meadow Pipit, were recorded using Sector I during breeding season surveys, inclusive of two juvenile Curlew were recorded foraging with an adult. However, given the short sward height of the grassland in this sector, combined with the high levels of anthropogenic disturbance in this area stemming from the airport activities, it is considered highly unlikely that the Curlew recorded bred within the boundary of Sector I. Similarly, it is likely that the Meadow Pipit records stem from birds breeding elsewhere within the wider landscape rather than within Sector I itself due to the aforementioned lack of suitable habitat for ground nesting species. Additionally, Black-headed Gull was recorded as a non-breeding season flyover in this sector.

12.4.102 Important bird records from this sector are presented in Table 12-16.

Table 12-16: Records of Important Bird Species from Sector I between 2018 and 2025

Common Name	Scientific Name	Season Recorded		Number of Records	Survey Visit Peak Count	Survey Visit Peak Count Date	Latest Record
		Breeding	Non-breeding				
Eurasian Curlew	*Numenius arquata*	✓	✗	2	3	14/08/2025	14/08/2025
Black-headed Gull*	*Chroicocephalus ridibundus*	✗	✓	2	2	28/02/2023	28/02/2023
Meadow Pipit	*Anthus pratensis*	✓	✗	1	3	14/08/2025	14/08/2025

* Species recorded as a flyover only.

Sector J

12.4.103 The eastern section of Sector J is dominated by agricultural fields (GA1) that are grazed by sheep and cattle and are bounded by hedgerows (WL1), treelines (WL2), and drainage ditches (FW4). The western section of Sector J is located on a recently used construction compound that comprises amenity grassland (GA2), spoil and bare ground (ED2), and buildings and artificial surfaces (BL3). The R108 road is located to the north and east of this sector.

12.4.104 The baseline information on habitats and species in Sector J is summarised under the following sub-headings. Further details on amphibians, bats, birds and mammals are included in their respective Appendices 12-2 to 12-5 (EIAR Volume 4).

Habitats

12.4.105 The Fossitt habitat types present within Sector J are described in the following paragraphs. Habitats within the Dublin Airport Site are displayed in Figure 12-3 (EIAR Volume 3).

12.4.106 **FW4 Drainage ditches:** There are several drainage ditches present along most of the hedgerows and treelines within Sector J. These drainage ditches form the upper reaches of the Cuckoo Stream and flow east into Dublin Airport. They are typically highly modified and culverted, with turbid and potentially polluted water due to livestock. Most of these ditches are shaded, with some sections having instream vegetation such as water-cress and floating sweet-grass *Glyceria fluitans.*

12.4.107 **GS2 Dry meadows and grassy verges:** There is one area of dry meadow within this sector in poor condition dominated by common nettle and thistles and also comprising Yorkshire-fog, broadleaved dock, creeping and meadow buttercup.

12.4.108 **GA1 Improved agricultural grassland:** The dominant habitat type within Sector J is agricultural grassland. This grassland is frequently grazed by cattle and sheep throughout the year. The swards are often grazed very short, and plant species diversity is relatively poor. The grassland is dominated by perennial rye-grass, with other grasses present such as meadow-grass species *Poa* spp., tall fescue, Yorkshire-fog, and cock's-foot. Broadleaved vegetation generally includes white clover, creeping buttercup, common nettle, creeping thistle, spear thistle and broad-leaved dock.

12.4.109 **GA2 Amenity grassland:** There is reseeded grassland for landscaping purposes on the existing compound within Sector J. This grassland is mown infrequently and comprises Yorkshire-fog, perennial rye grass, common nettle, thistles, and mosses.

12.4.110 **WL1 Hedgerows:** There are a few hedgerows present along the field boundaries within this sector. These hedgerows often have gaps in between the vegetation and occasionally scattered ash and elder trees. They typically comprise tall, unmanaged hawthorn with bramble at the base. Gorse and dog-rose *Rosa canina* are also generally present in the understorey of these hedgerows. Ground flora includes species such as tall fescue, bush vetch, dandelion, common knapweed *Centaurea nigra*, cow parsley, creeping cinquefoil, creeping thistle, lady's bedstraw *Galium verum*, and yarrow *Achillea millefolium*.

12.4.111 **WL2 Treelines:** There are several treelines present along the field boundaries within this sector. These treelines range from approximately 6 to 20m tall and often have a dry or wet ditch associated with them. The trees range from semi-mature to very mature and are predominantly ash and hawthorn, with frequent wild cherry, beech, oak *Quercus* spp. and occasional elder, rowan *Sorbus aucuparia*, sycamore, Leyland cypress, and English elm *Ulmus procera.* The understorey mainly comprises bramble, hawthorn, elder, and Atlantic ivy with occasional dog-rose, cleavers, cow parsley, and common nettle.

12.4.112 **BL3 Buildings and artificial surfaces:** There are buildings and artificial surfaces in the western part of the sector that are associated with the existing construction site in that area. These include compound buildings and paved surfaces for a car park and laydown areas.

12.4.113 **ED2 Spoil and bare ground:** There are also areas of spoil and bare ground within the existing compound in this sector. These involve areas of gravel pebbles and berms that include some vegetation such as perennial rye-grass and creeping buttercup.

Notable and Invasive Plant Species

12.4.114 No protected or high-impact and/or scheduled invasive plant species were recorded within Sector J.

Bats

12.4.115 There are several linear features including treelines, hedgerows, and drainage ditches in Sector J that provide suitability for foraging and commuting bats.

12.4.116 One tree, T1, is considered to have PRF-I (suitability for individual roosting bats) (Figure 12-7, EIAR Volume 3). Although updated BCT guidance states that no emergence surveys are required for trees classified as PRF-I, this tree T1 was surveyed in accordance with the previous 2016 edition of the BCT's guidance. In June and August 2023, two dusk emergence surveys of this tree were carried out, and no bats were recorded emerging from it.

12.4.117 There are three structures with *Low* bat roost suitability (S01, S03, and S05) and two structures with *Moderate* bat roost suitability (S04 and S06) within Sector J along the R108 road. There is also one structure with *Low* bat roost suitability (S08) and one structure with *Moderate* bat roost suitability (S09) along the R108 road. Dusk emergence surveys were carried out on these structures between May and June 2024. No bats emerged from these structures during the 2024 surveys. In 2025, vacant building S01 was, however, confirmed as a Leisler's bat roost during emergence surveys; this is considered likely to be a non-breeding day roost.

12.4.118 Bat activity within this area was generally low during each survey carried out at this location between 2019 and 2025 (Figure 12-8, EIAR Volume 3). The bat species recorded in Sector J during walked transect surveys were common pipistrelle, soprano pipistrelle, Leisler's bat, Nathusius' pipistrelle, and unidentified myotis. These bats were mainly recorded along treelines, hedgerows and drainage ditches. The bat species most frequently recorded by the static detector was common pipistrelle, followed by Leisler's bat. The static bat detector also recorded low levels of soprano pipistrelle and Nathusius' pipistrelle.

12.4.119 In May 2023, the only activity recorded in Sector J was a single Leisler's bat foraging along a hedgerow in the central eastern field. Activity levels in SL4 were slightly elevated in August, with three brief passes of Leisler's bat recorded within the westernmost field and along the R108 road. Two Leisler's bats were also observed commuting together above the R108 road heading south-westward in August. Nathusius' pipistrelle was recorded as a brief pass near the R108 road in September. Records of other species were typically brief passes, with the exception of two Leisler's bats that were recorded foraging on separate occasions within the central eastern field along the R108 road.

12.4.120 In May 2024, bat activity was low within the fields of Sector J, with just one Leisler's bat recorded foraging along the western-most boundary hedgerow and one common pipistrelle briefly passing along the central hedgerow. Common pipistrelle was recorded foraging along the roads beside the eastern-most field, along the northern part of R108, and beside the car park for the CHC Dublin Search and Rescue Base. No bats were recorded during the second survey visit carried out in June 2024. Five bats were recorded during the third survey visit carried out in late June: Leisler's bat, common pipistrelle, and soprano pipistrelle. A Leisler's bat was recorded commuting along the northernmost boundary hedgerow, and two Leisler's bats were recorded foraging above the central eastern field, with one individual observed to be foraging approximately 15m high. Common pipistrelle and soprano pipistrelle were also noted to be foraging along the R108 road.

12.4.121 In July and August 2025, bat activity was low within the fields of Sector J; in total, 10 common pipistrelle passes were registered, as well as two soprano pipistrelle and two unidentified myotis species. Activity was recorded along field boundaries

12.4.122 In summary, given the habitats present, levels of bat activity, and potential roosting features, this sector is considered to have *Low* suitability for foraging, commuting and roosting bats.

Other Mammals

12.4.123 No evidence of otter was recorded during the field surveys in Sector J. Furthermore, the wet ditches in this sector often had low water levels and therefore are considered unlikely to support otter. Consequently, otter is presumed to be likely absent from this sector.

12.4.124 Evidence of badger, including footprints and setts, was identified in Sector J. Five outlier setts (i.e., smaller setts with one or two entrance holes and used sporadically) were along boundaries of this area (BS01, BS04, BS05, BS06, 7 and 8) and one outlier sett was recorded outside the sector to the south-

west (BS03) (Figure 12-5, EIAR Volume 3). BS01 was confirmed as being active and was used by at least two individual badgers, as observed during trail camera surveys in 2019; however, this was recorded as being disused in 2024. BS03 to the southwest of Sector J was recorded in 2020; this one-hole outlier sett had no signs of activity during camera trapping. In 2024 surveys, the hole could not be identified and was considered likely disused. BS05 was identified in May 2023 and was considered to be likely active due to its proximity to an active sett and evidence of recent digging.

12.4.125 In 2024, it was found to have vegetation growing around it, indicating infrequent use. BS06 was identified in June 2024 and had a single entrance approximately 40cm wide with recent digging and a large mound. There were some paths on the southern side of the hedgerow. However, nettles and thistles were growing at the entrance and along these paths, and the sett appears to be infrequently used by badger. BS04 was also covered by vegetation, with no obvious badger paths and is therefore considered to be likely inactive; it was confirmed as being inactive in 2024. BS06 and BS07 were recorded in 2025; both were considered to be outlier setts, with BS07 active and BS06 used infrequently. Given the evidence of badger recorded and the suitable habitats present (i.e., fields, hedgerows, treelines), this area is considered to support foraging and commuting badger.

12.4.126 No evidence of other mammals was incidentally recorded within this area. However, the grasslands, hedgerows and treelines could provide suitable habitat for hedgehog, Irish hare, Irish stoat, and pygmy shrew. Therefore, these species are assumed to be present.

