Screening Report for Appropriate Assessment of proposed Link Road to Clonlara Road, Baldonnell Business Park, Dublin 22

Compiled by OPENFIELD Ecological Services

Pádraic Fogarty, MSc MIEMA

for MLEU Dublin 3 Ltd and Charles Greene

www.openfield.ie

May 2022

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 and third national biodiversity action plans (Dept. of Arts, Heritage and the Gaeltacht, 2011; Department of Culture, Heritage and the Gaeltacht, 2017). A fourth plan is due for publication in 2022.

The main policy instruments for conserving biodiversity in Ireland have been the Birds Directive of 1979 and the Habitats Directive of 1992. 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. 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" (EC, 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. Article 6(3) 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.

Sections 177U and 177V of the Planning and Development Act 2000 sets out the purpose of AA Screening is as follows:

A screening for appropriate assessment 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.

The test at stage 1 AA Screening is 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 test at stage 2 (Appropriate Assessment) is:

Whether or not the proposed development, individually or in-combination with other plans or projects would adversely affect the integrity of a European site.

However, where this is not the case, a preliminary screening must first be carried out to determine whether or not a full AA is required. This screening is carried out by South Dublin County Council.

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).

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.

South Dublin County Council'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 for the screening of a proposed link road within the Baldonnell Business Park and its potential effects in relation to Natura 2000 sites (SACs and SPAs).

This document will assess whether effects to the Natura 2000 network are likely to occur in accordance with Article 6(3) of the Habitats Directive and the Planning and Development (Amendment) Act, 2010 as a result of granting the extension of duration.

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).

Guidance

This AA Screening Report has been undertaken in accordance with the following guidance:

- *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities.* (Department of Environment, Heritage and Local Government, 2010 revision);
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities.* Circular NPW 1/10 & PSSP 2/10;
- *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* (European Commission, 2001);
- *Communication from the Commission on the precautionary principle* (European Commission, 2000); and,
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC* (European Commission, 2019).
- *Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission, 2021).

Methodology

The methodology for this screening statement is clearly set out in a document prepared for the Environment DG of the European Commission 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 this 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 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 Site
This process identifies the conservation aspects of the site and determines whether negative impacts can be expected 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 or not must be measured against the conservation objectives for the Natura area in question.
If this analysis shows that significant effects are likely then a full AA will be required.

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

Mitigation measures cannot be taken into account in an AA screening assessment

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.

Screening Template as per Annex 2 of EU methodology:

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

Brief description of the proposed project

The proposed development will consist of:

- The provision of an amended junction and new link road from the existing Clonlara Road to the currently undeveloped lands with Enterprise and Employment zoning objective south of the Camac River and North of the N7 National Route;
- Interim measures are included within the application to block access to the new road until such time as the undeveloped lands are being developed;
- All associated landscaping, infrastructure and site development works to facilitate the development.

The development site is located within the townlands of Brownsbarn and Collegeland, near the towns of Rathcoole and Saggart, to the west of Dublin and close to the border with County Kildare. The subject lands have until recently been in road verge and agricultural use however land use change has occurred in recent times to temporary offices and temporary road access.

The development site is located within an area of existing built development and so bounded on all sides by artificial surfaces, albeit with small areas of semi-natural vegetation within these areas. Maps from the Environmental Protection Agency (EPA) show that the Camac River flows along the northern site boundary and this is a tributary of the River Liffey. The River Liffey in turn enters the Irish Sea at Dublin Bay. Dublin Bay is subject to a number of Natura 2000 designations.

A site survey was undertaken for this study on October 6th 2021 in accordance with best practice methodology (Smith et al., 2010). Habitats are described here in accordance with standard classifications (Fossitt, 2000). The survey found that the development site is close to the River Camac but will be set back from the bank by 8.4m at their closest points (at the existing bridge). This distance quickly widens however and is between 10m and 18m for most of the stretch. The bulk of the land is composed of **artificial surfaces – BL3** however a stretch of **hedgerow – WL1** can be found to the south. This is composed of mid-aged Ash *Fraxinus excelsior,* Birch *Betula sp.,* Brambles *Rubus fruticosus agg.,* Lime *Tilia sp.,* Cotoneaster *Cotoneaster sp.* and Maple *Acer sp.* This is not an old field boundary hedge but rather one that has been planted in relatively recent times. There are no very old or tall trees while the ground flora is limited.

The River Camac flows to the north of the development site boundary. In this location it is a **lowland river – FW2** and its banks are scrubby in nature with occasional Hawthorn *Crataegus monogyna,* Sycamore *Acer pseudoplatanus,* Bindweed *Convolvus sp.,* Elder *Sambus nigra,* Willowherb *Epilobium sp.* and Iris *Iris pseudacorus.* It is culverted to the north and south of the site (under the Naas dual carriageway) and this is likely to present a barrier to fish and otter movement.

