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13th June 2016

[REDACTED]
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Re: AIE Request Acknowledgement [IE_AIE_003]

Dear [REDACTED],

I refer to your request dated 18th May 2016, under which you have made under the EC (Access to Information on the Environment) Regulations 2007 to 2014.

Request:

- A copy of the Assessment Screening Report regarding the proposed use of the Phoenix Park Tunnel line to be brought into regular passenger service
- A copy of the schedule of works enacted following the allocation of £3 million (punts) under the 2000 NDP for the purpose of effecting the environment so as to bring that same line up to a useable standard

Response

- Please find copy of document titled – Phoenix Park Tunnel Project – Stage 1 Screening for Appropriate Assessment
- In relation to the schedule of works you requested, Iarnród Éireann has no knowledge or recollection of any monies being allocated to these works under the 2000 NDP. To the best of our knowledge, no capital funding was made available for this line until the recent past.

In the event that you are not happy with this decision you can make an appeal in relation to this matter, you can do so by writing to the FOI Unit, Corporate Communications, Iarnród Éireann Irish Rail, Connolly Station, Amiens St, Dublin 1 or by e-mail to foi@irishrail.ie. You should make your appeal within 4 weeks (20 working days) from the date of this notification, where a day is defined as a working day excluding, the weekend and public holidays, however, the making of a late appeal may be permitted in appropriate circumstances. The appeal will involve a complete reconsideration of the matter by a more senior member of the staff of this body.

Should you have any questions or concerns regarding the above, please contact the FOI Officer on 01, 7034293.

Yours sincerely,

Ms. Sue Stanley

Freedom of Information / Data Protection Officer,

Corporate Communications

Iarnród Éireann Irish Rail,

Connolly Station,

Amiens Street,

Dublin 1

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Stage 1 Screening for Appropriate Assessment

Phoenix Park Tunnel Branch Line Maintenance Works

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1 INTRODUCTION

As part of the ongoing programme of railway improvement works within the Greater Dublin Area, Iarnród Éireann is now proposing to carry out maintenance and improvement works along the existing Heuston to Connolly branch Line.

This twin track branch line, commonly referred to as the Phoenix Park Tunnel branch line, is approximate 4km in length, of which 0.74km is within tunnel section beneath Phoenix Park. The alignment of the Phoenix Park branch line is shown on Figure 1.

The Phoenix Park Tunnel branch line is currently an operational railway sector, utilised for rail freight, transfer of rolling stock between depots and occasionally for special passenger services (mainly for sporting events in Croke Park).

In the future, Iarnród Éireann propose to introduce regular passenger services along this line, thereby bringing a number of commuter train services from the Cork Main Line into Connolly Station, Tara Street Station, Pearse Station and Grand Canal Dock Station, together with corresponding outbound return journeys.

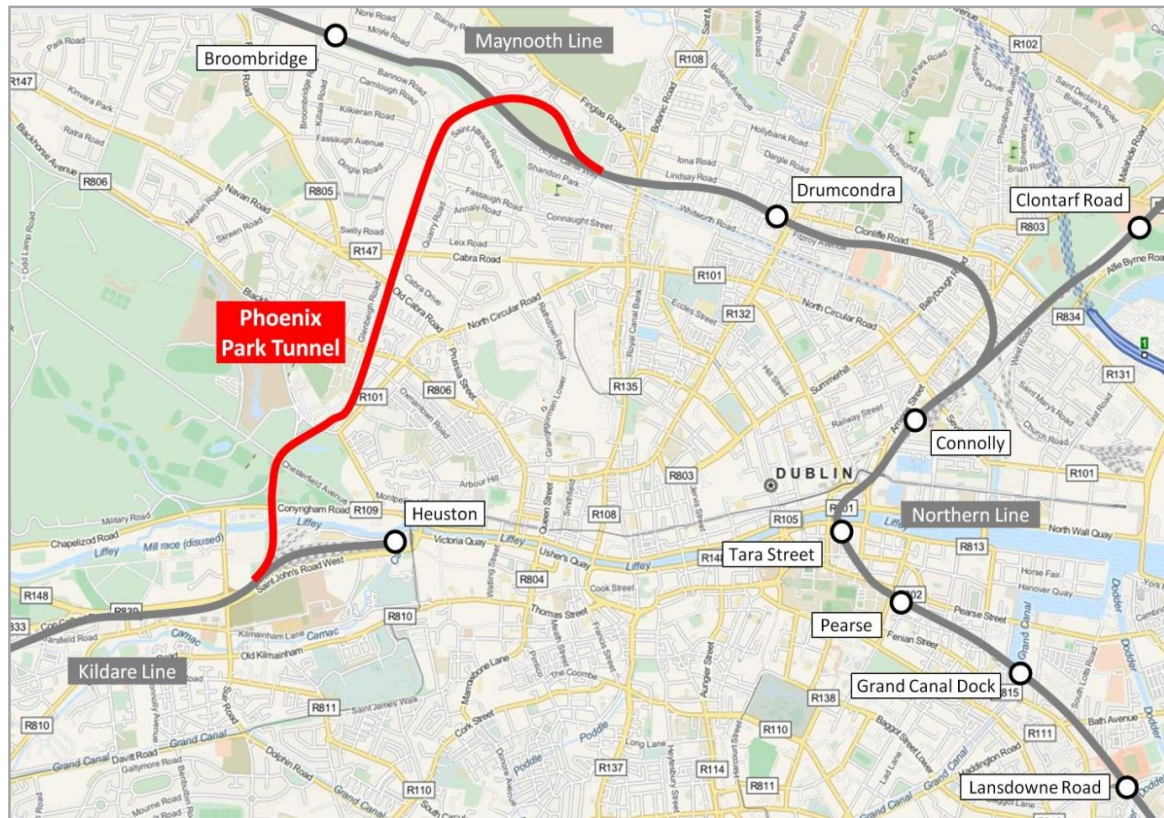
Prior to the re-introduction of regular passenger service, Iarnród Éireann is proposing to undertake a maintenance and improvement works programme on the railway infrastructure, thereby reinstating the Phoenix Park Tunnel branch line to optimum design conditions.

These maintenance and improvement works will be confined to the existing track alignment and structures and, therefore, are not considered to be major modifications of the existing infrastructure.

It is proposed that all maintenance and improvement works will be undertaken from Q2 2015 to Q2 2016.

This Appropriate Assessment Screening Report is undertaken to determine if the maintenance and improvement works on the Phoenix Park Tunnel branch line would result in likely significant effects on the Natura 2000 network.

Figure 1: Alignment of Phoenix Park Tunnel branch line



2 STATEMENT ON APPROPRIATE ASSESSMENT SCREENING FINDINGS

This Appropriate Assessment Screening Report is the documented process to evaluate and record the reasoning and conclusion in relation to the two tests of Article 6(3) of the Habitats Directive; to establish if it is necessary for the Appropriate Assessment to continue to Stage 2, involving preparation of a Natura Impact Statement.

The two tests used in the Appropriate Assessment Screening are:

- I. Whether a plan or project is directly connected to or necessary for the management of the site; and
- II. Whether the plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a Natura 2000 site in view of its conservation objectives.

On the basis of this Screening for Appropriate Assessment (Stage 1) exercise, it is concluded that maintenance and improvement works along the Phoenix Park Tunnel branch line will not have significant effects on the Natura 2000 sites.

Therefore, it is submitted that Stage 2 - Appropriate Assessment is not required.

3 NEEDS AND OBJECTIVES

3.1 Needs

The heavy rail network in Dublin comprises four main routes radiating from the city, namely:

- The **Northern Line** – from Belfast via Dundalk to Connolly and Pearse station with a branch to Howth;
- The **Sligo Line** – from Sligo via Longford, Mullingar, Maynooth to Connolly station with a branch to the M3 Parkway;
- The **South Eastern Line** – from Rosslare Europort via Arklow, Greystones, Bray to Pearse and Connolly station; and
- The **Cork Main Line** – InterCity services from Cork, Limerick, Galway, Waterford, Tralee, Ballina, Westport and Commuter Services from Portlaoise, Kildare, Newbridge to Heuston station.

The Northern Line and the Maynooth Line converge at Connolly Station before connecting to the South Eastern Line via the Loop Line Bridge crossing of the River Liffey.

The Cork Main Line terminates at Heuston Station, which is approximately 2km west of the city centre. Most passengers alighting at Heuston station interchange to either bus or Luas services to access the city-centre; and vice versa for passengers from the city centre seeking to board at Heuston Station.

The need to interchange impacts negatively on current users and is a barrier to attracting new users of Kildare Line services. The boarding at Heuston on city centre bound journey and from city centre to Heuston on outbound journeys imposes capacity demands on Luas Red Line and bus services. As demand grows, capacity constraints on these services will hinder further growth.

The principal needs the Phoenix Park Tunnel Project aims to address are:

- To provide direct access to the city-centre for existing users of some commuter services on the Cork Line, without the need to interchange; and
- To provide a suitably attractive and high-capacity services on the Kildare Line to attract new public transport users.

3.2 Objectives

The objectives of the Phoenix Park Tunnel Project have been defined and are grouped below in five key categories.

Economy

- Improve journey times for passengers using the commuter services on the Cork Line service by reducing the need to interchange at Heuston station; and
- Attract new customers to the Cork Line services.

Safety

- Attract transport users from road use in favour of public transport.

Environment

- Reduce traffic congestion and emissions by providing a viable public transport alternative on the Cork Line corridor.

Accessibility and Social Inclusion

- Increase availability and attractiveness of public transport in the Greater Dublin Area.

Integration

- Assist in the delivery of the national transportation strategy by increasing patronage on the Cork Line; and
- Improve the integration and efficiency of transportation by linking the heavy rail system in Dublin.

3.3 Transportation Policy

In April 2014, the National Transport Authority published its plan for transport investment in the GDA up to 2018. Specific objectives were set in relation to heavy rail including to:

"Develop the Phoenix Park Tunnel Link to bring commuter train services directly from the Kildare line into the heart of Dublin City Centre"

This provides clear strategic policy support for the development of the Phoenix Park Tunnel Project.