Amphibians and Reptiles

12.4.127 No smooth newts were identified during targeted torch surveys in Sector J. However, there are drainage ditches with suitability for smooth newt due to the presence of standing water and broadleaved instream vegetation such as water-cress that newts could lay their eggs on. Therefore, the presence of smooth newt within this sector cannot be excluded.

12.4.128 The wet drainage ditches within Sector J are also suitable for common frog. Adult common frogs were identified in a wet drainage ditch that runs along the edge of R108 road (Figure 12-3, EIAR Volume 3).

12.4.129 Common lizard was not incidentally recorded during field surveys. However, this species is fairly common and widespread; therefore, given the habitats present, it is presumed that small numbers of common lizard could be in this sector.

Birds

12.4.130 Important bird species recorded during the breeding and non-breeding bird surveys within Sector J are presented in Table 12-17 (Figure 12-9, EIAR Volume 3).

12.4.131 Black-headed Gull was recorded using Sector J on four occasions, comprising one individual in December 2018, 53 individuals in December 2018, nine individuals in December 2022, and 27 individuals in January 2023, all located in the northernmost field. Black-headed Gull was also recorded as a flyover above Sector J.

12.4.132 Black-headed Gull was the most widespread and frequently recorded of all species, with a total of 230 records across the entirety of the non-breeding season survey areas between 2018 and 2025. None were recorded during the breeding season surveys. This species was recorded using the fields between North Runway (10L/28R) and South Runway (10R/28L) 15 times during the 2018 to 2019 survey season and was present each month during this season. However, during the most recent survey season in 2022 to 2023, only five records of black-headed gull were recorded on the ground in these fields, and this species was only present in the fields on two survey dates in December 2022 and January 2023. However, the majority of black-headed gulls were recorded in flight around Dublin Airport and surrounding lands, in fields located over 500m from the Proposed Order, and also near the pond in Santry Park, over 1.5km from the Dublin Airport Site.

12.4.133 Common Gull was recorded comparatively infrequently, with 21 records across all non-breeding season surveys between 2018 and 2025. None were recorded during the breeding season. Common Gull was recorded within the Dublin Airport Site using Sector J on two occasions, with one individual roosting in a grassland field in Sector J in December 2022 and two individuals roosting in January 2023.

12.4.134 Herring Gull was recorded 145 times across all non-breeding season surveys between 2018 and 2025, mainly in flight or in grassland fields outside the airport. The species was recorded a further 15 times during the breeding season. There were two occasions when Herring Gull were recorded on the ground within the Dublin Airport Site, with five birds recorded foraging in Sector J in November 2022 and 10 birds observed roosting in the same Sector in January 2023. This species was also recorded as a Sector J flyover on two occasions. The majority of herring gulls were either in flight or located in relatively large grassland fields near the M1 and M50, over 400m from the Dublin Airport Site. However, this species was typically recorded in low numbers of approximately one or two individuals in the wider survey area.

12.4.135 Curlew was recorded relatively infrequently, with 50 total records across all surveys between 2018 and 2025. While three Curlew were recorded within Sector J in 2025, the closest record outside of the Dublin Airport Site was 28 Curlew located airside, approximately 40m to the east of the existing road component of SL4 in December 2018. The majority of Curlew were recorded before the North Runway (10L/28R) development was completed. During surveys between 2021 and 2023, all Curlew records were located in a relatively large field to the east of the M1 and M50 adjacent to the Clayton Hotel, over 3km from Sector J.

12.4.136 Golden plover was recorded relatively infrequently, with eight total records across all surveys between 2018 and 2025. This species was present on six survey dates, which were in December 2018, January, February, and March 2019, and December 2022. A peak count of 85 golden plover were recorded in flight approximately 1.2km to the north-west of Sector J in March 2019. The record with the second highest count comprised 65 golden plover roosting in grassland approximately 600m to the south-west of Sector J in January 2019. Golden plover were recorded within Sector J on one occasion, which comprised 12 individuals foraging in the northernmost grassland field in December 2022. The next closest record to the Dublin Airport Site comprised 35 individuals approximately 100m south-west of Sector J in December 2022.

12.4.137 Lapwing were recorded three times during surveys between October 2022 and March 2023, with a peak count of 42 individuals approximately 140m south-west of Sector J. A flock of 26 Lapwing were recorded foraging in Sector J on 13 December 2022.

12.4.138 Important birds recorded during breeding bird surveys within Sector J were Swift *Apus apus* and Meadow Pipit (Figure 12-10, EIAR Volume 3). Swifts were recorded flying over the fields, and no evidence of nests was found. Two Meadow Pipits were recorded calling in June 2022, and several were also recorded in 2024, representing two probable and one possible breeding territory for the species.

Table 12-17: Records of Important Bird Species from Sector J between 2018 and 2025

Common Name	Scientific Name	Season Recorded		Number of Records	Survey Visit Peak Count	Survey Visit Peak Count Date	Latest Record
		Breeding	Non-breeding				
European Golden Plover	*Pluvialis apricaria*	✗	✓	1	12	13/12/2022	13/12/2022
Northern Lapwing	*Vanellus vanellus*	✗	✓	1	26	13/12/2022	13/12/2022
Black-headed Gull	*Chroicocephalus ridibundus*	✗	✓	7	53	18/12/2018	05/02/2025
Common Gull	*Laurs canus*	✗	✓	2	2	26/01/2023	26/01/2023
European Herring Gull	*Larus argentatus*	✗	✓	3	10	26/01/2023	26/01/2023
Common Swift*	*Apus apus*	✓	✗	4	5	27/05/2022	07/08/2025
Common Kestrel*	*Falco tinnunculus*	✓	✗	1	1	27/06/2024	27/06/2024
Redwing	*Turdus Iliacus*	✗	✓	5	58	07/02/2019	13/12/2022
Meadow Pipit	*Anthus pratensis*	✓	✓	14	5	04/06/2024	07/08/2025
Yellowhammer	*Emberiza citrinella*	✗	✓	1	1	14/02/2019	14/02/2019

* Species recorded as a flyover only.

Fish

12.4.139 The drainage ditches within Sector J are not considered to be suitable for important fish given the low water levels and limited connectivity to watercourses due to the modifications and culverts present.

Invertebrates

12.4.140 Based on the habitats present, in particular grasslands and hedgerows, there is suitability for invertebrates such as various butterflies and bees. Therefore, common terrestrial invertebrates are presumed to be present within Sector J.

12.4.141 The drainage ditches within Sector J are unlikely to support any substantial populations of important aquatic invertebrates given the low water levels and livestock access to these ditches. Therefore, notable aquatic invertebrates are presumed to be absent from Sector J.

Sector K

12.4.142 Sector K is dominated by a car park (BL3) to the south. At the time of survey, the northern section of Sector K was in use as a construction site and was dominated by spoil and bare ground (ED2), with some mixed broadleaved woodland (WD1), dry meadows and grassy verges (GS2), treelines (WL2), and drainage ditches (FW4) also present. There is also mixed broadleaved woodland along the eastern and southern boundaries of this Sector.

12.4.143 The baseline information on habitats and species in Sector K is summarised in the following sub-headings. Further details on amphibians, bats, birds and mammals are included in their respective Appendices 12-2 to 12-5 (EIAR Volume 4).

Habitats

12.4.144 The Fossitt habitat types present within Sector K are described in the following paragraph. Habitats within the Dublin Airport Site are displayed in Figure 12-3 (EIAR Volume 3).

12.4.145 **FW4 Drainage ditches:** There is a wet drainage ditch running from east to west in the northern section of Sector K. This ditch has sloped banks with vegetation such as great willowherb *Epilobium hirsutum* and field horsetail *Equisetum arvense* present along the edges.

12.4.146 **GS2 Dry meadows and grassy verges:** There are small areas of dry meadows present. At the time of survey, this grassland included disturbed areas due to ongoing construction in this sector. Grass species typically include Yorkshire-fog, perennial rye-grass, and cock's-foot, and herbaceous species generally comprise creeping buttercup, dandelion, white clover, broad-leaved dock, cleavers, and bird's-foot trefoil *Lotus corniculatus*.

12.4.147 **WD1 Mixed broadleaved woodland:** There are five small patches of woodland within the northern section of this Sector. The interior of these woodland patches mainly comprises sycamore, crack-willow *Salix fragilis*, and ash, which are surrounded by bramble and red-osier dogwood *Cornus sericea* scrub. There is also mixed broadleaved woodland along the R132 road within Sector K. This woodland is dominated by sycamore, and the understorey is not well-developed. Species also include beech, field maple *Acer campestre*, silver birch, hazel, hawthorn, bramble, elder, common nettle, cow parsley, and common hogweed.

12.4.148 **WL2 Treelines:** There is a treeline that separates the two fields which is predominantly composed of mature ash, and there is considerable ivy cover on these trees. Species in the understorey also generally include hawthorn and bramble. There are also some planted treelines along the road to the west of the car park within this sector.

12.4.149 **BL3 Buildings and artificial surfaces:** There are buildings and artificial surfaces within this sector that were associated with an existing car park and the ongoing construction in relation to a drainage infrastructure development.

12.4.150 **ED2 Spoil and bare ground:** There was also spoil and bare ground within this sector that are associated with ongoing construction in relation to a drainage infrastructure development.

Notable and Invasive Plant Species

12.4.151 No protected or high-impact and/or scheduled invasive plant species were recorded within Sector K.

Bats

12.4.152 The habitats within Sector K, particularly the treelines and woodlands, provide suitability for foraging and commuting bats. However, there is a considerable amount of light spill into this Sector from the adjacent buildings in Dublin Airport, roads, and car parks.

12.4.153 There are no trees or structures with bat roost suitability in this sector.

12.4.154 Bat activity recorded within this sector was very low during the surveys carried out between 2019 and 2022 (Figure 12-8). The most commonly detected bat species within this Sector was Leisler's bat, which were mainly observed foraging and commuting. Common pipistrelle was also recorded in this Sector in very low numbers in 2019. No bat activity was recorded within this sector during surveys in 2020 and 2022. Only three species were recorded in 2023, which included a brief pass of a Leisler's bat and a foraging common pipistrelle and soprano pipistrelle on separate occasions near the woodland. The only bat species recorded in 2024 was Leisler's bat, with a single brief pass recorded in May. No other bat species were recorded in Sector K across all other surveys in 2024. In 2025, a static detector recorded low levels of activity from Leisler's bat, common pipistrelle, and soprano pipistrelle, with one pass from Nathusius' pipistrelle.

