

Ecological Impact Assessment Report

Dunboyne Link Road

Meath County Council

PROJECT NO. M1346/1

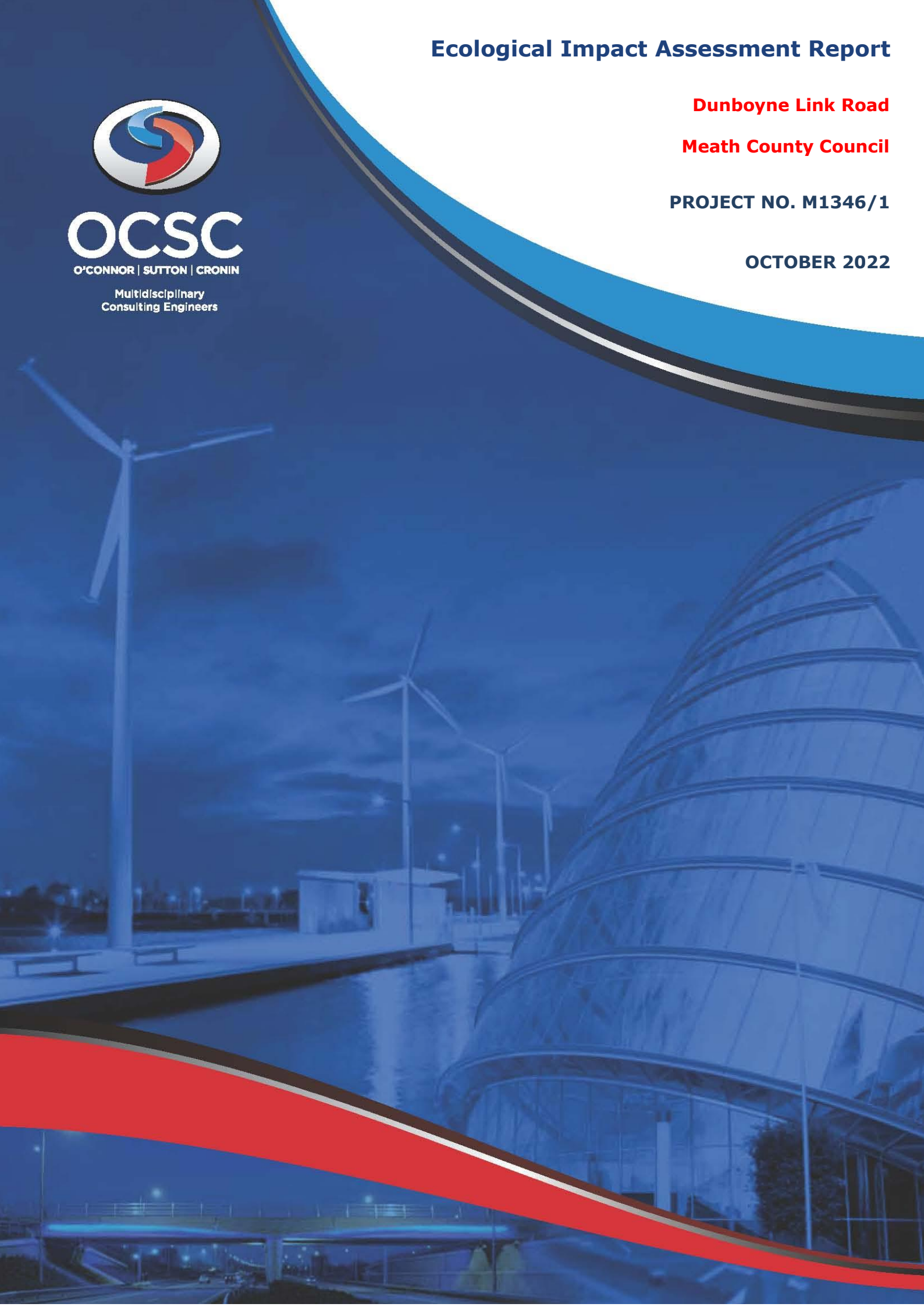
OCTOBER 2022



OCSC

O'CONNOR | SUTTON | CRONIN

Multidisciplinary
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APPROPRIATE ASSESSMENT SCREENING REPORT

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1. INTRODUCTION

1.1 Background

This Ecological Impact Assessment (EclA) Report has been prepared by O'Connor Sutton Cronin & Associates Ltd. (OCSC) at the request of their Client, Meath County Council. The site for assessment is an area of land between the Dunboyne Business Park and the R157 (Figure 1.1). The regulatory authority for the site is Meath County Council.



Figure 1.1: The study area is shown using a red border (Source: EPA Maps, 2022).

1.2 Aims and Approach

The overall purpose of this report is to assess the status of known potential ecological constraints to the construction and/or operation of the completed and proposed works and to identify mitigation requirements to ensure compliance with relevant national and European statutory requirements for ecological protection.

The report provides an assessment of the estimated potential impacts of the completed and proposed development on the ecological environment, i.e. flora and fauna, collectively known as biodiversity. The Assessment follows Guidelines for Ecological Impact Assessment in the UK and Ireland by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018) and guidelines for ecological report writing (CIEEM, 2017). This EclA process follows the tasks set out in Table 1.1.

Table 1.1. EclA process, as detailed in CIEEM (2016).

Task	Description
Scoping	Determining the matters to be addressed in the EclA, including consultation to ensure the most effective input to defining the scope. Scoping is an ongoing process – the scope of the EclA may be modified following further ecological survey/research and during impact assessment.
Establishing the baseline	Collecting information and describing the ecological conditions in the absence of the proposed project to inform the assessment of impacts.
Important ecological features	Identifying important ecological features (habitats and species) that may be affected, with reference to a geographical context in which they are considered important.
Impact assessment	An assessment of whether important ecological features may be subject to potential impacts and characterisation of these impacts and their effects. Assessment of potential residual ecological impacts of the project remaining after mitigation and the significance of their effects, including cumulative effects.
Avoidance, mitigation, compensation, and enhancement	Incorporating measures to avoid, reduce, and/or compensate for potential ecological impacts and the provision of ecological enhancements.
Monitoring	Monitoring impacts of the development and evaluation of the success of proposed mitigation, compensation, and enhancement measures.

1.3 Evidence of Technical Competence and Experience

The fieldwork and report were completed by Luis lemma BSc, MSc, Ph.D in Ecology, Senior Ecologist assisted by Eadaoin Butler BSc in Ecology, Ecologist; reviewed by Glenda Barry, BSc, MSc, Technical Principal; and approved by Eleanor Burke BSc, MSc, DAS, MIEnvSc, CSci, Technical Principal, and the OCSC Environmental Division Manager.

1.4 Limitations

This Ecological Impact Assessment Report has been prepared for the sole use of Meath County Council (“the Client”). No other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by OCSC.

This assessment is based on a review of available historical information, environmental records, site visits, consultations, relevant guidance information, and reports from third parties. All information received has been taken in good faith as being true and representative.

This report has been prepared in line with best industry standards. The methodology adopted and the sources of information used by OCSC in providing its services are outlined in this Report. The assessment undertaken by OCSC and described was undertaken in April 2022 and is based on the information available during that period. The scope of this Report and the services are accordingly factually limited by these circumstances.

OCSC disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report, which may come or be brought to OCSC’s attention after the date of the Report.

The conclusions presented in this report represent OCSC's best professional judgement based on review of the relevant information available at the time of writing. The opinions and conclusions presented are valid only to the extent that the information provided was accurate and complete.

2. PROJECT DESCRIPTION

2.1 Overview

This EclA Report has been prepared by OCSC at the request of their Client, Meath County Council. The site for assessment is a proposed link road connecting Dunboyne Business Park and the R157 in Dunboyne, Conty Meath. The proposed development includes a link road that shall be approximately 340m in length and a new access road that shall be approximately 50m in length, the scheme will also include junctions, footpaths, bus stops, public lighting, accommodation and fencing/boundary works, landscaping works, drainage/attenuation works, and ancillary infrastructure and utility works.

2.2 General description of the site

The proposed development site is approximately centred at the Irish Transverse Mercator (ITM) coordinates 700942E, 743084N and is bounded by the R157 to the west and the Navan Road to the east. The Dunboyne Business Park is located on the west side of the Navan Road and extends west towards the R157. The immediate surrounding area is comprised of agricultural, commercial/retail, and residential land uses. Dunboyne town is located further south of the proposed link road, beyond the immediate study area.

2.3 Adjacent River

The closest surface water feature to the site is Bennetstown stream (Segment code 09_385) which is a tributary of the Tolka River (IE_EA_09T010600). This stream is located within the site boundary and flows into Naulswood (Segment Code 09_1422) which in turn flows into the Tolka River (IE_EA_09T010600) and indirectly linked South Dublin Bay and River Tolka Estuary SPA (Site Code 004024) located greater than 18km downstream. At the nearest point, the Tolka River is located 386m north of the proposed link road.

Dunboyne Stream (IE_EA_09D040500) is located approximately 434m southwest of the proposed link road. The Dunboyne stream flows from west to southeast through Dunboyne town and flows into the River Tolka approximately 2.37km southeast of the site at its nearest point.

2.4 Designated sites

Figure 2.1 and Table 2.1 below present details of the key ecological features of designated sites located within 15km of the site.