4 PHYSICAL CHARACTERISTICS OF THE PHOENIX PARK TUNNEL BRANCH LINE

4.1 Development of the Phoenix Park Tunnel Branch Line

The Dublin-Cork Main Line was constructed in the period 1845 to 1856, extending from Dublin's Heuston Station (formerly Kingsbridge Station) to Cork's Kent Station (formerly Glanmire Road Station).

Given the location of Kingsbridge Station, the Great Southern and Western Railway Company (GSWR) had to transfer goods from the Dublin Docks by road for onward transport down the country. This inefficient, time consuming and expensive exercise.

The GSWR company decided to construct a direct link from the docks to connect with the GSWR line. This resulted in the construction of the branch line to connect the GSWR to Dublin docks (North Wall Quay) by 1877.

This is the origin of the Phoenix Park Tunnel Branch Line linking the current Cork Main Line to the Sligo Line.

The alignment of the Phoenix Park Tunnel branch line relative to the surrounding urban environment is shown on Figure 1.

4.2 Characteristics of the Phoenix Park Tunnel Branch Line

The characteristics of the Phoenix Park Tunnel are summarised as follows:

- Total length of circa 4km of twin track.
- Diverges from the Cork Main Line approximately 1km west of Heuston Station
- Crosses above River Liffey and enter Phoenix Park Tunnel immediately south of Conyngham Road.
- Tunnel is a single bore of circa 0.74km length, which is brick lined with stone faced portals
- Tunnel ends north of Garda Headquarters to north of North Circular Road.
- Railway is within earth cutting along the 2.9km to tie-in to Sligo Line at Glasnevin Junction.
- Railway passes beneath a 8 No. overbridges, including the Royal Canal and the Sligo Line.

4.3 Future Operations on Phoenix Park Tunnel Branch Line

The Phoenix Park Tunnel Project involves the re-introduction of scheduled passenger services on the route. The planned commuter services would operate between Grand Canal Dock in the city-centre and stations on the Kildare Line as far as Portlaoise. This includes stations at Park West/Cherry Orchard, Clondalkin/Fonthill, Adamstown, Hazelhatch/Celbridge, Sallins/Naas, Newbridge, Kildare, Monesterevin, Portarlinton and Portlaoise.

This will allow commuters on the Kildare Line to access the commercial core and south-east quarter of the city-centre directly without the need for interchange at Heuston station.

4.4 Scope of Maintenance and Improvement Works

The maintenance and improvement works associated with the Phoenix Park Tunnel project will involve plant and machinery working on and adjacent to the existing rail track or from platforms in the environs of bridge structures and the Phoenix Park Tunnel itself.

From a construction perspective, the required maintenance and improvement works are not considered major modifications of the existing infrastructure and are of low magnitude in terms of physical interventions.

The maintenance and improvement works are summarised in Table 4.1 below.

Table 4.1: Maintenance and Improvement Scope of Works Summary

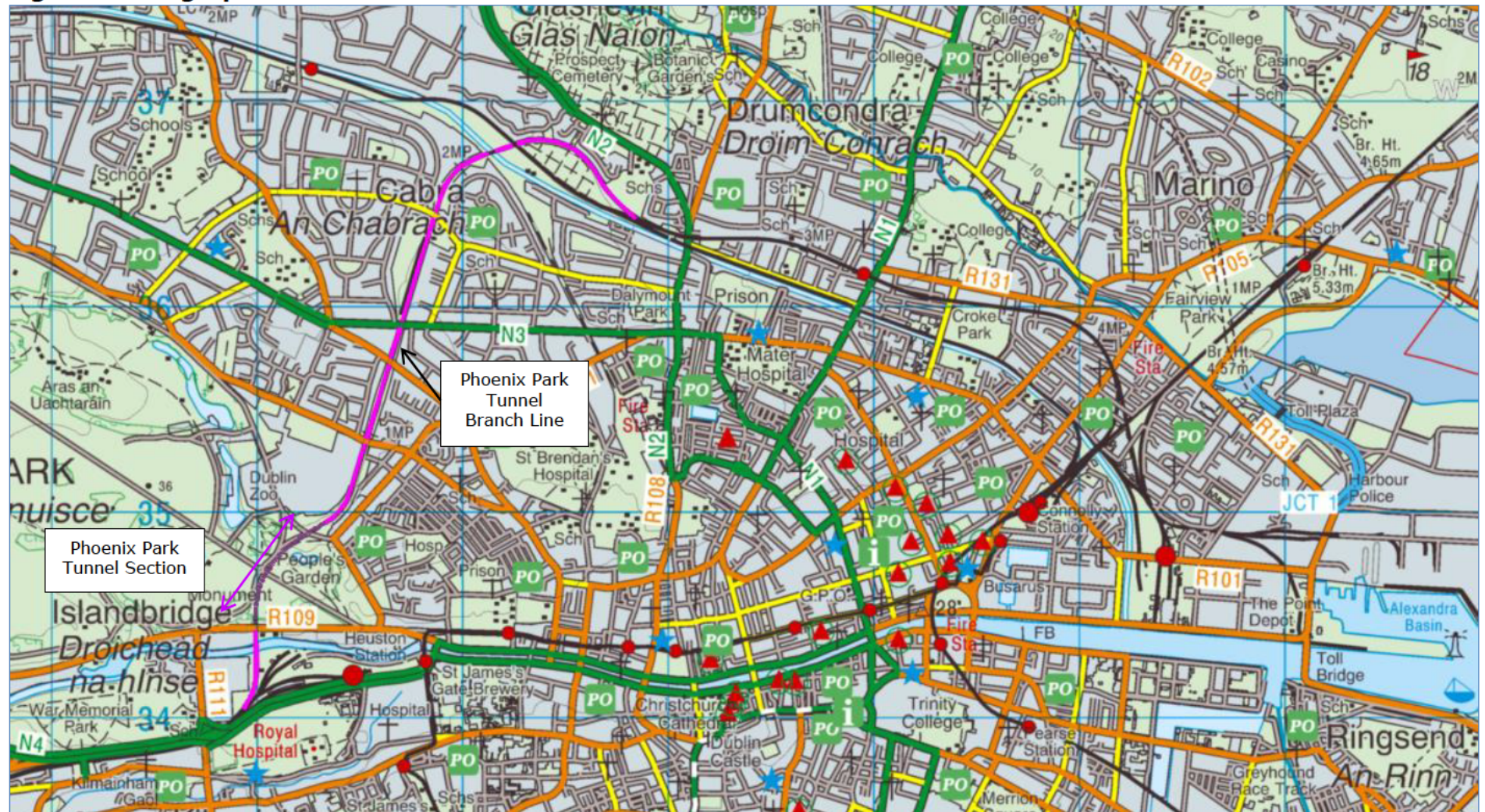
Item	Work Requirement	Description
1	Resignalling and replacement of life expired lineside and track equipment	<ol style="list-style-type: none"> 1. Signal CW26 is to be relocated 1.2km from current position. Will involve excavation of lineside trench and installation of ducting and cabling, together with foundation for new signal and installation of new signal equipment and head. 2. Replacement of life expired track equipment, i.e. 6 No. breather switches (track thermal expansion joint) and 17 No. insulated block joints (create signal circuits). Will involve track cutting and welding activities at specific locations, together with associated plant.
2	Tunnel Cleaning and Maintenance	<ol style="list-style-type: none"> 1. Provide temporary demountable working platforms for works 2. Power wash tunnel to remove carbon and dirt from wall and tunnel crown. 3. Repair tunnel brickwork as necessary 4. Install new replacement tunnel lighting and telecoms
3	Tunnel Permanent Way improvements	<ol style="list-style-type: none"> 1. Relay new track panels with coated rail within tunnel 2. Install new linear drainage between up and down road within tunnel.

4	Maintenance and Improvement of Earthen Cuttings	<ol style="list-style-type: none"> 1. Vegetation control maintenance in accordance with Iarnród Éireann Standard CCE-TMS-381. 2. Soil nailing to existing slopes for 2.5km on either side of railway 3. Linear track drainage over distance of approximately 0.9m between Glasnevin and Cabra.
5	Replacement of Crossover	<ol style="list-style-type: none"> 1. Replacement of back to back turnout 1km west of Heuston.

Refuelling of plant and machinery has the potential to create a risk of uncontrolled discharge of hydrocarbons into the Grand Canal. To mitigate any potential impact of uncontrolled discharges of hydrocarbons, all refuelling will be undertaken at designated points. All hydrocarbons will be stored in high integrity containers and spill kits will be available on-site. Iarnród Éireann will take all necessary precautions to prevent uncontrolled discharges

Construction and environmental management procedures are proposed to specifically address the above issues at source. There is a legal responsibility on Iarnród Éireann to complete any such construction without uncontrolled discharges to any surface water. The appointed contractor will include environmental emission controls within their Method Statement, as a standard requirement.

Figure 2: Geographic Location of Phoenix Park Tunnel Branch Line



5 APPROPRIATE ASSESSMENT PROCESS

5.1 European Legislative Background

At a European level, Natura 2000 sites are designated areas for the protection of rare and endangered habitats and species and are afforded legal protection by the European Council Habitats Directive (Council Directive 92/43/EEC), as amended by Council Directive 97/62/EC. The objective of establishing a Natura 2000 network is maintain and/or restore favourable conservation status of habitats and species threatened or deemed highly sensitive to change throughout Europe.