12.4.155 In summary, due to the lighting, ongoing construction, low levels of bat activity, and lack of potential roosting features, this sector is considered to have no suitability for roosting bats and very *Low* suitability for foraging and commuting bats.

Other Mammals

12.4.156 No evidence of otter was recorded during the field surveys in Sector K. Furthermore, the wet ditch in this sector is unlikely to support otter as it is very small, highly modified, and frequently disturbed due to on-going construction. Therefore, otter is presumed to be likely absent from this sector.

12.4.157 One inactive outlier badger sett (BS02) was identified in August 2019 in the southern part of Sector K (Figure 12-5, EIAR Volume 3). No badgers were recorded using this sett during the camera surveys. However, the woodland immediately adjacent to the R132 road is suitable for sett creation; therefore, badgers could create setts in this area.

12.4.158 No evidence of other mammals was incidentally recorded within this sector. However, the grasslands, treelines and woodlands could provide suitable habitat for hedgehog, Irish hare, Irish stoat, and pygmy shrew. Therefore, these species could be present.

Amphibians and Reptiles

12.4.159 The wet drainage ditch within Sector K is not suitable for smooth newts as it is highly modified and does not have broadleaved aquatic vegetation for newts to lay their eggs. Furthermore, this ditch generally has low water levels and appears polluted by run-off from the adjacent Dublin Airport, car park, and roads. Therefore, smooth newts are presumed to be likely absent from this sector.

12.4.160 Common frog has not been identified during any surveys within this sector. The wet drainage ditch only provides limited suitability for common frog, as this species is ubiquitous and can be found in almost any aquatic habitat. Therefore, although unlikely, the presence of common frog within this sector cannot be excluded. However, it is unlikely that this habitat would support a substantial population of common frog due to the low water levels and poor water quality.

12.4.161 Common lizard was not incidentally recorded during field surveys. However, this species is fairly common and widespread; therefore, given the habitats present, it is presumed that small numbers of common lizard could be present in this sector.

Birds

12.4.162 The habitats within Sector K, particularly the woodlands and treelines, have potential suitability for both breeding and non-breeding birds (Figure 12-9). However, these habitats were subject to frequent disturbance at the time of the surveys from an existing construction site, and no important species were recorded in this sector.

Fish

12.4.163 The drainage ditch within Sector K is not considered to be suitable for notable fish given the short length of the ditch, low water levels, and limited connectivity due to the modifications and culverts present.

Invertebrates

12.4.164 There is unlikely to be any substantial populations of important terrestrial invertebrates in Sector K as this area is dominated by hardstanding and bare ground that is part of a construction site and the existing car park. Therefore, important terrestrial invertebrates are presumed to be absent from Sector K.

12.4.165 The drainage ditch within Sector K is unlikely to support any substantial populations of important aquatic invertebrates given the short length of the ditch, low water levels, and run-off from the adjacent Dublin Airport, roads, and car park. Therefore, important aquatic invertebrates are presumed to be absent from Sector K.

Current Design and Management

12.4.166 As referenced above when describing certain baseline conditions, there are existing environmental management measures in place at Dublin Airport. Of relevance to biodiversity, this includes:

- Existing drainage and pollution mitigation measures, described further in Chapter 11: Water, including a surface water drainage system and a pollution control system. Water quality of the Cuckoo Stream is monitored for increases in chemical oxygen demand at a sampling station.
- Ongoing delivery of the Dublin Airport Wildlife and Habitat Management Plan[89] to deter the presence of birds and mammals, which pose a collision risk, including:
  - The management of grassland at a sward length that reduces the suitability of the area for birds.
  - Habitat maintenance of all ditches and drainage channels on the airfield to ensure appropriate drainage of the airfield pavements and grasslands, thus preventing ponding which could potentially attract birds and other wildlife into the airfield.
  - Use of a wide range of wildlife dispersal techniques such as scarers.
  - The Licensed capture and relocation of Irish hares under an active wildlife management programme.[90]
  - Lethal control measures typically only as a last resort after all other methods for removal and deterrence have been exhausted and an obvious danger still exists to aircraft[91].

12.5 Future Receiving Environment

12.5.1 This section considers the evolution of the biodiversity baseline from the current receiving environment to the Principal Assessment year, 2029.

12.5.2 The current land use outside of Dublin Airport, relevant to this assessment, will likely remain the same as described in the Current Receiving Environment (Section 12.4) as there are restrictions on development in these areas. The Proposed Order applies to the area that is zoned as 'Dublin Airport' within the Fingal Development Plan 2023-2029[92]. The Development Plan's objective for this zone is to ensure the efficient and effective operation and development of the airport in accordance with an approved Local Area Plan. Public parks and amenity fields will likely continue to be used by the public and agricultural fields will likely continue to be grazed by livestock.

12.5.3 The Dublin Airport Site will continue to operate generally as described in Chapter 2: Site and Surroundings.

[89] Dublin Airport. (2025). Wildlife and Habitat Management Plan. PLN.601, Version 5.4.
[90] This is carried out in cooperation with, and under licence from, NPWS. The licence conditions preclude the capture of lactating females (unless young have also been trapped with them).
[91] Lethal control measures for birds are conducted under the derogations provided by the 'Air Safety Declaration' issued by the Minister of State for Nature, Heritage and Biodiversity.
[92] Fingal County Council. (2023). Fingal Development Plan 2023-2029. Fingal County Council. Fingal Development Plan 2023-2029 | Fingal County Council

12.5.4 The Current Receiving Environment within the Dublin Airport Site was established through field surveys spanning from 2019 to 2025, during which there was limited change in the condition and spatial extent of habitats and species presence. Desk study sources were also reviewed to provide additional baseline context. Minor changes in the distribution of some species (e.g., nesting birds) may occur in the Future Receiving Environment due to small-scale changes in habitat structure as a result of ecological succession or other natural processes, but any such changes are very likely to be within the range of normal inter-annual variation in the distribution and abundance of species populations. In addition, potentially relevant mobile protected species (e.g., badger) could establish new locations used for shelter; however, the local population and social group ranges are likely to remain similar to the Current Receiving Environment.

12.5.5 Embedded operational enhancement measures (detailed in Appendix 11-1: Drainage Report, EIAR Volume 4) enhance the ability of the existing drainage system to manage and contain contaminated runoff during adverse weather and operational conditions. The enhancements will be operational in the Cuckoo Catchment by 2029 and are anticipated to result in improved water quality in the Cuckoo Stream compared to the current baseline (as detailed in Appendix 11-2: WFD Assessment). This has been accounted for when considering the importance of watercourses in the subsequent section.

12.5.6 Any future changes in air quality that are relevant to this assessment have been defined in Chapter 7: Air Quality.

12.5.7 Ultimately, in the absence of the Proposed Order, the Future Receiving Environment (2029) of ecological features is unlikely to be materially different to the Current Receiving Environment.

12.6 Assessment of Likely Significant Effects

12.6.1 This section presents the findings of the Principal Assessment (2029 Permitted Operation compared to 2029 Proposed Operation). This section forms the basis for identifying likely significant effects and any additional mitigation measures.

Potential Impact Sources

12.6.2 The Proposed Order does not include any new airport infrastructure, demolition works, construction activities, enabling works, or physical alterations to the airport estate. For this reason, there is no construction phase associated with the application and no construction-related environmental effects would arise from the Proposed Order.

12.6.3 With the Proposed Order (40mppa) in place and when compared to the Permitted Operation (32mppa), the airport operations would intensify, including increased aircraft take-offs and landings, and increased vehicular traffic accessing and departing the airport and airport environment.

12.6.4 The following broad categories of impact could arise during the operation of the Proposed Order and are considered, where potentially relevant, in relation to each of the ecological features scoped into detailed assessment:

- air quality impacts that may affect sensitive habitats;
- pollution of surface water, groundwater, soils, and/or vegetation;
- direct injury or mortality from aircraft collisions of avian species (bird strikes); and
- increased noise and visual disturbance and/or displacement of species.

Important Ecological Features

12.6.5 As stated in the Assessment Methodology (Section 12.3), and as per CIEEM EclA guidance[9], only important ecological features require detailed assessment; these have the potential to be significantly affected by the Proposed Order. To aid in the identification of important ecological features, a geographical importance has been assigned to each relevant ecological feature in Table 12-8 and Table 12-9. For the purposes of defining geographical scale in this assessment, ‘County’ is defined as Co.

Dublin[93], 'Local' as the area within 5km of the Dublin Airport Site, and 'Site' as the area within the Dublin Airport Site and immediate surroundings.

12.6.6 The following sections present the ecological features which have been scoped out of assessment (with justification) and identifies the important ecological features subject to detailed assessment.

Ecological Features Scoped Out of Further Assessment

12.6.7 The ecological features presented in Table 12-18 have been excluded from further assessment because of one or more of the following reasons:

- The ecological feature occurs within the potential ZoI but is not considered important, as defined in Section 12.3, and/or has been assigned a geographical importance lower than 'Local'.
- Available data indicates that the ecological feature is likely to be absent from the potential ZoI (therefore, no geographical importance has been assigned).
- Taking account of existing environmental design and management (e.g., pollution prevention and wildlife management programmes), there will either be no impact or a negligible impact from the Proposed Order (with reference to the identified potential impact sources).

Table 12-18: Ecological Features Scoped out of Further Assessment

Ecological Feature	Importance	Justification
Habitats: woodlands	Local	Woodlands within the ZoI are typically along roadsides or limited to small areas not well connected to any larger woodlands. In the absence of any development activity, there will be no direct loss or change to the spatial extent of this habitat; the only impacts potentially relevant to the small woodland areas would be from air quality changes or pollution (run-off). There is no clear pathway for pollution of surface water/watercourse/soils to cause an effect on the dispersed woodland blocks within the ZoI. Any changes in air quality would not be of a threshold that would cause a loss to the dispersed woodland blocks or change their overall value for wildlife or their functional role as woodland. Woodland habitats are scoped out from further assessment.
Habitats: treelines, hedgerows, scattered trees and/or scrub	Site	In the absence of any development activity, there will be no direct loss or change to the spatial extent of this habitat. These habitats are typically isolated and surrounded by built-up environments of Dublin Airport. Considered to be important at a Site geographic scale at most, which is below the threshold of importance where a significant effect could occur, these habitats are scoped out from further assessment.
Habitats: dry meadows and/or wet grasslands	Local	These habitats are relatively small, in poor condition and dispersed around the Dublin Airport Site. There are more valuable grassland habitats in the wider area outside of Dublin Airport. Considered to be important at a Local geographic scale on a precautionary basis. In the absence of any development activity, there will be no direct loss or change to the spatial extent of this habitat; the only impacts potentially relevant to this habitat would be from air quality changes or pollution (run-off). These habitat blocks are dispersed and are predominantly located away from areas where increased pollution of surface water/watercourse/soils may occur. Any changes in air quality would not be of a threshold that would cause a loss of this habitat type, such that a significant effect could occur. Dry meadows and/or wet grasslands are scoped out from further assessment.
Habitats: other (e.g., amenity grassland, buildings and artificial surfaces, and bare soil)	Site	In the absence of any development activity, there will be no direct loss or change to the spatial extent of this habitat. Other habitats are of lower ecological value and are only important at the Site level, which is below the threshold of importance where a significant effect could occur. Other habitat is therefore scoped out from further assessment.
Important plants	N/A	There are no important plants within the Dublin Airport Site or wider ZoI and are therefore scoped out from further assessment.
Scheduled and/or high-impact invasive species	N/A	Cherry laurel is located within hedging in Long-term Car Park (Red), and Japanese knotweed is located in Sector A. These invasive species do not have ecological importance, could not be spread by the Proposed Order, and as such a significant effect could not occur and is therefore scoped out from further assessment.

