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W370: WICKLOW FIRE STATIONS - BALTINGLASS

ECOLOGICAL IMPACT ASSESSMENT REPORT

**For
Wicklow County Council**

16 June 2023

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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, Wicklow County Council and as part of a Part 8 application. The regulatory authority for the site is Wicklow County Council. The proposal is for the construction of a new fire station in Baltinglass, County Wicklow. The fire station will be accessed through Sli na Slaine/Whitehall Park housing estate.

The development will consist of the following:

- a. The construction of a new two-storey fire station building
- b. On-site parking for 16 vehicles
- c. A hard-landscaped training yard to the rear of the new building
- d. The construction of a new four storey training tower at the northeast corner of the site to the rear of the main building
- e. Hard and soft landscaping and all associated boundary treatments
- f. The development will include all associated drainage and site development works.

The site location is shown in Figure 1.1.



Figure 1.1: The study area is shown using a red star (Source: EPA Maps, 2023).

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 Eadaoin Butler, BSc in Ecology, Consultant Ecologist, assisted by Ciaran Foran, BSc., Graduate Ecologist; reviewed by Luis Iemma, BSc, MSc, Ph.D., CEcol, MCIEEM,

Principal Ecologist; and authorised by Eleanor Burke BSc, MSc, DAS, MEnvSc, 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 Wicklow 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 June 2023 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 a 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, Wicklow County Council. The site for assessment is the subject of proposed development of a new fire station, a fire training tower, a concrete water tank for fire training, and associated lighting, drainage, and entrance infrastructure in Baltinglass, County Wicklow.

2.2 GENERAL DESCRIPTION OF THE SITE

The proposed development site is approximately centred at the Irish Transverse Mercator (ITM) coordinates 687729E, 687717N and is bounded by Sli na Slaine housing estate to the north-west, the L7276 to the north-east, and a municipal wastewater treatment plant to the south-east. The area immediately surrounding the site is of residential, agricultural, and municipal infrastructural use. Further to the northeast and east are residential neighbourhoods, further to the southwest is the River Slaney, and further to the southeast is agricultural land with scattered residences. The town of Baltinglass is located to the northwest.

2.3 ADJACENT RIVER

There are no surface water features within the site boundary. The nearest surface waterbody is the River Slaney (IE_SE_12S020800), which is located 114m west of the proposed development at the nearest point. See Figure 2.1. The Slaney flows south through Tullow, Bunclody, and Enniscorthy before reaching Wexford Harbour and flowing into the Irish Sea.

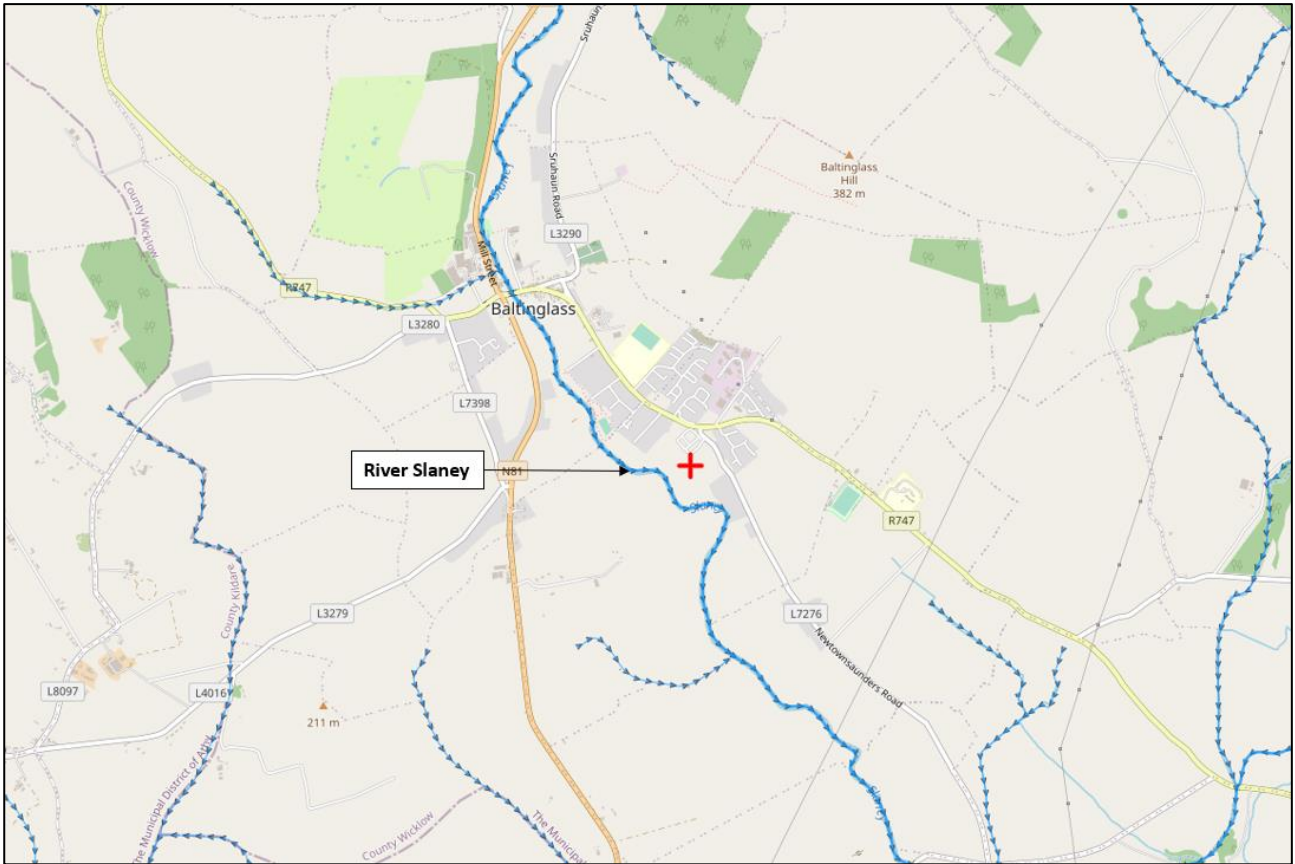


Figure 2.1: Location of the River Slaney relative to the study area; site location indicated by the red cross. (EPA maps, 2023).

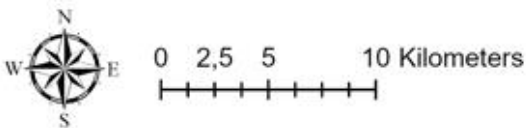
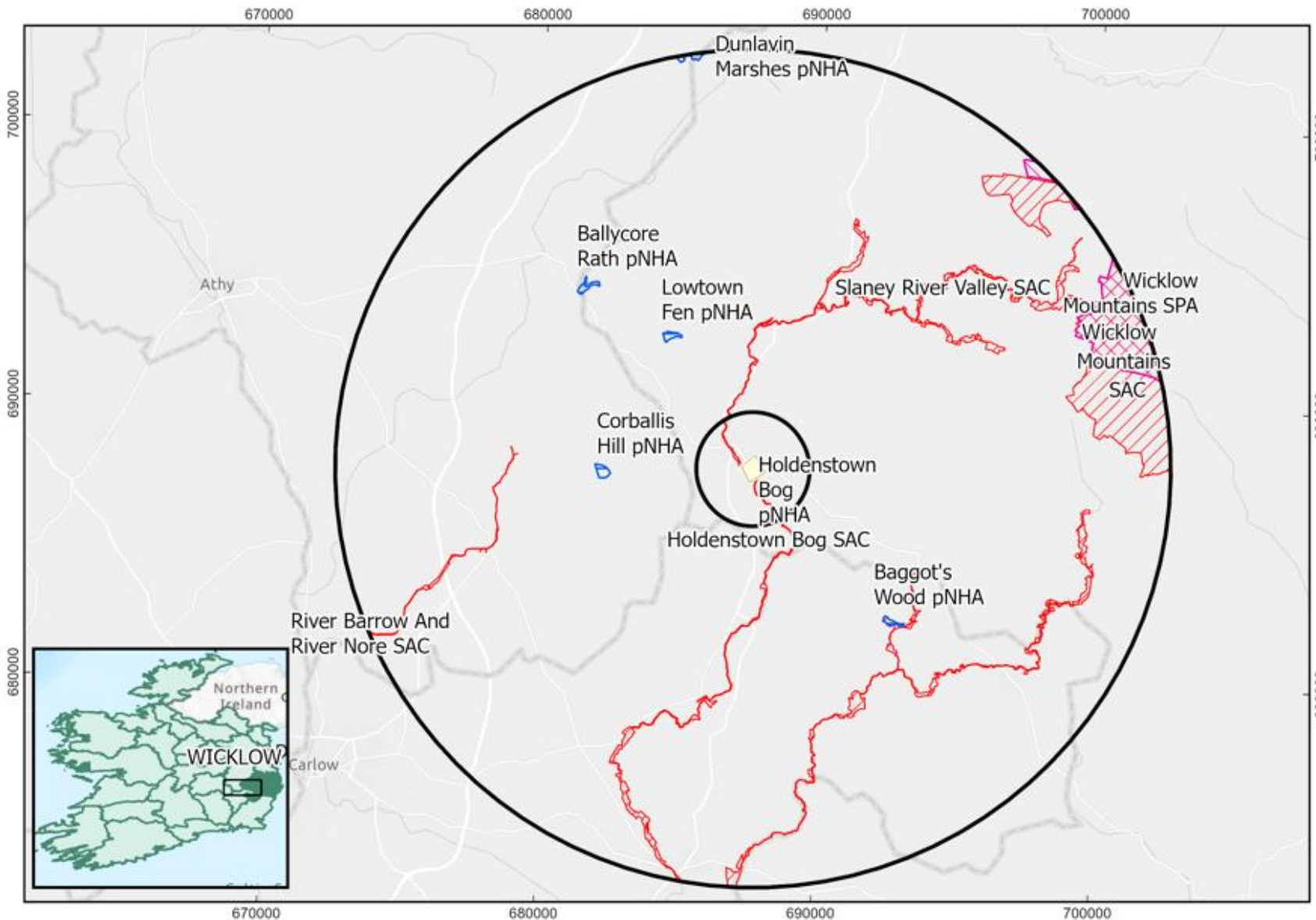
2.4 DESIGNATED SITES