These EC Habitats Directives is transposed in Irish law through the European Communities (Natural Habitats) Regulations (SI 94/1997) as amended (hereafter referred to as the 'Habitats Regulations'). The Natura 2000 network is composed of two types of designation:

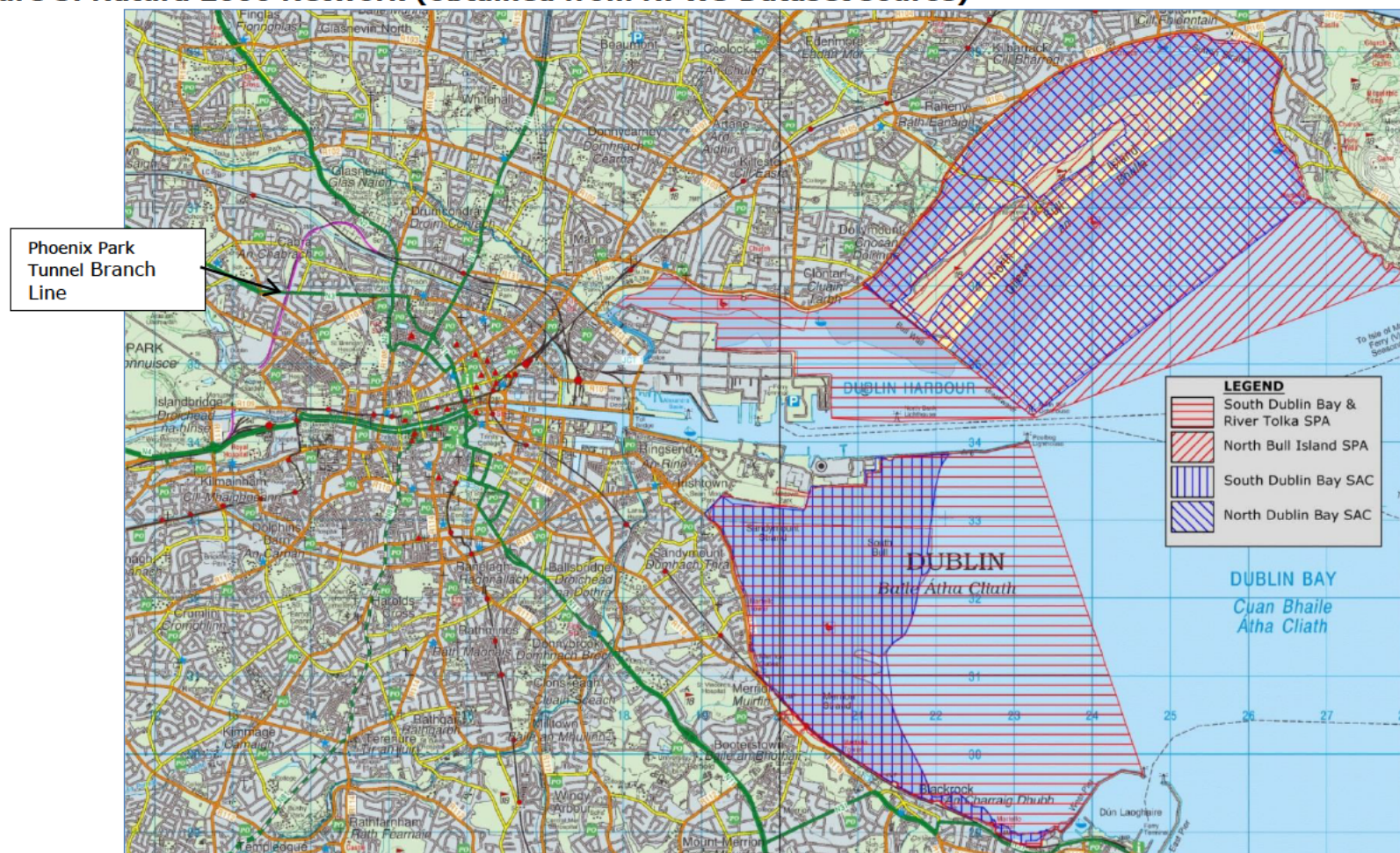
- Areas supporting rare, endangered or vulnerable natural habitats and species of habitat, plant or animal are designated as a Special Areas of Conservation (SAC); and.
- Areas supporting significant numbers of birds and/or their supporting habitats (for breeding, feeding or roosting) are designated as a Special Protection Area (SPA).
- In certain geographical areas, there may be an overlap of SAC and SPA designation; however the designations will be due to differing qualifying criteria and differing conservation objectives.

The location of the Natura 2000 network in the environs of the Phoenix Park Tunnel branch line is shown on Figure 3.

The Habitats Regulations impose a responsibility on the competent authority to ensure that a plan or project is authorised only where it will not adversely affect the integrity of a Natura 2000 network. It is the responsibility of the proponent of a plan or project to assess the development to ensure it has assessed and documented the likely significant impacts on the Natura 2000 network.

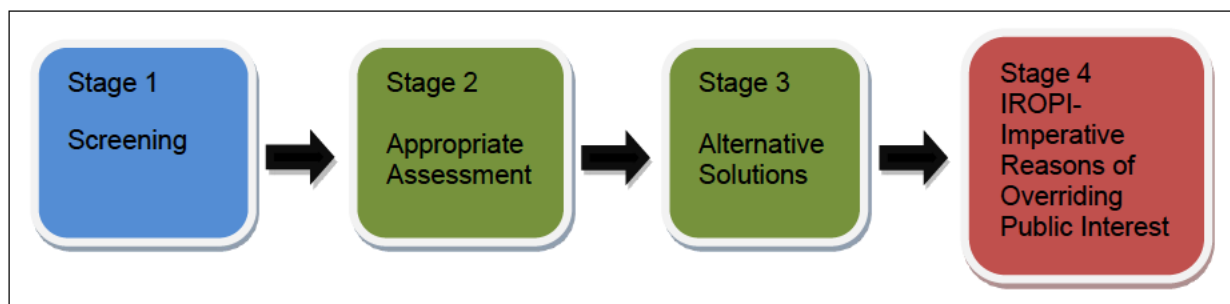
Appropriate Assessment is a method used to assess the ecological impacts of a proposed development. Stage 1 Screening Report is prepared to consider whether the maintenance and improvement works along the Phoenix Park Tunnel branch line have the potential to impact on the Natura 2000 network or any individual Natura 2000 site.

Figure 3: Natura 2000 Network (obtained from NPWS Dataset source)



5.2 Stages of Appropriate Assessment Process

The Appropriate Assessment process involves four stages outlined below. The outcome of each stage determines if the process needs to extend to the next stage.



Stage 1 - Screening: This stage assesses whether a plan or project either alone or in combination with other plans or projects is likely to have a significant effect on the Natura 2000 site. If the assessment finds that there are no significant effects, a stage two appropriate assessment is not necessary.

Stage 2 - Appropriate Assessment: Requires a scientific assessment of the impact of the project on the integrity of the Natura site taking into consideration the conservation objectives and qualifying features of the site. If the outcome of the assessment concludes that the project will not have an adverse effect on the Natura 2000 site, the proposed plan or project can be executed.

Stage 3 - Assessment of Alternative Solutions: Stage three examines alternative solutions and options where the appropriate assessment stage has concluded that adverse impacts on the Natura 2000 site cannot be avoided. Where none of the alternative solutions examined are viable then the requirement of stage 4 is considered.

Stage 4 - IROPI- Imperative Reasons of Overriding Public Interest: Involves the assessment of the plan or project where it is considered that adverse impacts are likely on the Natura Site and no alternative solutions remain. Imperative reasons of overriding public interest are tested and the adoption of compensatory measures is agreed. Compensatory measures must be proposed and assessed. The Commission must be informed of the compensatory measures.

Compensatory measures must be practical, implementable, likely to succeed, proportionate and enforceable, and they must be approved by the Minister.¹

5.3 Stage 1 - Appropriate Assessment Screening

The information contained in this report covers Stage One of the Appropriate Assessment process. It documents and records the reasoning and conclusions reached in relation to the two tests of Article 6(3) of the Habitats Directive, namely:

- I. Whether a plan or project is directly connected to or necessary for the management of the site; and
- II. Whether the plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a Natura 2000 site in view of its conservation objectives.

This information is provided in Section 8 below.

¹ Appropriate Assessments of Plans and Projects in Ireland – Guidance for Planning Authorities. (DoEHLG, 2009)
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6 DESCRIPTION OF NATURA 2000 DESIGNATED SITES

6.1 Introduction

Dublin Bay provides an excellent example of a coastal system with extensive sand and mudflats, and with all the main coastal habitats represented, many of which are listed on Annex I of the E.U. Habitats Directive.

Dublin Bay as a whole is among the most important sites for wintering waterbirds in Ireland. Numbers have remained relatively stable since the mid-1990s, despite encroaching development and increased levels of disturbance from recreational activities².

The Natura 2000 network of sites are protected sites of particular importance for rare, endangered or vulnerable habitats and species, considered to be of European importance.

In accordance with the DoEHLG Guidance (2009) and adopting a precautionary principle, all Natura 2000 site within 15km of the railway corridor have been assessed.

The Natura 2000 sites in Dublin Bay are shown on Figure 2. The published Site Synopsis and Conservation Objectives for these Natura 2000 sites are contained in Appendix B.

² Crowe, O. (2006). A review of the Wintering Waterbirds of Dublin Bay, 1994/95 to 2003-4. Irish East Coast Bird Report 2002: 123-129.

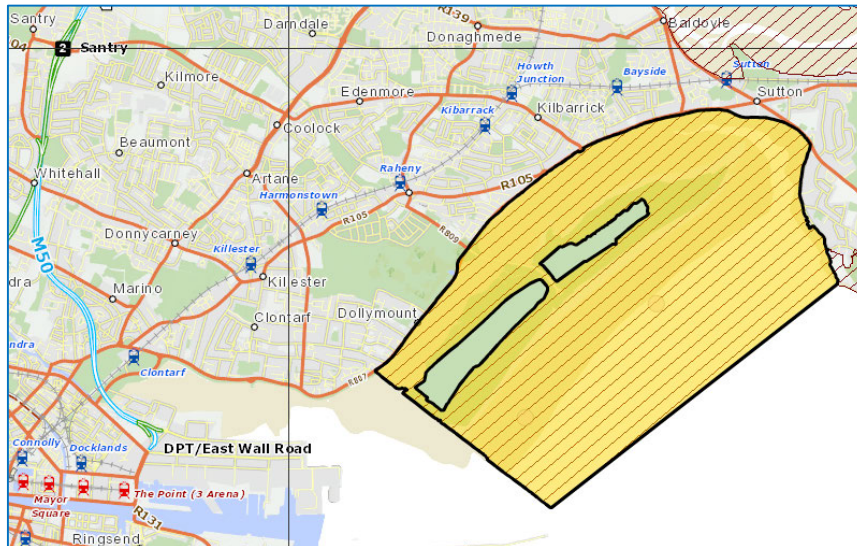
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6.2 Special Areas of Conservation

North Dublin Bay SAC (Site Code IE000206)



Description

North Dublin Bay SAC comprises the inner part of north Dublin Bay, the seaward boundary extending from the Bull Wall lighthouse across to the Martello Tower at Howth Head. The North Bull Island and the lagoons is the focal point of the site, with excellent examples of various sand dune and salt marsh habitats, as well as intertidal sandflats and mudflats. A range of rare and scarce plant and animal species occur within the site.

