

**Screening Report for  
Appropriate Assessment**  
of a proposed Strategic Housing Development (SHD) at  
Former O'Devaney Gardens Site, Dublin 7

Compiled by OPENFIELD Ecological Services

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## **1.0 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 legislation for conserving biodiversity in Ireland have been the 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 2011-2015. 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. 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.*

All European sites were considered for this report, including :

- a candidate site of Community importance,
- a site of Community importance,
- a candidate special area of conservation,
- a special area of conservation,
- a candidate special protection area and
- a special protection area

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 An Bord Pleanála.

## **2.0 The Purpose of this document**

This document provides a screening report of a proposed development on the former O'Devaney Gardens Site, Dublin 7, and its potential effects in relation to Natura 2000 sites (European sites).

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.

It should be noted that under the European Communities (Birds and Natural Habitats Regulations) 2011 it is the relevant competent authority, in this case An Bord Pleanála, which carries out any AA or screening for AA. This report therefore aids in that decision.

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 (EclA) in Ireland. Since its inception in 2007 OPENFIELD has carried out numerous EclAs 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).

### **3.0 Methodology**

The following methodology is referred to:

Managing Natura 2000 sites: The Provisions of Article 4 of the Habitats Directive 92/43/EEC Guidance (European Commission, 21 November 2018) has been considered, but the following are also relevant:

OPR Practice Note - PN01 Appropriate Assessment Screening for Development Management (March 2021)

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 NPWS 1/10 & PSSP 2/10;

Assessment of Plans and Projects Significantly Affecting European sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (European Commission Environment Directorate-General, 2001);

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 network.

### **Step 3: Characteristics of the Natura Site**

This process identifies the conservation aspects of the Natura 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 if necessary – 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 likely to occur must be measured against conservation objectives which have been set for that that Natura site.

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.

Reference is also made to recently published guidelines for Local Authorities from the Department of the Environment, Heritage and Local Government (DoEHLG, 2009).

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 Natura 2000 site and so Step 1 as outlined above is not relevant.

#### **4.0 Step 1: Brief description of the project**

The project is described thus, as per the planning application:

*The application site is bounded to the north-east by housing on Ross Street, Ashford Place, Ashford Cottages and Ashford Street; to the east by Thor Place/ Thor Park and St. Bricin's Military Hospital; to the south by Montpelier Gardens*

and Montpelier Park; to the west by Montpelier Gardens and Findlater Street, Kinahan Street, Aberdeen Street, Black Street, Sullivan Street; and to the north-west by properties fronting North Circular Road. Phase 1A (56 units) of the former O'Deveney Gardens site is also under construction to the north east of the site (ABP Ref. PL29N.JA0024)

The development will consist of 1,047no. residential units and all associated ancillary accommodation, site and development works. The total gross floorspace (gfa) of the overall development is 102,940sqm, of which 100,646sqm is residential and 2294sqm are non-residential uses.

The development is described below on a block by block basis:

**BLOCK 02** (5649sqm gfa): 5 / 6 storey apartment building with 74 no. apartments (comprising 44no. 1 bed, 23no. 2 bed and 7no. 3 bed units) with ancillary accommodation and associated private balconies and associated communal amenity space at ground floor level;

**BLOCK 03** (489sqm gfa): 2 / 3 storey crèche building with associated outdoor play space;

**BLOCK 04** (1202sqm gfa): 11no. 2 storey 3 bed houses in two terraces (Blocks 04a and 04b) with associated private gardens located on the north-eastern and eastern boundary. Blocks 04A consists of 4no. 2 storey 3 bed houses. Block 04B consists of 7no. 2 storey 3 bed houses;

**BLOCK 05** (30430sqm gfa): 4 to 9 storey building arranged around 2no. landscaped communal podium courtyards consisting of 294no. apartments (comprising 71no. 1 bed, 143no. 2 bed and 80no. 3 bed units) with ancillary accommodation including ancillary residents' amenities and associated private balconies, landscaped podium communal amenity spaces and communal roof terraces (2no.). Block 5 also includes non-residential uses are at ground floor level fronting the Boulevard and Link street comprising 4no. retail units (1027sqm) and a Community facility (157sqm). Car parking is provided below podium (96 spaces) with access from the new internal street on the eastern side of Block 5;

**BLOCK 06** (8482sqm gfa): 6 to 12 storey building with 93no. apartments (comprising 24no. 1 bed, 54no. 2 bed and 14no. 3 bed units and 1no. 2 bed duplex unit) with ancillary accommodation and associated private balconies and communal amenity space at ground level and communal roof terrace;

**BLOCK 07** (26924sqm gfa): 6 to 14 storey building arranged around a central landscaped podium courtyard with 264no. apartments (comprising 87no. 1 bed, 161no. 2 bed and 16no. 3 bed units) with ancillary accommodation including an ancillary residents amenity space, associated private balconies, landscaped podium communal amenity space and communal roof terrace. Block 07 also includes non-residential uses at ground floor level comprising 2no. retail units (totalling 366sqm) and a café (161sqm). Car parking is provided below podium (95 spaces) with access from Link Street;

**BLOCK 08** (2995sqm gfa): 26no. units in 4 terraces of up to 3 storeys (with 2 storey elements to the rear). Blocks 08A and 08B each consist of 6no. 3 bed houses with associated private gardens. Block 08C consists of a terrace comprising of 5no. 3 bed duplex apartments over 5no. 2 bed apartments. Block 08D consists of a block comprising 1no. 3 bed duplex unit over 1no. 2 bed apartment and 2no 3 bed triplex units;

**BLOCK 09** (18267sqm gfa): Predominantly 6-10 storey building with part 3 storey element fronting Montpelier Gardens arranged around a central landscaped courtyard with 192no. units (comprising 68no. 1 bed, 120no. 2 bed and 4no. 3 bed units) with ancillary accommodation including an ancillary residents amenities, associated private balconies, landscaped podium communal amenity space and communal roof terrace. Car parking is provided below podium (35 spaces) with access from Montpelier Gardens;

**BLOCK 10** (8475sqm gfa): Predominantly 6 to 12 storey building, with part 2 storey element opposite Montpelier Park with 93no. apartments (comprising 24no. 1 bed, 54no. 2 bed and 14no. 3 bed units and 1no. 2 bed duplex unit) with ancillary accommodation and private balconies and communal amenity space at ground level and communal roof terrace.

