



ECOLOGICAL IMPACT ASSESSMENT FOR PROPOSED
FLOODLIGHTING INSTALLATION AND ASSOCIATED CIVIL
WORKS AT WESTSIDE RUNNING TRACK, GALWAY CITY, CO.
GALWAY ON BEHALF OF GALWAY CITY COUNCIL
_ENV_GCC_WS002

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1. Introduction

1.1 Introduction

Envirico Ltd have been commissioned by Galway City Council to undertake an Ecological Impact Assessment of in respect of proposed floodlighting installation and civil works scheme at Westside Running Track, Galway City, in lands owned by Galway City Council (GCC). The proposed project will consist of the installation of 20 floodlights in total with fixed column positions, with heights of approximately 12m.

To undertake an assessment of the potential ecological impact of the proposed development, a desk study, flora and fauna survey, and protected species assessments were carried out.

1.2 Legislative Context

In summary, information from the EclA process is used to present an assessment of the ecological effects of this project which could affect biodiversity value of the proposed site and surrounding environs.

EclA requirements derive from EU Directive 85/337/EEC (as amended by Directive 97/11/EC, Directive 2014/52/EU and S.I. 454 of 2011; S.I. 464 of 2011; S.I. 456 of 2011) on the assessment of the effects of certain public and private projects on the environment.

Best practice is that the EclA is an iterative process. This means that, as ecological information comes to light, the development design should be amended where possible to avoid significant harm to biodiversity.

EclA is a process of identifying, quantifying, and evaluating the potential effects of development-related or other proposed actions on habitats, species and ecosystems. EclA can be used for the appraisal of projects of any scale: it is a systematic and repeatable process applicable to a wide range of projects (CIEEM 2018).

The following legislation and guidelines were consulted in compiling this ecological assessment:

- EC Birds Directive 2009/147/EEC
- EC Habitats Directive 92/43/EEC
- Wildlife Act, 1976 and Wildlife (Amendment) Act (2000)
- Convention on the conservation of European wildlife and natural habitats (Bern Convention);
- European Union EIA Directive 2014/52/EU
- European Union (Environmental Impact Assessment) (Planning and Development) Regulations 2014 (S.I. No. 543/2014)
- Planning and Development (Amendment) Act 2010

The following project support documents were included in the evaluation of biodiversity receptors (flora and fauna) in relation to the proposed development works:

- Galway City Development Plan 2023 - 2029

The following resources were used in the evaluation of biodiversity receptors (flora and fauna) in relation to the proposed development:

- Fossitt, J.A. (2000) A Guide to Habitats in Ireland. Heritage Council, Kilkenny. Houston, J. (2008)
- National Roads Authority (2009) Guidelines for Assessment of Ecological Impacts of National Roads Schemes. Published NRA 2009
- NRA (2010). Guidelines on the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads.
- Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester. CIEEM (2018)
- Habitats Directive, Birds Directive, Wildlife Act (1976) and (Amendment Act) 2000
- Flora Protection Order S.I No. 94
- Unpublished Report to the National Parks and Wildlife Service. Smith, G.F., O'Donoghue, P., O'Hora, K. and Delaney, E. (2011) Best Practice Guidance for Habitat Survey and Mapping. Heritage Council, Kilkenny.
- Biodiversity Ireland website www.biodiversity.ie
- BirdWatch Ireland (www.birdwatchireland.ie).
- Environmental Protection Agency ENVision online maps <http://maps.ie>
- Inland Fisheries Ireland (www.fisheriesireland.ie)
- National Parks and Wildlife Service website, www.npws.ie .
- Environmental Protection Agency EPA Geo-portal <http://gis.epa.ie/>
- National Parks and Wildlife Service site boundary map NHA and synopsis www.npws.ie
- Red Date Species List 1-8 <http://www.npws.ie/publications/redlists/>
- Bird Watch Ireland Birds of Conservation Concern In Ireland – BoCCI

1.3 Statement of Authority

This Assessment has been prepared by Maurice O Connor, Environmental Consultant. Maurice holds BSc (Hons) degree in Wildlife Biology from Institute of Technology Tralee and an MSc in Ecological Assessment from National University of Ireland Cork (UCC). Maurice is an experienced ecological consultant with over 10 years' professional experience in Ireland, working independently and within consultancy. He has strong generalist ecological field skills in terrestrial and riparian environments and through his experience can demonstrate undertaking a range of ecological surveys including habitat, invasive and protected species survey, delivering initial site appraisals and identification of ecological constraints to inform Ecological Impact Assessments (EcIA) and AA. Maurice has undertaken ecological assessments and surveys on a variety of project types (e.g. road schemes, waste, water, energy, and housing) involving survey, mitigation and enhancement. During his time as an environmental consultant, Maurice has completed a large number of environmental assessments and reports for both projects and plans.

2. Proposed Development

The proposed project site is located within the established suburbs of Galway City Co. Galway. The proposed development site is the Westside Running Track, with the proposed works to consist of the installation of floodlights and associated civil works. The proposed site is bounded by Siobhan Mc Kenna Road, Circular Road and Bóthar Le Cheile Road in Galway City and situated approximately 2.04km northeast of Galway City Centre (refer to Figure.1).

The site is comprised of a hardtop running track, playing fields, amenity grassland areas, walkways, adventure playground, bottle-bank and Westside Skate Park. Several sports clubs are based adjacent to the running track such as St. Michaels GAA Club, Corrib Rangers Football Club and Westside Basketball Hoops. The surrounding land is composed of residential and commercial properties.

The proposed project will consist of the installation of 20 floodlights in total with fixed column positions, with heights of approximately 12m. The floodlights around the running track of lighting of 276 Lux maintained average with uniformity of minimum/ average = > 0.71 and minimum/ maximum =>0.47, with maintenance factor of 0.95. The spill light is calculated with maintenance factor of 1.00. (refer to Figure.2).

- General site set up.
- Site hoarding to secure the site and will assist with the control of dust containment.
- Pre identified locations for storage of construction materials, located away from the boundary habitat in the interest of pollution prevention.
- No interference with the natural boundary.
- Groundworks for floodlight installation.
- Installation of floodlights.
- Restoration of site after completion of proposed works.