Figure 2.2 and Table 2.1 below present locations and details of the key ecological features of designated sites located within 15km of the site.

NPWS Designated Sites

Legend

-  Baltinglass Site
-  2km Buffer
-  15Km Buffer
-  SAC
-  SPA
-  NHA
-  pNHA



Spatial Reference
Name: WGS 1984 Web Mercator Auxiliary Sphere
GCS: GCS WGS 1984
Datum: WGS 1984
Projection: Mercator Auxiliary Sphere

Project: Wicklow Fire Service - Baltinglass

Reference: W370.2

Client: Wicklow County Council

Figure 2.2: Designated sites within 15km of the development.

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)			
000781	Slaney River Valley SAC	0.11	1103 Twaité Shad (<i>Alosa fallax fallax</i>) 1099 River Lamprey (<i>Lampetra fluviatilis</i>) 1365 Harbour Seal (<i>Phoca vitulina</i>) 1096 Brook Lamprey (<i>Lampetra planeri</i>) 1095 Sea Lamprey (<i>Petromyzon marinus</i>) 1106 Salmon (<i>Salmo salar</i>) 1355 Otter (<i>Lutra lutra</i>) 1029 Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>) 1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide. 1330 Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) 3260 Water courses of plain to montane levels with the <i>Ranunculus fluitans</i> and <i>Callitriche-Batrachion</i> vegetation 91A0 Old sessile oak woods with <i>Ilex</i> & <i>Blechnum</i> in the British Isles 91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) *
001757	Holdenstown Bog SAC	2.5	7140 Transition mires and quaking bogs
002162	River Barrow and River Nore SAC	8.5	1096 Brook Lamprey (<i>Lampetra planeri</i>) 1355 Otter (<i>Lutra lutra</i>) 1103 Twaité Shad (<i>Alosa fallax fallax</i>) 1099 River Lamprey (<i>Lampetra fluviatilis</i>) 1095 Sea Lamprey (<i>Petromyzon marinus</i>) 1106 Salmon (<i>Salmo salar</i>) 1092 White-clawed Crayfish (<i>Austropotamobius pallipes</i>) 1029 Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>) 1990 Nore Pearl Mussel (<i>Margaritifera durrovensis</i>) 1016 Desmoulin's Whorl Snail (<i>Vertigo moulinsiana</i>) 1421 Killarney Fern (<i>Trichomanes speciosum</i>) 1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide. 1170 Reefs 1310 <i>Salicornia</i> and other annuals colonising mud and sand. 1330 Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) 3260 Water courses of plain to montane levels with the <i>Ranunculus fluitans</i> and <i>Callitriche-Batrachion</i> vegetation 4030 European dry heaths 6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels 7220 Petrifying springs with tufa formation (<i>Cratoneurion</i>)* 91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles 91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) *

Site Code	Site Name	Distance (km)	Reasons for Designation (*=priority habitats)
002122	Wicklow Mountains SAC	11.5	1355 Otter (<i>Lutra lutra</i>) 3110 Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) 3160 Natural dystrophic lakes and ponds 4010 Northern Atlantic wet heaths with <i>Erica tetralix</i> 4030 European dry heaths 4060 Alpine and Boreal heaths 6130 Calaminarian grasslands of the <i>Violetalia calaminariae</i> 6230 Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) * 7130 Blanket bogs (* if active bog) 8110 Siliceous screes of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>) 8210 Calcareous rocky slopes with chasmophytic vegetation 8220 Siliceous rocky slopes with chasmophytic vegetation 91A0 Old sessile oak woods with <i>Ilex</i> & <i>Blechnum</i> in the British Isles
004040	Wicklow Mountains SPA	12.5	A098 Merlin (<i>Falco columbarius</i>) A103 Peregrine (<i>Falco peregrinus</i>)
Proposed Natural Heritage Areas (pNHA)			
Site Code	Site Name	Distance (km)	
001757	Holdenstown Bog pNHA	2.4	
001389	Corballis Hill pNHA	5.2	
001764	Lowtown Fen pNHA	5.3	
000792	Baggot's Wood pNHA	7.0	
001751	Ballycore Rath pNHA	8.6	
001772	Dunlavin Marshes pNHA	14.7	

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 studies. 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 NBDC (www.biodiversityireland.ie);
- Wicklow 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 immediately 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 11th of May 2023 by Consultant Ecologist Eadaoin Butler and assisted by Graduate Ecologist Ciaran Foran. The site visit was carried out in mixed weather conditions with heavy showers and sunny spells, light breezes, and cloud cover (6/8 Oktas). The temperature was 13 °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 during the walkover survey to level 3 (where possible) in accordance with 'A Guide to Habitats in Ireland' (Fossitt, 2000) produced by the Heritage Council (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 FEATURE 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 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 AND 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 2001-2018). 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 proposed works as well as to assess the potential impact that the proposed 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, GUIDELINE 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.

Although the distance between the site and the nearest protected area is relatively short, (Slaney River Valley SAC, 110 metres), due to the lack of spatial overlap between the two and the small-scale nature of the development, SACs 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 (Wicklow Mountains SPA) and the proposed site, 12.5km, 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, 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 is largely homogenous consisting mostly of habitat type GA1 (Improved Agricultural Grassland).

5.1 HABITAT MAP



Figure 5.1: Habitat map showing the habitats found on site.

❖ Improved agricultural grassland (GA1)

This category is used for intensively managed or highly modified agricultural grassland that has been reseeded and/or regularly fertilised and is now heavily grazed and/or used for silage making. It includes regularly reseeded monoculture grasslands and rye-grass leys that are planted as part of an arable rotation. Among the more frequently occurring 'agricultural' herbs are Dandelion (*Taraxacum* spp.), Creeping Buttercup (*Ranunculus repens*), plantains (*Plantago* spp.), Nettle (*Urtica dioica*), thistles (*Cirsium arvense* and *C. vulgare*), and docks (*Rumex* spp.). The majority of the site comprises improved agricultural grassland (GA1).



Figure 5.2: Improved agricultural grassland (GA1)



Figure 5.3: Improved agricultural grassland (GA1)

❖ Treelines (WL2)

A treeline is a narrow row or single line of trees that is greater than 5 m in height and typically occurs along field or property boundaries. Within the proposed site, treelines occurred along the northeast and southeast margins of the field. Removal of trees and treeline should be prevented unless unavoidable. The treeline is comprised of Sycamore (*Acer pseudoplatanus*), Oak (*Quercus sp.*), Hawthorn (*Crataegus monogyna*), Elder (*Sambucus nigra*) and Cyprus (*Cupressaceae sp.*). Treelines also provide foraging and commuting opportunities for a range of fauna including bats and birds as well as nesting opportunities for birds.