Vehicular access to serve the proposed development will be provided via the existing entrances to the site from North Circular Road, Montpelier Gardens and Thor Place/ Thor Park. The internal road networks will comprise a central boulevard between North Circular Road and Montpelier Gardens and a link street to Thor Place. Additional pedestrian/ cycle connections are proposed at Ross Street and Ashford Cottages. Tie in works are required for the lands immediately adjoining the Phase 1A housing under construction (ABP Ref: PL29N.JA0024) and include a revised on street parking layout and revised hard and soft landscaping. 273no. parking spaces are provided in total with 226no. spaces below podium in Blocks 05 (96no.), Block 07 (95no.) and Block 09 (35no.) and 47no. on street spaces. 11no. motorcycle parking spaces are provided. 1,484no. bicycle parking spaces are provided for residents in secure facilities with 500no. additional visitor bicycle parking spaces provided in the public realm.

Permission is also sought for associated boundary treatments, hard and soft landscaping, public open space (including a central neighbourhood park with a multi-use games area (MUGA) and northern park with a community garden park), ESB substations, mechanical and electrical roof plant and all associated site and development works. Infrastructure proposals include the diversion and re-location of existing foul drainage and watermain surface water infrastructure, removal of existing attenuation tank serving Phase 1A located beneath proposed Block 07 and relocation of existing ESB substation on site to the northern end of the site adjacent to Block 3. The development will include the demolition of an existing ESB Substation and security hut (totalling 37.5sqm) and the removal of the block wall and gate pier at the entrance to St. Bricins Military Hospital.

The site location is shown in figures 1 and 2. The site is not located within or directly adjacent to any Natura 2000 site (SAC or SPA). This part of Dublin lies close to the centre of the city while historic mapping shows buildings in this area for many years. Current land use in the vicinity is predominantly civic and residential in nature along with transport arteries. There are no water courses in this vicinity while drainage pathways ultimately lead to the River Liffey in Dublin City Centre.





Figure 1 – Site location (red circle) and local water courses. There are no Natura 2000 sites in this view (from [www.epa.ie](http://www.epa.ie)).



Figure 2 – Site boundary and aerial view ([www.google.com](http://www.google.com)).

The site was visited for this study on February 28<sup>th</sup> and March 9<sup>th</sup> 2020 and this found that the lands are disturbed or highly modified in nature. Habitats are described here as per standard classifications (Fossitt, 2000). This includes



areas of **buildings and artificial surfaces – BL3, recolonising bare ground – ED3** and **dry meadow – GS2**. Species here are ruderal or associated with managed grassland including Thistles *Cirsium sp.*, Docks *Rumex sp.*, Clovers *Trifolium sp.*, Willowherbs *Epilobium sp.*, and grasses such as Common Couch *Elytrigia repens*, Creeping Bent *Agrostis stolonifera* and Cock's-foot *Dactylis glomerata*. Brambles *Rubus fruticosus agg.* and the non-native Butterfly-bush *Buddleja davidii* are emergent in some locations.

A tall **treeline – WL2** runs from north to south to the south-east of the development site. This is made up of Alder *Alnus glutinosa*, Ivy *Hedera helix*, Elder *Sambucus nigra* and non-native, horticultural species such as *Pyracantha sp.* To the east of this treeline there is an expanse of dry meadow while a small patch of **scrub – WS2** can be found to the north of this. This is predominantly Brambles.

The development will see site clearance and a construction phase using standard building materials.

There are no surface water courses on the development site. There are no bodies of open water or habitats which could be classified as wetlands. Japanese Knotweed *Fallopia japonica* has previously been recorded on the lands and has been subject to a control programme by Dublin City Council.

Currently there is no attenuation of surface water and this percolates to ground or discharges to existing street drains. The inclusion of SUDS in this project design will reduce the volumes of surface water entering the combined foul sewer. According to the Engineering Services Report prepared by CS Consulting Group:

*The proposed development is to retain storm water volumes predicted to be experienced during extreme rainfall events. This is defined as the volume of storm water generated during a 1 in 100 year storm event increased by 20% for predicted climate change factors. The attenuation volume requirement of 4000m<sup>3</sup> for the 1 in 100 year storm event.[...]*

*The outfall into the public system will be onto the 225mm diameter stormwater sewer on Montpellier Gardens. The last public manhole shall be constructed in accordance with Local Authority's requirements and the storm water flow will be restricted by the use of a flow control device to limit the flow to the public system.*

This sewer ultimately enters a combined foul sewer and so it delivered to the wastewater treatment plant at Ringsend.

*The proposed SuDS features shall consist of:*

a) *Green-roof – this allows the roof areas of the proposed apartments to use a Sedum type covering to absorb the first 'flush' from rainfall events. Typically, 5-10mm of rain can be retained on the sedum surface. As more intense rain is experienced the green roof can overflow from the roof through down pipes and into the schemes main drainage runs.*

b) *Water-‘butts’* – when the rain water from the green roofs and from the roofs of the housing units is drained to ground floor it will be directed into rainwater storage units, commonly referred to as water butts. The retained rainwater can then be stored and re-used for local landscaping and maintenance purposes. It would not be envisioned that the captured rainwater would be reused in the apartment units for public health reasons.

c) *Permeable Paving* – this system allows rainwater to be directed into carparking bays whereby the rainwater can filter through gaps in the paving blocks and percolate into the subsoil. The area which can be drainage is a subject to the infiltration characteristics of the subsoil, which is established following ground investigation testing on site in accordance with BRE 365.

d) *Land drains* – it is also proposed to use land drains to the rear of individual dwellings to allow the percolation of rainwater locally, again subject to the infiltration rates of the subsoil, which has to be established. The land drains will be fitted with an overflow system to allow excess storm water to be directed into the main drainage runs.

e) *Swales & Tree Pits* – it is proposed to allow storm water to be directed locally into tree pits for prevent this storm water from entering the main drainage network. As the tree pits can only accommodate relatively small surface areas this proposal cannot be used to drain the site as a whole but can play an important part in contributing to the overall Suds strategy.

f) *Main Attenuation Tank* – As noted above the for extreme storm events, will require a dedicated system to contain the storm water flows generated during a 1-in-100 year storm, increased by 20%. It is proposed to use a proprietary underground storage tank for this purpose. The tank will be placed under open spaces, not roads so the open space above can be enjoyed while not preventing the schemes ability to retain the storm water.

g) *Low Water Usage Appliances* – It is also worth highlighting that low water usage appliances will also be utilised to aid in the reduction of water usage on the development.

h) *Oil Separator* – Prior to final disposal of storm water from the main drainage network into the public system the stormwater will pass through an oil separator to remove any hydrocarbons which may have entered the network from car parking areas.

