

CONSTITUTION HILL

PART 8 PLANNING REPORT

11 NOVEMBER 2022

APPROPRIATE ASSESSMENT OPENFIELD

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Dublin City Council
Comhairle Cathrach Bhaile Átha Cliath

Part 8 Screening Report for Appropriate Assessment of proposed development at Constitution Hill, Dublin 1

Compiled by OPENFIELD Ecological Services

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www.openfield.ie

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Introduction

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

All life depends on biodiversity and its current global decline is a major challenge facing humanity. In 1992, at the Rio Earth Summit, this challenge was recognised by the United Nations through the Convention on Biological Diversity which has since been ratified by 193 countries, including Ireland. Its goal to significantly slow down the rate of biodiversity loss on Earth has been echoed by the European Union, which set a target date of 2010 for *halting* the decline. This target was not met but in 2010 in Nagoya, Japan, governments from around the world set about redoubling their efforts and issued a strategy for 2020 called 'Living in Harmony with Nature'. In 2011 the Irish Government incorporated the goals set out in this strategy, along with its commitments to the conservation of biodiversity under national and EU law, in the second and third national biodiversity action plans (Dept. of Arts, Heritage and the Gaeltacht, 2011; Department of Culture, Heritage and the Gaeltacht, 2017). A fourth plan is due for publication in 2022.

The main policy instruments for conserving biodiversity in Ireland have been the Birds Directive of 1979 and the Habitats Directive of 1992. Among other things, these require member states to designate areas of their territory that contain important bird populations in the case of the former; or a representative sample of important or endangered habitats and species in the case of the latter. These areas are known as Special Protection Areas (SPA) and Special Areas of Conservation (SAC) respectively. Collectively they form a network of sites across the European Union known as Natura 2000. A report into the economic benefits of the Natura 2000 network concluded that "there is a new evidence base that conserving and investing in our biodiversity makes sense for climate challenges, for saving money, for jobs, for food, water and physical security, for cultural identity, health, science and learning, and of course for biodiversity itself" (EC, 2013).

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

Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications

for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

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

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

The test at stage 1 AA Screening is that:

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

The test at stage 2 (Appropriate Assessment) is:

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

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

Screening for Appropriate Assessment

Article 6(3) of the Habitats Directive states:

Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

The purpose of Stage 1 Screening for Appropriate Assessment is to determine whether it is necessary to carry out a Stage 2 full Appropriate Assessment (AA).

Section 177U(1) provides that a screening for appropriate assessment of a proposed development shall be carried out by the competent authority to

assess, in view of best scientific knowledge, if that proposed development, individually or in combination with another plan or project is likely to have a significant effect on the European site.

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

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

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

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

The Purpose of this document

This document provides the information necessary to allow Dublin City Council, as competent authority, to conduct a Screening for Appropriate Assessment in respect of a proposed development at a site at Constitution Hill, Dublin 1, and its potential effects in relation to Natura 2000 sites (SACs and SPAs).

Under the Planning and Development Act 2000 (as amended), and the Birds and Natural Habitats Regulations 2011, the competent authority cannot grant planning permission where significant effects may arise to a Natura 2000 site. In order to make that decision the development must, in the first instance, be screened for AA.

About OPENFIELD Ecological Services

OPENFIELD Ecological Services is headed by Pádraic Fogarty who has worked for 25 years in the environmental field and in 2007 was awarded an MSc from Sligo Institute of Technology for research into Ecological Impact Assessment (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).

Guidance

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

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

Methodology

The methodology for this screening statement is clearly set out in a document prepared for the Environment DG of the European Commission entitled 'Assessment of plans and projects significantly affecting Natura 2000 sites 'Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC' (Oxford Brookes University, 2001). Chapter 3, part 1, of this document deals specifically with screening while Annex 2 provides the template for the screening/finding of no significant effects report matrices to be used.

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

Step 1: Management of the Site

This determines whether the project is necessary for the conservation management of the site in question.

Step 2: Description of the Project

This step describes the aspects of the project that may have an impact on the Natura 2000 site.