Figure 1 Westside Running Track

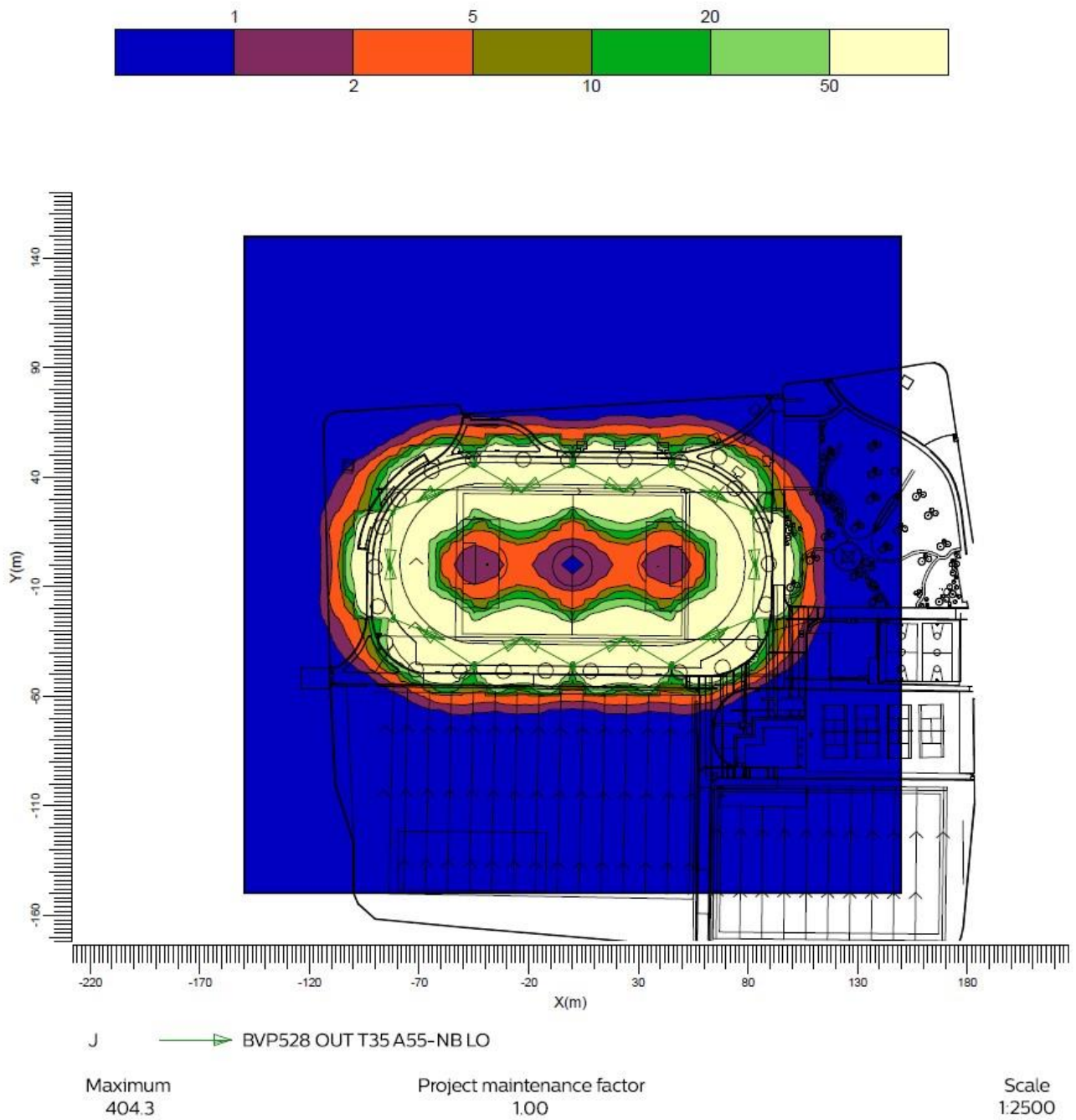


Figure 2 Illuminated Area

3. Scoping

The impact assessment and evaluation of significant effects on European Sites have been addressed in full in an Appropriate Assessment Screening Report, which accompanies the current planning application.

Within 15 km of the development site, eight European sites were identified. Table 1 details each European/Natura site within 15km and its distance in relation to the proposed development. Table 2 details the potential effects which could occur as a result of the proposed development, describing the effect and indicating where this impact is likely to occur within the detailed Zone of Influence (ZoI).

It has been determined that none out of the eight sites within 15km of the proposed development site falls within the ZoI due to the small scale of operations being carried out, no hydrological features on or near the project site, landscaped environment offering little biodiversity services – e.g., no bat roosting sites; No likely significant effects are to occur to surrounding Natura sites.

Table 1 European Sites within 15km of the Proposed Development

European Site	Site Code	Qualifying Interests and Special Conservation Interests (QIs and SCIs)	Approximate Distance from Proposed Area	Potential receptor links between proposed development & the European site.	Likely to Occur on site, in area or adjacent to European sites
Lough Corrib SAC	(000297)	<p>Annex I Habitats</p> <p>Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) [3110]</p> <p>Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i> [3130]</p> <p>3140 Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.[3140]</p> <p>Water courses of plain to montane levels with <i>the Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260]</p> <p>Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [6210]</p> <p>Molinia meadows on calcareous, peaty or clayey-silt-laden soils</p>	1.47km	<p>No potential direct, indirect or cumulative threats to qualifying interests of site.</p> <p>No loss of habitat or disturbance</p>	No hydrological connection

		<p>(<i>Molinion caeruleae</i>) [6410]</p> <p>Active raised bogs* [7110] Degraded raised bogs still capable of natural regeneration [7120]</p> <p>Depressions on peat substrates of the <i>Rhynchosporion</i> [7150]</p> <p>Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>* [7210]</p> <p>Petrifying springs with tufa formation (<i>Cratoneurion</i>)* [7220]</p> <p>Alkaline fens [7230]</p> <p>Limestone pavements* [8240]</p> <p>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</p> <p>Bog woodland* [91D0]</p> <p><u>Annex II Species</u></p> <p>Brook Lamprey (<i>Lampetra planeri</i>) [1096]</p> <p>Sea Lamprey (<i>Petromyzon marinus</i>) [1095]</p> <p>Lesser Horseshoe Bat (<i>Rhinolophus hipposideros</i>) [1303]</p> <p>Salmon (<i>Salmo salar</i>) [1106]</p> <p>White-clawed Crayfish (<i>Austropotamobius pallipes</i>) [1092]</p> <p>Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>) [1029] 1355 Otter (<i>Lutra lutra</i>) [1355]</p> <p>Slender Green Feather-moss (<i>Hamatocaulis vernicosus</i>) [6216]</p> <p>1833 Slender Naiad (<i>Najas flexilis</i>) [1833]</p>			
Galway Bay	(000268)	<u>Annex I Habitats * denotes priority habitat</u>	1.61km	No potential direct, indirect or cumulative	No