*The combination of the above noted elements will allow the proposed development to adhere to the principles of sustainable drainage practices while enhancing overall storm water quality.*

. As such, there will be a slight positive impact to the run-off characteristics from the site. SUDS are standard measures which are a part of all development projects and are not included here to avoid or reduce an effect to any Natura 2000 site.

The proposed site layout is presented in figure 3.

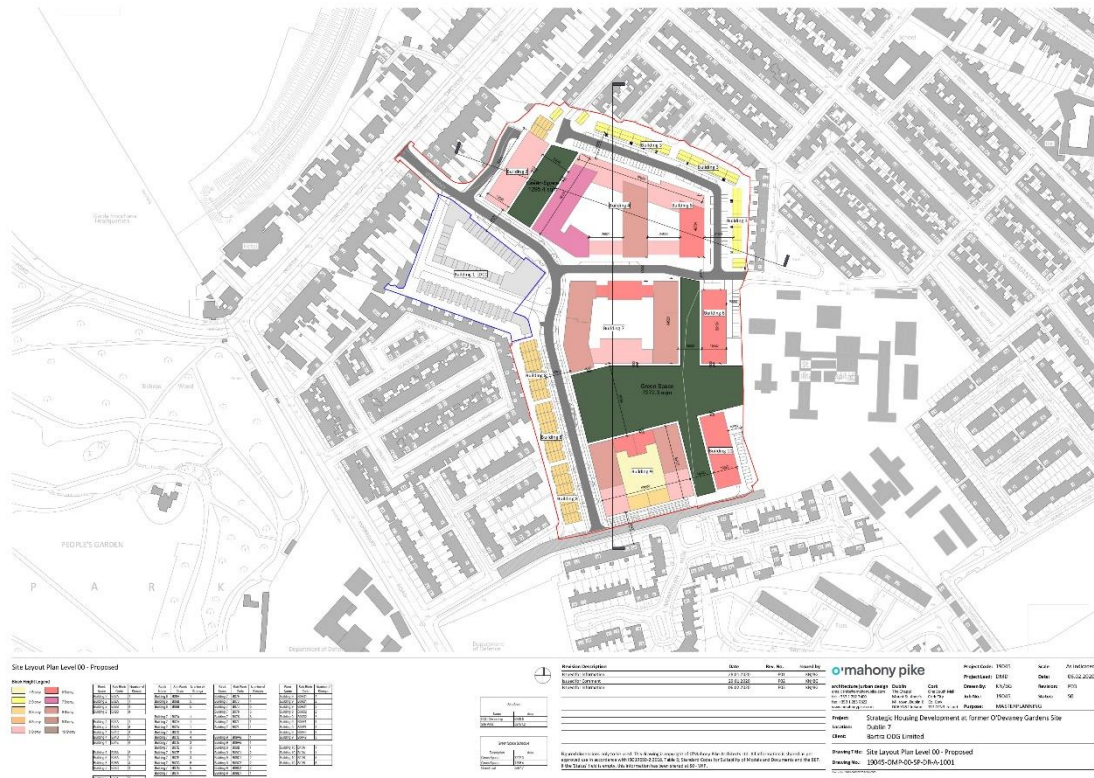


Figure 3 – proposed site layout

## 5.0 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 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. For this study all Natura 2000 sites within 15km of the development site and 15km of the outfall at Ringsend wastewater treatment plant are examined. There are a number of Natura 2000 sites within this radius.



**Figure 4 – Approximate 15km radius around the proposed development site and the Ringsend wastewater treatment plant and Natura 2000 areas.**

### **Baldoye Bay SAC/SPA**

This SAC (site code: 0199) is the estuary of the Sluice and the Mayne Rivers that is largely enclosed by a sand spit that stretches from Portmarnock to Howth. At low tide it has large areas of exposed mud and sediment that support rich invertebrate communities. There are a number of habitats here that are listed in the EU's Habitats Directive Annex I while there are two plants recorded from the Bay that are protected under the Flora Protection Order: Borrer's Saltmarsh-grass *Puccinellia fasciculata* and Meadow Barley *Hordeum secalinum*.

The reasons why the bay 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. In this case the SAC is designated only for protected habitat types. Status is based on the NPWS national assessments under Article 17 of the Habitats Directive and unless otherwise stated do not refer to the status within the SAC in question.

**Table 1 – Qualifying interests for the Baldoyle Bay SAC (from NPWS)**

Code	Habitats	Status
1140	Mudflats and sandflats	Inadequate
1310	Salicornia and other annuals colonizing mud and sand	Favourable
1330	Atlantic salt meadows	Inadequate
1410	Mediterranean salt meadows	Inadequate

- 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.
- 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.

The Baldoyle Bay SPA (site codes: 4016) is composed of estuarine habitats. They are some of the most productive in the world and the nutrients that are

deposited here fuel primary and secondary production (levels in the food chain) that in turn provide food for internationally significant numbers of wintering birds (Little, 2000). It had a mean of 5,780 birds between the winters of 2006/07 and 2010/11 (Crowe et al., 2012). Specifically, it has a number of species which are 'features of interest' of the SPA, along with 'wetlands and waterbirds'. Table 2 details these.

**Table 2 – Features of Interest for the Baldoyle Bay SPA (from NPWS)**

Species	National Status <sup>1</sup>	SPA Status <sup>2</sup>
<i>Branta bernicula hrota</i> Light-bellied brent goose	Amber (Wintering)	Favourable
<i>Charadrius hiaticula</i> Ringed plover	Amber	Intermediate unfavourable
<i>Limosa lapponica</i> Bar-tailed godwit	Red (Wintering)	Highly unfavourable
<i>Pluvialis apricaria</i> Golden plover	Red	Unfavourable
<i>Pluvialis squatarola</i> Grey plover	Red (Wintering)	Unfavourable
<i>Tadorna Tadorna</i> Shelduck	Amber	Favourable
Wetlands & Waterbirds		

- **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.
- **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.
- **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.
- **Golden Plover.** In winter these birds are recorded across the midlands and coastal regions. They breed only in suitable upland habitat in the north-west. Wintering abundance in Ireland has changed little in recent years although it is estimated that half of its breeding range has been lost in the last 40 years.
- **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.