[93] Comprising Fingal, Dublin City, South Dublin and Dun Laoighaire Rathdown.

Ecological Feature	Importance	Justification
Mammals: otter	Site	One otter spraint was identified along the Cuckoo Stream within the Dublin Airport Site. No breeding or resting places were identified, and the habitats within the potential ZoI of the Dublin Airport Site are suboptimal for otter. The habitat available to otter/ otter presence is valued at Site level only, which is below the threshold of importance where a significant effect could occur. As per CIEEM EcIA guidelines[9], where a protected species is present, and there is the potential for a breach of the legislation, those species should always be considered as 'important' features. However, there is no impact source relevant to otters because nothing physical is changing and no resting sites have been identified within a ZoI. There will be no change to the distribution of available habitat. Existing environmental management relevant to the water environment will continue. Road speed restrictions are already in place within and around the Dublin Airport Site. Any otters using the Cuckoo Stream will be acclimatised to the existing operational airport. There will not be a material change in the risk of direct injury or mortality, or noise or visual disturbances; and no potential for breach of legislation. Otters are therefore scoped out from further assessment.
Mammals: badger	Local	Several outlier badger setts were recorded. No main setts have been recorded. Therefore, badger is considered to be important at the Local scale at most. The majority of the habitats within the Dublin Airport Site are of low/negligible suitability for badger, being hardstanding and buildings, with more suitable habitat generally restricted to the periphery of the Dublin Airport Site. There will be no loss of setts or foraging habitat or change to the distribution of available habitat. Road speed restrictions are already in place within and around the Dublin Airport Site, and badgers will be acclimatised to the existing operational airport. There will not be a material change in the risk of direct injury or mortality, or noise or visual disturbances, and no potential for breach of legislation. Any changes as a result of the Proposed Order would not be sufficient for a significant effect to occur on local badger populations or at any other scale. Badgers are therefore scoped out from further assessment.
Mammals: hedgehog, Irish hare, Irish stoat, and pygmy shrew	Site	Mammals including hedgehog, Irish hare, Irish stoat and pygmy shrew likely use potentially suitable habitat within the Dublin Airport Site. The majority of the habitats on site are of low/negligible suitability for these species, being hardstanding and buildings, with more suitable habitat generally restricted to the periphery of the Dublin Airport Site. Road speed restrictions are already in place within and around the Dublin Airport Site, and these species are acclimatised to the existing operational airport. There will not be a material change in the risk of direct injury or mortality, or noise or visual disturbances. These species are considered of Least Concern and are considered important at the Site level, which is below the threshold of importance where a significant effect could occur. These species are not afforded specific legal protection relevant to the Proposed Order and are therefore scoped out from further assessment.
Amphibians: smooth newt	Site	The drainage ditches within the Dublin Airport Site have some limited suitability for smooth newt; however, the species was not identified during any surveys. Smooth newt is considered likely absent from the ZoI of the Proposed Order. On a precautionary basis, given the suitability of some ditch habitat for this species, smooth newt are considered further. In the absence of any development activity, there will be no direct loss or change to the spatial extent of available smooth newt habitat; the only impacts potentially relevant to smooth newt would be from pollution to water courses, which will be minimised through the existing operational pollution control measures. Any smooth newt populations would be important only at the Site level given the limited availability of suitable habitats, which is below the threshold of importance where a significant effect could occur and are therefore scoped out from further assessment.
Amphibians: common frog	Site	This species has been recorded during surveys. Common frog is ubiquitous and can breed in most slower flowing watercourses, including drainage ditches. Therefore, common frog is considered to be important at the Site level, which is below the threshold of importance where a significant effect could occur. This species is not afforded specific legal protection relevant to the Proposed Order. Common frogs are scoped out from further assessment.
Reptiles: common lizard	Site	Common lizard may use some of the habitat within the Proposed Order. However, the habitats are not likely to support any large populations of common lizard. This species is Least Concern and is considered to be important at the

Ecological Feature	Importance	Justification
		Site level, which is below the threshold of importance where a significant effect could occur. This species is not afforded specific legal protection relevant to the Proposed Order. Common lizard are scoped out from further assessment.
Fish	Site	The watercourses within and nearby the Proposed Order (including the Cuckoo Stream) are known to have poor water quality and relatively low water levels. However, Cuckoo Stream has some limited potential to support common fish. Fish are therefore considered to be important at the Site level, which is below the threshold of importance where a significant effect could occur. Fish are scoped out from further assessment.
Invertebrates: terrestrial	Site	Habitats within the Dublin Airport Site have some suitability to support common terrestrial invertebrate species. However, they are unlikely to support any large populations given the large amounts of hardstanding adjacent to built-up areas. Terrestrial invertebrates are considered to be important at the Site level, which is below the threshold of importance where a significant effect could occur. Based on the desk study and habitats present, there are unlikely to be any legally protected terrestrial invertebrates within the potential ZoI. Terrestrial invertebrates are scoped out from further assessment.
Invertebrates: aquatic	Site	Watercourses in the Dublin Airport Site have some suitability to support common aquatic invertebrate species. However, it is unlikely to support any large populations given the poor water quality of the watercourses and low water levels. Aquatic invertebrates are considered to be important at the Site level, which is below the threshold of importance where a significant effect could occur. Aquatic invertebrates are scoped out from further assessment.

Ecological Features Scoped into Further Assessment

12.6.8 The ecological features identified in the baseline, which have been scoped in for further assessment, are presented in Table 12-19, along with the importance valuation of each feature and rationale for inclusion in the assessment. Importance has been assessed considering geographic scale, in accordance with CIEEM EcIA guidelines[9].

Table 12-19: Ecological Features Scoped in for Further Assessment

Ecological Feature	Importance	Justification
Internationally/European Designated Sites (SACs, SPAs, and Ramsar sites)	International	International designations
Nationally Designated Sites (pNHAs)	National	National designations
Local nature conservation designations	Local	Local designations
Habitats: watercourses	Local	Watercourses adjacent to and within the Dublin Airport Site form part of different catchments. Water quality monitoring (as detailed within Chapter 11: Water) indicates many of these watercourses have poor water quality. Water quality of the Cuckoo Stream is likely to improve in the Future Receiving Environment. These watercourses are valued on a Local geographic scale.
Birds: non-breeding	Local	Important non-breeding waterbirds were recorded occasionally in small flocks within the Dublin Airport Site. However, these are unlikely to represent a substantial part of the species population. Therefore, non-breeding birds in the vicinity of the airport are considered important at Local level.
Birds: breeding	Local	Important breeding birds were recorded occasionally in low flock numbers within the Dublin Airport Site. These are unlikely to represent a substantial part of the species population. Therefore, breeding birds in the vicinity of the airport are considered important at the Local level.
Bats: roosting	Local	There are several structures with bat roost suitability and one tree with bat roost suitability in the Dublin Airport Site. Six species of bat were recorded during activity surveys, but no bats emerged from the majority of these trees/structures during dusk emergence surveys. Vacant

Ecological Feature	Importance	Justification
		building S01 was confirmed as a Leisler's bat roost with an individual bat observed emerging from the chimney during dusk survey work; this is considered likely to be a non-breeding day roost. As an individual roost, this would be of Site level importance when applying the Bat Mitigation Guidelines[94] - as a small number of a roosting bat species which is widespread in many geographies. As a precaution and based on other features offering some level of roosting resource, roosting bats are considered to be important at the Local level.
Bats: foraging and commuting	Local	Bats are European protected species and are protected under national legislation. Six species of bat were recorded during activity surveys and likely use the Dublin Airport Site for commuting and foraging. However, the species recorded are common and widespread across Ireland, and the activity levels were *Low*. Therefore, commuting and foraging bats are valued at Local importance.

Assessment of Effects

12.6.9 This section assesses the potential operational phase impacts on important ecological features scoped in for further assessment as per Table 12-19.

European Sites

12.6.10 Potential impact sources considered relevant include air quality impacts that may affect sensitive habitats; pollution of surface water, groundwater, soils, and/or vegetation; direct injury or mortality from aircraft collisions of avian species (bird strikes); and increased noise and visual disturbance and/or displacement of species.

12.6.11 A separate AA Screening and NIS (Appendix 12-1) has been prepared for the Proposed Order. This concluded that the Proposed Order will not have an adverse effect on the integrity of any European site in view of its Conservation Objectives, either alone or in-combination with other plans or projects.

12.6.12 For the following broad reasons, it was determined that there will be no adverse effects on the integrity of any European site. These reasons are also valid with regard to the assessment on European sites within this chapter:

- There will be no loss of habitat used by SCI bird species.
- Detailed modelling demonstrates that the 2029 Proposed Operation would not increase the mass load of de-icer pollution discharged to receiving surface waters or result in deterioration of the receiving surface water environment (as detailed in Chapter 11: Water).
- SCI bird species were recorded in small numbers relative to their SPA population sizes and, generally, on an infrequent basis. There is no indication that any habitat within the Dublin Airport Site or the surrounding area is of importance to the maintenance of SPA populations.
- The existing records indicate a low incidence of bird strike involving these SCI species.
- The existing Dublin Airport Wildlife and Habitat Management Plan will continue to minimise the risk of bird strike under both the 2029 Permitted Operations and 2029 Proposed Operations.
- Having regard to the existing bird-strike record, the occurrence and abundance of SCI species in the vicinity of Dublin Airport, the nature and location of the existing collision-risk environment and the incremental change in aircraft movements associated with the Proposed Order, bird strike is not expected to result in mortality of SCI species at a level capable of affecting their population or distribution.
- There will be no significant change in aircraft or traffic noise from the 2029 Permitted Operations compared to the 2029 Proposed Operations (see Chapter 8: Non-Aircraft Noise and Chapter 9: Aircraft Noise, EIAR Volume 2).
- The Proposed Order would increase the frequency of existing operational activity at Dublin Airport but would not introduce a new type of activity or materially alter the nature of the existing

[94] Reason, P.F. and Wray, S. (2025). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Version 1.2. Chartered Institute of Ecology and Environmental Management, Ampfield. Available: https://cieem.net/wp-content/uploads/2023/09/Bat-Mitigation-Guidelines-2025-V1.2.pdf

disturbance environment. The predicted changes in road traffic and ground noise would not result in ecologically meaningful disturbance or displacement. Aircraft using Dublin Airport would continue to follow the existing flight paths and would pass over the relevant SPAs at altitudes above those at which the literature indicates significant visual disturbance is generally expected. The Proposed Order would also not introduce new physical infrastructure or extend airport operations into previously unaffected areas.

