

# Thomond RFC Extension

## AA Screening

December 2023

Prepared for:  
**Limerick City and County Council**



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# Contract

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This report describes work commissioned by Eoin Brennan, on behalf of Limerick City and County Council, by an instruction dated 22/03/2023. The Client's representative for the contract was Barry O'Connor of Limerick City and County Council. Mia Heigh and Anne Mullen of JBA Consulting carried out this work.

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## Abbreviations

AONB.....	Area of Outstanding Natural Beauty
DEHLG.....	Department of Environment, Heritage and Local Government
EC.....	European Commission
EEC.....	European Economic Community
EU.....	European Union
HoF.....	Hands off Flow
NPWS.....	National Parks and Wildlife Services
NBDC.....	National Biodiversity Data Centre
OPR.....	Office of the Planning Regulator
QI.....	Qualifying Interest
SAC.....	Special Area of Conservation
SPA.....	Special Protection Areas
WFD.....	Water Framework Directive

# 1 Introduction

## 1.1 Background

JBA Consulting Engineers and Scientists Ltd. (hereafter JBA) has been commissioned by Limerick City and County Council to prepare an Appropriate Assessment Screening Report for the proposed works to be carried out at on the extension to Thomond RFC (Rugby Football Club).

The proposed project consists of:

- Raising the existing ground level within the extension area to match the approximate level of the existing Thomond RFC pitch, plus allowing for fall for future drainage.
- Construct new blockwork boundary, to be 600mm above the finished ground level plus 1.8m high railing above.
- Gates to be installed along boundary to allow for pedestrian access, retrieval of balls, etc.
- Installation of back wall drainage to new wall as required and outfall to existing storm drain network.
- Construction of embankment on northern side of new boundary to soften the effect of the wall from the Moyross Avenue side.
- Construction of cutting in existing ground on western side of new boundary.
- Demolition of wall and railing at northside of existing Thomond RFC boundary.
- Construction of new footpath between boundary and side of 4 Craeval park.
- Relocation of CCTV Mast on northside of existing wall.
- Decommissioning or diversion of storm and sewer networks that will be within the extension area / indicative pitch area.
- Decommission of utilities that will be within extension area – ESB, public lighting, gas, etc.

## 1.2 Screening Methods

This screening assessment uses the source-pathway-receptor (S-P-R) model as outlined in guidance (OPR 2021). Using the source-pathway-receptor model allows for the potential significant effects to be eliminated if no viable source, pathway, or receptor is present.

The S-P-R method uses an examination of the construction methods or project description and allows sources of impact to be determined. This also allows a zone of influence for the project to be generated based on the size, scale and nature of the works involved. The pathways for impact are also analysed to see if a functional pathway for impact is present. This report analyses three pathways: surface water, groundwater and land. Using information gathered from desk sources (e.g. mapped



qualifying interests from the Conservation Objectives for the site) and from field surveys, receptors within the zone of influence are identified. In some cases, sensitive receptors may also play a role in determining the zone of influence. If any of the three parts to the model are not present (source-pathway-receptor) the potential for a likely significant effect from the project on the Natura 2000 network can be discounted.

### 1.3 Legislative Context

Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora, known as the 'Habitats Directive' - provides legal protection for habitats and species of European importance. Article 2 of the Directive requires the maintenance or restoration of habitats and species of European Community interest, at a favourable conservation status. Articles 3 - 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000 sites. Natura 2000 sites are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79 / 409 / EEC).

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans or projects affecting Natura 2000 sites.

Article 6(3) establishes the requirement for Appropriate Assessment:

*“Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.”*

Article 6(4) deals with the steps that should be taken when it is determined, as a result of Appropriate Assessment, that a plan/project will adversely affect a European site. Issues dealing with alternative solutions, imperative reasons of overriding public interest and compensatory measures need to be addressed in this case.

Article 6(4) states:

*“If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.*

*Where the site concerned hosts a priority natural habitat type and / or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.”*

The requirements of Articles 6(3) and 6(4) of the Habitats Directive have been transposed into Irish legislation by means of inter alia the European Communities (Birds and Natural Habitats) Regulations 2011-2015 (S.I. No. 477 / 2011) as amended.

## 1.4 Appropriate Assessment Process

Guidance on the Appropriate Assessment (AA) process was produced by the European Commission in 2002, which was subsequently developed into guidance specifically for Ireland by the NPWS and Planning Divisions of the Department of Environment, Heritage and Local Government (DEHLG) (DEHLG, 2009). Office of the Planning Regulator (OPR) produced a Practice Note in 2021, PN01 - Appropriate Assessment Screening for Development Management (OPR, 2021). These guidance documents identify a staged approach to conducting an AA, as shown Figure 1-1.

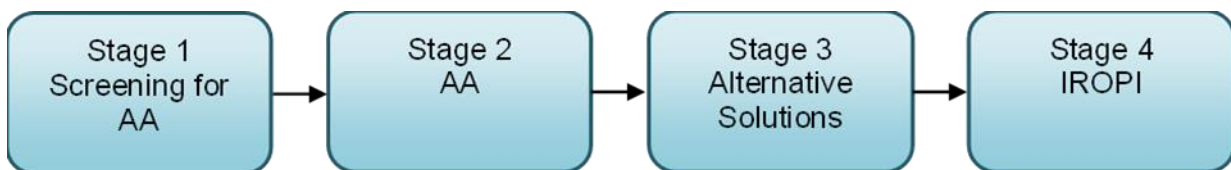


Figure 1-1 The Appropriate Assessment Process (from: Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities, DEHLG, 2009).

### 1.4.1 Stage 1 – Screening for AA

The initial, screening stage of the Appropriate Assessment is to determine:

- whether the proposed plan or project is directly connected with or necessary for the management of the European designated site for nature conservation (Natura 2000 site)
- if it is likely to have a significant adverse effect on the European designated site, either individually or in combination with other plans or projects.

For those sites where, potential adverse impacts are identified, either alone or in combination with other plans or projects, further assessment is necessary to determine if the proposals will have an adverse impact on the integrity of a European designated site, in view of the site's conservation objectives (i.e., the process proceeds to Stage 2).

#### 1.4.2 Stage 2 – AA

This stage requires a more in-depth evaluation of the plan or project, and the potential direct and indirect impacts of them on the integrity and interest features of the European designated site(s), alone and in-combination with other plans and projects, taking into account the site's structure, function, and conservation objectives. Where required, mitigation or avoidance measures will be suggested.

The competent authority can only agree to the plan or project after having ascertained that it will not adversely affect the integrity of the site(s) concerned. If this cannot be determined, and where mitigation cannot be achieved, then alternative solutions will need to be considered (i.e., the process proceeds to Stage 3).

#### 1.4.3 Stage 3 – Alternative Solutions

Where adverse impacts on the integrity of Natura 2000 sites are identified, and mitigation cannot be satisfactorily implemented, alternative ways of achieving the objectives of the plan or project that avoid adverse impacts need to be considered. If none can be found, the process proceeds to Stage 4.

#### 1.4.4 Stage 4 – IROPI

Where adverse impacts of a plan or project on the integrity of Natura 2000 sites are identified and no alternative solutions exist, the plan will only be allowed to progress if imperative reasons of overriding public interest (IROPI) can be demonstrated. In this case compensatory measures will be required.

The process only proceeds through each of the four stages for certain plans or projects. For example, for a plan or project, not connected with management of a site, but where no likely significant impacts are identified, the process stops at stage 1. Throughout the process, the precautionary principle must be applied, so that any uncertainties do not result in adverse impacts on a site.

This report is in support of a Stage 1 Screening for Appropriate Assessment.

#### 1.4.5 Court of Justice of the European Union (CJEU) Rulings

The CJEU has been asked to issue rulings on development plans, which are used to inform this assessment.

The CJEU issued a ruling on the consideration of avoidance and reduction measures as a result of *People over Wind, Peter Sweetman v Coillte Teoranta* (C-323/17) [2018]. This judgement stated that measures intended to reduce or avoid effects on a Natura 2000 site should only be considered within the framework of an Appropriate Assessment, and it is not permissible to take into account such measures at the screening stage. In practice, this means that any activities that are not integral to the project (i.e., the project could conceivably take place without them) and have the

effect of avoiding or reducing an impact on a Natura 2000 site, cannot be considered at the screening stage.

The CJEU ruling in *Grace & Sweetman* (C-164/17) [2018] clarified the difference between avoidance and reduction (mitigation) measures and compensation. Measures intended to compensate for the negative effects of a project cannot be taken into account in the assessment of the implications of a project, and instead are considered under Article 6(4). This means that any project where an effect on the integrity of a Natura 2000 site remains and can only be offset by compensation, would need to proceed under Article 6(4), demonstrating “imperative reasons of overriding public interest”.

The judgements referred to as the Dutch Nitrogen cases (C -293/17 and C -294/17) [2018] have important implications for projects that could potentially impact on sites that are exceeding critical thresholds for input of damaging ammonia (but could also reasonably apply where other nutrients are impacting Natura 2000 sites). The judgements state that the use of thresholds to exclude project impacts is acceptable in principle, and that strategic plans can be used as mitigation but only with consideration of the certainty (or otherwise) of the outcomes of those strategic plans. It clarifies that where the status of a habitat type is already unfavourable the possibility of authorising activities which increase the problem is necessarily limited.

The CJEU ruling in the case of *Holohan v An Bord Pleanála* (C-461/17) [2018] also clarified the importance in Appropriate Assessment of taking into account habitat types and species outside the boundary of the Natura 2000 site where implications of the impacts on those habitat and species may impact the conservation objectives of the Natura 2000 site. In this assessment functionally linked and supporting habitat for species outside of Natura 2000 sites are assessed where they could potentially impact the conservation objectives of any screened in Natura 2000 sites.

The CJEU delivered a significant judgment in the *Eco Advocacy* (In Case C-721/21). Six questions were referred by the Irish High Court. This request for a preliminary ruling concerns the interpretation, inter alia, of Article 6(3) of the Habitats Directive. The ruling indicated that:

- The High Court asked whether a decision maker had to give detailed and explicit reasons in order to dispel all reasonable scientific doubt from an AA screening perspective. The CJEU held that a decision maker, in carrying out and recording its decision on AA screening, does not have to respond to all points of fact and law raised during their decision-making process. It has to meet “the requisite standard” which is not so demanding.
- An applicant for permission in its AA screening report/and a decision maker in undertaking its AA screening can take into account “standard features” i.e. all the constituent elements of that project inherent in it/elements that are incorporated

into a projects design not with the aim of reducing its negative effects (even where these have the effect of reducing harmful effects on a European site).

## 1.5 Methodology

The Screening for Appropriate Assessment has been prepared with regards to the Birds and Habitats Directives, the European Communities (Birds and Natural Habitats) Regulations 2011-15 as amended and relevant jurisprudence of the EU and Irish courts. The following documents have also been used to provide guidance for the assessment:

- NPWS (2009 rev 2010) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government (DEHLG, 2009).
- Office of the Planning Regulator (2021) OPR Practice Note PN01 - Appropriate Assessment Screening for Development Management (OPR, 2021).
- EC (2019). Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. (European Commission. Directorate General for Environment., 2019).
- EC (2002) Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission (European Commission et al., 2002).
- Guidance document on Assessment of plans and projects in relation to Natura 2000 sites (European Commission. Directorate General for Environment., 2022).
- EC (2013) Interpretation Manual of European Union Habitats Version EUR 28 (EC, 2013).
- EC (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission. European Commission Management (European Commission, 2007).
- CIEEM (2018). Guidelines and checklist for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine., Second Ed. (Chartered Institute of Ecology and Environmental), updated 2022.