Figure 5.4: Treeline along the northeast (WL2)



Figure 5.5: Treeline along the southeast (WL2)



Figure 5.6: Mature oak tree within the northeast treeline

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 that had suitability to support roosting bats. 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 suitability index of the area is considered moderate (25.22 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 5.7). The suitability indices for individual species are shown in Table 5.1.

When considering each of the common species separately, the following species are listed as high in the index:

- ❖ Common pipistrelle (*Pipistrellus pipistrellus*) scores 41 in the scale (High) as shown in Figure 5.9 and has an IUCN conservation status of 'Least Concern'. This species is common in many habitats including Stone walls and other stonework (BL1) and also treelines present in its surroundings, they were included in this list.

All trees were assessed for cavities, cracks, hollows or other features that would support bat roosting. Both treelines provide moderate connectivity to treelines within the area and along the River Slaney; therefore, the potential for use by commuting bats would be considered moderate. No evidence of roosting was found.

A further detailed bat survey is recommended to ensure the proposed works will not interfere with local bat populations.

Table 5.1: Suitability Index for all bat species

Species	Suitability Index
All Bats	25.22
<i>Pipistrellus pygmaeus</i>	35
<i>Plecotus auritus</i>	36
<i>Pipistrellus pipistrellus</i>	41
<i>Rhinolophus hipposideros</i>	0
<i>Nyctalus leisleri</i>	36
<i>Myotis mystacinus</i>	18
<i>Myotis daubentonii</i>	25
<i>Pipistrellus nathusii</i>	4
<i>Myotis nattereri</i>	32

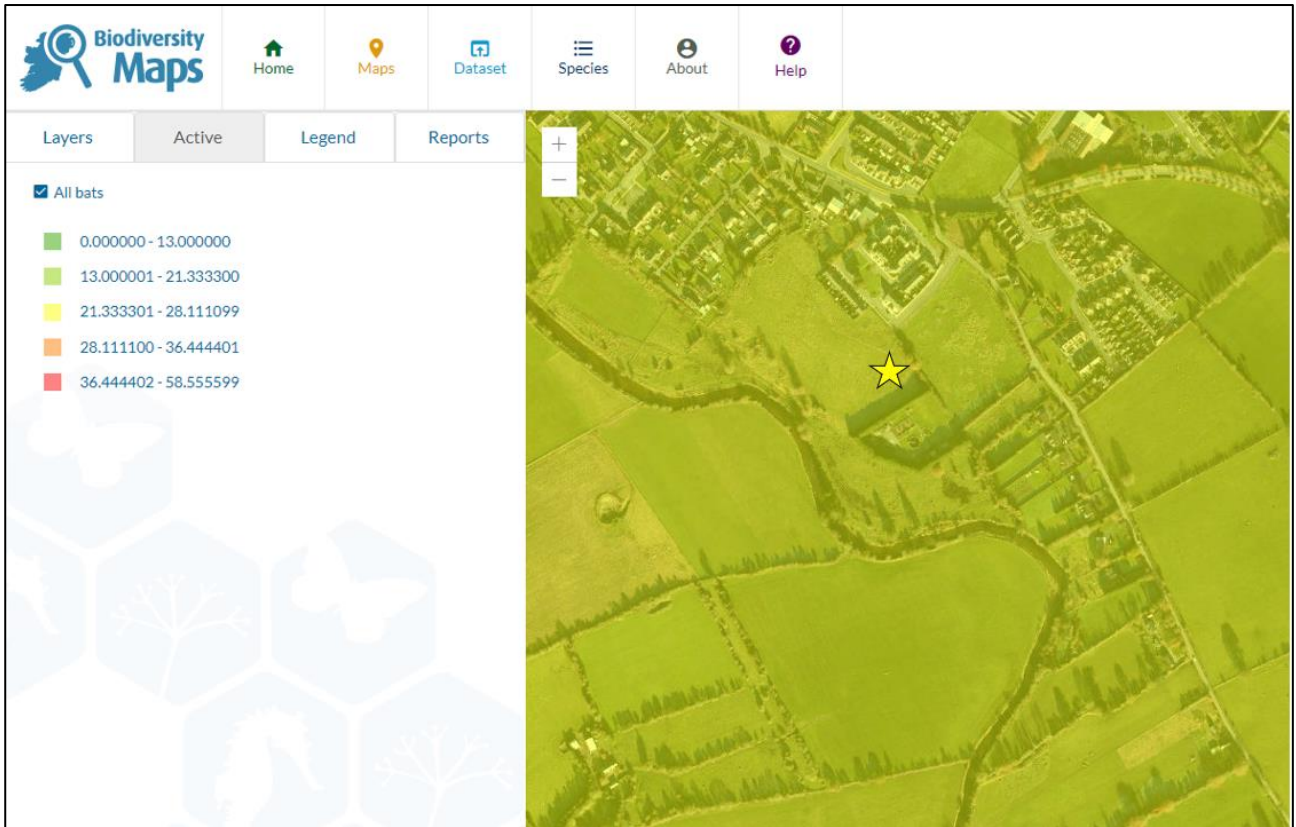


Figure 5.7: Suitability index for all bats in the site and surrounding areas (NBDC, 2023).

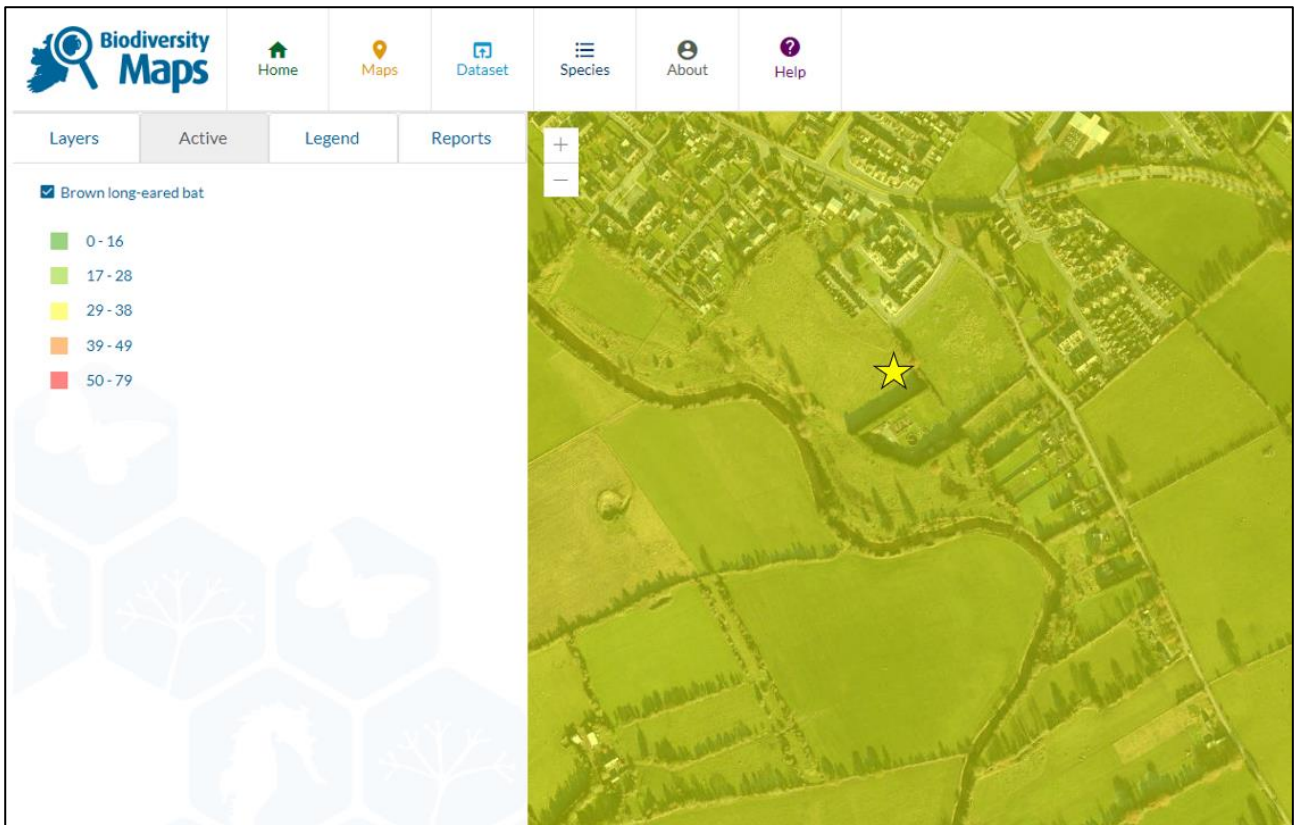


Figure 5.8: Suitability index for Brown long-eared bat in the site and surrounding areas (NBDC, 2023).

