Ecological Impact Assessment

Proposed residential development at
Ardrew, Athy, Co. Kildare

25 November 2021

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Executive Summary

This Ecological Impact Assessment has been prepared by NM Ecology Ltd on behalf of Kildare County Council (the applicant), as part of a planning application for a site at Ardrew in Athy. The proposed development will involve the clearance of the Site and the construction of 54 new residential units. The aim of this report is to identify, quantify and evaluate the impacts of the proposed development on ecosystems and their components, including designated sites, habitats, flora and fauna.

The Site is not within or adjacent to any designated sites. Potential indirect impacts on designated sites were considered within a 5 km radius, but no potential pathways for indirect impacts were identified. A *Screening for Appropriate Assessment* report accompanies this application.

The main habitat within the Site is arable crops (a field of oats), with grassy verges and a hedgerow around the field margins. All habitats are of Negligible ecological importance. No protected plants or problematic invasive species (e.g. Japanese knotweed) were recorded.

The Site may be used by common bird species, but it is highly unlikely to be used by any rare species. It is also highly unlikely to be used by terrestrial mammals or bats due to the lack of cover and the high levels of artificial lighting in the area.

Impacts on nesting birds and breeding mammals will be avoided by scheduling site clearance and demolition works for the non-breeding season (October – February), or by commissioning a pre-construction survey by a suitably-qualified ecologist. Some potential ecological enhancements are proposed, including the planting of native plant species (to benefit pollinators and birds) and the provision of bird boxes. If the ecological enhancement measures can be implemented, it may be possible to have a positive effect on local biodiversity.

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1 Introduction

1.1 Assessment brief

The aim of this Ecological Impact Assessment (EcIA) is to identify, quantify and evaluate the impacts of the proposed development on ecosystems and their components, including designated sites, habitats, flora and fauna. It has been prepared in accordance with the *Guidelines for Ecological Impact Assessment in the UK and Ireland* (2018), which is the primary resources used by members of the Chartered Institute of Ecology and Environmental Management (CIEEM).

The purpose of this document is to:

- Provide an objective and transparent assessment of the potential ecological impacts of the proposed development for all interested parties, including planning authorities and the general public
- Facilitate objective and transparent determination of the consequences of the development in terms of national, regional and local policies relevant to ecology
- Propose the steps will be taken to adhere to legal requirements relating to designated sites and legally protected species (CIEEM 2018).

Although the above guidelines provide a framework for EcIA, many processes rely on the professional judgement of an ecologist, including survey design, the valuation of ecological features, and the characterisation of impacts. An outline of the author's experience, training and accreditation is provided in the following section, which support his competency to make such judgements.

1.2 Statement of authority

All surveying and reporting was carried out by Nick Marchant, the principal ecologist of NM Ecology Ltd. He has thirteen years of professional experience, including ten years as an ecological consultant, one year as a local authority biodiversity officer, and two years managing an NGO in Indonesia. He provides ecological assessments for developments throughout Ireland and Northern Ireland, including wind farms, infrastructural projects (water pipelines, greenways, etc.), and a range of residential and commercial developments.

He has an MSc in Ecosystem Conservation and Landscape Management from NUI Galway and a BSc in Environmental Science from Queens University Belfast. He is a member of the Chartered Institute of Ecology and Environmental Management, and operates in accordance with their code of professional conduct.

2 Methods

2.1 Scoping

The objective of this assessment is to identify any ecological features that may pose a constraint to the proposed development. It involves the following steps:

- Identification of designated sites within an appropriate zone of influence
- A walkover survey incorporating the following elements:
  - Classification and mapping of habitats
  - A search for rare / protected flora, and for problematic non-native plant species (e.g. Japanese Knotweed)
  - A search for field signs of rare or protected fauna (e.g. badgers), and habitat suitability assessments for species that are secretive, nocturnal or seasonal
- Valuation of ecological features, review of legal considerations, and selection of important ecological features
- Assessment of impacts on important ecological features and development of appropriate mitigation strategies

2.2 Data collection and walkover survey

A desk-based scoping study was carried out using data from the following sources:

- Plans and specifications for the proposed development
- Bedrock, soil, subsoil, ground water and surface water maps from the Geological Survey of Ireland webmapping service (www.gsi.ie/mapping.htm), the National Biodiversity Data Centre (http://maps.biodiversityireland.ie/), and the Environmental Protection Agency web viewer (http://gis.epa.ie/Envision/)
- Maps and details of designated sites from www.npws.ie
- Biological records from the National Biodiversity Data Centre online mapping service
- The *Kildare County Development Plan* 2017 - 2023, and details of permitted or proposed developments from the local authority's online planning records

The following resources were used for the walkover surveys:

- Habitat surveys were carried out in accordance with the *Best Practice Guidance for Habitat Survey and Mapping* (Smith et al 2011), and using the classification system of *A Guide to the Habitats of Ireland* (Fossitt 2000)
- Flora were identified using *Webb's An Irish Flora* (8th edition, Parnell & Curtis 2012), *Grasses, Sedges Rushes and Ferns of the British Isles and northwestern Europe* (Rose 1989) and *The Vegetation Key to the British Flora* (Poland & Clement 2009). Nomenclature follows the plant crib of the Botanical Society of the British Isles (BSBI 2007). The abundance and extent of species is described using the DAFOR scale (Dominant, Abundant, Frequent, Occasional, Rare)

- Fauna surveys followed the methods outlined in the *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes* (NRA 2006), with reference to other species-specific methods as appropriate.

Desktop data from internet resources was accessed in May 2021, and a site inspection was carried out on 26th May 2021. The survey was carried out within the boundaries of the Site, and adjacent lands were inspected visually within a 10-20m buffer.

2.3 Valuation of ecological features

Based on the information collected during desktop and walkover surveys, the ecologist assigns an ecological importance to each feature based on its conservation status at different geographical scales (Table 1). For example, a site may be of national ecological importance for a given species if it supports a significant proportion (e.g. 5%) of the total national population of that species.

Table 1: The six-level ecological valuation scheme used in the CIEEM guidelines (2019)

Ecological value	Geographical scale of importance
International	International or European scale
National	The Republic of Ireland or the island of Ireland
Regional	Leinster, and/or the east of Ireland
County	County Kildare
Local	Athy and the surrounding area
Negligible	None, the feature is common and widespread

It is accepted that any development will have an impact on the receiving environment, but the significance of the impact will depend on the importance of the ecological features that would be affected. The following is outlined in the CIEEM guidelines: "*one of the key challenges in an EcIA is to decide which ecological features (habitats, species, ecosystems and their functions/processes) are important and should be subject to detailed assessment. Such ecological features will be those that are considered to be important and potentially affected by the project. It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to impacts from the development, and that will remain viable and sustainable."*

For the purposes of this report we have only assessed impacts on ecological features that are of local importance or higher (refer to Table 1), or those that receive legal protection. These features are termed 'important ecological features' and are listed in Section 4.6. Impacts on features of negligible ecological importance (e.g. amenity grasslands) are not considered to be significant, so they are not included in the impact assessment.

2.4 Ecological Impact Assessment

Potential direct, indirect or cumulative impacts on ecological features can be described in relation to their magnitude, extent, duration, reversibility and timing/frequency, as outlined in the CIEEM (2018) guidelines. Depending on the type of impact and the sensitivities of the important ecological feature, the ecologist may determine that the impact would have a 'significant effect'. The following definitions are provided in the CIEEM guidelines: "*A significant effect is simply an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project*". "*For the purpose of EcIA, a 'significant negative effect' is an effect that undermines biodiversity conservation objectives for 'important ecological features', or for biodiversity in general."*. Where significant impacts are identified, measures will be taken to avoid, minimise or compensate for impacts (where possible). Based on these measures, any residual impacts are then described.

3 Development proposals

3.1 Characteristics of the proposed development

The proposed development will consist of 54 no. residential units, ranging from one-bedroom to four-bedroom units. The primary access point will be from Fortbarrington Road, and it will lead to paved internal roads and parking spaces. Communal outdoor space will be provided. The hedgerow on the northern boundary will be retained and incorporated into the development; all other vegetation will be cleared.

Foul water will be discharged to an Irish Water foul sewer on Fortbarrington Road and conveyed to the Athy Waste Water Treatment Plant. Storm water from new hard landscaping and roofs on site will be directed to an onsite infiltration tank and will discharge to ground.

