Screening Report for Appropriate Assessment (AA) for proposed residential development at Cookstown Road, Enniskerry, Co. Wicklow

Compiled by OPENFIELD Ecological Services

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Introduction

Biodiversity is a contraction of the words ‘biological diversity’ and describes the enormous variability in species, habitats and genes that exist on Earth. It provides food, building materials, fuel and clothing while maintaining clean air, water, soil fertility and the pollination of crops. A study by the Department of Environment, Heritage and Local Government placed the economic value of biodiversity to Ireland at €2.6 billion annually (Bullock et al., 2008) for these ‘ecosystem services’.

All life depends on biodiversity and its current global decline is a major challenge facing humanity. In 1992, at the Rio Earth Summit, this challenge was recognised by the United Nations through the Convention on Biological Diversity which has since been ratified by 193 countries, including Ireland. Its goal to significantly slow down the rate of biodiversity loss on Earth has been echoed by the European Union, which set a target date of 2010 for *halting* the decline. This target was not met but in 2010 in Nagoya, Japan, governments from around the world set about redoubling their efforts and issued a strategy for 2020 called ‘Living in Harmony with Nature’. In 2011 the Irish Government incorporated the goals set out in this strategy, along with its commitments to the conservation of biodiversity under national and EU law, in the second national biodiversity action plan (Dept. of Arts, Heritage and the Gaeltacht, 2011). A third plan was published in 2017.

The main EU legislation for conserving biodiversity are Directive 2009/147//EC of the European Parliament and of the Council of November 2009 on the conservation of wild birds (Birds Directive) and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive). Among other things, these require member states to designate areas of their territory that contain important bird populations in the case of the former; or a representative sample of important or endangered habitats and species in the case of the latter. These areas are known as Special Protection Areas (SPA) and Special Areas of Conservation (SAC) respectively. Collectively they form a network of sites across the European Union known as Natura 2000. The Birds and Habitats Directives have been transposed into Irish legislation by the European Communities (Birds and Natural Habitats) Regulations 2011 to 2015 and Part XAB of the Planning and Development Act 2000. A report into the economic benefits of the Natura 2000 network concluded that “there is a new evidence base that conserving and investing in our biodiversity makes sense for climate challenges, for saving money, for jobs, for food, water and physical security, for cultural identity, health, science and learning, and of course for biodiversity itself” (EU, 2013).

Unlike traditional nature reserves or national parks, Natura 2000 sites are not ‘fenced-off’ from human activity and are frequently in private ownership. It is the responsibility of the competent national authority to ensure that ‘good conservation status’ exists for their SPAs and SACs and specifically that Article 6(3) of the Habitats Directive is met.

Screening for Appropriate Assessment

Article 6(3) of the Habitats Directive states:

> *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.*

The purpose of Stage 1 Screening for Appropriate Assessment is to determine whether it is necessary to carry out a Stage 2 full Appropriate Assessment (AA). In accordance with the provisions of Part XAB of the Planning and Development Act 2000, as amended, An Bord Pleanála ("the Board") is required to carry out a screening for appropriate assessment in respect of a proposed Strategic Housing Development (SHD).

Section 177U(1) provides that a screening for appropriate assessment of a proposed development shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that proposed development, individually or in combination with another plan or project is likely to have a significant effect on the European site.

Section 177U(4) provides that the competent authority shall determine that an appropriate assessment of a proposed development is required if it cannot be excluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site.

The Board's determination as to whether an Appropriate Assessment is required must be made on the basis of objective information and must be recorded.

Where an Appropriate Assessment is required, an applicant for planning permission must prepare and submit a Natura Impact Statement.

This Appropriate Assessment Screening Report (AASR) has been prepared in accordance with the provisions of Article 6(3) of the Habitats Directive and Section 177U of the 2000 Act.

The Purpose of this document

This document provides the information necessary to allow the Board, as competent authority, to conduct a Screening for Appropriate Assessment in

respect of a proposed strategic housing development (SHD) at a site on Cookstown Road, Enniskerry, Co. Wicklow, and its potential effects in relation to Natura 2000 sites (SACs and SPAs). Under the Planning and Development Act 2000 (as amended), and the Birds and Natural Habitats Regulations 2011, the competent authority cannot grant planning permission where significant effects may arise to a Natura 2000 area. In order to make that decision the development must, in the first instance, be screened for AA.

About OPENFIELD Ecological Services

OPENFIELD Ecological Services is headed by Pádraic Fogarty who has worked for 25 years in the environmental field and in 2007 was awarded an MSc from Sligo Institute of Technology for research into Ecological Impact Assessment (EcIA) in Ireland. Since its inception in 2007 OPENFIELD has carried out numerous EcIAs for Environmental Impact Assessment (EIA), Appropriate Assessment in accordance with the EU Habitats Directive, as well as individual planning applications. Pádraic is a full member of the Institute of Environmental Management and Assessment (IEMA).

Methodology

Reference is also made to the following guidelines:

Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (EC, 2018)

Department of the Environment's Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DoEHLG, 2010).

This Appropriate Assessment Screening Report has been prepared in accordance with the Environment DG of the European Commission's Guidance entitled '*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*' (Oxford Brookes University, 2001). Chapter 3, part 1, of the aforementioned document deals specifically with screening while Annex 2 provides the template for the screening/finding of no significant effects report matrices to be used.

In accordance with this guidance, the following methodology has been used to produce this screening statement:

Step 1: Management of the Natura 2000 site
This determines whether the project is necessary for the conservation management of the site in question.

Step 2: Description of the Project
This step describes the aspects of the project that may have an impact on the Natura 2000 site.

Step 3: Characteristics of the Natura Site
This process identifies the conservation objectives of the site and determines whether significance effects to Natura 2000 sites will arise as a result of the plan. This is done through a literature survey and consultation with relevant stakeholders – particularly the National Parks and Wildlife Service (NPWS). All potential effects are identified including those that may act alone or in combination with other projects or plans.

Using the precautionary principle, and through consultation and a review of published data, it is normally possible to conclude at this point whether potential impacts are likely. Deficiencies in available data are also highlighted at this stage.

Step 4: Assessment of Significance
Assessing whether an effect is significant must be made in light of the conservation objectives for that SAC or SPA.

A full AA of a proposed development is required if it cannot be excluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site.

The steps are compiled into a screening matrix, a template of which is provided in Appendix II of the EU methodology.

A full list of literature sources that have been consulted for this study is given in the References section to this report while individual references are cited within the text where relevant.

This report specifically assesses the potential for the proposed development to result in significant effects on European sites in the absence of any mitigation measures.

<u>Screening Template as per Annex 2 of EU methodology:</u>

This plan is not necessary for the management of any SAC or SPA and so Step 1 as outlined above is not relevant.

Description of the proposed project

The development will consist of the construction of 165 no. dwellings and associated ancillary infrastructure as follows:

A) 105 no. 2 storey houses (49 no. 3 bedroom houses [House Types B, B1, & B2], 56 no. 4 bedroom houses [House Types A, D, E & E1];
B) 56 no. apartments/duplex apartments in 6 no. 3 storey buildings – (28 no. 2 bedroom apartments and 28 no. 3 bedroom duplex apartments) all with terrace;
C) 4 no. 1 bedroom Maisonette dwellings in a 2 storey building;
D) Part 2-storey and single storey creche (c. 510 sq. m - including storage);
E) Open space along southern boundary of c. 0.93 hectares [with pedestrian connections to boundary to 'Lover's Leap Lane' to the south and to boundary to the east and west], hard and soft landscaping (including public lighting) and open space (including boundary treatment), communal open space for duplex apartments; regrading/re-profiling of site where required [including import/export of soil as required] along with single storey bicycle/bin stores and ESB substation;
F) Vehicular access (including construction access) from the Cookstown Road from a new junction as well as 313 no. car parking spaces and 150 no. cycle spaces;
G) Surface water attenuation measures and underground attenuation systems as well as connection to water supply, and provision of foul drainage infrastructure (along the Cookstown Road to existing connection at junction with R760) and provision of underground local pumping station to Irish Water specifications;
H) 3 no. temporary (for 3 years) marketing signage structures [2 no. at the proposed entrance and 1 no. at the junction of the R760 and the Cookstown Road] and a single storey marketing suite (c. 81 sq.m) within site;
I) All ancillary site development/construction/landscaping works, along with provision of footpath/public lighting to Powerscourt National School pedestrian entrance and lighting from Powerscourt National School entrance to the junction of the R760 along southern side of Cookstown Road and pedestrian crossing across Cookstown Road.
The construction phase will include works to the rising main along the Cookstown Road, a pedestrian crossing and water main works on Cookstown Road.