- There is no evidence either from literature review or targeted field survey at Baldoyle Bay, Rogerstown Estuary and Malahide Estuary that overflights of commercial aircraft using Dublin Airport are causing or are likely to cause any disturbance of SCI birds. This is not expected to change for the 2029 Proposed Operations compared to the 2029 Permitted Operations.
- The air quality modelling (Chapter 7: Air Quality) demonstrates that, although the contribution attributable to the Proposed Order exceeds the 1% screening criterion for NOx at Malahide Estuary, the applicable Critical Levels and Critical Loads are not predicted to be exceeded when background conditions and other growth incorporated within the 2029 modelling are taken into account. Contributions at the other relevant European sites are below the applicable screening criteria or are of a magnitude that would not result in an ecologically meaningful change.
- Having regard to the predicted pollutant concentrations and deposition rates, the applicable Critical Levels and Critical Loads, background conditions and the sensitivity of the relevant habitats, the changes in airborne pollution associated with the Proposed Order are not expected to result in deterioration of Qualifying Interest habitats or supporting habitat or changes capable of affecting the population or distribution of SCI species.

12.6.13 The AA Screening and NIS also outlined that there was no possibility of the Proposed Order acting in-combination with other projects or plans to give rise to adverse effects on European site integrity.

12.6.14 On a precautionary basis, changes in air quality associated with the increase in road and aircraft traffic are predicted to result, at worst, in a Permanent Adverse effect of limited magnitude and localised extent on European sites. In this context, the term ‘Permanent Adverse’ reflects the duration and direction of the predicted change and does not, in itself, indicate that the effect is significant. The predicted changes are limited and would not materially affect the conservation status, structure or function of the qualifying ecological features. The effect is therefore Not Significant.

Nationally Designated Sites

12.6.15 There are nine pNHAs within the potential ZoI of the Proposed Order, which are: Baldoyle Bay pNHA, North Dublin Bay pNHA, Sluice River Marsh pNHA, Santry Demesne pNHA, Bog of the Ring pNHA, Royal Canal pNHA, Liffey Valley pNHA, and Grand Canal pNHA.

Baldoyle Bay pNHA and North Dublin Bay pNHA

12.6.16 Baldoyle Bay pNHA and North Dublin Bay pNHA overlap with their respective European Sites and are designated for the same features. Therefore, due to the same rationale given above for European sites, a Permanent Adverse effect is predicted on Baldoyle Bay pNHA and North Dublin Bay pNHA as a result of the Proposed Order, which is not significant.

Sluice River Marsh pNHA

12.6.17 The Sluice River Marsh pNHA is located approximately 4.8km to the east of the Dublin Airport Site. It is designated for marsh, wet grassland, wet woodland, and waterfowl. There is a direct hydrological connection between this pNHA and the Dublin Airport Site via the Sluice River (via tributary streams).

12.6.18 Embedded operational enhancement measures (detailed in Appendix 11-1: Drainage Report, EIAR Volume 4) enhance the ability of the existing drainage system to manage and contain contaminated runoff during adverse weather and operational conditions.

12.6.19 As detailed in Chapter 11: Water, the magnitude of impacts from the Proposed Order to the surface water quality status of the Mayne, Sluice and Santry sub-basins, along with impacts from the pollution of groundwater are both considered to be negligible. As such, no hydrological pollution impacts will occur to Sluice River Marsh pNHA from the Proposed Order.

12.6.20 Moreover, the Sluice River Marsh pNHA is located beyond the distance at which any airborne pollution impacts could arise. Both the IAQM and the DMRB advise that for road traffic, air quality impacts are

only likely to extend to a maximum of 200m from a road (or works area), and that air pollution levels fall sharply within the first few tens of metres.

12.6.21 Waterbirds were recorded in relatively small numbers and generally on an infrequent basis. There is no indication that any habitat within the Dublin Airport Site or surrounding area is of importance to the maintenance of waterbirds also using the Sluice River Marsh pNHA. Furthermore, the existing Dublin Airport Wildlife and Habitat Management Plan will continue to be effective under both the 2029 Permitted Operations and 2029 Proposed Operations. There will be no change to the risk of injury or mortality, disturbance, or displacement of associated waterbirds.

12.6.22 Therefore, a Permanent Negligible effect is predicted on the Sluice River Marsh pNHA as a result of the operation of the Proposed Order, which is not significant.

Santry Demesne pNHA, Bog of the Ring pNHA, Royal Canal pNHA, Liffey Valley pNHA, Grand Canal pNHA and

12.6.23 These pNHA are predominantly designated for their habitat and plant interests, but some are also recognised to support protected species. Royal Canal pNHA and Grand Canal pNHA support otter; however, at direct distances of 4.5km and 9.7km south of the Dublin Airport Site respectively and a lack of hydrological connectivity, there is no elevated risk of noise and visual disturbance or displacement of otters from these sites or change to the function of their habitat as a result of the Proposed Order. Otters using these sites will be habituated to any adjacent existing road networks. Liffey Valley pNHA supports Atlantic salmon and, similarly, there is no direct hydrological connectivity, so no elevated risk of disturbance, displacement, or degradation of their supporting habitat via pollution. Bog of the Ring pNHA is also noted to support a number of bird species, but at a distance of 15.5km north of the Dublin Airport Site and with existing environmental design and management, there is no elevated risk of bird strikes, disturbance, or displacement of species as a result of the Proposed Order.

12.6.24 Change in air quality is the primary potential impact source affecting these pNHA. Based on TII air quality guidance**Error! Bookmark not defined.**, effects on designated sites within 200m of an ARN[95] were considered, which were Santry Demesne pNHA, Bog of the Ring pNHA, Royal Canal pNHA, Liffey Valley pNHA, and Grand Canal pNHA. Both the IAQM[Error! Bookmark not defined.] and the *Design Manual for Roads and Bridges* (DMRB)[96] advise that for road traffic, air quality impacts are only likely to extend to a maximum of 200m from a road (or works area), and that air pollution levels fall sharply within the first few tens of metres.

12.6.25 The modelled results at these receptors are included in Appendix 7-3: Modelled Results (EIAR Volume 4) of Chapter 7: Air Quality.

12.6.26 At distances close to the source, nitrogen oxide (NO_x) can have a directly toxic effect on vegetation at very high concentrations. However, according to the Air Pollution Information System (APIS), the negative effects of NO_x/NO_2 in the atmosphere (as distinct from its role in nitrogen deposition) are most likely to arise in the presence of equivalent concentrations of sulphur dioxide (SO_2). Vehicle exhausts do not emit notable amounts of SO_2 as sulphur is not present in regulated fuels, and APIS indicates that background SO_2 concentrations within the Dublin Airport Site and ARN are very low[97] (a range of 0.9 to 1.9 micrograms per cubic metre (µg/m^3)) compared to critical levels for SO_2 of 10-20µg/m^3. Since the SO_2 concentrations are so low, no synergistic effect with NO_x is expected. Likely to be of greater concern is the contribution NO_x and ammonia make to the deposition of nitrogen to soils.

12.6.27 Increases in nitrogen deposition from the atmosphere can, if sufficiently great, enhance soil fertility and lead to eutrophication. This can have adverse effects on community composition and quality of semi-natural, nitrogen-limited terrestrial and aquatic habitats. Ammonia is also toxic to plants in relatively low concentrations. The major source of ammonia is agriculture and some chemical and industrial processes, but road vehicles with catalytic converters also emit ammonia. The guideline atmospheric concentration advocated for the protection of vegetation from ammonia is 3µg/m^3, known as the 'Critical Level'. For lichens and bryophytes, the ammonia Critical Level reduces to 1µg/m^3. The relevant Critical Level for NOx is 30µg/m^3. An equivalent threshold known as the 'Critical Load' applies to nitrogen

[95] An Affected Road Network (ARN) is one that experiences a change in total traffic flow of 1,000 vehicles or more per average day, or a change in Heavy Duty Vehicle (HDV) flows of 200 more per average day, or a change in alignment or vehicle speed above the criteria set out in the TII guidance.
[96] Highways England. (n.d.). LA 105 Air Quality. Available at: LA 105 - Air quality
[97] APIS (n.d.). Nitrogen Oxides (NOx). Available at: https://www.apis.ac.uk/app

deposition. However, unlike the Critical Level, the Critical Load is bespoke to each habitat, as different habitats have different sensitivity to nitrogen deposition[98].

12.6.28 Regarding the Royal Canal pNHA and Grand Canal pNHA, the main designated habitat for these sites is the canal. There are no critical levels or loads available for open waterbodies as they are generally phosphorus-limited, meaning phosphorus is more important than nitrogen in controlling eutrophication. However, the Royal Canal pNHA is also designated for hedgerows, calcareous grassland, reed fringe, and scrub and woodland habitats along the canal, and calcareous grassland, reed, scrub, and woodland form part of the Grand Canal pNHA. The Santry Demesne pNHA is designated for the remnants of a former demesne woodland and important plant species. The Bog of the Ring pNHA is designated for peatland and marsh. Liffey Valley pNHA comprises woodland and marsh habitats.

12.6.29 Relevant modelled data are summarised in the tables below (full data available in Appendix 7.3: Modelled Data, EIAR Volume 4). For the purposes of this chapter, modelled data within 10m of the roadside has been disregarded as this can be unrepresentative due to road turbulence, edge effects (e.g., salt spray, runoff, buried services), and other factors.