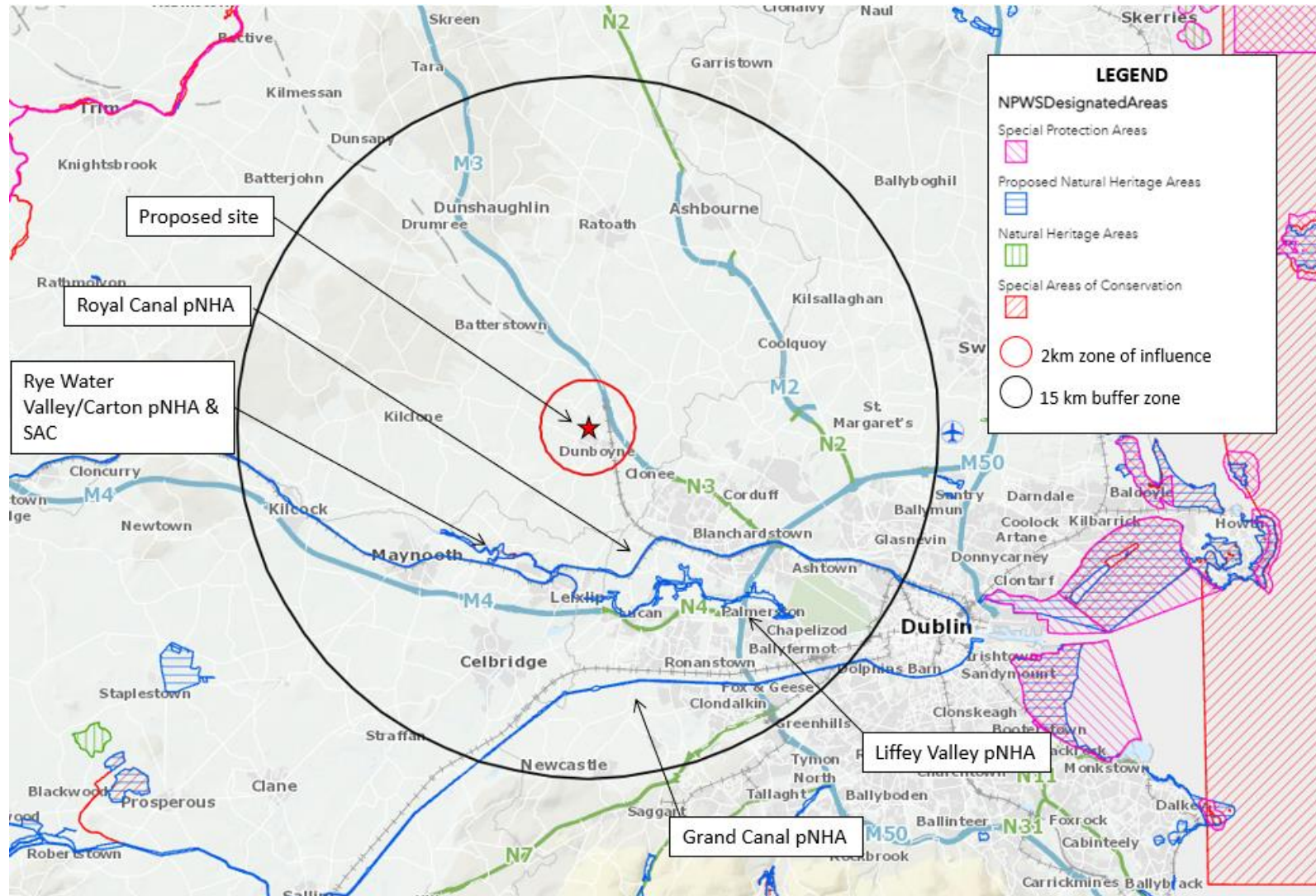


Figure 2.1: Designated Sites within 15km radius. The approximate site location is shown as a star (Source: NPWS Maps, 2022).

Table 2.1. European Sites within 15 kilometres (ZOI) of the site.

Site Code	Site Name	Distance (km)	Reasons for Designation (*=priority habitats)
Special Areas of Conservation (SAC) and Special Protection Areas (SPA)			
001398	Rye Water Valley/Cartron SAC	6.1 S	[7220] Petrifying Springs [1014] Narrow-mouthed Whorl Snail (<i>Vertigo angustior</i>) [1016] Desmoulin's Whorl Snail (<i>Vertigo moulinsiana</i>)
Natural Heritage areas (NHA) and Proposed Natural Heritage areas (pNHA)			
Site Code	Site Name	Distance (km)	
002103	Royal Canal NHA	4.97 SE	
001398	Rye Water Valley/Cartron pNHA	5.8 SW	
000128	Liffey Valley pNHA	6.4 SE	
002104	Grand Canal pNHA	2.5 S	

3. METHODOLOGY

The methods used to carry out the survey of the site, to evaluate the habitats and species, and to prepare the report are outlined in this section. The assessment method for this report was developed using the standard professional impact assessment guidance published in 2018 by Chartered Institute of Ecology and Environmental Management (CIEEM).

3.1 Scope of the Report

The scope of this report is to set out the baseline ecology of the site using the findings of the desk and field study. The extent of the study area is delineated by the site boundary. The scope of the baseline ecology survey is to classify the habitats present within the site and to evaluate their suitability to support protected species.

3.2 Zone of Influence

Construction and operation of machinery have the potential to result in localised impacts. The potential zone of influence for developments of this scale and nature, that do not result in emissions to air or water or where such emissions are so low that any effect would not be appreciable, would be limited a maximum distance of 2 km and is likely to be much less than this. The site location and the potential zone of influence is shown on Figure 2.1.

3.3 Desk Study

A desk study was carried out to collate the available existing ecological information on the Site. The Site and the surrounding area were viewed using available satellite imagery.

The desk study included research on the National Parks and Wildlife Service (NPWS) and National Biodiversity Data Centre (NBDC) websites and a literature review of published information on flora and fauna occurring within the zone of influence of likely significant ecological impact. Key resources included:

- Information on nationally designated sites available in site synopses available from the NPWS online (www.npws.ie);
- Data on rare / protected / threatened species and designated sites held online by the NPWS (www.npws.ie) and the National Biodiversity Data Centre (www.biodiversityireland.ie);
- Westmeath County Council website was also accessed for information on relevant planning policy while the planning portal was accessed for information on other planning applications within the Site and immediate surrounding area.

The conservation status of mammals within Ireland and Europe was evaluated using one or more of the following documents: Wildlife Acts (1976 - 2012), the Red List of Terrestrial Mammals (Marnell et al., 2009), and the EU Habitats Directive 92/43/EEC.

3.4 Field surveys

A site walkover was undertaken on the 30th of March 2022 by Ecologist Eadaoin Butler. The site visit was carried out in dry weather conditions with moderate breezes and cloud cover (8/8 Oktas). The temperature was 7°C. The objective of the site visit was to undertake a walkover survey to better understand the ecology of the site and to determine its ecological value.

3.5 Habitats

Habitats were identified, described, and classified to level 3 (where possible) of the standard Heritage Council classification scheme (Fossitt, 2000) during the walkover survey (see Figure 5.1). Features of ecological interest, if present, were noted, and the dominant plant species present in each habitat type were recorded. This is not a comprehensive list of plant species but is sufficient to broadly describe the botanical interest of the site. Species nomenclature follows Parnell & Curtis (2012) for scientific and English names of vascular plants.

3.6 Species

Mammal tracks, signs, or direct observations were recorded during the walkover survey of the site. Incidental sightings of birds, mammals, or amphibians were noted during the walkover survey. The habitats present were also evaluated in terms of suitability to support foraging bats. Trees with features such as areas of loose, flaking bark, splits, cavities, etc. that could provide suitable roost sites for bats, where present, were also noted during the ground level survey. The suitability of the habitats for roosting, commuting, and foraging bats was evaluated using the Bat Conservation Trust guidelines (Collins 2016).

3.7 Impact Assessment

The ecological evaluation and impact assessment within this report has been undertaken following the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland ("CIEEM guidelines").

3.8 Importance of Features to be Considered

Ecological features should be evaluated within a defined geographical context (CIEEM, 2016). These are based upon criteria identified in the CIEEM (2016) and NRA (2009a) guidance, which categorise the geographic context of ecological importance as within one of the following:

- International and European;
- National;
- Regional;
- County or local authority; and,

- Local Importance (High or Low Value).

Only features deemed “important ecological features” (the term used in CIEEM, 2016) are carried forward into the assessment of potential impacts.

Ecological features valued at Local Importance (Lower Value) or of negligible value, as per the valuation criteria in Bat Conservation Trust guidelines (Collins 2016) are not considered significant features and are scoped out of impact assessment. It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened, and resilient to project impacts and will remain viable and sustainable (CIEEM, 2016). In some cases, the data collected as part of the scoping process will be sufficient to inform the assessment of effects on a given feature. In other cases, additional surveys will need to be undertaken. Ecological features which are within the zone of influence of a development but not considered important ecological features can be ‘scoped out’ (excluded), with justification.

The impact assessment process involves the following steps:

- identifying and characterising impacts;
- incorporating measures to avoid and mitigate (reduce) these impacts;
- assessing the significance of any residual effects after mitigation;
- identifying appropriate compensation measures to offset significant residual effects (if required); and
- identifying opportunities for ecological enhancement.

When describing impacts, reference has been made to the following characteristics, as appropriate:

- Positive or negative;
- Extent;
- Magnitude;
- Duration;
- Timing;
- Frequency; and
- Reversibility.

The impact assessment process considers both direct and indirect impacts. Direct ecological impacts are changes that are directly attributable to a defined action, e.g. the physical loss of habitat occupied by a species during the construction process. Indirect ecological impacts are attributable to an action, but which affect ecological resources through effects on an intermediary ecosystem, process, or feature, e.g. the creation of roads which cause hydrological changes, which, in the absence of mitigation, could lead to the drying out of wet grassland.

3.9 Significant Effects

A significant effect, for the purposes of EclA, is defined as an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site), broad (e.g. national/local nature conservation policy), or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local.

The nature of the identified impacts on each assessed feature is characterised. Where it is concluded that an effect would be likely to reduce the importance of an assessed feature, it is described as significant. The degree of significance of the effect takes into account the geographic context of the feature's importance and the degree to which its interest is judged to be affected.

3.10 Cumulative Effects

Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects can occur where a proposed development results in individually insignificant impacts that, when considered in-combination with impacts of other proposed or permitted plans and projects, can result in significant effects.

3.11 Mitigation

Where significant impacts have been identified, the mitigation hierarchy has been taken into account, as suggested in the 2018 CIEEM Guidelines which set out a sequential approach of avoidance of impacts where possible, application of mitigation measures to minimise unavoidable impacts, and then compensation for any remaining impacts. Once avoidance and mitigation measures have been applied, along with any necessary compensation measures, and opportunities for enhancement incorporated, residual impacts have then been identified.

4. RELEVANT PLANNING POLICY AND LEGISLATION

An EclA is a process of identifying, quantifying, and evaluating potential effects of development or other actions on habitats, species, and ecosystems (CIEEM, 2016).

When an EclA is undertaken as part of an EIA process, it is subject to the EIA Regulations (under the EU Planning and Development [Environmental Impact Assessment] Regulations 2001-2022). An EclA is not a statutory requirement; however, it is a best practice evaluation process. This EclA has been undertaken to support and assess the works completed that are subject to the retention permission application as well as to assess the potential impact that the proposed additional works may have on the ecology of the site and its environs. Where a potential risk to the environment is identified, measures are proposed on the basis that, by deploying such measures, the risk is eliminated or reduced to an insignificant level.

4.1 Planning Policy, Guidelines, and Legislation

4.1.1 European Union Habitats Directive

The "Habitats Directive" (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna) is the main legislative instrument for the protection and conservation of biodiversity within the European Union (EU). The Habitats Directive lists habitats and species that must be protected within Special Areas of Conservation (SAC) on Annexes I and II, respectively. The Habitats Directive also identifies plant and animal species on Annex IV which are subject to strict protection anywhere they occur. The Habitats Directive sets out the protocol for the protection and management of SACs.

However, due to the lack of connectivity, the distance (minimum of 6.1km direct to the Rye Water Valley/Carton SAC) between the closest SAC site and the proposed site, and the small-scale nature of the development, European Special Areas of Conservation (SAC) have been scoped out of this EclA Report.

4.1.2 European Union Birds Directive

The "Birds Directive" (Council Directive 2009/147/EC on the Conservation of Wild Birds) provides a network of sites in all member states to protect birds at their breeding, feeding, or roosting areas. The Birds Directive identifies in Annex I species that are rare, in danger of extinction, or vulnerable to changes in habitat and which require special protection (so-called 'Annex I' species). Special Protection Areas (SPA) are designated under the Birds Directive to protect a range of bird populations including those of Annex I species.

However, due to the distance between the closest SPA site (South Dublin Bay and River Tolka Estuary SPA) and the proposed site, 17.7km southeast, and the small-scale nature of the development, SPAs have been scoped out of this EclA Report.

4.1.3 National legislation

The primary domestic statutes in the Republic of Ireland providing for wildlife protection are the Wildlife Acts of 1976 and 2000, as amended (hereafter 'The Wildlife Acts'). All bird species are protected under the Wildlife Acts from offences including intentional killing or injury and disturbance during the breeding season (to include eggs, young, and nests which are also protected). A range of mammal species, two amphibian species, one butterfly species, and one reptile species are all similarly protected from intentional killing or injury, whilst the breeding or resting sites of these species are also protected.