The subject lands are located to the south-east of Enniskerry, County Wicklow. The site is currently in agricultural use.

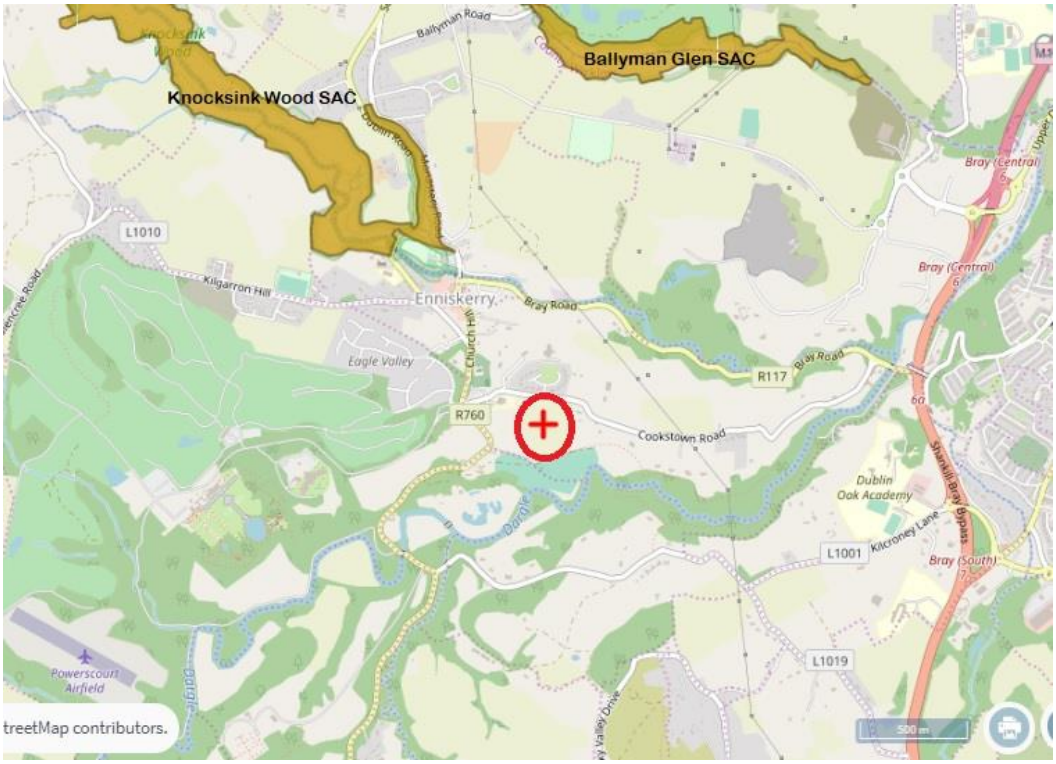

Figure 1 – Site location showing its proximity to nearby Natura 2000 sites. There are no SPAs in this view (from www.npws.ie).

The site was visited for this study on the 30th of July 2019, March 5th 2020, May 27th 2020 and December 2nd 2020. Habitats were surveyed in accordance with best practice methodology (Smith et al., 2011). Habitats are described here in accordance with standard classifications (Fossitt, 2000). All habitats were identifiable to Fossitt level 3.

The development lands consist of a field of **improved agricultural grassland – GA1** which is grazed by cattle. This grassland is dominated by grasses such as Yorkshire Fog *Holcus lanatus* and Creeping Bent *Agrostis stolonifera* along with Ragwort *Senecio jacobaea,* Clovers *Trifolium sp.,* Knotgrass *Polygonum aviculare* and Common Mouse-ear *Cerastium fontanum.* This is a habitat of low biodiversity value.

Boundary features are composed of either **hedgerows – WL1** or **treelines – WL2**. Hedgerows are of native origin with Hazel *Corylus avellana,* Hawthorn *Crataegus monogyna,* Elder *Sambucus nigra,* Holly *llex aquilinum,* Ash *Fraxinus excelsior,* Blackthorn *Prunus spinosa* and Spindle *Euonymus europaeus.* Using methodology from the Heritage Council these hedges are of 'higher significance' due to their age, structure and species diversity (Foulke et al., 2013). Along the roadside there is a tall treeline with large Oak *Quercus sp.,* Beech *Fagus sylvatica,* Ash, Holly and Sycamore *Acer pseudoplatanus.* A treeline along the eastern boundary is different in character with mostly coniferous trees. The non-native Leyland Cypress *Cuprocyparis leylandii* and Sitka Spruce *Picea stichensis* are frequent while Sycamore and the native Scot's Pine *Pinus sylvestris* is also found. The roadside boundary is assessed as 'higher significance' while the conifer treeline is 'lower significance'.

Sections of land within the redline boundary are located in front of the school and to the west of the school as far as the junction with the R760. This is a combination of mown **amenity grassland – GA2** and unmown **dry meadow – GS2** with Creeping Bent *Agrostis stolonifera,* Dandelions *Taraxacum sp.,* Ragwort *Senecio jacobaea* and scatted, mid-aged Grey Willow *Salix cinerea.*

There are no water courses on the site, bodies of open water or habitats which could be considered wetlands.

There are no plant species growing on the lands which are listed as alien invasive under Schedule 3 of S.I. 477 of 2011. There are no habitats which are examples of those listed in Annex I of the Habitats Directive while there is no evidence that species listed in Annex II of that Directive are present.

The lands are not suitable for populations of wetland/wading/wintering birds which may be associated with coastal Natura 2000 sites. Wintering birds surveys carried out in March and December 2020 were during the optimal season for surveying wintering birds and these species were not recorded.

The subject lands are situated across the watershed been the Glencullen River (also marked on some maps as the Cookstown River) to the north, and the River Dargle to the south (www.wfdireland.ie). These are both a part of the same river system (the Glencullen is a tributary of the Dargle).

Figure 2 – Indicative site boundary superimposed on aerial photograph from www.epa.ie.

The subject application is for the construction and occupation of a residential development on the lands as described. This will include open space, parking

areas, access from the public road and all associated infrastructure, including surface water, wastewater, electricity etc., as well as the construction of homes.

Wastewater from any development will be delivered via the mains network to the municipal wastewater treatment plant for Enniskerry and Envrions, which discharges into the River Dargle downstream of the Knocksink Woods SAC.

Fresh water will be sourced from a mains supply, which originates in reservoirs in the Wicklow area.

This site is not within or directly adjacent to any Natura 2000 site. The Knocksink Wood SAC lies approximately 780m to the north-west while the boundary of the Ballyman Glen SAC lies 1.5km to the north. These areas can be seen in Figure 1.

The lands themselves have been found to be of low or local biodiversity value. The Dargle River system, of which the Cookstown River is a part, is important for its populations of Atlantic Salmon *Salmo salar* and Trout *S. trutta.* The lands are close to the centre of Enniskerry and, since they are already close to residential housing, there is a degree of light and noise already associated with this location.

During the construction phase, earth works will result in the exposure of soil and the loss of sediment to local water courses.