Step 3: Characteristics of the Site

This process identifies the conservation aspects of the site and determines whether negative impacts can be expected as a result of the plan. This is done through a literature survey and consultation with relevant stakeholders – particularly the National Parks and Wildlife Service (NPWS). All potential effects

are identified including those that may act alone or in combination with other projects or plans.

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

Step 4: Assessment of Significance

Assessing whether an effect is significant or not must be measured against the conservation objectives for the Natura area in question.

If this analysis shows that significant effects are likely then a full AA will be required.

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

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

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

Screening Template as per Annex 2 of EU methodology:

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

Brief description of the project

The regeneration and redevelopment is proposed for the existing Constitution Hill Estate bounded by Constitution Hill, Broadstone, Catherine's Lane North and Dublin Bus Phibsboro Depot, in Dublin 7. The existing 0.76 hectare site currently comprises of 3 no. five-storey housing blocks providing 89 homes and a crèche which form the Constitution Hill Flats social housing scheme. The proposed redevelopment, which will be managed by Dublin City Council, comprises of:

- Provision of 124 homes (42 no. 1 bed apartments, 54 no. 2 bed apartments, 18 no. 3 bed apartments, 10 no. 2 bed duplex mews dwellings)
- Building heights ranging from 2-7 storeys
- Communal & public open space 0.28ha / 37% of site area
- Deep retrofit and extension to 3 no. existing five-storey existing housing blocks to include an additional floor and side bay with modifications to all elevations
- Construction of a new seven-storey apartment block to the north of the site
- Construction of a new seven-storey apartment block to the south of the site
- Construction of ten no. two-storey duplex dwellings to the west of the site
- The provision of a multi-use childcare facility
- Construction of new ESB substation
- Reconfiguration of pedestrian access to the site with new entrance path to the east of the site including a new stepped access to the footpath on Constitution Hill
- Level access to be provided across the site with secure lines to entrances and communal open space
- Revision to the existing entrance on Broadstone to include a gated pedestrian and vehicular entry
- Revision to the existing entrance on Catherine's Lane to include gated pedestrian and vehicular entry
- Revision to boundary treatments to Constitution Hill, Broadstone and Catherine's Lane North
- Associated car and cycle parking provision
- Demolition of the existing substation and pump house on site
- Provision of public and private open spaces; ancillary structures and associated site infrastructure works / supporting infrastructure, landscaping, public lighting, revision to access roads, pavements, boundary treatments and all other necessary enabling works, roads and services.

The site location is shown in figures 1 and 2 while the proposed layout is given in figure 3.

The proposed development is for the deep retrofitting and development on the site at Constitution Hill, Dublin 1 as previously described. This will include works to the existing buildings on the site, a construction phase to include surface water drainage infrastructure and connection to electricity and wastewater networks.