Table 12-20: Modelled Air Quality Data Relevant to pNHAs – Nitrogen Oxide (NOx)

Site Name	Impact as % of Critical Level *(absolute change)*		Distance at which NO_x falls below Critical Level
	Peak at 10m	Peak at designated habitat[99]	
Royal Canal pNHA [002103]	3.76% *(1.1µg/m³)* Sample E05b	~20m: 2.7% *(0.8µg/m³)* Sample E05b	Falls below CL at 50m
Grand Canal pNHA [002104]	3.25% *(1.0µg/m³)* Sample E07b	10m: 3.25% *(1.0µg/m³)* Sample E07b	Falls below CL at 50m
Liffey Valley pNHA [000128]	2.98% *(0.9µg/m³)* Sample E06a	10m: 6.78% *(0.9µg/m³)* Sample E06a	Falls below CL at 40m
Santry Demesne pNHA [000178]	2.43% *(0.7µg/m³)* Sample E04b	10m: 2.43% *(0.7µg/m³)* Sample E04b	All values below CL
Bog of the Ring pNHA [001204]	1.79% *(0.5µg/m³)* Sample E01	~40m: 0.97% *(0.3µg/m³)* Sample E01	All values below CL

Table 12-21: Modelled Air Quality Data Relevant to pNHAs – Ammonia (NH3)

Site Name	Impact as % of Critical Level *(absolute change)*		Distance at which NH_3 falls below Critical Level
	Peak at 10m	Peak at designated habitat[99]	
Royal Canal pNHA [002103]	3.09% *(0.1µg/m³)* Sample E05b	~20m: 2.21% *(0.1µg/m³)* Sample E05b	Falls below upper CL at 60-70m; remains above lower CL >200m
Grand Canal pNHA [002104]	3.12% *(0.1µg/m³)* Sample E07b	10m: 3.12% *(0.1µg/m³)* Sample E07b	Falls below upper CL at 40-70m; remains above lower CL >200m
Liffey Valley pNHA [000128]	2.83% *(0.1µg/m³)* Sample E06a	10m: 2.83% *(0.1µg/m³)* Sample E06a	Falls below upper CL at 40-50m; remains above lower CL >200m
Santry Demesne pNHA [000178]	0.09% *(0.0µg/m³)* Sample E04b	10m: 0.09% *(0.0µg/m³)* Sample E04b	Remains below upper CL at 10m; remains above lower CL >200m
Bog of the Ring pNHA [001204]	1.02% *(0.0µg/m³)* Sample E01	~40m: 0.45% *(0.0µg/m³)* Sample E01	Remains below upper CL at 10m; remains above lower CL >200m

[98] Site specific information is not available for pNHA, but relevant habitat Critical Load data is inferred from the APIS application.
[99] Based on a precautionary review of aerial imagery, in the absence of detailed mapping of the pNHA.

Table 12-22: Modelled Air Quality Data Relevant to pNHAs – Nitrogen Deposition (NDep)

Site Name	NDep Critical Load	Impact as % of Critical Load *(absolute change)*		Distance at which NDep falls below Critical Load
		Peak at 10m	Peak at designated habitat[99]	
Royal Canal pNHA [002103]	10	6.28% *(1.3kgN/ha/yr)* Sample E05b	~20m: 4.34% *(0.9kgN/ha/yr)* Sample E05b	190m
Grand Canal pNHA [002104]	10	5.79% *(1.2kgN/ha/yr)* Sample E07b	10m: 5.79% *(1.2kgN/ha/yr)* Sample E07b	Remains above CL >200m
Liffey Valley pNHA [000128]	10	5.64% *(1.2kgN/ha/yr)* Sample E06a	10m: 5.64% *(1.2kgN/ha/yr)* Sample E06a	Remains above CL >200m
Santry Demesne pNHA [000178]	10	1.85% *(0.2kgN/ha/yr)* Sample E04b	10m: 1.85% *(0.2kgN/ha/yr)* Sample E04b	Remains above CL >200m
Bog of the Ring pNHA [001204]	5	2.99% *(0.3kgN/ha/yr)* Sample E01	~40m: 1.44% (0.1kgN/ha/yr) Sample E01	Remains above CL >200m

12.6.30 The Critical Level for NO_x (30µg/m^3) is forecast to be exceeded at Grand Canal pNHA up to 60m from the roadside, Royal Canal pNHA up to 50m from roadside, and Liffey Valley pNHA up to 40m from the roadside. The concentrations already exceed the Critical Level at baseline, with sampling locations beside main road networks. Despite existing traffic on the road network, NO_x concentrations are showing a downward trend[100]. For sites where the Critical Level is exceeded, the absolute change in concentrations between the predicted NO_x in comparison to the relevant future baseline will be relatively small (0.1-1.1µg/m^3). The NO_x concentrations will remain below the Critical Level at Santry Demesne pNHA and Bog of the Ring pNHA.

12.6.31 Although the lower Critical Level (1µg/m^3) is exceeded at all sites up to 200m from the roadside, ammonia concentrations remain or fall below the upper Critical Level (3µg/m^3) within 70m of the roadside. For the two pNHA primarily designated for relatively more sensitive habitats, Santry Demesne pNHA and Bog of the Ring pNHA, the impact of the Proposed Order as a percentage of the Critical Level will be 0.09% and 1.02% respectively (insignificant) and the upper Critical Level is not exceeded at a distance where the designated habitats appear to occur.

12.6.32 Similarly, although predicted Critical Loads (for nitrogen deposition) are exceeded at all sites, these exceedances (and those of NH_3 and NO_x) are predominantly due to the elevated background conditions and anticipated future baseline road traffic flows. The largest exceedances in nitrogen deposition (>1kgN/ha/yr) occur nearby the roadside, which are typically subject to existing edge effects from the presence of the road (e.g., salt spray, runoff, buried services). The absolute change in concentrations between the 2029 Permitted Operation and 2029 Proposed Operation will be 1.3kgN/ha/yr at most (at Royal Canal pNHA). At high existing nitrogen deposition rates, such as is found here, nitrogen is already present in excess such that a large amount of additional nitrogen is generally required to have a further effect, and any significant deterioration in vegetation quality and species richness is likely to have already occurred due to historic deposition[101]. Adding 1kgN/ha/yr for example, therefore has less effect at a high background rate, as is present for these designated sites, than it would at a lower background deposition rate.

12.6.33 From a review of aerial imagery, a relatively small proportion of designated habitats at these sites appear to occur near the roadside; however, their cover extends beyond this, and core quality habitat is likely to be present further from the road. Additionally, as previously mentioned, the Grand Canal pNHa and Royal Canal pNHA are mainly designated for the canals themselves, and sensitive habitats have a patchier distribution and smaller extent.

[100] The EPA publish annual air quality monitoring data as part of their "Air Quality in Ireland" reporting, which shows a decrease in NO_x year-on-year (2025 data not published at the time of writing). https://www.epa.ie/publications/monitoring--assessment/air/air-quality-in-ireland-2024.php

[101] Caporn, S., Field, C., Payne, R., Dise, N., Britton, A., Emmett, B., Stevens, C. (2016). Assessing the Effects of Small Increments of Atmospheric Nitrogen Deposition (Above the Critical Load) on Semi Natural Habitats of Conservation Importance. Natural England Commissioned Report 210. Natural England.

12.6.34 Emission rates for NH_3 published by the Air Quality Consultants (AQC) and the nitrogen deposition levels used for the air quality modelling are considered to be precautionary and an overestimation (refer to Chapter 7: Air Quality, EIAR Volume 2). The latest publication of the tool refines assumptions made in previous versions by incorporating additional research, while maintaining a conservative approach. The future background was assumed to be unchanged from the existing background as there is (at the time of writing) no tool available in Ireland which projects future background conditions. There will more likely be a reduction in background and roadside pollutant concentrations, due to the decarbonisation of the vehicle fleet (i.e., fewer vehicles burning petrol/diesel and more vehicles running on electric or semi-electric power), thus reducing emissions of NO_x and NH_3 (NH_3 will reduce because electric cars will not need catalytic converters to reduce NO_x).

12.6.35 Therefore, on a precautionary basis, changes in air quality associated with operational traffic are predicted to result, at worst, in a Permanent Adverse effect of limited magnitude and localised extent. The predicted change would not materially affect the conservation value, structure or function of the ecological features and is therefore Not Significant.

Local Nature Conservation Designations

12.6.36 Local nature conservation designations (including NDAs) in the Fingal Biodiversity Action Plan 2023-2030 within the potential ZoI of the Proposed Order include Forrest Little Golf Club located along the northern boundary, Silloge Park Golf Club located approximately 190m to the south, a farmland located approximately 185m to the north and Feltrim Hill located approximately 1.3km to the north-east. These habitats are not considered to be of high ecological value or to be particularly sensitive to any changes in air quality that could occur. There are no specific faunal species notified under these designated sites, such that potential impact sources associated with faunal species have not been considered. There is no direct hydrological connection between the Dublin Airport Site and these local nature conservation designations and, based on their distance from the Dublin Airport Site, pollution is not a potential impact source.

12.6.37 The demesne at Santry Park overlaps with Santry Demesne pNHA, and therefore the rationale set out above for this pNHA is also applicable to this NDA. Taking account of its distance from the Dublin Airport Site, the results of the air quality modelling and the intervening habitats, the Proposed Order is predicted, at worst, to result in a Permanent Adverse effect of limited magnitude and localised extent. The predicted change would not materially affect the conservation value, structure or function of the NDA and is therefore Not Significant.

Watercourses

12.6.38 The Dublin Airport Site has a hydrological connection to the Mayne, Sluice and Santry sub-basin catchments and into a further seven sub-catchments as shown in Table 12-6.

12.6.39 The majority of Dublin Airport currently drains to the Cuckoo Stream of the Mayne River sub-basin (WFD Sub-basin Mayne_010). Kealy's Stream drains the majority of Sector B (Hangars and the North Apron), most of Sector F (GTC) and Sector G (Car hire and long-term Carpark). A small portion of the North runway (Sector A) is within the Ward Sub-Basin; in this area all hardstanding is drained, collected and diverted to the Kealy Stream. A portion of the South Runway (10R/28L) (Sector A) drains to the Mayne River sub-catchment, whilst another portion drains to the Santry River. The surface water network provides attenuation to most hardstanding and developed areas, with the exception of the Mayne and Santry sub-catchments, as well as collecting flows from the greenfield area between the North Runway (10L/28R) and South Runway (10R/28L) and conveying this via the airfield trunk culvert into the Cuckoo Stream.

12.6.40 The Dublin Airport's Airfield Drainage Project (ADP) is the long-term measure by which pollution control will be implemented at Dublin Airport. It is expected to be operational by 2031. In the interim, a range of operational measures are being progressed which will improve the pollution control system performance, thereby progressively reducing risk of impacts to receiving waters. These ongoing measures comprised improvements to the existing pollution networks and control systems, upgrades to operating control and discharge mechanisms and increased numbers of glycol recovery vehicles (as detailed in Chapter 11: Water). These measures are being commissioned and will be in place when the Proposed Order comes into effect.