Figure 3 –overview of the proposed development

Description of Natura 2000 sites

In assessing the zone of influence of this project upon Natura 2000 sites the following factors must be considered:

- Potential impacts arising from the development
- The location and nature of Natura 2000 sites
- Pathways between the development and the Natura 2000 network

It has already been stated that the site is not located within or directly adjacent to any Natura 2000 site. For projects of this nature an initial 15km radius is normally examined. This is an arbitrary distance however and impacts can occur at distances greater than this. There are a number of Natura 2000 sites within this radius.

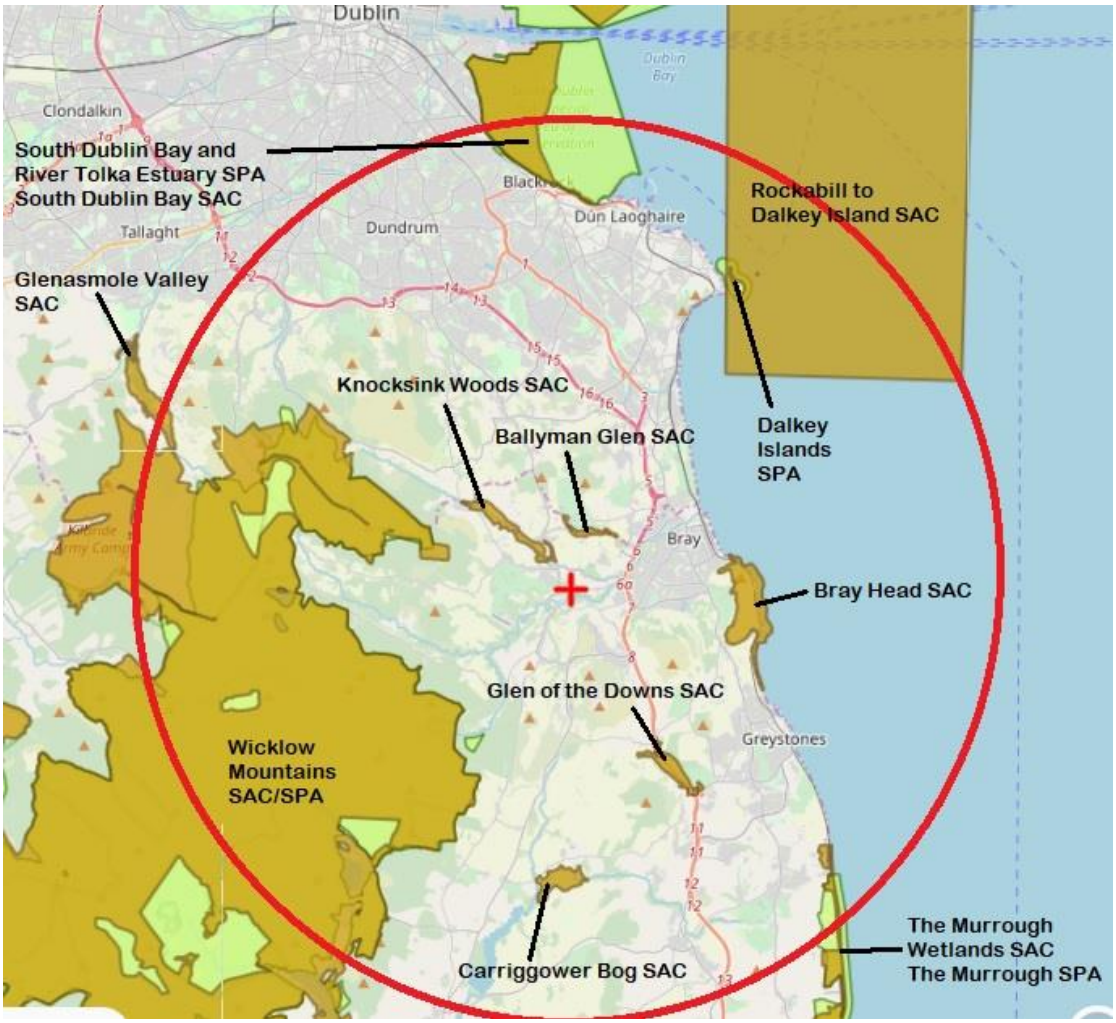

Figure 4 – Approximate 15km radius around the proposed development (red cross) site and Natura 2000 sites.

The Murrough Wetlands SAC (site code: 2162)
This coastal wetland complex stretches for 15km from Ballygannon to the north of Wicklow town and inland to up to 1km in places. It is bounded to the east by the main Dublin to Wexford rail line and a stony beach forms the littoral zone throughout. Some of these maritime influenced habitats are of importance for EU designated habitats and rare plants. The landward wetlands are a complex mosaic of habitats that vary depending on the local hydrology and influence of seawater. While this area has been greatly modified over the years through human activities there remain areas of high biodiversity value in a European context (NPWS, 2014).

The reasons why the Murrough Wetlands is an SAC are set out in the site's 'qualifying interests' and these are given in table 1. Whether the SAC is likely to be significantly affected must be measured against its conservation objectives. However, there is no management plan for the area and site specific conservation objectives have not been set. Draft, generic objectives have been published (NPWS, 2018a).

Table 1 – Qualifying interests of the Murrough SAC

Aspect	Level of Protection	NPWS Assessment
Cladium fens (code: 7210)	Priority Habitat Habitats Directive Annex I	Bad
Atlantic salt meadows (code: 1330)	Habitats Directive Annex I	Inadequate
Mediterranean salt meadows (code: 1410)		Inadequate
Annual vegetation of drift lines (code: 1210)		Inadequate
Perennial vegetation of stony banks (code: 1220)		Inadequate
Alkaline Fens (code: 7230)		Bad

- **Annual vegetation of drift lines (1210)** This habitat of the upper shore is characterised by raised banks of pebbles and stones. They are inhabited by a sparse but unique assemblage of plants, some of which are very rare. The principle pressures are listed as gravel extraction, the building of pipelines and coastal defences.
- **Perennial vegetation of stony banks (1220)** is a habitat of the high tide line characterised by loose stones and shingle. It is a highly dynamic feature, being continually reshaped by tides and waves. It can be home to very rare plants and a number of coastal nesting birds
- **Atlantic and Mediterranean salt meadows (1330 & 1410)**: these are intertidal habitats that differ somewhat in their vegetation composition. They are dynamic habitats that depend upon processes of erosion, sedimentation and colonisation by a typical suite of salt-tolerant organisms. The main pressures are invasion by the non-native *Spartina anglica* and overgrazing by cattle and sheep.

- **Cladium Fens (7210 – priority habitat).** This priority habitat is found in base-rich, groundwater fed fens or around the fringes of lakes or turloughs with similar water chemistry. The characteristic features is the Great Fen-sedge *Cladium mariscus.* The habitat is threatened from drainage and wetland infilling and lack of site management.
- **Alkaline Fens (7230)**: Threats of 'high importance' are groundwater abstractions, land reclamation, diffuse groundwater pollution, land abandonment/under-grazing. These fen systems are often a complex mosaic of habitats, with tall sedge beds, reedbeds, wet grasslands, springs and open-water often co-occurring at a given fen site. Their integrity is reliant upon a stable, high water table; calcareous/low-nutrient water supply; and controlled mowing and/or grazing.

The NPWS assessment refers to the status of protected habitats and species that was carried out for the European Commission in 2019 (NPWS, 2019). This gives the status of the feature at a national level and does not necessarily refer to the status of a habitat or within the Murrough SAC. South of Kilcoole the area is also a SPA (site code: 4186).

Generic conservation objectives only are available for this SAC (NPWS, 2020a).

The Murrough SPA (site code: 4186)

SPAs are designated for the conservation of certain bird species listed on Annex I of the Birds Directive, for significant gatherings of birds (1% of the world population), or for wetlands which are typically used by birds. The NPWS lists 'features of interest' for SPAs and for the Murrough these are given in table 2.