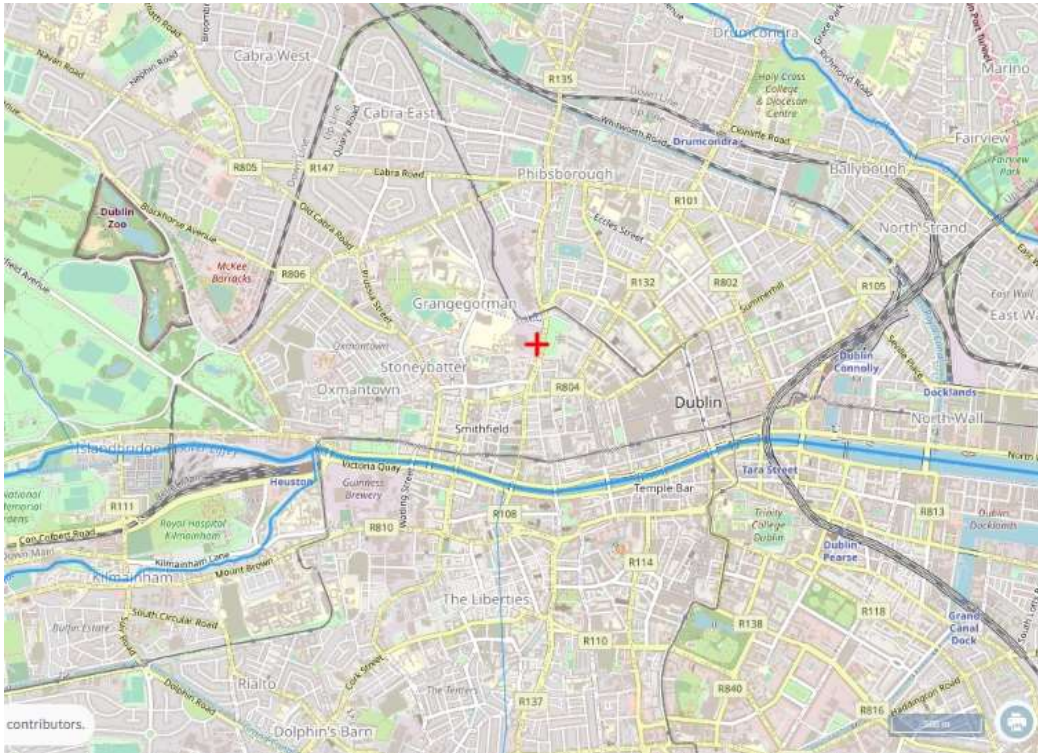


Figure 1 – Site location (red cross) and water courses from www.epa.ie). There are no Natura 2000 sites in this view.

The main phases of this project include:

- Works to existing building and site preparation.
- A construction phase using standard building materials
- Construction will include connection to existing surface water drainage infrastructure, electricity and wastewater networks.

An operation phase whereby the building will continue to be occupied

The development site is not located within or directly adjacent to any Natura 2000 site (SAC or SPA). This part of north Dublin is a built-up business, residential and commercial zone and is predominantly composed of surfaces that are sealed with tar macadam and concrete. The boundary of the development site is c.3km from the South Dublin Bay and River Tolka Estuary SPA, the nearest Natura 2000 site to the development site.

The development site is entirely composed of buildings and hard surfaces with small areas of highly modified green space. It is surrounded on all sides by either roads or other buildings. There are no water courses in this vicinity as can be seen in figure 1. Figure 2 shows the boundary of the development site.



Figure 2 – Existing site layout and proposed development boundary

As there will be no change to the area of hard standing arising from this development, there can be no negative impact upon surface water quality or quantity leaving the site.

Foul effluent from the development will be sent to the wastewater treatment plant at Ringsend in Dublin. Emissions from this plant are currently not in compliance with the Urban Wastewater Treatment Directive. 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%, with a target completion date of 2023. The proposed development will increase the volume of wastewater to be sent to the foul sewer.

There are no other discharges from this operation.

Fresh water supply for the development will be via a mains supply. This may originate in the Poulaphouca Reservoir.

There are no point air emissions from the site while some dust and noise can be expected during the construction phase.