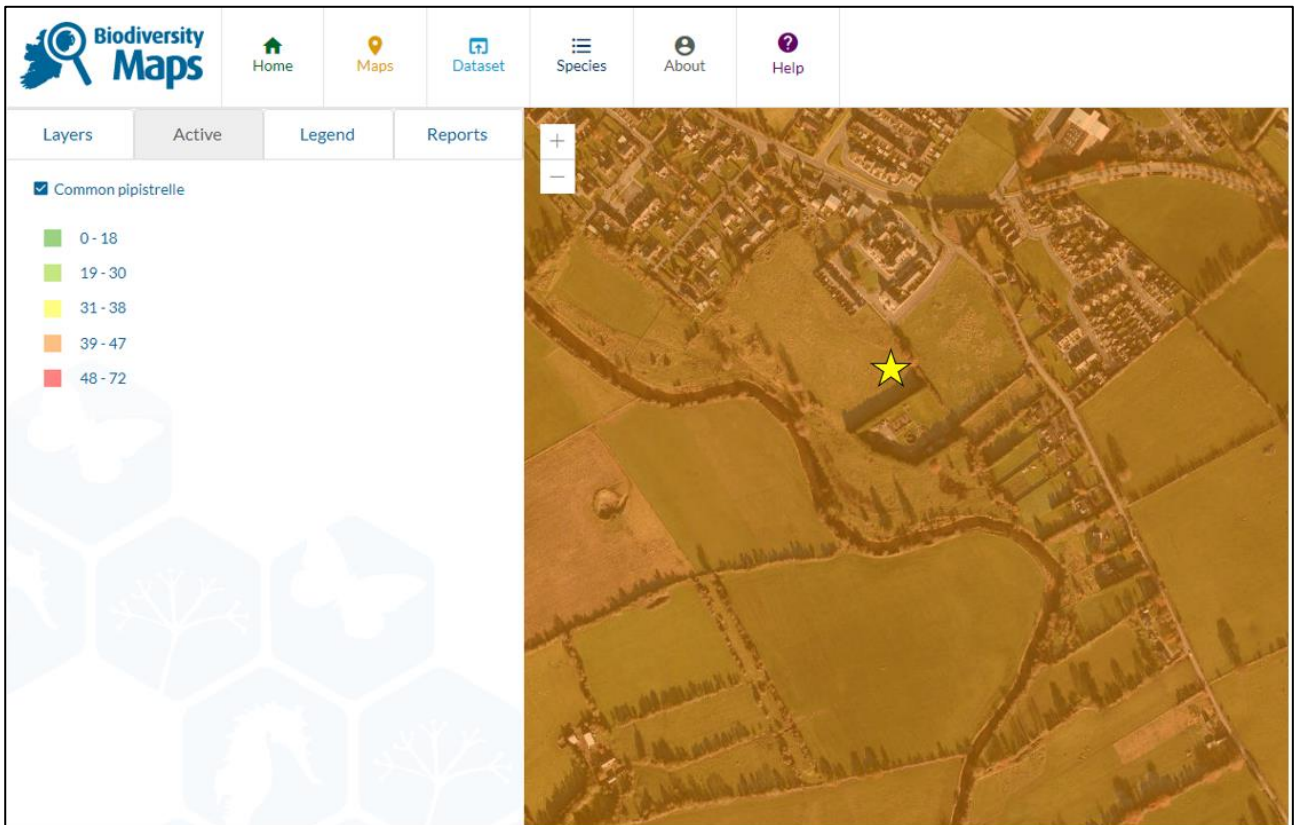


Figure 5.9: Suitability index for Common pipistrelle bat in the site and surrounding areas (NBDC, 2023).

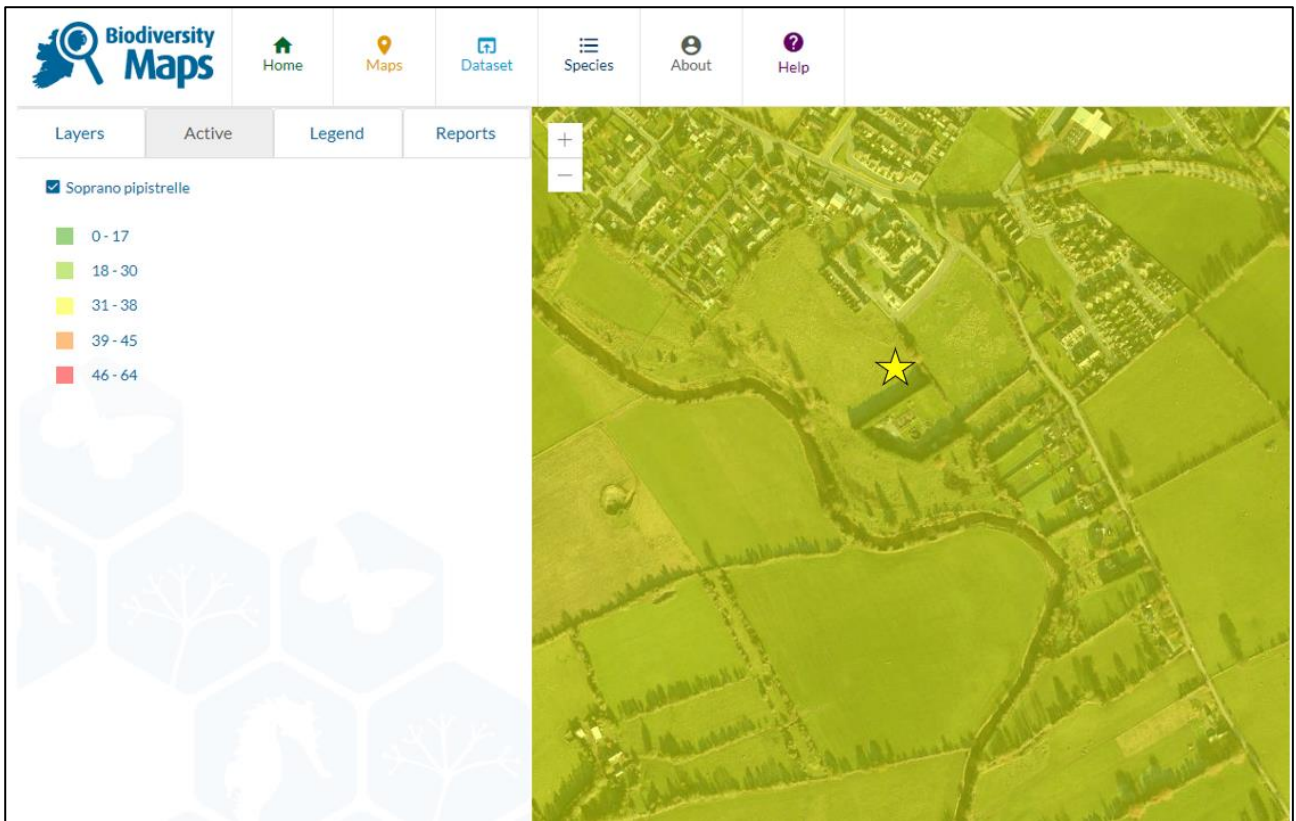


Figure 5.10: Suitability index for Soprano pipistrelle in the site and surrounding areas (NBDC, 2023).