Birds in the Murrough are monitored by BirdWatch Ireland as part of Irish Wetland Bird Survey that sees annual counts at important bird locations across Ireland. The latest data show that an average of 6,319 birds were present on 'North Wicklow Marshes' from the winters of 05/06 to 09/10 (Crowe et al., 2011). Species summaries below are taken from the *Bird Atlas 2007-11* (Balmer et al., 2013).

Table 2 – Features of interest for the Murrough SPA

Species		Status in Ireland[1]
Gavia stellata	Red-throated diver	Amber (breeding)
Anser anser	Greylag goose	Amber (wintering)
Branta bernicula hrota	Light-bellied brent goose	Amber (wintering)
Anas penelope	Wigeon	Red (wintering)
Anas crecca	Teal	Amber (breeding & wintering)

[1] BirdWatch Ireland have published the Status of Birds of Conservation Concern in Ireland based on a traffic light system: red = high concern; amber = medium concern; green = low concern (Colhoun & Cummins, 2013)

Larus ridibundus	Black-headed gull	Red (breeding)
Larus argentatus	Herring gull	Red (breeding)
Sterna albifrons	Little tern	Amber (breeding)
Wetlands & waterbirds		

- **Red-throated Diver.** While common around the coast in winter this diver breeds only in the far north-west of Donegal. Here they nest in bog-pools and freshwater lakes, and only in small numbers.
- **Greylag Goose.** Wintering Greylag Geese are very scattered in Ireland and occur on both coastal in inland sites. Their population has expanded greatly in their more northerly ranges (Iceland and Scotland) and this has coincided with losses elsewhere.
- **Light-bellied Brent Goose.** There has been a 67% increase in the distribution of this goose which winters throughout the Irish coast. The light-bellied subspecies found in Ireland breeds predominantly in the Canadian Arctic.
- **Wigeon**. There is a small unconfirmed breeding population of this duck in Ireland but the bulk of the population arrives to winter in coastal and inland wetlands. Changes in its wintering population have been attributed to climate change.
- **Teal**. In winter this duck is widespread throughout the country. Land use change and drainage however have contributed to a massive decline in its breeding range over the past 40 years.
- **Black-headed Gull.** Widespread and abundant in winter these gulls are nevertheless considered to be in decline. The reasons behind this are unclear but may relate to the loss of safe nesting sites, drainage, food depletion and increase predation.
- **Herring Gull.** This large gull breeds predominantly around the Irish coast and only occasionally inland. Numbers at these colonies have fallen by 60% since 1969, a decline which is attributed to a number of sources including a reduction in available food at landfill, botulism and predation.
- **Little Tern**. Breeding colonies have declines in nearly all scattered Irish nesting localities over the past 40 years. On mainland colonies wardening, to prevent predation effects, is now crucial for long-term survival.

Generic conservation objectives only are available for this SPA (NPWS, 2020b).

Glen of the Downs SAC (site code: 0719)

This glacial valley is bisected by the N11 Dublin to Wexford road but the valley on either side is clothed in semi-natural woodland. This is the subject of the SAC's sole qualifying interest and priority habitat: old oak woodland (code: 91A0). This is a very rare habitat type in Ireland and at a national level is assessed as being in 'bad' status. The forest is also home to rare or notable fungi and invertebrates (NPWS, 2013).

Generic conservation objectives only are available for this SAC (NPWS, 2020c).

Rockabill to Dalkey Island SAC (site code: 0300). This is a recently designated off-shore (i.e. marine) SAC. It has two qualifying interests which are reefs and Harbour Porpoise *Phocoena phocoena*. Conservation objectives for this SAC have been published to maintain or restore the area of habitat and status of the population to 'favourable conservation status'.

- Reefs can be intertidal or subtidal features and are characterised by hard or rocky substrates. The main pressures that have been identified by the NPWS are commercial fishing, aquaculture, water pollution and commercial/recreational uses of the marine environment. Nationally their status is assessed as 'bad' (NPWS, 2013a).
- Harbour porpoise This is the smallest cetacean species regularly occurring in Irish waters. It is commonly found in residential pods close to the shore and it is not considered threatened in Irish waters. Its status nationally is 'good'.

Specific conservation objectives are provided for this SAC (NPWS, 2013) and are summarised as:

Reefs (code: 1170)
The permanent habitat area and distribution of the habitat are stable or increasing; the biological composition is conserved.

Harbour Porpoise (code: 1351)
Species range within the site should not be restricted by artificial barriers to site use; Human activities should occur at levels that do not adversely affect the harbour porpoise community at the site.

Dalkey Islands SPA (site code: 4172) is protected for its breeding colonies of three tern species and is found approximately 4.3km south east of the West Pier at Dun Laoghaire.

- **Roseate Tern.** This tern breeds at only a few stations along Ireland's east coast. Most of these are in decline although at Dublin their colony is increasing.
- **Common Tern.** This summer visitor nests along the coast and on islands in the largest lakes. Its breeding range has halved in Ireland since the 1968-1972 period.
- **Arctic Tern.** These long-distance travellers predominantly breed in coastal areas of Ireland. They have suffered from predation by invasive mink and are declining in much of their range.

Generic conservation objectives only are available for this SAC (NPWS, 2020d).

Knocksink Wood SAC (site code: 0725)
This important woodland site is located near Enniskerry, Co. Wicklow and is within the valley of the Glencullen River. It has mature stands of Oak forest with two important habitats at a European level: alluvial wet woodland, and petrifying springs; both listed on Annex I of the Habitats Directive. The Wood is also of note for its bird and mammal fauna and its particularly rich community of invertebrates.

Knocksink is a National Nature Reserve and so is of significance for a range of wildlife as well as being of amenity value. It should be reiterated that the AA process strictly looks at potential effects to the SAC in light of the conservation objectives which have been set.

Table 3 – Qualifying interests for the Knocksink Wood SAC (from NPWS)

Code	Habitats/Species	Status
7220	Petrifying springs	Inadequate
21E0	Alluvial forests	Bad
91A0	Old oak woodlands	Bad

- **Alluvial Wet Woodland (91E0 – priority habitat)**: This is a native woodland type that occurs on heavy soils, periodically inundated by river water but which are otherwise well drained and aerated. The main pressures are identified as alien invasive species, undergrazing and overgrazing. Pollution from agricultural land may also be significant.
- **Petrifying Springs (7220 – priority habitat)**: These are very localised habitats that arise from the precipitation of excess calcium carbonate in supersaturated running water. They are associated with characteristic bryophytes. They are vulnerable to changes in water quality, flow regime and intensification of land use practices.
- **Old Oak Woodlands (91A0)**: This native woodland type is typified by Sessile Oak *Quercus patrea,* Holly *Ilex aquifolium* and Hard Fern *Blechnum spicant.* Its range is much reduced from historic levels while the principle threats are alien invasive species and overgrazing by deer but also cattle, goats and sheep.

Generic conservation objectives only are available for this SAC (NPWS, 2020e).

Ballyman Glen SAC (site code: 0713)
This internationally important site consists of wet fen vegetation with petrifying springs. These are rare habitats in Dublin and this site is noted for its particularly

rich diversity of orchids and sedges. Its qualifying interests are shown in table 4.

Table 4 – Qualifying interests for the Ballyman Glen SAC (from NPWS)

Code	Habitats/Species	Status
7220	Petrifying springs	Inadequate
7230	Alkaline fen	Bad

- **Alkaline Fens (7230)**: Threats of 'high importance' are groundwater abstractions, land reclamation, diffuse groundwater pollution, land abandonment/under-grazing. These fen systems are often a complex mosaic of habitats, with tall sedge beds, reedbeds, wet grasslands, springs and open-water often co-occurring at a given fen site. Their integrity is reliant upon a stable, high water table; calcareous/low-nutrient water supply; and controlled mowing and/or grazing.