<p>Complex SAC</p>		<p>Mudflats and sandflats not covered by seawater at low tide [1140]</p> <p>Estuaries [1130]</p> <p>Coastal lagoons* [1150]</p> <p>Large shallow inlets & bays [1160]</p> <p>Reefs [1170]</p> <p>Perennial vegetation of stony banks [1220]</p> <p>Salicornia and other annuals colonising mud and sand [1310]</p> <p>Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330]</p> <p>Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]</p> <p>Turloughs* [3180]</p> <p>Juniperus communis on heaths or calcareous grasslands [5130]</p> <p>Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometelia</i>) (* important orchid sites) [6210]</p> <p>Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davalliannae</i>* [7210]</p> <p>Alkaline fens [7230]</p> <p>Limestone pavements* [8240]</p> <p><u>Annex II Species</u></p> <p>Otter (<i>Lutra lutra</i>) [1355]</p> <p>Harbour Seal (<i>Phoca vitulina</i>) [1365]</p>		<p>threats to qualifying interests of site.</p> <p>No loss of habitat or disturbance</p>	
<p>Connemara Bog Complex SAC</p>	<p>(002034)</p>	<p><u>Annex I Habitats</u></p> <p>Coastal lagoons* [1150]</p> <p>Reefs [1170]</p> <p>Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) [3110]</p> <p>Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i> [3130]</p> <p>Natural dystrophic lakes and ponds [3160]</p>	<p>11km</p>	<p>No loss of habitat or disturbance due to distance from proposed works</p>	<p>No hydrological connection</p>

		<p>Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260] Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010] European dry heaths [4030] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) [6410] Blanket bogs (* if active bog) [7130] 7140 Transition mires and quaking bogs Depressions on peat substrates of the <i>Rhynchosporion</i> [7150] Alkaline fens [7230] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</p> <p><u>Annex II Species</u></p> <p>Salmon (<i>Salmo salar</i>) [1106] Slender Naiad (<i>Najas flexilis</i>) [1833] Otter (<i>Lutra lutra</i>) [1355] Marsh Fritillary (<i>Euphydryas aurinia</i>) [1065]</p>			
Ross Lake and Woods SAC	(001312)	<p><u>Annex I Habitats</u></p> <p>Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara spp.</i> [3140]</p> <p><u>Annex II Species</u></p> <p>Lesser Horseshoe Bat (<i>Rhinolophus hipposideros</i>) [1303]</p>	13.2km	No loss of habitat or disturbance due to distance from proposed works	No hydrological connection
East Burren Complex SAC	(001926)	<p><u>Annex I Habitats</u></p> <p>Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara spp.</i> [3140]</p> <p>Turloughs* [3180]</p> <p>Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260]</p> <p>4060 Alpine and Boreal heaths [4060]</p> <p>5130 <i>Juniperus communis</i></p>	14.22km	No loss of habitat or disturbance due to distance from proposed works	No hydrological connection

		<p>formations on heaths or calcareous grasslands [5130]</p> <p>6130 Calaminarian grasslands of the <i>Violetalia calaminariae</i> [6130]</p> <p>Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [6210]</p> <p>Lowland hay meadows (<i>Alopecurus pratensis</i>, <i>Sanguisorba officinalis</i>) [6510]</p> <p>Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>* [7210]</p> <p>Petrifying springs with tufa formation (<i>Cratoneurion</i>)* [7220]</p> <p>Alkaline fens [7230]</p> <p>Limestone pavements* [8240]</p> <p>Caves not open to the public [8310]</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)* [91E0]</p> <p>Annex II Species</p> <p>Marsh Fritillary(<i>Euphydryas aurinia</i>) [1065]</p> <p>Lesser Horseshoe Bat(<i>Rhinolophus hipposideros</i>) [1303]</p> <p>Otter(<i>Lutra lutra</i>) [1355]</p>			
Inner Galway Bay SPA	(004031)	<p>Birds</p> <p>Light-bellied Brent Goose (<i>Branta bernicla brota</i>) [A046]</p> <p>Dunlin (<i>Calidris alpina</i>) [A149]</p> <p>Red-breasted Merganser (<i>Mergus serrator</i>) [A069]</p>	1.6km	No potential direct, indirect or cumulative threats to qualifying interests of site.	No
				Amenity Grassland	

		<p>Redshank (<i>Tringa tetanus</i>) [A162]</p> <p>Common Gull (<i>Larus canus</i>) [A182]</p> <p>A003 Great Northern Diver (<i>Gavia immer</i>)</p> <p>Cormorant (<i>Phalacrocorax carbo</i>) [A017]</p> <p>Turnstone (<i>Arenaria interpres</i>) [A169]</p> <p>Lapwing (<i>Vanellus vanellus</i>) [A142]</p> <p>Wigeon (<i>Anas penelope</i>) [A050]</p> <p>Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]</p> <p>Curlew (<i>Numenius arquata</i>) [A160]</p> <p>Black-throated Diver (<i>Gavia arctica</i>) [A002]</p> <p>Golden Plover (<i>Pluvialis apricaria</i>) [A140]</p> <p>Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]</p> <p>Teal (<i>Anas crecca</i>) [A052]</p> <p>Sandwich Tern (<i>Sterna sandvicensis</i>) [A191]</p> <p>Ringed Plover (<i>Charadrius hiaticula</i>) [A137]</p> <p>Common Tern (<i>Sterna hirundo</i>) [A193]</p> <p>Grey Heron (<i>Ardea cinerea</i>) [A028]</p> <p><u>Annex I Habitats</u></p> <p>Wetlands</p>		Habitat not utilised as a feeding site for Annexed Bird Species.	
Lough Corrib SPA	(004042)	<p><u>Birds</u></p> <p>Pochard (<i>Aythya ferina</i>) [A059]</p> <p>Tufted Duck (<i>Aythya fuligula</i>) [A061]</p> <p>Arctic Tern (<i>Sterna paradisaea</i>) [A194]</p>	2.78km	<p>No potential direct, indirect or cumulative threats to qualifying interests of site.</p> <p>Amenity Grassland Habitat not utilised as</p>	No