### 1.5.1 Desktop Study

A desktop study was conducted of available published and unpublished information, along with a review of data available on the National Parks and Wildlife Service (NPWS) and National Biodiversity Data Centre (NBDC) web-based databases, to identify key habitats and species, including legally protected and species of conservation concern, that may be present within ecologically relevant distances from

the project as explained below. A baseline habitat assessment was performed using satellite imagery of the site. The data sources below were consulted for the desktop study:

- Aerial photography available from [www.osi.ie](http://www.osi.ie) and ESRI World Imagery.
- NPWS website ([www.npws.ie](http://www.npws.ie)) where Natura 2000 site synopses, data forms and conservation objectives were obtained along with Annex 1 habitat distribution data and status reports.
- River Basin Management Plans
- NBDC Biodiversity Maps ([maps.biodiversityireland.ie](http://maps.biodiversityireland.ie))
- Catchments ([www.catchments.ie](http://www.catchments.ie))
- Environmental Protection Agency Maps (<https://gis.epa.ie/EPAMaps>)
- Geological Survey Ireland (GSI) ([www.gsi.ie](http://www.gsi.ie))
- GSI - Groundwater data viewer (<https://dcenr.maps.arcgis.com>)
- Planning Applications ([myplan.ie](http://myplan.ie))

#### 1.5.2 Walkover Survey

A site walkover survey was conducted by Anne Mullen and Mia Heigh of JBA Consulting on the 27<sup>th</sup> of November 2023. Details of the survey results can be found in Section 3.1.

#### 1.5.3 Likely Significant Effect Test

The test for AA screening is whether the project could have a 'Likely Significant Effect' (LSE) on any Natura 2000 site. A likely significant effect is defined as any effect that could undermine the conservation objectives of a Natura 2000 site, either alone or in combination with other plans or projects. There must be a causal connection between the project and the qualifying interest of the site which could result in possible significant effects on the site. The LSE test is a lower threshold for the screening assessment than 'adverse effect on site integrity' considered at Appropriate Assessment stage (Stage 2) as screening is intended to be a preliminary examination for potential effects.

The Zone of Influence was used to identify Natura 2000 sites that could be impacted by the project. For each of these sites, the Qualifying Interest features and their associated conservation objectives were identified, and the possibility of LSE was determined by a combination of location, ecological and hydrological connectivity, sensitivity of receptor and magnitude of the source of impact.

#### 1.5.4 In-Combination Screening

The possibility of in-combination effects are considered only at a high level. Where there is no effect at all via a pathway, there is no possibility of in-combination effects.



Where an LSE is identified, the in-combination assessment is carried forwards to a Stage 2 Appropriate Assessment.

## 1.6 Limitations and Constraints

The screening assessment necessarily relies on some assumptions, and it was inevitably subject to some limitations. These would not affect the conclusion, but the following points are recorded to ensure the basis of the assessment is clear:

- Walkover survey was not at an optimal time of year – November 2023, and so some species may not be present due to the time of year e.g. orchids.
- Information on the works and conditions on site are based on current knowledge at the time of writing. Changes to the site since this report was drafted cannot be accounted for. However, significant changes to the site are not foreseen to happen prior to the start of the project.
- This assessment is based on the methodology for proposed works as described in this report. Where changes to methodology occur, an ecologist will need to be consulted to determine if the changes are likely to alter the ecological impacts and would therefore need reassessment.
- Data from biological record centres or online databases is historical information, and datasets may be incomplete, inaccurate, or missing. The absence of records for an area may be due to the under recording in the area and not necessarily imply the absence of species. These records are therefore to be treated as minimum information available for the area.

## 2 Project Description

### 2.1 The 'Project'

The project, known as 'Thomond RFC Extension', consists of:

- Raising the existing ground level within the extension area to match the approximate level of the existing Thomond RFC pitch, plus allowing for fall for future drainage.
- Construct new blockwork boundary, to be 600mm above FGL plus 1.8m high railing above.
- Gates to be installed along boundary to allow for pedestrian access, retrieval of balls, etc.
- Installation of back wall drainage to new wall as required and outfall to existing storm drain network.
- Construction of embankment on northern side of new boundary to soften the effect of the wall from the Moyross Avenue side.
- Construction of cutting in existing ground on western side of new boundary.
- Demolition of wall and railing at northside of existing TRFC boundary.
- Construction of new footpath between boundary and side of 4 Craeval park.
- Removal of existing roads and footpaths within Craeval Park area.
- Relocation of CCTV Mast on northside of existing wall.
- Decommissioning or diversion of storm and sewer networks that will be within the extension area / indicative pitch area.
- Decommission of utilities that will be within extension area – ESB, public lighting, gas, etc.

This is not directly connected with, or necessary to the management of any Natura 2000 site but may have potential adverse impacts upon the Natura 2000 sites identified in Section 4. Therefore, the proposed project is subject to the requirements of the AA process.

### 2.2 Site Location

The Project will be undertaken within the area of Craeval Park in north Limerick City, between College Avenue and Pineview Gardens housing estates. The site sits in an urban area, bordered by Moyross Sports Field, residential areas and the existing Thomond Rugby Football Club.





Figure 2-1 Site location with site boundary and description of land use.

## 2.3 Proposed Works

The proposed works for the project is to extend the current boundary of Thomond RFC into Craeval Park for use of Thomond RFC and the community in the surrounding area. This will include raising the ground level, construction of new blockwork boundary and installation of new drainage. Proposed project layout can be found in Appendix C. The scope of the project can be found in section 2.1.

## 2.4 Zone of Influence

The Zone of Influence is considered using the Source-Pathway-Receptor model, therefore only designated sites that are connected to the project site are recorded and assessed. This zone of influence uses the precautionary principle, as the work is primarily anticipated to only impact on the footprint of the site. Connections are assessed for impacts relating to noise disturbance (1km), air pollution (500m), ground water (5km); surface water (5km), with an additional hydrological buffer connecting transitional waters to coastal areas (15km); and any supporting habitat for SAC/SPA species beyond this distance that may have QI species that utilise the site.

## 3 Existing Environment

### 3.1 Habitats

From aerial imagery the map below (Figure 3-1) was created and habitats on the proposed site have been classified by Fossitt (Fossitt & Heritage Council (Ireland), 2000). The habitats identified are BL3 – Buildings and artificial surfaces and GA2 – Amenity grassland (Improved).

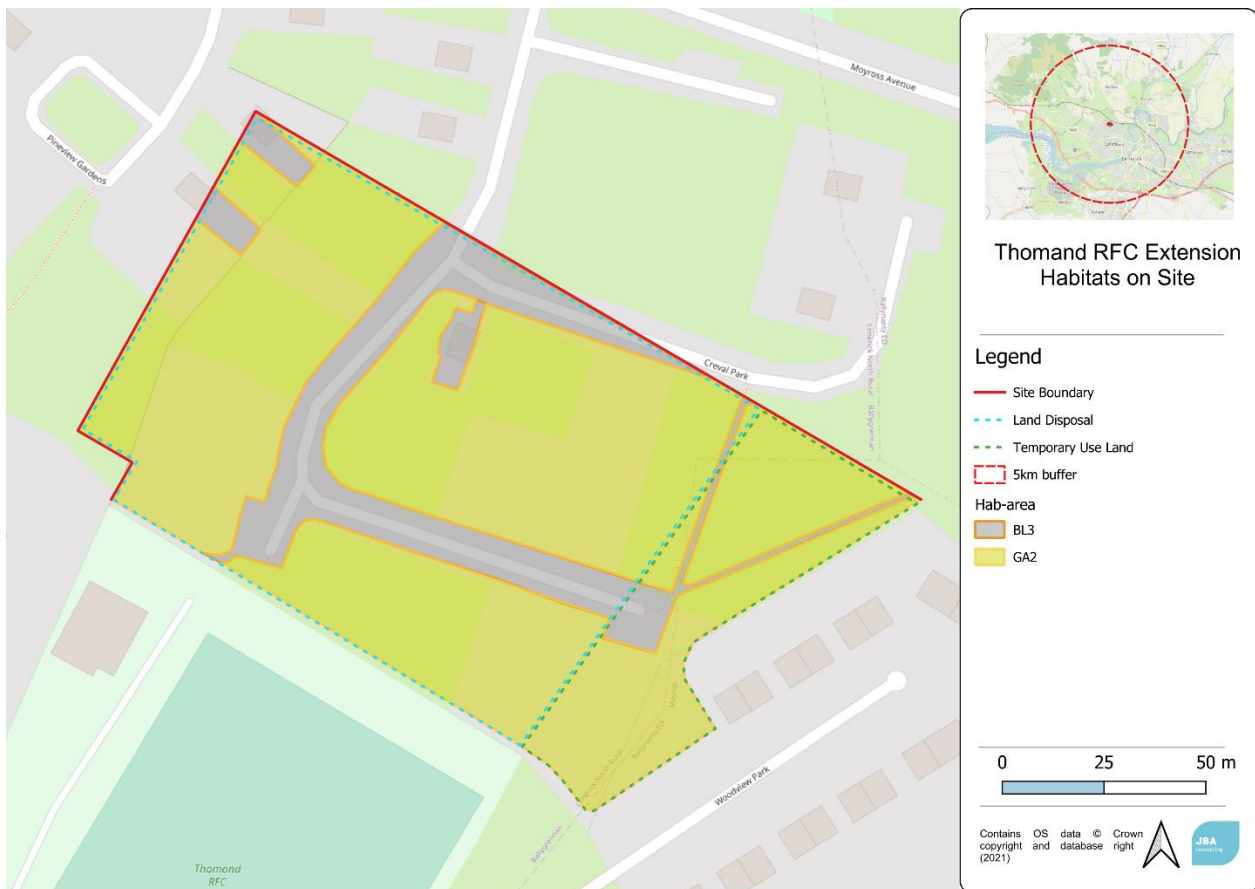


Figure 3-1 Fossitt classified habitats recorded on site during desktop survey.

### 3.2 Site Walkover Survey

A site walkover survey was conducted to investigate the ecological significance of the habitats identified by the aerial desktop survey of the proposed site and to note any invasive species found within the proposed site boundary.



Figure 3-2 Images taken during the site survey of the proposed site.

### 3.2.1 Species List

A brief species list has been compiled in Table 3-1 below showing the species of flora recorded during the site visit. The grassland consisted of abundant Yorkshire fog and Bentgrass species and Creeping buttercup and White Clover and high bryophyte cover with. No invasive species were identified on site during the survey.