Unless specified otherwise, the term "invasive species" in this report refers to species scheduled to the European Communities (Bird and Natural Habitat) Regulations 2011 and 2015 (hereafter 'the effects Regulations'). The Regulations make it an offence to plant, disperse, allow or cause to disperse, spread, or otherwise cause to grow any of the scheduled species. A number of vascular (i.e. flowering plants) and non-vascular plant species (i.e. non-flowering or 'lower plants') are afforded legal protection under the Flora (Protection) Order, 2015 (hereafter 'The Flora Protection Order'). It is an offence to cut, pick, collect, uproot, or otherwise take, injure, damage, or destroy any specimens of the species listed under the Flora Protection Order.

The third National Biodiversity Plan (2017-2021) was launched in 2017. This plan includes 119 targeted actions for public authorities in relation to their obligations for biodiversity. One particularly important policy change in the plan (Objective 1) relates to the 'mainstreaming' of biodiversity into decision-making across all sectors. Specifically, there is an obligation on all Public Authorities to "move towards no net loss of biodiversity through strategies, planning, mitigation measures, appropriate offsetting, and/or investment in Blue-Green infrastructure". This and other relevant policies in the plan have informed the valuation of ecological features, assessment of potential impacts, and development of mitigation in this report, as relevant.

5. SURVEY RESULTS (HABITAT, FLORA, AND FAUNA)

The habitats present within the site are described, classified, and evaluated in this section of the report and shown on Figure 5.1. The site comprises of mostly habitat type BL3 (Buildings and Artificial Surfaces) and BC1 (Arable Crops). The site area has been separated in six section sketches for better visualisation (Figures 5.2 to 5.7).



Figure 5.1: Map showing the site location and boundaries for the corresponding site sketches, shown below.

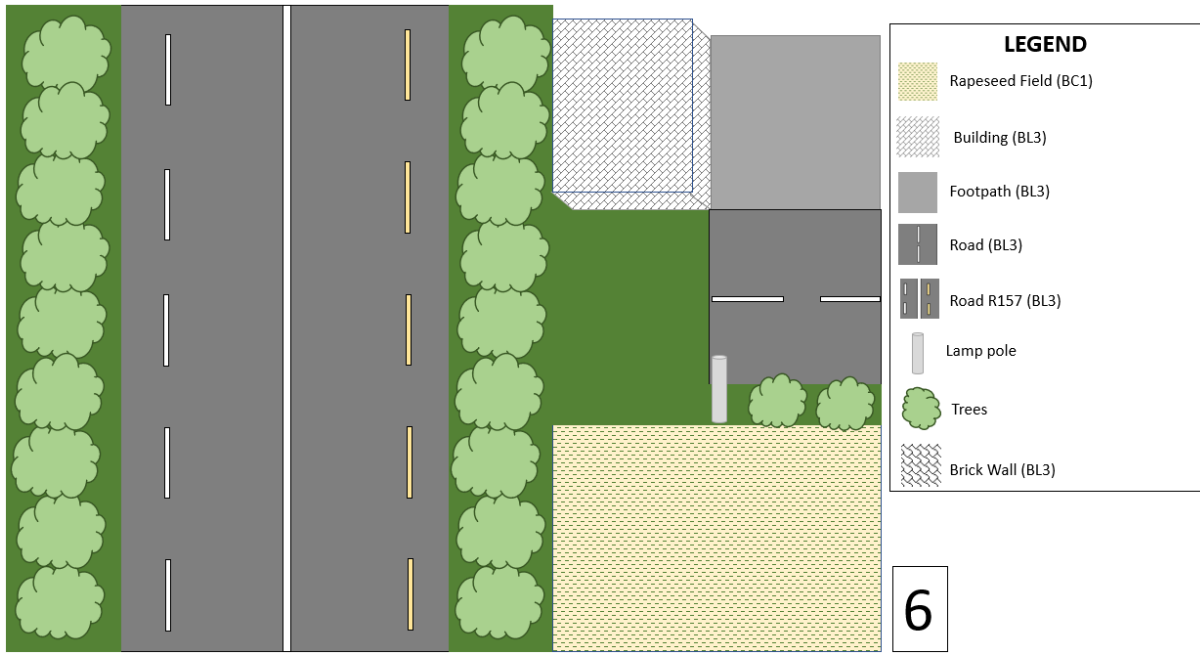


Figure 5.2: Sketch 6 showing section of the R157 and the Dunboyne Business Park (not to scale)

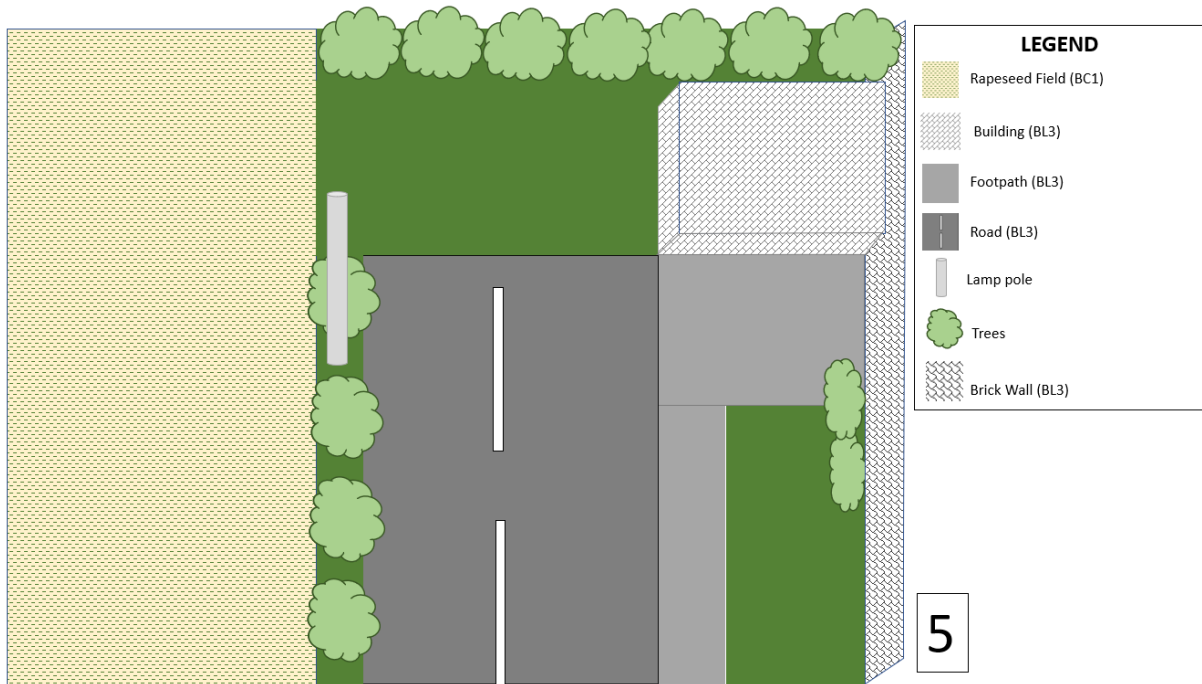


Figure 5.3: Sketch 5 showing section of the Dunboyne Business Park (not to scale)

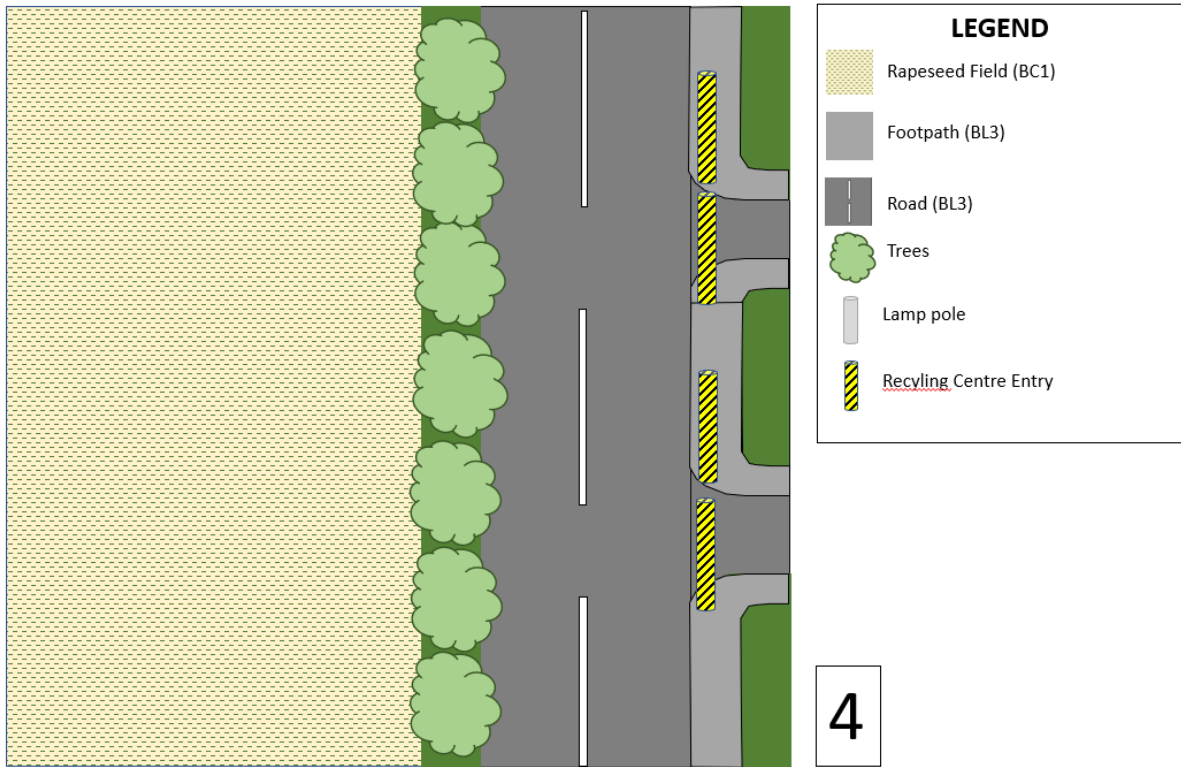


Figure 5.4: Sketch 4 showing section of the Dunboyne Business Park (not to scale)