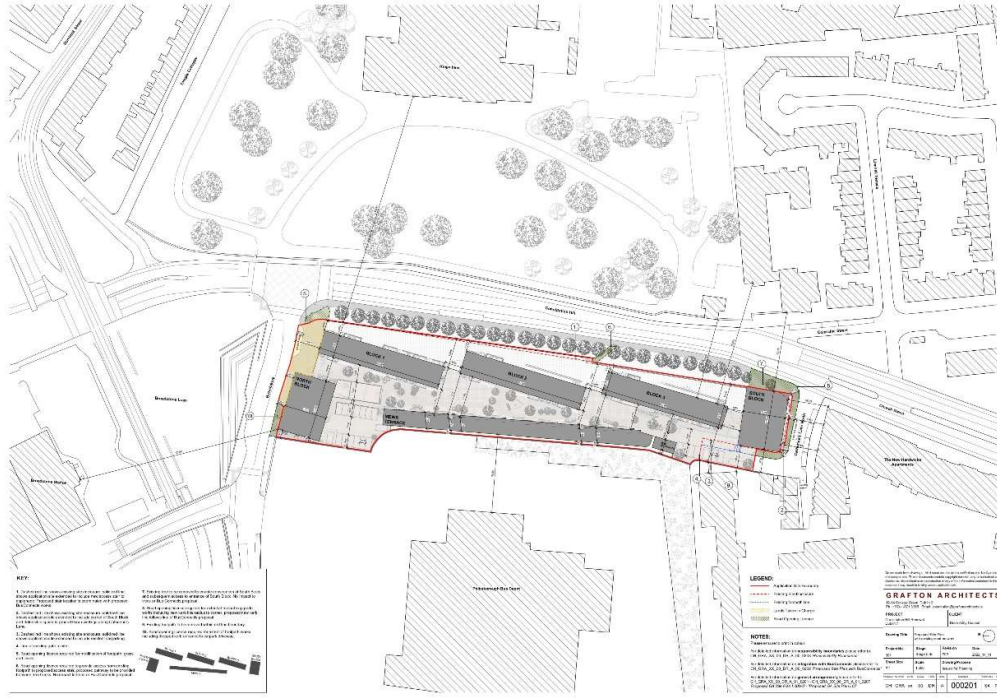


Figure 3 – Proposed layout

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 project
- The location and nature of Natura 2000 sites
- Pathways between the development and the Natura 2000 network

It has already been stated that the development site is not located within or directly adjacent to any Natura 2000 site. Wastewater discharges from the Ringsend wastewater treatment plant as well as surface water sewers lead to the **South Dublin Bay and River Tolka Estuary SPA (site code: 4024)** and the **South Dublin Bay SAC (0210)**. The **North Dublin Bay SAC (site code: 0206)** and **North Bull Island SPA (site code: 4006)** are also in this region. The **Poulaphouca Reservoir SPA (site code: 4063)**, from which drinking water supply for this development may originate, also falls within the zone of influence of this project. These are the only Natura 2000 sites within the zone of influence of the development as pathways do not exist to other areas.

Table 1 – Features of interest for SPAs in Dublin Bay (EU code in square parenthesis)

North Bull Island SPA	South Dublin Bay and Tolka Estuary SPA
Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046]	Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046]
Oystercatcher (<i>Haematopus ostralegus</i>) [A130]	Oystercatcher (<i>Haematopus ostralegus</i>) [A130]
Teal (<i>Anas crecca</i>) [A052]	Ringed Plover (<i>Charadrius hiaticula</i>) [A137]
Pintail (<i>Anas acuta</i>) [A054]	Grey Plover (<i>Pluvialis squatarola</i>) [A140]
Shoveler (<i>Anas clypeata</i>) [A056]	Knot (<i>Calidris canutus</i>) [A143]
Shelduck (<i>Tadorna tadorna</i>) [A048]	Sanderling (<i>Calidris alba</i>) [A144]
Golden Plover (<i>Pluvialis apricaria</i>) [A140]	Dunlin (<i>Calidris alpina</i>) [A149]
Grey Plover (<i>Pluvialis squatarola</i>) [A141]	Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]
Knot (<i>Calidris canutus</i>) [A143]	Redshank (<i>Tringa totanus</i>) [A162]
Sanderling (<i>Calidris alba</i>) [A144]	Black-headed Gull (<i>Croicocephalus ridibundus</i>) [A179]
Dunlin (<i>Calidris alpina</i>) [A149]	Roseate Tern (<i>Sterna dougallii</i>) [A192]
Black-tailed Godwit (<i>Limosa limosa</i>) [A156]	Common Tern (<i>Sterna hirundo</i>) [A193]

Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]	Arctic Tern (<i>Sterna paradisaea</i>) [A194]
Curlew (<i>Numenius arquata</i>) [A160]	Wetlands & Waterbirds [A999]
Redshank (<i>Tringa totanus</i>) [A162]	
Turnstone (<i>Arenaria interpres</i>) [A169]	
Black-headed Gull (<i>Larus ridibundus</i>) [A179]	
Wetlands & Waterbirds [A999]	

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. The **North Bull Island SPA** (site code: 0206) meanwhile is largely coincident with the North Dublin Bay SAC with the exception of the terrestrial portion of Bull Island. These designations encompass all of the intertidal areas in Dublin Bay from south of the Howth peninsula 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 1 lists the features of interest for both of the SPAs.