<sup>1</sup> Birds of Conservation Concern in Ireland. Gilbert et al., 2021.

<sup>2</sup> Conservation Objectives Supporting Document. Version 1. National Parks & Wildlife Service. 2012.



- **Shelduck.** The largest of our ducks, Shelduck both breed and winter around the coasts with some isolate stations inland. Its population and range is considered stable.

Of those species with unfavourable status in the SPA, Ringed Plover and Bar-tailed Godwit have exhibited losses at Baldoyle Bay while the national population remains stable or has increased. It is therefore reasonable to assume that local factors are leading to declines. The NPWS list a number of factors that may be contributing to this including human disturbance (walkers with or without dogs) and nutrient enrichment (pollution). The latter effect is exhibited by algal mats, typically Sea-lettuce *Ulva sp.* which covers the sediment surface at low tide. This is good for those species which feed on Sea-lettuce but bad for those which cannot reach their favoured prey under the mats.

### 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 3. 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 3 – 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 <i>Ammophila arenaria</i> (white dunes)	Inadequate
2130	Fixed coastal dunes with herbaceous vegetation (grey dunes)	Bad
2190	Humid dune slacks	Inadequate
1395	<i>Petalophyllum ralfsii</i> 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.

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 4 lists its features of interest

**Table 4 – Features of interest for the North Bull Island SPA**

North Bull Island SPA	National Status
Light-bellied Brent Goose <i>Branta bernicla hrota</i>	Amber (Wintering)
Oystercatcher <i>Haematopus ostralegus</i>	Red
Teal <i>Anas crecca</i>	Amber
Pintail <i>Anas acuta</i>	Amber (Wintering)
Shoveler <i>Anas clypeata</i>	Red
Shelduck <i>Tadorna tadorna</i>	Amber
Golden Plover <i>Pluvialis apricaria</i>	Red
Grey Plover <i>Pluvialis squatarola</i>	Amber (Wintering)

Knot <i>Calidris canutus</i>	Amber (Wintering)
Sanderling <i>Calidris alba</i>	Green (Wintering)
Dunlin <i>Calidris alpina</i>	Red
Black-tailed Godwit <i>Limosa limosa</i>	Red (Wintering)
Bar-tailed Godwit <i>Limosa lapponica</i>	Red (Wintering)
Curlew <i>Numenius arquata</i>	Red
Redshank <i>Tringa totanus</i>	Red
Turnstone <i>Arenaria interpres</i>	Amber (Wintering)
Black-headed Gull <i>Larus ridibundus</i>	Red
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.

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 from 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 5 shows the most recent count data available<sup>3</sup>.

**Table 5 – 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*.

**Table 6 – 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 ( <i>Branta bernicla hrota</i> ) [A046]
Oystercatcher ( <i>Haematopus ostralegus</i> ) [A130]
Ringed Plover ( <i>Charadrius hiaticula</i> ) [A137]
Grey Plover ( <i>Pluvialis squatarola</i> ) [A140]
Knot ( <i>Calidris canutus</i> ) [A143]
Sanderling ( <i>Calidris alba</i> ) [A144]

<sup>3</sup> <https://f1.caspio.com/dp.asp?AppKey=f4db3000060acbd80db9403f857c>

Dunlin ( <i>Calidris alpina</i> ) [A149]
Bar-tailed Godwit ( <i>Limosa lapponica</i> ) [A157]
Redshank ( <i>Tringa totanus</i> ) [A162]
Black-headed Gull ( <i>Croicocephalus ridibundus</i> ) [A179]
Roseate Tern ( <i>Sterna dougallii</i> ) [A192]
Common Tern ( <i>Sterna hirundo</i> ) [A193]
Arctic Tern ( <i>Sterna paradisaea</i> ) [A194]
Wetlands & Waterbirds [A999]

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.

**Howth Head SAC and Howth Head Coast SPA.**



The Howth Head SAC (site code: 0202) is designed for two qualifying interests: vegetated sea cliffs and dry heath.

- **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. It is nationally assessed as of intermediate status.
- **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. It is nationally assessed as of bad status.

Howth Head is also a pNHA and is home to a number of threatened plant species as well as locally rare or noteworthy habitats, such as patches of blanket bog. Site specific conservation objectives have been published for this SAC. These include maintaining the habitat extent, condition, vegetation composition, and community diversity for the two habitats listed as qualifying interests.

The Howth Head Coast SPA (code: 4133) is home to large colonies of breeding seabirds, particularly Kittiwake, the SPAs only feature of interest. These vocal seagulls spend most of their time at sea, returning to favoured coastal sites for breeding. Nesting is on suitable rocky cliffs around the Irish coast. These Irish colonies are considered stable (Balmer et al., 2013).

#### **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, 2013).
- 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'.

**Dalkey Islands SPA** (site code: 4172) is protected for its breeding colonies of three tern species:

- **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.

### Ireland's Eye SAC/SPA

Ireland's Eye is an uninhabited island 1.5km north of Howth harbour. Its southern side is gently sloping however steep cliffs descend to the seas on its northern and eastern coasts. The thin soil and maritime influence provide habitat for an assemblage of notable plant species, including the rare Sea-Kale *Crambe maritima*. The SAC (site code: 2193) has two qualifying interests: vegetated sea cliffs and perennial vegetation of stony banks. The latter habitat is nationally of intermediate status. It 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. Site specific conservation objectives have been published for this SAC. These include maintaining the habitat extent, condition, vegetation composition, and community diversity for the two habitats listed as qualifying interests.

The Ireland's Eye SPA (code: 4117) is centred on the island's value as a large seabird colony. It is one of only six number of locations where Gannets *Morus bassanus* regularly breed in Ireland. The features of interest for the SPA are given in table 7.