		<p>Common Scoter (<i>Melanitta nigra</i>) [A065]</p> <p>Common Gull (<i>Larus canus</i>) [A182]</p> <p>Golden Plover (<i>Pluvialis apricaria</i>) [A140]</p> <p>Hen Harrier (<i>Circus cyaneus</i>) [A082]</p> <p>A125 Coot (<i>Fulica atra</i>) [A125]</p> <p>Gadwall (<i>Anas strepera</i>) [A051]</p> <p>Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]</p> <p>Shoveler (<i>Anas clypeata</i>) [A056]</p> <p>Common Tern (<i>Sterna hirundo</i>) [A193]</p> <p>Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395]</p> <p>Annex I Habitats</p> <p>Wetlands</p>		a feeding site for Annexed Bird Species.	
Cregganna Marsh SPA	(004142)	<p>Birds</p> <p>Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395]</p>	10.08km	No loss of habitat or disturbance due to distance from proposed works	No hydrological connection

Table 2 Potential Effects to Sites within Zone of Influence

Potential Effect	Description of Effect	Zol- likely area over which effect could occur
Construction		
Noise and vibration/unfamiliar visual stimuli (e.g. machinery/people).	Disturbance (e.g. noise/recreational etc.)	The nearest European/European sites are >1km from the proposed development site. Therefore, there is no potential for this impact to occur.
Sedimentation and pollution events	Indirect impacts on habitat (e.g. reduction in surface water quality/ introduction of invasive spp.)	The proposed development will be fully regulated to manage all on site activities including ERP for all on site events. The project site is not hydrologically connected to any European sites; no risk of pollution as a consequence of the proposed works are likely.
Operational	The operational phase to this project will be the management of the lights in Westside Park (maintenance and services) there are no operational impacts predicted to occur.	

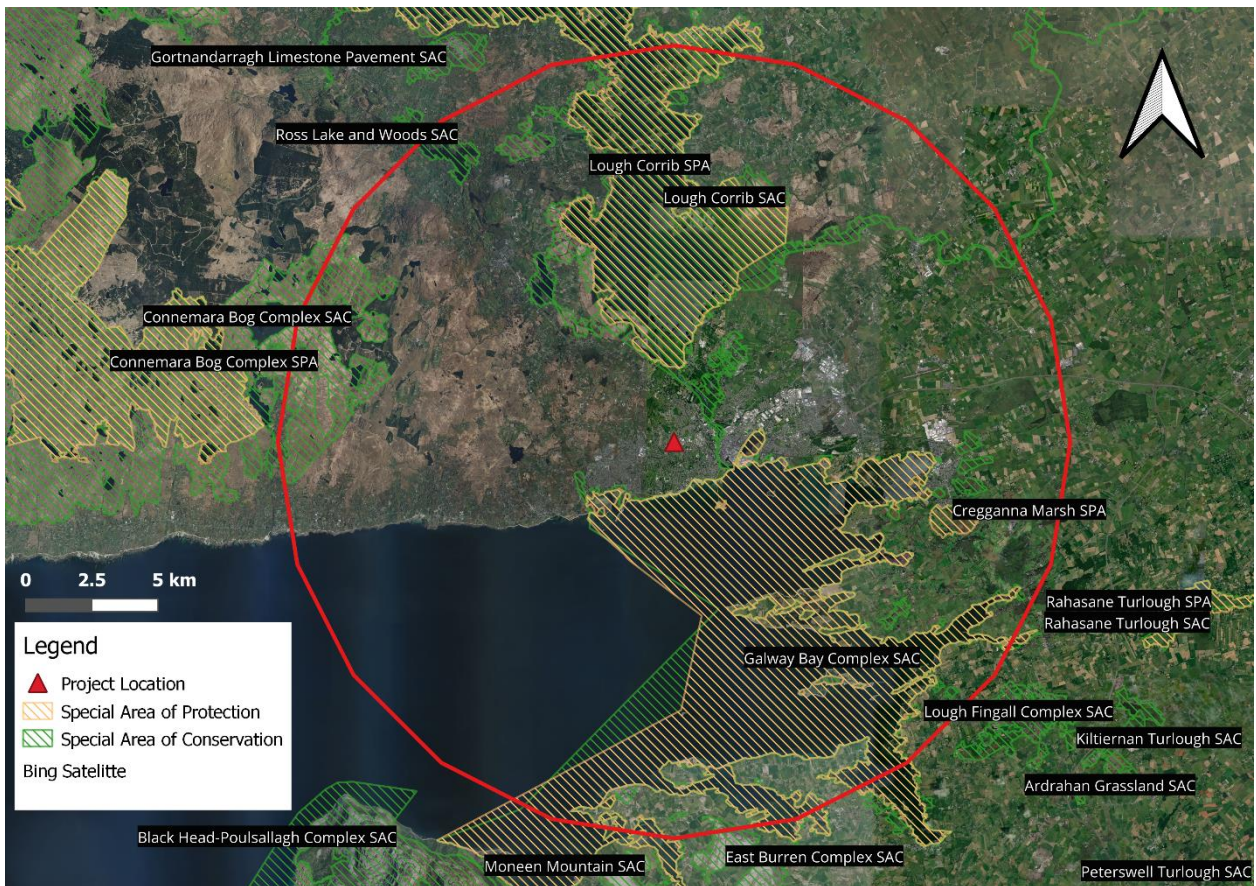


Figure 3 Proposed Project Location in relation to 15km buffer zone of protected sites.

4. Methodology

Site visits were undertaken in August 2023 for optimal surveying period with the specific objective of ascertaining the composition and condition of the sports playing pitch ecological features.

The ZoI will vary for different ecological features depending on their sensitivity to an environmental change. It is therefore appropriate to identify different ZoI for different features. The features affected could include habitats, species, and the processes on which they depend. ZoI are specified for different features, and types of potential impact. The ZoI for terrestrial habitats is limited to the footprint of the proposed development, with groundwater movement and levels considered in relation to groundwater dependent terrestrial habitats outside of the footprint of the development.

This assessment included the identification of notable species, habitats, bat, bird, and mammal evidence. Resulting from the survey findings five habitats were identified Amenity grassland (GA2), Treelines (WL2), Buildings and artificial surfaces (BL3), Horticultural land (BC2) and Hedgerow (WL1) were recorded in an urban setting.