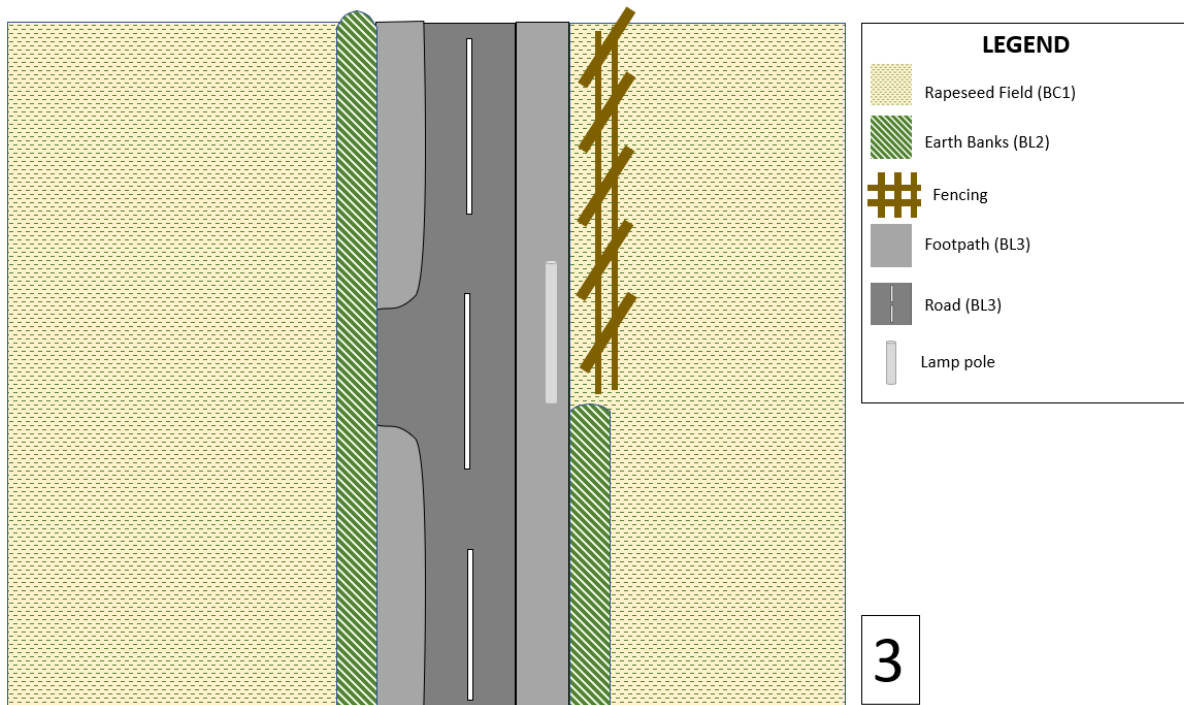


Figure 5.5: Sketch 3 showing section of the Dunboyne Business Park (not to scale)

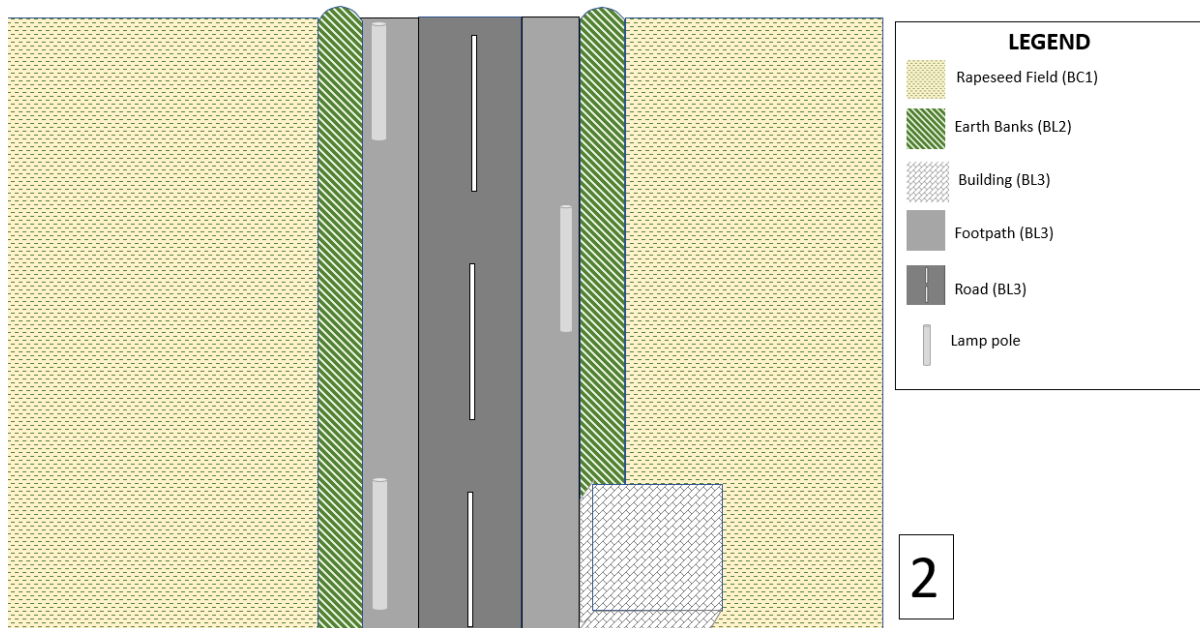


Figure 5.6: Sketch 2 showing section of the Dunboyne Business Park (not to scale)

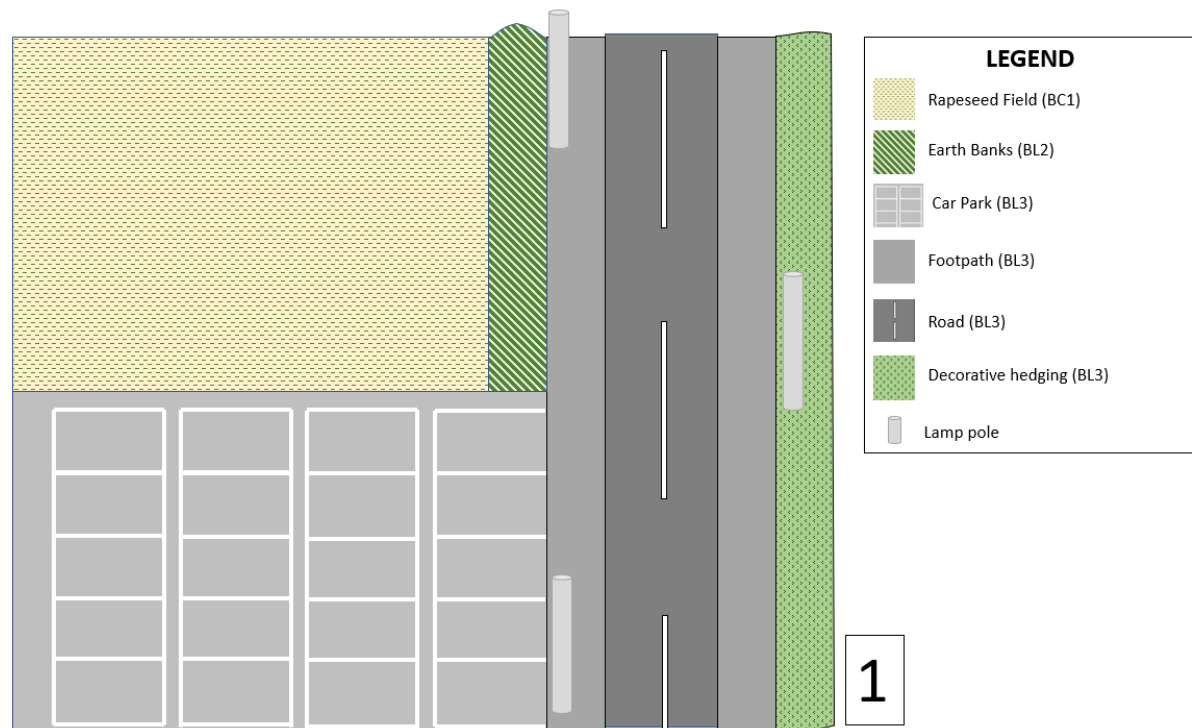


Figure 5.7: Sketch 1 showing section of the Dunboyne Business Park (not to scale)

5.1 Habitat map

❖ Stone walls and other stonework BL1

This category incorporates stone walls and most other built stone structures in rural and urban situations, apart from intact buildings. The stone wall (Plate 5.1) on this site is opposite to the entrance of the Dunboyne Business Park (eastern end of the site boundary).



Plate 5.1: Photo showing the stone wall bridge BL1.

❖ Buildings and Artificial Surfaces BL3

This broad category includes all buildings (domestic, agricultural, industrial, and community) other than derelict stone buildings and ruins. It also includes areas of land that are covered with artificial surfaces of tarmac, cement, paving stones, bricks, blocks, or artificial turf (e.g. roads, car parks, pavements, runways, yards, and some tracks, paths, driveways, and sports grounds) (Plate 5.2). The road that passes through the Dunboyne Business Park is classified as BL3 as plant cover, including small grassy verges, does not exceed 50%. Two electric housing units located within the business park are also covered under BL3 (Plate 5.3).



Plate 5.2: Photo showing the road that passes through Dunboyne Business Park BL3.



Plate 5.3: Photos showing two electric housing units BL3.

❖ Drainage Ditches FW4

This category includes linear water bodies or wet channels that are entirely artificial in origin, and some sections of natural watercourses that have been excavated or modified to enhance drainage and control the flow of water. To be included here, drainage ditches should either contain water (flowing or stagnant) or be wet enough to support wetland vegetation. A drainage ditch, namely Bennetstown stream, is located on the western boundary of the proposed site (Plate 5.4) and borders agricultural land and Thorntons Recycling Centre.



Plate 5.4: Photo showing Bennetstown drainage ditch FW4.

❖ Arable Crops BC1

Agricultural land that is cultivated and managed for the production of arable crops, including cereals (wheat, barley, oats, maize) and root, leaf, energy, or fibre crops such as sugar beet, turnips, rape, and flax (Plate 5.5). The agricultural land that is located on the western side of the proposed site is being used to grow rapeseed *Brassica napus*.



Plate 5.5: Photo showing nearby rapeseed field BC1.

❖ Earth Banks BL2

Earth banks are a common type of field boundary in many parts of Ireland. Constructed from local materials such as peat, earth, gravel, or stone, these narrow linear ridges are often bordered by drainage ditches. Most are completely vegetated when intact and feature elements of a range of habitats, including grassland, heath, hedgerow, and scrub., Earth banks usually support abundant grasses and a wide range of broadleaved herbs. Earth banks

are used as a field boundary on this site, separating agricultural land from the business park as shown in Figure 5.6.



Plate 5.6: Earth banks separating fields from the business park road.

5.2 Fauna

5.2.1 Bats

A preliminary roost assessment was carried out to identify, from ground level in daylight, any potential roost features (PRF) within trees or structures that had suitability to support roosting bats. All walls and structures within and adjacent to the proposed works were assessed. Trees were studied and assessed for the presence of potential roost features: cavities, frost cracks, trunk and branch splits, rot holes where branches have been removed, and hollow sections of trunk, branches, and roots. The results were used to grade trees as having

Negligible, Low, Moderate, or High suitability for roosting bats in accordance with Bat Conservation Trust guidelines (Collins, 2016).

The historical records (National Biodiversity Data Centre) reveal that the Leisler's Bat and Natterer's bat species clusters have been identified in close proximity to the site. The suitability index of the area is considered moderate (between 28.11 and 36.44 on a scale that ranges from 0 to 100 with 0 being least favourable and 100 most favourable for bats). The index is for all species combined in addition to individual species' indices (Figure 5.8). When considering each of the common species separately, the following species are listed as high in the index:

Common pipistrelle scores 52 in the scale (High) as shown in Figure 5.6 and has an IUCN conservation status of 'Least Concern'. This species is common in many habitats including Stone walls and other stonework (BL1) present on site and also treelines present in its surroundings.

Leisler's Bat (*Nyctalus leisleri*), scores 48 in the scale (High) (Figure 5.10) and has an IUCN conservation status of 'Least Concern'. This species is common over pasture, rivers, lakes, canals, forestry, and around streetlights/flood lights.

Soprano pipistrelle (*Pipistrellus pigmaeus*) scores 43 in the scale (High) (Figure 5.7) and has an IUCN conservation status of 'Least Concern'. This species is common in riparian habitats and semi-natural woodland or treelines but can also be seen in urban parks and gardens.