12.6.41 .

12.6.42 The operational changes associated with increased passenger throughput and aircraft movements between the 2029 Permitted Operation (32 mppa) and the 2029 Proposed Operation (40 mppa) have the potential to impact watercourses through pollution by increased mass load of de-icing chemicals in surface run off and an increased chance of accidental pollution of water bodies by spillages associated with increased refuelling activities (as detailed within Chapter 11: Water).

12.6.43 Detailed de-icer pollution modelling (as detailed within Chapter 11: Water), taking account of the drainage and pollution control measures forming part of the Future Receiving Environment, demonstrates that the increased load can be managed without an increase in de-icer pollution discharged to receiving surface waters. The assessment within Chapter 11: Water has also considered the potential for accidental pollution and effects on groundwater. Taking account of the existing drainage systems, operational controls and planned pollution control measures, no significant effects on surface water or groundwater are predicted. The conclusions of the separate WFD Compliance Assessment (Appendix 11-2: WFD Assessment (EIAR Volume 4)) have also been taken into account and confirm that the Proposed Order would not result in deterioration of the status of receiving water bodies.

12.6.44 As such, given the outcomes of this assessment, there will likely be at most a Permanent Negligible effect on any watercourses, which is Not Significant.

Birds: breeding and non-breeding

12.6.45 During the breeding and non-breeding bird surveys, a total of 56 species were recorded across all Sectors, of which 14 are considered to be important species (Table 12-23). Of these 14 species, four were recorded as flyovers only, with 10 important species recorded actively using one or more of the sectors.

Table 12-23: Important Bird Species recorded within one or more Sectors between 2018 and 2025

Common Name	Scientific Name	Season Recorded	
		Breeding	Non-breeding
European Golden Plover	*Pluvialis apricaria*	✗	✓
Northern Lapwing	*Vanellus vanellus*	✗	✓
Eurasian Curlew	*Numenius arquata*	✓	✓
Common Snipe*	*Gallinago gallinago*	✗	✓
Black-headed Gull	*Chroicocephalus ridibundus*	✗	✓
Common Gull	*Laurs canus*	✗	✓
European Herring Gull	*Larus argentatus*	✓	✓
Lesser Black-backed Gull*	*Larus fuscus*	✓	✓
Common Swift*	*Apus apus*	✓	✗
Red Kite*	*Milvus milvus*	✓	✗
Common Kestrel	*Falco tinnunculus*	✓	✓
Redwing	*Turdus Iliacus*	✗	✓
Meadow Pipit	*Anthus pratensis*	✓	✓
Yellowhammer	*Emberiza citrinella*	✗	✓

* Species recorded as a flyover only.

Breeding Bird Baseline

12.6.46 There was no confirmed breeding evidence of any birds during the surveys. However, Meadow Pipit was considered to hold approximately three possible breeding territories in the Sector J Underpass

beneath Runway 16/34, and within Sector E in 2019. However, these are all located airside and under management for birds. Meadow Pipit was also considered to hold approximately one probable breeding territory in the Sector H area in 2022, nine probable and two possible territories in Sector J in 2024, and one possible territory in Sector H in 2024. Yellowhammer was considered to hold one possible territory to the west of the existing Blue Car Park in 2022.

12.6.47 There was no breeding evidence of waterbirds or any other important birds such as Swift, Kestrel and Red Kite. There is generally suitable habitat for common breeding songbirds in the grassland fields, hedgerows, and treelines outside of Dublin Airport mainly between the North Runway (10L/28R) and South Runway (10R/28L) and in the wider area surrounding the airport. The habitats within and around the Dublin Airport Site will continue to be suitable for breeding birds during the Proposed Operations with no habitat loss associated with the Proposed Order.

Non-breeding Bird Baseline

12.6.48 Between 2018 and 2025, a total of 12 important non-breeding season 19 waterbird species, four raptor species, and 39 farmland bird species were recorded using one or more of the Sectors (Table 12-23), as follows:

- Seven non-breeding SCI bird species (Black-headed Gull, Common Gull, Curlew, Golden Plover, and Herring Gull);
- Two breeding SCI bird species (Herring Gull and Lesser Black-backed Gull (no evidence of these species breeding within the survey area was found);
- One Annex I bird species (Golden Plover); and
- Eight BoCCI Red-listed bird species (Curlew, Golden Plover, Kestrel, Lapwing, Meadow Pipit, Redwing, Snipe, and Yellowhammer).

12.6.49 The results of the non-breeding bird surveys indicate that non-breeding birds were distributed throughout the Sectors, mainly within grassland fields between North Runway (10L/28R) and South Runway (10R/28L) and outside of the Dublin Airport Site. Similar grassland fields are present in abundance in the wider area surrounding the airport.

12.6.50 It is considered that the Proposed Order could impact breeding and non-breeding birds through direct injury or mortality from aircraft collisions of avian species (bird strikes) and through increased noise and visual disturbance and/or displacement of species.

12.6.51 A separate AA Screening and NIS (Appendix 12-1, EIAR Volume 4) has been prepared for the Proposed Order considering impacts on European sites. The assessment considers in detail the potential impacts to SCI qualifying bird species, including from aircraft and traffic noise, visual disturbance and bird strike impacts. This concluded that the Proposed Order will not have an adverse effect on the SCI bird populations and the integrity of any European site in view of its Conservation Objectives, either alone or in-combination with other plans or projects.

12.6.52 The detailed assessment of impacts with regard to SCI bird species within the AA screening and NIS are relevant for this assessment and are directly applicable to other bird populations considered ‘important’ as set out in Section 12.3 as set out below:

- The Proposed Order will result in no habitat loss (suitable to support birds or otherwise).
- There is no indication that any habitat within the Dublin Airport Site or the surrounding area is of importance to the maintenance of SPA populations or other important bird species populations (breeding and non-breeding) based on desk study and field survey.
- The existing Dublin Airport Wildlife and Habitat Management Plan will continue to be effective with the 2029 Permitted Operations and 2029 Proposed Operations. It will, therefore, continue to be the case that flocks of birds will be prevented from forming within the vicinity of the Dublin Airport runways, thereby substantially reducing the risk of bird strike.
- The historic bird strike records demonstrate that existing bird-strike mortality is low.

- There will be no significant change in aircraft or traffic noise from the 2029 Permitted Operations compared to the 2029 Proposed Operations (see Chapter 8: Non-Aircraft Noise and Chapter 9: Aircraft Noise, EIAR Volume 2).
- Birds are currently habituated to regular levels of noise disturbance at Dublin Airport and will continue to be under the 2029 Permitted Operations and the 2029 Proposed Operations. There is also suitable alternative habitat in the wider area surrounding the Dublin Airport Site.
- There is also no evidence either from literature review (further detailed in the AA Screening and NIS) or targeted field survey at Baldoyle Bay, Rogerstown Estuary and Malahide Estuary, that overflights of commercial aircraft using Dublin Airport are causing or are likely to cause any disturbance of SCI birds. This is not expected to change with 2029 Proposed Operations.

12.6.53 Therefore, a Permanent Negligible effect is predicted on breeding and non-breeding birds as a result of the Proposed Order, which is not significant in EIA terms.

Bat populations: Roosting, foraging and commuting.

12.6.54 The results of the suite of bat surveys carried out at Dublin Airport between 2019 and 2025 and the surrounding lands indicate some, albeit limited, suitable habitat for roosting bats. The emergence surveys carried out on the trees and structures with PRF(s), including the tree T1 with a suitability of PRF-I, the six structures with *Low* suitability (Animal Welfare Facility, Shamrock House Annex, Derelict Building 2, S03, S05, S08) and the four structures with *Moderate* suitability (Derelict Building 1, S04, S06, and S09), found no roosting bats. In 2025, vacant building S01 was, however, confirmed as a Leisler's bat roost during emergence surveys.

12.6.55 Overall bat activity (i.e., foraging and commuting) was found to be low during the surveys. Higher levels of activity were generally associated with linear corridors, with foraging by small numbers of individual bats accounting for the majority of activity.

12.6.56 A total of six bat species were identified during transect and static surveys: common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, Leisler's bat, brown long-eared bat, and unidentified myotis species. The most frequently recorded species were common pipistrelle, soprano pipistrelle and Leisler's bat. Bats were generally recorded foraging and/or commuting along treelines and hedgerows. However, whilst suitable foraging and commuting habitat is present, this is generally limited by the isolated nature of habitat parcels, surrounded by existing roads and hardstanding within and surrounding Dublin Airport.

12.6.57 All bats are European protected species and protected under national legislation in Ireland. The most frequently recorded species, common pipistrelle, soprano pipistrelle, and Leisler's bat, are the three most common species in Ireland and are widespread across the country. Brown long-eared bat, Nathusius' pipistrelle and unidentified myotis species had very low levels of activity recorded, myotis and brown long-eared are common in Ireland, Nathusius' pipistrelle is rarer and less frequently recorded however is locally frequent in Ireland where suitable habitat is available.

12.6.58 There will be no habitat loss associated with the Proposed Order; therefore, it is considered the only potential impact pathway to roosting, foraging and commuting bats would be from disturbance associated with increased noise levels (aircraft and non-aircraft noise). The bat populations on and adjacent to the Dublin Airport Site are habituated to an active airport with associated lighting, noise and traffic; bats are also nocturnal, and the Dublin Airport runways have a reduced level of activity during the night; this would not change with the Proposed Order.

12.6.59 The results of Chapter 8: Non-Aircraft Noise and Chapter 9: Aircraft Noise outline that the increase in non-aircraft noise and aircraft related air and ground noise across the relevant study area would be less than a 1dB increase (an increase in noise of 1dB is the lowest change in noise that is perceptible to the most sensitive human ear under controlled conditions). This minimal level of change is not considered sufficient to cause an impact to foraging, commuting bats, or roosting bats.

12.6.60 Therefore, a Permanent Negligible effect is predicted on roosting, foraging and commuting bats as a result of the Proposed Order which is not significant.

Summary of Likely Significant Effects

12.6.61 In a worst-case scenario, Permanent Adverse effects were identified on European sites, but these will not be significant at any scale, and no likely significant effects have been identified.

12.6.62 Permanent Adverse effects at a Local scale, primarily related to air quality, were predicted on nationally designated sites: Santry Demesne pNHA (and associated local designation), Bog of the Ring pNHA, Royal Canal pNHA, Liffey Valley pNHA, and Grand Canal pNHA nationally. These will be Not Significant.