3.2 Other developments in the area (potential in-combination effects)

The Site is not zoned as part of the current *Kildare County Development Plan* 2017 – 2023, because there was a separate development plan for Athy at the time it was prepared. Under the (expired) *Athy Development Plan* 2012 – 2018, the Site was zoned for 'new residential'.

Live and recently approved planning applications in the vicinity of the Site were reviewed on the online planning records of Kildare County Council (DCC). Some applications were found for small-scale residential alterations (e.g. construction of a vehicular entrance), but no applications were identified that could potentially give rise to in-combination effects.

4 The Receiving Environment

4.1 Environmental setting

Site location and surroundings

The Site (referred to throughout this document as 'the Site') is located in a suburban / rural setting in the south of Athy town. It covers part of a large arable field, with a hedgerow along the northern boundary.

The eastern boundary of the Site adjoins Fortbarrington Road. The northern boundary is marked by a large residential garden, and the southern boundary by the Ardrew Halting Site and 'Ardrew Meadows' housing estate. The arable field extends to the west of the Site. The broader surroundings consist mainly of housing estates and arable land.

Geology and soils

The Site is underlain by limestone (peloidal calcarenitic limestone), which is a regionally-important gravel aquifer. Subsoils are limestone gravel, and soils are a fine loamy drift with limestones (Elton series). On this basis, it is expected that the Site is well drained.

Hydrology

The closest major watercourse is the River Barrow, which is located approx. 600 m east of the Site. A tributary of the Barrow – the Bennetsbridge Stream – is located approx. 400 – 500 m south-west of the Site. The River Barrow flows south through counties Kildare, Carlow, Kilkenny and Waterford, and meets the coast at Waterford Harbour approx. 100 km downstream.

Under the Water Framework Directive status assessments 2013 – 2018, the River Barrow is of Good status upstream of Athy, but of Poor to Moderate status downstream of the town.

4.2 Designated sites

The Site is not located within or adjacent to any designated sites. Potential indirect impacts were considered within a potential zone of influence of 5km[1]. The locations of relevant sites are shown in Figure 1, and details are provided in Table 2.

[1] We consider a potential zone of influence of 5km to be proportionate for the Site due to the moderate scale of the proposed development and its suburban / rural setting.

Figure 1	Designated sites
Location	Ardrew, Athy
Applicant	NTMA
Date	10 Jun 2021

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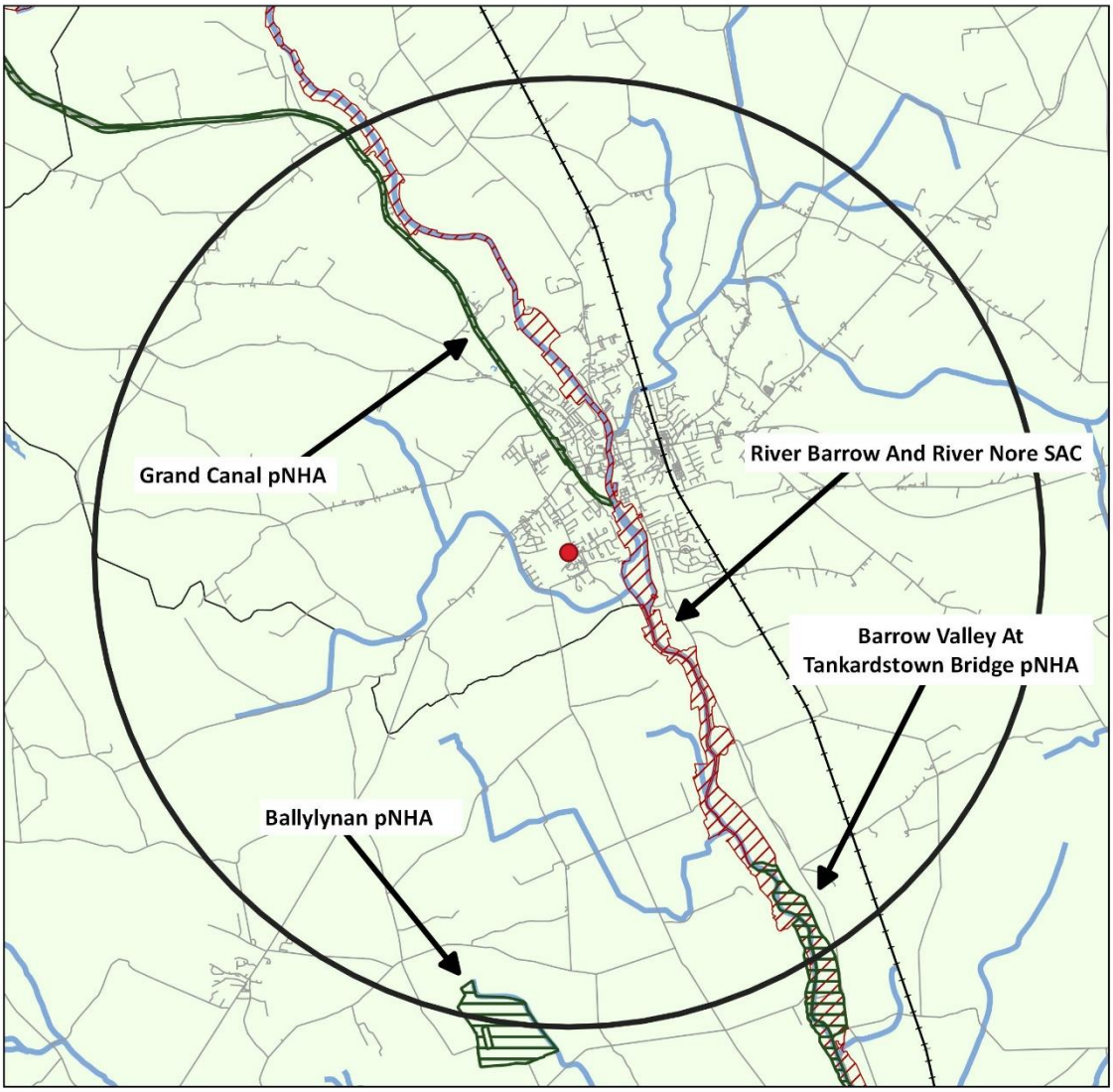
Site location
- Proposed development site
- Buffer zone (5km)
- Roads
- Watercourses

Designated sites
- Special Areas of Conservation
- Special Protection Areas
- Natural Heritage Areas



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0 1 2 3 4 5 km

Table 2: Designated sites within 5 km of the Site

Site Name	Distance	Reasons for designation
River Barrow and River Nore SAC (2162)	0.5 km east	**Annex I habitats:** • Estuaries • Mudflats / sandflats not covered by seawater at low tide • *Salicornia* and other annuals colonizing mud and sand • Atlantic salt meadows • Mediterranean salt meadows • Water courses of plain to montane levels • European dry heaths • Hydrophilous tall herb fringe communities of plains • * Petrifying springs with tufa formation (*Cratoneurion*) • Old sessile oak woods with *Ilex* and *Blechnum* • * Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* **Annex II species:** • Desmoulin's whorl snail *Vertigo moulinsiana* • Freshwater pearl mussel *Margaritifera margaritifera* • Nore freshwater pearl mussel *Margaritifera durrovensis* • White-clawed crayfish *Austropotamobius pallipes* • Sea lamprey *Petromyzon marinus* • Brook lamprey *Lampetra planeri* • River lamprey *Lampetra fluviatilis* • Twaite shad *Alosa fallax* • Atlantic salmon *Salmo salar* (only in fresh water) • Killarney fern *Trichomanes speciosum* • Otter *Lutra lutra*
Grand Canal pNHA (2104)	0.6 km north	Extensive freshwater feature of value to a range of biodiversity, and with value as an ecological corridor
Barrow Valley At Tankardstown Bridge pNHA (858)	3.8 km south-east	Seasonally-flooded grasslands and woodlands
Ballylynan pNHA (857)	4.6 km south	A system of wet meadows on calcium-rich glacial drift

Potential pathways for indirect impacts on designated sites

Indirect impacts can occur if there is a viable pathway between the source (the Site) and the receptor (the habitats and species for which a site has been designated). The most common pathway for impacts is surface water, e.g. if a pollutant is washed into a river and carried downstream into a designated site. Other potential pathways are groundwater, air (e.g. airborne dust or sound waves), or land (e.g. flow of liquids, vibration). The zone of effect for hydrological impacts can be several kilometres, but for air and land it is rarely more than one hundred metres. An appraisal of potential pathways to the designated sites in Table 2 is provided below.

The *River Barrow and River Nore* Special Area of Conservation (SAC) is located approx. 500 m east of the Site. It is a very-large SAC that has been designated to protect a range of riparian and aquatic biodiversity. There are no rivers, streams or drainage ditches linking the Site with the River Barrow or the Bennetsbridge Stream, so a pathway via surface water can be ruled out. Groundwater could theoretically provide a pathway due to the permeability of underlying soils and bedrock, but any pollutants generated at the Site would be filtered by at least 500 m of intervening soils prior to reaching the river, which would reduce their concentrations to negligible levels. Therefore, groundwater is not considered to be a feasible pathway. Pathways via land or air can also be ruled out due to distance.

The *Grand Canal* proposed Natural Heritage Area (pNHA) is located 0.6 km north of the Site, and has been designated for a range of aquatic biodiversity. When considering potential pathways for indirect impacts, it is important to note that the canal is a self-contained hydrological unit that is isolated from surrounding surface water and groundwater. This means that both surface water and groundwater pathways can be ruled out. Pathways via land or air can also be ruled out due to distance.

The *Barrow Valley At Tankardstown Bridge* pNHA is located 3.8 km south-east of the Site, and has been designated for seasonally-flooded grasslands and woodlands along the banks of the River Barrow. It has been established above that there are no potential pathways linking the Site with the River Barrow, so all potential pathways to the pNHA can also be ruled out.

The *Ballylynan* pNHA is located 4.6 km south of the Site, and has been designated for a complex of wet grasslands. There are no watercourses linking the pNHA with the Site, so a surface water pathway can be ruled out. Pathways via groundwater, land or air can be ruled out due to distance.

In summary, no potential pathways were identified to any of the designated sites in Table 2.

4.3 Phase 1 Habitat Survey

Habitats within the Site were classified using *A Guide to Habitats in Ireland* (Fossitt 2000). A habitat map is not provided, because the distribution of habitats can clearly be discerned from aerial photography, and from the descriptions outlined below.

Arable crops (BC1)

The main crop at the time of survey appeared to be oats *Avena sativa*. Some arable weeds were observed among the crop, including common chickweed *Stellaria media*, red dead-nettle *Lamium purpureum*, cow parsley *Anthriscus sylvestris*, cleavers *Galium aparine* and germander speedwell *Veronica chamaedrys*. However, many of these plants showed ill health due to herbicide treatment.

Arable fields are very common in rural areas, and all species listed above are common and widespread in Ireland. The habitat is considerably modified by intensive agricultural practices (notably herbicide application), so it is of Negligible ecological importance.

Dry meadows and grassy verges (GS2)

The margins of the field have been colonised by a range of grassland and ruderal species. Grassy verges generally occur in a linear strip of around 1 – 2 m around the margins of the field, but there is a rectangular patch of approx. 10 m x 20 m in the south of the field that is used for grazing horses.

The coverage of species is highly variable, but the most abundant species were Yorkshire-fog *Holcus lanatus*, common bent *Agrostis capillaris*, barren brome *Anisantha sterilis*, false oat-grass *Arrhenatherum elatius*, nettle *Urtica dioica*, cow parsley and red dead-nettle. Other species with frequent or occasional cover include oil-seed rape *Brassica napus*, round-leaved crane's-bill *Geranium rotundifolium*, wall barley *Hordeum murinum*, common hogweed *Heracleum sphondylium*, annual meadow-grass *Poa annua*, hairy bitter-cress *Cardamine hirsuta*, field forget-me-not *Myosotis arvensis*, hedge mustard *Sisymbrium officinale*, butterbur *Petasites hybridus*, common ragwort *Senecio jacobaea*, elder *Sambucus nigra* and lesser burdock *Arctium minus*.

These species are common and widespread on field margins in arable areas, so the habitat is of Negligible ecological importance.

Hedgerows (WL1)

The northern boundary of the Site is formed by a hedgerow. The dominant species is hawthorn *Crataegus monogyna*, and there is also some elder and dog-rose *Rosa canina*. Ground flora is a grassy verge, as described above. The hedgerow is cut in a square profile to approx. 1 – 1.5 m in height and width. The eastern end of the hedgerow is in close proximity to a dwelling, which has some leyland cypress X *Cuprocyparis leylandii* and spruce *Picea* sp; both of which are outside the Site boundary.

Hedgerows are widespread in agricultural areas. The hedgerows at this Site have a low species richness and are intensively managed (regularly cut)), so they are considered to be of Negligible importance. However, they may have secondary value for nesting birds, as outlined in Section 4.4.

Rare or protected flora

No rare or protected plants were encountered during field surveys.

Invasive plant species

No Japanese knotweed or any other restricted invasive species (as listed on the third schedule of the *European Communities (Birds and Natural Habitats) Regulations 2011*) were recorded during the site inspection.

4.4 Protected fauna

Birds

Common countryside / garden birds

Some birds were observed during the survey: woodpigeon, wren, blackbird, jackdaw and hooded crow. It is likely that some other common rural birds will use the Site, including corvids, finches, tits and other common passerine species. No nests were observed during the site inspection, but it is possible that some species will nest in the hedgerow on the northern boundary of the Site. Overall the Site is considered to be of Negligible importance for common bird species, but it is noted that nesting birds receive legal protection.

Terrestrial mammals

No terrestrial mammals were observed during field surveys, nor any characteristic field signs of protected species (e.g. badger setts). Considering that the Site is in arable use and subject to regular disturbance, it is not suitable for large mammal species such as badgers. It is unsuitable for red squirrel or pine marten due to the absence of woodland in the surrounding area. It is unsuitable for otters due to the absence of any waterbodies.

However, the hedgerow on the northern boundary of the Site may be suitable for some small mammals such as hedgehog, pygmy shrew or stoat. All three species are protected under the *Wildlife Act* 1976 (as amended). These species are secretive and/or nocturnal, and they do not have characteristic field signs, so it is very difficult to establish their presence during walkover surveys. Therefore, on a precautionary basis it will be assumed that one or more of these species will be present, and they are considered to be Important Ecological Features. Nonetheless, it is unlikely that any of these species would use the Site in significant numbers, so it would be of no more than Local importance.

Bats

There are no buildings or mature trees within the Site boundary that could be suitable for roosting bats.

Five bat species have been recorded in the surrounding 10km square (S69): common pipistrelle, soprano pipistrelle, Leisler's, brown long-eared and Daubenton's bats. All of these species are common and widespread in Ireland, and thus are listed as 'least concern' on the Irish red list of terrestrial mammals (Marnell et al 2019). They forage in a range of habitats, particularly woodland, freshwater habitats and linear vegetation. It is likely that some bats will forage around the hedgerows and treelines within the Site, and in similar habitats in the surrounding area. However, the Site does not have any habitats of high value for bats, so it is of Negligible importance as a feeding area / commuting route.

Reptiles and amphibians

No reptiles or amphibians were observed during the site survey. Considering the lack of wetland breeding sites for amphibians, and that all habitats within the Site boundary are well-represented in the surrounding landscape, it is considered to be of Negligible importance for these taxa.

Terrestrial invertebrates

The habitats within the Site are common in suburban / rural landscapes in Ireland, so it is considered to be of Negligible importance for invertebrates.

4.5 Potential limitations and information gaps

The site inspection was carried out in the ideal survey season for most flora and fauna, so this assessment is not considered to have any information gaps.

4.6 Identification of important ecological features

Table 3 provides a summary of all ecological features identified on the Site, including their importance and legal / conservation status. For the purposes of this impact assessment, any features that are of Local ecological importance, or that receive legal protection, are considered to be 'important ecological features', and will be addressed in the impact assessment.

Table 3: Important ecological features within the Site

Ecological feature	Valuation	Legal status*	Important feature?
Designated sites	International / National	HR / WA	No
Arable crops (BC1)	Negligible	-	No
Dry meadows and grassy verges (GS2)	Negligible	-	No
Hedgerow (WL1)	Negligible	-	Secondary value for fauna
Rare and protected flora	Negligible	-	No
Invasive species	Negligible	-	No
Birds	Negligible	WA	Yes
Hedgehogs, pygmy shrew, stoat	Local	WA	Yes
All other terrestrial mammals	Negligible	-	No
Bats	Negligible	HR, WA	No
Reptiles and amphibians	Negligible	-	No
Invertebrates	Negligible	-	No

** HR – EC (Birds and Natural Habitats) Regulations 2011; WA – Wildlife Act 1976*

5 Predicted Impacts of the Proposed Development

5.1 Disturbance of nesting birds / breeding fauna (construction phase)

The treelines may provide habitat for nesting birds and breeding mammals (e.g. hedgehog, pygmy shrew, stoat). If the hedgerow was cleared during the bird nesting season (between March and August, inclusive), it is possible that active nests could be destroyed. The breeding season for protected mammals is similar. The killing of any birds or protected mammals, or the disturbance of their breeding sites, would constitute an offence under the *Wildlife Act* 1976 (as amended).

5.2 Potential in-combination impacts with other developments (all phases)

No developments or planning application were identified in the surrounding area that could potentially lead to in-combination effects.

6 Proposed mitigation measures

6.1 Protection of birds during site clearance works

Under Section 22 of the *Wildlife Act* 1976 (as amended), it is an offence to kill or injure a protected bird, or to disturb their nests. Most birds nest between March and August

(inclusive), so it is strongly recommended that all tree felling and site clearance works are carried out between September and February (inclusive), i.e. outside the nesting season. If this is not possible, an ecologist will survey the affected areas in advance in order to assess whether any breeding birds are present. If any are encountered, vegetation clearance will be delayed until the breeding attempt has been completed, i.e. after chicks have fledged and a nest has been abandoned.

7 Opportunities for Ecological Enhancement

7.1 Planting native vegetation

The proposed development will have some landscaped areas, including in public areas and private enclosed space. If these areas can be planted with a diverse mixture of predominantly native plants, there will be an opportunity to increase the number of plant species on the Site, and thus to increase its ecological value. The planting of native vegetation is also likely to increase the value of the Site for fauna, particularly pollinators and birds.

Comprehensive guidance on landscaping schemes of greatest value for native invertebrates is outlined in the *All-Ireland Pollinator Plan* 2015-2020. The plan includes a 'Pollinator-friendly Planting Code'[2], with recommendations for trees, shrubs, climbers and herbaceous plants that are of greatest value to Irish pollinators. Most species are native to Ireland, but selected non-native flowering plants of value to pollinators are also included. Appropriate species could be selected from this list by the landscape architects for the development, with advice from the project ecologist as required.

If the landscaping scheme resulted in an increase in the number of species at the Site, it may be possible to achieve a net positive effect on the value of the Site for habitats and flora. To achieve maximum value, the species composition should include a significant proportion of native Irish plant species, and species from the 'Pollinator-friendly Planting Code'.

7.2 Installation of nesting boxes

At present the Site has negligible value for nesting birds. If some nesting boxes are installed in landscaped areas, some birds may start to nest on the Site. Nest boxes for common urban birds such as robins, finches and tits are widely available. Nest boxes for swallows and house martins could also be attached to the exterior of new buildings.

One innovative option for this development would be to provide nesting boxes for Swifts. Swift populations have declined by more than 40% in Ireland in the last twenty years, and they are included on the amber list of *Birds of Conservation Concern in Ireland*. They nest in

[2] Pollinator-friendly Planting Code, available online at pollinators.ie/app/uploads/2018/04/Planting-Code-2018-WEB.pdf

urban areas, typically in the eaves of old buildings; the main reason for their decline is the lack of suitable nesting sites in modern buildings. Swift nesting boxes can be purchased in a range of designs, which can be incorporated into brickwork, or bolted to the exterior of a structure. Swifts produce little waste, and the boxes do not need to be maintained. Swifts have been recorded in the area in recent years, so it is likely that they would be attracted to the new development if nest boxes were provided.

In either case, the installation of nesting boxes provides opportunities to attract new fauna to the Site, and to increase the overall number of species above the baseline levels.

8 Residual Impacts

Tree felling and other site clearance works will take place outside the season of peak breeding activity in birds and mammals, or the area will be surveyed by an ecologist to confirm that no protected fauna are present. As a result, there will be no impact on local bird or mammal populations, and no legal offence under the *Wildlife Act 1976* (as amended). Subject to the successful implementation of this measure, it can be concluded that the proposed development will not cause any significant negative impacts on designated sites, habitats, legally protected species, or any other features of ecological importance.

There are some opportunities to improve the ecological value of the site, including the planting of negative plant species, and the provision of nesting boxes for birds. If the ecological enhancement measures can be implemented, it may be possible to have a positive effect on local biodiversity.

9 References

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