Brown Long-eared bat (*Plecotus auritus*) scores 42 in the scale (Moderate-High) (Figure 5.5) and has an IUCN conservation status of 'Least Concern'. This species is common foraging in parkland, open deciduous and coniferous woodland, orchards, and gardens.

Natterer's Bat (*Myotis nattereri*), scoring 42, is considered moderate-high in the scale (Figure 5.13). The IUCN conservation status is 'Least Concern'. This species is mainly found in woodlands (both deciduous and coniferous), along tree lines and hedgerows, in pasture, and over water including white rapids where it hunts higher than Daubenton's Bat.

Several other bat species were identified as being present in the site area but were rated low on the index. These include:

Nathusius' Bat (*Pipistrellus nathusii*), scores 16 in the scale (Low) (Figure 5.8) and has an IUCN conservation status of 'Least Concern'. This species is common in riparian forests, mixed woodlands, and often close to waterbodies.

Daubenton's Bat (*Myotis daubentonii*), scores 38 in the scale (Moderate-High) (Figure 5.11) and has an IUCN conservation status of 'Least Concern'. This species is common over pasture, rivers, lakes, canals, forestry, and around streetlights/flood lights.

Whiskered bat (*Myotis mystacinus*) scores 20 in the scale (Low) (Figure 5.12) and has an IUCN conservation status of 'Least Concern'. This species is common over pasture, rivers, lakes, canals, forestry, and around urban areas.

The majority of trees within the proposed site area are immature. All trees were assessed for cavities, cracks, hollows or other features that would support bat roosting.

The trees are spaced out along the footpath within the business park providing no connectivity, so the potential for use by commuting bats is low. On the western end of the side, a treeline separates a field from the business park. This treeline has potential to be used for commuting

and foraging; however, no evidence of roosting was found. The stone wall located in the eastern side of the site at the entrance to the business park is not suitable for bats as no cracks or crevices were found.

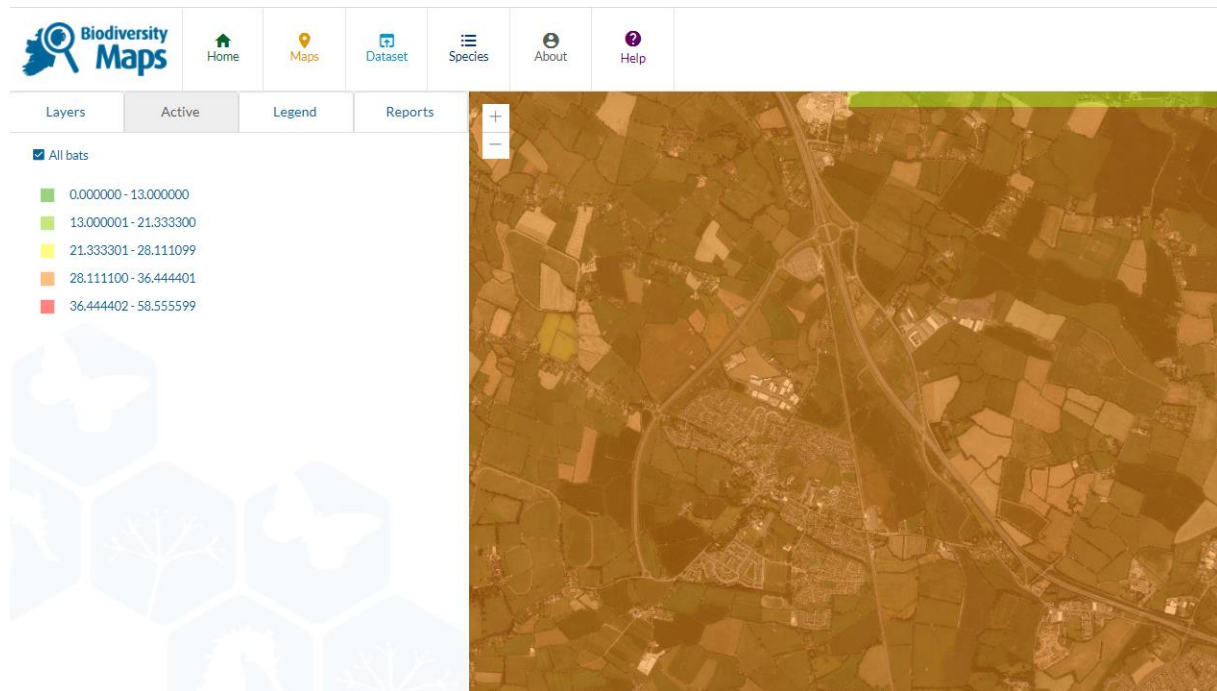


Figure 5.8. Suitability index for all bats in the site and surrounding areas (NBDC, 2022).

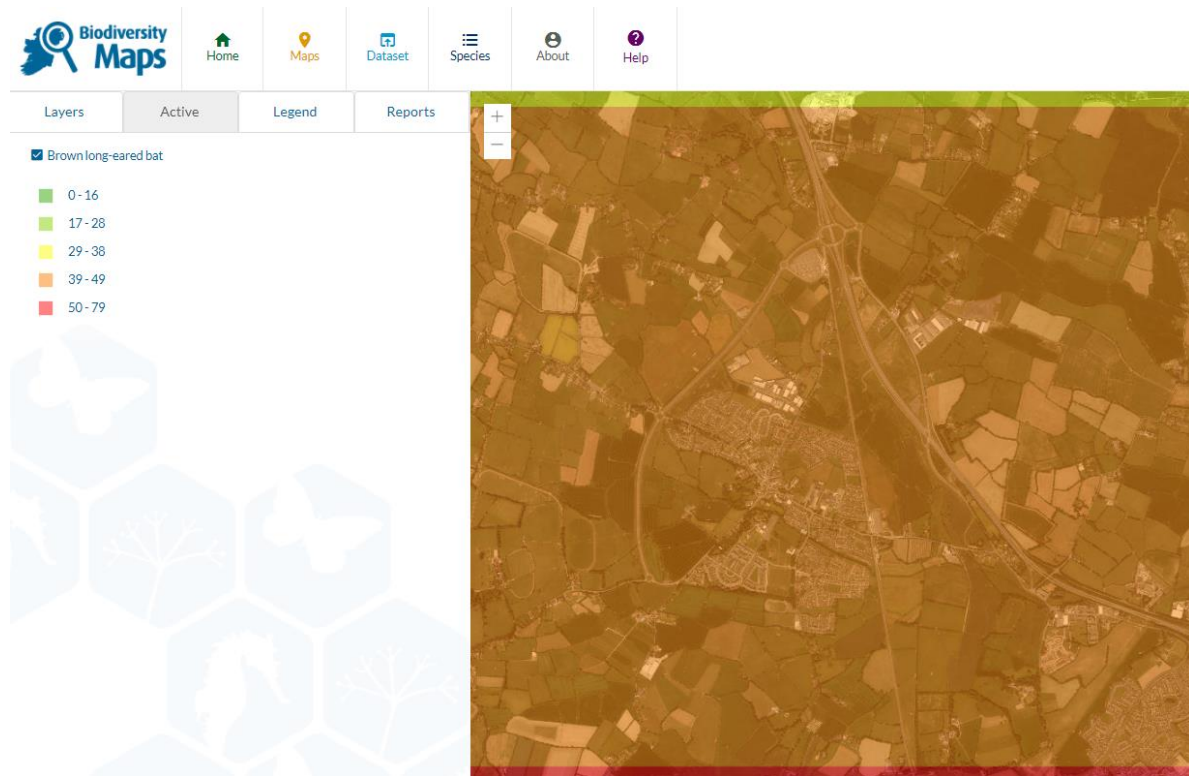


Figure 5.9. Suitability index for Brown long-eared bat in the site and surrounding areas (NBDC, 2022).

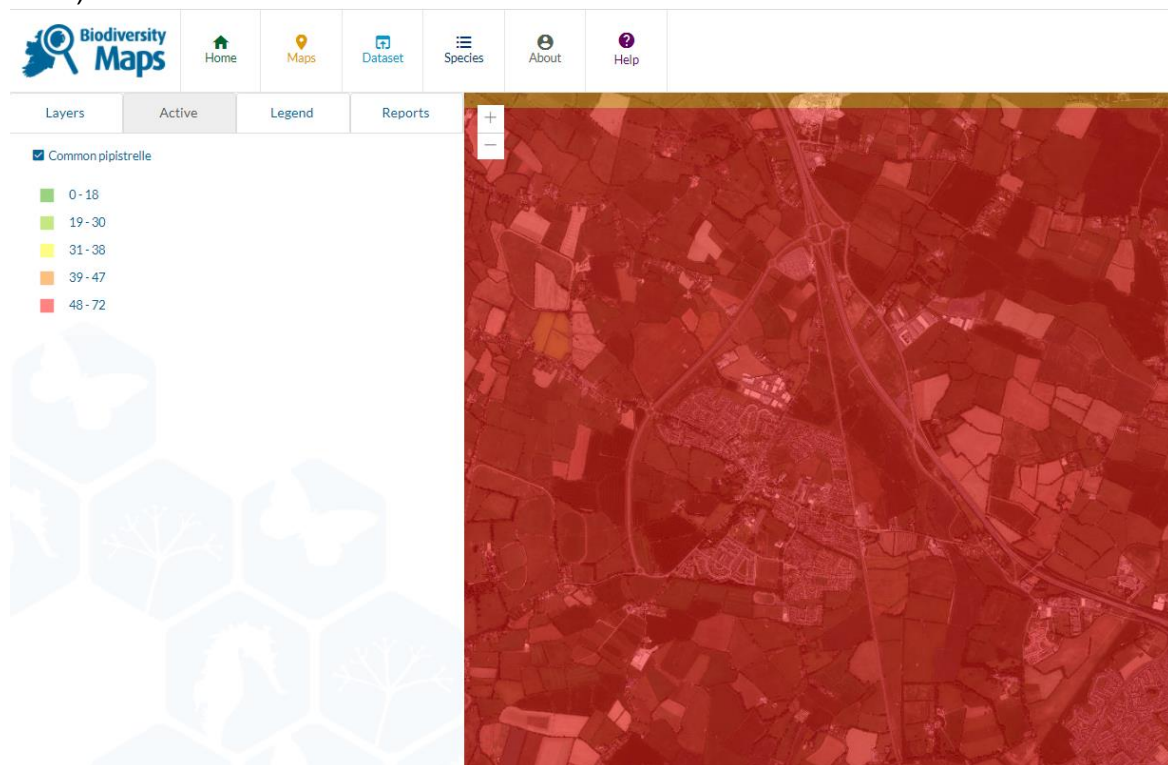


Figure 5.10. Suitability index for Common pipistrelle bat in the site and surrounding areas (NBDC, 2022).