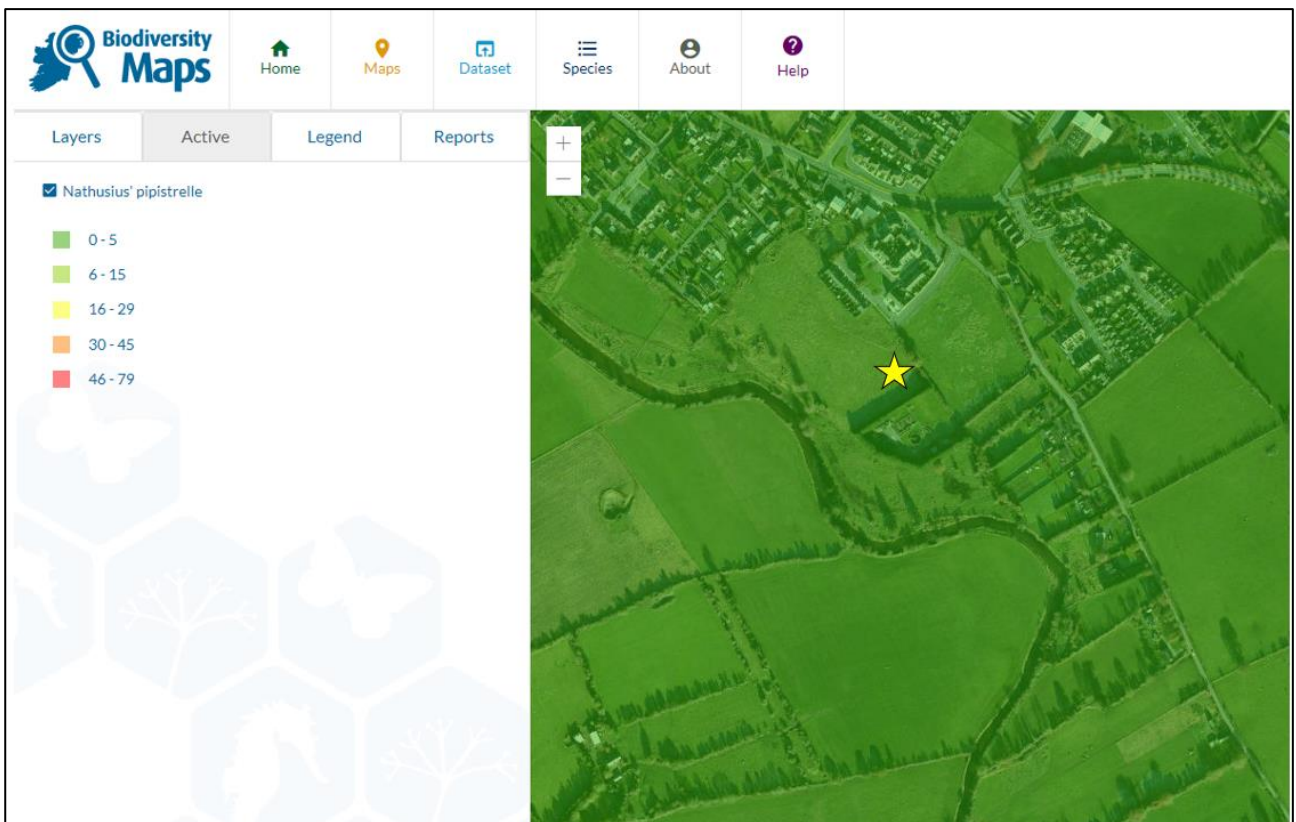


Figure 5.11: Suitability index for Nathusius' pipistrelle in the site and surrounding areas (NBDC, 2023).

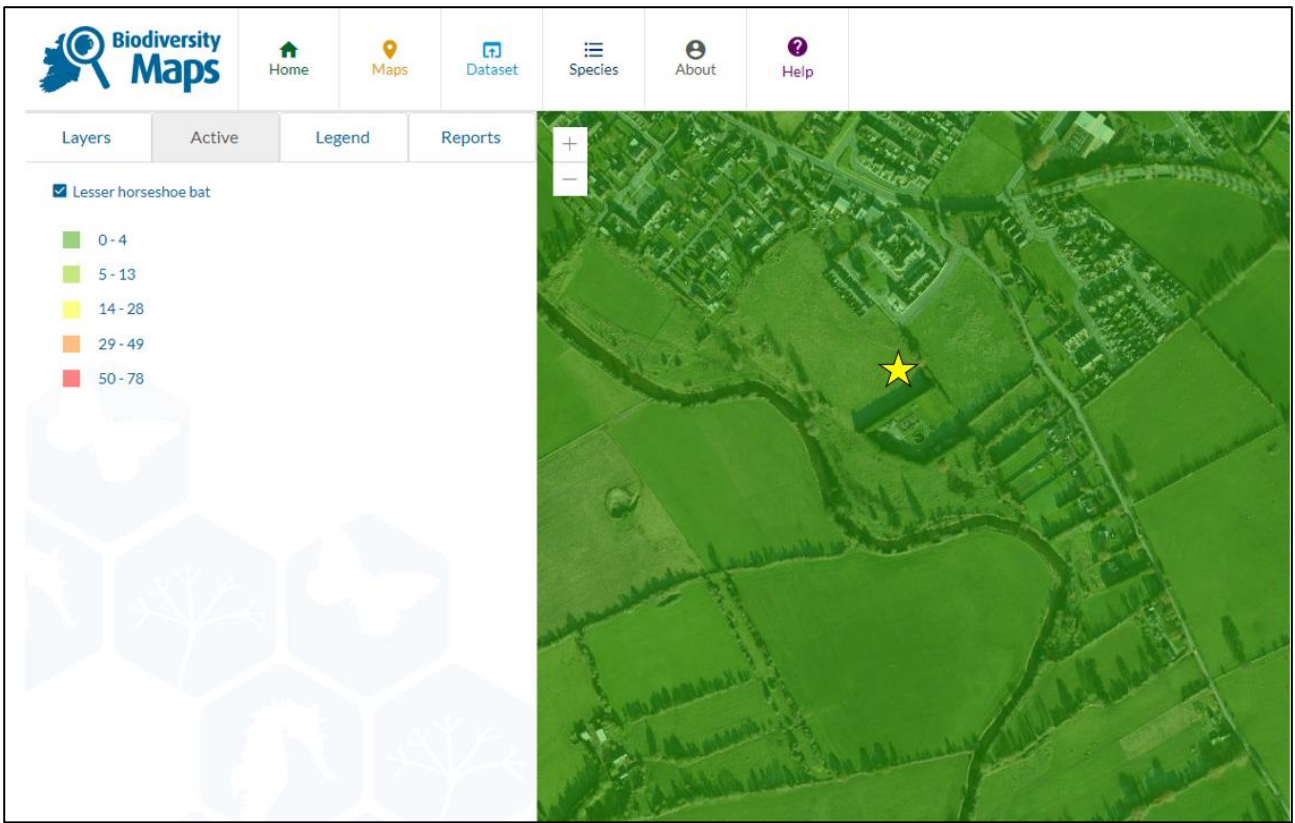


Figure 5.12: Suitability index for Lesser horseshoe bat in the site and surrounding areas (NBDC, 2023).