Qualifying Criteria

- Qualifying Species
 - Petalwort (*Petalophyllum ralfsii*).
- Qualifying Habitats
 - Mudflats and sandflats not covered by seawater at low tide;
 - Atlantic salt meadows (*Glauco-Puccinellietalia maritima*);
 - Mediterranean salt meadows (*Juncetalia maritimi*);
 - Salicornia and other annuals colonizing mud and sand;

- Annual vegetation of drift lines;
- Embryonic shifting dunes;
- Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes);
- Fixed coastal dunes with herbaceous vegetation (grey dunes);
- Humid dune slacks;
- *Spartina* swards (*Spartinion maritimae*).

Unit Size

- 1,475 hectares

Conservation Objectives

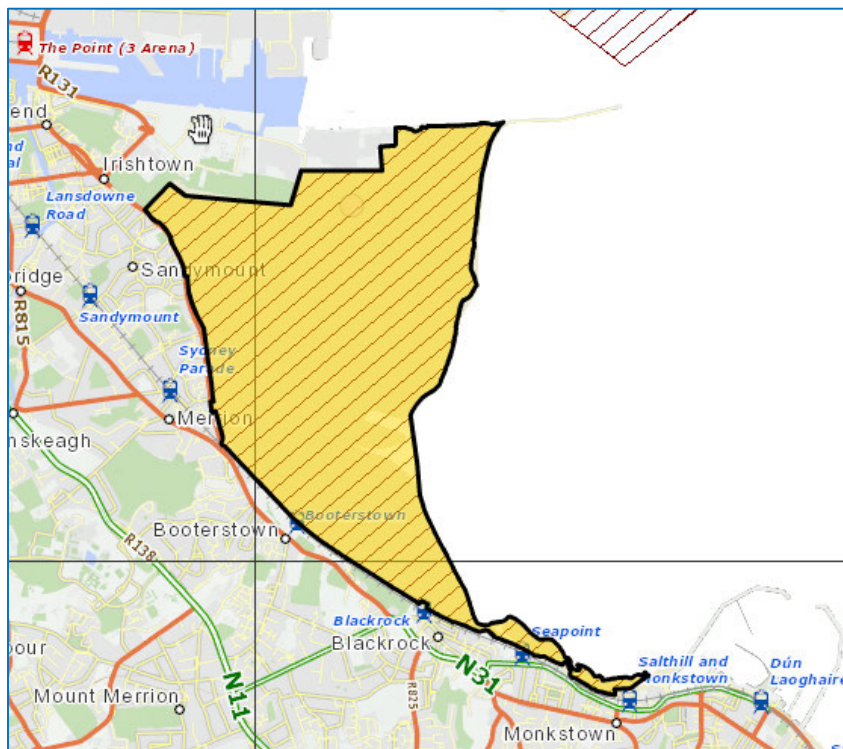
Objective 1: To maintain the Annex I habitats for which the cSAC has been selected at 'favourable conservation status: Mudflats and sandflats not covered by seawater at low tide; Annual vegetation of drift lines; *Salicornia* and other annuals colonizing mud and sand; Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*); Mediterranean salt meadows (*Juncetalia maritimi*); Embryonic shifting dunes; Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes); Fixed coastal dunes with herbaceous vegetation (grey dunes); Humid dune slacks.

Objective 2: To maintain the Annex II species for which the cSAC has been selected at favourable conservation status: *Petalophyllum ralfsii*.

Objective 3: To maintain the extent, species richness and biodiversity of the entire site.

Objective 4: To establish effective liaison and cooperation with landowners, legal users and relevant authorities.

South Dublin Bay SAC (Site Code IE000210)



Description

South Dublin Bay SAC lies south of the River Liffey and extends from the South Wall to the west pier at Dún Laoghaire. It is an intertidal site with extensive areas of sand and mudflats, a habitat listed on Annex I of the E.U. Habitats Directive. There is a bed of Eelgrass (*Zostera noltii*) below Merrion Gates, which is the largest stand on the east coast.

Qualifying Criteria

- Qualifying Species
 - None.
- Qualifying Habitats
 - Mudflats and sandflats not covered by seawater at low tide.

Unit Size

- 742 hectares

Conservation Objectives

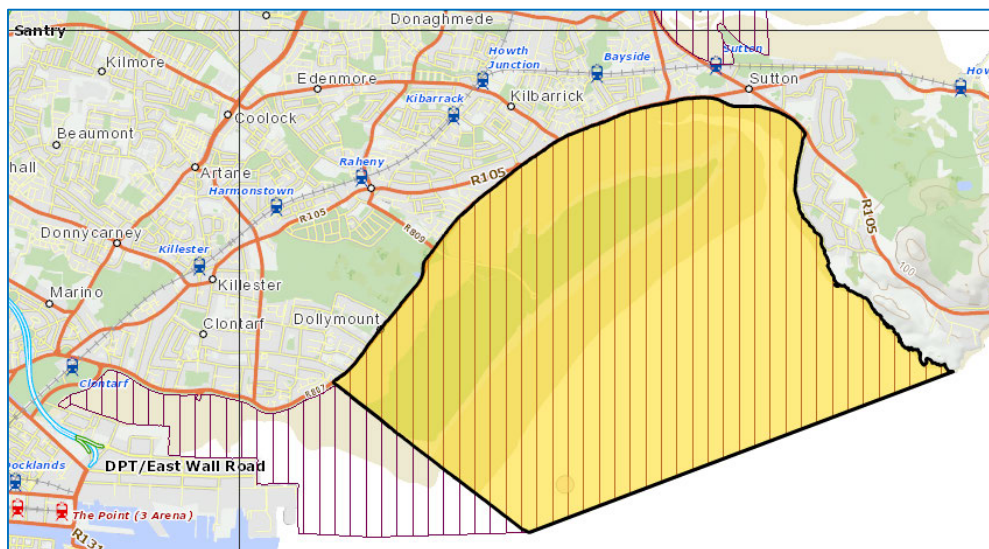
Objective 1: To maintain the Annex I habitat for which the cSAC has been selected at favourable conservation status: Mudflats and sandflats not covered by seawater at low tide.

Objective 2: To maintain the extent, species richness and biodiversity of the entire site.

Objective 3: To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

6.3 Special Protection Areas

North Bull Island SPA (Site Code IE004006)



Description

North Bull Island SPA comprises the inner part of north Dublin Bay, the seaward boundary extending from the Bull Wall lighthouse across to Drumleck Point at Howth Head. The reason for the SPA designation is that the North Bull Island is internationally important for a number of waterbird species, namely light-bellied brent geese, bar-tailed godwit, and black-tailed godwit. In addition, up to 20 other waterbird species regularly exceed the qualifying thresholds for national importance. The site also qualifies as an SPA as it regularly supports >20,000 waterbirds.

Qualifying Criteria

➤ Qualifying Species

- Light-bellied Brent Goose;
- Shelduck;
- Pintail;
- Shoveler;
- Oystercatcher;
- Grey Plover;
- Knot;
- Dunlin;
- Black-tailed Godwit;
- Bar-tailed Godwit;
- Redshank;
- Turnstone;
- 20,000 wintering waterbirds

➤ Additional Special Conservation Interests:

- Teal;
- Ringed Plover;
- Golden Plover;
- Sanderling;
- Curlew;
- Black-headed Gull;
- Wetland & Waterbirds.

Unit Size

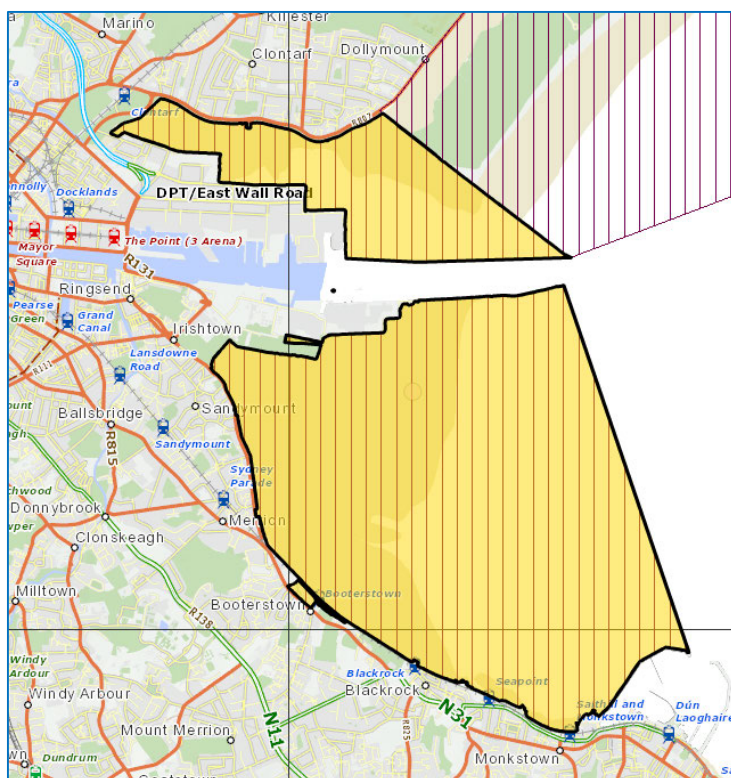
- 1,945 hectares

Conservation Objectives

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Main conservation objective: To maintain the special conservation interests for this SPA at favourable conservation status: Light-bellied Brent Goose, Shelduck, Pintail, Shoveler, Oystercatcher, Grey Plover, Knot, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Redshank, Turnstone, 20,000 wintering waterbirds, Teal, Ringed Plover, Golden Plover, Sanderling, Curlew, Black-headed Gull, Wetland & Waterbirds.