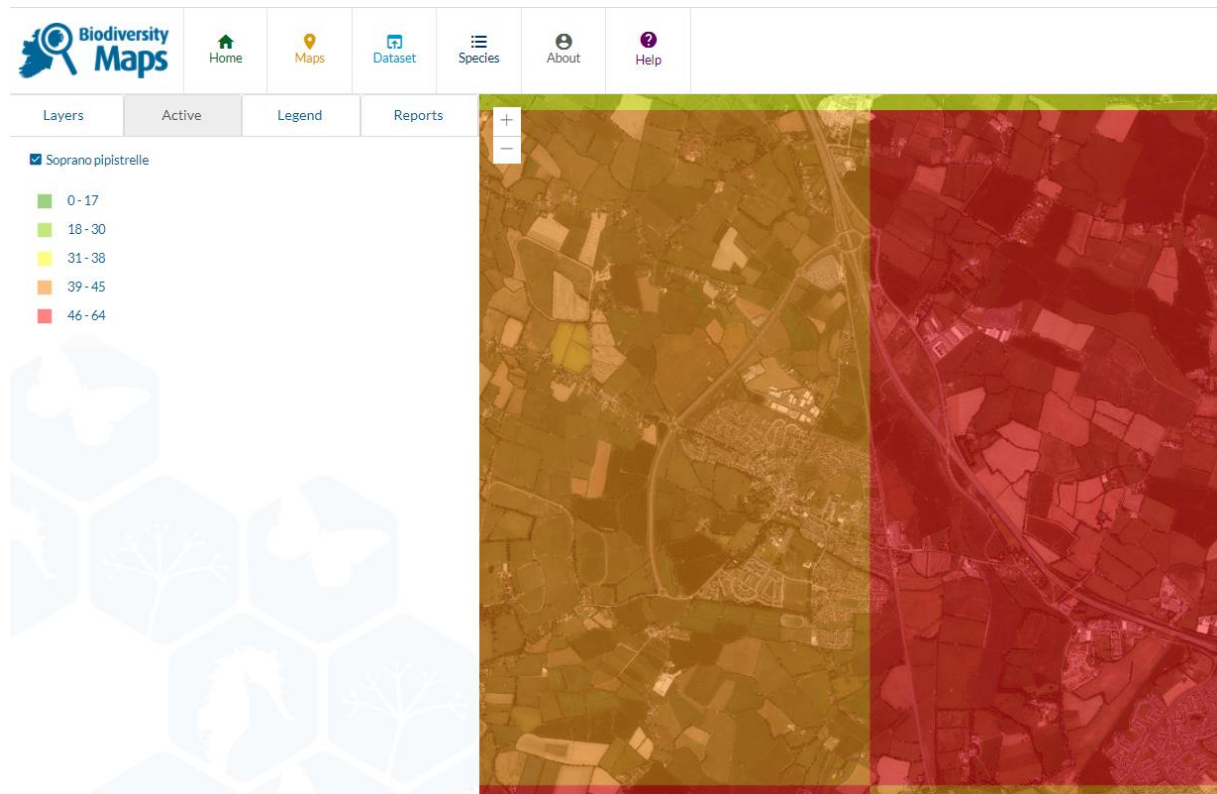


Figure 5.11. Suitability index for Soprano pipistrelle in the site and surrounding areas (NBDC, 2022).

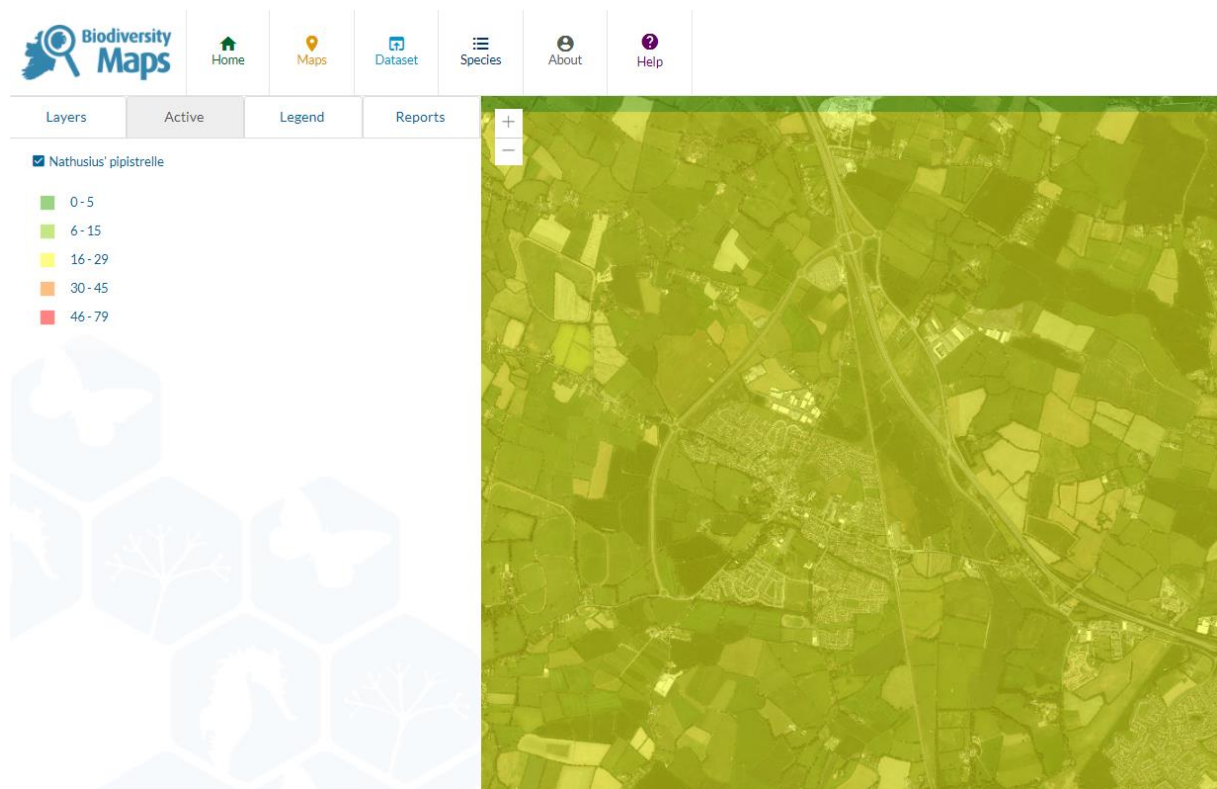


Figure 5.12. Suitability index for Nathusius' pipistrelle in the site and surrounding areas (NBDC, 2022).

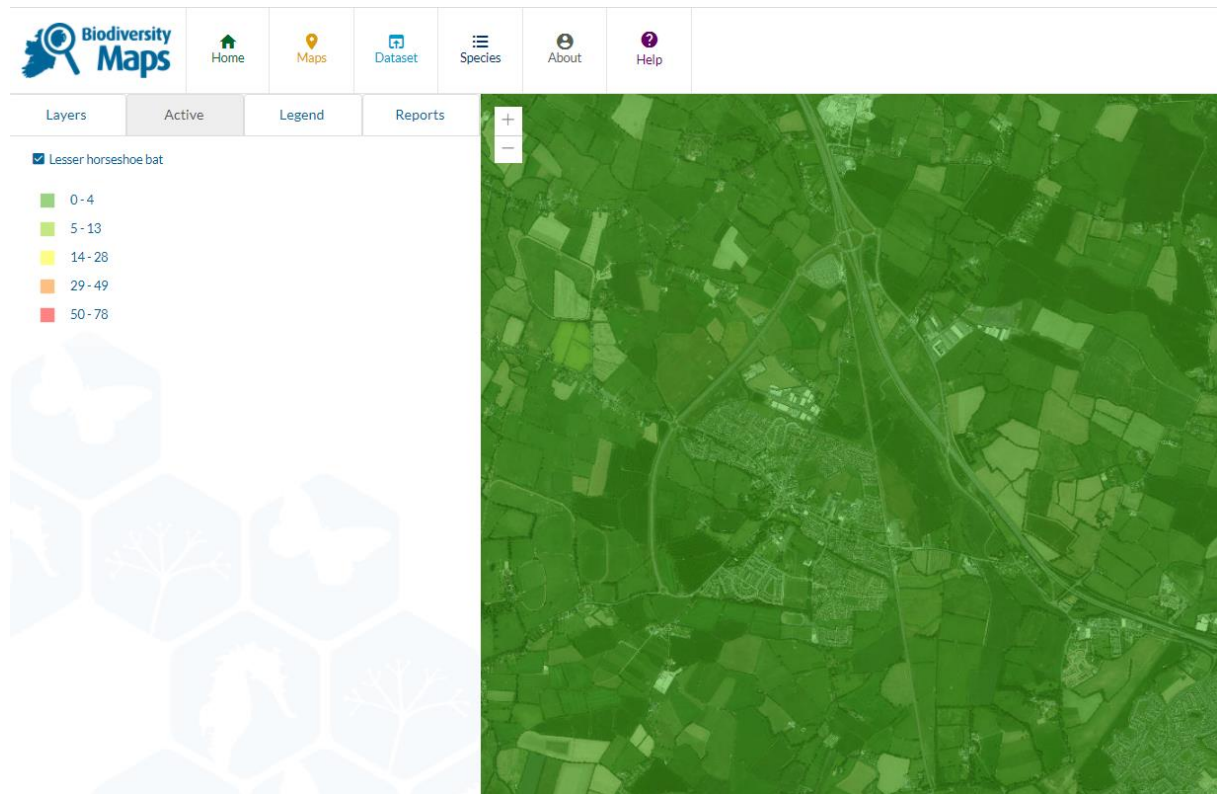


Figure 5.13. Suitability index for Lesser horseshoe bat in the site and surrounding areas (NBDC, 2022).

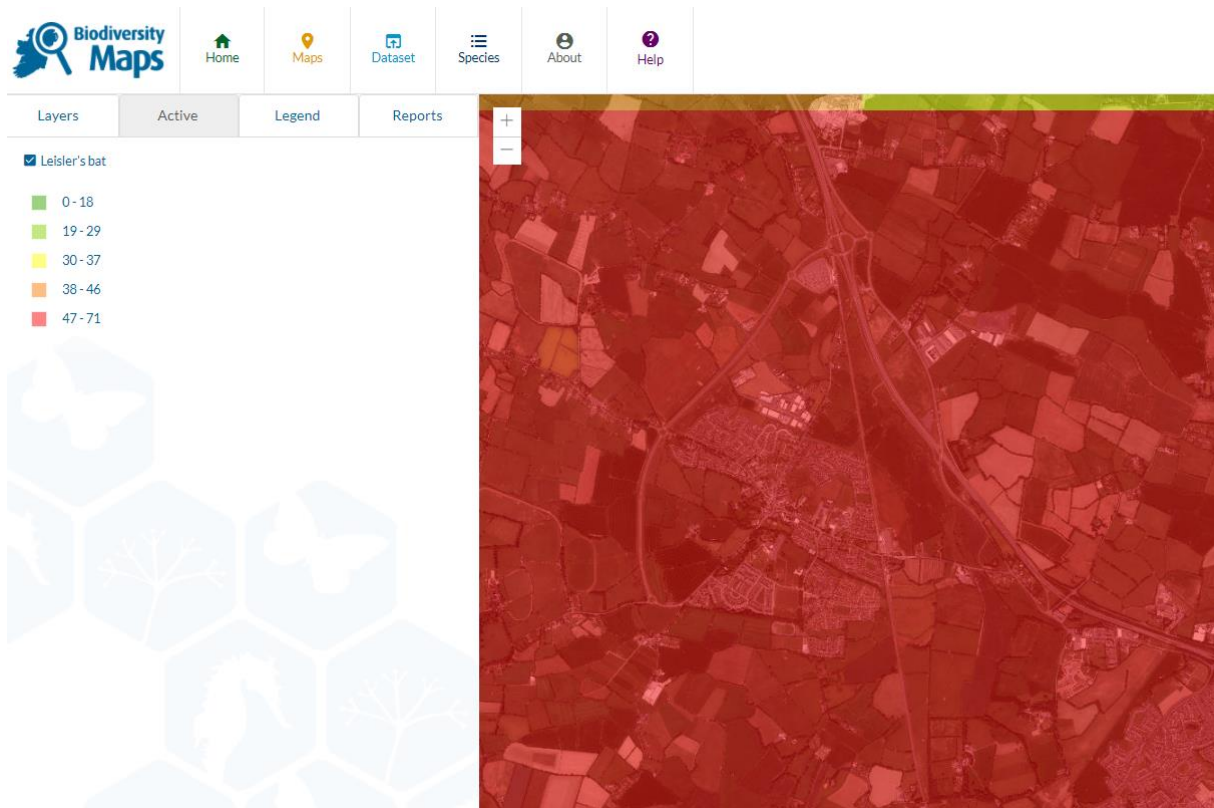


Figure 5.14. Suitability index for Leisler's bat in the site and surrounding areas (NBDC, 2022).