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

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.

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*.

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

- **Annual vegetation of drift lines (1210)** This habitat of the upper shore is characterised by raised banks of pebbles and stones. They are inhabited by a sparse but unique assemblage of plants, some of which are very rare. The principle pressures are listed as gravel extraction, the building of pipelines and coastal defences.
- **Embryonic shifting dunes (2110)**. As their name suggests these sand structures represent the start of a sand dune's life. Perhaps only a meter high they are a transient habitat, vulnerable to inundation by the sea, or developing further into white dunes with Marram Grass. They are threatened by recreational uses, coastal defences, trampling and erosion.
- **Tidal mudflats (1140)**. This is an intertidal habitat characterised by fine silt and sediment. Most of the area in Ireland is of favourable status however water quality and fishing activity, including aquaculture, are negatively affecting some areas.
- **Salicornia mudflats (1310)**: This is a pioneer saltmarsh community and so is associated with intertidal areas. It is 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.

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 2. 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 2 – Qualifying interests for the North Dublin Bay SAC

Habitat/Species [code]	Status ¹
Mudflats and sandflats not covered by seawater at low tide [1140]	Inadequate
Salicornia and other annuals colonizing mud and sand [1310]	Favourable

¹ NPWS. 2019. *The Status of EU Protected Habitats and Species in Ireland*. Habitat Assessments Volume 1.0. Unpublished Report, National Parks & Wildlife Services. Department of Culture, Heritage and the Gaeltacht, Dublin, Ireland.

Atlantic salt meadows [1330]	Inadequate
Mediterranean salt meadows [1410]	Inadequate
Annual vegetation of drift lines [1210]	Inadequate
Embryonic shifting dunes [2110]	Inadequate
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120]	Inadequate
Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	Bad
Humid dune slacks [2190]	Inadequate
<i>Petalophyllum ralfsii</i> Petalwort [1395]	Good

- **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).** 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.

At its nearest point the **Poulaphouca Reservoir SPA** (site code: 4063) is located approximately 24km from the site of the proposed development. Its 'features of interest' include the Greylag Goose *Anser anser* and the Lesser Black-backed Gull *Larus fuscus*.

Whether any of these SACs or SPAs is likely to be affected 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:

To maintain or restore the favourable conservation condition of the Annexed species for which the SPA has been selected.

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.

Specific conservation objectives have been set for mudflats in the South Dublin Bay SAC (NPWS, 2013a) and for all qualifying interests the North Dublin Bay SAC (NPWS, 2013b). The objectives relate to habitat area, community extent, community structure and community distribution within the qualifying interest. There is no objective in relation to water quality.

For the South Dublin Bay & Tolka Estuary SPA and the North Bull Island SPA the conservations 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, 2022).

Data collected to carry out the assessment

Habitats on the site are not associated with any species or habitat which is associated with qualifying interests of Natura 2000 sites.

The EU's Water Framework Directive (WFD) stipulates that all water bodies were to have attained '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 includes a 'programme of measures' which must be completed. This plan was approved in 2010 while the second River Basin Management Plan was published in 2018. A third plan is being prepared in 2022. The development site is not located directly adjacent to any surface water course and the River Liffey can be found approximately 700m to the south. Both the upper and the lower Liffey Estuary (the boundary between the lower and upper estuaries is marked at the Custom House) meanwhile have been assessed as 'good status'.

The coastal water beyond the estuary is also assessed as 'good status' (from www.epa.ie). These classifications indicate that water quality in the wider Dublin Bay area is currently meeting the requirements of the WFD. Along the River Tolka however work remains to be done to attain the 'good ecological status' as set out in the aforementioned legislation. The status of the River Tolka Estuary is 'moderate'.

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.

The site is composed entirely of artificial surfaces within a heavily built-up area of Dublin city. It is connected to a number of Natura 2000 sites via wastewater, surface water and freshwater supply.