Table 3-1 Species recorded on site

Location within site	Common name	Latin name	DAFOR
Southeast Corner	Ivy	<i>Hedera hibernica</i>	
	Elder	<i>Sambucus nigra</i>	
	Creeping Buttercup	<i>Ranunculus repens</i>	
	Common Nettle	<i>Urtica dioica</i>	
	Briar	<i>Rubus fruticosus</i>	
	Broad-leaved Dock	<i>Rumex obtusifolius</i>	
Grassland	Yorkshire Fog	<i>Holcus lanatus</i>	A
	White clover	<i>Trifolium repens</i>	A
	Bentgrass Species	<i>Agrostis sp.</i>	A
	Cocksfoot	<i>Dactylis glomerata</i>	F
	Daisy	<i>Bellis perennis</i>	F
	Cuckoo Flower	<i>Cardamine pratensis</i>	R
	Common	<i>Jacobaea vulgaris</i>	O

Location within site	Common name	Latin name	DAFOR
	Ragwort		
	Self-heal	<i>Prunella vulgaris</i>	R
	Ribwort plantain	<i>Plantago lanceolata</i>	R
	Mouse-ear Chickweed	<i>Cerastium fontanum</i>	O
	Meadow Buttercup	<i>Ranunculus acris</i>	O
	Sorrel	<i>Rumex acetosa</i>	R
	Bugle	<i>Ajuga reptans</i>	R
	Lesser Spearwort	<i>Ranunculus flammula</i>	R
	Common Field Speedwell	<i>Veronica persica</i>	R

### 3.2.2 Results of Site Survey

The proposed site is not of significant ecological value based on the walkover survey conducted by JBA ecologists. Although the survey was out of season, vegetative identification was undertaken. The grassland has some diversity, but there are few indicators of good quality/species rich grassland, and the dominant species are those which are tolerating close grazing and cutting at the site, and the grass:herb ratio was observed to be low at the time of surveying.

There is an area of significant Ivy growth in the southeast corner of the site that could have nesting potential for local garden birds in the area (Figure 3-3). No works are proposed in this corner of the site.

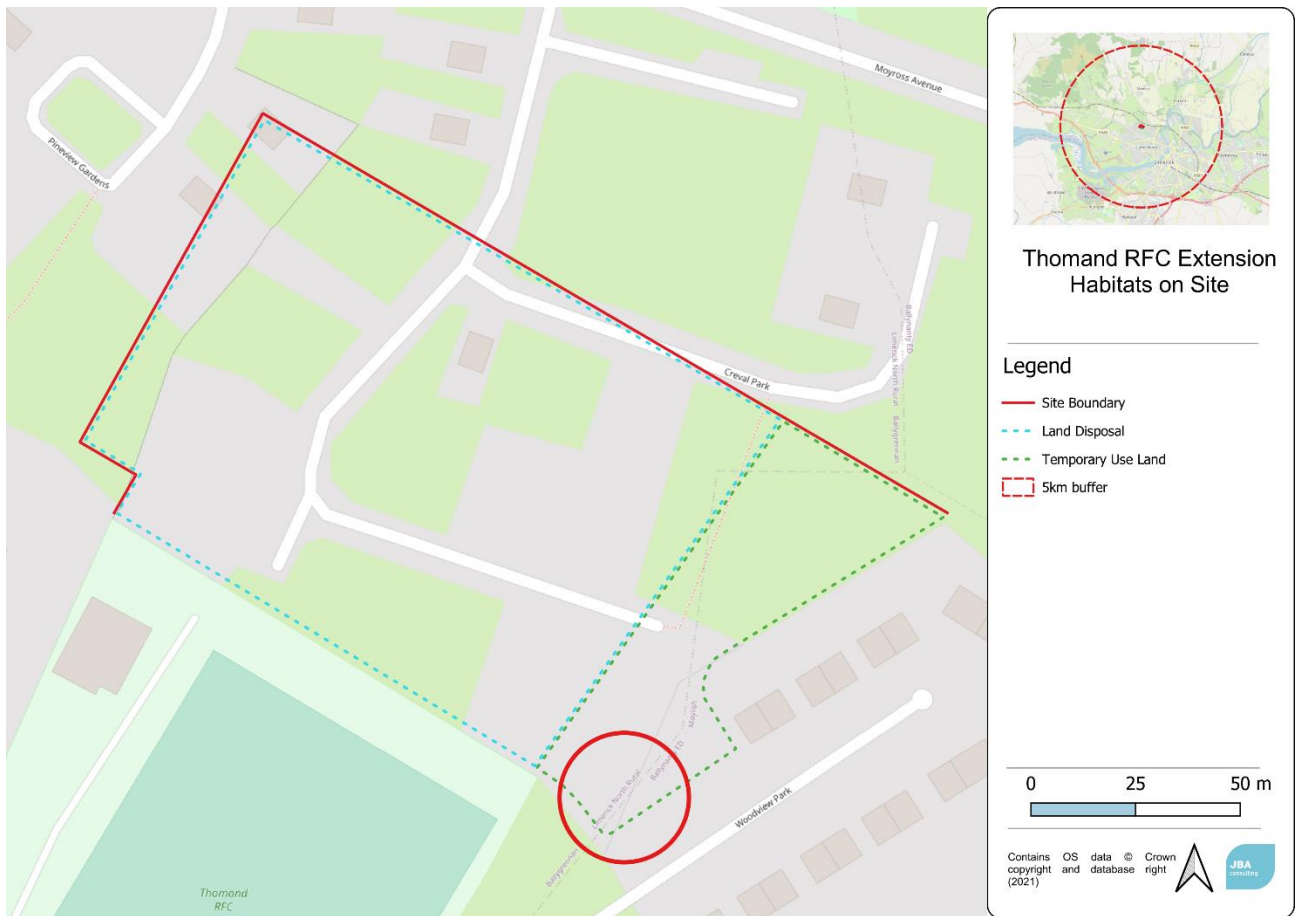


Figure 3-3 Southeast area of possible nesting shown in the red circle on the main map.





Figure 3-4 Image of potential nesting area in the southeast corner of the site.

### 3.3 Protected Species

This section outlines the records of protected flora and fauna collated from the NBDC database. A custom polygon covering the proposed site and a 5km buffer was queried for NBDC records since 01/01/2013, and are listed in Appendix A. Several threatened species were also recorded within the 5km buffer (Appendix A).

#### 3.3.1 Flora

A desktop search of NBDC data indicates that the following protected flora species have been recorded within 5km of the site since 01/01/2013; Greater Knapweed *Centaurea scabiosa* and Meadow Barley *Hordeum secalinum*. Due to the poor ecological value of this site, it is unlikely for these protected species to be found here.

#### 3.3.2 Mammals

A desktop search of NBDC data indicates that the following protected mammal species have been recorded within 5km of the site since 01/01/2013; Daubenton's Bat

*Myotis daubentonii*, Lesser Horseshoe Bat *Rhinolophus hipposideros*, Lesser Noctule *Nyctalus leisleri*, Pipistrelle Bat *Pipistrelle pipistrellus*, Badger *Meles meles*, Pygmy Shrew *Sorex minutus*, Red Squirrel *Sciurus vulgaris*, Otter *Lutra lutra*, Pine Marten *Martes martes*, Hedgehog *Erinaceus europaeus* and Bottle-nosed Dolphin *Tursiops truncatus*. These species are protected under the Wildlife Act and/or under Annex IV/V of the E.U Habitats Directive.

The urban nature of the site presents few opportunities for these species, but the presence of protected bat species and Hedgehog is possible as Hedgehogs and bats will utilise urban areas readily.

### 3.3.3 Birds

A full list of bird species, covered by national and/or international legislation, recorded in the NBDC record query is available in Appendix A. Due to the lack of diverse habitats on the site, it is likely that only common garden birds and gulls would use the area for foraging and possibly nesting (southeast corner shown in Figure 3-3 and 3-4).

### 3.3.4 Amphibians

Common Frog *Rana temporaria* have been recorded within 5km of the proposed site. The adaptable behaviour of frogs allows them to live in various habitats, however, the lack of aquatic habitats makes it unlikely that this species will be found on site.

### 3.3.5 Fish and Aquatic Fauna

European Eel *Anguilla anguilla* (Critically Endangered) has been recorded in the nearby water bodies; however, there are no watercourses on site to support this species.

### 3.3.6 Invertebrates

No protected invertebrates have been recorded within 5km of the development site.

Threatened species of invertebrates including two butterfly species; Dingy Skipper *Erynnis tages* (near threatened) and Small Heath *Coenonympha pamphilus* (near threatened), and four species of bee; Gooden's Nomad Bee *Nomada goodeniana* (endangered), Large Red Tailed Bumble Bee *Bombus (melanobombus) lapidarius* (near threatened), Megachile (*Megachile*) *centuncularis* (near threatened) and Moss Carder-bee *Bombus (Thoracombus) muscorum* (near threatened).

## 3.4 Invasive Non-native Species

A full list of invasive non-native species recorded in the last ten years within a 5km perimeter of the site is listed in Appendix B.



### 3.5 Elevation and Slope

The site sits between 6 and 13m above sea level with a slight south-east to north-west gradient.

### 3.6 Surface Water

The proposed site sits on the border of the Lower Shannon catchment with the Shannon Estuary North catchment to the west (WFD, 2022). The River Shannon lies 1.2km from the site. The site also sits on the Shannon[Lower]\_SC\_100 sub catchment with the Owenogarney\_SC\_020 sub catchment 65m to the west. The Limerick Dock transitional water body is located 1km from the proposed site.