The assessment of protected species and habitats and/or invasive species was undertaken in line with the following guidelines:

- CIEEM (2017). Guidelines for Preliminary Ecological Appraisal. (Chartered Institute of Ecology and Environmental Management) Second Edition
- Fossitt, J. (2000). Guide to Habitats in Ireland. The Heritage Council
- NRA (2010). Guidelines on the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads.

4.2 Bat Survey Methodology

A preliminary roost assessment is a detailed inspection of the exterior and interior of a structure to look for features that bat could use for entry/exit and roosting and to search for signs of bats (Collins, 2016). The overall aim of this survey is to determine the presence of bats and the need for further survey and mitigation as a result. In many cases it is not possible to access all sections of a structure, therefore an absence of bat evidence does not equate to an absence of bats.

A detailed examination of features should be carried out during daylight, systematically through all parts of the structure. External feature searches should include windows, peeling paint, fascia, gaps under roofing felt, under tiles etc. Internal feature searches should include access points, attics and any other crevices/areas suitable as roosting habitat. During both internal and external searches evidence of droppings, dead specimens, urine splashes, fur-oil stains, feeding remains, etc. should be looked for. For

trees horizontal and/or vertical cracks along tree limbs or trunk, knot holes, cankers, voids, crevices (including lifting bark) and thick ivy growth (stems should be a minimum of 50mm diameter) should all be assessed.

This survey type can be carried out at any time of the year under any weather conditions. Once roosting features are noted their suitability to hold roosting bats is then determined. Table 3 details the description of the characteristics of roosting features as per their bat suitability.

Table 3 Bat roost suitability (Collins, 2016)

Suitability	Description of Roosting habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	<p>A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).</p> <p>A tree of sufficient size and age to contain Potential Roosting Features (PRFs) but with none seen from the ground or features seen with only very limited roosting potential.</p>
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

5. Baseline Ecology Conditions

5.1 Extended Phase 1 Habitat Survey

The report structure, surveying and habitat mapping will follow the Best Practice Guidance for Habitat Survey and Mapping (Smith *et al*, 2011) and the standard classification of habitats developed by the Heritage Council (Fossitt, J.A 2000). The species nomenclatures follow Webb *et al*. ('An Irish Flora', 1996).

The site is dominated by amenity grassland with buildings and artificial surfaces and horticultural land forming the majority of the remaining habitat within Westside Park. Building and artificial surfaces habitat type is present in the form of the running track and the footpaths or walkways present in Westside Park.

In total five habitat types were identified on site, (Figure 4). None of the habitats identified as priority Habitats and generally are common within the area, these habitats include:

Amenity Grassland (GA2)

A large portion of the site recorded within the survey area consisted of amenity grassland type of habitat. The majority of the amenity grassland habitat consisted of mown areas such as sports pitches and grass along walkways with young immature trees present along these areas. There was a smaller percentage of un-mown areas grasses with bracken (*Pteridium aquilinum*), herbaceous plants and some flowering plants during the time of the field survey. Plants recorded included common species of broad-leaved herbs and grasses such as Common Daisy (*Bellis perennis*) Ribwort Plantain (*Plantago lanceolata*), White Clover (*Trifolium repens*), Red Clover (*Trifolium pratense*), Dandelion (*Taraxacum* agg.), Perennial Rye Grass (*Lolium perenne*), Yorkshire Fog (*Holcus lanatus*) and Crested Dogs-tail Grass (*Cynosurus cristatus*).

Horticultural Land (BC2)

This particular habitat type situated on the north eastern corner of the site consisted of a planted garden, raised bed and young planted trees.

Treelines (WL2)

This habitat type was located along the northeastern boundary of the Siobhan Mc Kenna Road, outside the boundary of the site and consisted of immature trees. There were no mature trees present on the site.

Buildings and Artificial surfaces (BL3)

This particular habitat type consists of the outdoor athletics track, playground and the footpaths or walkways around Westside Park.

Hedgerow (WL1)

There was an immature hedgerow present along the south-to-south eastern boundary of the site, approximately 1m in height consisting of Beech (*Fagus sylvatica*).



Figure 4 Habitat Map of Westside Running Track

5.2 Invertebrates

No investigation of invertebrates or micro-organisms was undertaken on the day of site survey. The desk study search of NBDC records for the 1km squares encompassing the site (M2725 and M2825) yielded records of 50 invertebrate species; of which, one record of the vulnerable species, Dark Green Fritillary (*Argynnis aglaja*) and two records of the near threatened species, Large Red-tailed Bumble Bee (*Bombus (Mekanobombus) lapidaries*) were recorded.

5.3 Avifauna

The desk study search of NBDC records for the 1km squares encompassing the site (M2725 and M2825) yielded two records of species European Goldfinch (*Carduelis carduelis*) and European Robin (*Erithacus rubecula*). During the course of the survey the following species were recorded Chaffinch (*Fringilla coelebs*), House Sparrow (*Passer domesticus*), Wren (*Troglodytes troglodytes*), Robin (*Erithacus rubecula*) and Blackbird (*Turdus merula*).

5.4 Invasive Plant and Animals

The desk study search of NBDC records for the 1km squares encompassing the site (M2725 and M2825) yielded approximately two invasive faunal species; New Zealand Flatworm (*Turbellaria*) (*Arthurdendyus*

triangulates) - a high impact invasive species, and flatworm (*Australoplana sanguinea*) – a medium impact species; one invasive floral species Japanese Knotweed (*Fallopia japonia*), a high-impact Third Schedule invasive species.

During the field survey, no invasive species were recorded within Westside Park boundary.

5.5 Mammals and Aquatic Species

The desk study search of NBDC records for the 1km squares encompassing the site (M2725 and M2825, Section 10 Appendix 1) returned records for one terrestrial mammal, West European Hedgehog (*Erinaceus europaeus*) – a protected species under the Wildlife Act. The walkover survey carried out on the 21st August 2023 found no evidence of mammals.

No bat roosting habitats are present on site. There is potential for bats to forage along the treeline located along the northeastern boundary of the Siobhan Mc Kenna Road, outside the boundary of the site, however this is outside of the illuminated area.

5.6 Aquatic Habitats

No aquatic habitats, drainage ditches or obvious culverts, ponding or any water features were noted on site. However, the site is located approximately 790m east of Knocknacurragh (EPA code: 31K16).