South Dublin Bay and River Tolka Estuary SPA (IE004024)



Description

South Dublin Bay and River Tolka Estuary SPA comprises a substantial part of Dublin Bay. It includes the intertidal area between the River Liffey and Dún Laoghaire, and the estuary of the River Tolka to the north of the River Liffey, as well as Booterstown Marsh. A portion of the shallow marine waters of the bay is also included. An internationally important population of light-bellied brent geese occurs regularly and newly arrived birds in the autumn feed on the eelgrass bed at Merrion. South Dublin Bay supports important populations of a range of other species (see below). It is also an important site for wintering gulls, especially black-headed gull, common gull and herring gull. The south bay is an important tern roost in the autumn (mostly late July to September), with over 10,000 terns recorded in recent studies.

Qualifying Criteria

- Qualifying Species
 - Light-bellied Brent Goose;
 - Knot;
 - Sanderling;
 - Bar-tailed Godwit;
 - Redshank;
 - Roseate Tern;
 - Common Tern;
 - Arctic Tern.
- Additional Special Conservation Interests:
 - Oystercatcher;
 - Ringed Plover;
 - Golden Plover;
 - Grey Plover;
 - Dunlin;
 - Black-headed Gull;
 - Wetland & Waterbirds.

Unit Size

- 597 hectares

Conservation Objectives

Main conservation objective: To maintain the special conservation interests for this SPA at favourable conservation status: Light-bellied Brent Goose, Knot, Sanderling, Bar-tailed Godwit, Redshank, Roseate Tern, Common Tern, Arctic Tern, Oystercatcher, Ringed Plover, Golden Plover, Grey Plover, Dunlin, Blackheaded Gull, Wetland & Waterbirds.

6.4 Non-Qualifying Habitats and/or Species of Interest

Other habitats of interest that occur within the Natura 2000 sites include:

- Saltmarshs;
- Embryonic dunes.

Three Rare plant species legally protected under the Flora Protection Order 1999 have been recorded on the North Bull Island. These are:

- Lesser centaury (*Centaurium pulchellum*);
- Hemp nettle (*Galeopsis angustifolia*);
- Meadow saxifrage (*Saxifraga granulata*).

Two further species listed as threatened in the Red Data Book:

- Wild sage (*Salvia verbenaca*);
- Spring vetch (*Vicia lathyroides*).

Other species that occur in significant numbers include black-tailed godwit, shelduck, wigeon, teal, pintail, shoveler, red-breasted merganser, curlew and turnstone.

7 DESCRIPTION OF ROYAL CANAL

Under the Wildlife Amendment Act, 2000, the Royal Canal is designated as a proposed Natural Heritage Area (pNHA) with a B rating of national importance. The Site Synopsis for the Royal Canal is provided in Appendix C.

The Royal Canal is not designated as a Natura 2000 site. As such, the requirements of Article 6 of the Habitats Directive do not apply. For completeness, the setting and description of this proposed Natural Heritage Area was reviewed.

The Royal Canal is a man-made waterway linking the River Liffey at Dublin to the River Shannon near Tarmonbarry, County Roscommon. It was built between 1790 and 1817 and operated as a means of transport for passengers and freight along its 145km length. Water levels in the Royal Canal are controlled by 46 lock gates, with the main water feed to the canal being from Lough Owel near Mullingar. The proposed Pelletstown station is located between the 8th and 9th lock gates.

The designated area of the Royal Canal includes the central channel and adjoining banks, hedgerows, towpath grassland, reed fringe, open water, related scrub and woodland.

The Site Synopsis for the Royal Canal (Ref: 002103) indicates that the hedgerow in this area is dominated by Hawthorn (*Crataegus monogyna*). The vegetation of the towpath is usually dominated by grass species. The rare and legally protected Opposite-leaved Pondweed (*Groenlandia densa*) (Flora Protection Order 1987) is recorded occurring downstream of the proposed development, between lock gates 4 and 5 (Phibbsborough environs). Tassel stonewort (*Tolypella intricata*), listed in the Red Data Book as being vulnerable, is also in the Royal Canal in Dublin. In general, Otter spraints are found along the canal tow-path, particularly where the canal passes over a river or stream.

The Site Synopsis for the Royal Canal indicates that the ecological value of the canal lies more in the diversity of species along its linear habitats, rather than the presence of rare species.

The Dublin City Council Biodiversity Action Plan (2008-2012) indicates that Green-winged orchid (*Orchis morio*), listed in the Red Data Book, is found along the tow-path grassland. Kingfisher (*Alcedo atthis*), an EU Birds Directive Annex I species, are noted to feed along the canal. Bats and Otters, EU Habitat Directive Annex II species, are noted to use the canal in the city limits.

The "All Ireland Daubenton's Bat Waterway Monitoring Scheme 2006-2011" (Irish Wildlife Manuals No. 61, Dept. of Arts, Heritage & the Gaeltacht) recorded Daubenton's Bat activity at Ashtown Station, approximately 4km west of Phoenix Park, during a survey in 2009.

8 APPROPRIATE ASSESSMENT SCREENING

8.1 Screening In/Out of Natura 2000 Sites

Further to identification of all Natura 2000 site within 15km radius of the Phoenix Park Tunnel branch line, a follow-on exercise was conducted to assess the maintenance and improvement railway works with regard to the conservation objectives and qualifying interests/special conservation interests of the Natura 2000 sites and the likely impact of.

This considered the nature of the works, the separation distance and the potential pathways between the works corridor and the Natura 2000 sites.

This exercise resulted in Natura 2000 sites being:

1. Screened out and not considered further;
2. Screened in and taken forward to Screening Matrix Assessment.

The findings of this exercise are shown on Figure 8.1 below.

Table 8.1: Relevance Screening Exercise Findings

Natura 2000 Site	Distance from Railway Corridor	Screened In/Out
North Dublin Bay SAC (Site Code IE000206)	6.25km linear distance between nearest edge of works to Natura 2000 site. There are no potential pathways from the works to the Natura 2000 site.	Screened Out, by virtue of: <ul style="list-style-type: none"> • Low intensity maintenance and improvement works; • Separation distance; • Isolation of railway environment from surrounding urban environment; • Lack of connectivity between PPT branch line and Natura 2000 site; • PPT lands not necessary for management of Natura 2000 site; • No Natura 2000 site habitat loss; • No Natura 2000 site imbalance due to works; • No Natura 2000 site disturbance during construction; • No direct or indirect damage to Natura 2000 site; • No change in water quality or water resource to Natura 2000 site; • PPT branch line works will not delay or impede achieving Natura 2000 site conservation objectives.

South Dublin Bay SAC (Site Code IE000210)	5.5km linear distance between nearest edge of works to Natura 2000 site. There are no potential pathways from the works to the Natura 2000 site.	Screened Out, by virtue of: <ul style="list-style-type: none"> • Low intensity maintenance and improvement works; • Separation distance; • Isolation of railway environment from surrounding urban environment; • Lack of connectivity between PPT branch line and Natura 2000 site; • PPT lands not necessary for management of Natura 2000 site; • No Natura 2000 site habitat loss; • No Natura 2000 site imbalance due to works; • No Natura 2000 site disturbance during construction; • No direct or indirect damage to Natura 2000 site; • No change in water quality or water resource to Natura 2000 site; • PPT branch line works will not delay or impede achieving Natura 2000 site conservation objectives.
North Bull Island SPA (Site Code IE004006)	6.25km linear distance between nearest edge of works to Natura 2000 site. There are no potential pathways from the works to the Natura 2000 site.	Screened Out, by virtue of: <ul style="list-style-type: none"> • Low intensity maintenance and improvement works; • Separation distance; • Isolation of railway environment from surrounding urban environment; • Lack of connectivity between PPT branch line and Natura 2000 site; • PPT lands not necessary for management of Natura 2000 site; • No Natura 2000 site habitat loss; • No Natura 2000 site imbalance due to works; • No Natura 2000 site disturbance during construction; • No direct or indirect damage to Natura 2000 site; • No change in water quality or water resource to Natura 2000 site; • PPT branch line works will not delay or impede achieving Natura 2000 site conservation objectives.
South Dublin Bay and River Tolka Estuary SPA (Site Code IE004024)	3.3km linear distance between nearest edge of works to Natura 2000 site. There are no potential pathways from the works to the Natura 2000 site.	Screened Out, by virtue of: <ul style="list-style-type: none"> • Low intensity maintenance and improvement works; • Separation distance; • Isolation of railway environment from surrounding urban environment; • Lack of connectivity between PPT branch line and Natura 2000 site; • PPT lands not necessary for management of Natura 2000 site; • No Natura 2000 site habitat loss; • No Natura 2000 site imbalance due to works;

		<ul style="list-style-type: none">• No Natura 2000 site disturbance during construction;• No direct or indirect damage to Natura 2000 site;• No change in water quality or water resource to Natura 2000 site;• PPT branch line works will not delay or impede achieving Natura 2000 site conservation objectives.
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Therefore, on the basis of the screening assessment of the impact on the proposed development, it is concluded that these works are not likely to have significant effects on a Natura 2000 site in view of its conservation objectives.