**Table 7 – Features of Interest for the Ireland's Eye SPA (from NPWS)**

Species	National Status
<i>Phalacrocorax carbo</i> Cormorant	Amber (Breeding & Wintering)
<i>Larus argentatus</i> Herring Gull	Red (Breeding)
<i>Rissa tridactyla</i> Kittiwake	Amber (Breeding)
<i>Uria aalge</i> Guillemot	Amber (Breeding)
<i>Alca torda</i> Razorbill	Amber (Breeding)

- **Cormorant.** Wintering populations of this large, fish-eating bird have increased in Ireland since the early 1980s. Breeding also occurs widely along the coast and inland waterways. It is amber-listed due to a moderate decline in numbers.
- **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.

- **Guillemot.** This member of the auk family is found only near land during the breeding season. They nest on suitable rocky outcrops and cliffs where there is protection from predators. The population at four of Ireland's largest colonies is estimated to have increased by 22% over the past decade.
- **Razorbill.** This member of the auk family breeds exclusively at suitable coastal sites, where there are rocky cliffs to provide protection from predators. Indications are that populations at Irish colonies are stable.

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 8.

**Table 8 – 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). Determining if significant effects are likely to occur to any of these SACs or SPAs must be measured against their 'conservation objectives'. Specific conservation objectives have been set for all of these areas with the exception of the Poulaphouca Reservoir. Generic conservation objectives have been published by the NPWS and are stated as:

**Knocksink Wood SAC** (site code: 0725; approximately 10km from the site)

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 9 – 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.

**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 10.

**Table 10 – 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.

**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 11 while its ‘features of interest’ are given as Merlin *Falco columbarius* (breeding) and Peregrine *Falco peregrinus* (breeding).

**Table 11 – 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.

#### **Malahide Estuary SAC and SPA (code: 0205 and 4025)**

The estuary is designated for its intertidal habitats and important wintering bird population.

In addition to its Natura 2000 designations it is also a Ramsar site (Broadmeadow estuary no. 833) and a Marine Protected Area under the OSPAR Convention (site code: O-IE-0002967).

The qualifying interests for the SAC (the reasons why the site is of European value) are detailed in table 12 while the Special Conservation Interests (analogous to qualifying interests for SPAs) for the SPA are given in table 13.

#### **Table 12 – Site qualifying interests for the Malahide estuary SAC**



Aspect	Level of Protection	Status
Fixed coastal dunes with herbaceous vegetation (grey dunes) (code: 2130)	Habitats Directive Annex I priority habitat	Bad
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('white dunes') (code: 2120)	Habitats Directive Annex I	Inadequate
Salicornia and other annuals colonizing mud and sand (code: 1310)		Favourable
Mediterranean salt meadows (code: 1410)		Inadequate
Atlantic salt meadows (code: 1330)		Inadequate
Mudflats and sandflats not covered by seawater at low tide (code: 1140)		Inadequate

- **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.
- **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.
- **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.

**Table 13 – Special Conservation Interests for Malahide Estuary SPA**

Species	National Status <sup>4</sup>
<i>Anas acuta</i> Pintail	Red (Wintering)
<i>Branta bernicula hrota</i> Light-bellied brent goose	Amber (Wintering)
<i>Bucephala clangula</i> Goldeneye	Red (Wintering)
<i>Calidris alpina</i> Dunlin	Red (Breeding & Wintering)
<i>Calidris canutus</i> Knot	Amber (Wintering)
<i>Haematopus ostralegus</i> Oystercatcher	Amber (Breeding & Wintering)
<i>Limosa lapponica</i> Bar-tailed godwit	Amber (Wintering)
<i>Limosa limosa</i> Black-tailed godwit	Amber (Wintering)
<i>Mergus serrator</i> Red-breasted Merganser	Green (Breeding & Wintering)
<i>Pluvialis apricaria</i> Golden Plover	Red (Breeding & Wintering)
<i>Pluvialis squatarola</i> Grey Plover	Amber (Wintering)
<i>Podiceps cristatus</i> Great-crested Grebe	Amber (Breeding & Wintering)
<i>Tadorna tadorna</i> Shelduck	Amber (Breeding & Wintering)
<i>Tringa totanus</i> Redshank	Red (Breeding & Wintering)
Wetlands & Waterbirds	

- **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.
- **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.
- **Goldeneye.** This duck wintering throughout Ireland on suitable coastal areas, river valleys and wetlands. There has been an 11% contraction in its Irish wintering range since the early 1980s and a 37% decline in abundance since the 1990s.
- **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.

<sup>4</sup> Birds of Conservation Concern in Ireland. Colhoun & Cummins, 2013

- **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.
- **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.
- **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.
- **Red-breasted Merganser.** A widely distributed duck in winter Red-breasted Mergansers also breed in Ireland at certain coastal and inland locations to the north and west. They have suffered small declines in both their wintering and breeding ranges and possible reasons have been cited as predation by American Mink and shooting.
- **Golden Plover.** In winter these birds are recorded across the midlands and coastal regions. They breed only in suitable upland habitat in the north-west. Wintering abundance in Ireland has changed little in recent years although it is estimated that half of its breeding range has been lost in the last 40 years.
- **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.
- **Great-crested Grebe.** These birds breed predominantly on freshwater sites north of the River Shannon while coastal areas along the east and south are used for wintering. Numbers in Ireland have decline by over 30% since the 1990s.
- **Shelduck.** The largest of our ducks, Shelduck both breed and winter around the coasts with some isolate stations inland. Its population and range is considered stable.
- **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.

### **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 14 – Qualifying interests for the Rye Water/Carton SAC**

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

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*.

- **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.

### Pathway Analysis

There is no direct natural hydrological connection from the site to Dublin Bay. There is an indirect pathway through the stormwater and foul sewers which include significant dilution on route to the Ringsend WWTP.

Sampling of water quality in Dublin Bay (and presented in the Annual Environmental Report for the WWTP) indicates that the discharge from the wastewater treatment plant is having an observable effect in the 'near field' of the outfall pipe. This includes the Tolka Estuary but not the coastal waters of Dublin Bay. This indicates that potential effects arising from the treatment plant are confined to the Tolka Estuary, and that the zone of influence does not extend to the coastal waters or the Irish Sea.

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). The Poulaphouca Reservoir SPA (site code: 4063), from which drinking water supply for this development may originate, is also considered to fall within the zone of influence of this project.