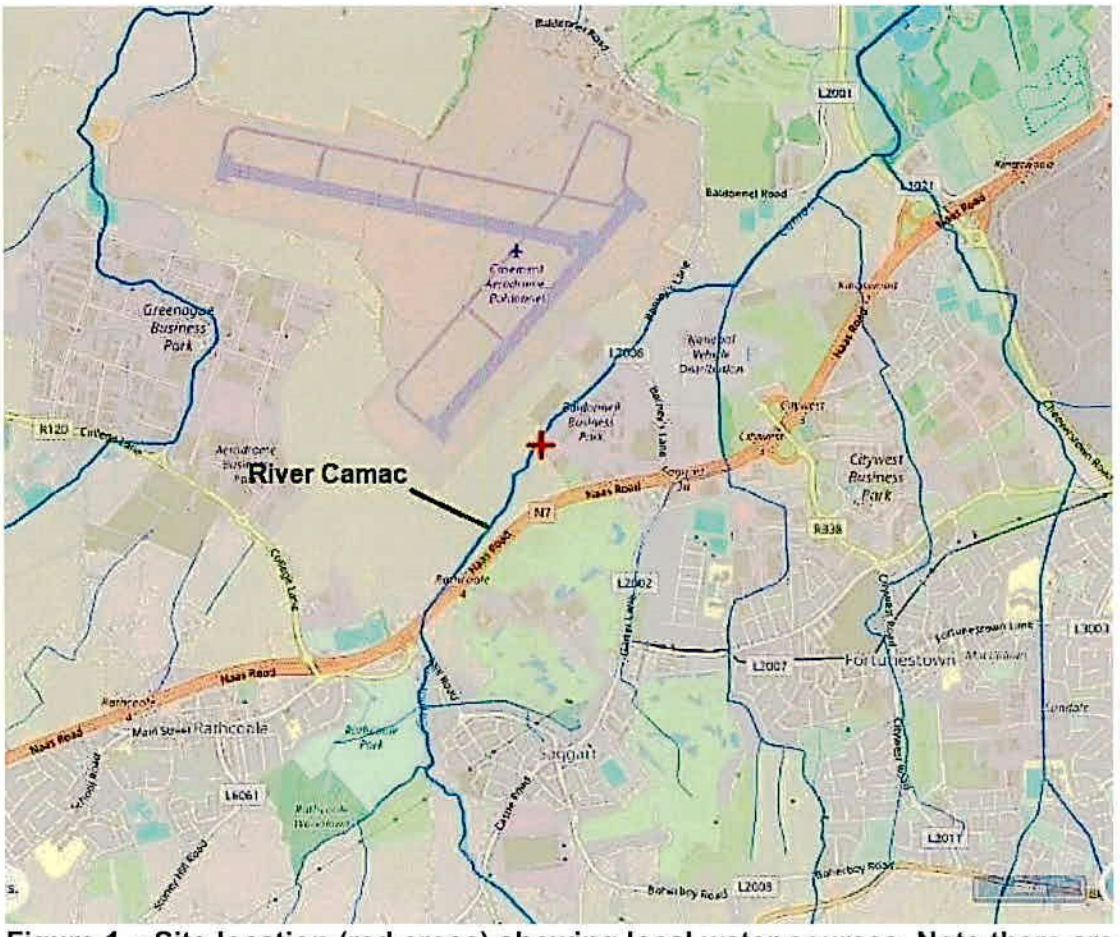

Figure 1 – Site location (red cross) showing local water courses. Note there are no Natura 2000 sites in this view (from www.epa.ie)

The habitats on the development site are not suitable for regularly occurring populations of wetland, wading or wintering birds. These species are predominantly associated with intertidal wetlands while in Dublin City some species (notably the Light-bellied Brent Goose) is known to feed on amenity grasslands in certain areas.

The subject proposal is for the construction and operation of a link road to facilitate movement within the Baldonell Business Park.

Currently there is no attenuation of rain run-off and this is likely to soak through open ground or follow surface pathways to the River Camac. According to a services report prepared for this development application by Punch engineers:

A new surface water sewer network shall be provided for the proposed road and path which will be entirely separated from any foul water sewer network. All surface water run-off from hardstanding areas are designed to be collected by a gravity pipe network and will discharge to the River Camac north of the road. Please refer to PUNCH drawings illustrating the proposed stormwater drainage arrangement.

Attenuation is proposed through the use of oversized pipes for the small scale network proposed.

The proposed network will discharge stormwater from the road and pathway into the River Camac via a headwall. A manhole will be located prior to the headwall with a hydraulic vortex flow controller (e.g. Hydrobrake) to limit outflow.

The majority of the development is to discharge to a proposed swale area adjacent to the proposed new road. At low flow situations, the majority of runoff will remain within the soil along the bottom of the swale and will be treated across the large area of swales. Surface water treatment in this situation is provided primarily by evapotranspiration.

The swales are proposed to be grassed.

Any high flow surface water would build up and discharge to proposed gullies within the swales and then to the oversized pipework providing attenuation.

Figure 3 shows the proposed site layout.

The site will be prepared and any construction and demolition waste will be removed by a licenced contractor. Eight (x8) trees within hedgerow are to be removed to facilitate the development although this will leave the hedge largely intact. A 8.5m-10m buffer along the River Camac is being preserved while some additional native planting is planted to enhance the riparian zone.

There is no source of foul wastewater from this development.