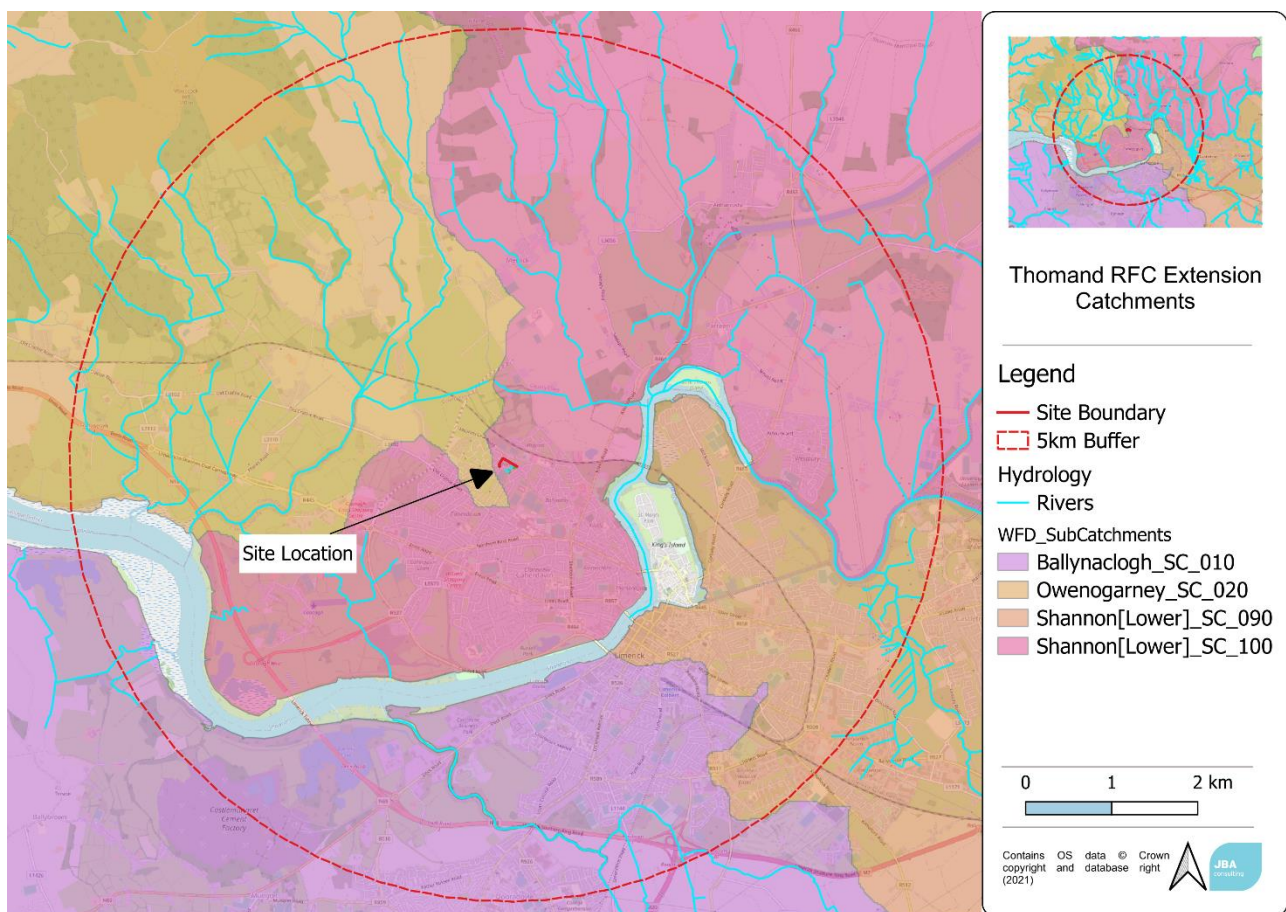


Figure 3-5 Sub catchments and rivers within 5km of the proposed site.

The transitional waters of Limerick Dock are 1km to the east; these waters are classed as 'Review' and are deemed of 'Poor' ecological status.



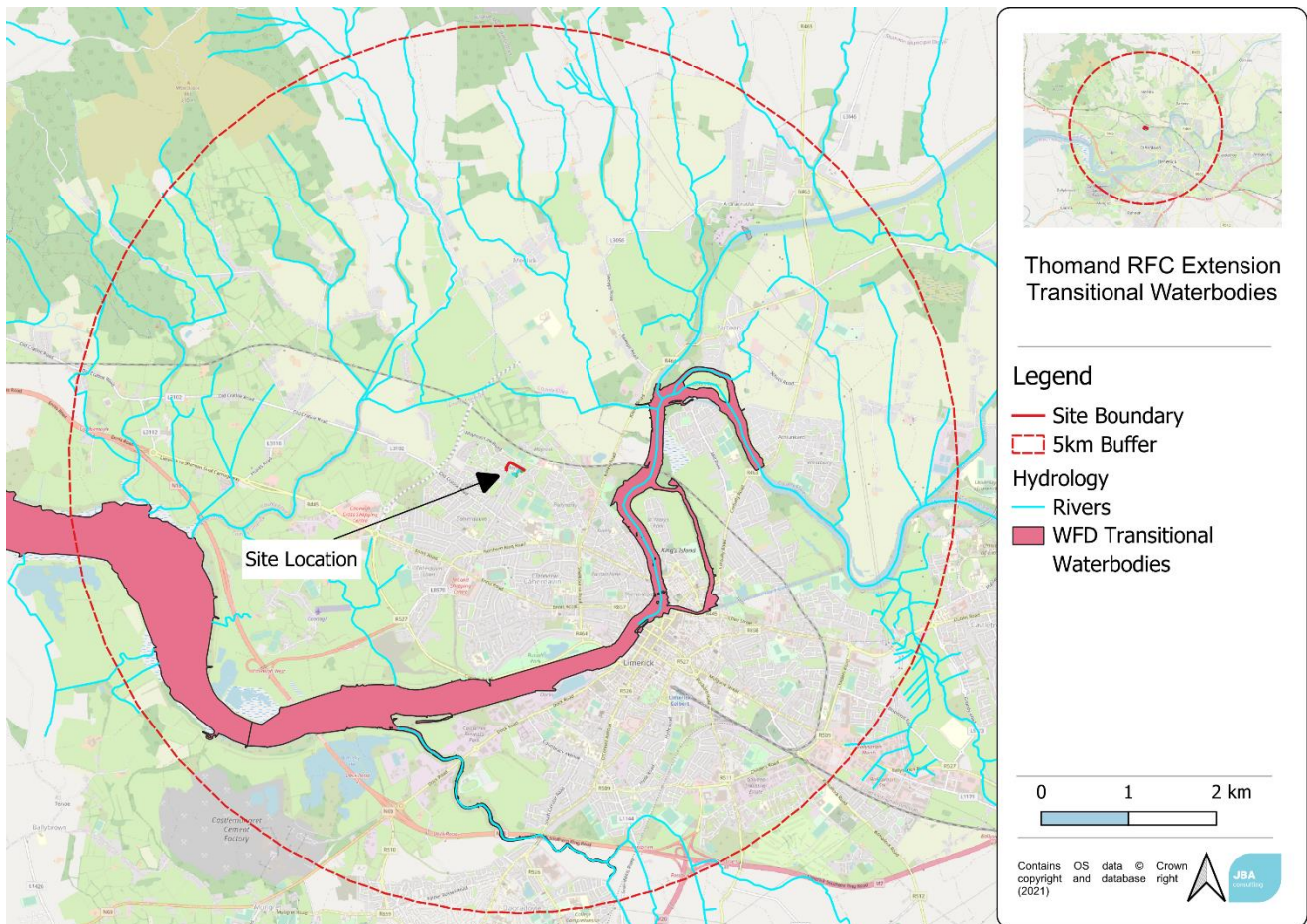


Figure 3-6 Limerick Dock transitional waterbody and rivers close to the site.

### 3.7 Groundwater Bodies

The site sits on Visean Limestones (undifferentiated), with sub soil permeability classed as 'Moderate' with a Locally Important Aquifer of bedrock that is classed as 'Generally Moderately Productive'. The proposed site is located on the groundwater body Limerick City North IE\_SH\_G\_139 (Figure 3-3) which has an Overall Groundwater Status of 'Good' and classed as 'Not At Risk'. On site, the groundwater vulnerability is described as 'Moderate'. (Figure 3-4).

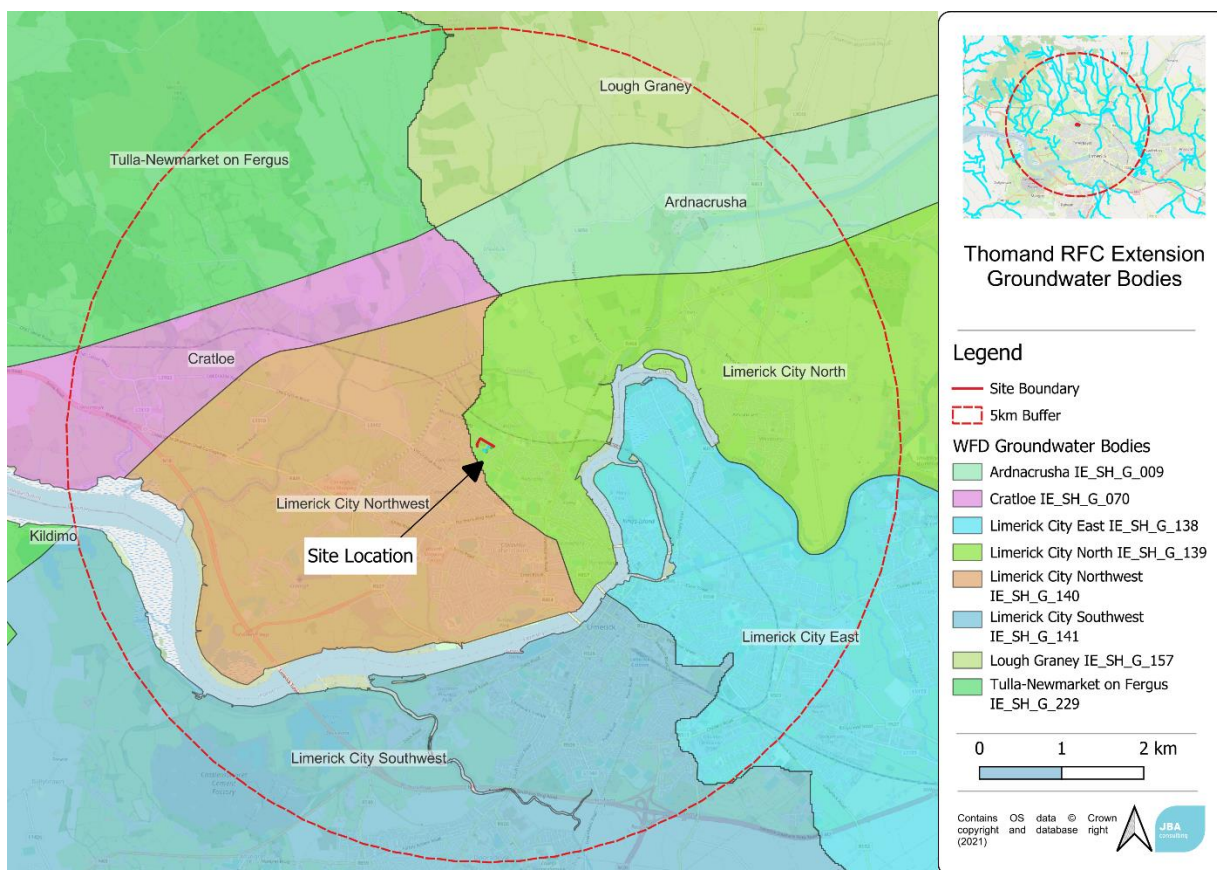


Figure 3-7 Groundwater bodies on site and in the area.