Of the species listed in table 1 eleven: Curlew, Dunlin, Redshank, Shoveler, Oystercatcher, Grey Plover, Knot, Golden Plover, Bar-tailed Godwit, Black-tailed Godwit and Black-headed Gull are listed as of high conservation concern, and on BirdWatch Ireland's red list (Gilbert et al., 2021).

Of relevance to this study it is noted that although declines in these species cannot always be attributed to clear causes, there is no evidence that water quality issues have been a factor.

In 2020 the NPWS published a report entitled 'The monitoring and assessment of six EU Habitats Directive Annex I Marine Habitats' (Sally & 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 assessment. 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 Nephthys, 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 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. 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].

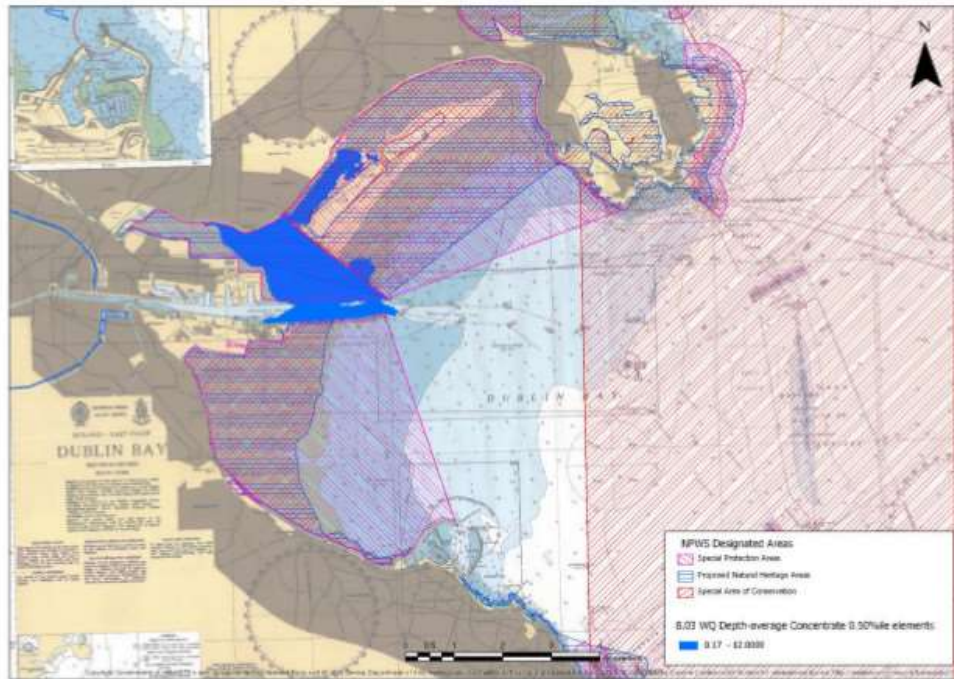


Figure 5-16: Extent of the Zone of Influence (in blue) of the effluent from the Proposed WwTP Component on the predicted modelled output for Winter depth averages 50%ile for Dissolved Inorganic Nitrogen (DIN)

Figure 4 – Extract from the EIAR prepared by Irish Water (2018) showing the zone of influence of the Ringsend WWTP outfall pipe.

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 4. Works on the upgrade are currently underway.

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

The development site is approximately 3km from the boundary of the South Dublin Bay and River Tolka estuary SPA (the nearest Natura 2000 site) as the crow flies but following the flow of the River Liffey this distance is over 8km. Because of this significant distance separating the two areas there is no pathway for loss or disturbance of habitats listed in table 1 or other semi-natural habitats that may act as ecological corridors for important species associated with the qualifying interests of the Natura 2000 sites.

No significant effects are likely to arise to any Natura 2000 site from this source.

Habitat disturbance/Ex-situ impacts

This development cannot increase disturbance effects to birds in Dublin Bay given its distance from these Natura 2000 sites. There are no sources of light or noise over and above that which is already experienced in this built-up, urbanised location. The proposed amendments will have no effect upon the level of noise or artificial light at the site.

No significant effects are likely to arise to any Natura 2000 site from this source.

Ex-situ impacts

Habitats on the development site are not suitable for regularly occurring populations of wetland or wading birds which may be features of interest of the South Dublin Bay and River Tolka Estuary SPA. No ex-situ impacts can occur.