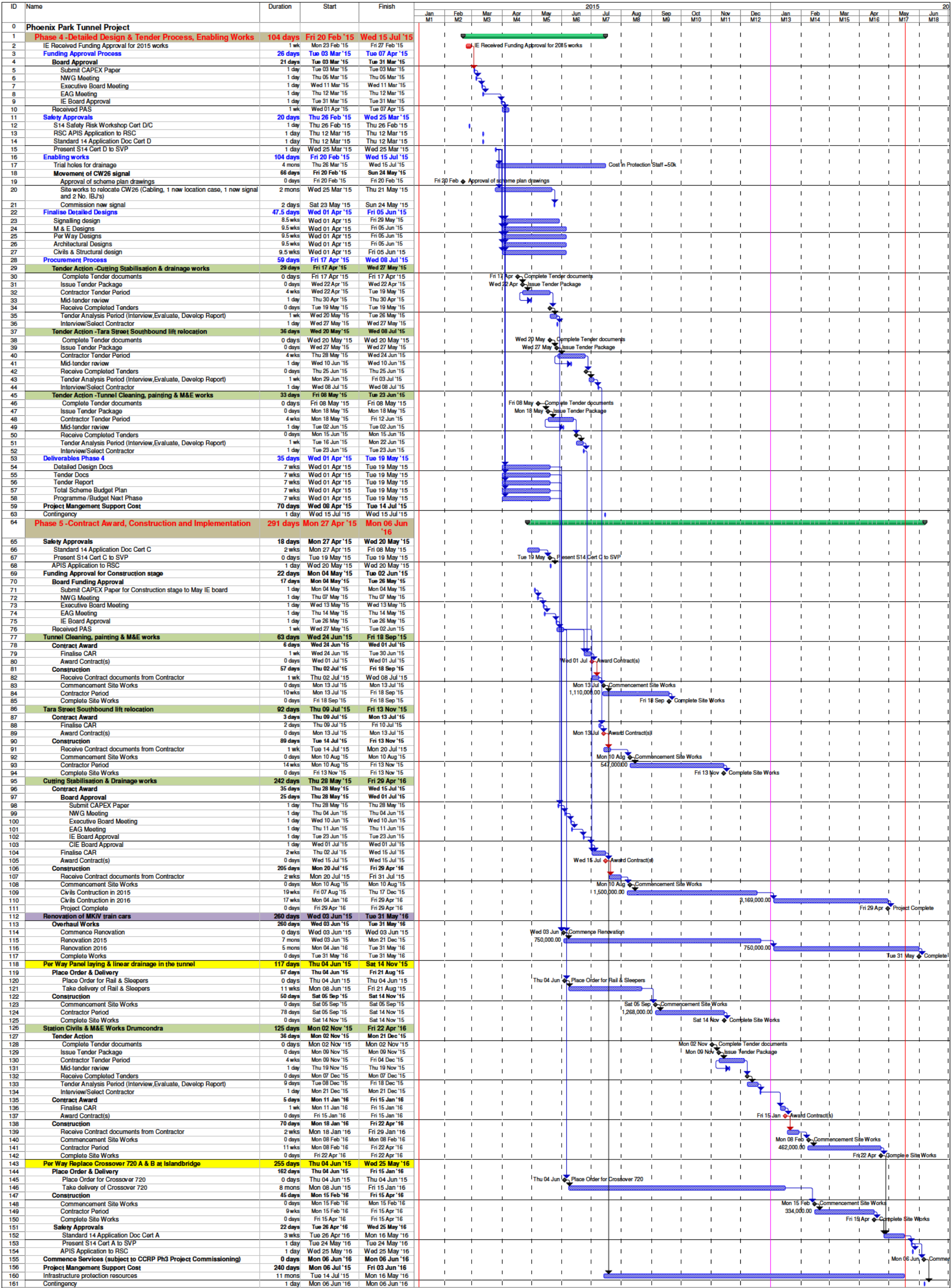
9 CONCLUSION

Further to the assessment of the various maintenance and improvement works associated with the Phoenix Park Tunnel Project, it is concluded that there will be no significant effects on Natura 2000 sites.

Therefore, on the basis of this Screening Exercise, it is submitted that a Stage 2 Appropriate Assessment is not required.

APPENDIX A

Phoenix Park Tunnel Programme of Works



APPENDIX B:

Natura 2000 Conservation Objectives and Grand Canal pNHA Site Synopsis

SITE SYNOPSIS

SITE NAME: ROYAL CANAL

SITE CODE: 002103

The Royal Canal is a man-made waterway linking the River Liffey at Dublin to the River Shannon near Tarmonbarry. There is a branch line from Kiltashee to Longford Town. The canal NHA comprises the central channel and the banks on either side of it. The main water supply is from Lough Owel (also an NHA) via a feeder channel into the canal at Mullingar. The Royal Canal was closed to navigation in 1961. The section of canal west of Mullingar was allowed to dry out, and the eastern section silted up and became overgrown. Restoration began in 1988, and is still in progress.

A number of different habitats are found within the canal boundaries - hedgerow, tall herbs, calcareous grassland, reed fringe, open water, scrub and woodland.

The hedgerow, although diverse, is dominated by Hawthorn (*Crataegus monogyna*). On the limestone soils of the midlands Spindle (*Euonymus europaeus*) and Guelder-rose (*Viburnum opulus*) are present.

The vegetation of the towpath is usually dominated by grass species. Crested Dog's-tail (*Cynosurus cristatus*), Quaking-grass (*Briza media*) and Sweet Vernal-grass (*Anthoxanthum odoratum*) are typical species of the calcareous grasslands of the midlands. Where the canal was built through a bog, soil (usually calcareous) was brought in to make the banks. The contrast between the calcicolous species of the towpath and the calcifuge species of the bog is very striking.

Otter spraints are found along the towpath, particularly where the canal passes over a river or stream.

The rare and legally protected Opposite-leaved Pondweed (*Groenlandia densa*) (Flora Protection Order 1987) is present at one site in Dublin, between Locks 4 and 5. *Tolypella intricata* (a stonewort listed in the Red Data Book as being vulnerable) is also in the Royal Canal in Dublin, the only site in Ireland where it is now found.

The ecological value of the canal lies more in the diversity of species it supports along its linear habitats than in the presence of rare species. It crosses through agricultural land and therefore provides a refuge for species threatened by modern farming methods.

9.12.2009

SITE SYNOPSIS

SITE NAME : NORTH DUBLIN BAY

SITE CODE : 000206

This site covers the inner part of north Dublin Bay, the seaward boundary extending from the Bull Wall lighthouse across to the Martello Tower at Howth Head.

The North Bull Island is the focal point of this site. The island is a sandy spit which formed after the building of the South Wall and Bull Wall in the 18th and 19th centuries. It now extends for about 5 km in length and is up to 1 km wide in places. A well-developed and dynamic dune system stretches along the seaward side of the island. Various types of dunes occur, from fixed dune grassland to pioneer communities on foredunes. Marram Grass (*Ammophila arenaria*) is dominant on the outer dune ridges, with Lyme Grass (*Leymus arenarius*) and Sea Couchgrass (*Elymus farctus*) on the foredunes. Behind the first dune ridge, plant diversity increases with the appearance of such species as Wild Pansy (*Viola tricolor*), Kidney Vetch (*Anthyllis vulneraria*), Bird's-foot Trefoil (*Lotus corniculatus*), Rest Harrow (*Ononis repens*), Yellow Rattle (*Rhinanthus minor*) and Pyramidal Orchid (*Anacamptis pyramidalis*). In these grassy areas and slacks, the scarce Bee Orchid (*Ophrys apifera*) occurs.

About 1 km from the tip of the island, a large dune slack with a rich flora occurs, usually referred to as the 'Alder Marsh' because of the presence of Alder trees (*Alnus* spp). The water table is very near the surface and is only slightly brackish. Saltmarsh Rush (*Juncus maritimus*) is the dominant species, with Meadow Sweet (*Filipendula ulmaria*) and Devil's-bit (*Succisa pratensis*) being frequent. The orchid flora is notable and includes Marsh Helleborine (*Epipactis palustris*), Common Twayblade (*Listera ovata*), Autumn Lady's-tresses (*Spiranthes spiralis*) and Marsh orchids (*Dactylorhiza* spp.)

Saltmarsh extends along the length of the landward side of the island. The edge of the marsh is marked by an eroding edge which varies from 20 cm to 60 cm high. The marsh can be zoned into different levels according to the vegetation types present. On the lower marsh, Glasswort (*Salicornia europaea*), Saltmarsh Grass (*Puccinellia maritima*), Annual Sea-blite (*Suaeda maritima*) and Greater Sea-spurrey (*Spergularia media*) are the main species. Higher up in the middle marsh Sea Plantain (*Plantago maritima*), Sea Aster (*Aster tripolium*), Sea Arrowgrass (*Triglochin maritima*) and Sea Pink (*Armeria maritima*) appear. Above the mark of the normal high tide, species such as Scurvy Grass (*Cochlearia officinalis*) and Sea Milkwort (*Glaux maritima*) are found, while on the extreme upper marsh, Sea Rushes (*Juncus maritimus* and *J. gerardii*) are dominant. Towards the tip of the island, the saltmarsh grades naturally into fixed dune vegetation.

The island shelters two intertidal lagoons which are divided by a solid causeway. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. The north lagoon has an area known as the "*Salicornia* flat", which is dominated by *Salicornia dolichostachya*, a pioneer Glasswort species, and covers about 25 ha. Tassel Weed (*Ruppia maritima*) occurs in this area, along with some Eelgrass (*Zostera angustifolia*). Eelgrass (*Z. noltii*) also occurs in Sutton Creek. Cordgrass (*Spartina anglica*) occurs in places but its growth is controlled by management. Green algal mats (*Enteromorpha* spp., *Ulva lactuca*) cover large areas of the flats during summer. These sediments have a rich macrofauna, with high densities of Lugworms (*Arenicola marina*) in parts of the north lagoon. Mussels (*Mytilus edulis*) occur in places, along with bivalves such as *Cerastoderma edule*, *Macoma balthica* and *Scrobicularia plana*. The small gastropod *Hydrobia ulvae* occurs in high densities in places, while the crustaceans *Corophium volutator* and *Carcinus maenas* are common. The sediments on the seaward side of North Bull Island are mostly sands. The site extends below the low spring tide mark to include an area of the sublittoral zone.

Three Rare plant species legally protected under the Flora Protection Order 1987 have been recorded on the North Bull Island. These are Lesser Centaury (*Centaureum pulchellum*), Hemp Nettle (*Galeopsis angustifolia*) and Meadow Saxifrage (*Saxifraga granulata*). Two further species listed as threatened in the Red Data Book, Wild Sage (*Salvia verbenaca*) and Spring Vetch (*Vicia lathyroides*), have also been recorded. A rare liverwort, *Petalophyllum ralfsii*, was first recorded from the North Bull Island in 1874 and has recently been confirmed as being still present there. This species is of high conservation value as it is listed on Annex II of the E.U. Habitats Directive. The North Bull is the only known extant site for the species in Ireland away from the western seaboard.