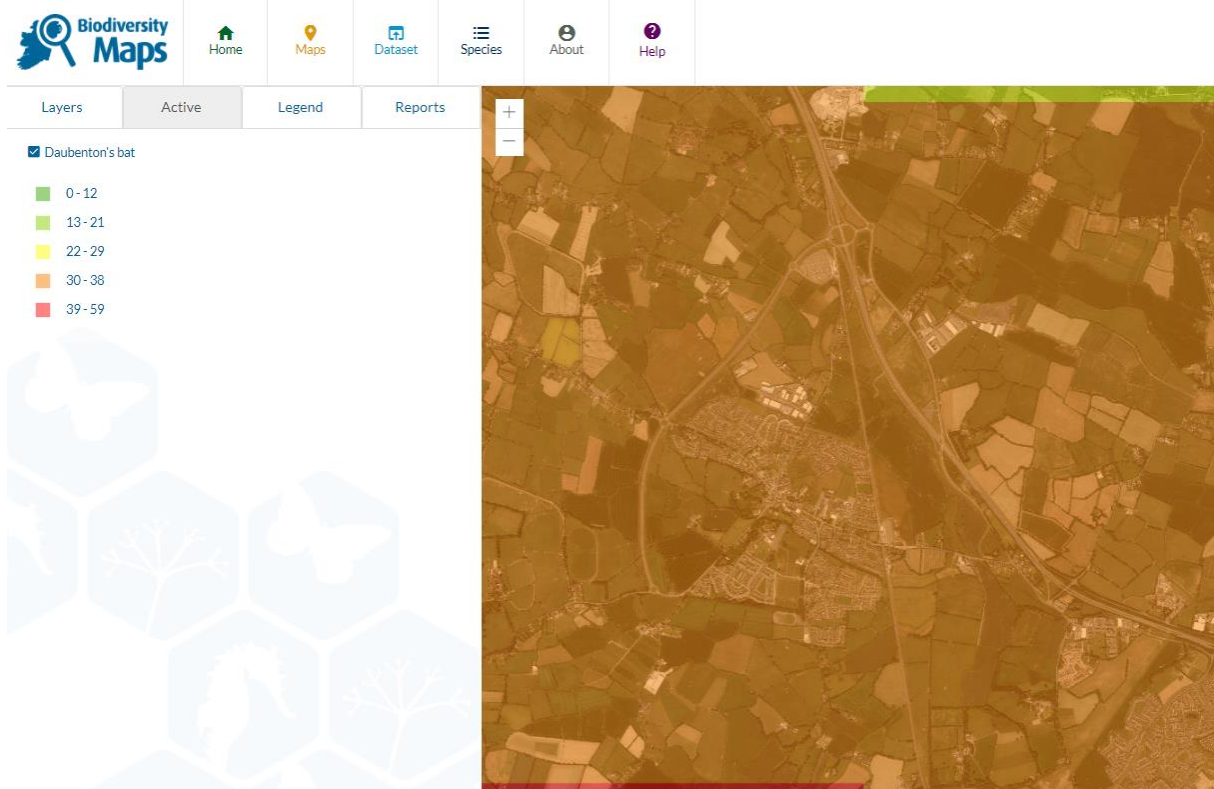


Figure 5.15. Suitability index for Daubenton's bat in the site and surrounding areas (NBDC, 2022).

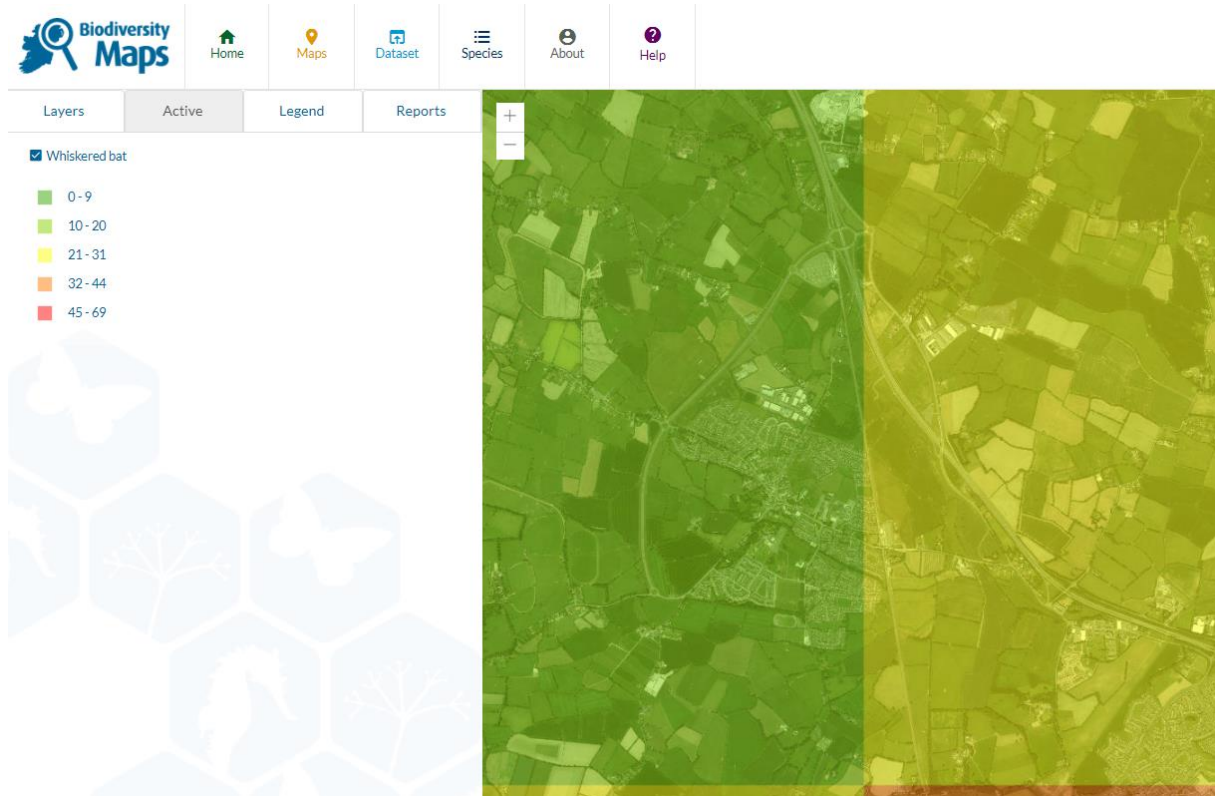


Figure 5.16. Suitability index for Whiskered bat in the site and surrounding areas (NBDC, 2022).

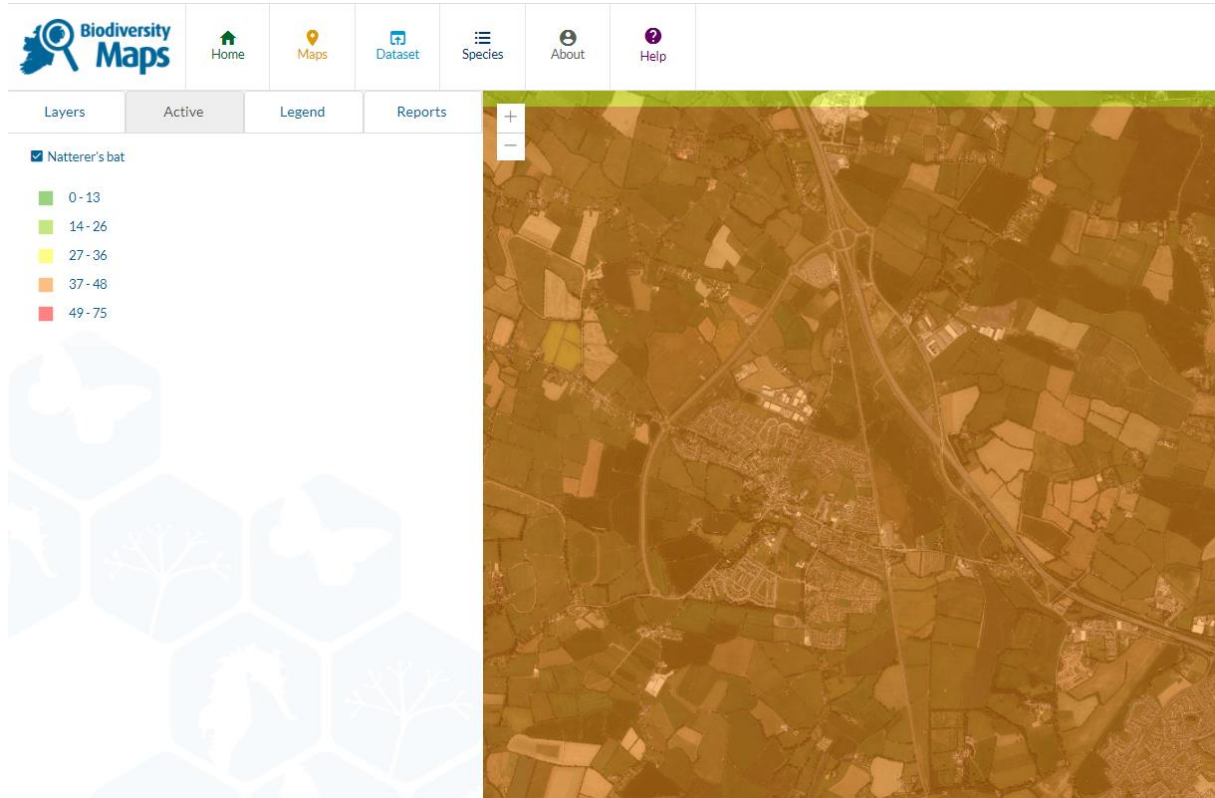


Figure 5.17. Suitability index for Natterer's bat in the site and surrounding areas (NBDC, 2022).

5.2.2 Other Mammals

There are records of three protected species from the 2km grid square (N46U) within which the site is located.

- Pine Marten (*Martes martes*)
- Eurasian Badger (*Meles meles*)
- West European Hedgehog (*Erinaceus europaeus*)

The footprint of the proposed works was also searched for evidence of badgers including the presence of setts, foraging evidence, access runs, hairs caught on wires and bushes, tracks, and prints. As none of these were found on site, badgers are scoped out of this assessment and excluded from further consideration within this report.