No significant effects are likely to arise to any Natura 2000 site from this source.

Hydrological pathways

There is a pathway from the development site to Dublin Bay via the surface water sewer and the Ringsend wastewater treatment plant.

A. Pollution during the operational phase

There can be no negative effect arising to surface water quality or quantity as there will be no change to the area of hard surfacing.

The proposed development will slightly increase the loading to the Ringsend WWTP. Additional loading to this plant arising from the operation of the project are not significant as there is no evidence that pollution through nutrient input is affecting the conservation objectives of any of the Natura 2000 sites in Dublin Bay.

No significant effects are likely to arise to any Natura 2000 site from this source.

Pollution during the construction phase

The construction phase will involve works that can result in sediment or toxic substances such as concrete, oils, fuels etc. entering water courses. However there is no direct pathway to any SAC or SPA, or other sensitive habitats, from this source. Due to the scale of this project and its distance to Natura 2000 sites, no effects to Natura 2000 sites are likely to arise from this source.

No significant effects are likely to arise to any Natura 2000 site from this source.

Abstraction

There is no evidence that municipal abstraction from reservoirs in the Wicklow area is impacting upon any area designated under the Natura 2000 network, including the Poulaphouca Reservoir SPA.

No significant effects are likely to arise to any Natura 2000 site from this source.

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

Implementation of the WFD will ensure that improvements to water quality in Dublin Bay and the River Liffey are maintained or enhanced where relevant.

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 the proposed development will result in no negative effects to the quality and quantity of water leaving the site.

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 the GDDS.

The completion of upgrade works at Ringsend, a priority for Irish Water, will see greater compliance with quality standards of effluent and so an expected improvement in water quality in Dublin Bay.

This application can be seen in combination with these other 'brown field', or in-fill, developments across the city. This is leading to improvements in the standard of surface water attenuation but at the same time increasing pressure on the Ringsend wastewater treatment plant. As described, this is being addressed by on-going upgrade works at the plant.

Conclusion and Finding of No Significant Effects

Mitigation in an AA context is given as any measure which is introduced in order to avoid or reduce an impact to a Natura 2000 site. In this case no mitigation measures are suggested during either the construction or operation phases.

This project has been screened for AA under the appropriate methodology. It has found that significant effects are not likely to arise, either individually or in combination with other plans or projects to the Natura 2000 network. This conclusion is based on best scientific knowledge.

References

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

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

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

Colhoun K. & Cummins S. 2013. *Birds of Conservation Concern in Ireland 2014 – 2019*. Irish Birds. Volume 9 Number 4 pg523-541.

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

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

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

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

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

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

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

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

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

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

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

- Nairn R. & O'Halloran J. Editors.** 2012. *Bird Habitats in Ireland*. The Collins Press.
- NPWS.** 2013. *Site Synopsis. South Dublin Bay SAC (Site Code: 0210)*. National Parks and Wildlife Service.
- NPWS.** 2008. *Site Synopsis. South Dublin Bay and Tolka Estuary SPA (Site Code: 4024)*. National Parks and Wildlife Service.
- NPWS.** 2013a. *Conservation Objectives: South Dublin Bay SAC 00210*. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS.** 2013b. *Conservation Objectives: North Dublin Bay SAC 000206*. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS.** 2014. *North Bull Island Special Protection Area (Site Code 4006) & South Dublin Bay and River Tolka Estuary Special Protection Area (Site Code 4024). Conservation Objectives Supporting Document VERSION 1*
- NPWS.** 2015a. *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.** 2015b. *Conservation Objectives: North Bull Island SPA 004006. Version 1*. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS.** 2019. *The Status of EU Protected Habitats and Species in Ireland. Habitat Assessments Volume 1*. Unpublished Report, National Parks & Wildlife Services. Department of Culture, Heritage and the Gaeltacht, Dublin, Ireland.
- NPWS.** 2022. *Conservation objectives for Poulaphouca Reservoir SPA [004063]. Generic Version 9.0*. Department of Arts, 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.