Site specific conservation objectives have been published (NPWS, 2019) and are summarised as:

Petrifying springs – priority habitat (7220)
Habitat area stable or increasing subject to natural variations; no decline in habitat distribution; maintain appropriate hydrological regimes; maintain oligotrophic and calcareous water quality conditions; maintain vegetation composition: typical species.

Alkaline Fen (7230)
Habitat area stable or increasing; no decline in habitat distribution; maintain ecosystem function in terms of soil nutrient status, hydrology, water quality (nutrient status); maintain plant community diversity, maintain vegetation composition in terms of vascular plants, brown mosses, positive indicator species, and negative indicator species. Maintain physical structure in terms of area of bare ground, drainage and indicators of local distinctiveness.

Wicklow Mountains SAC & SPA (site codes: 2122 & 4040)
Wicklow Mountains is a large area and is designated as both an SAC and SPA as well as being a National Park. It is an upland area underlain with granite and is an important amenity and recreational area, as well as being of high conservation value. Its qualifying interests are shown in table 5 while its 'features of interest' are given as Merlin *Falco columbarius* (breeding) and Peregrine *Falco peregrinus* (breeding).

Table 5 – Qualifying interests for the Wicklow Mountains SAC (site code: 4040)

Habitats	**Status**
Active Blanket bog	Bad
Atlantic wet heath	Bad

European dry heath	Bad
Old oak woodland	Bad
Siliceous rocky slopes	Inadequate
Calcareous rocky slopes	Inadequate
Siliceous scree	Inadequate
Alpine and Boreal heath	Bad
Natural dystrophic lakes	Inadequate
Oligotrophic lakes	Inadequate
Species rich Nardus grassland	Bad
Calaminarian Grassland	Inadequate
Otter	Favourable

- **Active Blanket Bog (7130)** This is a very widespread habitat in Ireland found on uplands and lowlands along the Atlantic seaboard. Active blanket bog is peat forming, principally indicating the presence of Sphagnum sp. mosses but also other species. Degraded bog, where there is now forestry or bare peat, are excluded as they are not considered 'active'.
- **Atlantic wet heath (4010)** This is a heather dominant habitat that is intermediate between dry heath and blanket bog, and is frequently found in association with these two. Grazing and trampling by sheep is identified as the greatest threat to the status of the habitat but non-native invasive species such as Rhododendron and the moss *Campylopus introflexus* also impact negatively upon the habitat.
- **Dry heath (4030)**: This is a community of heather shrubs that occurs on well-drained, acidic, nutrient-poor mineral or peaty soils. Pressures on this habitat arise from high levels of sheep grazing, as well as afforestation, mining and quarrying. Unregulated burning is also identified as an important threat to the structure of this habitat.
- **Alpine and Boreal Heath (4060)** This habitat occurs on exposed mountain tops with acid substrate where stunted growths of heather are found. It is also found in the Burren, Co. Clare at low altitudes.
- **Siliceous Scree (8110)** This is a mountainous habitat characterised by expanses of shattered siliceous rock from small, mobile stones to stable boulders. Vegetation is sparse and frequently dominated by moss or lichen communities.
- **Calcareous or Siliceous Rocky Slopes (8210 & 8220)** These are vertical or near vertical slopes of calcareous or siliceous rock with cracks and fissures that are home to unique communities of plants. Climate change is considered to be the greatest threat where specialist arctic-alpine plants are to be found.
- **Upland Oligotrophic lakes (3130).** These are naturally low nutrient status lakes that in Ireland are associated with expanses of blanket bog. They are threatened by eutrophication (excessive input of nutrients) and peatland drainage.
- **Dystrophic lakes (3160)** These are naturally low oxygen, nutrient poor, acid lakes that occur in association with peatland habitats. They have low

species diversity but some of these species are uniquely associated with this habitat.

- **Camalinarian Grassland (6130).** This unusual grassland community is found in Ireland on the sites of previous extraction works such as old mines. Certain bryophyte and vascular plants, including some notable rarities, thrive in conditions of high heavy metal concentrations, such as copper, lead or zinc.
- **Otter (1355)** This aquatic mammal lives its entire life in and close to wet places, including rivers, lakes and coastal areas. They will feed on a wide variety of prey items. Despite local threats from severe pollution incidents and illegal fishing, its population is considered stable and healthy, and so is assessed as being of 'good' status.

Generic conservation objectives only are available for this SPA (NPWS, 2020f).

Site specific conservation objectives have been published for the SAC (NPWS, 2017) and are summarised as:

Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) (3110)
Habitat area stable or increasing, no decline in habitat distribution, typical species present and in good condition, vegetation composition correctly distributed and in good condition, Maintain appropriate natural hydrological regime necessary to support the habitat; Restore appropriate lake substratum type, extent and chemistry to support the vegetation; restore water transparency; Restore the concentration of nutrients in the water column to sufficiently low levels to support the habitat and its typical species; Restore appropriate water quality to support the habitat, including high chlorophyll a status; Maintain appropriate water quality to support the habitat, including high phytoplankton composition status; Restore/maintain trace/absent attached algal biomass (<5% cover) and high phytobenthos status; Maintain high macrophyte status; Maintain appropriate water and sediment pH, alkalinity and cation concentrations to support the habitat, subject to natural processes; Restore/maintain appropriate water colour to support the habitat; Restore/maintain appropriate organic carbon levels to support the habitat; Restore/maintain appropriate turbidity to support the habitat; Maintain the area and condition of fringing habitats necessary to support the natural structure and functioning of habitat 3110.

Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea (3130)
Habitat area stable or increasing, no decline in habitat distribution, typical species present and in good condition, vegetation composition correctly distributed and in good condition, Maintain appropriate natural hydrological regime necessary to support the habitat; Restore appropriate lake substratum type, extent and chemistry to support the vegetation; restore water transparency; Restore the concentration of nutrients in the water column to sufficiently low levels to support the habitat and its typical

species; Restore appropriate water quality to support the habitat, including high chlorophyll a status; Maintain appropriate water quality to support the habitat, including high phytoplankton composition status; Restore/maintain trace/absent attached algal biomass (<5% cover) and high phytobenthos status; Maintain high macrophyte status; Maintain appropriate water and sediment pH, alkalinity and cation concentrations to support the habitat, subject to natural processes; Restore/maintain appropriate water colour to support the habitat; Restore/maintain appropriate organic carbon levels to support the habitat; Restore/maintain appropriate turbidity to support the habitat; Maintain the area and condition of fringing habitats necessary to support the natural structure and functioning of habitat 3130.

European Wet Heaths (4010)
Habitat area stable or increasing subject to natural processes; no decline in habitat distribution; maintain soil nutrient status within natural range; maintain vegetation composition and structure (including negative indicator species and absence of burning); less than 10% disturbed/bare ground.

European Dry Heaths (4030)
Habitat area stable or increasing subject to natural processes; no decline in habitat distribution; maintain soil nutrient status within natural range; maintain vegetation composition and structure (including negative indicator species and absence of burning); less than 10% disturbed/bare ground.

Alpine and Boreal Heaths (4060)
Habitat area stable or increasing subject to natural variations; no decline in habitat distribution; maintain vegetation composition in a favourable status (including non-native and negative indicator species); less than 10% disturbed/bare ground; indicators of local distinctiveness maintained.

Calaminarian grasslands of the Violetalia calaminariae (6130)
No decline in habitat area subject to natural processes; no decline in habitat distribution; Maintain adequate open ground; Maintain high copper (Cu) levels in soil; Maintain low and open vegetation; Maintain diversity and populations of metallophyte bryophytes.