**Table 13 – 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
Poulaphouca Reservoir SPA
Natura 2000 sites examined but found not to lie within the zone of influence of the project
Baldoyle Bay SAC
Baldoyle Bay SPA
Howth Head SAC
Howth Head Coast SPA
Rockabill to Dalkey SAC
Dalkey Islands SPA
Ireland's Eye SAC

Ireland's Eye SPA
Glenasmole Valley SAC
Knocksink Wood SAC
Ballyman Glen SAC
Wicklow Mountains SAC
Wicklow Mountains SPA
Malahide Estuary SAC
Malahide Estuary SPA
Rye Water/Carlton SAC

### *Significance of Effects*

Whether effects are significant or not must be measured against the conservation objectives of the SAC or SPA in question.

The specific conservation objectives which have been set for mudflats in the South Dublin Bay SAC (generic objectives only are available for other qualifying interests) and qualifying interests in the North Dublin Bay SAC relate to habitat area, community extent, community structure and community distribution within the qualifying interest. There are no objectives in relation to water quality (NPWS, 2013).

For the South Dublin Bay & Tolka Estuary SPA and the North Bull Island SPA the conservation objectives for each bird species relates to maintaining a population trend that is stable or increasing, and maintaining the current distribution in time and space (NPWS, 2015a & b).

For the Poulaphouca Reservoir SPA, generic conservation objectives have been published by the NPWS and are as previously stated above (NPWS, 2020).

**To maintain or restore the favourable conservation condition of the Annexed species for which the SPA has been selected.** (NPWS, 2020).

In a generic sense '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.

While 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.

## **6.0 Data collected to carry out the assessment**

*Describe the individual elements of the plan (either alone or in combination with other plans or projects) likely to give rise to impacts on the SAC:*

Details from the NPWS site synopsis report and the most recent data from BirdWatch Ireland's Wetlands Bird Survey (IWeBS) indicate that Dublin Bay is of international importance for wintering birds meaning that it regularly holds a population of over 20,000 birds. Total counts from IWeBS are shown in table 1.

The site is entirely composed of artificial or highly modified habitats which are of negligible ecological significance. It is located in a built-up area of Dublin and is not close to any water course. It is connected to a number of Natura 2000 areas via wastewater and surface water run-off.

The EU's Water Framework Directive (WFD) stipulates that all water bodies must attain 'good ecological status' by 2015. This includes estuarine waters and Dublin Bay was originally located within the Eastern River Basin District. In 2009 a management plan was published to address pollution issues and included a 'programme of measures' which was to be completed. This plan was approved in 2010 (ERBD, 2010). The lower Liffey Estuary has most recently been assessed by the Environmental Protection Agency (EPA) as 'good status'. The coastal water beyond the estuary (Dublin Bay) is also assessed as 'good'. The Tolka Estuary is 'moderate' (from [www.epa.ie](http://www.epa.ie)).

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'.

In June 2018 Irish Water applied for (and subsequently received) planning permission for works to the Ringsend Wastewater Treatment (WwTP) facility. As part of this application an Environmental Impact Assessment Report (EIAR) was submitted. Sections 5 and 6 of this EIAR related to Marine Biodiversity and Terrestrial Biodiversity respectively and each contained a section on the 'do-

nothing scenario'. These review the effects to biodiversity in Dublin Bay in the absence of the upgrade works and so are relevant to this response. Extracts from these sections include:

"If the Proposed WwTP Component is not constructed, the nutrient and suspended solid loads from the plant into Dublin Bay will continue at the same levels and the impact of these loadings should maintain the same level of effects on marine biodiversity. [...]"

**If the status quo is maintained there will be little or no change in the majority of the intertidal faunal assemblages found in Dublin Bay which would likely continue to be relatively diverse and rich across the bay** [our emphasis]. Previous studies suggest that the outer and south bays are largely unaffected by the nutrient inputs from the WwTP at Ringsend and from the Liffey and Tolka rivers. Therefore, the sandy communities found in those areas will likely remain dominated by the same assemblage of *Nephtys*, tellinids and other pollution-sensitive species, albeit subjected to natural spatial and seasonal variations.

However, the areas in the Tolka Estuary and North Bull Island channel will continue to be affected by the cumulative nutrient loads from the river Liffey and Tolka and the effluent from the Ringsend WwTP. These areas will likely continue to be colonised by opportunistic taxa tolerant of organic enrichment. There is a possibility that an increase in the nutrient outputs from the plant due to the operational overload and storm water discharges could result in a decline in the biodiversity of these communities as a result of low oxygen availability caused by increased organic enrichment. Considering the existing situation, it is possible that through the future oversupply of DIN [dissolved inorganic nitrogen] to the area impacted by the existing outfall, benthic production could be adversely impacted due to hypoxic or even anoxic conditions. An increase in the cover of opportunistic macroalgae could lead to further deterioration in the lagoons in the North Bull as they add to the organic load on the benthos and further increase the BOD [biological oxygen demand]. These events, although localised, could deteriorate the biological status for Dublin Bay as a whole. **Nonetheless, it is unlikely, as existing historical data suggests that pollution in Dublin Bay has had little or no effect on the composition and richness of the benthic macroinvertebrate fauna** [our emphasis]. Although a localised decline could occur, it is not envisaged to be to a scale that could pose a threat to the shellfish, fish, bird or marine mammal populations that occur in the area. (section 5.7.1) [...]

**If there is no change to the treatment process at Ringsend WwTP then the terrestrial environment adjacent to the site will remain largely unchanged** [our emphasis]. [...]