Figure 5 WFD River Network in the wider vicinity of proposed development site

6. Key Biodiversity Receptors

Identification of biodiversity receptors of Local Importance (higher value) or greater within the ZoI of the proposed development are carried forward to evaluate the potential or likelihood of significant effects. Potential impacts which are not likely to give rise to significant effects on biodiversity receptors are screened out.

Eight European sites were identified within 15km of the proposed development. It has been determined that none of the eight sites within 15km of the proposed development site falls within the ZoI due to the small scale of operations being carried out, no hydrological features on or near the project site, landscaped environment offering little biodiversity services – e.g., no bat roosting sites; No likely significant effects are to occur to surrounding Natura sites.

Table 4 Ecological Receptors. The ecological importance of each habitat is also presented (from NRA, 2009b).

Habitat Code	Habitat Name	Evaluation Rating	Ecological Receptor
GA2	Amenity Grassland	E-Low Local Importance	Birds/Mammals/ Bats - foraging
WL2	Treeline	D-Higher Local Importance	Birds/Mammals/Bats – commuting routes/foraging/shelter/potential roosts
BL3	Buildings and Artificial Surfaces	E-Low Local Importance	Birds/Bats/ Potential Nest sites/Roosts
BC2	Horticultural Land	E-Low Local Importance	Birds /Mammals /Bats – commuting routes/foraging/shelter
WL1	Hedgerow	D-Higher Local Importance	Birds /Mammals /Bats – commuting routes/foraging/shelter/potential roosts

7. Potential Impacts

7.1 Pre-Construction Phase

Prior to commencement of construction, any Contractor appointed by Galway City Council, must ensure that:

- A pre-construction ecological walkover survey shall be carried out prior to construction. Any measures identified during the walkover survey (e.g. root protection areas for tree, buffer areas from boundary hedgerows) shall be fully implemented pre-construction.
- No clearance or removal of vegetation shall occur during the bird breeding season (1st March to 31st August, inclusive). If clearance of vegetation is required within the bird nesting season, consultation with a suitable qualified ecologist is required, and consultation with National Parks and Wildlife Service may be required.
- A detailed CEMP shall define measures that meet the legislative requirements.

7.2. Construction Phase

During construction the appointed contractor must ensure that:

Site Set up phase:

- Temporary construction compounds will be located in suitable locations, materials stored appropriately.
- All soil stripping, excavations shall be left open for minimal periods to avoid acting as a conduit for surface water flows

Construction phase:

- All ready-mixed concrete shall be brought to site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline waste waters or contaminated storm water to the underlying subsoil. Wash down and washout of concrete transporting vehicles will take place at an appropriate facility offsite
- During periods of heavy rainfall concrete pouring will be prevented
- Any dewatering of standing water within the proposed development site (e.g. water accumulated in excavations) shall require a Dewatering Plan to be incorporated.
- Any approved contractors use during the duration of activity will be required to have spill kits available on site should an incident occur.
- All vehicles entering site to be checked for invasive species (IAS), operators familiar with bio security measures to be taken.

- Any machinery involved with the removal of invasive species to be treated with 1% aqueous virkon solution and left to dry before use.
- An environmental emergency response plan with procedures for managing an incident, on site ongoing training for personnel.
- Waste management plan on site for waste removal on site including hazardous material.
- Waste materials shall be stored in designated areas that are isolated from surface water drains. Skips will be closed or covered to prevent materials being blown or washed away and to reduce the likelihood of contaminated water leakage.

8. Mitigation Measures

8.1 Construction Phase Mitigation Measures

- It shall be an offence for a person to cut, grub, burn or otherwise destroy, during the period beginning on the 1st day of March and ending on the 31st day of August in any year, any vegetation growing on any land not then cultivated.
- On site works to follow CEMP, strict controls if there is deviation, works to cease and relevant bodies consulted.
- A written environmental response procedure plan in place prior to commencement of works. All relevant site personnel briefed on procedure and signed off.

8.2 Operation Phase Mitigation Measures

- Lighting should be diffuse and angled away from mature trees and hedgerows to prevent disturbance to bat species. Lighting specification to be as outlined in the ElectricSkyline document 0400897365/D523625.
- Maintenance of verges and scrub/trees along the public roads, paths and car park areas to follow bird nesting season.
- Landscaping works such as cutting or pruning of hedgerows/trees to be carried out, outside of the bird nesting season.

Table 5 Impacts and Mitigation Measures

Ecological Interests	Potential Impact	Cumulative Impacts	Proposed Mitigation	Residual Impacts
Amenity Grassland habitat/Horticultural Land Nesting /Breeding/Feeding Birds, Bat spp. Mammals, Foraging	No significant impacts but potential for <u>extremely unlikely</u> significant impact from sedimentation /contaminants /hydrocarbons entering the soils, boundaries. Invasive species entering site.	There are current pressures on water quality arising from water pollution but as the impacts arising from this proposal are not significant to this area there are no watercourses on site, (measures in place to protect surface water generated on site and any infiltration to groundwater), other than those mentioned in the previous column, therefore the proposed development is not expected to have any significant cumulative impact in addition to current impacts.	Soils managed on site, Ready-mixed supply of wet concrete products and where possible, emplacement of pre-cast elements, will take place. No batching of wet-cement products will occur on site. No washing out of any plant used in concrete transport or concreting operations will be allowed on-site; No refuelling of machinery on site. No works in heavy rainfall.	No significant impacts
Treeline and Hedgerow Habitats	No significant impacts but potential for <u>extremely unlikely</u> significant impact	There are current pressures on	No removal of treelines or hedgerows. Tree and hedgerow maintenance	No significant impacts

<p>Nesting /Breeding/Feeding Birds, Bat spp.</p> <p>Associated Flora and fauna</p>	<p>from Invasive species entering site/destruction of habitats,</p> <p>Destruction of treeline corridors for commuting linking site to other sites for feeding, breeding and shelter</p>	<p>biodiversity.</p>	<p>work outside of bird nesting season.</p>	
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9. Residual Impacts

The proposed development site is identified as amenity grassland within the urban setting of Galway City. This site does not encompass qualifying international or nationally important species. The construction phase and operation phase of the project incorporates features which effectively avoid the potential for specific negative impacts on sensitive receptors. The importance of the local ecology and biodiversity and the capacity to successfully integrate the proposed development without compromising on its ecology is recognised and has informed the preparation of this project.