Species-rich Nardus grasslands (6230)
No decline in habitat area subject to natural processes; no decline in habitat distribution; Maintain soil nutrient status within natural range; Maintain variety of vegetation communities, subject to natural processes; Number of positive indicator species present at each monitoring stop is at least seven; At least two high quality indicator species for base rich examples of the habitat and at least one for base-poor examples of the habitat; Species richness at each monitoring stop at least 25; Cover of non-native species less than or equal to 1%; Cover of negative indicator species individually

less than or equal to 10% and collectively less than or equal to 20%; Cover of Sphagnum species less than or equal to 10%; Cover of Polytrichum species less than or equal to 25%; Cover of shrubs, bracken (Pteridium aquilinum) and heath collectively less than or equal to 5%; Forb component of forb:graminoid ratio is 20- 90%; Proportion of the sward between 5cm and 50cm tall is at least 25%; Cover of litter less than or equal to 20%; Cover of disturbed bare ground less than or equal to 10%; Area of the habitat showing signs of serious grazing or disturbance less than 20m²; No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat.

Blanket bogs **(7130)**

Area stable or increasing, subject to natural processes; No decline, subject to
natural processes; Maintain soil nutrient status within natural range; At least 99% of the total Annex I blanket bog area is active; Natural hydrology unaffected by drains and erosion; Maintain variety of vegetation communities,
subject to natural processes; Number of positive indicator species present at
each monitoring stop is at least seven; Cover of bryophytes or lichens, excluding Sphagnum fallax, at least 10%; Cover of each of the potential dominant species less than 75%; Total cover of negative indicator species less than 1%; Cover of non-native species less than 1%; Cover of scattered native trees and shrubs less than 10%; Less than 10% of the Sphagnum cover is crushed, broken and/or pulled up; Last complete growing season's shoots of ericoids, crowberry (Empetrum nigrum) and bog-myrtle (Myrica gale) showing signs of browsing collectively less than 33%; No signs of burning in sensitive areas, into the moss, liverwort or lichen layer or exposure of peat surface due to burning; Cover of disturbed bare ground less than 10%; Area showing signs of drainage from heavy trampling, tracking or ditches less than 10%; Less than 5% of the greater bog mosaic comprises erosion gullies and eroded areas; No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat.

Siliceous scree (8110)
Area stable or increasing, subject to natural processes; No decline, subject to natural processes; Maintain soil nutrient status within natural range; Cover of bryophytes and non-crustose lichen species at least 5%; Proportion of vegetation composed of negative indicator species less than 1%; Proportion of vegetation composed of non-native species less than 1%; At least one positive indicator species present in vicinity of each monitoring stop in block scree; Total cover of grass species and dwarf shrubs less than 20%; Total cover of bracken (Pteridium aquilinum), native trees and shrubs less than 25%; Live leaves of forbs and shoots of dwarf shrubs showing signs of grazing or browsing collectively less than 50%; Ground disturbed by human and animal paths, scree running, vehicles less than 10%; No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat.

Calcareous rocky slopes with chasmophytic vegetation (8210)
Area stable or increasing, subject to natural processes; No decline, subject to natural processes; Maintain soil nutrient status within natural range; Number of ferns and Saxifraga indicators at each monitoring stop is at least one; Number of positive indicator species at each monitoring stop is at least three; Proportion of vegetation composed of non-native species less than 1%; Total cover of bracken (Pteridium aquilinum), native trees and shrubs less than 25%; Live leaves of forbs and shoots of dwarf shrubs showing signs of grazing or browsing collectively less than 50%; No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat

Siliceous rocky slopes with chasmophytic vegetation (8220)
Area stable or increasing, subject to natural processes; No decline, subject to natural processes; Maintain soil nutrient status within natural range; Number of ferns and Saxifraga indicators at each monitoring stop is at least one; Number of positive indicator species at each monitoring stop is at least three; Proportion of vegetation composed of non-native species less than 1%; Total cover of bracken (Pteridium aquilinum), native trees and shrubs less than 25%; Live leaves of forbs and shoots of dwarf shrubs showing signs of grazing or browsing collectively less than 50%; No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat

Old sessile oak woods (91A0)
No decline in native tree cover; variety of native species present; negative indicator species absent, i.e. Beech *Fagus sylvatica,* Rhododendron *Rhododendron ponticum* and Cherry Laurel *Prunus laurocerasus.*

Otter

No significant decline in distribution; no significant decline in terrestrial/estuarine/freshwater/lake habitat; no significant decline in couching sites or holts; no decline in available fish biomass;

Bray Head SAC (site code: 0714).

This coastal site encompasses the high plateaux between the towns of Bray and Greystones. Much of this habitat consists of dry heath along with dry calcareous grassland, which are important for their vegetation communities. The coastal cliffs provide habitat for significant numbers of sea birds, particularly during the breeding season, as well as Peregrine *Falco peregrinus,* which is listed under Annex I of the Birds Directive. Bray Head falls within the Natura 2000 network of European sites due to two habitat types: vegetated sea cliffs (code 1230), and dry heath (code 4030). The 'site synopsis' states "the heath and grassland habitats at this site are threatened by reclamation for agriculture and also by frequent burning. The site is a popular recreational area and is especially used by walkers".

- **Vegetated sea cliffs (1230)** These coastal habitats can be composed of hard or soft material which in turn influences the rate at which erosion occurs. Vegetation can be sparse but composed of a variety of specially adapted species.
- **Dry heath (4030)**: This is a community of heather shrubs that occurs on well-drained, acidic, nutrient-poor mineral or peaty soils. Pressures on this habitat arise from high levels of sheep grazing, as well as afforestation, mining and quarrying. Unregulated burning is also identified as an important threat to the structure of this habitat.

Site specific conservation objectives have been published for this SAC (NPWS, 2017) and are summarised as:

Vegetated sea cliffs (code: 1230)
Habitat areas stable or increasing subject to natural processes; no decline in habitat distribution; No alteration to natural functioning of geomorphological and hydrological processes, including groundwater quality, due to artificial structures; maintain range of sea cliff habitat zonations including transitional zones, subject to natural processes including erosion and succession; maintain vegetation structure, composition.

European Dry Heaths (4030)
Habitat area stable or increasing subject to natural processes; no decline in habitat distribution; maintain soil nutrient status within natural range; maintain vegetation composition and structure (including negative indicator species and absence of burning); less than 10% disturbed/bare ground.

Carriggower Bog SAC (Site Code: 000716).

Carriggower Bog is situated on Calary plateau at the eastern edge of the Wicklow Mountains. The site is an area of wet bog and poor fen, flanked by the Vartry River on the south-western side. It has a single qualifying interest: Transition Mires (7140). Threats of 'high importance' to this habitat are land reclamation, wrongly directed conservation measures, infilling and peat extraction. The habitat is characterised by a broad range of physically unstable peat-forming vegetation communities floating on surface water. Transition mires typically occur in the wettest parts of raised bog, blanket bog or fen or at transition areas of open water and may reflect the actual succession from fen to bog. Its continued integrity requires a permanently high water level.

Site specific conservation objectives have been published for the SAC (NPWS, 2017) and are summarised as:

Transition mires – (7140)
Habitat area stable or increasing subject to natural variations; no decline in habitat distribution; maintain ecosystem function with regard to soil nutrients, peat formation, hydrology/water levels flow patterns and water quality; Maintain variety of vegetation communities, subject to natural processes; Maintain adequate cover of typical vascular plant and bryophyte species; Native negative indicator species at insignificant levels; Cover of non-native species less than 1%; Area showing signs of drainage from heavy trampling, tracking or ditches less than 10%; Cover of disturbed bare ground less than 10%; No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat; maintain features of local distinctiveness, subject to natural processes

The **South Dublin Bay and Tolka Estuary SPA** (side code: 4024) is largely coincident with the South Dublin Bay SAC boundary with the exception of the Tolka Estuary. These designations encompass all of the intertidal areas in Dublin Bay from south of Bull Island to the pier in Dun Laoghaire. Wintering birds in particular are attracted to these areas in great number as they shelter from harsh conditions further north and avail of the available food supply within sands and soft sediments. Table 6 lists the features of interest.