North Dublin Bay is of international importance for waterfowl. During the 1994/95 to 1996/97 period the following species occurred in internationally important numbers (figures are average maxima): Brent Geese 2,333; Knot 4,423; Bar-tailed Godwit 1,586. A further 14 species occurred in nationally important concentrations - Shelduck 1505; Wigeon 1,166; Teal 1,512; Pintail 334; Shoveler 239; Oystercatcher 2,190; Ringed Plover 346; Grey Plover 816; Sanderling 357; Dunlin 6,238; Black-tailed Godwit 156; Curlew 1,193; Turnstone 197 and Redshank 1,175. Some of these species frequent South Dublin Bay and the River Tolka Estuary for feeding and/or roosting purposes (mostly Brent Goose, Oystercatcher, Ringed Plover, Sanderling, Dunlin).

The tip of the North Bull Island is a traditional nesting site for Little Tern. A high total of 88 pairs nested in 1987. However, nesting attempts have not been successful since the early 1990s. Ringed Plover, Shelduck, Mallard, Skylark, Meadow Pipit and Stonechat also nest. A well-known population of Irish Hare is resident on the island

The invertebrates of the North Bull Island have been studied and the island has been shown to contain at least seven species of regional or national importance in Ireland (Orders Diptera, Hymenoptera, Hemiptera).

The main landuses of this site are amenity activities and nature conservation. The North Bull Island is the main recreational beach in Co Dublin and is used throughout the year. Much of the land surface of the island is taken up by two golf courses. Two separate Statutory Nature Reserves cover much of the island east of the Bull Wall and the surrounding intertidal flats. The site is used regularly for educational purposes. North Bull Island has been designated a Special Protection Area under the E.U. Birds Directive and it is also a statutory Wildfowl Sanctuary, a Ramsar Convention site, a Biogenetic Reserve, a Biosphere Reserve and a Special Area Amenity Order site.

This site is an excellent example of a coastal site with all the main habitats represented. The holds good examples of ten habitats that are listed on Annex I of the E.U. Habitats Directive; one of these is listed with priority status. Several of the wintering bird species have populations of international importance, while some of the invertebrates are of national importance. The site contains a numbers of rare and scarce plants including some which are legally protected. Its proximity to the capital city makes North Dublin Bay an excellent site for educational studies and research.



Conservation Objectives for North Dublin Bay SAC [000206]

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

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

Objective: To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected:

- ◆ [1140] Mudflats and sandflats not covered by seawater at low tide
- ◆ [1210] Annual vegetation of drift lines
- ◆ [1310] *Salicornia* and other annuals colonizing mud and sand
- ◆ [1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritima*)
- ◆ [1395] *Petalophyllum ralfsii*
- ◆ [1410] Mediterranean salt meadows (*Juncetalia maritimi*)
- ◆ [2110] Embryonic shifting dunes
- ◆ [2120] Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes")
- ◆ [2130] * Fixed coastal dunes with herbaceous vegetation ("grey dunes")
- ◆ [2190] Humid dune slacks

Citation:

NPWS (2011) Conservation objectives for North Dublin Bay SAC [000206]. Generic Version 3.0. Department of Arts, Heritage & the Gaeltacht.

For more information please go to: www.npws.ie/protectedsites/conservationmanagementplanning

SITE SYNOPSIS

SITE NAME: SOUTH DUBLIN BAY

SITE CODE: 000210

This site lies south of the River Liffey and extends from the South Wall to the west pier at Dun Laoghaire. It is an intertidal site with extensive areas of sand and mudflats, a habitat listed on Annex I of the E.U. Habitats Directive. The sediments are predominantly sands but grade to sandy muds near the shore at Merrion gates. The main channel which drains the area is Cockle Lake.

There is a bed of Eelgrass (*Zostera noltii*) below Merrion Gates which is the largest stand on the east coast. Green algae (*Enteromorpha* spp. and *Ulva lactuca*) are distributed throughout the area at a low density. Fucoid algae occur on the rocky shore in the Maretimo to Dún Laoghaire area. Species include *Fucus spiralis*, *F. vesiculosus*, *F. serratus*, *Ascophyllum nodosum* and *Pelvetia canaliculata*.

Several small, sandy beaches with incipient dune formation occur in the northern and western sectors of the site, notably at Poolbeg, Irishtown and Merrion/Boooterstown. The formation at Boooterstown is very recent. Driftline vegetation occurs in association with the embryonic and incipient fore dunes. Typically drift lines occur in a band approximately 5 m wide, though at Boooterstown this zone is wider in places. The habitat occurs just above the High Water Mark and below the area of embryonic dune. Species present are Sea Rocket (*Cakile maritima*), Frosted Orache (*Atriplex laciniata*), Spear-leaved Orache (*A. prostrata*), Prickly Saltwort (*Salsola kali*) and Fat Hen (*Chenopodium album*). Also occurring is Sea Sandwort (*Honkenya peploides*), Sea Beet (*Beta vulgaris*) and Annual Sea-blithe (*Suaeda maritima*). A small area of pioneer salt marsh now occurs in the lee of an embryonic sand dune just north of Boooterstown Station. This early stage of salt marsh development is here characterised by the presence of pioneer stands of Glasswort (*Salicornia* spp.) occurring below an area of drift line vegetation. As this is of very recent origin, it covers a small area but ample areas of substrate and shelter are available for the further development of this habitat.

Lugworm (*Arenicola marina*) and Cockles (*Cerastoderma edule*) and other annelids and bivalves are frequent throughout the site. The small gastropod *Hydrobia ulvae* occurs on the muddy sands off Merrion Gates.

South Dublin Bay is an important site for waterfowl. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. The principal species are Oystercatcher (1215), Ringed Plover (120), Sanderling (344) and Dunlin (2628), Redshank (356) (average winter peaks 1996/97 and 1997/98). Up to 100 Turnstones are usual in the south bay during winter. Brent Geese regularly occur in numbers of international importance (average peak 299). Bar-tailed Godwit (565), a species listed on Annex I of the EU Birds Directive, also occur.

Large numbers of gulls roost in South Dublin Bay, e.g. 4,500 Black-headed Gulls in February 1990; 500 Common Gulls in February 1991. It is also an important tern roost in the autumn, regularly holding 2000-3000 terns including Roseate Terns, a species listed on Annex I of the E.U. Birds Directive. South Dublin Bay is largely protected as a Special Protection Area.

At low tide the inner parts of the south bay are used for amenity purposes. Bait-digging is a regular activity on the sandy flats. At high tide some areas have wind-surfing and jet-skiing.

This site is a fine example of a coastal system with extensive sand and mudflats, a habitat listed on Annex I of the E.U. Habitats Directive. South Dublin Bay is also an internationally important bird site.

21.02.2007



Conservation Objectives for South Dublin Bay SAC [000210]

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

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

Objective: To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected:

- ♦ [1140] Mudflats and sandflats not covered by seawater at low tide

Citation:

NPWS (2011) *Conservation objectives for South Dublin Bay SAC [000210]. Generic Version 3.0. Department of Arts, Heritage & the Gaeltacht.*

For more information please go to: www.npws.ie/protectedsites/conservationmanagementplanning

SITE SYNOPSIS

SITE NAME: NORTH BULL ISLAND SPA

SITE CODE: 004006

This site covers all of the inner part of north Dublin Bay, with the seaward boundary extending from the Bull Wall lighthouse across to Drumleck Point at Howth Head. The North Bull Island sand spit is a relatively recent depositional feature, formed as a result of improvements to Dublin Port during the 18th and 19th centuries. It is almost 5 km long and 1 km wide and runs parallel to the coast between Clontarf and Sutton. Part of the interior of the island has been converted to golf courses.

A well-developed and dynamic dune system stretches along the seaward side of the island. Various types of dunes occur, from fixed dune grassland to pioneer communities on foredunes. Marram Grass (*Ammophila arenaria*) is dominant on the outer dune ridges. Species of the fixed dunes include Wild Pansy (*Viola tricolor*), Kidney Vetch (*Anthyllis vulneraria*), Bird's-foot Trefoil (*Lotus corniculatus*), Pyramidal Orchid (*Anacamptis pyramidalis*) and, in places, the scarce Bee Orchid (*Ophrys apifera*). A feature of the dune system is a large dune slack with a rich flora, usually referred to as the 'Alder Marsh' because of the presence of Alder (*Alnus glutinosa*) trees. The water table is very near the surface and is only slightly brackish. Sea Rush (*Juncus maritimus*) is the dominant species, with Meadowsweet (*Filipendula ulmaria*) and Devil's-bit Scabious (*Succisa pratensis*) being frequent. The orchid flora is notably diverse in this area.

Saltmarsh extends along the length of the landward side of the island and provides the main roost site for wintering birds in Dublin Bay. On the lower marsh, Glasswort (*Salicornia europaea*), Common Saltmarsh-grass (*Puccinellia maritima*), Annual Sea-blite (*Suaeda maritima*) and Greater Sea-spurrey (*Spergularia media*) are the main species. Higher up in the middle marsh Sea Plantain (*Plantago maritima*), Sea Aster (*Aster tripolium*), Sea Arrowgrass (*Triglochin maritima*) and Thrift (*Armeria maritima*) appear. Above the mark of the normal high tide, species such as Common Scurvygrass (*Cochlearia officinalis*) and Sea Milkwort (*Glaux maritima*) are found, while on the extreme upper marsh, Sea Rush and Saltmarsh Rush (*Juncus gerardi*) are dominant.