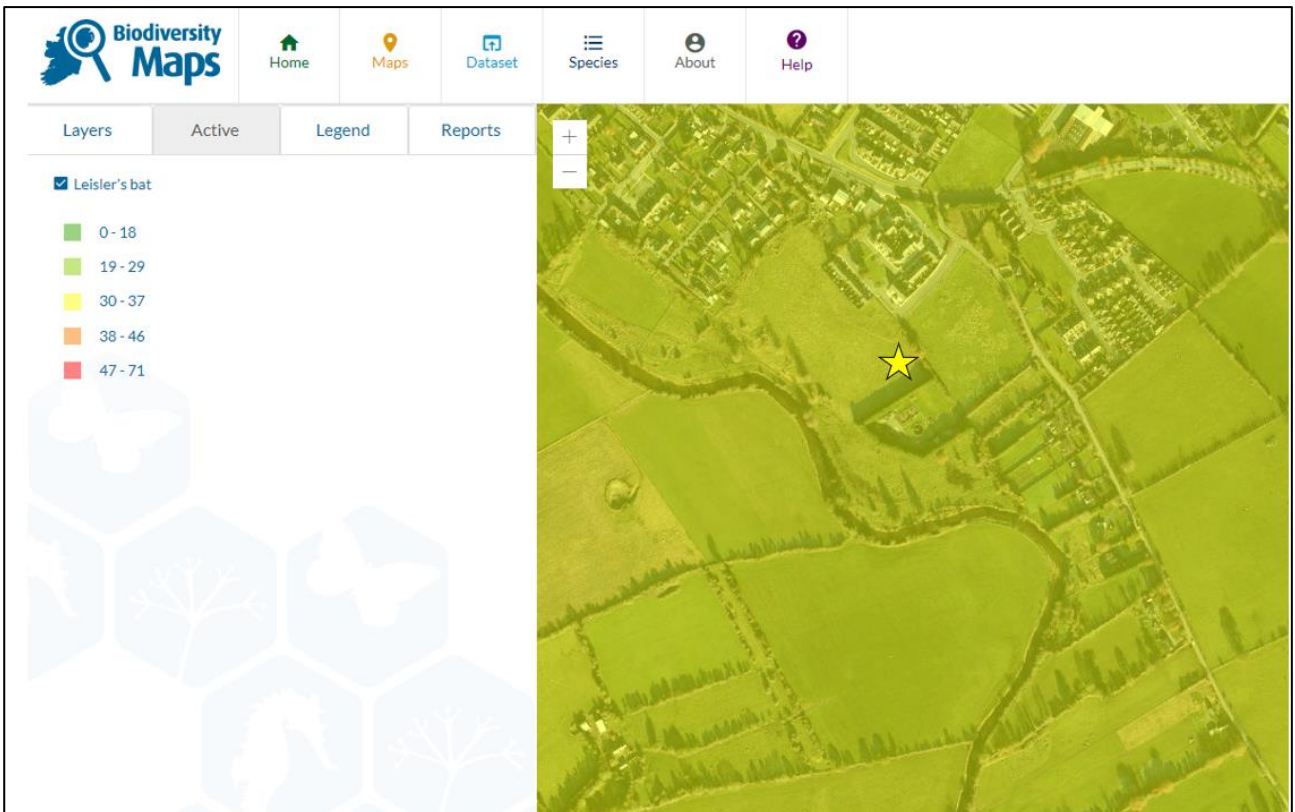


Figure 5.13: Suitability index for Leisler's bat in the site and surrounding areas (NBDC, 2023).

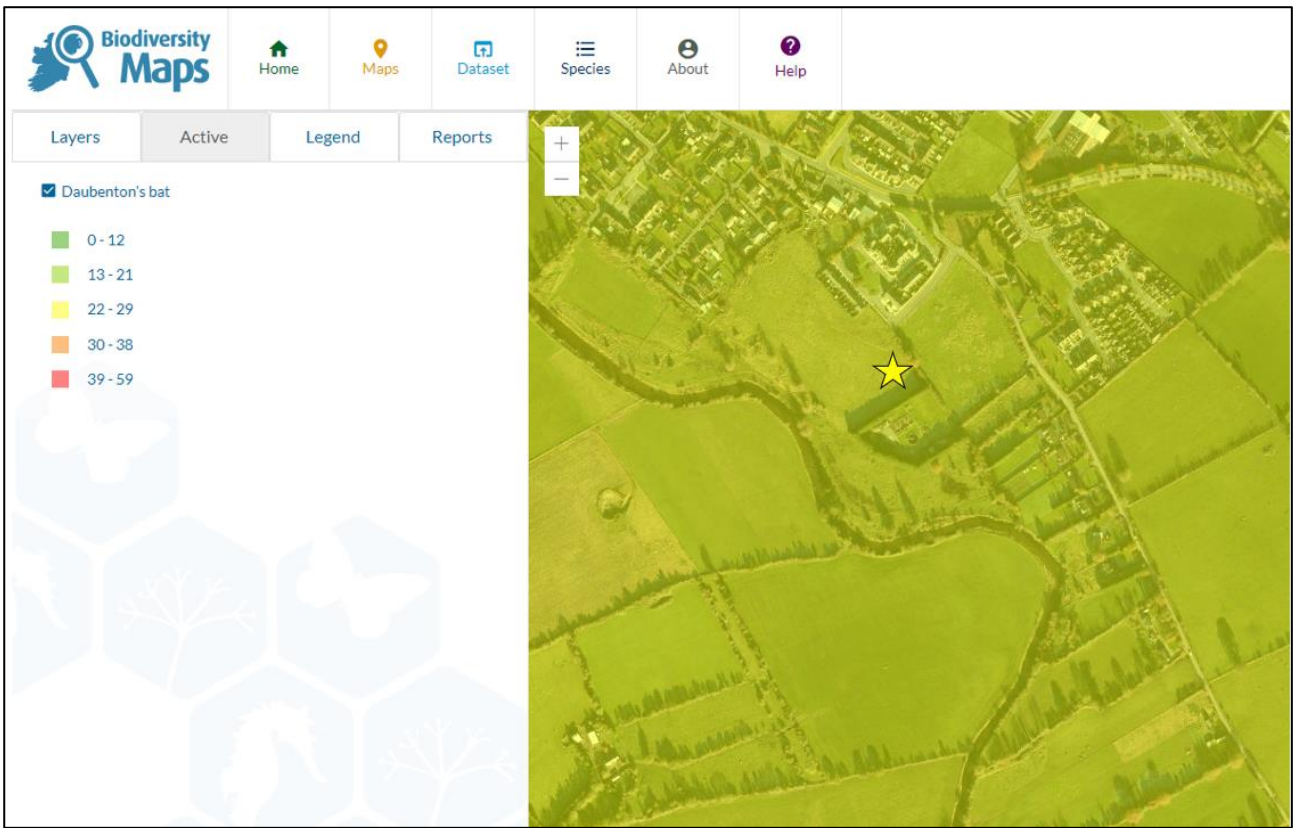


Figure 5.14: Suitability index for Daubenton's bat in the site and surrounding areas (NBDC, 2023).

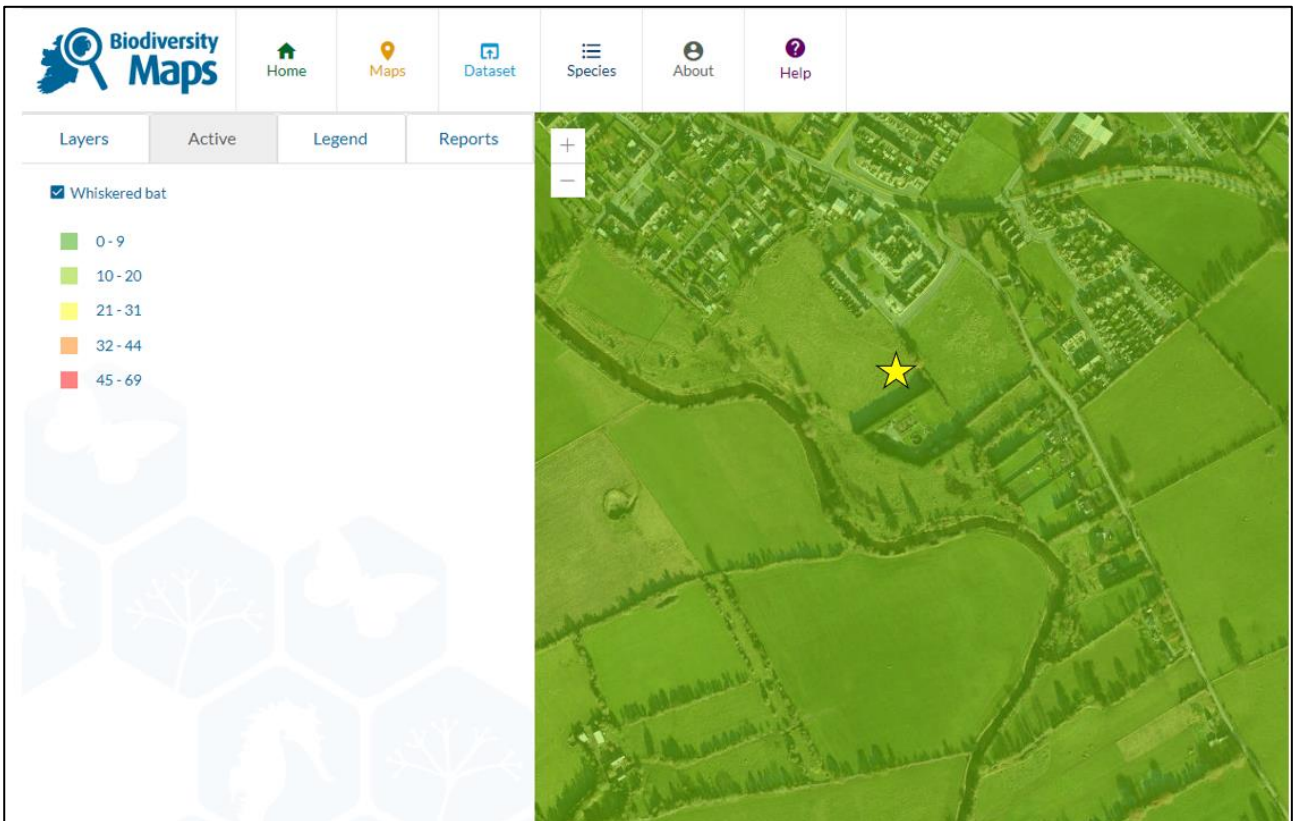


Figure 5.15: Suitability index for Whiskered bat in the site and surrounding areas (NBDC, 2023).