12.6.63 Permanent Negligible effects which would not be significant at any scale were predicted on all other important ecological features, including bats, which are the only Annex IV species scoped into the assessment.

12.7 Mitigation

12.7.1 There are no significant effects from the Proposed Order on biodiversity; therefore no additional mitigation, enhancement, or monitoring is required/has been identified.

12.8 Residual Effects

12.8.1 As there is no additional mitigation, enhancement or monitoring required/identified, the residual effect remains the same as that reported for the pre-mitigation scenario. Therefore, all residual effects from the Proposed Order remain not significant.

12.9 Cumulative Effects

In-Combination Effects

12.9.1 Due to the interdisciplinary nature of effects, the interactions with other environmental factors have all been considered in the assessment. This chapter has considered other chapters, including Chapter 7: Air Quality, Chapter 8: Non-Aircraft Noise, Chapter 9: Aircraft Noise, Chapter 10: Land and Soils, and Chapter 11: Water.

12.9.2 The interaction of water, soil, noise and air pollution impacts (including from increased traffic) has been considered in this impact assessment. These interactions are not considered to result in any significant effects on biodiversity. Impacts of the Proposed Order on water and soil are considered to be negligible.

12.9.3 The AA Screening and NIS concluded there will be no adverse effects from the Proposed Order on the integrity of any European sites, either alone or in combination with other plans or projects.

Cumulative Effects

12.9.4 This section assesses the potential effects of the Proposed Order in combination with the potential effects of other proposed and committed plans and projects (referred to as 'cumulative schemes') within the Dublin Airport Site and the surrounding area. The cumulative schemes which have been considered in combination with the Proposed Order are listed in Chapter 20: In-combination and Cumulative Effects.

12.9.5 The Proposed Order does not include any new airport infrastructure, demolition works, construction activities, enabling works, or physical alterations to the airport estate, with no construction phase associated with the application and no construction-related environmental effects would arise from the Proposed Order.

12.9.6 The following broad categories of impact which could arise during the operation of the Proposed Order have been considered, where potentially relevant, in relation to each of the ecological features scoped into detailed assessment:

- air quality impacts that may affect sensitive habitats;
- pollution of surface water, groundwater, soils, and/or vegetation;
- direct injury or mortality from aircraft collisions of avian species (bird strikes); and

- increased noise and visual disturbance and/or displacement of species.

12.9.7 The preceding assessment has concluded that the Proposed Order would not result in any significant effects on the ecological features scoped into detailed assessment. Notwithstanding these conclusions, the potential for effects associated with the Proposed Order to interact with effects arising from the identified cumulative schemes has been considered below.

Air quality impacts

12.9.8 The potential for cumulative effects associated with airborne pollution has been considered for national and European designated sites which are considered the most sensitive to the cumulative impact of any increases in airborne pollution, with adverse (non-significant effects) predicted on these features from the Proposed Operation (as detailed in Section 12.6).

12.9.9 The impacts of airborne pollution on European sites alone and in combination with other plans or projects have been assessed in detail within the AA Screening and NIS (Appendix 12-1) and are valid with regard to the assessment on European sites within this chapter. Incorporated into the air quality assessment of the AA Screening and NIS, the future-year modelling includes background concentrations and deposition and relevant forecast growth, thereby accounting for other sources that would contribute to future air quality conditions. The assessment considers the cumulative schemes listed in Chapter 20 and relevant traffic effects of identified transport projects. The road and junction realignment and associated traffic-flow effects of BusConnects have been accounted for in the assessment, and traffic flows associated with MetroLink have also been incorporated into the modelling. Taking account of these future background conditions and other relevant sources, it has been concluded that the predicted changes in NOx and NH_3 concentrations and nitrogen deposition associated with the Proposed Order would not result in deterioration of QI habitats or supporting habitat for SCI species capable of undermining the Site-Specific Conservation Objectives (SSCOs) of any European sites. As such, no significant cumulative effects between the Proposed Order and other cumulative schemes at European sites are predicted.

12.9.10 With regard to designated sites, Chapter 7: Air Quality (Section 7.9 Cumulative Effects) identifies the developments with the greatest potential to contribute to cumulative effects, due to their proximity to the emissions sources associated with the Proposed Order and to the most affected air quality sensitive receptors. A review of these developments, together with the more distant developments (identified in Chapter 20), indicates that their potential contribution to cumulative air quality effects during construction, where applicable, and operation would principally arise through changes in traffic flows on the local road network. For developments with the potential to affect traffic flows on the local road network, the traffic data used to inform the air quality assessment account for forecast traffic growth between the Current Receiving Environment year of 2025 and the Future Receiving Environment year of 2029, including traffic associated with cumulative developments. The predicted pollutant concentrations for the 2029 Permitted Operation and the 2029 Proposed Operation therefore inherently account for these cumulative traffic effects. The assessment has therefore already considered the impacts of any changes to air quality associated with cumulative developments, and therefore there will be no significant cumulative effects on nationally designated sites between the Proposed Order and these other schemes.

Pollution of surface water, groundwater, soils, and/or vegetation

12.9.11 For water-dependent ecological features and designated sites, cumulative effects may arise where another scheme has the potential to affect the same feature as the Proposed Order, and there is sufficient spatial and temporal overlap for the effects to combine. The assessment presented in this chapter identifies no significant residual effects on water-dependent ecological features and designated sites as a result of the Proposed Order.

12.9.12 Of particular relevance to the water environment is the ADP, which was granted permission in August 2024 and comprises upgrades to the surface water management infrastructure at Dublin Airport. The ADP has the potential to affect the same water-dependent ecological features as the Proposed Order and has therefore been considered for cumulative effects.

12.9.13 During its operation, the ADP would improve the collection and management of surface water runoff from the Dublin Airport Site, reducing the potential for contaminated runoff to reach receiving waters. Its operational effects would therefore not increase adverse effects on water-dependent ecological features.

Accordingly, no significant adverse cumulative effects between the Proposed Order and the ADP are predicted.

12.9.14 The remaining cumulative schemes identified in Chapter 20 have also been considered within this chapter (with reference to Chapter 11: Water) in relation to their potential to affect water-dependent ecological features and designated sites assessed in this chapter. Taking into account the nature and magnitude of the residual effects of the Proposed Order, together with the location, nature and, where known, residual effects of the cumulative schemes, no combination of effects has been identified that would result in a significant cumulative effect on water-dependent ecological features and designated sites.

Direct injury or mortality from aircraft collisions of avian species (bird strikes)

12.9.15 The identified cumulative schemes comprise development and transport infrastructure and would not result in an increase in aircraft movements or otherwise introduce a source of bird-strike risk capable of interacting with the change in aircraft activity associated with the Proposed Order.

12.9.16 As set out in Section 12.6, the Proposed Order would not result in mortality of important bird species at a level capable of materially affecting their population or distribution. No pathway has been identified by which the Proposed Order could act in combination with the identified cumulative schemes to result in injury or mortality of species at a level capable of causing a significant effect.

Increased noise and visual disturbance and/or displacement of species

12.9.17 The identified cumulative schemes are predominantly located within the existing developed and urbanised environment of the Greater Dublin area. Construction activities associated with these plans and projects may give rise to temporary and localised sources of noise, visual activity and other disturbance in the vicinity of individual development sites.

12.9.18 The identified cumulative schemes are not expected to result in disturbance or displacement of ecological features interacting with the incremental change in operational activity associated with the Proposed Order. With regard to European sites and SCI species in particular, the identified development sites are located within existing developed areas, and no relevant interaction with important functionally linked habitat for the SCI species considered in the NIS has been identified (AA Screening and NIS (Appendix 12-1)).

12.9.19 Furthermore, as set out in Section 12.6, the incremental changes in noise, visual activity and aircraft movements associated with the Proposed Order would not themselves result in ecologically meaningful disturbance or displacement of ecological features. No mechanism has therefore been identified by which disturbance or displacement associated with the Proposed Order could interact with that arising from the identified cumulative schemes; therefore, no significant cumulative effects could occur.

12.9.20 In summary, it is considered there will be no significant cumulative effects between the Proposed Order and the identified cumulative schemes.

Indirect, Secondary and Transboundary Effects

12.9.21 Indirect and secondary effects are described in the EPA Guidelines as “effects on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway”. Transboundary effects are those affecting another state or jurisdiction. The zone of influence of the effects identified does not affect any other state or states. The potential for indirect and secondary environmental effects has been considered in the preparation of this EIAR chapter, and none have been identified. All effects identified in this chapter are direct effects, and none have the potential to result in significant indirect or secondary effects.

12.10 Conclusion

12.10.1 This chapter presents the Principal Assessment of the likely significant effects of the Proposed Order on biodiversity, by applying the approach set out in CIEEM EcIA guidelines[9]. The Current Receiving Environment and Future Receiving Environment (2029) were established from desk studies and field surveys collectively spanning 2018-2026 and considered relevant existing environmental design and

management at Dublin Airport (e.g., pollution prevention, and habitat and wildlife management programmes).

12.10.2 Important ecological features which could be significantly affected and thus were subject to detailed impact assessment under the Principal Assessment, which compares the 2029 Permitted Operation (32 mppa) and the 2029 Proposed Operation (40 mppa), are European, nationally, and locally designated sites; watercourses; birds (breeding and non-breeding); and bats. The following potential impact sources were considered:

- air quality impacts that may affect sensitive habitats;
- pollution of surface water, groundwater, soils, and/or vegetation;
- direct injury or mortality from aircraft collisions of avian species (bird strikes); and
- increased noise and visual disturbance and/or displacement of species.

12.10.3 In a worst-case scenario, Permanent Adverse effects of limited magnitude and localised extent were identified on European sites; however, these would not materially affect the qualifying ecological features and are therefore Not Significant.

12.10.4 Permanent Adverse effects of limited magnitude and localised extent, primarily associated with changes in air quality, were identified for Santry Demesne pNHA (and associated local designation), Bog of the Ring pNHA, Royal Canal pNHA, Liffey Valley pNHA and Grand Canal pNHA. These effects would not materially affect the conservation value, structure or function of these ecological features and are therefore Not Significant.

12.10.5 For all other important ecological features, the effects identified are concluded to be Not Significant.

12.10.6 The Proposed Order is not likely to have any significant effects on biodiversity. No additional mitigation is proposed, and residual effects remain not significant.

12.10.7 Having considered the potential for in-combination and cumulative effects, no significant effects have been identified.

12.10.8 This chapter is supported by technical appendices describing the baseline, as well as an AA Screening and NIS report addressing separate legislative requirements for European sites.