- **Light-bellied Brent Goose.** There has been a 67% increase in the distribution of this goose which winters throughout the Irish coast. The light-bellied subspecies found in Ireland breeds predominantly in the Canadian Arctic.
- **Sanderling.** This small bird breeds in the high Arctic and winters in Ireland along sandy beaches and sandbars. Its wintering distribution has increased by 21% in the previous 30 years.
- **Dunlin.** Although widespread and stable in number during the winter season, the Irish breeding population has collapsed by nearly 70% in 40 years. Breeding is now confined to just seven sites in the north and west as habitat in former nesting areas has been degraded.

- **Knot.** These small wading birds do not breed in Ireland but gather in coastal wetlands in winter. Their numbers have increased dramatically since the mid-1990s although the reasons for this are unclear.
- **Black-headed Gull.** Widespread and abundant in winter these gulls are nevertheless considered to be in decline. The reasons behind this are unclear but may relate to the loss of safe nesting sites, drainage, food depletion and increase predation.
- **Ringed Plover.** This bird is a common sight around the Irish coast where it is resident. They breed on stony beaches but also, more recently, on cut-away bog in the midlands.
- **Oystercatcher.** Predominantly coastal in habit Oystercatchers are resident birds whose numbers continue to expand in Ireland.
- **Bar-tailed Godwit.** These wetland wading birds do not breed in Ireland but are found throughout the littoral zone during winter months. They prefer estuaries where there are areas of soft mud and sediments on which to feed.
- **Grey Plover.** These birds do not breed in Ireland but winter throughout coastal estuaries and wetlands. Its population and distribution is considered to be stable.
- **Roseate Tern.** This tern breeds at only a few stations along Ireland's east coast. Most of these are in decline although at Dublin their colony is increasing.
- **Common Tern.** This summer visitor nests along the coast and on islands in the largest lakes. Its breeding range has halved in Ireland since the 1968-1972 period.
- **Arctic Tern.** These long-distance travellers predominantly breed in coastal areas of Ireland. They have suffered from predation by invasive mink and are declining in much of their range.
- **Redshank.** Once common breeders throughout the peatlands and wet grasslands of the midlands Redshanks have undergone a 55% decline in distribution in the past 40 years. Agricultural intensification, drainage of wetlands and predation are the chief drivers of this change.

Bird counts form BirdWatch Ireland are taken from Dublin Bay as a whole and are not specific to any particular portion of the Bay. Dublin Bay is recognised as an internationally important site for water birds as it supports over 20,000 individuals. Table 6 shows the most recent count data available[2].

Table 6 – Annual count data for Dublin Bay from the Irish Wetland Birds Survey (IWeBS)

Year	2010/11	2011/12	2012/13	2013/14	2014/15	Mean
Count	27,931	30,725	30,021	35,878	33,486	31,608

There were also internationally important populations of particular birds recorded in Dublin Bay (i.e. over 1% of the world population): Light-bellied brent geese *Branta bernicula hrota*; Black-tailed godwit *Limosa limosa*; Knot *Calidris canutus* and Bar-tailed godwit *L. lapponica*.

[2] https://f1.caspio.com/dp.asp?AppKey=f4db3000060acbd80db9403f857c

Table 7 – Features of interest for the South Dublin Bay & River Tolka Estuary SPA (EU code in square parenthesis)

South Dublin Bay and Tolka Estuary SPA
Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]
Oystercatcher (*Haematopus ostralegus*) [A130]
Ringed Plover (*Charadrius hiaticula*) [A137]
Grey Plover (*Pluvialis squatarola*) [A140]
Knot (*Calidris canutus*) [A143]
Sanderling (*Calidris alba*) [A144]
Dunlin (*Calidris alpina*) [A149]
Bar-tailed Godwit (*Limosa lapponica*) [A157]
Redshank (*Tringa totanus*) [A162]
Black-headed Gull (*Croicocephalus ridibundus*) [A179]
Roseate Tern (*Sterna dougallii*) [A192]
Common Tern (*Sterna hirundo*) [A193]
Arctic Tern (*Sterna paradisaea*) [A194]
Wetlands & Waterbirds [A999]

Site specific conservation objectives have been published for this SPA (NPWS, 2015) and are similar for each bird species. They can be summarised as:

Birds (similar for all species)
Long term population trend stable or increasing; there should be no significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation

The **South Dublin Bay SAC** (side code: 0210) is concentrated on the intertidal area of Sandymount Strand. It has four qualifying interests: mudflats and sandflats not covered by seawater at low tide (1140), annual vegetation of drift lines (1210), Salicornia and other annuals colonising mud and sand (1310) and Embryonic shifting dunes (2110).

- **Annual vegetation of drift lines (1210)** This habitat of the upper shore is characterised by raised banks of pebbles and stones. They are inhabited by a sparse but unique assemblage of plants, some of which are very rare. The

principle pressures are listed as gravel extraction, the building of pipelines and coastal defences.

- **Embryonic shifting dunes (2110).** As their name suggests these sand structures represent the start of a sand dune's life. Perhaps only a meter high they are a transient habitat, vulnerable to inundation by the sea, or developing further into white dunes with Marram Grass. They are threatened by recreational uses, coastal defences, trampling and erosion.
- **Tidal mudflats (1140)**. This is an intertidal habitat characterised by fine silt and sediment. Most of the area in Ireland is of favourable status however water quality and fishing activity, including aquaculture, are negatively affecting some areas.
- **Salicornia mudflats (1310)**: This is a pioneer saltmarsh community and so is associated with intertidal areas. It is dependant upon a supply of fresh, bare mud and can be promoted by damage to other salt marsh habitats. It is chiefly threatened by the advance of the alien invasive Cordgrass *Spartina anglica.* Erosion can be destructive but in many cases this is a natural process.

Site specific conservation objectives have been set out for mudflats in this SAC (NPWS, 2013) and are summarised as:

Mudflats (code 1140)
Permanent habitat area stable or increasing (estimated at 720 hectares); Maintain the extent of the Zostera-dominated community, subject to natural processes; Conserve the high quality of the Zostera-dominated community, subject to natural processes; Conserve the following community type in a natural condition: Fine sands with Angulus tenuis community complex

For other qualifying interests, only generic conservation objectives are available.

Whether significant effects are likely to occur to an SAC or SPA must be measured against its conservation objectives. Where site specific conservation objectives have not been set out, generic conservation objectives have been published by the NPWS and are stated as "*to maintain or restore the favourable conservation condition of the Annex I habitat or Annex II species for which the SAC has been selected*" (NPWS, 2018a-g).

According to these generic documents favourable conservation status of a habitat is achieved when:
• its natural range, and area it covers within that range, are stable or increasing, and
• the specific structure and functions which are necessary for its long - term maintenance exist and are likely to continue to exist for the foreseeable future, and
• the conservation status of its typical species is favourable;

The favourable conservation status of a species is achieved when:
• population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
• the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
• there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Pathway Analysis

There are no Natura 2000 sites within the immediate vicinity of the site. There are no water courses on the development site and so there are no direct hydrological links to the River Dargle. Indirect hydrological pathways lead to the River Dargle and the Irish Sea via surface water and wastewater. Wastewater will be treated in the municipal wastewater treatment plant for Enniskerry and envrions which discharges into the River Dargle. There are no Natura 2000 sites in the area of the River Dargle or at its mouth at the Irish Sea.

Beyond the vicinity of the mouth of the Dargle in the Irish Sea dilution occurs to such an extent that no perceivable impact can arise to any Natura 2000 site in the coastal zone. The distance from the mouth of the Dargle to Bray Head SAC, the nearest Natura 2000 site at this point, is 1.5km. This SAC is designated for terrestrial qualifying interests only and so there is no hydrological link between the development site and this SAC. The Rockabill to Dalkey SAC, which is a marine Natura 2000 site, is over 4.5km from the mouth of the Dargle at its nearest point. Any pollutants entering the sea will be diluted to such a degree that no measurable impact could occur at the Rockabill to Dalkey SAC.
In summary therefore, there is no terrestrial or hydrological pathway between the development site and any Natura 2000 site.

Data collected to carry out the assessment

The subject lands are situated across the watershed been the Glencullen River (also marked on some maps as the Cookstown River) to the north, and the River Dargle to the south (www.wfdireland.ie). These are both a part of the same river system (the Glencullen is a tributary of the Dargle). The most recent monitoring (2018) along the Dargle shows Q4 status (unpolluted) from a sampling point upstream of the Glencullen confluence. Along the Glencullen, high water quality (Q4-5) was recorded in 2018 2km upstream of the Enniskerry bridge. Overall the status of the Dargle and Glencullen under the Water Framework Directive (WFD) is ‘good’ as far as Enniskerry. Thereafter it deteriorates to ‘poor’ until near the centre of Bray, whereupon is once again ‘good’ as far as its outfall to the Irish Sea. The coastal waters here are assessed as ‘high status’. Overall, these indicate unsatisfactory conditions. These data are taken from the EPA’s mapping tool on www.epa.ie.

A site visit showed that habitats on the site are not associated with any of those for which nearby SACs are designated.

Potential for Significant Effects

Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site.

In order for an effect to occur there must be a pathway between the source (the development site) and the receptor (the SAC or SPA). Where a pathway does not exist, an impact cannot occur.

The proposed development site is not located within or adjacent to any Natura 2000 site.

No SACs or SPAs fall within the zone of influence of this project as there is no terrestrial or hydrological pathway between the development site and any SACs or SPAs.

Habitat loss
The proposed development site is not located within or adjacent to any Natura 2000 site. Therefore, there is no potential for loss or direct disturbance of habitats or species within any Natura 2000 site arising from the proposed development.

Indirect habitat disturbance/Ex-situ impacts
Noise and artificial light generated from this project will increase locally. The nearest Natura 2000 site is Knocksink Woods SAC which is located 850m to the north-west. However, there is no potential for such impacts to affect the qualifying interests for this SACs or any other Natura 2000 site due to the significant separation distance and the qualifying interests for the SACs.

Enniskerry is a busy town, already attracting considerable day-tripper/tourist attention, including from recreational walkers and cyclists. Knocksink Wood is a popular destination for walking and is served by parking areas and woodland trails. This inevitably results in some disturbance from human activity. However, there is no evidence that this is resulting in negative effects to the ecology of the woodland, and, specifically, to the high value habitats (petrifying springs/alluvial forests) which are qualifying interests for the Knocksink Woods SAC and there is no potential for significant effects on these qualifying interests from the proposed development.

The lands are not suitable for wintering birds for which Natura 2000 sites are designated. Site visits during the wintering bird season were carried out and no wintering/wetland birds were recorded. Therefore, there is no potential for ex-situ impacts to Natura 2000 sites.

Pollution
There is no pathway for surface water or wastewater to reach any Natura 2000 site.

A. Pollution during the operational phase
The use of SUDS will ensure that there is no negative effect to the quality or quantity of surface water leaving the site. These are standard measures which are included in all development projects and are not included here to avoid or reduce any effect to a Natura 2000 site. The proposed development does not provide a pathway to any Natura 2000 site from this source.

Wastewater from the proposed development will be delivered via the mains network to the municipal wastewater treatment plant for Enniskerry and Environs, which discharges into the River Dargle. This plant is operated by Irish Water under licence from the EPA (licence no.: D0088-01). The most recent Annual Environmental Report, from 2019, indicates that the plant was fully compliant with emission limit values set under the Urban Wastewater Treatment Directive in that year. It has a treatment capacity of 6,000 population equivalent (P.E.) and both the mean hydraulic and organic loadings are well within this capacity. There is sufficient capacity at the plant to accept additional flows without affecting the quality of the discharge. This plant discharges treated effluent into the Dargle River, approximately 2km east of the town. Ambient monitoring of the receiving water at points both upstream and downstream of the discharge shows that “A deterioration in water quality has been identified, however it is not known if it or is not caused by the WWTP. Other causes of deterioration in water quality in the area are unknown. It is unknown if the discharge from the wastewater treatment plant is having a negative impact on the Water Framework Directive status.” Capacity at the plant is well within design limitations and the AER states that capacity is not expected to be exceeded in the next three years. Accordingly, there is no potential for negative effects to water quality arising from the proposed development.

This discharge occurs downstream of the Knocksink Wood SAC and so emissions from the wastewater treatment plant cannot affect qualifying interests of the Knocksink Wood SAC. There is no pathway from the wastewater treatment plant to any Natura 2000 site and so there is no potential for effects to Natura 2000 sites to arise.

B. Pollution during the construction phase
The construction phase will involve extensive earth works which could potentially result in sediment or toxic substances such as concrete, oils, fuels etc. entering water courses. There is no pathway for construction pollution to reach any Natura 2000 site. Accordingly, there is no potential for effects on Natura 2000 sites arising from this aspect of the development.

Abstraction
There is no potential for abstraction from reservoirs in the Wicklow area to impact upon any area designated under the Natura 2000 network. There is no potential for this activity to result in significant effects to Natura 2000 sites.

Are there other projects or plans that together with the project or plan being assessed could affect the site?

Water quality along the Glencullen River is currently of a good standard and on-going implementation of the WFD will result in overall improvements to water quality throughout the Dargle catchment.

It is noted the adjoining site to the west (located in the AA3 lands) has an extant permission for 27 no. dwellings (Planning Reg. Ref. 19/871). To the north east is an extant permission for 6 no. dwellings (Planning Reg. Ref. 16976). Further to the north west of the town centre, there is a proposal on lands at Kilgarron Hill (on the AA2 lands), which received a reasonable basis for an application, for 219 no. dwellings. It is noted the SLO10 lands, permission was granted for 12 no. detached dwellings on the 18/4/2020 by An Bord Pleanála (PL27.248914 WCC Ref. 17/15). The Powerscourt Demesne landbank has an extant permission for 47 no. dwellings. To the north west, permission was granted under 19/676 for development comprising the importation of inert soil and stone and improvement of lands for agriculture. In addition, it is noted the Bray MD LAP includes the development of the Fassaroe lands which is located c. 750m to the north east of the proposed development site, which is identified as an area for development of c. 4,000 dwellings along with supporting retail, commercial and areas of open space.

This development has been considered in combination with these developments. In circumstances where there is no potential pathway for any effects to occur to Natura 2000 sites arising from the proposed development, there is no potential for in combination effects.

The Bray Municipal District Local Area Plan 2018-2014 was subject to Appropriate Assessment by Wicklow County Council, which concluded that the LAP "*will not have a significant adverse effect on the integrity of the Natura 2000 network either in isolation or in combination with other plans and projects*". The density of the proposed development exceeds that provided for in the LAP and this fact has been taken into consideration in carrying out the assessment in this report.

No impacts from the subject development will result in significant effects to any Natura 2000 site when assessed in combination with other plans and projects.

<u>Conclusion</u>

This report has assessed the potential for the proposed development to result in significant effects on European sites in the absence of any mitigation measures. Mitigation in an AA context is any measure which is introduced in order to avoid or reduce an impact to a Natura 2000 area. In this case no such mitigation measures were relied upon in preparing this Report on Screening for Appropriate Assessment. The EIA mitigation measures outlined in the EIAR

accompanying this application have not been considered or relied upon in carrying out the assessment in this report.

It can be excluded on the basis of objective information that the proposed development, individually or in combination with other plans and projects, will have a significant effect on the the Murrough Wetlands SAC, The Murrough SPA, Glen of the Downs SAC, Rockabill to Dalkey Island SAC, Dalkey Islands SPA, Knocksink Wood SAC, Ballyman Glen SAC, Wicklow Mountains SAC & SPA, Bray Head SAC, Carriggower Bog SAC, South Dublin Bay and Tolka Estuary SPA, South Dublin Bay SAC, or any other European site. This conclusion is based on best scientific knowledge.

Accordingly, an Appropriate Assessment is not required in respect of the proposed development.

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