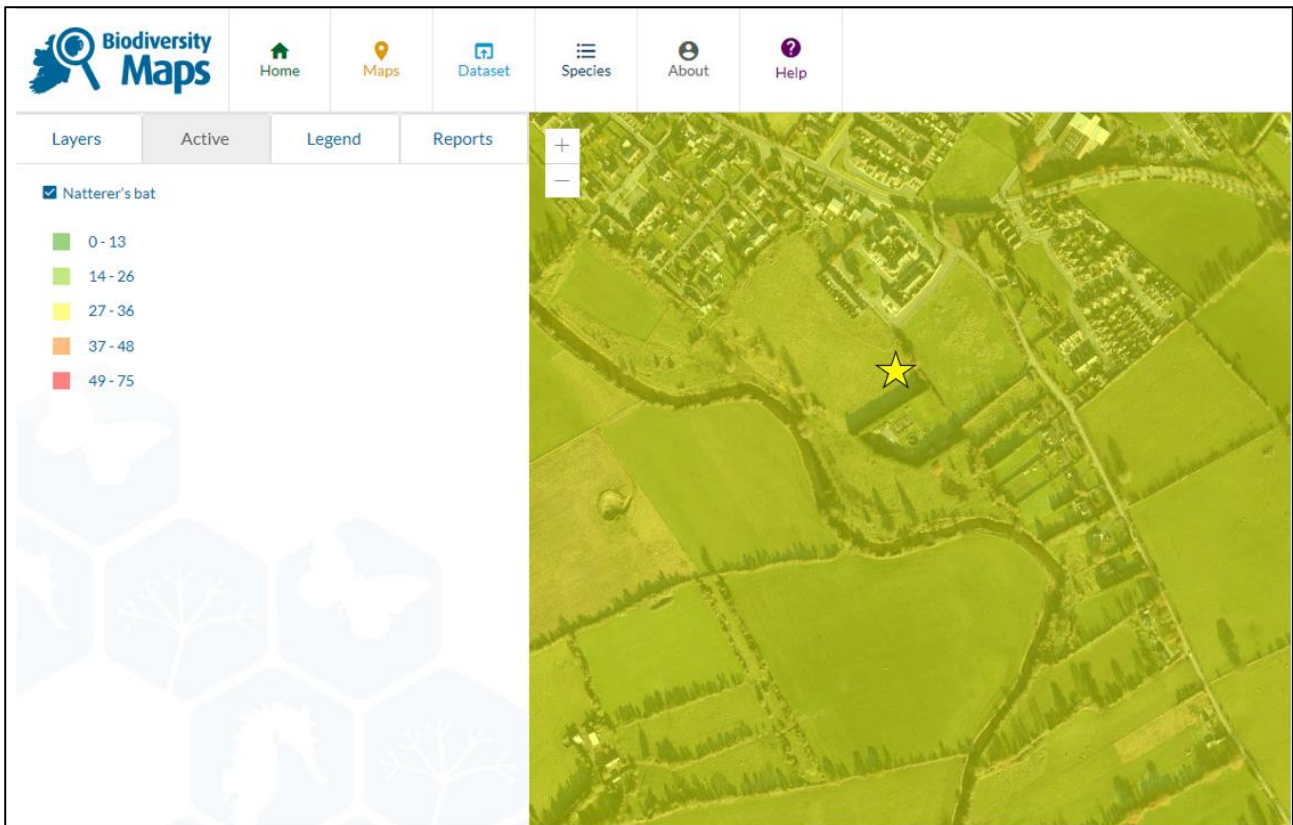


Figure 5.16: Suitability index for Natterer's bat in the site and surrounding areas (NBDC, 2023).

5.2.2 BADGERS

According to the NBDC, there is one record of the Eurasian Badger (*Meles meles*) from the 2km grid square (S88T) within which the site is located. 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 OTTERS

According to the NBDC, there are no records of the European Otter (*Lutra lutra*) from the 2km grid square (S88T) within which the site is located. The footprint of the proposed works was also searched for evidence of otters including spraints, foraging evidence, and remains such as fish bones, access runs, tracks, and prints. None of these were observed onsite.

In general, otters do not forage more than 80m from riverbanks, lakes, or coastal shores. The nearest surface waterbody is the River Slaney (IE_SE_12S020800), which is located 114m west of the proposed development at the nearest point. Based on the distance between the proposed site and the 80m foraging ground otters utilise, it is unlikely that the site is used by otters. and it can therefore be scoped out of this assessment and excluded from further consideration within this report.

5.2.4 AMPHIBIANS

According to the NBDC, there are no records of amphibians within the 2km grid square (S88T) within which the site is located. In addition to this, there were no amphibians recorded during the site visit. There are no ponds or drainage ditches located within the site. Therefore, it is unlikely that the site is being used by amphibians, and it can be scoped out of this assessment and excluded from further consideration within this report.

5.2.5 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. According to the NBDC, two species have been previously recorded within the 2km grid square that the site is located in (S88T): Meadow Brown (*Maniola jurtina*) and 10-Spot Ladybird (*Adalia decempunctata*).

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

The 10-Spot Ladybird is widespread and common in Ireland, although their conservation status has not been assessed. Generally, 10-spot ladybirds are found on deciduous woodland edges and hedgerows. There are no concerns for this species.

5.3 NATURA 2000 (EUROPEAN SITES)

There is one Natura 2000 site within the 2km potential zone of influence of the proposed development. The Slaney River Valley SAC (Site Code 000781) is located 110 metres south of the site. The next nearest Natura site is Holdenstown Bog SAC (Site Code 001757) located 2.5km south.

5.4 APPROACH TO POLLUTION

A new surface water drainage system will be required for the project, The surface water drainage will be designed in accordance with all best practice requirements, including design in accordance with the Great Wicklow Area 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 and water interceptor be located prior to discharge. Given the proposed design specification, the probable small magnitude of discharge which will not contribute to additional surface water to river, and the distance between the European site and the development (110m to the Slaney River Valley

SAC), it is considered that the surface water drainage from the site will not have a significant impact on nearby European sites.

Dust produced as the result of the development will be deposited close to the potential source; typically within two hundred metres of the construction area. The dust threshold distance for ecological sensitivity is 50m. There are no European or Designated Sites within 50m of the site boundary. Therefore, there are predicted to be no significant impacts to ecological sites from the construction works, and this element does not require further assessment.

5.5 NATIONALLY IMPORTANT SITES

There are no Natural Heritage Areas (NHAs) or pNHAs within the 2 km potential zone of influence of the proposed development. The closest site is Holdenstown Bog pNHA (Site Code 001757) located 2.4km south of the site. There is no potential for direct impacts and effects such as habitat loss within the pNHA as a result of the proposed development as there is no overlap of the site and the boundary of Holdenstown Bog pNHA.

Due to the small scale of the project and the distance to the nearest nationally designated sites, there is no potential for impacts. They can, therefore, be scoped out of this assessment and are not considered further in this report.

5.6 INVASIVE SPECIES

According to the NBDC, there are three invasive plants listed for the 2km grid square (S88T) in which the site is located:

- Giant Hogweed (*Heracleum mantegazzianum*)
- Indian Balsam (*Impatiens glandulifera*)
- Japanese Knotweed (*Fallopia japonica*)

During the site walkover (on the 11th of May 2023), only one invasive species was found on site, Sycamore (*Acer pseudoplatanus*). Therefore, invasive species cannot be scoped out of this assessment and need to be considered further in this report.