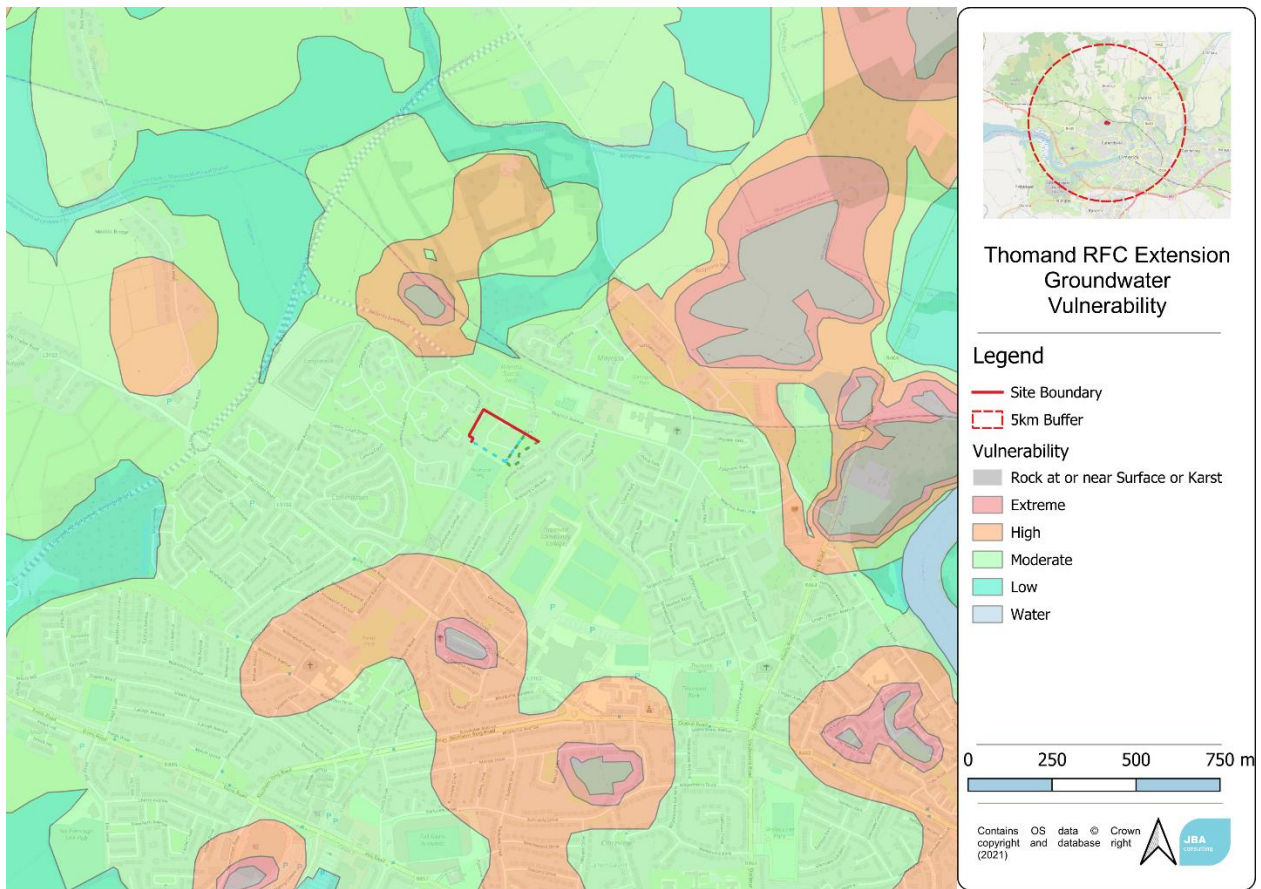


Figure 3-8 Groundwater vulnerability on site and in the local area.

## 4 Natura 2000 Sites

The DEHLG (2009) guidance identifies that Screening for Appropriate Assessment of a plan or project should consider the following Natura 2000 sites:

- Any Natura 2000 sites within or adjacent to the plan or project area.
- Any Natura 2000 sites within the likely zone of impact of the plan or project. This is dependent on the nature and scale of the plan, with 15km generally recommended for plans, but potentially much less for projects.
- Any Natura 2000 sites that are more than 15km from the plan or project area, but may potentially be impacted upon, for example, through a hydrological connection.

Furthermore, the OPR guidance is to use a Source-Pathway-Receptors model, therefore only directly connected sites will be retained (OPR, 2021.).

Within the Zol, two Natura 2000 sites were recorded (Table 4-1), mapped in relation to the proposed site (Figure 4-1), with potential pathways from site. Qualifying Interests (QI), brief site descriptions, and potential relevant threats/pressures are also described for designated sites in the Zol for the development (Table 4-2).

Table 4-1 Natura 2000 sites close to the project area.

Natura 2000	Site Code	Approximate Distance from Site	Hydrological Connection
Lower River Shannon SAC	002165	530m	Yes - Groundwater
River Shannon and River Fergus Estuaries SPA	004077	2.2km	Yes – Groundwater

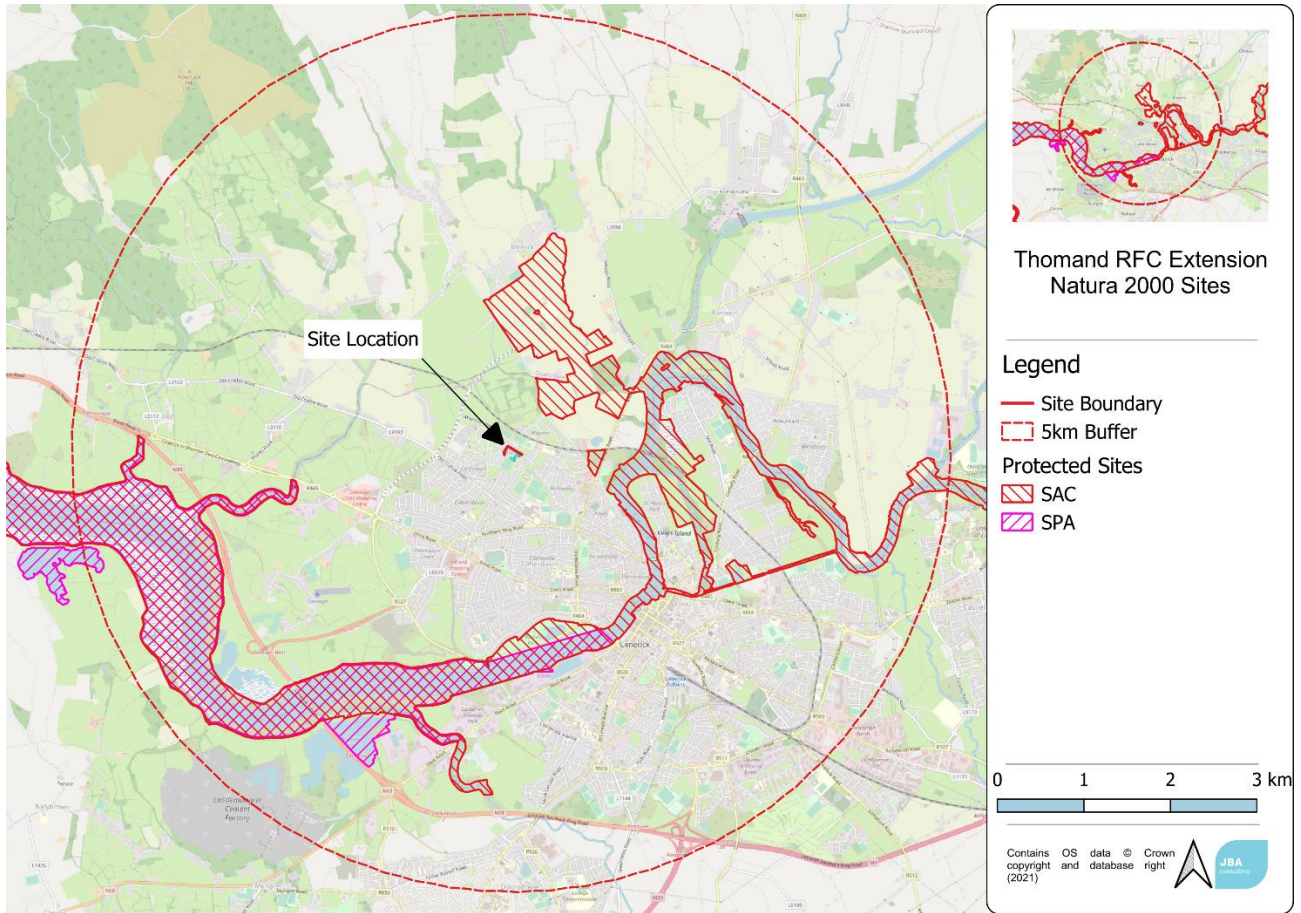


Figure 4-1 Natura 2000 sites within 5km of project.



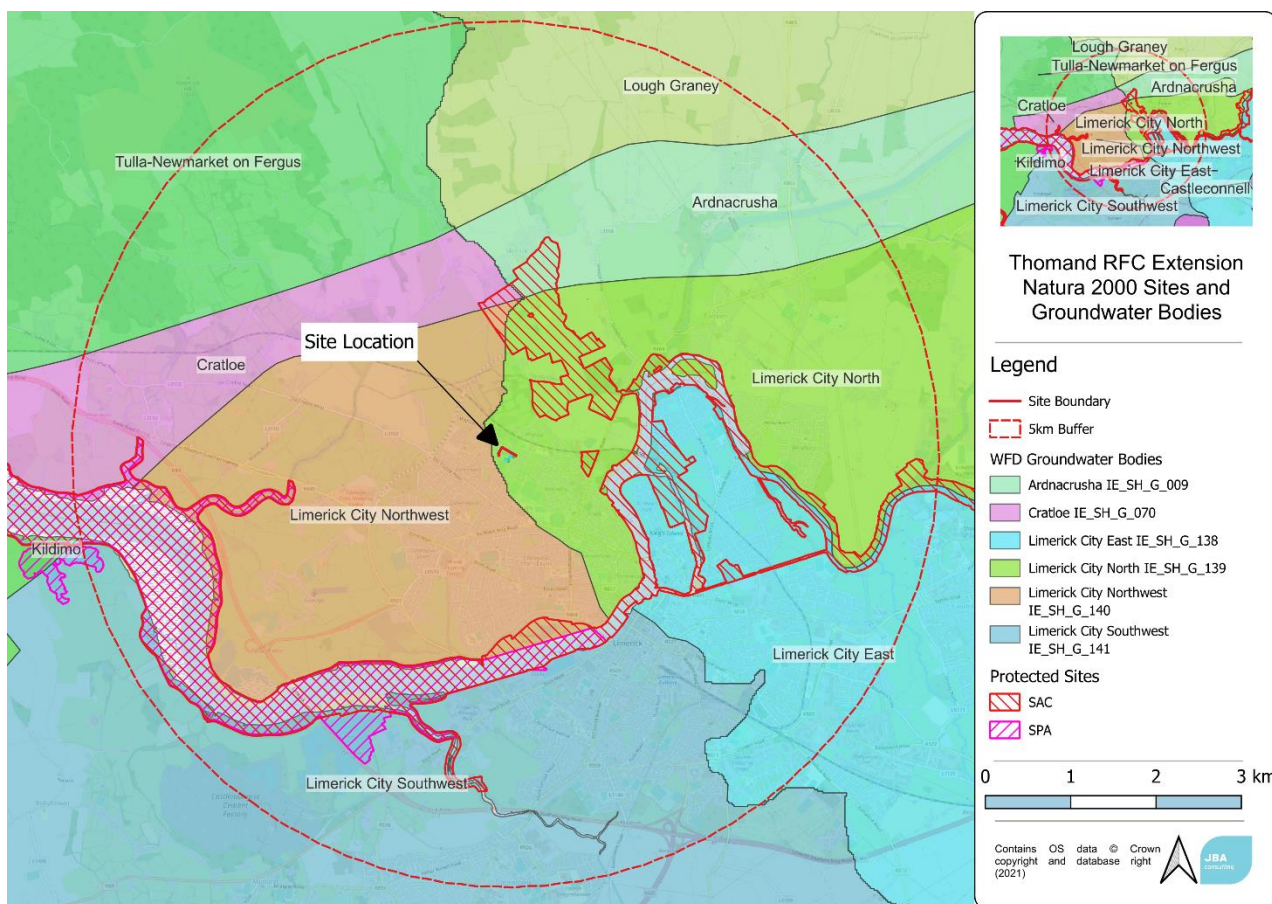


Figure 4-2 Groundwater bodies connected to Natura 2000 sites within the Zol.