10. Appendix 1 NBDC Records

10.1 1KM Grid Square M2725

Grid square	Species group	Species name	Record count	Date of last record	Title of dataset	Designation
Custom	fern	Black Spleenwort (Asplenium adiantum-nigrum)	1	03/04/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	Flatworm (Turbellaria)	Arthurdendyus triangulatus	2	08/05/2020	New Zealand Flatworm (Arthurdendyus triangulates) Database	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species
Custom	flowering plant	Broad-leaved Willowherb (Epilobium montanum)	1	25/07/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Cleavers (Galium aparine)	1	25/07/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Vetch (Vicia sativa subsp. segetalis)	1	06/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Field Forget-me-not (Myosotis arvensis)	1	06/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Hedgerow Crane's-bill (Geranium pyrenaicum)	1	06/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

Custom	flowering plant	Hybrid Cinquefoil (Potentilla anglica x reptans = P. x mixta)	1	06/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Lords-and-Ladies (Arum maculatum)	4	13/08/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Montbretia (Crocospia pottsii x aurea = C. x crocosmiiflora)	1	20/11/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Papaver dubium	1	06/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Primrose (Primula vulgaris)	1	06/03/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Ribwort Plantain (Plantago lanceolata)	1	15/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Scarlet Pimpernel (Anagallis arvensis)	1	06/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Spear Thistle (Cirsium vulgare)	1	25/07/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Tutsan (Hypericum androsaemum)	1	25/07/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Winter Heliotrope (Petasites fragrans)	2	16/01/2018	National Invasive Species	

					Database	
Custom	insect - beetle (Coleoptera)	2-spot Ladybird (<i>Adalia bipunctata</i>)	1	04/06/2023	Ladybirds of Ireland	
Custom	insect - beetle (Coleoptera)	7-spot Ladybird (<i>Coccinella septempunctata</i>)	1	25/04/2020	Ladybirds of Ireland	
Custom	insect - beetle (Coleoptera)	Cream-spot Ladybird (<i>Calvia quatuordecimguttata</i>)	1	29/07/2013	Ladybirds of Ireland	
Custom	insect - beetle (Coleoptera)	<i>Nicrophorus investigator</i>	1	22/08/2021	Carrion Beetles of Ireland	
Custom	insect - butterfly	Brimstone (<i>Gonepteryx rhamni</i>)	1	05/04/2015	Atlas of Butterflies in Ireland 2021	
Custom	insect - butterfly	Dark Green Fritillary (<i>Argynnis aglaja</i>)	1	30/07/2013	Atlas of Butterflies in Ireland 2021	Threatened Species: Vulnerable
Custom	insect - butterfly	Large White (<i>Pieris brassicae</i>)	1	17/05/1998	Atlas of Butterflies in Ireland 2021	
Custom	insect - butterfly	Orange-tip (<i>Anthocharis cardamines</i>)	2	16/04/2020	Atlas of Butterflies in Ireland 2021	
Custom	insect - butterfly	Small Tortoiseshell (<i>Aglais urticae</i>)	1	17/05/1998	Atlas of Butterflies in Ireland 2021	
Custom	insect - butterfly	Speckled Wood (<i>Pararge aegeria</i>)	1	29/04/2021	Atlas of Butterflies in Ireland 2021	
Custom	insect - caddis fly (Trichoptera)	<i>Athripsodes albifrons</i>	1	30/08/2021	Caddisflies (Trichoptera) of Ireland	
Custom	insect - earwig (Dermaptera)	Common Earwig (<i>Forficula auricularia</i>)	2	08/08/2012	Grasshoppers, Crickets and Allied Insects (Orthoptera) of	

					Ireland	
Custom	insect - hymenopteran	Honey Bee (<i>Apis mellifera</i>)	2	22/04/2020	Bees of Ireland	
Custom	insect - hymenopteran	Large Red Tailed Bumble Bee (<i>Bombus (Melanobombus) lapidarius</i>)	1	14/07/2012	Bees of Ireland	Threatened Species: Near threatened
Custom	insect - hymenopteran	Small Garden Bumble Bee (<i>Bombus (Megabombus) hortorum</i>)	1	14/07/2012	Bees of Ireland	
Custom	insect - moth	Barred Red (<i>Hylaea fasciaria</i>)	1	27/07/2003	Moths Ireland	
Custom	insect - moth	Brimstone Moth (<i>Opisthograptis luteolata</i>)	2	13/08/2003	Moths Ireland	
Custom	insect - moth	Cloaked Minor (<i>Mesoligia furuncula</i>)	1	13/08/2003	Moths Ireland	
Custom	insect - moth	Common Grass-veneer (<i>Agriphila tristella</i>)	1	13/08/2003	Moths Ireland	
Custom	insect - moth	Common Rustic (<i>Mesapamea secalis</i>)	1	13/08/2003	Moths Ireland	
Custom	insect - moth	Dark Arches (<i>Apamea monoglypha</i>)	2	13/08/2003	Moths Ireland	
Custom	insect - moth	Dark Fruit-tree Tortrix (<i>Pandemis heparana</i>)	1	13/08/2003	Moths Ireland	
Custom	insect - moth	Elephant Hawk-moth (<i>Deilephila elpenor</i>)	1	17/08/2014	Moths Ireland	
Custom	insect - moth	Furness Dowd (<i>Blastobasis adustella</i>)	1	13/08/2003	Moths Ireland	
Custom	insect - moth	Garden Carpet (<i>Xanthorhoe fluctuata</i>)	3	13/08/2003	Moths Ireland	
Custom	insect - moth	July Highflyer (<i>Hydriomena furcata</i>)	1	27/07/2003	Moths Ireland	