5.7 SUMMARY OF EVALUATION OF ECOLOGICAL FEATURES

Table 5.2 summarises the ecological features described and evaluated in the preceding sections of this chapter. The importance of these features is summarised along with their legal status and rationale for not carrying forward any features for detailed assessment.

Table 5.2: 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	National	pNHA / NHA sites have been scoped out due to the small scale of the works and distance to the nearest designated sites.
Habitats	Local (Higher)	The habitats present 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	Both treelines provide moderate connectivity to treelines within the area and along the River Slaney; therefore, the potential for use by commuting bats would be considered moderate. No evidence of roosting was found. A further detailed bat survey is recommended to ensure the proposed works will not interfere with local bat populations.
Amphibians	Local (Higher)	This site is not suitable for amphibians as there are no ponds or drainage ditches onsite; therefore, amphibians can be scoped out of the assessment.
Invertebrates	Local-County (Higher)	No protected species of invertebrates or suitable habitats for those were found on site; therefore, invertebrates can be scoped out.
Invasive species	County	One invasive species were found on site, Sycamore (<i>Acer pseudoplatanus</i>); therefore, invasive species will need further consideration.

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 significant risk of impact by pollution to nearby designated sites during the construction and operation phases due to the distances to these sites and subject to the implementation of design and construction phase mitigation measures. The appointed contractor will be required to prepare and implement a Construction Environmental Management Plan (CEMP) which will address potential environmental impacts such as release or spillage of fuels from equipment or sediment-laden runoff during the construction phase.

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.

Grants of planning in the vicinity of the site were reviewed to identify works of a significant scale which may produce in-combination effects with the proposed works. The following planning grants of larger than single domestic scale were identified:

- ❖ **Planning Application Reference: 211117**

- ❖ The development consists of 92 no. dwelling units and creche as follows: 4 no. 4 bedroom semi detached dwellings (Type A1), 4 no. 4 bedroom semi-detached dwellings (Type A2), 34 no. 3 bedroom semi detached dwellings (Type B1), 17 no. 2 bedroom end terrace dwellings (Type C1), 11 no. 2 bedroom mid terrace dwellings (Type C2), 11 no. 3 bedroom mid terrace dwellings (Type C3), 3 no. 3 bedroom mid terrace dwellings (Type C4), 4 no. 1 bedroom ground floor apartments (Type D1), 4 no. 1 bedroom first floor apartments (Type D2), and a two storey creche together with a new entrance servicing the proposed development and future lands off the N81, new ancillary internal access roads, infrastructure, landscaping and boundary treatments, new connection to existing sewer to the east of the site including pipe jacking of new sewer line under the Slaney River and all associated site works. An NIS will be submitted to the Planning Authority with this application.

- ❖ **Planning Application Reference: 171455**
Demolition of existing dormer dwelling and the construction of 4 no. single storey dwellings comprising of 2 no. 3 bedroom dwellings and 2 no. 4 bedroom dwellings, new site entrance and all associated site works.

- ❖ **Planning Application Reference: 18807**
34 no houses and all associated works. The accommodation shall consist of the following 23 no 2 bed houses (two storey) and 11 no 3 bed houses (2 storey).

Other granted planning permissions in the vicinity of the site pertain primarily to small-scale constructions, change of use, or retention of works. Although three larger planning grants were identified in the vicinity of the site, due to their scale, in-combination effects of these with the proposed project are considered to be unlikely and not significant.

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 PRE-CONSTRUCTION SURVEYS

At least one month in advance of construction, and within the appropriate season, the following surveys must be carried out.

- Dawn/Dusk bat surveys of the treeline along the western site boundary with suitability for roosting bats.

7.2 OPERATIONAL PHASE

The following general mitigation applies.

- ❖ In the event that bats are found on the proposed development site during construction or demolition 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 bat surveyor.
- ❖ 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.
- ❖ In the event that any other invasive species are found specifically Giant Hogweed (*Heracleum mantegazzianum*), Indian Balsam (*Impatiens glandulifera*) or Japanese Knotweed (*Fallopia japonica*), a management plan must be prepared and implemented. The management plan will detail the treatment programme which can be divided into three main stages: initial removal, control of stems and roots, and follow up. The management plan will quantify the number of invasive species and their characteristics (age, condition, and previous treatments) and begin clearance. Suitable conditions for the recovery of native ground flora will be created which will reduce open areas for recolonisation by invasive species. The management plan will detail acceptable timeframes for planned clearance and

repeated treatments. As part of the plan, follow-up work will be necessary to remove any small plants and seedlings have been missed or that have germinated following the initial remediation phase.

8 ENHANCEMENT

There is opportunity for ecological enhancement for the site as part of the proposed development. Firstly, invasive species or non-native species found within the site, such as Sycamore (*Acer pseudoplatanus*) should be carefully removed and replaced with native species that support high levels of biodiversity such as Oak (*Quercus patraea* and *Q. robur*), Birch (*Betula pubescens*) or Willow (*Salix caprea* and *S. cinerea*), all of which support large numbers of insects and lichens. Other native species to consider such as Rowan (*Sorbus aucuparia*), Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Ash (*Fraxinus excelsior*), Wild cherry (*Prunus avium*), Bird cherry (*Prunus padus*), Hazel (*Corylus avellana*), and Crab Apple (*Malus sylvestris*) will provide pollen and/or fruit for insects, birds, and mammals.

The addition of bat boxes in a variety of designs suitable for bats with differing roosting habits could be installed on the two mature oak trees to encourage more roosting within the area. Bat boxes should be installed and positioned to face south, southeast, or southwest and at heights no less than 4m above ground level. Suitably experienced ecologists must oversee the installation of the boxes. All personnel should wear gloves to reduce transmission of human pheromones, which may reduce or delay uptake of boxes by bats.

These boxes must be away from any felling or trimming to ensure that they are not accidentally damaged or removed. Bat boxes must be clear of scrub and away from ivy encroachment as well as lighting. Bat boxes are available commercially from a variety of suitable outlets (e.g. NHBS website <http://www.nhbs.com>).

The addition of a variety of bird boxes is recommended to increase nesting of local bird populations. The traditional nest box caters for a number of species; however, the diameter of the entrance hole will influence which species may use it.

- 25mm- Blue Tit, Coal Tit
- 28mm- Great Tit, Tree Sparrow
- 32mm- House Sparrow
- 45mm- Starling

Open front nest boxes will cater for blackbirds, robins, and wrens; however, each species prefer a different degree of exposure. Blackbirds will nest in something completely open while robins prefer half open and wrens prefer more enclosed boxes. For most traditional boxes, the ideal height is between 2 and 4m off the ground, ensuring no cats can access it. For the open front boxes, the best height is less than 2m but surrounded by dense vegetation. Any boxes being attached to trees should be done by strapping them onto the tree, rather than drilling into it. A variety of nest boxes can be purchased from Bird Watch Ireland (<https://birdwatchireland.ie>).

Any flower boxes or planters being used should be planted with native species that support a wide variety of insects and pollinators. Species such as Devil's Bit Scabious, Bird's-foot-trefoil, Vetch species, Selfheal, Oxeye daisy, and Harebell all provide nectar/honey for bees and butterflies. Carefully selecting species that have a

different flowering period will ensure a longer availability of food sources as well as an extended floral display. Further information and resources can be found on <https://pollinators.ie/resources/>.

9 CONCLUSION

The proposed construction of a new fire station, a fire training tower, a concrete water tank for fire training and associated lighting, drainage, and entrance infrastructure in Baltinglass, County Wicklow will have no significant impacts on both the immediate vicinity and protected areas such as SACs and SPAs.

There will be a permanent loss of some habitat within the site, but as these are commonly occurring and widespread habitats within the area, the loss will not be significant. Given the nature of the development, its scale, and the localised and temporary nature of the construction effects identified as potential sources, it is concluded that the proposed project is not foreseen to give rise to any significant adverse effects on any designated European sites, alone or in combination with other plans or projects.

10 REFERENCES

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11 VERIFICATION

This report was compiled by Eadaoin Butler, B.Sc, reviewed by Glenda Barry, BSc, MSc, PGeo, Eurgeol, Principal Consultant and Luis Iemma, BSc, MSc, Ph. D, CEcol, MCIEEM, Principal Ecologist; and approved by Eleanor Burke, BSc, MSc, DAS, MEnvSc, CSci, Technical Principal, and the OCSC Environmental Division Manager.

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