Site Name	Brief and relevant conservation objectives	Relevant qualifying interests	Project-relevant threats/pressures: Impact (Source)
Lower River Shannon SAC 002165	<p>This very large site stretches 120km along the Shannon valley from Killaloe in Co. Clare to Loop Head/ Kerry Head. The site thus encompasses the Shannon, Feale, Mulkear and Fergus estuaries, the freshwater lower reaches of the River Shannon, the freshwater stretches of much of the Feale and Mulkear catchments and the marine area between Loop Head and Kerry Head. This site is of great ecological interest as it contains a high number of habitats and species listed on Annexes I and II of the E.U. Habitats Directive, including the priority habitats lagoon and alluvial woodland, the only known resident population of Bottle-nosed Dolphin in Ireland and all three Irish lamprey species. Red Data Book species are also present.</p> <p>The objectives of the SAC are among others to 1) maintain the favourable conservation condition of Molinia meadows on calcareous, peaty or clayey-silt laden soils (Molinion caeruleae), 2) restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)</p>	<p>Sandbanks which are slightly covered by sea water all the time [1110]  Estuaries [1130]  Mudflats and sandflats not covered by seawater at low tide [1140]  Coastal lagoons [1150]  Large shallow inlets and bays [1160]  Reefs [1170]  Perennial vegetation of stony banks [1220]  Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]  Salicornia and other annuals colonising mud and sand [1310]  Atlantic salt meadows (Glauco-Puccinellietalia maritima) [1330]  Mediterranean salt meadows (Juncetalia maritimi) [1410]  Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260]  Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]  Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]  Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]  Petromyzon marinus (Sea Lamprey) [1095]  Lampetra planeri (Brook Lamprey) [1096]  Lampetra fluviatilis (River Lamprey) [1099]  Salmo salar (Salmon) [1106]  Tursiops truncatus (Common Bottlenose Dolphin) [1349]  Lutra lutra (Otter) [1355]</p>	<p>Urbanised areas (Medium) (outside)  Discharges (Low) (inside / outside)  Air pollution (Medium) (outside)  Invasive non-native species (Low) (inside)</p>
River Shannon and River Fergus Estuaries SPA 004077	<p>The estuaries of the River Shannon and River Fergus form the largest estuarine complex in Ireland. The site comprises the entire estuarine habitat from Limerick City westwards as far as Doonaha in Co. Clare and Dooneen Point in Co. Kerry.</p> <p>This SPA is an internationally important site that supports an assemblage of over 20,000 wintering waterbirds.</p> <p>The objectives of the SAC are to: To maintain the favourable conservation condition of the wetland habitat.</p>	<p>Wetland and Waterbirds [A999]</p>	<p>Urbanised areas, human habitation – (High) (outside)  Discharges – Inside (high)</p>

## 5 Other Relevant Plans and Projects

### 5.1 Cumulative Effects

As part of the Screening for an Appropriate Assessment, in addition to the proposed works. Other relevant projects and plans in the region that may induce cumulative impacts must be considered at this stage.

### 5.2 Plans

#### 5.2.1 Limerick Development Plan 2022-2028

The Limerick Development Plan 2022-2028 was adopted in June 2022 and came into effect in July 2022. The plan calls for compact growth, and good urban design in the delivery of new and existing, sustainable communities. The Plan's Strategic Vision is for Limerick to become a green city connected through people and places. It aims to do so through engagement, innovation and resilient urban development and self-sustaining rural communities. The Plan is required to set out a strategy for the growth and development of Limerick, consistent with national and regional spatial plans, and be consistent with national development guidelines, local strategies and programmes, and must comply with both planning and environmental legislation.

Therefore, provided that any works that may occur as a result of the Plan are assessed for individually, the Plan should not significantly affect relevant Natura 2000 sites in combination with the proposed project.

#### 5.2.2 River Basin Management Plan for Ireland 2022-2027

The Water Framework Directive requires that all waters, including surface and groundwater sources, are protected and that measures are put in place to ensure quality of these waters is restored to at least 'good' status or good potential by 2027 at the latest. The directive requires reporting of river basin management plans to assess the waterbodies, their pressures, and relevant plans towards achieving good status. In implementing the river basin management plan, the objective is to ensure that natural waters are sustainably managed and that freshwater resources are protected so as to maintain and improve Ireland's water environment.

Cumulative impacts from other projects are examined at Stage 2 Appropriate Assessment (NIS) when residual impacts from the project on the Natura sites are considered. This project is not anticipated to have any likely significant effect on the Natura Network.



## 6 Screening Assessment

### 6.1 Introduction

This screening exercise will focus on assessing the likely adverse effects of the project on the Natura 2000 sites identified in Section 4 above.

Of the designated sites recorded within the Zone of Influence of the development, further assessment is required for the following sites using a Source-Pathway-Receptor model:

- Lower River Shannon SAC
- River Shannon and River Fergus Estuaries SPA

Table 6-1 Natura 2000 sites with approximate distance to site.

Natura 2000 Sites	Site Code	Approximate direct distance from site
Lower River Shannon SAC	002165	530m
River Shannon and River Fergus Estuaries SPA	004077	2.2km

This section identifies the potential impacts which may arise as result of the proposed project on these Natura 2000 Sites. It then goes on to identify how these impacts could potentially affect the Natura 2000 sites listed above. The significance of potential impacts is also assessed, with any potential in-combination effects also identified.

### 6.2 Assessment Criteria

#### 6.2.1 Description of the individual elements of the project (either alone or in combination with other plans or project) likely to give rise to impacts on the Natura 2000 sites.

Potential adverse impacts that could cause a likely significant effect on the qualifying interests of the Natura 2000 sites, or the sites as a whole, during the construction and operational phases of the project, are considered using three main pathways: surface water, groundwater and land and air pathways.

Surface water pathways can result in impacts where material entering the surface water drainage are carried in this water to sites that are connected downstream and can therefore impact surface water bodies themselves, and surface water dependent species and habitats that rely on them.

Groundwater pathways can transmit impacts where there is contamination of water entering the groundwater body which is then discharged (sometimes over periods of

several decades) and impacts groundwater dependent habitats and species that rely on them.

Land pathways are related to physical disturbance of habitats or species and generally only occur over short physical distances. Air pathways relate to the transport of material, generally dust and atmospheric pollution, via air movements that are subsequently deposited on habitats and species in or connected to the Natura 2000 sites.

The proposed project is not anticipated to impact on the qualifying interests of any of the identified SACs or SPAs. The rationale for excluding impacts via the main pathways is given in more detail in the following sections.

### 6.2.2 Surface Water Pathways

No surface water connections are present between the site and any designated sites. Knockalisheen Marsh, part of the Lower River Shannon SAC is situated 530m north-east of the site, at the end of Moyross Avenue. The marsh is bordered on two sides by a road, and the railway line on the third side. Whilst site runoff could run down the road and enter the marsh, the general layout, scale of project, and infrastructure makes this scenario unlikely.

The existing storm water network has measures for the protection of the environment e.g. hydrocarbon interceptors and attenuation features prior to discharge. These features are part of the project's design and are not included with the aim of reducing its negative effects (even where these have the effect of reducing harmful effects on a Natura 2000 site).

Due to the nature and small scale of the proposed works, the connection into existing drainage network equipped with attenuation measures, no likely significant effects are expected via surface water pathways to these Natura 2000 sites.

### 6.2.3 Groundwater Pathways

The proposed site lies in Limerick City North IE\_SH\_G\_139 groundwater body. This provides a connection to the SAC and SPA. The bedrock has low permeability, and the urban area mean that recharge of the groundwater table in the area is limited. The works are taking place on built land.

#### **Construction phase**

Any construction works and demolition that require digging beneath the surface has a potential to impact on the groundwater flow. However, it is understood that excavation works will be limited to a depth of approximately 2m. These excavations are very shallow, unlikely to achieve groundwater strike and unlikely to disrupt groundwater flows.

Due to the nature and scale of the work being carried out, they are unlikely to introduce pollutants into or have likely significant effects on groundwater and groundwater dependent QIs of the designated sites sharing groundwater bodies. Fens or Turloughs are not QIs of the Lower River Shannon SAC. No groundwater dependent QIs are present in proximity to the site.

### **Operation phase**

The development of the site is not expected to fundamentally change the nature of the area. Considering that the site is already urbanised, and that permeable surfacing will be used in parts, there is unlikely to be any significant change to aquifer recharge ability or the amount of water runoff from the site.

**Due to the shallow excavations and the distance from the groundwater dependent habitats of the SAC, as well as the small scale of the proposed works, no likely significant effects are expected via groundwater pathways to these Natura 2000 sites.**

## **6.2.4 Land and Air Pathways**

### **6.2.4.1 Land**

No likely significant effects are anticipated on any of the QIs associated with the Natura sites due to the scope of the work to be carried out, and the distance to QIs of the Natura 2000 sites. No Annex I habitats are present at the site. No Annex II species are expected to utilise the site given the nature of the highly artificial habitats present.

The noise disturbance during the construction stage from works the site will be minor, and the highly urban environment is already expected to be noisy. QIs that may utilise the nearby SAC will be tolerant of noise. Additionally, the site is at distance from the SAC (500m).

### **6.2.4.2 Air**

Construction works, particularly during demolition, excavation, and increased works traffic, will lead to release of dust and pollutants; this is expected to be small in scale as demolition is understood to be in a phased approach and of individual dwellings. The increase in local traffic attending the site during construction working hours, resulting in an increase in NO<sub>x</sub> emissions, however vehicular emissions and dust emissions are not anticipated to significantly impact the QIs of the Natura 2000 sites due to the relatively small size, temporary nature of proposed works, and the urban environment setting.

During operation, there will likely be increased traffic to the area, which will lead to extra vehicular emissions. These are not anticipated to be of significant impact as the proposed site is in an urban area with long established and used road access and increasing the active travel network.

Due to the nature, scale, and distance from designated sites of the proposed works, no significant adverse impacts are expected via land and air pathways to any Natura 2000 sites.

**Therefore, no likely significant effects are anticipated via groundwater pathways to these Natura 2000 sites.**

### 6.2.5 In-Combination Effects

As the proposed project is not anticipated to have any significant impact on QIs or conservation objectives on any Natura 2000 site and based on the screening statements of the above plans and planning applications, there is no potential for other plans or projects to act in combination with it to result in likely significant effects on Natura 2000 sites.

## 6.3 Summary

Due to the location of the proposed site, the scale of the works, the distance to the Natura 2000 sites within the Zol, the proposed project is not anticipated to have any likely significant effects via surface water, land, or air pathways to any Natura 2000 site.