5.2.3 Amphibians

There are four records of the Common Frog (*Rana temporaria*) from the 2 km grid square within which the proposed site is located, with the last dated as February 2020.

The species spawns from January to March, and can occur in any wetland habit, even temporarily wet features such as tyre ruts.

In contrast to the Common Frog, the Smooth Newt has more specific habitat requirements, requiring slow moving or standing water, presence of broadleaved aquatic vegetation (on which to lay eggs), and the absence of fish (who predate newt larvae). Smooth Newt breed from March to August. They favour ponds rather than linear ditches but do regularly occur in ditches as well.

This proposed site area has potential to support the Common Frog and Smooth Newt as there is a drainage ditch found on the western side of the site. However, during site visit no evidence of amphibians was recorded.

Since the site visit occurred in the end of March, it covers the spawning season for both species.

As none of these were found on site, amphibians are scoped out of this assessment and excluded from further consideration within this report.

5.2.4 Invertebrates

Surveys were carried out during the window of butterfly flight in spring/summer, but no species were recorded. A number of common butterflies are likely to occur within the area. Ten species have been recorded within the 2km grid square that the site is located in (O04B).

- Green-veined White (*Pieris napi*)
- Holly Blue (*Celastrina argiolus*)
- Large White (*Pieris brassicae*)
- Meadow Brown (*Maniola jurtina*)
- Painted Lady (*Vanessa cardui*)

- Peacock (*Inachis io*)
- Red Admiral (*Vanessa atalanta*)
- Small Tortoiseshell (*Aglais urticae*)
- Small White (*Pieris rapae*)
- Speckled Wood (*Pararge aegeria*)

The Green-veined White is common and widespread in Ireland and has been assessed as least concern. It is found in many situations with the largest populations existing in damp, unimproved grasslands.

The Holly Blue is a common and widespread species in Ireland and had been assessed as least concern. There is good evidence that the species is spreading, especially in suburban habitats in Co. Dublin, but also in the south and east of Northern Ireland.

The Large White is widely distributed in Ireland and has been assessed as least concern. It feeds on wild and cultivated brassicas and its distribution largely reflects the availability of these.

The Meadow Brown is widespread and common in Ireland and has been assessed as least concern. It is a species associated with tall grassland and can persist in small pockets of habitat such as road verges and field margins. There are no concerns for this species.

The Painted Lady is a regular migrant in Ireland and has been assessed as least concern. Overwintering in Ireland does not occur in this species and occurrences are dependent on arrival of new immigrants from North Africa and continental Europe.

The Peacock (*Inachis io*) is a species that has been prone to major fluctuations in abundance, but currently the species is common and widespread in Ireland and has been assessed as least concern by the IUCN. Adults can be seen in many flower-rich habitats in late summer. The main requirements for breeding are large patches of Stinging Nettle (*Urtica dioica*) in sunny sheltered sites such as woodland rides and open south-facing depressions.

The Red Admiral is a regular migrant in Ireland which has recently been proven to successfully overwinter. It has been assessed as least concern.

The Small Tortoiseshell is common and widespread in Ireland, but there is some evidence that it has declined in some areas. It has been assessed as least concern.

The Small White is common and widespread in Ireland and has been assessed as least concern. It feeds on wild and cultivated brassicas and its distribution largely reflects the availability of these.

The Speckled Wood (*Pararge aegeria*) is widely distributed and common in Ireland and has been assessed as least concern by the IUCN. Trees and woody shrubs are a prerequisite for this butterfly. It is found at the margins of woodland and in gardens and parks and is absent from only large areas of treeless blanket bog, high upland, and exposed offshore islands.

There was no potential habitat for Ireland's only European protected butterfly species, the Marsh Fritillary (*Euphydryas aurinia*). There was also no habitat for Ireland's only nationally protected butterfly, the Small Blue (*Cupido minimus*), since no Kidney Vetch (*Anthyllis vulneraria*), the larval food plant, was found within the footprint of the proposed development site.

5.3 Natura 2000 (European Sites)

There are no Natura 2000 sites within the 2 km potential zone of influence of the proposed development. The closest Natura 2000 site to the site is Rye Water Valley/Carton SAC (001398) located 6.1km to the southwest.

There is no direct connectivity or spatial overlap between Rye Water Valley/Carton SAC and the site; and, therefore, no impacts are foreseen to occur.

There is an indirect link between the Benetstown Stream and South Dublin Bay and River Tolka Estuary SPA (Site Code 004024) located greater than 18km downstream. However given the distance to the SPA, the short term nature of the works and the scope of works, no impacts are foreseen.

An Appropriate Assessment (AA) Screening Report has been produced separate to this EclA, to assess the potential for effects on European sites. The AA Screening Report concluded there was no likely significant effects on any European sites arising from the proposed development, either alone or in-combination with other plans or projects. European sites are not considered further in this report.

5.4 Approach to Pollution

Pollution effects from the proposed development have been scoped out from the EclA as any pollution would be limited to site area. A new surface water drainage system will be required for the project to connect to existing filter drain on the R157 and to a closed system (pipe and gulleys) within the business park. The surface water drainage will be designed in accordance with all best practice requirements, including design in accordance with the Greater Dublin Strategic Drainage Study, and CIRIA C753 The SuDS Manual. The surface water design should be carried out so that all rainfall runoff is restricted to a maximum that is equal to, or less than, the natural greenfield runoff equivalent and that an oil water interceptor be located prior to discharge.

5.5 Nationally Important Sites

There are no NHA and proposed Natural Heritage Areas (pNHAs) within the 2 km potential zone of influence of the proposed development. The closest site is Royal Canal NHA (Site Code 000686) located 4.97km to the southeast of the site.

There is no potential for direct impacts and effects such as habitat loss within the NHA as a result of the proposed development as there is no overlap of the site and the boundary of Royal Canal NHA.

There are no other nationally important sites within 5 km of the proposed development, so due to the small scale of the project, there is no potential for impacts, and they can be scoped out of this assessment and are not considered further in this report.

5.6 Invasive species

There are six invasive plants listed for the 10km grid square (N46) according to the Biodiversity Maps (NBDC). During the site walkover (on 30th of March 2022), no invasive species were found on site or in its surroundings, so they can be scoped out of this assessment and are not considered further in this report.

5.7 Summary of evaluation of ecological features

Table 5.1 summarises the ecological features described and evaluated in the preceding sections of this chapter. The importance of these features is described along with their legal status and rationale for not carrying forward any features for detailed assessment.

Table 5.1. Summary of evaluation of ecological features.

Ecological Feature	Scale at which Feature is important	Comments on legal status and/or importance
Natura 2000 sites	International	Natura 2000 sites have been screened out in the Appropriate Assessment Screening report prepared as part of this application.
pNHA/NHA (nationally important sites)	National	pNHA / NHA sites have been scoped out due to the distance and no in-stream works predicted on site.
Habitats	Local (Higher)	The habitats present and evaluated as important at the site level are sufficiently widespread and commonly occurring within the landscape. The habitats are resilient, so they do not require detailed assessment.
Mammals	Local (Higher)	Mammals are scoped out of further consideration within this report as either not likely to be present at all or are not likely to be significantly affected by the proposed development.
Bats	County	Most trees within the proposed site area are spaced out and provide no connectivity, so the potential for use by commuting bats is low. The treeline in the western side of the site does offer moderate potential for use by foraging and/or commuting bats. However, it is considered that further detailed assessment is not required due to the small scale of the proposed works.
Amphibians	Local (Higher)	This site area is suitable for Common Frog and Smooth Newt as there is a drainage ditches on site. However, no evidence of the species was

		found during site visit. So, it is considered that further detailed assessment is not required due to their unlikely presence on site.
Invertebrates	Local-County (Higher)	No protected species of invertebrates or suitable habitats for those were found on site, so the invertebrates were scoped out.
Invasive species	County	No invasive species were found on site; therefore, they are scoped out.

6. ASSESSMENT OF EFFECTS

This section sets out the potential impacts and their effects on important ecological features. The information available from the desk study and fieldwork has been used to identify impacts and the significant effects including positive, negative, direct, indirect, and cumulative effects.

6.1 Do Nothing Impact

In the absence of development, it is assumed that the proposed site would remain basically unchanged. The Do-Nothing Impact would result in no positive or negative change in the ecological interest of the site over time.

6.2 Potential Impacts of the Development

The potential impacts of developing the site are limited to temporary disturbance, with no displacement of species. There is no potential for pollution to nearby SPAs or SACs.

6.3 Cumulative Impacts

Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects can occur where a proposed development results in individually insignificant impacts that, when considered in-combination with impacts of other proposed or permitted plans and projects, can result in significant effects.

Within the immediate area, the effects of the proposed construction are likely to be limited to habitat degradation of commonly occurring and widespread habitats as well as temporary disturbance and displacement of species within the immediate surroundings of the site. These effects are not thought to be significant.

Therefore, it is considered that there is no pathway for other plans and projects to act in-combination and to give rise to cumulative effects.

7. MITIGATION

In this section, the minimum mitigation measures to be employed by the appointed Contractor(s) during construction and/or during operation are presented.

7.1 Operation phase

The following general mitigation applies.

- ❖ In the event that bats are found on the proposed site during construction works, works will immediately cease in that area and the local NPWS conservation ranger will be contacted. The bats should be removed by hand by a suitably qualified and licenced bat surveyor, under licence from the NPWS.
- ❖ Existing trees should be retained where possible and site boundaries replanted where feasible. Treelines are of far greater benefit to bats than single, free-standing trees or shrubs, as they provide corridors for movement, avoidance of light and predators, a better shelter belt for the clustering of insects, and greater substrate for insect breeding and feeding (bats food source).
- ❖ All existing trees adjacent to the proposed development boundary that are to be retained shall be protected from root damage by machinery by means of an exclusion zone of at least seven metres or equivalent to canopy height. Such protected trees shall be fenced off by adequate temporary fencing prior to other works commencing as required by NRA guidance (NRA 2006b).
- ❖ In general, artificial light creates a barrier for commuting bats so lighting should be avoided where possible. If any external lighting is required, it must be sensitive to the presence of bats commuting in the area. Directional lighting (i.e. lighting which is focused on work areas and not nearby countryside) shall be used.
- ❖ The possibility that Common Frog and Smooth Newt could occur has not been excluded from the assessment, although this is considered to be highly unlikely. However, every drain or pool within the blueprint of the proposed development may be considered as an actual or potential breeding site for frogs (and, whilst unlikely, also for newts). Where practical in the context of construction, water levels should be maintained in any drains used, or potentially used, by frogs and/or newts.
- ❖ An experienced Ecologist should be available during construction works and site clearance to provide ecological advice to avoid and/or minimize ecological impacts.

8. ENHANCEMENT

There is limited scope for biodiversity enhancement. The Dunboyne business park has high levels of litter along the path, in particular on the western side of the site where the proposed road will be constructed. The addition of waste bins along this route would benefit the site long term and prevent further pollution to the area.

9. CONCLUSION

The proposed construction of a link road and access road connecting Dunboyne Business Park and the R157 will have no significant impacts on the immediate vicinity or on protected areas such as SACs and SPAs. There will be a permanent loss of some habitat within the site, but as these habitats are commonly occurring and widespread habitats in the area, their loss will not be significant.

10. REFERENCES

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