Custom	insect - moth	Large Yellow Underwing (Noctua pronuba)	2	10/07/2003	Moths Ireland	
Custom	insect - moth	Lesser Common Rustic (Mesapamea didyma)	1	13/08/2003	Moths Ireland	
Custom	insect - moth	Light Arches (Apamea lithoxylaea)	1	27/07/2003	Moths Ireland	
Custom	insect - moth	Muslin Footman (Nudaria mundana)	2	10/07/2003	Moths Ireland	
Custom	insect - moth	Platyptilia isodactylus	1	28/07/2003	Moths Ireland	
Custom	insect - moth	Six-striped Rustic (Xestia sexstrigata)	1	13/08/2003	Moths Ireland	
Custom	insect - moth	Small Fan-footed Wave (Idaea biselata)	1	13/08/2003	Moths Ireland	
Custom	insect - moth	Square-spot Rustic (Xestia xanthographa)	1	13/08/2003	Moths Ireland	
Custom	insect - moth	Udea lutealis	1	13/08/2003	Moths Ireland	
Custom	insect - moth	White Ermine (Spilosoma lubricipeda)	1	10/07/2003	Moths Ireland	
Custom	insect - moth	Willow Beauty (Peribatodes rhomboidaria)	2	29/07/2019	Moths Ireland	
Custom	insect - true bug (Hemiptera)	Forest Bug (Pentatoma rufipes)	1	17/09/2015	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Hawthorn Shieldbug (Acanthosoma haemorrhoidale)	1	08/08/2015	True Bugs (Heteroptera) of Ireland	
Custom	insect - true fly (Diptera)	Chrysotoxum festivum	1	05/06/2017	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Eristalis pertinax	1	20/04/2018	Hoverflies (Syrphidae) of Ireland	

Custom	spider (Araneae)	Salticus scenicus	1	08/06/2015	Citizen Science Spider Records for Ireland	
Custom	terrestrial mammal	West European Hedgehog (Erinaceus europaeus)	10	26/09/2022	Hedgehogs of Ireland	Protected Species: Wildlife Acts

10.2 1KM Grid Square M2825

Grid square	Species group	Species name	Record count	Date of last record	Title of dataset	Designation
Custom	bird	Eurasian Oystercatcher (Haematopus ostralegus)	1	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
Custom	bird	European Goldfinch (Carduelis carduelis)	1	08/03/2012	Birds of Ireland	
Custom	bird	European Robin (Erithacus rubecula)	1	11/09/2014	Birds of Ireland	
Custom	Flatworm (Turbellaria)	Arthurdendyus triangulatus	2	19/06/2020	New Zealand Flatworm (Arthurdendyus triangulatus) Database	Invasive Species: Invasive Species Invasive Species:

						Invasive Species >> High Impact Invasive Species
Custom	flatworm (Turbellaria)	Australoplana sanguinea	1	31/12/1992	National Invasive Species Database	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
Custom	flowering plant	Clustered Dock (Rumex conglomeratus)	1	06/06/2017	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Chickweed (Stellaria media)	1	24/03/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Field-speedwell (Veronica persica)	1	24/03/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Knapweed (Centaurea nigra)	1	29/08/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Cowslip (Primula veris)	1	14/05/2021	Vascular plants: Online Atlas of Vascular Plants	

					2012 Onwards	
Custom	flowering plant	Curled Dock (<i>Rumex crispus</i>)	1	24/03/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Enchanter's-nightshade (<i>Circaea lutetiana</i>)	3	04/08/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Herb-Robert (<i>Geranium robertianum</i>)	1	24/04/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Japanese Knotweed (<i>Fallopia japonica</i>)	2	24/07/2014	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)
Custom	flowering plant	Scarlet Pimpernel (<i>Anagallis arvensis</i>)	1	05/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering	Silverweed (<i>Potentilla</i>)	1	06/06/2020	Vascular plants: Online	

	plant	anserina)		0	Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Winter Heliotrope (Petasites fragrans)	1	17/01/2018	National Invasive Species Database	
Custom	insect - beetle (Coleoptera)	10-spot Ladybird (Adalia decempunctata)	1	18/07/2020	Ladybirds of Ireland	
Custom	insect - beetle (Coleoptera)	14-spot Ladybird (Propylea quattuordecimpunctata)	1	18/07/2020	Ladybirds of Ireland	
Custom	insect - beetle (Coleoptera)	2-spot Ladybird (Adalia bipunctata)	2	01/06/2016	Ladybirds of Ireland	
Custom	insect - beetle (Coleoptera)	7-spot Ladybird (Coccinella septempunctata)	3	21/04/2022	Ladybirds of Ireland	
Custom	insect - beetle (Coleoptera)	Cream-spot Ladybird (Calvia quattuordecimguttata)	1	07/06/2022	Ladybirds of Ireland	
Custom	insect - butterfly	Brimstone (Gonepteryx rhamni)	1	10/04/2020	Atlas of Butterflies in Ireland 2021	
Custom	insect - butterfly	Large White (Pieris brassicae)	2	25/04/2020	Atlas of Butterflies in Ireland 2021	
Custom	insect - butterfly	Peacock (Inachis io)	1	27/03/2020	Atlas of Butterflies in Ireland 2021	
Custom	insect - dragonfly	Blue-tailed Damselfly (Ischnura elegans)	1	05/06/2022	Dragonfly Ireland 2019 to	

	(Odonata)				2024	
Custom	insect - dragonfly (Odonata)	Emerald Damselfly (Lestes sponsa)	1	01/06/2016	Dragonfly Records	
Custom	insect - hymenopteran	Honey Bee (Apis mellifera)	1	04/08/2019	Bees of Ireland	
Custom	insect - hymenopteran	Large Red Tailed Bumble Bee (Bombus (Melanobombus) lapidarius)	2	09/06/2020	Bees of Ireland	Threatened Species: Near threatened
Custom	insect - moth	Black Rustic (Aporophyla nigra)	1	03/10/2013	Moths Ireland	
Custom	insect - moth	Currant Clearwing (Synanthedon tipuliformis)	1	03/07/2015	Moths Ireland	
Custom	insect - moth	Elachista rufocinerea	1	16/05/1998	Moths Ireland	
Custom	insect - moth	Garden Carpet (Xanthorhoe fluctuata)	1	29/09/2018	Moths Ireland	
Custom	insect - moth	Red Sword-grass (Xylena vetusta)	1	10/02/1989	Moths Ireland	
Custom	insect - true bug (Hemiptera)	Forest Bug (Pentatoma rufipes)	1	26/08/2019	True Bugs (Heteroptera) of Ireland	
Custom	spider (Araneae)	Pardosa	1	22/04/2020	Citizen Science Spider Records for Ireland	
Custom	spider (Araneae)	Salticus scenicus	1	22/04/2020	Citizen Science Spider Records for Ireland	
Custom	spider (Araneae)	Tegenaria	1	02/05/2020	Citizen Science Spider Records for Ireland	
Custom	terrestrial mammal	West European Hedgehog (Erinaceus)	6	10/09/2022	Hedgehogs of Ireland	Protected Species:

		europaeus)				Wildlife Acts
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