### 6.3.1 Description of likely direct, indirect, or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 sites.

Project Elements	Comment		
Size and scale	<p>The footprint of the proposed development is c. 15,000m<sup>2</sup>. The development will consist of the extension of Thomond RFC and necessary works to build an indicative pitch area. This will include:</p> <ul style="list-style-type: none"> <li>• Raising existing ground level,</li> <li>• Construct of new blockwork boundary,</li> <li>• Installation of back of wall drainage and outfall to existing storm drain network,</li> <li>• Embankment construction on northern side of boundary,</li> <li>• Demolition of wall on western sided of boundary,</li> <li>• Construction of new footpath between new boundary and 4 Craeval Park.</li> </ul>		
Land-take	There will be no direct land take from any Natura 2000 sites.		
Distance from Natura 2000 site or key features of the site	<b>Natura 2000 site</b>	<b>Approximate direct distance</b>	<b>Approximate hydrological distance</b>

Project Elements	Comment
	<div>Lower River Shannon SAC</div> <div>530m</div> <div>N/A</div>
	<div>River Shannon and River Fergus Estuaries SPA</div> <div>2.2km</div> <div>N/A</div>
Resource requirements (water abstraction etc.)	There will be no water abstraction requirements.
Emissions (disposal to land, water or air)	<p><b>Construction Phase:</b></p> <p><b>Air</b></p> <p>During construction, particularly during excavations, there will be very minor release of dusts and pollutants, however, this is expected to mostly fall out within the site boundary and will not have an effect on any Natura 2000 sites.</p> <p>The level of increase in air emissions during construction is not expected to have significant adverse impacts on Natura 2000 sites in terms of air quality.</p> <p><b>Water</b></p> <p>New drainage will consist of back of wall drainage and will connect to existing stormwater network at the southwest and northeast corners of site and will be maintained. No discharge is anticipated during construction. There will be no discharge of site runoff or water without agreement of the relevant authorities and an appropriate discharge licence, if relevant.</p> <p><b>Operation Phase:</b></p> <p>During operation, the proposed operations of the project (and its related emissions) are not expected to directly impact any of the Natura 2000 sites, due to the distance from sites within the Natura 2000 site. Therefore, there will be no permanent impacts on any Natura 2000 site.</p>
Excavation requirements	Maximum excavation depth of 2m. Excavation is required for manholes and wall foundations.
Transportation requirements	The proposed development will not generate a significant volume of additional vehicular traffic. The level of increase is not likely to have any adverse transport-related environmental impacts.
Duration of construction, operation, decommissioning etc.	Construction phase will last approximately 6-8 months.

### 6.3.36.3.2 Description of likely changes to the Natura 2000 sites.

Potential Impact	Comments
Reduction of habitat area	There will be no temporary or permanent reduction in habitat area for any Natura 2000 sites
Disturbance to key species	There will be no disturbance to any QIs within any Natura 2000 sites
Habitat or species fragmentation	There will be no temporary or permanent habitat or species fragmentation within any Natura 2000 sites
Reduction in species density	There will be no temporary or permanent reduction in species density of any QIs of Natura 2000 sites or within any Natura 2000 sites
Changes in key indicators of conservation value (water quality etc.)	There will be no changes in key indicators of conservation value
Climate change	Not applicable

### 6.3.46.3.3 Description of likely impacts to the Natura 2000 sites as a whole.

Potential Impact	Comments
Interference with the key relationships that define the structure of the site	There is no anticipated interference with the key relationships that define the structure of any Natura 2000 sites
Interference with key relationships that define the function of the site	There is no anticipated interference with the key relationships that define the function of any Natura 2000 sites

Provide indicators of significance as a result of identification of effects set out above in terms of:

Potential Impact	Indicators
Loss (Estimated percentage of lost area of habitat)	No Natura 2000 sites will experience a direct loss in habitat area
Fragmentation	Fragmentation of habitat and/or species of any QIs or within Natura 2000 sites is not anticipated
Disruption & disturbance	No disruption or disturbance to Natura 2000 sites or their QIs is anticipated
Change to key elements of the site (e.g., water quality etc.)	No change to key elements of the site is anticipated

**6.3.56.3.4** Describe from the above elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is unknown.

Based upon best scientific judgement, no significant effects are expected from the elements mentioned above; and there are no elements where the scale or magnitude of impacts is unknown.

## **6.4 Conclusion**

Following this initial screening of the Proposed Project it can be concluded that significant effects are not anticipated via surface water, groundwater, or land/air pathways on the following Natura 2000 sites:

- Lower River Shannon SAC
- River Shannon and River Fergus Estuaries SPA

Based on the screening carried out, it is unlikely that the proposed development will have any significant impacts on any designated European Sites, whether arising from the project itself or in combination with other plans and projects. This assessment is based on the best scientific knowledge available, and on the current project plans. If any changes occur in the design of these works, a new Screening for Appropriate Assessment is required.

In carrying out this AA screening, mitigation measures have not been considered.



## A Protected species recorded within 5km of the site since 01/01/2013.

These records correspond with species covered by national legislation that are publicly available on the NBDC database with an online query (NBDC, 2023).

Species	Date of last record	Dataset	Designation
Amphibians			
Common Frog <i>Rana temporaria</i>	24/04/2018	Amphibians and reptiles of Ireland	Protected Species: EU Habitats Directive    Protected Species: EU Habitats Directive >> Annex V    Protected Species: Wildlife Acts
Birds			
Barn Owl <i>Tyto alba</i>	19/01/2023	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Barn Swallow <i>Hirundo rustica</i>	13/06/2016	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Black-headed Gull <i>Larus ridibundus</i>	20/02/2023	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Black-tailed Godwit <i>Limosa limosa</i>	25/08/2013	Local BioBlitz Challenge 2013	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Coot <i>Fulica atra</i>	03/03/2020	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex II, Section I Bird Species    Protected Species: EU Birds Directive >> Annex III, Section II Bird Species    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Goldeneye <i>Bucephala clangula</i>	21/11/2017	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex II, Section II Bird Species    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Kestrel <i>Falco tinnunculus</i>	08/08/2017	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Kingfisher <i>Alcedo atthis</i>	30/01/2023	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected



Species	Date of last record	Dataset	Designation
			Species: EU Birds Directive >> Annex I Bird Species    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Linnet <i>Carduelis cannabina</i>	25/08/2013	Local BioBlitz Challenge 2013	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Pheasant <i>Phasianus colchicus</i>	28/04/2014	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex II, Section I Bird Species    Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Common Pochard <i>Aythya ferina</i>	25/06/2021	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex II, Section I Bird Species    Protected Species: EU Birds Directive >> Annex III, Section II Bird Species    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Redshank <i>Tringa totanus</i>	25/08/2013	Local BioBlitz Challenge 2013	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Common Sandpiper <i>Actitis hypoleucos</i>	21/02/2020	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Snipe <i>Gallinago gallinago</i>	28/01/2023	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex II, Section I Bird Species    Protected Species: EU Birds Directive >> Annex III, Section III Bird Species    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Starling <i>Sturnus vulgaris</i>	20/02/2023	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Swift <i>Apus apus</i>	20/07/2023	Swifts of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Species	Date of last record	Dataset	Designation
Common Wood Pigeon <i>Columba palumbus</i>	27/01/2023	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex II, Section I Bird Species    Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Eurasian Curlew <i>Numenius arquata</i>	03/03/2020	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex II, Section II Bird Species    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Eurasian Oystercatcher <i>Haematopus ostralegus</i>	26/02/2013	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Eurasian Teal <i>Anas crecca</i>	03/03/2020	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex II, Section I Bird Species    Protected Species: EU Birds Directive >> Annex III, Section II Bird Species    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Eurasian Wigeon <i>Anas penelope</i>	14/01/2018	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex II, Section I Bird Species    Protected Species: EU Birds Directive >> Annex III, Section II Bird Species    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Gadwall <i>Anas strepera</i>	21/03/2019	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex II, Section I Bird Species    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Garganey <i>Anas querquedula</i>	23/05/2015	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex II, Section I Bird Species    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Great Black-backed Gull <i>Larus marinus</i>	03/03/2020	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Species	Date of last record	Dataset	Designation
Great Cormorant <i>Phalacrocorax carbo</i>	28/01/2023	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Great Crested Grebe <i>Podiceps cristatus</i>	14/05/2016	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Greylag Goose <i>Anser anser</i>	28/01/2023	Birds of Ireland	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)    Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex II, Section I Bird Species    Protected Species: EU Birds Directive >> Annex III, Section II Bird Species    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Herring Gull <i>Larus argentatus</i>	28/01/2023	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
House Martin <i>Delichon urbicum</i>	28/04/2014	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
House Sparrow <i>Passer domesticus</i>	20/02/2023	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Jack Snipe <i>Lymnocyptes minimus</i>	08/04/2014	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex II, Section I Bird Species    Protected Species: EU Birds Directive >> Annex III, Section III Bird Species
Lesser Black-backed Gull <i>Larus fuscus</i>	28/01/2023	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Little Egret <i>Egretta garzetta</i>	10/12/2016	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex I Bird Species
Little Grebe <i>Tachybaptus ruficollis</i>	03/03/2020	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Species	Date of last record	Dataset	Designation
Mallard <i>Anas platyrhynchos</i>	30/01/2023	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex II, Section I Bird Species    Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Mew Gull <i>Larus canus</i>	28/01/2023	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Mute Swan <i>Cygnus olor</i>	30/01/2023	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Northern Lapwing <i>Vanellus vanellus</i>	09/01/2021	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex II, Section II Bird Species    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Northern Shoveler <i>Anas clypeata</i>	29/10/2018	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex II, Section I Bird Species    Protected Species: EU Birds Directive >> Annex III, Section III Bird Species    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Peregrine Falcon <i>Falco peregrinus</i>	14/01/2018	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex I Bird Species
Red-throated Diver <i>Gavia stellata</i>	03/03/2020	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex I Bird Species    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Rock Pigeon <i>Columba livia</i>	27/01/2023	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex II, Section I Bird Species
Sand Martin <i>Riparia riparia</i>	25/03/2023	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Stock Pigeon <i>Columba oenas</i>	25/08/2013	Local BioBlitz Challenge 2013	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Species	Date of last record	Dataset	Designation
Tufted Duck <i>Aythya fuligula</i>	30/01/2023	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex II, Section I Bird Species    Protected Species: EU Birds Directive >> Annex III, Section II Bird Species    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Water Rail <i>Rallus aquaticus</i>	14/01/2018	Birds of Ireland	Protected Species: Wildlife Acts    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Whooper Swan <i>Cygnus cygnus</i>	02/03/2020	Birds of Ireland	Protected Species: Wildlife Acts    Protected Species: EU Birds Directive    Protected Species: EU Birds Directive >> Annex I Bird Species    Threatened Species: Birds of Conservation Concern    Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bony Fish			
European Eel <i>Anguilla anguilla</i>	17/05/2016	General Biodiversity Records from Ireland	Threatened Species: Critically Endangered
Flowering Plants			
Greater Knapweed <i>Centaurea scabiosa</i>	16/08/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Near threatened
Meadow Barley <i>Hordeum secalinum</i>	20/07/2018	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Endangered
Insects			
Dingy Skipper <i>Erynnis tages</i>	04/05/2020	Atlas of Butterflies in Ireland 2021	Threatened Species: Near threatened
Small Heath <i>Coenonympha pamphilus</i>	01/07/2014	Atlas of Butterflies in Ireland 2021	Threatened Species: Near threatened
Gooden's Nomad Bee <i>Nomada goodeniana</i>	22/04/2020	Bees of Ireland	Threatened Species: Endangered
Large Red Tailed Bumble Bee <i>Bombus (Melanobombus) lapidarius</i>	06/06/2023	Bees of Ireland	Threatened Species: Near threatened
Megachile ( <i>Megachile</i> ) <i>centuncularis</i>	08/06/2023	Bees of Ireland	Threatened Species: Near threatened
Moss Carder-bee <i>Bombus (Thoracombus) muscorum</i>	20/07/2019	Bees of Ireland	Threatened Species: Near threatened
Marine Mammals			

Species	Date of last record	Dataset	Designation
Bottle-nosed Dolphin <i>Tursiops truncatus</i>	20/05/2020	IWDG Casual Cetacean Sightings	Protected Species: EU Habitats Directive    Protected Species: EU Habitats Directive >> Annex II    Protected Species: EU Habitats Directive >> Annex IV    Protected Species: Wildlife Acts
Terrestrial Mammals			
Daubenton's Bat <i>Myotis daubentonii</i>	27/08/2013	National Bat Database of Ireland	Protected Species: EU Habitats Directive    Protected Species: EU Habitats Directive >> Annex IV    Protected Species: Wildlife Acts
Eurasian Badger <i>Meles meles</i>	24/04/2017	Mammals of Ireland 2016-2025	Protected Species: Wildlife Acts
Eurasian Pygmy Shrew <i>Sorex minutus</i>	13/10/2016	Mammals of Ireland 2016-2025	Protected Species: Wildlife Acts
Eurasian Red Squirrel <i>Sciurus vulgaris</i>	25/03/2023	Mammals of Ireland 2016-2025	Protected Species: Wildlife Acts
European Otter <i>Lutra lutra</i>	17/01/2023	Mammals of Ireland 2016-2025	Protected Species: EU Habitats Directive    Protected Species: EU Habitats Directive >> Annex II    Protected Species: EU Habitats Directive >> Annex IV    Protected Species: Wildlife Acts
Lesser Horseshoe Bat <i>Rhinolophus hipposideros</i>	27/01/2015	National Lesser Horseshoe Bat Database	Protected Species: EU Habitats Directive    Protected Species: EU Habitats Directive >> Annex II    Protected Species: EU Habitats Directive >> Annex IV    Protected Species: Wildlife Acts
Lesser Noctule <i>Nyctalus leisleri</i>	23/08/2013	Local BioBlitz Challenge 2013	Protected Species: EU Habitats Directive    Protected Species: EU Habitats Directive >> Annex IV    Protected Species: Wildlife Acts
Pine Marten <i>Martes martes</i>	14/06/2021	Mammals of Ireland 2016-2025	Protected Species: EU Habitats Directive    Protected Species: EU Habitats Directive >> Annex V    Protected Species: Wildlife Acts
Pipistrelle <i>Pipistrellus pipistrellus sensu lato</i>	16/06/2014	National Bat Database of Ireland	Protected Species: EU Habitats Directive    Protected Species: EU Habitats Directive >> Annex IV    Protected Species: Wildlife Acts
Soprano Pipistrelle <i>Pipistrellus pygmaeus</i>	16/06/2014	National Bat Database of Ireland	Protected Species: EU Habitats Directive    Protected Species: EU Habitats Directive >> Annex IV    Protected Species: Wildlife Acts
West European Hedgehog <i>Erinaceus europaeus</i>	26/10/2022	Hedgehogs of Ireland	Protected Species: Wildlife Acts



## B Invasive species recorded within 5km of the site since 01/01/2013.

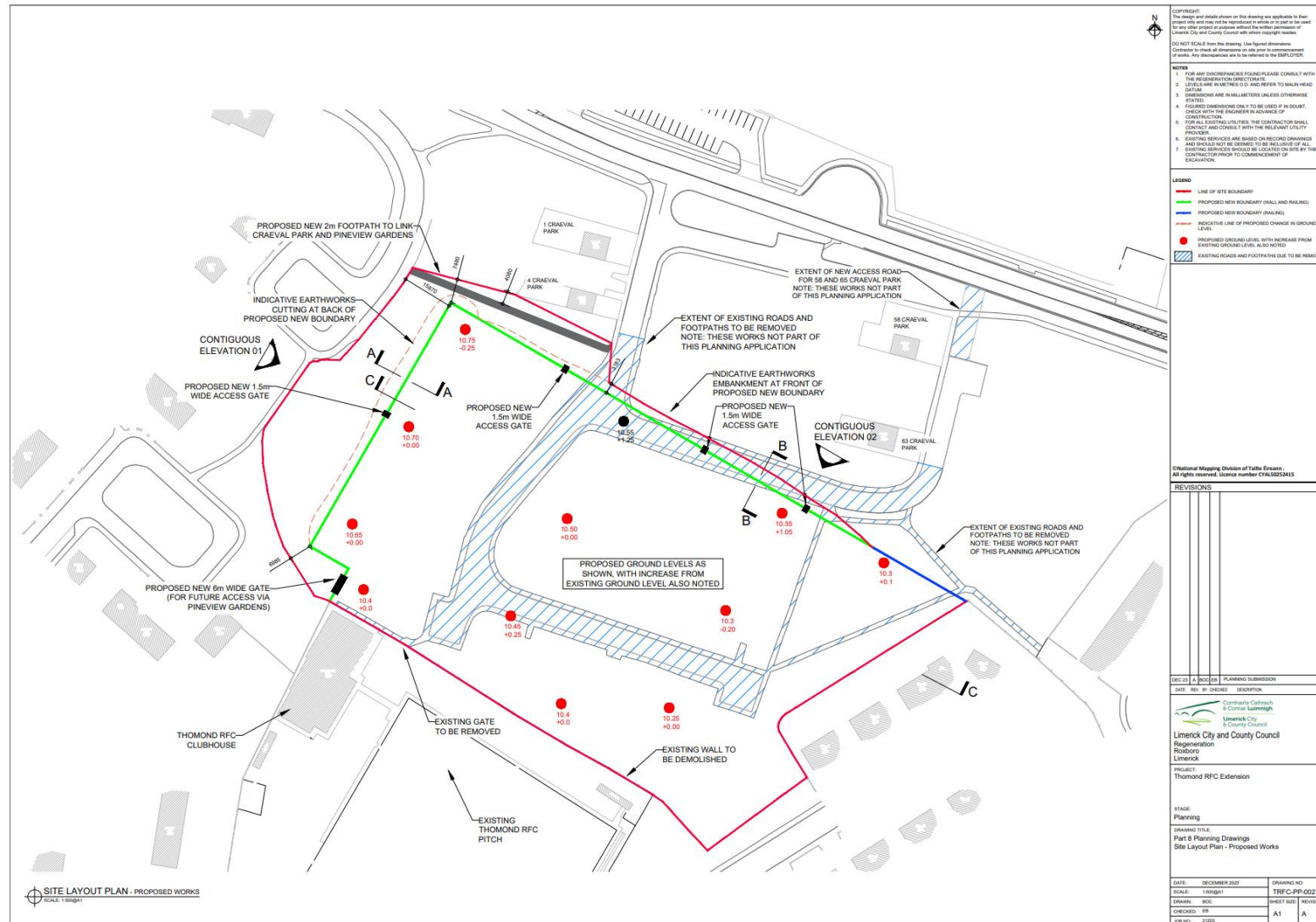
These records correspond with what is publicly available on the NBDC database with an online query (NBDC, 2023).

Species	Date of last record	Dataset	Designation
Birds			
Greylag Goose <i>Anser anser</i>	28/01/2023	Birds of Ireland	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Ferns			
Water Fern <i>Azolla filiculoides</i>	23/03/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> Medium Impact Invasive Species    Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Flatworms			
<i>Arthurdendyus triangulatus</i>	07/03/2019	New Zealand Flatworm (Arthurdendyus triangulates) Database	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> High Impact Invasive Species
<i>Australoplana sanguinea</i>	11/03/2019	National Invasive Species Database	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> Medium Impact Invasive Species
Flowering Plants			
Butterfly-bush <i>Buddleja davidii</i>	15/07/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> Medium Impact Invasive Species
Cherry Laurel <i>Prunus laurocerasus</i>	18/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> High Impact Invasive Species
Field Penny-cress <i>Thlaspi arvense</i>	21/04/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> Medium Impact Invasive Species
Giant Hogweed <i>Heracleum mantegazzianum</i>	29/03/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> High Impact Invasive Species    Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Himalayan Honeysuckle <i>Leycesteria formosa</i>	15/07/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> Medium Impact Invasive Species
Indian Balsam <i>Impatiens glandulifera</i>	26/03/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> High Impact Invasive Species    Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)

Species	Date of last record	Dataset	Designation
Japanese Knotweed <i>Fallopia japonica</i>	23/06/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> High Impact Invasive Species    Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Japanese Rose <i>Rosa rugosa</i>	19/06/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> Medium Impact Invasive Species
Narrow-leaved Ragwort <i>Senecio inaequidens</i>	04/09/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> Medium Impact Invasive Species
Sycamore <i>Acer pseudoplatanus</i>	05/06/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> Medium Impact Invasive Species
Three-cornered Garlic <i>Allium triquetrum</i>	01/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> Medium Impact Invasive Species    Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Traveller's-joy <i>Clematis vitalba</i>	23/06/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> Medium Impact Invasive Species
Mollusc			
Jenkins' Spire Snail <i>Potamopyrgus antipodarum</i>	02/08/2018	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> Medium Impact Invasive Species
Zebra Mussel <i>Dreissena (Dreissena) polymorpha</i>	27/04/2016	National Invasive Species Database	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> High Impact Invasive Species    Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Terrestrial Mammals			
American Mink <i>Mustela vison</i>	25/07/2018	Mammals of Ireland 2016-2025	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> High Impact Invasive Species    Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Brown Rat <i>Rattus norvegicus</i>	31/10/2013	Mammals of Ireland 2016-2025	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> High Impact Invasive Species    Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Eastern Grey Squirrel <i>Sciurus carolinensis</i>	30/10/2015	Atlas of Mammals in Ireland 2010-2015	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> High Impact Invasive Species    Invasive Species: Invasive Species >> EU Regulation No. 1143/2014    Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)

Species	Date of last record	Dataset	Designation
European Rabbit <i>Oryctolagus cuniculus</i>	28/02/2023	Mammals of Ireland 2016-2025	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> Medium Impact Invasive Species
Greater White-toothed Shrew <i>Crocidura russula</i>	30/06/2020	Mammals of Ireland 2016-2025	Invasive Species: Invasive Species    Invasive Species: Invasive Species >> Medium Impact Invasive Species

# C Site Layout Drawings



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