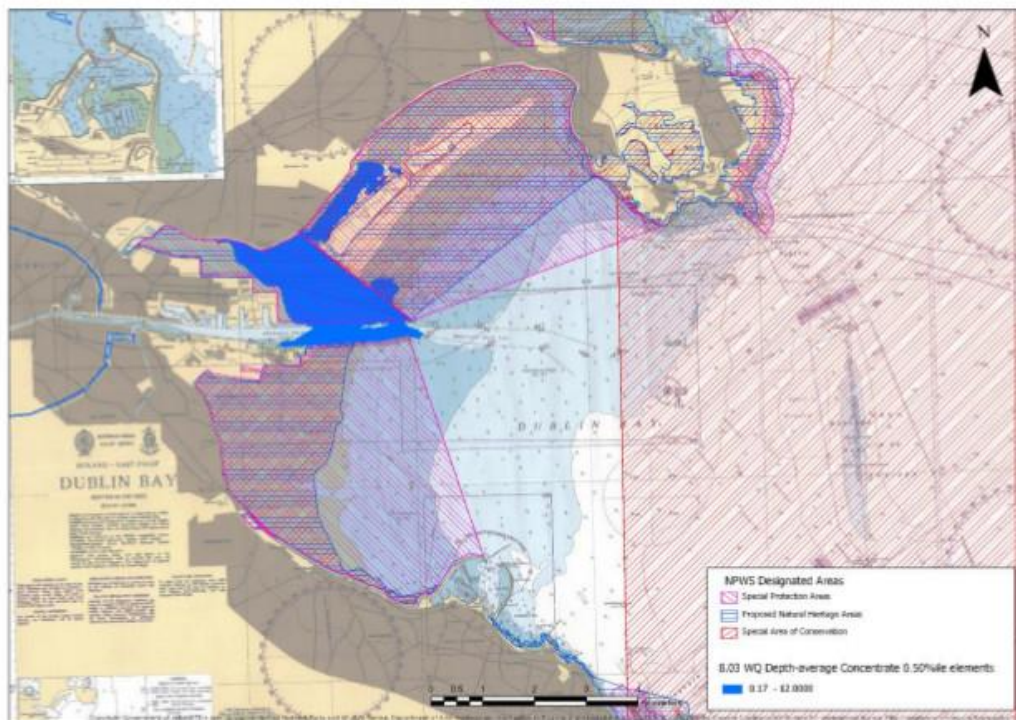
If the Proposed WwTP Component is not implemented, there will be little or no change in the majority of the intertidal faunal assemblages found in Dublin Bay which would likely continue to be relatively diverse and rich across the bay [...]. The sandy communities found in South Dublin Bay will likely remain dominated by the same assemblage of the polychaete worm *Nephtys caeca*, Cockle



*Cerastoderma edula*, tellinids and other pollution-sensitive species, albeit subjected to natural spatial and seasonal variations. **Bird populations in these areas will be unaffected by the discharge from the WwTP** [our emphasis].

If the Proposed WwTP Component is not implemented, there is a possibility that an increase in the nutrient outputs from the plant due to operational overload and storm water discharges could result in a decline in the biodiversity of invertebrate communities in the Tolka Estuary and North Bull Island channel as a result of low oxygen availability caused by increased organic enrichment. An increase in the cover of opportunistic macroalgae could lead to further deterioration in the lagoons in the North Bull as they add to the organic load on the benthos and further increase the BOD. These events, although localised, could deteriorate the biological status for Dublin Bay as a whole. **It is unlikely that they would have any significant impact on the waterbird populations that forage on invertebrates in Dublin Bay** [our emphasis] (section 6.5.1).

A graphic from the EIAR prepared by Irish Water in 2018 showed the zone of influence of the discharge from the Ringsend WwTP and this indicated that effects from the discharge do not extend to the south side of the bay. This is reproduced in figure 5.



**Figure 5-16: Extent of the Zone of Influence (in blue) of the effluent from the Proposed WwTP Component on the predicted modelled output for Winter depth averages 50%ile for Dissolved Inorganic Nitrogen (DIN)**

**Figure 5 – Extract from the EIAR prepared by Irish Water (2018) showing the zone of influence of the Ringsend WWTP outfall pipe.**

## **7.0 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 adjacent to, any SAC or SPA.

### **Habitat loss**

At its closest point the site is over 4.5km away (as the crow flies) from the boundary of the Natura 2000 sites within Dublin Bay. In reality however, this distance is greater as hydrological pathways follow the course of the drainage network to Dublin Bay. 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**

The subject site is located in a heavily urbanised environment close to significant noise and artificial light sources such as roads. This development cannot contribute to potential disturbance impacts to species or habitats for which Natura 2000 sites have been designated.

### **Hydrological pathways**

There is a pathway from the site via wastewater and surface water flows to Dublin Bay, via the Ringsend wastewater treatment plant. However, there is no evidence that poor water quality is currently negatively affecting the conservation objectives of Natura 2000 sites in Dublin Bay.

### **Pollution during operation – wastewater and surface water**

The Ringsend plant is licenced to discharge treated effluent by the EPA (licence number D0034-01) and is managed by Irish Water. It treats effluent for a population equivalent (P.E.) on average of 1.65 million however weekly averages can spike at around 2.36 million. This variation is due to storm water inflows during periods of wet weather as this is not separated from the foul network for much of the older quarters of the city, including at the subject site. The Annual Environmental Report for 2018, the most recent available, indicated that there were a number of exceedences of the emission limit values set under the Urban Wastewater Treatment Directive and these can be traced to pulse inflows arising from wet weather. In April 2019 Irish Water was granted planning permission to upgrade the Ringsend plant. This will see improved treatment standards and will increase network capacity by 50% on a phased basis. Works are currently underway on the first phase with a target completion date of 2022.

While the issues at Ringsend wastewater treatment plant are being dealt with in the medium term evidence suggests that some nutrient enrichment is benefiting wintering birds for which SPAs have been designated in Dublin Bay

(Nairn & O'Hallaran eds, 2012). Additional loading to this plant arising from the operation of this project are not considered to be significant as evidence suggests that pollution through nutrient input is not affecting the conservation objectives of the South Dublin Bay and River Tolka Estuary SPA.

The proposed development includes an onsite attenuation system, which will restrict storm water flow from the site and so the receiving sewer will have increased hydraulic capacity during any rain even as stormwater flow off the site is restricted.

Discharges of wastewater and surface water from this project cannot result in significant effects to the SACs or SPAs in Dublin Bay.

#### **Abstraction**

There are no effects which can occur due to abstraction of freshwater. Evidence suggests that abstraction is not resulting in negative effects to Natura 2000 sites in the zone of influence of the development project.

#### **Pollution during construction**

There is unlikely to be escape of sediment during the construction phase. This cannot result in significant pollution due to the distance from sensitive receptors, and the temporary nature of the works. Tidal and coastal habitats are not sensitive to sediment pollution in the way that freshwater bodies are.