The island shelters two intertidal lagoons which are divided by a solid causeway. These lagoons provide the main feeding grounds for the wintering waterfowl. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. Tasselweed (*Ruppia maritima*) and small amounts of Eelgrass (*Zostera* spp.) are found in the lagoons. Common Cord-grass (*Spartina anglica*) occurs in places. Green algal mats (*Enteromorpha* spp., *Ulva lactuca*) are a feature of the flats during summer. These sediments have a rich macro-invertebrate fauna, with high densities of Lugworm (*Arenicola marina*) and Ragworm (*Hediste diversicolor*). Mussels (*Mytilus edulis*) occur in places, along with bivalves such as *Cerastoderma edule*, *Macoma balthica* and *Scrobicularia plana*. The small gastropod *Hydrobia ulvae*

occurs in high densities in places, while the crustaceans *Corophium volutator* and *Carcinus maenas* are common. The sediments on the seaward side of North Bull Island are mostly sands and support species such as Lugworm and the Sand Mason (*Lanice conchilega*). The site includes a substantial area of the shallow marine bay waters.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Shelduck, Teal, Pintail, Shoveler, Oystercatcher, Ringed Plover, Golden Plover, Grey Plover, Knot, Sanderling, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Turnstone and Black-headed Gull. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The North Bull Island SPA is of international importance for waterfowl on the basis that it regularly supports in excess of 20,000 waterfowl. It also qualifies for international importance as the numbers of three species exceed the international threshold – Light-bellied Brent Goose (1,548), Black-tailed Godwit (367) and Bar-tailed Godwit (1,529) (all waterfowl figures given are average maxima for the five winters 1995/96 to 1999/00). The site is the top site in the country for both of these species. A further 14 species have populations of national importance – Shelduck (1,259), Teal (953), Pintail (233), Shoveler (141), Oystercatcher (1,784), Ringed Plover (139), Golden Plover (1,741), Grey Plover (517), Knot (2,623), Sanderling (141), Dunlin (3,926), Curlew (937), Redshank (1,431) and Turnstone (157). The populations of Pintail and Knot are of particular note as they comprise more than 10% of the respective national totals. Species such as Grey Heron, Cormorant, Wigeon, Goldeneye, Red-breasted Merganser and Greenshank are regular in winter in numbers of regional or local importance. Gulls are a feature of the site during winter, especially Black-headed Gull (2,196). Common Gull (332) and Herring Gull (331) also occur here. While some of the birds also frequent South Dublin Bay and the River Tolka Estuary for feeding and/or roosting purposes, the majority remain within the site for much of the winter. The wintering bird populations have been monitored more or less continuously since the late 1960s and the site is now surveyed each winter as part of the larger Dublin Bay complex.

The North Bull Island SPA is a regular site for passage waders, especially Ruff, Curlew Sandpiper and Spotted Redshank. These are mostly observed in single figures in autumn but occasionally in spring or winter.

The site formerly had an important colony of Little Tern but breeding has not occurred in recent years. Several pairs of Ringed Plover breed, along with Shelduck in some years. Breeding passerines include Skylark, Meadow Pipit, Stonechat and Reed Bunting. The island is a regular wintering site for Short-eared Owl, with up to 5 present in some winters.

The site has five Red Data Book vascular plant species, four rare bryophyte species, and is nationally important for three insect species. The rare liverwort, *Petalophyllum*

ralfsii, was first recorded from the North Bull Island in 1874 and its presence here has recently been re-confirmed. This species is of high conservation value as it is listed on Annex II of the E.U. Habitats Directive. A well-known population of Irish Hare is resident on the island

The main landuses of this site are amenity activities and nature conservation. The North Bull Island is one of the main recreational beaches in Co. Dublin and is used throughout the year. Two separate Statutory Nature Reserves cover much of the island east of the Bull Wall and the surrounding intertidal flats. North Bull Island is also a Wildfowl Sanctuary, a Ramsar Convention site, a Biogenetic Reserve, a Biosphere Reserve and a Special Area Amenity Order site. Much of the SPA is also a candidate Special Area of Conservation. The site is used regularly for educational purposes and there is a manned interpretative centre on the island.

The North Bull Island SPA is an excellent example of an estuarine complex and is one of the top sites in Ireland for wintering waterfowl. It is of international importance on account of both the total number of waterfowl and the individual populations of Light-bellied Brent Goose, Black-tailed Godwit and Bar-tailed Godwit that use it. Also of significance is the regular presence of several species that are listed on Annex I of the E.U. Birds Directive, notably Golden Plover and Bar-tailed Godwit, but also Ruff and Short-eared Owl.

Conservation Objectives for North Bull Island SPA [004006]

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

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

Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:

- ♦ [wintering] *Branta bernicla hrota*
- ♦ [wintering] *Tadorna tadorna*
- ♦ [wintering] *Anas crecca*
- ♦ [wintering] *Anas acuta*
- ♦ [wintering] *Anas clypeata*
- ♦ [wintering] *Haematopus ostralegus*
- ♦ [wintering] *Pluvialis squatarola*
- ♦ [wintering] *Calidris canutus*
- ♦ [wintering] *Calidris alba*
- ♦ [wintering] *Limosa limosa*
- ♦ [wintering] *Limosa lapponica*
- ♦ [wintering] *Numenius arquata*
- ♦ [wintering] *Tringa totanus*
- ♦ [wintering] *Arenaria interpres*
- ♦ [] Wetlands & Waterbirds

Citation:

NPWS (2011) Conservation objectives for North Bull Island SPA [004006]. Generic Version 3.0. Department of Arts, Heritage & the Gaeltacht.

For more information please go to: www.npws.ie/protectedsites/conservationmanagementplanning

SITE SYNOPSIS

SITE NAME: SOUTH DUBLIN BAY AND RIVER TOLKA ESTUARY SPA

SITE CODE: 004024

The South Dublin Bay and River Tolka Estuary SPA comprises a substantial part of Dublin Bay. It includes the intertidal area between the River Liffey and Dun Laoghaire, and the estuary of the River Tolka to the north of the River Liffey, as well as Booterstown Marsh. A portion of the shallow marine waters of the bay is also included.

In the south bay, the intertidal flats extend for almost 3 km at their widest. The sediments are predominantly well-aerated sands. Several permanent channels exist, the largest being Cockle Lake. A small sandy beach occurs at Merrion Gates, while some bedrock shore occurs near Dun Laoghaire. The landward boundary is now almost entirely artificially embanked. There is a bed of Dwarf Eelgrass (*Zostera noltii*) below Merrion Gates which is the largest stand on the east coast. Green algae (*Enteromorpha* spp. and *Ulva lactuca*) are distributed throughout the area at a low density. The macro-invertebrate fauna is well-developed, and is characterised by annelids such as Lugworm (*Arenicola marina*), *Nephtys* spp. and Sand Mason (*Lanice conchilega*), and bivalves, especially Cockle (*Cerastoderma edule*) and Baltic Tellin (*Macoma balthica*). The small gastropod Spire Shell (*Hydrobia ulvae*) occurs on the muddy sands off Merrion Gates, along with the crustacean *Corophium volutator*. Sediments in the Tolka Estuary vary from soft thixotrophic muds with a high organic content in the inner estuary to exposed, well-aerated sands off the Bull Wall. The site includes Booterstown Marsh, an enclosed area of saltmarsh and muds that is cut off from the sea by the Dublin/Wexford railway line, being linked only by a channel to the east, the Nutley stream. Sea water incursions into the marsh occur along this stream at high tide. An area of grassland at Poolbeg, north of Irishtown Nature Park, is also included in the site.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Oystercatcher, Ringed Plover, Golden Plover, Grey Plover, Knot, Sanderling, Dunlin, Bar-tailed Godwit, Redshank, Black-headed Gull, Roseate Tern, Common Tern and Arctic Tern. The E.U. Birds Directive pays particular attention to wetlands, and as these form part of the SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The site is an important site for wintering waterfowl, being an integral part of the internationally important Dublin Bay complex – all counts for wintering waterbirds are mean peaks for the five year period 1995/96-99/2000. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. An internationally important population of Light-bellied Brent Goose (525) occurs regularly and newly arrived birds in the autumn feed on the Eelgrass bed at Merrion.

Light-bellied Brent Goose is also known to feed on the grassland at Poolbeg. The site supports nationally important numbers of a further nine species: Oystercatcher (1,263), Ringed Plover (161), Golden Plover (1,452), Grey Plover (183), Knot (1,151), Sanderling (349), Dunlin (2,753), Bar-tailed Godwit (866) and Redshank (713). Other species occurring in smaller numbers include Great Crested Grebe (21), Curlew (397) and Turnstone (75).

South Dublin Bay is a significant site for wintering gulls, especially Black-headed Gull (3,040), but also Common Gull (330) and Herring Gull (348). Mediterranean Gull is also recorded from here, occurring through much of the year, but especially in late winter/spring and again in late summer into winter.

Both Common Tern and Arctic Tern breed in Dublin Docks, on a man-made mooring structure known as the E.S.B. dolphin – this is included within the site. Small numbers of Common Tern and Arctic Tern were recorded nesting on this dolphin in the 1980s. A survey of the dolphin in 1999 recorded Common Tern nesting here in nationally important numbers (194 pairs). This increase was largely due to the ongoing management of the site for breeding terns. More recent data highlights this site as one of the most important Common Tern sites in the country with over 400 pairs recorded here in 2007.

The south bay is an important tern roost in the autumn (mostly late July to September). Birds also use the Dalkey Islands to the south. The origin of many of the birds is likely to be the Dublin breeding sites (Rockabill and the Dublin Docks) though numbers suggest that the site is also used by birds from other sites, perhaps outside the state. More than 10,000 terns have been recorded, consisting of Common, Arctic and Roseate terns.

The wintering birds within this site are now well-monitored. More survey, however, is required on the wintering gulls and the autumn terns.

Boooterstown Marsh supports an important population of Borrer's Saltmarsh-grass (*Puccinellia fasciculata*), a rare, Red Data Book species that is listed on the Flora (Protection) Order, 1999.

The South Dublin Bay and River Tolka Estuary SPA is of international importance for Light-bellied Brent Goose and of national importance for nine other waterfowl species. As an autumn tern roost, it is also of international importance. Furthermore, the site supports a nationally important colony of Common Tern. All of the tern species using the site are listed on Annex I of the E.U. Birds Directive, as are Bar-tailed Godwit and Mediterranean Gull.

Conservation Objectives for South Dublin Bay and River Tolka Estuary SPA [004024]

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

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

Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:

- ♦ [wintering] *Branta bernicla hrota*
- ♦ [wintering] *Haematopus ostralegus*
- ♦ [wintering] *Charadrius hiaticula*
- ♦ [wintering] *Pluvialis squatarola*
- ♦ [wintering] *Calidris canutus*
- ♦ [wintering] *Calidris alba*
- ♦ [wintering] *Limosa lapponica*
- ♦ [wintering] *Tringa totanus*
- ♦ [passage] *Sterna dougallii*
- ♦ [breeding] *Sterna hirundo*

Citation:

NPWS (2011) Conservation objectives for South Dublin Bay and River Tolka Estuary SPA [004024]. Generic Version 3.0. Department of Arts, Heritage & the Gaeltacht.

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