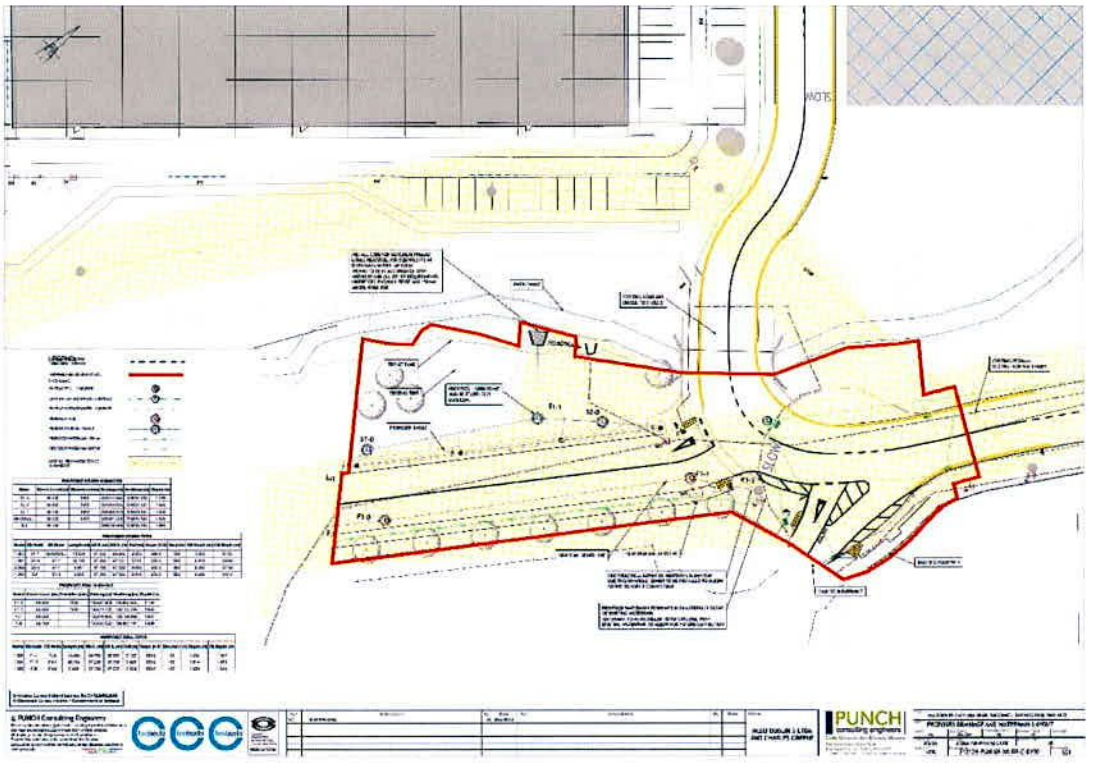

Figure 2 – Site boundary (in indicative red line).

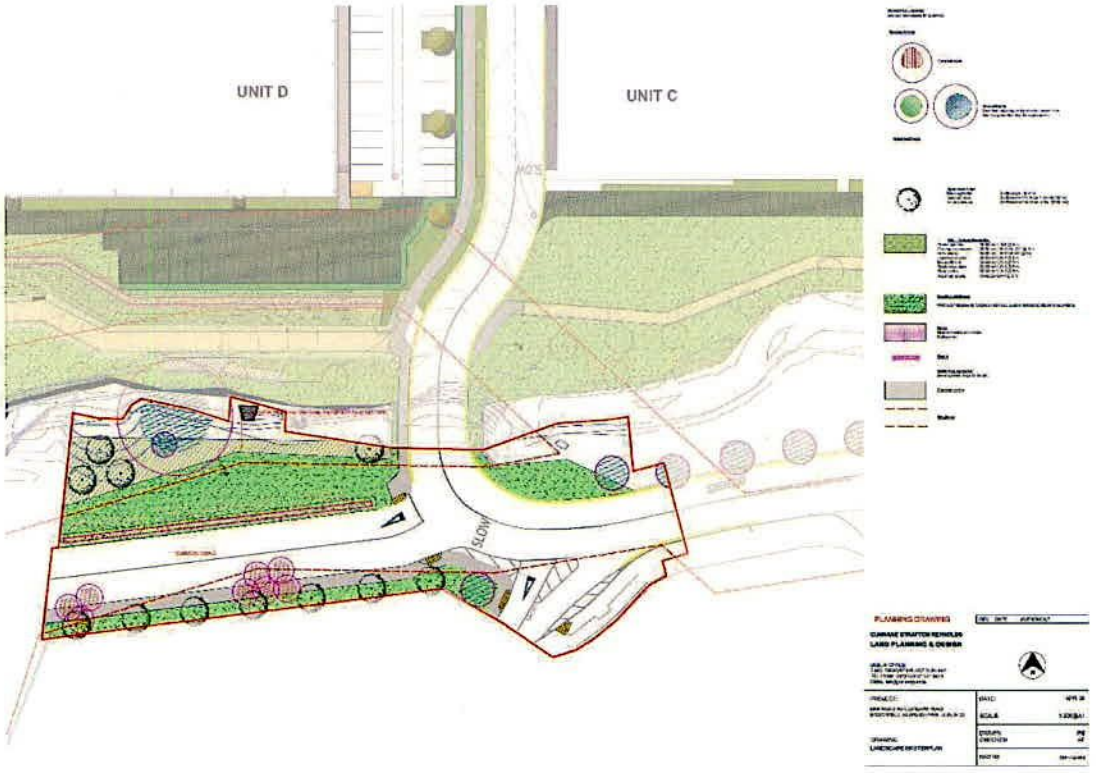

Figure 3 – Proposed landscaping layout showing trees to be removed (in red)

There are no other discharges from this operation. Fresh water supply for the development will be via a mains supply. This may originate in the Poulaphouca Reservoir.

Some dust and noise can be expected during the construction phase.

This development site is not located within any Natura 2000 site (SAC or SPA). Figure 1 shows that there are no Natura 2000 sites in this vicinity. However, there is a hydrological connection to Natura 2000 sites in Dublin Bay. This places the South Dublin Bay and Tolka Estuary SPA, the North Bull Island SPA, the North Dublin Bay SAC and the South Dublin Bay SAC within the zone of influence of this project.

This development occurs in an area that is already heavily built-up and urbanised in character. Activities in the locality are of residential, industrial and transport nature and these developments are associated with a degree of noise and artificial lighting. There are no habitats on the development site that are associated with habitats for which SACs or SPAs are generally designated. The Camac River is of fisheries value however, supporting a run of Brown Trout and other fish, according to Inland Fisheries Ireland. Completion of recent developments included the installation of artificial Otter holts along the Camac. SUDS treatment of surface water run-off will ensure that no negative effects occur to the quality and quantity of run-off leaving the site. The project will result in negligible additional noise and artificial lighting and this cannot disturb sensitive species due to the significant separation distance to Natura 2000 sites. SUDS are standard measures in all new development and are not included here to avoid or reduce an effect to a Natura 2000 site.

During the construction phase, there will be use of asphalt as well as the potential for release of sediment to surface waters. These activities have the potential to temporarily affect water quality locally but are too far from Natura 2000 sites for there to be any effect in these areas.

Brief 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 development 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.

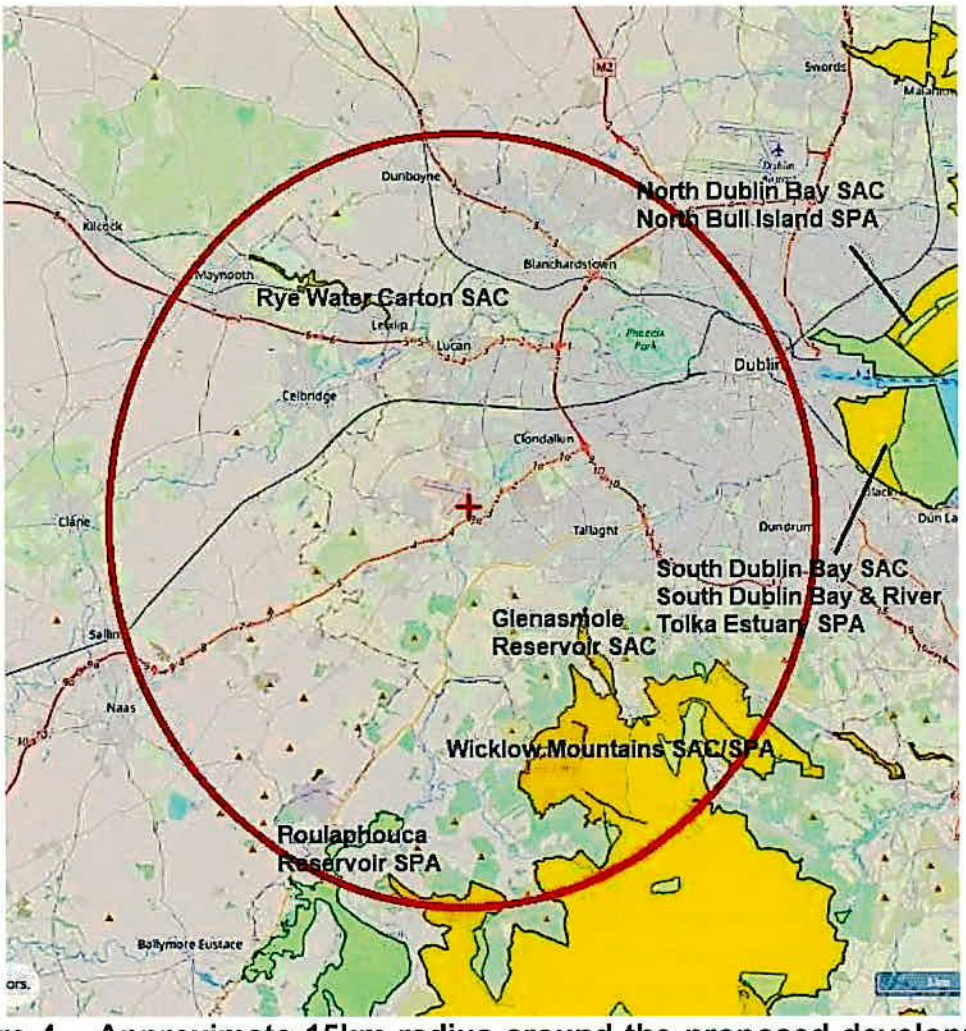

Figure 4 – Approximate 15km radius around the proposed development site and Natura 2000 sites.

North Dublin Bay SAC/North Bull Island SPA

The North Dublin Bay SAC (site code: 0206) is focussed on the sand spit on the North Bull island. The qualifying interests for it are shown in table 1. The status of the habitat is also given and this is an assessment of its range, area, structure and function, and future prospects on a national level and not within the SAC itself.

Table 1 – Qualifying interests for the North Dublin Bay SAC

Code	Habitat/Species	Status
1140	Mudflats and sandflats not covered by seawater at low tide	Inadequate
1320	Salicornia and other annuals colonizing mud and sand	Favourable
1330	Atlantic salt meadows	Inadequate
1410	Mediterranean salt meadows	Inadequate
1210	Annual vegetation of drift lines	Inadequate
2110	Embryonic shifting dunes	Inadequate
2120	Shifting dunes along the shoreline with Ammophila arenaria (white dunes)	Inadequate
2130	Fixed coastal dunes with herbaceous vegetation (grey dunes)	Bad
2190	Humid dune slacks	Inadequate
1395	*Petalophyllum ralfsii* Petalwort	Favourable

- **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.
- **Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) (2120).** These are the second stage in dune formation and depend upon the stabilising effects of Marram Grass. The presence of the grass traps additional sand, thus growing the dunes. They are threatened by erosion, climate change, coastal flooding and built development.
- **Fixed coastal dunes with herbaceous vegetation (grey dunes) (2130 – priority habitat).** These are more stable dune systems, typically located on the landward side of the mobile dunes. They have a more or less permanent, and complete covering of vegetation, the quality of which depends on local hydrology and grazing regimes. They are the most endangered of the dune

habitat types and are under pressure from built developments such as golf courses and caravan parks, over-grazing, under-grazing and invasive species.

- **Humid dune slacks (2190).** These are wet, nutrient enriched (relatively) depressions that are found between dune ridges. During winter months or wet weather these can flood and water levels are maintained by a soil layer or saltwater intrusion in the groundwater. There are found around the coast within the larger dune systems.
- **Petalwort (1395).** There are 30 extant populations of this small green liverwort, predominantly along the Atlantic seaboard but also with one in Dublin. It grows within sand dune systems and can attain high populations locally.

Site specific conservation objectives are available for this SAC (NPWS, 2013a) and are summarised as:

Annual vegetation of drift lines (code: 1210)
Habitat areas stable or increasing subject to natural variation; no decline in habitat distribution; maintain physical and vegetation structure without any physical obstructions, maintain vegetation structure and composition subject to natural variations.

Atlantic/Mediterranean Salt Meadows (1330/1410)
Maintain habitat area and distribution including physical structure (sediment supply, creeks and pans, flooding regime). Maintain vegetation structure as measured by vegetation height, vegetation cover, typical species and sub-communities. Absences of the invasive *Spartina anglica.*

Embryonic shifting dunes (code: 2110)
Habitat areas stable or increasing subject to natural variation; no decline in habitat distribution; maintain physical and vegetation structure without any physical obstructions, maintain vegetation structure and composition subject to natural variations.

Salicornia and other annuals colonising mud and sand (code: 3110)
Habitat area stable or increasing; no decline in habitat distribution; maintain physical and vegetation structure.

Fixed Coastal Dunes/Shifting Dunes (2130/2120)
Maintain habitat area and distribution including physical structure (functionality and sediment supply, percentage of bare ground, sward height). Maintain vegetation structure as measured by zonation, vegetation cover, typical species and sub-communities. Absences of the invasive *Hippophae rhamnoides.*

Humid dune slacks (code: 2190)
Area increasing, subject to natural processes including erosion and succession; No decline or change in habitat distribution, subject to natural processes; Maintain the natural circulation of sediment and organic matter, without any physical obstructions; Maintain natural hydrological regime; Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession; Bare ground should not exceed 5% of dune slack habitat, with the exception of pioneer slacks which can have up to 20% bare ground; Maintain structural variation within sward; Maintain range of subcommunities with typical species; Maintain less than 40% cover of creeping willow (Salix repens); Negative indicator species (including non-natives) to represent less than 5% cover.

Petalwort *Petalophyllum ralfsii* (code: 1395)
No decline in known populations. No decline in population, estimated at 5,824 thalli. No decline in area of suitable habitat. Maintain hydrological conditions; maintain open, low vegetation, with a high percentage cover of bryophytes (small acrocarps and liverwort turf) and bare ground.

The North Bull Island SPA (site code: 0206) is largely coincident with the North Dublin Bay SAC with the exception of the terrestrial portion of Bull Island. Table 2 lists its features of interest

Table 2 – Features of interest for the North Bull Island SPA

North Bull Island SPA	National Status
Light-bellied Brent Goose *Branta bernicla hrota*	Amber (Wintering)
Oystercatcher *Haematopus ostralegus*	Red (Breeding & Wintering)
Teal *Anas crecca*	Amber (Breeding & Wintering)
Pintail *Anas acuta*	Amber (Wintering)
Shoveler *Anas clypeata*	Amber (Wintering)
Shelduck *Tadorna tadorna*	Amber (Breeding & Wintering)
Golden Plover *Pluvialis apricaria*	Red (Breeding & Wintering)
Grey Plover *Pluvialis squatarola*	Red (Wintering)
Knot *Calidris canutus*	Red (Wintering)
Sanderling *Calidris alba*	Green (Wintering)
Dunlin *Calidris alpina*	Red (Breeding & Wintering)
Black-tailed Godwit *Limosa limosa*	Red (Wintering)
Bar-tailed Godwit *Limosa lapponica*	Red (Wintering)
Curlew *Numenius arquata*	Red (Breeding & Wintering)

Redshank *Tringa totanus*	Red (Breeding & Wintering)
Turnstone *Arenaria interpres*	Amber (Wintering)
Black-headed Gull *Larus ridibundus*	Amber (Breeding)
Wetlands & Waterbirds	

- **Oystercatcher.** Predominantly coastal in habit Oystercatchers are resident birds whose numbers continue to expand in Ireland.
- **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.
- **Pintail**. Dabbling duck wintering on grazing marshes, river floodplains, sheltered coasts and estuaries. It is a localised species and has suffered a small decline in distribution in Ireland for unknown reasons.
- **Shoveler**. Favoured wintering sites for this duck are inland wetlands and coastal estuaries. While there have been local shifts in population and distribution, overall their status is stable in Ireland.
- **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.
- **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.
- **Black-tailed Godwit.** Breeding in Iceland these waders winter in selected sites around the Irish coast, but predominantly to the east and southern halves. Their range here has increase substantially of late.
- **Curlew.** Still a common sight during winter at coastal and inland areas around the country it breeding population here has effectively collapsed. Their habitat has been affected by the destruction of peat bogs, afforestation, farmland intensification and land abandonment. Their wintering distribution also appears to be in decline.
- **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.
- **Turnstone.** This winter visitor to Irish coasts favours sandy beaches, estuaries and rocky shores. It is found throughout the island but changes may be occurring due to climate change.
- **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.

Site specific conservation objectives have been published for this SPA (NPWS, 2015a) 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 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 4 lists the qualifying interests.

- **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 3 shows the most recent count data available[1].

Table 3 – Mean count of birds species (qualifying interests of SPAs) for Dublin Bay from the Irish Wetland Birds Survey (IWeBS) from 2010 - 2020

Species	Mean
Light-bellied Brent Goose	3,453
Sanderling	500
Dunlin	5,951
Knot	5,093
Black-headed Gull	3,340
Ringed Plover	176
Oystercatcher	3,419
Bar-tailed Godwit	1,965
Grey Plover	328
Roseate Tern	0
Common Tern	23
Arctic Tern	0
Redshank	2,050
Teal	1,335
Pintail	184
Shoveler	101
Black-tailed Godwit	2,038
Curlew	882
Turnstone	272

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

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*.

Table 4 – Qualifying interests 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, 2015b) 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; approximately 800m from the site) 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 dependent 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, 2013b) 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.

The **Glenasmole Valley SAC** (code: 1209) is the flooded valley of the Dodder river, dammed to provide drinking water for the city of Dublin, and covering an area of nearly 150ha. Woodland has developed around its margins while species-rich grassland is to be found on some of its slopes. A number of rare plants species, including a variety of orchids, are to be found here.

The SAC is designated only for protected habitat types and these are given in table 5.

Table 5 – Qualifying interests for the Glenasmole Valley SAC (from NPWS)

Code	Habitats	Status
6210	Orchid rich grassland/Calcareous grassland	Bad
6410	Molinea meadows	Bad
7220	Petrifying springs (priority habitat)	Inadequate

- **Orchid-rich grassland (6210)** This is a species rich grassland habitat found on well drained calcareous soils. It must be important for orchids in order to fall into this category. While there is evidence that an increased occurrence of flooding on some sites may be having a detrimental effect the principle threats listed are from agricultural intensification and 'stock feeding', i.e. overgrazing.
- **Molinea meadows (6410)** *Molinea caerulea,* the Purple Moor-grass, is typically associated with upland peatland habitats but this habit type occurs on lowland sites associated with traditional agricultural practices. The main threats that it faces are associated with changes in land use, e.g. land abandonment or intensification.
- **Petrifying Springs (7220)**: 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 (NPWS, 2013).

Site specific conservation objectives have been published for this SAC (NPWS, 2021a) and are summarised here.

Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia) (important orchid sites – priority habitat) (6210)
Habitat area stable or increasing subject to natural processes; no decline in habitat distribution; maintain vegetation composition in a favourable status (including non-native and negative indicator species); not more than 10% bare soil; less than $20m^2$ showing signs of serious grazing or other disturbance.

Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) (6410)
Habitat area stable or increasing subject to natural processes; no decline in habitat distribution; maintain vegetation composition in a favourable status (including non-native and negative indicator species); not more than 10% bare soil; less than $20m^2$ showing signs of serious grazing or other disturbance.

Petrifying springs – priority habitat (7220)
Habitat area stable or increasing subject to natural variations; no decline in habitat distribution; maintain appropriate hydrological regimes; maintain appropriate levels of tufa formation; maintain nitrate level at less than 10mg/l; restore phosphate level to less than 15µg/l; maintain variety of vegetation communities, subject to natural processes; at least three positive/high quality indicator species as listed in Lyons and Kelly (2016) and no loss from baseline number; potentially negative indicator species should not be dominant or abundant; woody species should be absent in unwooded springs; invasive species should be absent; cover of algae less than 2%; field layer height between 10cm and 50cm (except for bryophyte-dominated ground <10cm); 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.

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 6 while its 'features of interest' are given as Merlin *Falco columbarius* (breeding) and Peregrine *Falco peregrinus* (breeding).

Table 6 – 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, 2022a).

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;

Rye Water Valley/Carton SAC (site code: 1398)
The Rye Water is a tributary of the Liffey and the SAC boundary stretches from east of Maynooth as far as Leixlip village. It flows through the Carton demesne which is wooded with specimen native and non-native trees. The river is dammed in a number of locations and this has created a series of small lakes. The SAC covers an area of nearly 73 ha.

Table 7 – Qualifying interests for the Rye Water/Carton SAC

Code	Habitats/Species	Status
7220	Petrifying springs with Tufa formation	Inadequate
1014	Narrow-mouthed whorl snail *Vertigo angustior*	Inadequate
1016	Desmoulin's whorl snail *Vertigo moulinsiana*	Inadequate

The reasons why this area falls under the SAC designation are set out in the qualifying interests. They are either habitat types listed in Annex I or species listed in Annex II of the Habitats Directive. This information is provided by the National Parks and Wildlife Service (NPWS) and is shown in table 1 below. The status provided refers to the status of the habitat or species at a national level and not necessarily within the SAC.

- **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.

- **Narrow-mouthed Whorl Snail (1014).** This whorl snail is present in a wide variety of habitats from dunes and coastal grasslands, to fens, salt-marshes and floodplains. The principle threats to its habitat derives from undergrazing and overgrazing.
- **Desmoulin's Whorl Snail (1016)** is a tiny mollusc that is particularly sensitive to changes in water level. It occurs in swamps, fens and marshes. The greatest threats have been drainage of wetlands and riparian management of canals.

Site specific conservation objectives have been published (NPWS, 2021b) and are summarised here.

Petrifying springs – priority habitat (7220)
Habitat area stable or increasing subject to natural variations; no decline in habitat distribution; maintain appropriate hydrological regimes; maintain appropriate levels of tufa formation; maintain nitrate level at less than 10mg/l; restore phosphate level to less than 15µg/l; maintain variety of vegetation communities, subject to natural processes; at least three positive/high quality indicator species as listed in Lyons and Kelly (2016) and no loss from baseline number; potentially negative indicator species should not be dominant or abundant; woody species should be absent in unwooded springs; invasive species should be absent; cover of algae less than 2%; field layer height between 10cm and 50cm (except for bryophyte-dominated ground <10cm); 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.

Narrow-mouthed Whorl Snail (1398)
Population restored to baseline; restore to self-sustaining population; restore area of suitable habitat, subject to natural processes; restore suitable hydrological regime, subject to natural processes;

Desmoulins Whorl Snail (code: 7230)
No decline in distribution, occurrence in suitable habitat, density with habitat, subject to natural processes; area of suitable habitat stable or increasing, subject to natural processes; no less than 0.2ha of at least suboptimal habitat; no decline in habitat quality, subject to natural processes;

At its nearest point the **Poulaphouca Reservoir SPA** (site code: 4063) is located approximately 13km from the site of the proposed development. Its 'features of interest' include the Greylag Goose *Anser anser* and the Lesser Black-backed Gull *Chroicocephalus ridibundus* (NPWS, 2014e).

- **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.
- **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.

Generic conservation objectives only are available for this SPA (NPWS, 2022b).

Where site specific conservation objectives have not been published, generic documents state that 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

The River Camac provides a direct natural hydrological connection from the development site to Dublin Bay. There are no indirect pathways as there is no connection to foul or surface sewers from this development.

There are consequently pathways to a number of Natura 2000 sites. There are hydrological links to the South Dublin Bay and River Tolka Estuary SPA (site code: 4024), the South Dublin Bay SAC (site code: 0210), the North Bull Island SPA (site code: 4006) and the North Dublin Bay SAC (site code: 0206).

Table 8 – Summary table of Natura 2000 sites

Natura 2000 sites found to lie within the zone of influence of the project
North Dublin Bay SAC
North Bull Island SPA
South Dublin Bay SAC
South Dublin Bay and River Tolka Estuary SPA
Natura 2000 sites examined but found not to lie within the zone of influence of the project
Glenasmole Valley SAC
Wicklow Mountains SAC
Wicklow Mountains SPA
Rye Water/Carton SAC
Poulaphouca Reservoir SPA

Data collected to carry out the assessment

Habitats on the development site are not associated with either habitats or species which are qualifying interests of any Natura 2000 site.

The EU's Water Framework Directive (WFD) stipulates that all water bodies must attain 'good ecological status' by 2015, or by 2027 with exemptions. This includes estuarine waters and Dublin Bay was originally located within the Eastern Region. In 2009 the first River Basin Management Plan (RBMP) was published to address pollution issues and included a 'programme of measures' which were to be completed. This plan was approved in 2010 (ERBD, 2010) while a second RBMP was published in 2018. The lower Liffey Estuary has most recently (2014) been assessed by the EPA 'good status'. The coastal water beyond the estuary is also assessed as 'good status' (from www.epa.ie). These classifications indicate that water quality downstream of the Custom

House is currently meeting the requirements of the WFD. The Tolka Estuary is 'moderate'.

Water quality along the River Camac is routinely assessed by the EPA. The nearest monitoring station to the subject site is at Baldonnell and here 'moderate' status was recorded. The Camac is a part of the Liffey Water Management Unit and one third of this river length was assessed as satisfactory (good or high) according to the Programme of Measures in the ERBD Management Plan (2010). This report suggested that pressures on water quality are from abstractions, agriculture, physical modifications and wastewater discharges. Downstream of Saggart the river has been classified as 'poor' or 'moderate' under the WFD reporting period 2013-18 (from www.epa.ie). These assessments are 'unsatisfactory' and so remedial measures will be required to restore 'good ecological status'.

Monitoring by Inland Fisheries Ireland do not record Atlantic Salmon *Salmo salar* from the Camac although they are present along the River Liffey[2]. The most recent fish sampling on the Camac, from 2011, indicated that there are populations of Brown Trout *Salmo trutta* and Three-spined Stickleback *Gasterosteus aculaetus*.

Of the species listed as qualifying interests of SPAs in Dublin Bay eleven: Curlew, Dunlin, Redshank, Shoveler, Oystercatcher, Grey Plover, Knot, Golden Plover, Bar-tailed Godwit, Black-tailed Godwit and Black-headed Gull are listed as of high conservation concern, and on BirdWatch Ireland's red list (Gilbert et al., 2021).

In 2020 the NPWS published a report entitled 'The monitoring and assessment of six EU Habitats Directive Annex I Marine Habitats' (Scally & Hewett, 2020). This report specifically assessed the status of the habitat: mudflats and sandflats not covered by seawater at low tide (1140) which is a qualifying interest of the North Dublin Bay SAC and the South Dublin Bay SAC. Table 22 of this report assessed the status of this habitat within both SACs as 'favourable'.

[2] www.wfdfish.ie

The Assessment of Significance of 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 is not located within, or directly adjacent to, any SAC or SPA.

Habitat loss
At its closest point the development site is over 17km away (as the crow flies) from the boundary of the Natura 2000 sites within Dublin Bay. In reality however this distance is greater as the drainage pathway follows the course of the Camac and Liffey Rivers. Because of the distance separating the site and the SPA/SAC there is no pathway for loss or disturbance of important habitats or important species associated with the features of interest of the SPA.

Habitat disturbance/Ex-situ impacts
The development site is located in a heavily urbanised environment close to significant noise and artificial light sources such as roads and the Casement Aerodrome. This development cannot contribute to potential disturbance impacts to species or habitats for which Natura 2000 sites have been designated. The habitats on the site are not suitable for populations of wintering/wetland/wading birds which may be associated with Natura 2000 sites in Dublin Bay. No ex-situ impacts can arise.

Pollution during construction
During construction there is unlikely to be significant loss of sediment to the River Camac as a broad buffer zone of semi-natural vegetation is being retained. Measures will be taken to avoid pollution during the construction of the new surface discharge headwall but these are not mitigation in an AA context as they will not be undertaken to reduce or avoid any effect to a Natura 2000 site. Even in the absence of any pollution reduction measures no effect to a Natura 2000 site can arise due to the distance between the source and these areas.

While any pollution is undesirable and should be avoided, this impact cannot result in significant effects to the SPA/SAC in Dublin Bay. This is due to the significance distance to these areas and the fact that such pollutants are unlikely to affect protected habitats and species. Sediment in particular is not a pollutant in intertidal areas in the way it is in rivers. Estuaries depend upon vast quantities of sediment for the natural functioning.

No significant effect to Natura 2000 sites is likely to arise from this source.

Pollution arising from surface water during operation
There is a pathway from the development site via surface water flows to the Camac River. However, sufficient attenuation and SUDS methods have been incorporated so that there will be a small positive impact to the quality and quantity of run-off. These are standard measures which are included in all development projects and are not included here to avoid or reduce an effect to a Natura 2000 site. They are therefore not considered to be mitigation measures in an AA context.

There is no source of wastewater as part of this development and no requirement for a supply of freshwater.

No significant effect to any Natura 2000 site is likely to arise from this source.

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

Potential in combination effects were identified based on projects which are permitted or planned in the immediate vicinity of the development site. While not considered necessary to list these individually, these include new developments on brown-field sites, infrastructure projects such as roads and drainage, as well as new developments on green-field sites. Development in the city is based upon forward planning by the four local authorities in Co. Dublin and their associated development plans. Each of these plans has been subject to Screening for Appropriate Assessment and, where relevant, a full Appropriate Assessment has been carried out to ensure adverse effects to Natura 2000 sites do not occur.

This application can be seen in combination with permitted developments in this business park which are underway or completed across the business park.

The impacts from built development in this area include loss of habitat, additions to drainage infrastructure, particularly wastewater and surface water, and the in combination effects of pollution arising from multiple construction projects happening at the same time.

Implementation of the WFD will ensure that improvements to water quality in Dublin Bay and the River Liffey are maintained. Environmental water quality can be impacted by the effects of surface water run-off from areas of hard standing. These impacts are particularly pronounced in urban areas and can include pollution from particulate matter and hydrocarbon residues, and downstream erosion from accelerated flows during flood events. In this case standard attenuation has been included in the project design, so that no negative impacts to surface water quality/quantity will occur.

Each of these effects has been examined in turn in this report and were found to be unlikely to result in significant effects to Natura 2000 sites.

In March 2005 the Greater Dublin Strategic Drainage Study (GDDS) was published as a policy document designed to provide for future drainage infrastructure. The implementation of this policy will see broad compliance with environmental and planning requirements in an integrated manner. This is likely to result in a long-term improvement to the quality and quantity of storm water run-off in the capital. This project is fully compliant with SUDS principles.

There are no effects which could act in combination with the subject proposal to result in significant effects to Natura 2000 sites.

Conclusion and Finding of No Significant Effects

In carrying out this AA screening, mitigation measures have not been taken into account. Standard best practice construction measures have not been taken into account where these are to be implemented for the purposes of mitigating any effects on the environment which could have a potential impact on any European Sites.

On the basis of the screening exercise carried out above, it can be concluded that the possibility of any significant impacts on any European Sites, whether arising from the project itself or in combination with other plans and projects, can be excluded beyond a reasonable scientific doubt on the basis of the best scientific knowledge available.

References

Bell J.N.B. & Treshow M. 2002. *Air Pollution and Plant Life.* 2nd Edition. Wiley.

Bullock C., Kretch C. & Candon E. 2008. *The Economic and Social Aspects of Biodiversity.* Stationary Office.

Cabot D. 2004. *Irish Birds.* Collins.

Council Directive 79/409/EEC on the conservation of wild birds.

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

Council Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy – more commonly known as the Water Framework Directive

Crowe O., Boland H., & Walsh A. 2011. *Irish Wetland Bird Survey: results of waterbird monitoring in Ireland in 2009/10.* Irish Birds Volume 9 Number 2 pg229-240.

Department of Arts, Heritage and the Gaeltacht. 2011. *Actions for Biodiversity 2011 – 2016. Ireland's National Biodiversity Plan.*

Department of Environment, Heritage and Local Government. 2009. *Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities'*

European Commission. 2021. Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC

Fossitt J. 2000. *A Guide to Habitats in Ireland.* Heritage Council.

Francis, C.D. et al. 2012. *Noise pollution alters ecological services: Enhanced pollination and disrupted seed dispersal.* Proceedings of the Royal Society B. doi:10.1098/rspb.2012.0230.

Gilbert G., Stanbury A. & Lewis L. 2021. *Birds of Conservation Concern in Ireland 4: 2020-2026.* Irish Birds Number 43.

Lack P. 1986. *The Atlas of Wintering Birds in Britain and Ireland.* T&AD Poyser.

Nairn R. & O'Halloran J. Editors. 2012. *Bird Habitats in Ireland.* The Collins Press.

NPWS. 2013a. *North Dublin Bay SAC. Site Synopsis. Version date: 12.08.2013.* https://www.npws.ie/protected-sites/sac/000206

NPWS. 2013b. *Conservation Objectives: North Dublin Bay SAC 000206. Version 1.* National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. https://www.npws.ie/protected-sites/sac/000206

NPWS. 2013e. Conservation Objectives: South Dublin Bay SAC 000210. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. https://www.npws.ie/protected-sites/sac/000210

NPWS. 2014b. *North Bull Island SPA. Site Synopsis. Version date: 25.3.2014.* https://www.npws.ie/protected-sites/spa/004006

NPWS. 2015a. *Conservation Objectives: North Bull Island SPA 004006. Version 1.* National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. https://www.npws.ie/protected-sites/spa/004006

NPWS. 2015b. *South Dublin Bay & River Tolka Estuary SPA. Site Synopsis. Version date: 30.5.2015.* https://www.npws.ie/protected-sites/spa/004024

NPWS. 2015c. *Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1.* National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. https://www.npws.ie/protected-sites/spa/004024

NPWS. 2015d. *South Dublin Bay SAC. Site Synopsis. Version date: 10.12.2015.* https://www.npws.ie/protected-sites/sac/000210

NPWS. 2017. *Conservation Objectives: Wicklow Mountains SAC 002122. Version 1.* National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. https://www.npws.ie/protected-sites/sac/002122

NPWS. 2019. *The Status of EU Protected Habitats and Species in Ireland.* Habitat Assessments Volume 1.0. Unpublished Report, National Parks & Wildlife Services. Department of Culture, Heritage and the Gaeltacht, Dublin, Ireland.

NPWS. 2021a. *Conservation Objectives: Glenasmole Valley SAC 001209. Version 1.* National Parks and Wildlife Service, Department of Housing, Local Government and Heritage. https://www.npws.ie/protected-sites/sac/001209

NPWS. 2021b. *Conservation Objectives: Rye Water Valley/Carton SAC 001398. Version 1.* National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

NPWS. 2022a. *Conservation objectives for Wicklow Mountains SPA [004040]. Generic Version 9.0.* Department of Housing, Local Government and Heritage. https://www.npws.ie/protected-sites/spa/004040

NPWS .2022b. *Conservation objectives for Poulaphouca Reservoir SPA [004063]. Generic Version 9.0.* Department of Arts, Heritage and the Gaeltacht. https://www.npws.ie/protected-sites/spa/004063

Oxford Brookes University. 2001. *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.* European Commission, Environment DG.