#### **Japanese Knotweed**

Japanese Knotweed is being treated on-site as part of an eradication plan. Measures will be taken during the construction phase to ensure the plant does not spread, in accordance with S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011. These measures are not mitigation in an AA context as they are not included to reduce or avoid any effect to a Natura 2000 site. Even in the absence of these control measures, significant effects to Natura 2000 sites cannot occur.

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

The following projects were considered in combination with this development application:

The construction of 56 no. residential units, in a mix of houses and apartments is underway in the north west corner of the site, pursuant to PL29N.JA0024. This is a social housing development, being completed on behalf of Dublin City Council. There may be some overlap with the enabling works for this project with the proposed development.

The other development site in the area is the Former Department of Defence site, Infirmary Road (DCC Part 8 development). Permission was approved under Reg Ref 3210/19 for the demolition of existing buildings and the construction of 38 no. dwellings on the southern lower part of the former military stores site, bounded by Montpelier Gardens to the North, Infirmary Road to the West and Montpelier Hill to the South, Dublin 7. The upper part of the site was not included.

St. Bricins Military Hospital is likely to be developed at some stage but there is currently no indication that this project will come forward in the same timeline as the ODG development.

The cumulative (in-combination) effects caused by the overlapping with these other projects in the vicinity has been considered, where relevant, in this Screening Report.

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 SUDS measures are included so that no negative impacts to surface water quality/quantity will occur.

In March 2005 the Greater Dublin 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. These are not mitigation in an AA context as they are not included to reduce or avoid any affect to a Natura 2000 site.

This development will add to the loading at the Ringsend wastewater treatment plant. This plant is not compliant with its emission limit standards however work is underway to increase treatment capacity (see discussion earlier in this report). According to the 2018 Annual Environmental Report for the plant, “the

discharge from the wastewater treatment plant does have an observable negative impact on the water quality in the near field of the discharge and in the Liffey and Tolka Estuaries". This report highlights that other sources of pollution also present from riverine inputs, sewerage overflows, misconnections and unsewered properties. The AER does not comment on whether, or how, these issues are affecting Natura 2000 sites in Dublin Bay and there is currently no evidence to suggest that such effects are occurring. It is therefore not considered that 'in combination' effects may arise from this source.

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

## **8.0 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

**Anonymous.** 2013. *Site Synopsis. South Dublin Bay Special Area of Conservation (Site Code: 0210) 000210\_Rev13.Doc.* National Parks and Wildlife Service.

**Anonymous.** 2008. *Site Synopsis. South Dublin Bay and Tolka Estuary SPA (Site Code: 4024).* National Parks and Wildlife Service.

**Anonymous.** 2005. *Site Synopsis. Poulaphouca Reservoir SPA (site code: 4063).* National Parks and Wildlife Service.

**Balmer D.E., Gillings S., Caffrey B.J., Swann R.L., Downie I.S., Fuller R.J.** 2013. *Bird Atlas 2007-11: the breeding and wintering birds of Britain and Ireland.* BTO Books, Thetford, UK.

**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.** 2012. *Irish Wetland Bird Survey: results of waterbird monitoring in Ireland in 2010/11.* Irish Birds Volume 9 Number 3 pg397-410.

**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'*

**Eastern River Basin District.** 2010. *River Basin Management Plan 2009 – 2015.*

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

**Lewis L., Burke B., & Crowe O.** 2016. *Irish Wetland Bird Survey: Results of Waterbird Monitoring in Ireland in 2014/15.* Available on <http://www.birdwatchireland.ie/LinkClick.aspx?fileticket=puNP9y7PIXq%3d&tabid=281>

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

**NPWS.** 2012. *Conservation Objectives: Baldoyle Bay SAC 000199. Version 1.0.* National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

**NPWS.** 2013. *Conservation Objectives: South Dublin Bay SAC 00210. Version 1.* National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

**NPWS.** 2013. *Conservation Objectives: Baldoyle Bay SPA 004016. Version 1.* National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

**NPWS.** 2013. *Conservation Objectives: Malahide Estuary SAC 000205. Version 1.* National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

**NPWS.** 2013. *Conservation Objectives: Malahide Estuary SPA 004025. Version 1.* National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

**NPWS.** 2015. *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.

**NPWS.** 2016. *Conservation Objectives: Howth Head SAC 000202. Version 1.* National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

**NPWS.** 2017. *Conservation Objectives: Wicklow Mountains SAC 002122. Version 1.* National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

**NPWS.** 2017. *Conservation Objectives: Ireland's Eye SAC 002193. Version 1.* National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

**NPWS.** 2019. *Conservation Objectives: Ballyman Glen SAC 000713. Version 1.* National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.

**NPWS.** 2020. *Conservation objectives for Poulaphouca Reservoir SPA [004063]. Generic Version 7.0.* Department of Arts, Heritage and the Gaeltacht.

**NPWS.** 2020. *Conservation objectives for Knocksink Wood SAC [000725]. Generic Version 7.0.* Department of Culture, Heritage and the Gaeltacht.

**NPWS.** 2020. *Conservation objectives for Wicklow Mountains SPA [004040]. Generic Version 7.0.* Department of Culture, Heritage and the Gaeltacht.

**NPWS.** 2020. *Conservation objectives for Dalkey Islands SPA [004172]. Generic Version 7.0.* Department of Culture, Heritage and the Gaeltacht.

**NPWS.** 2020. *Conservation objectives for Glenasmole Valley SAC [001209]. Generic Version 7.0.* Department of Culture, Heritage and the Gaeltacht

**NPWS.** 2020. *Conservation objectives for Howth Head Coast SPA [004113]. Generic Version 7.0.* Department of Culture, Heritage and the Gaeltacht.

**NPWS.** 2020. *Conservation objectives for Ireland's Eye SPA [004117]. Generic Version 7.0.* Department of Culture, Heritage and the Gaeltacht

**NPWS.** 2020. *Conservation objectives for Rye Water Valley/Carton SAC [001398]. Generic Version 7.0.* Department of Culture, Heritage and the Gaeltacht

**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.

**Scally, L., Pfeiffer, N. and Hewitt, E.** 2020. *The monitoring and assessment of six EU Habitats Directive Annex I Marine Habitats.* Irish Wildlife Manuals, No. 118. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland