APPROPRIATE ASSESSMENT SCREENING REPORT

FOR

PROPOSED DEMOLITION OF SITE STRUCTURES

AT

ST. ANDREWS COURT, FENIAN STREET, DUBLIN 2

June 2020

ON BEHALF OF

DUBLIN CITY COUNCIL

Prepared by
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1 INTRODUCTION

1.1 Background

Member States are required to designate Special Areas of Conservation (SACs) and Special Protected Areas (SPAs) under the EU Habitats and Birds Directives, respectively. SACs and SPAs are collectively known as Natura 2000 sites. An 'Appropriate Assessment' (AA) is a required assessment to determine the likelihood of significant impacts, based on best scientific knowledge, of any plans or projects on Natura 2000 sites. A screening for AA determines whether a plan or project, either 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 AA Screening has been undertaken to determine the potential for significant impacts on nearby Sites with European conservation designations (i.e. Natura 2000 Sites). The purpose of this assessment is to determine, the appropriateness, or otherwise, of the Proposed Development in the context of the conservation objectives of such sites.

1.2 Legislative Context

The Habitats Directive (92/43/EEC) seeks to conserve natural habitats and wild fauna and flora by the designation of SACs and the Birds Directive (79/409/EEC) seeks to protect birds of special importance by the designation of SPAs. It is the responsibility of each member state to designate SPAs and SACs, both of which will form part of Natura 2000, a network of protected sites throughout the European Community.

An Appropriate Assessment is required under Article 6 of the Habitats Directive where a project or plan may give rise to significant effects upon a Natura 2000 Site, and paragraphs 3 and 4 state that:

6(3) 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.

6(4) If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.

The current assessment was conducted within this legislative framework and also the published DEHLG (2009) guidelines. As outlined in these, it is the responsibility of the proponent of the project to provide a comprehensive and objective Screening for Appropriate Assessment, which can then be used by the competent authority in order to conduct the Appropriate Assessment (DEHLG, 2009).

1.3 Stages of AA

An Appropriate Assessment Screening Report (the "**Screening Report**") has been prepared by Enviroguide Consulting which considers whether or not the Proposed Development is likely to have a significant effect on a European Site and whether a Stage 2 Appropriate Assessment is required.

The AA process is a four-stage process, with issues and tests at each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

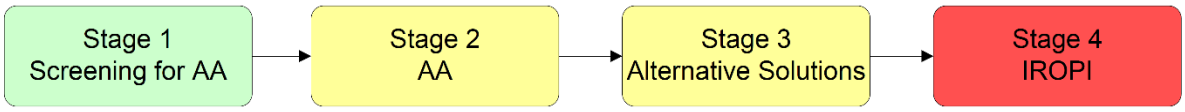


Figure 1. The four stages of the Appropriate Assessment Process (DEHLG, 2010).

The four stages of an AA, can be summarised as follows:

- Stage 1: *Screening*. The first stage of the AA process is to determine the likelihood of significant impacts of this proposal.
- Stage 2: *Natura Impact Statement (NIS)*. The second stage of the AA process, assesses the impact of the proposal (either alone or in combination with other projects or plans) on the integrity of the Natura 2000 site, with respect to the conservation objectives of the site and its ecological structure and function. A Natura Impact Statement containing a professional scientific examination of the proposal is required and includes any mitigation measures to avoid, reduce or offset negative impacts.
- Stage 3: *Assessment of alternative solutions*. If the outcome of Stage 2 is negative i.e. adverse impacts to the sites cannot be scientifically ruled out, despite mitigation, the plan or project should proceed to Stage 3 or be abandoned. This stage examines alternative solutions to the proposal.
- Stage 4: *Assessment where no alternative solutions exist and where adverse impacts remain.* The final stage is the main derogation process examining whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project to adversely affect a Natura 2000 site, where no less damaging solution exists.

The purpose of Stage 1, Screening Stage is to determine the necessity or otherwise for a NIS. Screening for AA examines the likely effects of a project or plan alone, and in combination with other projects or plans, upon a Natura 2000 site, and considers whether it can be objectively concluded that these effects will not be significant.

If it is determined during screening stage that the proposal may have a significant effect on a Natura 2000 site, then a NIS will need to be prepared. The Screening is outlined in Section 2.

1.4 Screening Steps

This Screening for AA, or Stage 1 of AA, has been undertaken in accordance with the European Commission Methodological Guidance on the provision of Article 6(3) and 6(4) of the 'Habitats' Directive 92/43/EEC (EC, 2001) and the European Commission Guidance 'Managing Natura 2000 sites' (EC, 2000). Screening for AA involves the following:

- Establish whether the plan is necessary for the management of a Natura 2000 site;
- Description of the Plan;
- Identification of Natura 2000 sites potentially affected;
- Identification and description of individual and cumulative impacts likely to result from the plan;
- Assessment of the significance of the impacts identified above on site integrity; and
- Exclusion of sites where it can be objectively concluded that there will be no significant effects.

This Stage 1 Screening examines whether or not likely effects upon a Natura 2000 site will be significant and determines whether the AA process for the Proposed Development at St. Andrew's Court, Fenian Street, Dublin 2 alone and in combination with other developments in the area requires a Stage 2.

1.5 Stage 1 Screening Assessment Methodologies

1.5.1 Desk Study

A desktop study was carried out to collate and review available information, datasets and documentation sources relevant for the completion of the Screening Report. The desktop study, completed in June 2020, relied on the following sources:

- Information on the network Natura 2000 sites, boundaries, qualifying interests and conservation objectives, obtained from the National Parks and Wildlife Service (NPWS) at *www.npws.ie*
- Text summaries of the relevant Natura 2000 sites taken from the respective Standard Data Forms and Site Synopsises available at *www.npws.ie*
- Information on species records and distributions, obtained from the National Biodiversity Data Centre (NBDC) at *maps.biodiversityireland.ie*
- Information on waterbodies, catchment areas and hydrological connections obtained from the Environmental Protection Agency (EPA) at *gis.epa.ie*;
- Information on bedrock, groundwater, aquifers and their statuses, obtained from Geological Survey Ireland (GSI) at *www.gsi.ie*
- Satellite imagery and mapping obtained from various sources and dates including Google, Digital Globe, Bing and Ordinance Survey Ireland;

- Information on the existence of permitted developments, or developments awaiting decision, in the vicinity of the Proposed Development from Dublin City County Council, available at http://www.dublincity.ie/swiftlg/apas/run/wphappcriteria.display and
- Information on the extent, nature and location of the Proposed Development, provided by the applicant and their design team.

The following guidance documents were consulted and followed in the completion of this Appropriate Assessment Screening Report:

- Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (Department of Environment, Heritage and Local Government, 2010);
- 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); and
- Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC (European Commission, 2018).

A comprehensive list of all the specific documents and information sources consulted in the completion of this report is provided in *Section 4 References*.

1.5.2 Assessment of Impacts

An assessment of the potential impacts that may arise from the Proposed Development was carried out with regard to the relevant Natura 2000 sites. The significance of these impacts was then determined through the use of the following key indicators:

- Habitat loss or alteration;
- Habitat/species fragmentation;
- Disturbance and/or displacement of species;
- Changes in population density; and
- Changes in water quality and resource.

In line with the EPA Guidelines *on information to be contained in Environmental Impact Assessment Reports [Draft] 2017),* the following terms are defined when quantifying duration:

Table 1. Definition of Durations (EPA, 2017).

Description of Duration	Corresponding Time Frame
Momentary Effects	Effects lasting from seconds to minutes
Brief Effects	Effects lasting less than a day
Temporary Effects	Effects lasting less than a year
Short-term Effects	Effects lasting one to seven years.
Medium-term Effects	Effects lasting seven to fifteen years.
Long-term Effects	Effects lasting fifteen to sixty years
Permanent Effects	Effects lasting over sixty years
Reversible Effects	Effects that can be undone, for example through remediation or restoration
Frequency of Effects	Describe how often the effect will occur. (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually)

The criterion for confidence levels of the predicted likely impacts are given below in Table 2. The impact significance criteria follow EPA guidance (EPA, 2017).

Table 2. Impact Significance Criteria (EPA, 2017).

Significance of Effects	Definition
Imperceptible	An effect capable of measurement but without significant consequences.
Not significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Significant Effects	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment

2 STAGE 1 SCREENING

2.1 Management of Natura 2000 Site

The Proposed Development at St. Andrew's Court, Fenian Street, Dublin 2 (the project) is not directly connected with, or necessary to, the management of Natura 2000 sites in Co. Dublin or elsewhere. There are no Natura 2000 sites located either within or directly adjacent to the Site of the Proposed Development.

2.2 Description of Project

2.2.1 Brief Project Description

The proposals include the demolition and removal of all buildings and structures, including foundations and services. This includes the 2 no. existing pram sheds and raised amenity area within the site boundary. It may be necessary to carry out service diversions as part of the works, should services be encountered that serve other nearby buildings. It is proposed to regrade the site to tie in with existing footpath levels. A permeable asphalt surface for ease of maintenance is proposed in place of the existing buildings and concrete, tarmac and paved surfacing. Supplementary public lighting will be provided if deemed necessary.

The block comprises 14 no. units (2 no. 1 bed apartments, 4 no. bedsits, 8 no. duplex units) with a density of 107 units per Ha. The demolition is proposed as the existing units are below current Building Regulation and housing standards.

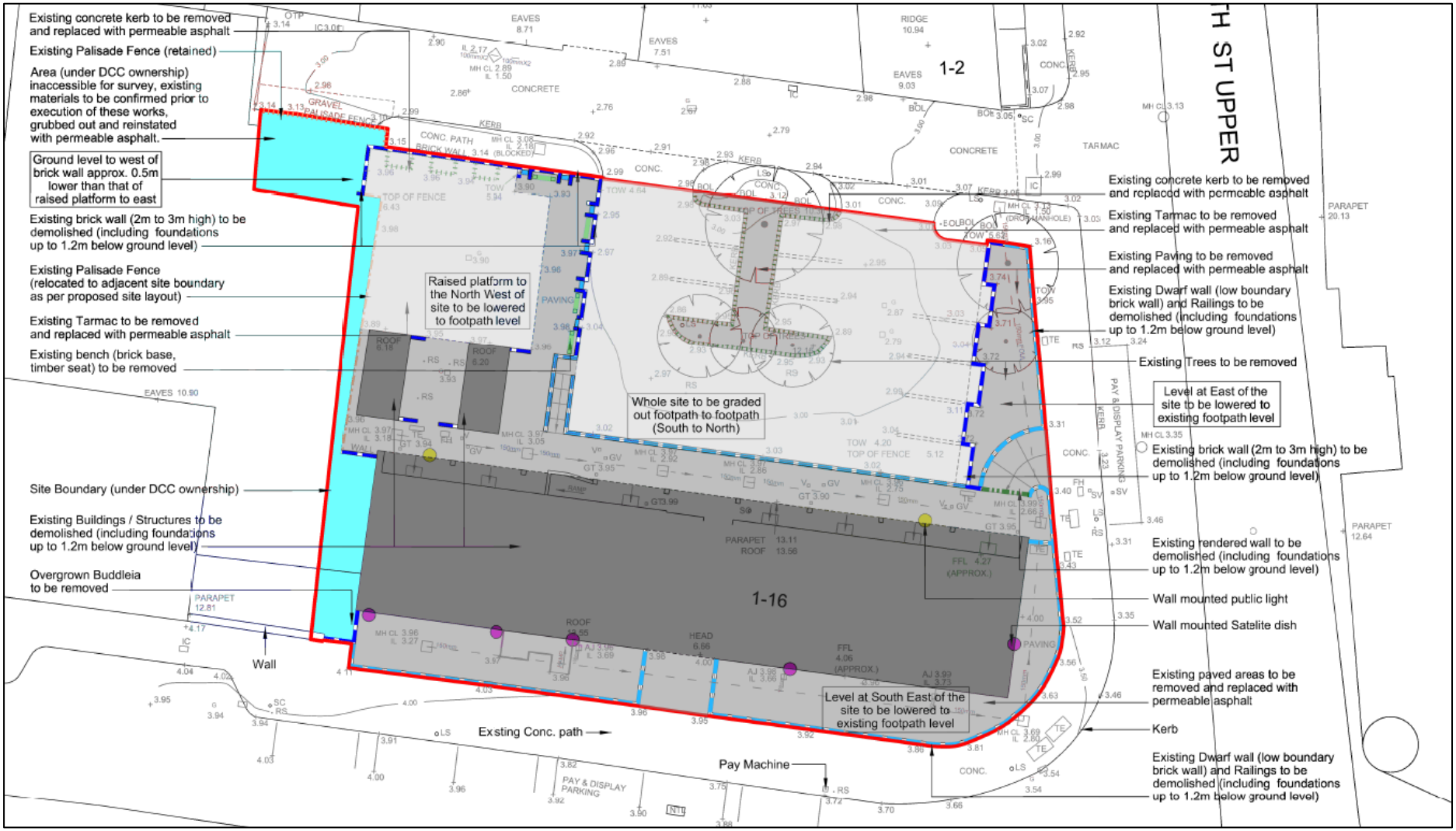


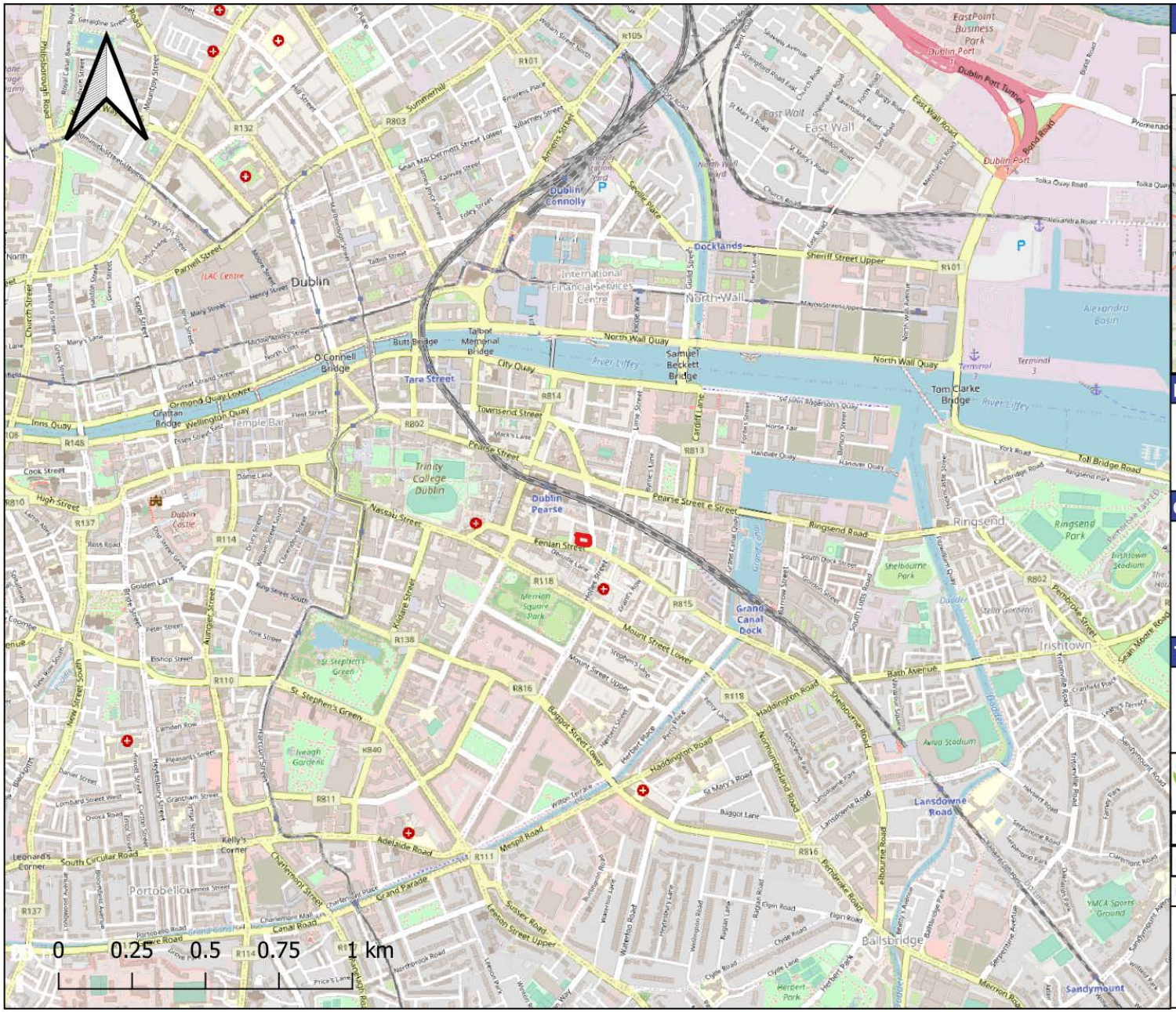
Figure 2. Figure adapted from Drawing SAC-DCCA-XX-XX-DR-CS-1002 (Rev P01) detailing the proposed works at St. Andrew's Court.

2.3 Existing Environment

The subject site is located in south Dublin City Centre. It is a site of 0.1229ha comprising of a three-storey apartment block, with an area of associated hardstanding to the rear, located at the intersection of Fenian Street and Sandwith Street Upper. The Site is bounded by Fenian Street to the south, Sandwith Street Upper to the east, Bass Place to the west, and Boyne Street to the north. Pearse St. Train station is located *ca.*100m to the north, with the rail-line running within *ca.*106m to the north-east of the Site.

The Site and the wider area are located within the *Dublin* groundwater body. The overall status of this waterbody is recorded as *Good*. The groundwater rock units underlying the area are classified as *Dinantian Upper Impure Limestones* and the sub-soil at the site is classified as *man-made*. The site area is located on a *Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones* with groundwater vulnerability in the area listed as *Low.*

The Site of the Proposed Development is located within the Dodder sub-catchment (*Dodder_SC_010*) and the *Dodder_050* sub-basin and in the catchment of *Liffey and Dublin Bay* (*Catchment ID_09*). The closest water course to the Site of the Proposed Development is the lower River Liffey approximately 545m to the north of the Site. The section of the River Liffey at this point (north of the Site) is nearing the mouth of the river, as it flows into Dublin Bay. This waterbody (*Liffey Estuary Lower*) is classed as a transitional waterbody by the EPA with a status of *Good* (2013-2018). The Grand Canal is also located *ca.*505m to the east of the Site as it enters Grand Canal Dock.



Legend:

Site Boundary

Project:

Proposed Demolition of existing structures at St. Andrews Court, Fenian Street, Dublin 2.

Client:

Dublin City Council

Title:

Figure 3. Site Location

enviroguide consulting

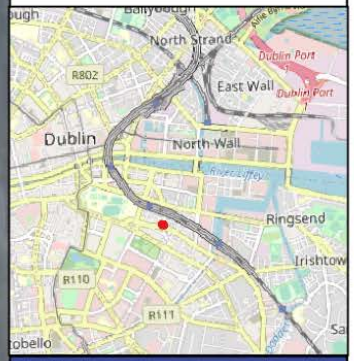
Drawn By: LG	Projection: IRENET95 / Irish Transverse Mercator
Checked: JD	
Date: 25/06/2020	Scale: @A4

Notes:

Site boundaries shown are for illustration purposes only and do not represent legal or exact boundaries

Legend:

Site Boundary



Project:

Proposed Demolition of existing structures at St. Andrews Court, Fenian Street, Dublin 2.

Client:

Dublin City Council

Title:

Figure 4. Site Layout

Drawn By: LG	Projection: IRENET95 / Irish Transverse Mercator
Checked: JD	
Date: 25/06/2020	Scale: @A4

Notes:

Site boundaries shown are for illustration purposes only and do not represent legal or exact boundaries

2.3.1 Identification of Relevant Natura 2000 Sites

In identifying potentially affected Natura 2000 sites, it has been decided to adopt the precautionary principle and include all SPAs and SACs with a 15km distance radius of the project site. All Natura 2000 sites outside of this 15km distance are not considered to be linked by a hydrological pathway, or any other possible pathway to the Proposed Development. Natura 2000 sites outside of this 15km radius are deemed to be either; located a considerable physical distance inland; separated by a substantial marine buffer; and/or located within different catchment zones to the Proposed Development.

10 SACs and 8 SPAs are found within a 15km radius of the Site. Each site name, corresponding code and qualifying interests are detailed in Table 3 below. The distances to each site listed below are taken from the nearest possible point of the Site of the Proposed Development boundary to nearest possible point of each Natura 2000 site.

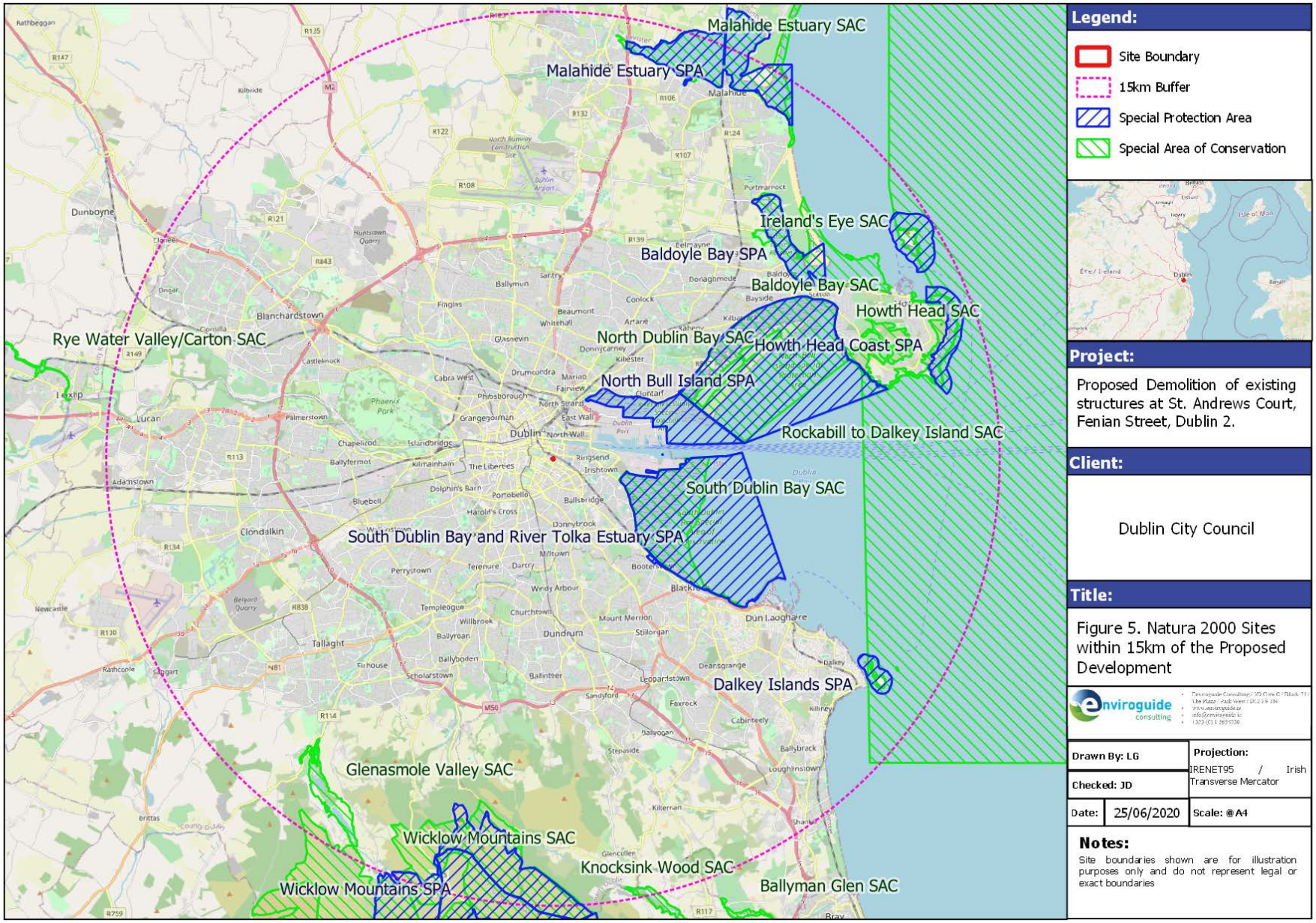
Table 3. Natura 2000 sites within a 15km radius of the proposed project site.

Site Code	Site Name	Qualifying Interests	Distance to Site
Special Areas of Conservation (SAC)			
000210	South Dublin Bay SAC	- [1140] Tidal Mudflats and Sandflats - [1210] Annual vegetation of drift lines - [1310] Salicornia and other annuals colonising mud and sand - [2110] Embryonic shifting dunes	2.28km
000206	North Dublin Bay SAC	- [1140] Tidal Mudflats and Sandflats - [1210] Annual Vegetation of Drift Lines - [1310] Salicornia Mud - [1330] Atlantic Salt Meadows - [1410] Mediterranean Salt Meadows - [2110] Embryonic Shifting Dunes - [2120] Marram Dunes (White Dunes) - [2130] Fixed Dunes (Grey Dunes)* - [2190] Humid Dune Slacks - [1395] Petalwort (*Petalophyllum ralfsii*)	4.77km
000199	Baldoyle Bay SAC	- [1140] Tidal Mudflats and Sandflats - [1310] *Salicornia* Mud - [1330] Atlantic Salt Meadows - [1410] Mediterranean Salt Meadows	10.11km
000202	Howth Head SAC	- [1230] Vegetated Sea Cliffs - [4030] Dry Heath	10.45km
003000	Rockabill to Dalkey Island SAC	- [1170] Reefs - [1351] Harbour Porpoise (*Phocoena phocoena*)	10.44km

002122	Wicklow Mountains SAC	- [3110] Oligotrophic Waters containing very few minerals - [3160] Dystrophic Lakes - [4010] Wet Heath - [4030] Dry Heath - [4060] Alpine and Subalpine Heaths - [6130] Calaminarian Grassland - [6230] Species-rich *Nardus* Grassland* - [7130] Blanket Bogs (Active)* - [8110] Siliceous Scree - [8210] Calcareous Rocky Slopes - [8220] Siliceous Rocky Slopes - [91A0] Old Oak Woodlands - [1355] Otter (*Lutra lutra*)	11.72km
001209	Glenasmole Valley SAC	- [6210] Orchid-rich Calcareous Grassland* - [6410] *Molinia* Meadows - [7220] Petrifying Springs*	12.35km
000205	Malahide Estuary SAC	- [1140] Tidal Mudflats and Sandflats - [1310] Salicornia Mud - [1330] Atlantic Salt Meadows - [1410] Mediterranean Salt Meadows - [2120] Marram Dunes (White Dunes) - [2130] Fixed Dunes (Grey Dunes)*	13.29km
002193	Ireland's Eye SAC	- [1220] Perennial Vegetation of Stony Banks - [1230] Vegetated Sea Cliffs	13.75km
000725	Knocksink Wood SAC	- [7220] Petrifying springs with tufa formation (C*ratoneurion*) - [91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles - [91E0] Alluvial forests with Alnus glutinosa and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)	14.57km
Special Protection Areas (SPA)			
004024	South Dublin Bay and River Tolka Estuary SPA	- [A046] Light-bellied Brent Goose (*Branta bernicla hrota*) [wintering] - [A130] Oystercatcher (*Haematopus ostralegus*) [wintering] - [A137] Ringed Plover (*Charadrius hiaticula*) [wintering] - [A141] Grey Plover (*Pluvialis squatarola*) [wintering] - [A143] Knot (*Calidris canutus*) [wintering] - [A144] Sanderling (*Calidris alba*) [wintering] - [A149] Dunlin (*Calidris alpina*) [wintering] - [A157] Bar-tailed Godwit (*Limosa lapponica*) [wintering] - [A162] Redshank (*Tringa totanus*) [wintering] - [A179] Black-headed Gull (*Chroicocephalus ridibundus*) [wintering] - [A192] Roseate Tern (*Sterna dougallii*) [passage] - [A193] Common Tern (*Sterna hirundo*) [breeding] [passage]	2.23km

		- [A194] Arctic Tern (*Sterna paradisaea*) [breeding [passage] - [A999] Wetland and Waterbirds	
004006	North Bull Island SPA	- [A046] Light-bellied Brent Goose (*Branta bernicla hrota*) [wintering] - [A048] Shelduck (*Tadorna tadorna*) [wintering] - [A052] Teal (*Anas crecca*) [wintering] - [A054] Pintail (*Anas acuta*) [wintering] - [A056] Shoveler (*Anas clypeata*) [wintering] - [A130] Oystercatcher (*Haematopus ostralegus*) [wintering] - [A140] Golden Plover (*Pluvialis apricaria*) [wintering] - [A141] Grey Plover (*Pluvialis squatarola*) [wintering] - [A143] Knot (Calidris canutus) [wintering] - [A144] Sanderling (*Calidris alba*) [wintering] - [A149] Dunlin (*Calidris alpina*) [wintering] - [A156] Black-tailed Godwit (*Limosa limosa*) [wintering] - [A157] Bar-tailed Godwit (*Limosa lapponica*) [wintering] - [A160] Curlew (*Numenius arquata*) [wintering] - [A162] Redshank (*Tringa totanus*) [wintering] - [A169] Turnstone (*Arenaria interpres*) [wintering] - [A179] Black-headed Gull (*Chroicocephalus ridibundus*) [wintering] - [A999] Wetland and Waterbirds	4.77km
004016	Baldoyle Bay SPA	- [A046] Light-bellied Brent Goose (Branta bernicla hrota) [wintering] - [A048] Shelduck (Tadorna tadorna) [wintering] - [A137] Ringed Plover (*Charadrius hiaticula*) [wintering] - [A140] Golden Plover (*Pluvialis apricaria*) [wintering] - [A141] Grey Plover (*Pluvialis squatarola*) [wintering] - [A157] Bar-tailed Godwit (*Limosa lapponica*) [wintering] - [A999] Wetland and Waterbirds	10.12km
004040	Wicklow Mountains SPA	- [A098] Merlin (*Falco columbarius*) [breeding] - [A103] Peregrine (*Falco peregrinus*) [breeding]	12.01km
004025	Malahide Estuary SPA (*also known as Broadmeadow/Swords Estuary SPA*)	- [A005] Great Crested Grebe (*Podiceps cristatus*) [wintering] - [A046] Light-bellied Brent Goose (Branta bernicla hrota) [wintering] - [A048] Shelduck (Tadorna tadorna) [wintering] - [A054] Pintail (*Anas acuta*) [wintering] - [A067] Goldeneye (*Bucephala clangula*) [wintering] - [A069] Red-breasted Merganser (*Mergus serrator*) [wintering] - [A130] Oystercatcher (*Haematopus ostralegus*) [wintering] - [A140] Golden Plover (*Pluvialis apricaria*) [wintering] - [A141] Grey Plover (*Pluvialis squatarola*) [wintering] - [A143] Knot (Calidris canutus) [wintering] - [A149] Dunlin (*Calidris alpina*) [wintering]	13.29km

		- [A156] Black-tailed Godwit (*Limosa limosa*) [wintering] - [A157] Bar-tailed Godwit (*Limosa lapponica*) [wintering] - [A162] Redshank (*Tringa totanus*) [wintering] - [A999] Wetland and Waterbirds	
004172	Dalkey Islands SPA	- [A192] Roseate Tern (*Sterna dougallii*) [passage] [breeding] - [A193] Common Tern (*Sterna hirundo*) [passage] [breeding] - [A194] Arctic Tern (*Sterna paradisaea*) [passage] [breeding]	12.25km
004113	Howth Head Coast SPA	- [A188] Kittiwake (Rissa tridactyla) [breeding]	13.01km
004117	Ireland's Eye SPA	- [A017] Cormorant (*Phalacrocorax carbo*) [breeding] - [A184] Herring Gull (*Larus argentatus*) [breeding] - [A188] Kittiwake (*Rissa tridactyla*) [breeding] - [A199] Guillemot (*Uria aalge*) [breeding] - [A200] Razorbill (*Alca torda*) [breeding]	13.54km


Malahide Estuary SAC
Malahide Estuary SPA
Ireland's Eye SAC
Baldoyle Bay SPA
Baldoyle Bay SAC
Howth Head SAC
Howth Head Coast SPA
North Dublin Bay SAC
North Bull Island SPA
Rockabill to Dalkey Island SAC
South Dublin Bay SAC
South Dublin Bay and River Tolka Estuary SPA
Dalkey Islands SPA
Rye Water Valley/Carton SAC
Glenasmole Valley SAC
Wicklow Mountains SAC
Wicklow Mountains SPA
Knocksink Wood SAC
Ballyman Glen SAC
Legend:
Site Boundary
15km Buffer
Special Protection Area
Special Area of Conservation
Project:
Proposed Demolition of existing structures at St. Andrews Court, Fenian Street, Dublin 2.
Client:
Dublin City Council
Title:
Figure 5. Natura 2000 Sites within 15km of the Proposed Development
Drawn By: LG
Checked: JD
Date: 25/06/2020
Projection: IRENET95 / Irish Transverse Mercator
Scale: @A4
Notes:
Site boundaries shown are for illustration purposes only and do not represent legal or exact boundaries

2.4 Identification and Assessment of Potential Impacts

Information available on the Natura 2000 network of sites was reviewed and assessed in order to establish whether or not the Proposed Development has the potential to have an impact on any of the qualifying interest and/or conservation objectives of associated sites. The identification of potential significant effects on Natura 2000 sites considered all potential linkages from both the Construction and Operational Phases of the Proposed Development.

The following elements of the Proposed Development were assessed for their potential for likely significant effects on Natura 2000 sites.

Construction Phase (estimated duration: approximately 2-3 months)

- Surface water run-off containing silt, sediments and/or other pollutants into nearby waterbodies;
- Surface water run-off containing silt, sediments and/or other pollutants into the local groundwater;
- Waste Generation during the Construction Phase comprising soils, construction and demolition wastes;
- Increased noise, dust and/or vibrations as a result of construction activity;
- Increased dust and air emissions from construction traffic;
- Increased lighting in the vicinity as a result of construction activity;

Operational Phase (estimated duration: indefinite)

- Surface water drainage from the Site of the Proposed Development.

The aspects of the Proposed Development that have the potential to directly or indirectly impact on the qualifying interests and/or conservation objectives of the 10 SACs and 8 SPAs that are located within the 15km radius of the Site of the Proposed Development are detailed in Table 4 below. This assessment framework is taken from the best practice guidelines issued by the European Commission, i.e. "Assessment of plans and projects significantly affecting Natura 2000 sites – Methodological guidance".

The potential for significant impacts resulting from the Proposed Development was determined based on a range of indicators, including:

- Habitat loss or alteration;
- Habitat/species fragmentation;
- Disturbance and/or displacement of species;
- Changes in population density; and
- Changes in water quality and resource.

Table 4. Identification and assessment of likely significant effects on Natura 2000 sites within the precautionary zone of influence of the Proposed Development.

Natura 2000 Site	Potential for Likely Significant Effects on Natura 2000 Site	Further Assessment Required
Special Areas of Conservation (SAC)		
South Dublin Bay SAC	**No possibility of likely significant effects on SAC due to:** **The intervening minimum distance of *ca.* 2.28km between the Proposed Development and the SAC.** - This intervening distance is considered sufficient to exclude the possibility of significant effects on the SAC arising from: emissions of noise, dust, pollutants and/or vibrations emitted from Site of the Proposed Development during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; and potential increased lighting and human presence at Site of the Proposed Development during the Construction Phase of the Proposed Development. - The proposed works consist of the demolition of a three storey apartment block. Due to the size and nature of these works, along with the intervening distance between the Site and the SAC, it is deemed that emissions of dust generated by the works do not have the capacity to cause any adverse effects at the SAC. **The lack of any habitat types listed as qualifying interests (QIs) for the SAC present at the Site of the Proposed Development; in addition to the lack of any faunal species listed as qualifying interests (QIs) for this SAC.** - The Proposed Development will therefore not result in the reduction/fragmentation of any habitats listed as QIs for the SAC. **The lack of any significant hydrological connection between the Site of the Proposed Development and the SAC.** - It is not expected that any surface water will be generated during the proposed demolition works other than negligible amounts used for dust dampening purposes.	No

	- There will be no direct discharges from the Site into nearby drainage systems or waterbodies. Therefore, there is no possibility of surface water discharges containing sediment, silt and/or pollutants associated with the Proposed Development entering the SAC and causing any changes in water quality and resource. - It is expected that welfare facilities on-site for the duration of the works will consist of a porta-cabin containing WC with foul sewer connection. All foul water produced on-site via welfare facilities will therefore be discharged to public foul sewer. The amount of foul-water to be produced over the duration of the works is deemed to be negligible.	
North Dublin Bay SAC	**No possibility of likely significant effects on SAC due to:** **The intervening minimum distance of *ca.* 4.47km between the Proposed Development and the SAC.** - This intervening distance is considered sufficient to exclude the possibility of significant effects on the SAC arising from: emissions of noise, dust, pollutants and/or vibrations emitted from Site of the Proposed Development during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; and potential increased lighting and human presence at Site of the Proposed Development during the Construction Phase of the Proposed Development. - The proposed works consist of the demolition of a three storey apartment block. Due to the size and nature of these works, along with the intervening distance between the Site and the SAC, it is deemed that emissions of dust generated by the works do not have the capacity to cause any adverse effects at the SAC. **The lack of any habitat types listed as qualifying interests (QIs) for the SAC present at the Site of the Proposed Development; in addition to the lack of any faunal species listed as qualifying interests (QIs) for this SAC.** - The Proposed Development will therefore not result in the reduction/fragmentation of any habitats listed as QIs for the SAC. **The lack of any significant hydrological connection between the Site of the Proposed Development and the SAC.** - It is not expected that any surface water will be generated during the proposed demolition works other than negligible amounts used for dust dampening purposes. - There will be no direct discharges from the Site into nearby drainage systems or waterbodies. Therefore, there is no possibility of surface water discharges containing sediment, silt and/or pollutants associated with the Proposed Development entering the SAC and causing any changes in water quality and resource.	No

	- It is expected that welfare facilities on-site for the duration of the works will consist of a porta-cabin containing WC with foul sewer connection. All foul water produced on-site via welfare facilities will therefore be discharged to public foul sewer. The amount of foul-water to be produced over the duration of the works is deemed to be negligible.	
Baldoyle Bay SAC	**No possibility of likely significant effects on SAC due to:** **The intervening minimum distance of *ca.* 10.11km between the Proposed Development and the SAC.** - This intervening distance is considered sufficient to exclude the possibility of significant effects on the SAC arising from: emissions of noise, dust, pollutants and/or vibrations emitted from Site of the Proposed Development during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; and potential increased lighting and human presence at Site of the Proposed Development during the Construction Phase of the Proposed Development. - The proposed works consist of the demolition of a three-storey apartment block. Due to the size and nature of these works, along with the intervening distance between the Site and the SAC, it is deemed that emissions of dust generated by the works do not have the capacity to cause any adverse effects at the SAC. **The lack of any habitat types listed as qualifying interests (QIs) for the SAC present at the Site of the Proposed Development; in addition to the lack of any faunal species listed as qualifying interests (QIs) for this SAC.** - The Proposed Development will therefore not result in the reduction/fragmentation of any habitats listed as QIs for the SAC. **The lack of any significant hydrological connection between the Site of the Proposed Development and the SAC.** - It is not expected that any surface water will be generated during the proposed demolition works other than negligible amounts used for dust dampening purposes. - There will be no direct discharges from the Site into nearby drainage systems or waterbodies. Therefore, there is no possibility of surface water discharges containing sediment, silt and/or pollutants associated with the Proposed Development entering the SAC and causing any changes in water quality and resource. - It is expected that welfare facilities on-site for the duration of the works will consist of a porta-cabin containing WC with foul sewer connection. All foul water produced on-site via welfare facilities will therefore be discharged to public foul sewer. The amount of foul-water to be produced over the duration of the works is deemed to be negligible.	No

Howth Head SAC	**No possibility of likely significant effects on SAC due to:** **The intervening minimum distance of *ca.* 10.45km between the Proposed Development and the SAC.** - This intervening distance is considered sufficient to exclude the possibility of significant effects on the SAC arising from: emissions of noise, dust, pollutants and/or vibrations emitted from Site of the Proposed Development during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; and potential increased lighting and human presence at Site of the Proposed Development during the Construction Phase of the Proposed Development. - The proposed works consist of the demolition of a three-storey apartment block. Due to the size and nature of these works, along with the intervening distance between the Site and the SAC, it is deemed that emissions of dust generated by the works do not have the capacity to cause any adverse effects at the SAC. **The lack of any habitat types listed as qualifying interests (QIs) for the SAC present at the Site of the Proposed Development; in addition to the lack of any faunal species listed as qualifying interests (QIs) for this SAC.** - The Proposed Development will therefore not result in the reduction/fragmentation of any habitats listed as QIs for the SAC. **The lack of any significant hydrological connection between the Site of the Proposed Development and the SAC.** - It is not expected that any surface water will be generated during the proposed demolition works other than negligible amounts used for dust dampening purposes. - There will be no direct discharges from the Site into nearby drainage systems or waterbodies. Therefore, there is no possibility of surface water discharges containing sediment, silt and/or pollutants associated with the Proposed Development entering the SAC and causing any changes in water quality and resource. - It is expected that welfare facilities on-site for the duration of the works will consist of a porta-cabin containing WC with foul sewer connection. All foul water produced on-site via welfare facilities will therefore be discharged to public foul sewer. The amount of foul-water to be produced over the duration of the works is deemed to be negligible.	No
Rockabill to Dalkey Island SAC	**No possibility of likely significant effects on SAC due to:** **The intervening minimum distance of *ca.* 10.44km between the Proposed Development and the SAC.**	No

	- This intervening distance is considered sufficient to exclude the possibility of significant effects on the SAC arising from: emissions of noise, dust, pollutants and/or vibrations emitted from Site of the Proposed Development during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; and potential increased lighting and human presence at Site of the Proposed Development during the Construction Phase of the Proposed Development. - The proposed works consist of the demolition of a three storey apartment block. Due to the size and nature of these works, along with the intervening distance between the Site and the SAC, it is deemed that emissions of dust generated by the works do not have the capacity to cause any adverse effects at the SAC. **The lack of any habitat types listed as qualifying interests (QIs) for the SAC present at the Site of the Proposed Development; in addition to the lack of any suitable habitat for Harbour Porpoise.** - The Proposed Development will therefore not result in any loss/fragmentation of any habitat listed as a QI for this SAC. - The Site of the Proposed Development is a terrestrial site located inland and therefore provides no suitable *ex-situ* habitat for Harbour Porpoise. **The lack of any significant hydrological connection between the Site of the Proposed Development and the SAC.** - It is not expected that any surface water will be generated during the proposed demolition works other than negligible amounts used for dust dampening purposes. - There will be no direct discharges from the Site into nearby drainage systems or waterbodies. Therefore, there is no possibility of surface water discharges containing sediment, silt and/or pollutants associated with the Proposed Development entering the SAC and causing any changes in water quality and resource. - It is expected that welfare facilities on-site for the duration of the works will consist of a porta-cabin containing WC with foul sewer connection. All foul water produced on-site via welfare facilities will therefore be discharged to public foul sewer. The amount of foul-water to be produced over the duration of the works is deemed to be negligible.	
Wicklow Mountains SAC	**No possibility of likely significant effects on SAC due to:** **The intervening minimum distance of *ca.* 11.72km between the Proposed Development and the SAC.** - This intervening distance is considered sufficient to exclude the possibility of significant effects on the SAC arising from: emissions of noise, dust, pollutants and/or vibrations emitted from Site of the Proposed Development during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions;	No

	and potential increased lighting and human presence at Site of the Proposed Development during the Construction Phase of the Proposed Development. - The proposed works consist of the demolition of a three storey apartment block. Due to the size and nature of these works, along with the intervening distance between the Site and the SAC, it is deemed that emissions of dust generated by the works do not have the capacity to cause any adverse effects at the SAC. **The lack of any habitat types listed as qualifying interests (QIs) for the SAC present at the Site of the Proposed Development; in addition to the lack of any suitable habitat for Otter.** - The Proposed Development will therefore not result in any loss/fragmentation of any habitat listed as a QI for this SAC. - The Site of the Proposed Development is comprised of buildings and hardstanding and located in highly built-up urban surroundings. As such neither the Site, nor its immediate environment, provide any suitable *ex-situ* habitat for Otter, and will not result in any disturbance or displacement of this species. **The lack of any hydrological connection between the Site of the Proposed Development and the SAC.** - The SAC is located in the mountains to the south of the Proposed Development, and upstream of the Site. Therefore, there is no possibility of surface water discharges containing sediment, silt and/or pollutants associated with the Proposed Development entering the SAC and causing any changes in water quality and resource.	
Glenasmole Valley SAC	**No possibility of likely significant effects on SAC due to:** **The intervening minimum distance of *ca.* 12.35km between the Proposed Development and the SAC.** - This intervening distance is considered sufficient to exclude the possibility of significant effects on the SAC arising from: emissions of noise, dust, pollutants and/or vibrations emitted from Site of the Proposed Development during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; and potential increased lighting and human presence at Site of the Proposed Development during the Construction Phase of the Proposed Development. - The proposed works consist of the demolition of a three storey apartment block. Due to the size and nature of these works, along with the intervening distance between the Site and the SAC, it is deemed that emissions of dust generated by the works do not have the capacity to cause any adverse effects at the SAC. **The lack of any habitat types listed as qualifying interests (QIs) for the SAC present at the Site of the Proposed Development; in addition to the lack of any faunal species listed as QIs for this SAC.**	No

	- The Proposed Development will therefore not result in any loss/fragmentation of any habitat listed as a QI for this SAC. **The lack of any hydrological connection between the Site of the Proposed Development and the SAC.** - The SAC is located in higher lands to the south of the Proposed Development, and upstream of the Site. Therefore, there is no possibility of surface water discharges containing sediment, silt and/or pollutants associated with the Proposed Development entering the SAC and causing any changes in water quality and resource.	
Malahide Estuary SAC	**No possibility of likely significant effects on SAC due to:** **The intervening minimum distance of *ca.* 13.29km between the Proposed Development and the SAC.** - This intervening distance is considered sufficient to exclude the possibility of significant effects on the SAC arising from: emissions of noise, dust, pollutants and/or vibrations emitted from Site of the Proposed Development during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; and potential increased lighting and human presence at Site of the Proposed Development during the Construction Phase of the Proposed Development. - The proposed works consist of the demolition of a three storey apartment block. Due to the size and nature of these works, along with the intervening distance between the Site and the SAC, it is deemed that emissions of dust generated by the works do not have the capacity to cause any adverse effects at the SAC. **The lack of any habitat types listed as qualifying interests (QIs) for the SAC present at the Site of the Proposed Development; in addition to the lack of any faunal species listed as qualifying interests (QIs) for this SAC.** - The Proposed Development will therefore not result in the reduction/fragmentation of any habitats listed as QIs for the SAC. **The lack of any significant hydrological connection between the Site of the Proposed Development and the SAC.** - It is not expected that any surface water will be generated during the proposed demolition works other than negligible amounts used for dust dampening purposes. - There will be no direct discharges from the Site into nearby drainage systems or waterbodies. Therefore, there is no possibility of surface water discharges containing sediment, silt and/or pollutants associated with the Proposed Development entering the SAC and causing any changes in water quality and resource.	No

	- It is expected that welfare facilities on-site for the duration of the works will consist of a porta-cabin containing WC with foul sewer connection. All foul water produced on-site via welfare facilities will therefore be discharged to public foul sewer. The amount of foul-water to be produced over the duration of the works is deemed to be negligible.	
Ireland's Eye SAC	**No possibility of likely significant effects on SAC due to:** **The intervening minimum distance of *ca.* 13.75km between the Proposed Development and the SAC.** - This intervening distance is considered sufficient to exclude the possibility of significant effects on the SAC arising from: emissions of noise, dust, pollutants and/or vibrations emitted from Site of the Proposed Development during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; and potential increased lighting and human presence at Site of the Proposed Development during the Construction Phase of the Proposed Development. - The proposed works consist of the demolition of a three storey apartment block. Due to the size and nature of these works, along with the intervening distance between the Site and the SAC, it is deemed that emissions of dust generated by the works do not have the capacity to cause any adverse effects at the SAC. **The lack of any habitat types listed as qualifying interests (QIs) for the SAC present at the Site of the Proposed Development; in addition to the lack of any faunal species listed as qualifying interests (QIs) for this SAC.** - The Proposed Development will therefore not result in the reduction/fragmentation of any habitats listed as QIs for the SAC. **The lack of any significant hydrological connection between the Site of the Proposed Development and the SAC.** - It is not expected that any surface water will be generated during the proposed demolition works other than negligible amounts used for dust dampening purposes. - There will be no direct discharges from the Site into nearby drainage systems or waterbodies. Therefore, there is no possibility of surface water discharges containing sediment, silt and/or pollutants associated with the Proposed Development entering the SAC and causing any changes in water quality and resource. - It is expected that welfare facilities on-site for the duration of the works will consist of a porta-cabin containing WC with foul sewer connection. All foul water produced on-site via welfare facilities will therefore be discharged to public foul sewer. The amount of foul-water to be produced over the duration of the works is deemed to be negligible.	

Knocksink Wood SAC	**No possibility of likely significant effects on SAC due to:** **The intervening minimum distance of *ca.* 14.57km between the Proposed Development and the SAC.** - This intervening distance is considered sufficient to exclude the possibility of significant effects on the SAC arising from: emissions of noise, dust, pollutants and/or vibrations emitted from Site of the Proposed Development during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; and potential increased lighting and human presence at Site of the Proposed Development during the Construction Phase of the Proposed Development. - The proposed works consist of the demolition of a three storey apartment block. Due to the size and nature of these works, along with the intervening distance between the Site and the SAC, it is deemed that emissions of dust generated by the works do not have the capacity to cause any adverse effects at the SAC. **The lack of any habitat types listed as qualifying interests (QIs) for the SAC present at the Site of the Proposed Development; in addition to the lack of any faunal species listed as QIs for this SAC.** - The Proposed Development will therefore not result in any loss/fragmentation of any habitat listed as a QI for this SAC. **The lack of any hydrological connection between the Site of the Proposed Development and the SAC.** - The SAC is located over 14km to the south, and within a different river catchment to the Proposed Development. Therefore, there is no possibility of surface water discharges containing sediment, silt and/or pollutants associated with the Proposed Development entering the SAC and causing any changes in water quality and resource.	
Special Protection Areas (SPA)		
South Dublin Bay and River Tolka Estuary SPA	**No possibility of likely significant effects on SPA due to:** **The intervening minimum distance of *ca.* 2.23km between the Proposed Development and the SPA.** - This intervening distance is considered sufficient to exclude the possibility of significant effects on the SPA arising from: emissions of noise, dust, pollutants and/or vibrations emitted from Site of the Proposed Development during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; and potential increased lighting and human presence at Site of the Proposed Development during the Construction Phase of the Proposed Development.	No

	- The proposed works consist of the demolition of a three storey apartment block. Due to the size and nature of these works, along with the intervening distance between the Site and the SPA, it is deemed that emissions of dust generated by the works do not have the capacity to cause any adverse effects at the SPA. **The lack of any suitable *ex-situ* roosting/foraging/breeding habitat for species listed as SCIs for this SPA; present at, or within the immediate vicinity of, the Site of the Proposed Development.** - The Proposed Development will therefore not result in any disturbance or displacement of any SCI species associated with this SPA. **The lack of any significant hydrological connection between the Site of the Proposed Development and the SPA.** - It is not expected that any surface water will be generated during the proposed demolition works other than negligible amounts used for dust dampening purposes. - There will be no direct discharges from the Site into nearby drainage systems or waterbodies. Therefore, there is no possibility of surface water discharges containing sediment, silt and/or pollutants associated with the Proposed Development entering the SPA and causing any changes in water quality and resource. - It is expected that welfare facilities on-site for the duration of the works will consist of a porta-cabin containing WC with foul sewer connection. All foul water produced on-site via welfare facilities will therefore be discharged to public foul sewer. The amount of foul-water to be produced over the duration of the works is deemed to be negligible.	
North Bull Island SPA	**No possibility of likely significant effects on SPA due to:** **The intervening minimum distance of *ca.*4.77 km between the Proposed Development and the SPA.** - This intervening distance is considered sufficient to exclude the possibility of significant effects on the SPA arising from: emissions of noise, dust, pollutants and/or vibrations emitted from Site of the Proposed Development during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; and potential increased lighting and human presence at Site of the Proposed Development during the Construction Phase of the Proposed Development. - The proposed works consist of the demolition of a three storey apartment block. Due to the size and nature of these works, along with the intervening distance between the Site and the SPA, it is deemed that emissions of dust generated by the works do not have the capacity to cause any adverse effects at the SPA.	No

	The lack of any suitable *ex-situ* roosting/foraging/breeding habitat for species listed as SCIs for this SPA; present at, or within the immediate vicinity of, the Site of the Proposed Development. - The Proposed Development will therefore not result in any disturbance or displacement of any SCI species associated with this SPA. **The lack of any significant hydrological connection between the Site of the Proposed Development and the SPA.** - It is not expected that any surface water will be generated during the proposed demolition works other than negligible amounts used for dust dampening purposes. - There will be no direct discharges from the Site into nearby drainage systems or waterbodies. Therefore, there is no possibility of surface water discharges containing sediment, silt and/or pollutants associated with the Proposed Development entering the SPA and causing any changes in water quality and resource. - It is expected that welfare facilities on-site for the duration of the works will consist of a porta-cabin containing WC with foul sewer connection. All foul water produced on-site via welfare facilities will therefore be discharged to public foul sewer. The amount of foul-water to be produced over the duration of the works is deemed to be negligible.	
Baldoyle Bay SPA	**No possibility of likely significant effects on SPA due to:** **The intervening minimum distance of *ca.*10.12km between the Proposed Development and the SPA.** - This intervening distance is considered sufficient to exclude the possibility of significant effects on the SPA arising from: emissions of noise, dust, pollutants and/or vibrations emitted from Site of the Proposed Development during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; and potential increased lighting and human presence at Site of the Proposed Development during the Construction Phase of the Proposed Development. - The proposed works consist of the demolition of a three storey apartment block. Due to the size and nature of these works, along with the intervening distance between the Site and the SPA, it is deemed that emissions of dust generated by the works do not have the capacity to cause any adverse effects at the SPA. **The lack of any suitable *ex-situ* roosting/foraging/breeding habitat for species listed as SCIs for this SPA; present at, or within the immediate vicinity of, the Site of the Proposed Development.** - The Proposed Development will therefore not result in any disturbance or displacement of any SCI species associated with this SPA.	No

	The lack of any significant hydrological connection between the Site of the Proposed Development and the SPA. - It is not expected that any surface water will be generated during the proposed demolition works other than negligible amounts used for dust dampening purposes. - There will be no direct discharges from the Site into nearby drainage systems or waterbodies. Therefore, there is no possibility of surface water discharges containing sediment, silt and/or pollutants associated with the Proposed Development entering the SPA and causing any changes in water quality and resource. - It is expected that welfare facilities on-site for the duration of the works will consist of a porta-cabin containing WC with foul sewer connection. All foul water produced on-site via welfare facilities will therefore be discharged to public foul sewer. The amount of foul-water to be produced over the duration of the works is deemed to be negligible.	
Wicklow Mountains SPA	**No possibility of likely significant effects on SPA due to:** **The intervening minimum distance of *ca.* 12.01km between the Proposed Development and the SPA.** - This intervening distance is considered sufficient to exclude the possibility of significant effects on the SPA arising from: emissions of noise, dust, pollutants and/or vibrations emitted from the Site of the Proposed Development during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; potential increased lighting emitted from the Site of the Proposed Development during Construction and Operational Phases; and increased human presence at the Site of the Proposed Development during Construction and Operational Phases. **The lack of any hydrological connection between the Site of the Proposed Development and the SPA.** - The SPA is located in the mountains to the south of the Proposed Development, and upstream of the Site. Therefore, there is no possibility of surface water discharges containing sediment, silt and/or pollutants associated with the Proposed Development entering the SPA and causing any changes in water quality and resource. **The lack of any suitable *ex-situ* roosting/foraging/breeding habitat for species listed as SCIs for this SPA; present at, or within the immediate vicinity of, the Site of the Proposed Development.** - Peregrine (*Falco peregrinus*) have been shown to have a hunting range of between *ca*. 2-6km from the nest (Pendlebury *et al*, 2011 & Hardey, 2007) and Merlin (*Falco columbarius*) will forage up to *ca*. 4km from the nest (Pendlebury *et al*, 2011), therefore the Proposed Development lands are not considered likely to form part of any important *ex-situ* foraging area for either of these species.	No

	- The Proposed Development will therefore not result in any disturbance or displacement of any SCI species associated with this SPA.	
Malahide Estuary SPA	**No possibility of likely significant effects on SPA due to:** **The intervening minimum distance of *ca.*13.29km between the Proposed Development and the SPA.** - This intervening distance is considered sufficient to exclude the possibility of significant effects on the SPA arising from: emissions of noise, dust, pollutants and/or vibrations emitted from Site of the Proposed Development during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; and potential increased lighting and human presence at Site of the Proposed Development during the Construction Phase of the Proposed Development. - The proposed works consist of the demolition of a three storey apartment block. Due to the size and nature of these works, along with the intervening distance between the Site and the SPA, it is deemed that emissions of dust generated by the works do not have the capacity to cause any adverse effects at the SPA. **The lack of any suitable *ex-situ* roosting/foraging/breeding habitat for species listed as SCIs for this SPA; present at, or within the immediate vicinity of, the Site of the Proposed Development.** - The Proposed Development will therefore not result in any disturbance or displacement of any SCI species associated with this SPA. **The lack of any significant hydrological connection between the Site of the Proposed Development and the SPA.** - It is not expected that any surface water will be generated during the proposed demolition works other than negligible amounts used for dust dampening purposes. - There will be no direct discharges from the Site into nearby drainage systems or waterbodies. Therefore, there is no possibility of surface water discharges containing sediment, silt and/or pollutants associated with the Proposed Development entering the SPA and causing any changes in water quality and resource. - It is expected that welfare facilities on-site for the duration of the works will consist of a porta-cabin containing WC with foul sewer connection. All foul water produced on-site via welfare facilities will therefore be discharged to public foul sewer. The amount of foul-water to be produced over the duration of the works is deemed to be negligible.	No

Dalkey Islands SPA	**No possibility of likely significant effects on SPA due to:** **The intervening minimum distance of *ca.*12.25km between the Proposed Development and the SPA.** - This intervening distance is considered sufficient to exclude the possibility of significant effects on the SPA arising from: emissions of noise, dust, pollutants and/or vibrations emitted from Site of the Proposed Development during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; and potential increased lighting and human presence at Site of the Proposed Development during the Construction Phase of the Proposed Development. - The proposed works consist of the demolition of a three storey apartment block. Due to the size and nature of these works, along with the intervening distance between the Site and the SPA, it is deemed that emissions of dust generated by the works do not have the capacity to cause any adverse effects at the SPA. **The lack of any suitable *ex-situ* roosting/foraging/breeding habitat for species listed as SCIs for this SPA; present at, or within the immediate vicinity of, the Site of the Proposed Development.** - The Proposed Development will therefore not result in any disturbance or displacement of any SCI species associated with this SPA. **The lack of any significant hydrological connection between the Site of the Proposed Development and the SPA.** - It is not expected that any surface water will be generated during the proposed demolition works other than negligible amounts used for dust dampening purposes. - There will be no direct discharges from the Site into nearby drainage systems or waterbodies. Therefore, there is no possibility of surface water discharges containing sediment, silt and/or pollutants associated with the Proposed Development entering the SPA and causing any changes in water quality and resource. - It is expected that welfare facilities on-site for the duration of the works will consist of a porta-cabin containing WC with foul sewer connection. All foul water produced on-site via welfare facilities will therefore be discharged to public foul sewer. The amount of foul-water to be produced over the duration of the works is deemed to be negligible.	No
Howth Head Coast SPA	**No possibility of likely significant effects on SPA due to:** **The intervening minimum distance of *ca.*13.01km between the Proposed Development and the SPA.**	No

	- This intervening distance is considered sufficient to exclude the possibility of significant effects on the SPA arising from: emissions of noise, dust, pollutants and/or vibrations emitted from Site of the Proposed Development during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; and potential increased lighting and human presence at Site of the Proposed Development during the Construction Phase of the Proposed Development. - The proposed works consist of the demolition of a three storey apartment block. Due to the size and nature of these works, along with the intervening distance between the Site and the SPA, it is deemed that emissions of dust generated by the works do not have the capacity to cause any adverse effects at the SPA. **The lack of any significant hydrological connection between the Site of the Proposed Development and the SPA.** - It is not expected that any surface water will be generated during the proposed demolition works other than negligible amounts used for dust dampening purposes. - There will be no direct discharges from the Site into nearby drainage systems or waterbodies. Therefore, there is no possibility of surface water discharges containing sediment, silt and/or pollutants associated with the Proposed Development entering the SPA and causing any changes in water quality and resource. - It is expected that welfare facilities on-site for the duration of the works will consist of a porta-cabin containing WC with foul sewer connection. All foul water produced on-site via welfare facilities will therefore be discharged to public foul sewer. The amount of foul-water to be produced over the duration of the works is deemed to be negligible. **The lack of any suitable *ex-situ* roosting/foraging/breeding habitat for species listed as SCIs for this SPA; present at, or within the immediate vicinity of, the Site of the Proposed Development.** - The Site of the Proposed Development is comprised of predominantly man-made structures. These habitats, set in an urban context, are thus not considered suitable *ex-situ* breeding, roosting, staging or foraging habitats for Kittiwake (*Rissa tridactyla*), listed as a SCI for this SPA. - The Proposed Development will therefore not result in any disturbance or displacement of this SCI species.	
Ireland's Eye SPA	**No possibility of likely significant effects on SPA due to:** **The intervening minimum distance of *ca.*13.54km between the Proposed Development and the SPA.** - This intervening distance is considered sufficient to exclude the possibility of significant effects on the SPA arising from: emissions of noise, dust, pollutants and/or vibrations emitted from Site of the Proposed Development during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions;	No

	and potential increased lighting and human presence at Site of the Proposed Development during the Construction Phase of the Proposed Development. - The proposed works consist of the demolition of a three storey apartment block. Due to the size and nature of these works, along with the intervening distance between the Site and the SPA, it is deemed that emissions of dust generated by the works do not have the capacity to cause any adverse effects at the SPA. **The lack of any suitable *ex-situ* roosting/foraging/breeding habitat for species listed as SCIs for this SPA; present at, or within the immediate vicinity of, the Site of the Proposed Development.** - The Proposed Development will therefore not result in any disturbance or displacement of any SCI species associated with this SPA. **The lack of any significant hydrological connection between the Site of the Proposed Development and the SPA.** - It is not expected that any surface water will be generated during the proposed demolition works other than negligible amounts used for dust dampening purposes. - There will be no direct discharges from the Site into nearby drainage systems or waterbodies. Therefore, there is no possibility of surface water discharges containing sediment, silt and/or pollutants associated with the Proposed Development entering the SPA and causing any changes in water quality and resource. - It is expected that welfare facilities on-site for the duration of the works will consist of a porta-cabin containing WC with foul sewer connection. All foul water produced on-site via welfare facilities will therefore be discharged to public foul sewer. The amount of foul-water to be produced over the duration of the works is deemed to be negligible.	

2.5 Summary of Potential Impacts

An assessment of potential impacts using each of the listed indicators is given below with regard to each of the Natura 2000 sites within 15km of the Proposed Development. A summary of this assessment is given in Table 5.

2.5.1 Habitat Loss and Alteration

The Proposed Development is not located within or adjacent to any Natura 2000 site. It is therefore considered that there will be no direct loss or alteration of habitat as a result of the Proposed Development.

2.5.2 Habitat / Species Fragmentation

Habitat fragmentation has been defined as the 'reduction and isolation of patches of natural environment' (Hall et al., 1997 cited in Franklin et al., 2002) usually due to an external disturbance such that an alteration of the spatial composition of a habitat occurs that alters the habitat and 'create[s] isolated or tenuously connected patches of the original habitat' (Wiens, 1989 cited in Franklin et al., 2002). This results in spatial separation of habitat units which had previously been in a state of greater continuity.

As there will be no direct habitat loss within any Natura 2000 sites, it is not considered that any habitat fragmentation will arise from the proposal.

2.5.3 Disturbance and/or Displacement Species

The closest Natura 2000 site to the Proposed Development that has a faunal species listed as a qualifying interest is *South Dublin Bay and River Tolka Estuary SPA*, located *ca*. 2.23km to the northeast. It is deemed that the Proposed Development does not have the capacity to cause any significant disturbance and/or displacement to any species within any Natura 2000 site, due to the distance involved from the Site of the Proposed Development and the nearest Natura 2000 sites; the small size and nature of the proposed works i.e. small scale demolition and land remediation; and the lack of any suitable *ex-situ* habitats for Otter, Harbour Porpoise or any SCI bird species within the Site itself or adjacent lands.

2.5.4 Changes in Population Density

It is not expected that the Proposed Development will cause any reduction in the baseline population of any species designated as a QI or SCI for any Natura 2000 site.

2.5.5 Changes in Water Quality and Resource

The River Liffey is the closest watercourse to the Proposed Development and flows *ca*.545m to the north of the Site. The River Liffey is a modified urban watercourse, which runs through the centre of Dublin City. The Site of the Proposed Development and surrounding area are urban in nature and the land cover is almost entirely hardstanding. Surface water at the site and surrounding area is directed to the public sewer network.

It is envisaged that no surface water containing sediment / pollutants will enter the River Liffey or any other waterbody during the Construction or Operational phases of the Proposed Development as there will be no direct discharge to waterbodies from the Site for the duration of

the works. It is also not expected that any surface waters will be generated during the proposed works other than negligible amounts used for dust dampening purposes during the demolition itself. All foul water produced by temporary welfare facilities, to be located on-site for the *ca.* 2-3 month duration of the Proposed Development, will be discharged via connection to public foul sewer. It is deemed that the amount of foul water to be produced during this period will be negligible.

Based on the above it is concluded that there is no possibility of any water leaving the Site that could have the capacity to cause any significant adverse impacts to water quality and/or resource in any Natura 2000 Site, particularly those located in and around Dublin Bay. It is therefore deemed that the Proposed Development does not have the capacity to cause any significant changes to water quality and/or resource at any Natura 2000 site.

2.5.6 In-combination Effects

The following planning and policy documents were reviewed and considered for possible in-combination effects with the Proposed Development:

- Dublin City Development Plan 2016 - 2022
- Dublin City Biodiversity Action Plan 2015 - 2020
- South Dublin County Council Development Plan 2016 - 2022

The following developments were also reviewed and assessed for potential in-combination effects with the Proposed Development:

Ref: 4578/19. **Applicant:** Hiberbia REIT plc. **Address:** 1, Cumberland Place, Fenian Street, Dublin 2 (formerly known as Cumberland House). **Granted:** 20-Mar-2020. **Description**: *The proposed development consists of amendments to the development permitted under Reg. Ref.: 3595/16. As amended by Reg. Ref.: 2833/18, Reg. Ref.: 4467/18, and Reg. Ref.: 3336/19. The proposed amendments comprise of the following: • Provision of an additional stepped entrance with revolving door and wheelchair hoist from Fenian Street, on the southern side of the permitted development; • Modification of glazing set-out to the building facades; • Modification of glazing to the building facilities; • Extension of building managers facilities to the rear of the building at ground floor level; • Rearrangement of changing rooms, showers, lockers, and bicycle parking at lower ground floor level; • Modifications to permitted landscaping and external access arrangements; • Modifications of emergency access at ground floor level; and, • All ancillary and associated site development and landscaping works. The proposed amendments will result in a decrease of c. 59.4 in the overall gross floor area (GFA) of the permitted office building, resulting in a total GFA of c. 7,795 sq.m. There is a concurrent application for amendments to the permitted development on the subject site under Reg. Ref.: 4375/19.*

Ref: 3606/19. **Applicant:** Persian Properties Unlimited. **Address:** 1 Hospitality House, 16-20 South Cumberland Street, Dublin 2. **Granted:** 05-Mar-2019. **Description**: *The development will consist of the demolition of an existing building (c.3,059 sq.m) and the construction of a building (max height c.26.8m) incorporating an 8-storey 158 No. bedroom hotel with a gross floor area of c.7,458sq.m, including a c.565 sq.m office space incorporating a Board Room and Meeting Room, a food and beverage facility with an associated restaurant to cater for 120*

No. customers (c.231 sq.m), kitchen and food preparation area (c.117 sq.m), reception area (c.139 sq.m), luggage storage facilities (c.20 sq.m), 1 No. ESB sub-station and switch-room at ground floor level fronting onto Cumberland Street South, 23 No. photovoltaic panels (c.46 sq.m). 28 No. bicycle storage spaces and changing facilities, drainage and all ancillary works on a 0.18 hectare site.

Upon examination of the listed plans and projects, it is concluded that there is no possibility for any in-combination effects between these plans and the Proposed Development; due to the nature of the Proposed Development, the short term and local scale of the proposed works; and the lack of any potential impacts to Natura 2000 sites identified during this Appropriate Assessment screening.

Table 5 below summaries the impact assessment to each of the relevant Natura 2000 sites as a result of the Proposed Development

Table 5. Summary of impact assessment on Natura 2000 sites from the Proposed Development.

Site	Habitat Loss / Alteration	Habitat or Species Fragmentation	Disturbance and/or Displacement of Species	Changes in Population Density	Changes in Water Quality and/or Resource	Stage 2 AA Required
South Dublin Bay SAC	No	No	No	None	None	NO
North Dublin Bay SAC	No	No	No	None	None	NO
Baldoyle Bay SAC	No	No	No	None	None	NO
Howth Head SAC	No	No	No	None	None	NO
Rockabill to Dalkey Island SAC	No	No	No	None	None	NO
Wicklow Mountains SAC	No	No	No	None	None	NO
Glenasmole Valley SAC	No	No	No	None	None	NO
Malahide Estuary SAC	No	No	No	None	None	NO

Ireland's Eye SAC	No	No	No	None	None	NO
Knocksink Wood SAC	No	No	No	None	None	NO
South Dublin Bay and River Tolka Estuary SPA	No	No	No	None	None	NO
North Bull Island SPA	No	No	No	None	None	NO
Baldoyle Bay SPA	No	No	No	None	None	NO
Wicklow Mountains SPA	No	No	No	None	None	NO
Malahide Estuary SPA (also known as Broadmeadow/Swords Estuary SPA)	No	No	No	None	None	NO
Dalkey Islands SPA	No	No	No	None	None	NO
Howth Head Coast SPA	No	No	No	None	None	NO
Ireland's Eye SPA	No	No	No	None	None	NO

3 CONCLUSION

In conclusion, upon the examination, analysis and evaluation of the relevant information including, in particular, the nature of the Proposed Development and the likelihood of significant effects on any Natura 2000 site, in addition to considering possible in-combination effects, and applying the precautionary principles, it is concluded by the authors of this report that, on the basis of objective information, the possibility may be excluded that the Proposed Development will have a significant effect on any of the Natura 2000 sites below.

- South Dublin Bay SAC [000210]
- North Dublin Bay SAC [000206]
- Baldoyle Bay SAC [000199]
- Howth Head SAC [000202]
- Rockabill to Dalkey Island SAC [003000]
- Wicklow Mountains SAC [002122]
- Glenasmole Valley SAC [001209]
- Malahide Estuary SAC [000205]
- Ireland's Eye SAC [002193]
- Knocksink Wood SAC [000725]
- South Dublin Bay and River Tolka Estuary SPA [004024]
- North Bull Island SPA [004006]
- Baldoyle Bay SPA [004016]
- Wicklow Mountains SPA [004040]
- Malahide Estuary SPA [004025]
- Dalkey Islands SPA [004172]
- Howth Head Coast SPA [004113]
- Ireland's Eye SPA [004117]

These complete, precise and definitive findings, based on the best available scientific evidence, remove all reasonable scientific doubt that the Proposed Development will have any significant impacts on the Natura 2000 sites detailed above; and it is therefore concluded that there will be no likely significant negative impacts caused to any Natura 2000 sites as a result of the Proposed Development.

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Appendix I – NPWS Natura 2000 Site Synopses

SITE SYNOPSIS

Site Name: Baldoyle Bay SAC

Site Code: 000199

Baldoyle Bay SAC extends from just below Portmarnock village to the west pier at Howth in Co. Dublin. It is a tidal estuarine bay protected from the open sea by a large sand-dune system. Two small rivers, the Mayne and the Sluice, flow into the bay.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[1140] Tidal Mudflats and Sandflats
[1310] *Salicornia* Mud
[1330] Atlantic Salt Meadows
[1410] Mediterranean Salt Meadows

Large areas of intertidal flats are exposed at low tide at this site. These are mostly sands but grade to muds in the inner sheltered parts of the estuary. Extensive areas of Common Cord-grass (*Spartina anglica*) occur in the inner estuary. Both the Narrow-leaved Eelgrass (*Zostera angustifolia*) and the Dwarf Eelgrass (*Z. noltii*) are also found here. During summer, the sandflats of the sheltered areas are covered by mats of green algae (*Enteromorpha* spp. and *Ulva lactuca*).

The sediments have a typical macrofauna, with Lugworm (*Arenicola marina*) dominating the sandy flats. The tubeworm *Lanice conchilega* is present in high densities at the low tide mark and the small gastropod *Hydrobia ulvae* occurs in the muddy areas, along with the crustacean *Corophium volutator*.

Areas of saltmarsh occur near Portmarnock Bridge and at Portmarnock Point, with narrow strips along other parts of the estuary. Species such as glassworts (*Salicornia* spp.), Sea-purslane (*Halimione portulacoides*), Sea Plantain (*Plantago maritima*) and Sea Rush (*Juncus maritimus*) are found here. Portmarnock Spit formerly had a well-developed sand dune system but this has been largely replaced by golf courses and is mostly excluded from the site. A few dune hills are still intact at Portmarnock Point, and there are small dune hills east of Cush Point and below the Claremont Hotel. These are mostly dominated by Marram (*Ammophila arenaria*), though Lyme-grass (*Leymus arenarius*) is also found.

The site includes a brackish marsh along the Mayne River. Soils here have a high organic content and are poorly drained, and some pools occur. Rushes (*Juncus* spp.) and salt tolerant species such as Common Scurvygrass (*Cochleria officinalis*) and

Greater Sea-spurrey (*Spergularia media*) are typical of this area. Knotted Hedge-parsley (*Torilis nodosa*), a scarce plant in eastern Ireland, has been recorded here, along with Brackish Water-crowfoot (*Ranunculus baudotti*), a species of brackish pools and ditches which has declined in most places due to habitat loss. Two plant species, legally protected under the Flora (Protection) Order, 1999, occur in the Mayne marsh, Borrer's Saltmarsh-grass (*Puccinellia fasciculata*) and Meadow Barley (*Hordeum secalinum*).

Baldoyle Bay is an important bird site for wintering waterfowl and the inner part of the estuary is a Special Protection Area under the E.U. Birds Directive as well as being a Statutory Nature Reserve. Internationally important numbers of Pale-bellied Brent Goose (418) and nationally important numbers of two Annex I Birds Directive species - Golden Pover (1,900) and Bar-tailed Godwit (283) - have been recorded. Four other species also reached nationally important numbers: Shelduck (147), Pintail (26), Grey Plover (148) and Ringed Plover (218) - all figures are average peaks for four winters 1994/95 to 1997/1998. Breeding wetland birds at the site include Shelduck, Mallard and Ringed Plover. Small numbers of Little Tern, a species listed on Annex I of the E.U. Birds Directive, have bred on a few occasions at Portmarnock Point but not since 1991.

The area surrounding Baldoyle Bay is densely populated and so the main threats to the site include visitor pressure, disturbance to wildfowl and dumping. In particular, the dumping of spoil onto the foreshore presents a threat to the value of the site.

Baldoyle Bay is a fine example of an estuarine system. It contains four habitats listed on Annex I of the E.U. Habitats Directive, and supports two legally protected plant species. The site is also an important bird area and part of it is a Special Protection Area under the E.U. Birds Directive, as well as being a Statutory Nature Reserve. It supports internationally important numbers of Brent Goose and nationally important numbers of six other bird species, including two Annex I Birds Directive species.

SITE SYNOPSIS

SITE NAME: BALDOYLE BAY SPA

SITE CODE: 004016

Baldoyle Bay, located to the north and east of Baldoyle and to the south of Portmarnock, Co. Dublin, is a relatively small, narrow estuary separated from the open sea by a large sand dune system. Two small rivers, the Mayne River and the Sluice River, flow into the inner part of the estuary.

Large areas of intertidal flats are exposed at low tide. These are mostly sands but grade to muds in the inner sheltered parts of the estuary. Extensive areas of Common Cord-grass (*Spartina anglica*) occur in the inner estuary. Both the Narrow-leaved Eelgrass (*Zostera angustifolia*) and the Dwarf Eelgrass (*Z. noltii*) are also found here. During summer, the sandflats of the sheltered areas are covered by mats of green algae (*Ulva* spp.). The sediments have a typical macrofauna, with Lugworm (*Arenicola marina*) dominating the sandy flats. Areas of saltmarsh occur near Portmarnock Bridge and at Portmarnock Point, with narrow strips found along other parts of the estuary. Species such as Glasswort (*Salicornia* spp.), Sea-purslane (*Halimione portulacoides*), Sea Plantain (*Plantago maritima*) and Sea Rush (*Juncus maritimus*) are found here.

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, Ringed Plover, Golden Plover, Grey Plover and Bar-tailed Godwit. 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.

Baldoyle Bay is an important site for wintering waterfowl, providing good quality feeding areas and roost sites for an excellent diversity of waterfowl species. It supports an internationally important population of Light-bellied Brent Goose (726), and has a further five species with nationally important populations (all figures are mean peaks for the five winters 1995/96 to 1999/2000): Shelduck (147), Ringed Plover (223), Golden Plover (2,120), Grey Plover (200) and Bar-tailed Godwit (353). Other species which occur include Great Crested Grebe (42), Pintail (35), Teal (138), Mallard (46), Common Scoter (61), Oystercatcher (531), Lapwing (524), Knot (189), Dunlin (879), Black-tailed Godwit (113), Curlew (98), Redshank (224), Greenshank (11) and Turnstone (43).

Regular breeding birds include Shelduck, Mallard and Ringed Plover. In autumn, passage migrants such as Curlew Sandpiper, Spotted Redshank and Green Sandpiper are regular in small numbers. Little Egret, a species which has recently colonised Ireland, also occurs at this site.

Baldoyle Bay SPA is of high conservation importance, for supporting internationally important numbers of Light-bellied Brent Goose as well as nationally important populations of a further five species, including Golden Plover and Bar-tailed Godwit, both species that are listed on Annex I of the E.U. Birds Directive. The inner part of the site is a Statutory Nature Reserve and also designated as a wetland of international importance under the Ramsar Convention.

25.3.2014

SITE SYNOPSIS

SITE NAME: DALKEY ISLANDS SPA

SITE CODE: 004172

The site comprises Dalkey Island, Lamb Island and Maiden Rock, the intervening rocks and reefs, and the surrounding sea to a distance of 200 m. Dalkey Island, which is the largest in the group, lies *c*. 400 m off Sorrento Point on the Co. Dublin mainland from which it is separated by a deep channel. The island is low-lying, the highest point of which (*c*. 15 m) is marked by a Martello Tower. Soil cover consists mainly of a thin peaty layer, though in a few places there are boulder clay deposits. Vegetation cover is low-growing and consists mainly of grasses. Dense patches of Bracken (*Pteridium aquilinum*) and Hogweed (*Heracleum sphondylium*) occur in places. Lamb Island lies to the north of Dalkey Island, and at low tide is connected by a line of rocks. It has a thin soil cover and some vegetation, mainly of grasses, Nettles (*Urtica dioica*) and Hogweed. Further north lies Maiden Rock, a bare angular granite rock up to 5 m high that is devoid of higher plant vegetation.

This site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Roseate Tern, Common Tern and Arctic Tern.

Dalkey Islands SPA is both a breeding and a staging site for *Sterna* terns. There is a good history of nesting by terns though success has been variable over the years. Common Tern is the most common species, usually outnumbering Arctic Tern by at least 3:1. Up to 1988, the range given for Common Tern was 15-53 pairs, and for Arctic Tern 'a few' pairs. Also, Roseate Tern attempted nesting in 1986, with 2 pairs recorded. A tern conservation scheme, co-ordinated by BirdWatch Ireland / National Parks and Wildlife Service, began in 1995, with wardening, nestbox deployment and monitoring being carried out. The ultimate aim was to attract Roseate Tern to breed. Numbers of terns increased in subsequent years, though numbers and breeding success is still variable between years. In 2003 62 pairs of Common Tern and 24 pairs of Arctic Tern were recorded. Of great significance is that Roseate Tern has returned, with 5 pairs recorded in 2003 and 11 pairs in 2004 - this is one of only three known sites in the country for this rare species.

The site, along with other parts of south Dublin Bay, is used by the three tern species as a major post-breeding/pre-migration autumn roost area. The site is linked to another important post-breeding/pre-migration autumn tern roost area in Dublin Bay. Birds are present from about late-July to September, with *c*. 2,000 terns, comprising individuals of all three species, recorded in 1998. The origin of the birds is likely to be the Dublin breeding sites (Rockabill and Dublin Docks) though the numbers recorded suggests that birds from other sites, perhaps outside the State, are also present.

The site also has breeding Great Black-backed Gull (7 pairs in 2001), Shelduck (1-2 pairs) and Oystercatcher (1-2 pairs). Herring Gull bred in large numbers in the past but is now very scarce (14 pairs recorded in 1999). The site is known to be frequented in winter by Turnstone and Purple Sandpiper but recent count data are not available.

Dalkey Islands SPA is of particular importance as a post-breeding/pre-migration autumn roost area for Roseate Tern, Common Tern and Arctic Tern. The recent nesting by Roseate Tern is highly significant. All three tern species using the site are listed on Annex I of the E.U. Birds Directive.

20.1.2015

SITE SYNOPSIS

Site Name: Glenasmole Valley SAC

Site Code: 001209

Glenasmole Valley in south Co. Dublin lies on the edge of the Wicklow uplands, approximately 5 km from Tallaght. The River Dodder flows through the valley and has been impounded here to form two reservoirs which supply water to south Dublin. The non-calcareous bedrock of the Glenasmole Valley has been overlain by deep drift deposits which now line the valley sides. They are partly covered by scrub and woodland, and on the less precipitous parts, by a herb-rich grassland. There is much seepage through the deposits, which brings to the surface water rich in bases, which induces local patches of calcareous fen and, in places, petrifying springs.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[6210] Orchid-rich Calcareous Grassland*
[6410] *Molinia* Meadows
[7220] Petrifying Springs*

At this site, examples of calcareous fen and flush occur between the two reservoirs, where sedges (including *Carex flacca* and *C. panicea*) are joined by such species as Grass-of-parnassus (*Parnassia palustris*), Few-flowered Spike-rush (*Eleocharis quinqueflora*), Zig-zag clover (*Trifolium medium*) and the scarce Fen Bedstraw (*Galium uliginosum*). Tufa depositing springs are long-known from the site, along the valley sides, and some have substantial tufa mounds and banks. Tufa formation is also known from small streams within the woodland at the site. Within the hazel woods, and associated with the springs and flushes, a distinctive flora with Marsh Hawk's-beard (*Crepis paludosa*) and luxuriant stands of Great Horsetail (*Equisetum telmateia*) has developed.

Orchid-rich grassland occurs in the drier parts of this site and in places grades into *Molinia* meadow. Orchids recorded in these habitats include Frog Orchid (*Coeloglossum viride*), Northern Marsh-orchid (*Dactylorhiza purpurella*), Fragrant Orchid (*Gymnadenia conopsea*), Marsh Helleborine (*Epipactis palustris*), Early-purple Orchid (*Orchis mascula*) and Greater Butterfly Orchid (*Platanthera chlorantha*). Two further orchid species, both Red Data Book-listed, have also been found here, Green-winged Orchid (*Orchis morio*) and Small-white Orchid (*Pseudorchis albida*). Common grasses in the sward include Sweet Vernal-grass (*Anthoxanthum odoratum*), Creeping Bent (*Agrostis stolonifera*) and Crested Dog's-tail (*Cynosurus cristatus*). Other species which occur are Common Bird's-foot-trefoil (*Lotus corniculatus*), Kidney Vetch (*Anthyllis vulneraria*), Common Restharrow (*Ononis repens*), Yellow-wort (*Blackstonia*

perfoliata) and Autumn Gentian (*Gentianella amarella*). While much of the calcareous grassland has been improved to some extent for agriculture, a suite of typical species still remain.

The areas of *Molinia* meadows at the site occur associated with the grasslands on the valley sides, and in particular in seepage and flushed areas. Typical and indicative species include Greater Bird's-foot-trefoil (*Lotus uliginosus*), Tormentil (*Potentilla erecta*), Purple Moor-grass (*Molinia caerulea*), Sharp-flowered Rush (*Juncus acutiflorus*), Adder's-tongue (*Ophioglossum vulgatum*), Meadow Thistle (*Cirsium dissectum*) and Fen Bedstraw. As noted above, orchids are frequent in the grasslands at this site.

Woodland occurs in patches around the site. On the east side of the valley, below the northern lake, a Hazel (*Corylus avellana*) wood has developed on the unstable calcareous slopes and includes other species such as Ash (*Fraxinus excelsior*), Downy Birch (*Betula pubescens*), Goat Willow (*Salix caprea*) and (Irish) Whitebeam (*Sorbus hibernica*). Spring Wood-rush (*Luzula pilosa*), Wood Speedwell (*Veronica montana*) and Bramble (*Rubus fruticosus* agg.) are present in the ground flora.

Wet semi-natural broadleaved woodland is also found around the reservoirs and includes Alder (*Alnus glutinosa*) and willow (*Salix* spp.), with Yellow Iris (*Iris pseudacorus*), horsetails (*Equisetum* spp.), Bramble and localised patches of Japanese Knotweed (*Reynoutria japonica*), an introduced and invasive species.

The lake shore vegetation is not well developed, which is typical of a reservoir. There are occasional patches of Reed Canary-grass (*Phalaris arundinacea*) and Purple-loosestrife (*Lythrum salicaria*), which are more extensive around the western shore of the northern lake, along with Common Marsh-bedstraw (*Galium palustre*) and Water Mint (*Mentha aquatica*). Other vegetation includes Shoreweed (*Littorella uniflora*) and the scarce Water Sedge (*Carex aquatilis*).

As well as the Green-winged Orchid and Small-white Orchid, two other threatened species which are listed in the Irish Red Data Book occur in the site, Yellow Archangel (*Lamiastrum galeobdolon*) and Yellow Bird's-nest (*Monotropa hypopitys*). Small-white Orchid is legally protected under the Flora (Protection) Order, 1999.

The site provides excellent habitat for bats, with at least four species recorded: Pipistrelle, Leisler's, Daubenton's and Brown Long-eared. Otter occurs along the river and reservoirs.

The site supports Kingfisher, an Annex I species under the E.U. Birds Directive.

Glenasmole Valley contains a high diversity of habitats and plant communities, including three habitats listed on Annex I of the E.U. Habitats Directive. The presence of four Red Data Book plant species further adds to the value of the site, as does the presence of populations of several mammal and bird species of conservation interest.

SITE SYNOPSIS

SITE NAME: HOWTH HEAD COAST SPA

SITE CODE: 004113

Howth Head is a rocky headland situated on the northern side of Dublin Bay. The peninsula is composed of Cambrian rock of the Bray Group, the most conspicuous component being quartzite. The site comprises the sea cliffs extending from just east of the Nose of Howth to the tip of the Bailey Lighthouse peninsula. The marine area to a distance of 500 m from the cliff base is included within the site.

The cliffs vary from between about 60 m and 90 m in height, and in places comprise fairly sheer, exposed rock face. Here plants such as Rock Sea-spurrey (*Spergularia rupicola*), Navelwort (*Umbilicus rupestris*), Rock Samphire (*Crithmum maritimum*), English Stonecrop (*Sedum anglicum*) and Biting Stonecrop (*Sedum acre*) are found, along with a good diversity of lichen species.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for Kittiwake.

A range of seabird species breed within the Howth Head SPA, including a nationally important population of Kittiwake. A census in 1999 recorded the following species: Fulmar (33 pairs), Shag (12 pairs), Herring Gull (17 pairs), Great Black-backed Gull (5 pairs), Kittiwake (2,269 pairs), Guillemot (663 pairs) and Razorbill (279 pairs). In addition, 39 individual Black Guillemot were counted within the site in May 1998.

The cliffs also support a breeding pair of Peregrine Falcon. The seabird colony at Howth Head has been monitored at intervals since the Operation Seafarer project in 1969/70.

Howth Head Coast SPA is of high ornithological importance as it supports a nationally important population of Kittiwake. It is also a traditional nesting site for Peregrine Falcon, a species that is listed on Annex I of the E.U. Birds Directive. The site is easily accessible and has important amenity and educational value due to its proximity to Dublin City.

6.12.2011

SITE SYNOPSIS

Site Name: Howth Head SAC

Site Code: 000202

Howth Head is a rocky headland situated on the northern side of Dublin Bay. The peninsula is composed of Cambrian slates and quartzites, joined to the mainland by a post-glacial raised beach. Limestone occurs on the north-west side while glacial drift is deposited against the cliffs in places.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[1230] Vegetated Sea Cliffs
[4030] Dry Heath

A mosaic of heathland vegetation occurs on the slopes above the sea cliffs and in the area of the summit. This is dominated by Western Gorse (*Ulex gallii*), Heather (*Calluna vulgaris*), Bell Heather (*Erica cinerea*) and localised patches of Bracken (*Pteridium aquilinum*). In more open areas species such as English Stonecrop (*Sedum anglicum*), Wood Sage (*Teucrium scorodonia*) and Navelwort (*Umbilicus rupestris*) occur, along with some areas of bare rock.

The heath merges into dry grassland in places, with bent grasses (*Agrostis* spp.), Red Fescue (*Festuca rubra*), Cock's-foot (*Dactylis glomerata*), Yorkshire-fog (*Holcus lanatus*), Sweet Vernal-grass (*Anthoxanthum odoratum*), Lady's Bedstraw (*Galium verum*), Ribwort Plantain (*Plantago lanceolata*) and Yellow-wort (*Blackstonia perfoliata*). In the summit area there are a few wet flushes and small bogs, with typical bog species such as Bog Asphodel (*Narthecium ossifragum*) and sundews (*Drosera* spp.). Patches of scrub, mostly Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Willow (*Salix* spp.) and Downy Birch (*Betula pubescens*), occur in places.

The maritime flora is of particular interest as a number of scarce and local plants have been recorded, including Golden-samphire (*Inula crithmoides*), Sea Wormwood (*Artemisia maritima*), Grass-leaved Orache (*Atriplex littoralis*), Frosted Orache (*Atriplex laciniata*), Sea Spleenwort (*Asplenium marinum*), Bloody Crane's-bill (*Geranium sanguineum*), Spring Squill (*Scilla verna*), Sea Stork's-bill (*Erodium maritimum*) and three uncommon clover species: Knotted Clover (*Trifolium striatum*), Bird's-foot Clover (*T. ornithopodioides*) and Western Clover (*T. occidentalis*).

Rock outcrops which are important for lichens are distributed widely around Howth Head. The richest area for lichens appears to be around Balscadden quarries. In

addition, the Earlscliffe area is of national importance for lichens and is the type locality for the black, yellow and grey lichen zonation.

A number of Red Data Book plant species, the latter five of which are legally protected under the Flora (Protection) Order, 1999, have been recorded at this site - Green-winged Orchid (*Orchis morio*), Bird's-foot (*Ornithopus perpusillus*), Hairy Violet (*Viola hirta*), Rough Poppy (*Papaver hybridum*), Pennyroyal (*Mentha pulegium*), Heath Cudweed (*Omalotheca sylvatica*) and Betony (*Stachys officinalis*).

Curved Hard-grass (*Parapholis incurva*), a species which had not previously been recognized as occurring in Ireland, was found at Red Rock in 1979.

The site is of national importance for breeding seabirds. A census in 1985-87 recorded the following numbers: Fulmar (105 pairs), Shags (25 pairs), Herring Gulls (70 pairs), Kittiwake (*c.* 1,700 pairs), Guillemot (585 birds), Razorbill (280 birds). In 1990, 21 pairs of Black Guillemot were counted.

A number of rare invertebrates have been recorded from the site: the fly *Phaonia exoleta* (Order Diptera) occurs in the woods at the back of Deerpark and has not been seen anywhere else in Ireland, while the ground beetle *Trechus rubens* (Order Coleoptera) is found on storm beaches on the eastern cliffs. A hoverfly, known from only a few Irish locations, *Sphaerophoria batava* (Order Diptera), is present in the heathland habitat within the site.

The main land use within the area is recreation, mostly walking and horse-riding, and this has led to some erosion within the site. Fires also pose a danger to the site. There may also be a threat in some areas from further housing development.

Howth Head displays a fine range of natural habitats, including two Annex I habitats, within surprisingly close proximity to Dublin city. The site is also of scientific importance for its seabird colonies, invertebrates and lichens. It also supports populations of at least two legally protected plant species and several other scarce plants.

SITE SYNOPSIS

Site Name: Ireland's Eye SAC

Site Code: 002193

Ireland's Eye is located about 1.5 km north of Howth in Co. Dublin. It is a Cambrian island with quartzite which forms spectacular cliffs on the north-east side. Elsewhere much of the area is covered by drift. There is a Martello tower at the west end of the island and an ancient ruined church in the middle.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[1220] Perennial Vegetation of Stony Banks
[1230] Vegetated Sea Cliffs

On Ireland's Eye the drift soils support a plant community of Bracken (*Pteridium aquilinum*) and various grasses, especially Red Fescue (*Festuca rubra*), along with Bluebells (*Hyacinthoides non-scripta*), Common Dog-violet (*Viola riviniana*) and Navelwort (*Umbilicus rupestris*). The thinner soils have some interesting species, including Spring Squill (*Scilla verna*), Knotted Clover (*Trifolium striatum*) and Field Mouse-ear (*Cerastium arvense*). Bloody Cranesbill (*Geranium sanguineum*) has also been recorded from here.

The cliff maritime flora includes Rock Sea-spurrey (*Spergularia rupicola*), Sea Stork's-bill (*Erodium maritimum*), Rock Samphire (*Crithmum martimum*), Golden Samphire (*Inula crithmoides*), Rock Sea-lavender (*Limonium binervosum*), Meadow Rue (*Thalictrum minor*), Portland Spurge (*Euphorbia portlandica*) and Tree-mallow (*Lavatera arborea*).

A small area of shingle vegetation occurs above the sandy beach at Carrigeen Bay on the western side of the island. Species such as Curled Dock (*Rumex crispus*), Silverweed (*Potentilla anserina*) and Spear-leaved Orache (*Atriplex prostrata*) occur, while the rare Sea-kale (*Crambe maritima*), a characteristic species of this habitat, has been known from this site since 1894 and was recorded as recently as 1981. Sea-kale is listed as threatened in the Irish Red Data Book. Also occurring on the sandy/ shingle beach is the Red Data Book species Henbane (*Hyoscyamus niger*).

Irelands's Eye is of national importance for breeding seabirds. In 1999 the following were counted: Fulmar - 70 pairs; Cormorant - 306 pairs; Shag - 32 pairs; Lesser Black-backed Gull - 1 pair; Herring Gull – approx. 250 pairs; Great Black-backed Gull – approx. 100 pairs; Kittiwake - 941 pairs; Guillemot – 2,191 individuals; Razorbill - 522 individuals. A Gannet colony was established on the stack at the east end of the

island in the late 1980s, and in 1999 142 pairs bred. Puffin was formerly common, but nowadays not more than 20 individuals occur. Black Guillemot also breeds, with 15 individuals recorded in 1998. Several pairs each of Oystercatcher and Ringed Plover breed, while the island is a traditional site for Peregrine Falcon.

In winter small numbers of Greylag and Pale-bellied Brent Goose graze on the island.

This uninhabited marine island has a well developed maritime flora, with two habitats (sea cliffs and shingle) listed on Annex II of the E.U. Habitats Directive, and nationally important seabird colonies. Owing to its easy access and proximity to Dublin it has great educational and amenity value.

SITE SYNOPSIS

SITE NAME: IRELAND'S EYE SPA

SITE CODE: 004117

Ireland's Eye is an uninhabited island located about 1.5 km north of Howth in Co. Dublin. The site encompasses Ireland's Eye, Rowan Rocks, Thulla, Thulla Rocks, Carrageen Bay and a seaward extension of 200m in the west and 500m to the north and east. The island has an area of *c*. 24 ha above the high tide mark. The underlying geology is Cambrian greywackes and quartzites. These rocks form impressive near-vertical cliffs, reaching 69 m, along the northern and eastern sides of the island, with scattered exposures elsewhere on the island and especially in the high northern half. A tall stack, which is completely cut off from the main island at mid to high tide, occurs at the eastern side of the cliffs. A sandy beach, backed by low sand hills, occurs at Carrigeen Bay on the western shore, while a shingle beach extends from Carrigeen to Thulla Rocks. Elsewhere the island is covered by glacial drift. A low-lying, sparsely vegetated islet, known as Thulla, occurs a little to the south of the island, and an extensive area of bedrock shore (heavily covered by brown seaweeds) is exposed at low tide between Thulla and the main island. There are no watercourses or springs on the island, though two small rainwater ponds form during winter in the north-west and north-east sectors.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Cormorant, Herring Gull, Kittiwake, Guillemot and Razorbill.

Ireland's Eye has important populations of breeding seabirds. In 1999 the following species were recorded: Fulmar (70 pairs), Gannet (147 pairs), Cormorant (306 pairs), Shag (32 pairs), Lesser Black-backed Gull (1 pair), Great Black-backed Gull (90 pairs), Herring Gull (246 pairs), Kittiwake (941 pairs), Guillemot (1,468 pairs) and Razorbill (350 pairs) and Puffin (4 pairs). In 2001 an incomplete census recorded Gannet (202 pairs), Cormorant (438 pairs), Kittiwake (1,024 pairs), Guillemot (1,975 pairs) and Razorbill (460 pairs). A Gannet survey by the National Parks and Wildlife Service in 2004 recorded 285 pairs. Black Guillemot may also breed, with 15 individuals recorded in 1998. The Cormorant, Herring Gull, Kittiwake, Guillemot and Razorbill populations are of national importance. The majority of the Cormorant population nest on Thulla and when considered as part of a larger grouping with the colonies on nearby Lambay and St. Patrick's Island, this population is of international importance. The Gannet colony is of particular note as it is one of six in the country and one of only two sites on the east coast. The colony has only been established as recently as the late 1980s and as all breeding ledges became fully occupied in 2006 a satellite colony was then established on the nearby island of Lambay.

Several pairs each of Shelduck, Oystercatcher and Ringed Plover breed. The island is also a traditional site for Peregrine, a species that is listed on Annex I of the E.U.

Birds Directive. In winter small numbers of Greylag Goose and Pale-bellied Brent Goose graze on the island and it is used as a roost site by gulls and some waders.

Ireland's Eye SPA, though a relatively small island, is of high ornithological importance, with five seabird species having populations of national importance. The regular presence of a breeding pair of Peregrine, an Annex I species, is also of note.

SITE SYNOPSIS

Site Name: Knocksink Wood SAC

Site Code: 000725

Knocksink Wood is situated in the valley of the Glencullen River, just north-west of Enniskerry in Co. Wicklow. The fast flowing Glencullen River winds its way over granite boulders along the valley floor. The steep sides of the valley are mostly covered with calcareous drift, and support extensive areas of woodland.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[7220] Petrifying Springs*
[91E0] Alluvial Forests*

Some of the slopes of Knocksink Wood are dominated by Sessile Oak (*Quercus petraea*), with a sparse shrub layer of Holly (*Ilex aquifolium*) and Hazel (*Corylus avellana*). In many areas the ground layer consists of a carpet of Great Wood-rush (*Luzula sylvatica*). Other areas are characterised by mixed woodland, with oak, Ash (*Fraxinus excelsior*), Beech (*Fagus sylvatica*), Sycamore (*Acer pseudoplatanus*) and occasional conifers. The ground flora includes Ivy (*Hedera helix*) and Bramble (*Rubus fruticosus* agg.), and often luxuriant ferns, including species such as Hart's-tongue (*Phyllitis scolopendrium*), Soft Shield-fern (*Polystichium setiferum*), and mosses. Lichens occur abundantly on some trees.

A notable feature of the wooded slopes are the frequent and extensive springs and seepage areas, and there is tufa formation in several places. Bryophytes are abundant in some areas, and species include *Cratoneuron filiciinum, Palustriella commutata, P. falcata* and *Leiocolea turbinata*. Associated vascular plant species include Golden-saxifrage (*Chrysosplenium oppositifolium*), Water-cress (*Nasturtium officinale*) and Great Horsetail (*Equisetum telmateia*).

Associated with the springs and the river are stands of wet alluvial forest. These areas are dominated by Ash and Alder (*Alnus* spp.), and are assigned to the group Carici remotae-Fraxinetum. Other species which occur include willows (*Salix* spp.), Downy Birch (*Betula pubescens*) and Hazel.

Islands in the river and open gravelly areas provide further habitat diversity in this site.

A number of scarce or rare plants occur within the site including Blue Fleabane (*Erigeron acer*), Ivy-leaved Bellflower (*Wahlenbergia hederacea*) and Yellow Archangel (*Lamiastrum galeobdolon*).

This site has one of the most diverse woodland invertebrate faunas in Ireland, including some wet woodland organisms which are threatened at an international level. Vertebrates noted in the vicinity, either by tracks, sett or sight, include Red Squirrel, Badger, Rabbit and Deer. The woodland supports large populations of birds, including many common passerines (Robin, Blackbird, Song Thrush, Wren, Chaffinch) and crows, such as Rook, Hooded Crow, Magpie, Jackdaw and Raven. Buzzard have been recorded in the area and Dipper are occasionally seen on the river.

The importance of this site lies in the diversity of woodland habitats which occur. Two habitats listed in Annex I of the E.U. Habitats Directive, both with priority status, occur at this site (petrifying springs and alluvial woodland). The presence of rare or threatened plants and invertebrates adds to the interest. Much of this site has been designated a Statutory Nature Reserve and there is an educational centre within the site.

SITE SYNOPSIS

Site Name: Malahide Estuary SAC

Site Code: 000205

Malahide Estuary is situated immediately north of Malahide and east of Swords in Co. Dublin. It is the estuary of the River Broadmeadow. The site is divided by a railway viaduct which was built in the 1800s.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[1140] Tidal Mudflats and Sandflats
[1310] *Salicornia* Mud
[1330] Atlantic Salt Meadows
[1410] Mediterranean Salt Meadows
[2120] Marram Dunes (White Dunes)
[2130] Fixed Dunes (Grey Dunes)*

The outer part of the estuary is mostly cut off from the sea by a large sand spit, known as 'the island'. The outer estuary drains almost completely at low tide, exposing sand and mud flats. There is a large bed of Eelgrass (Dwarf Eelgrass, *Zostera noltii,* and Narrow-leaved Eelgrass, *Z. angustifolia*) in the north section of the outer estuary, along with Beaked Tasselweed (*Ruppia maritima*) and extensive mats of green algae (*Enteromorpha* spp., *Ulva lactuca*). Common Cord-grass (*Spartina anglica*) is also widespread in this sheltered part of the estuary.

The dune spit has a well developed outer dune ridge dominated by Marram Grass (*Ammophila arenaria*). The dry areas of the stabilised dunes have a dense covering of Burnet Rose (*Rosa pimpinellifolia*), Red Fescue (*Festuca rubra*) and species such as Yellow-wort (*Blackstonia perfoliata*), Autumn Gentian (*Gentianella amarella*), Hound's-tongue (*Cynoglossum officinale*), Carline Thistle (*Carlina vulgaris*) and Pyramidal Orchid (*Anacamptis pyramidalis*). Much of the interior of the spit is taken up by a golf course. The inner stony shore has frequent Sea-holly (*Eryngium maritimum*). Well-developed saltmarshes occur at the tip of the spit. Atlantic salt meadow is the principle type and is characterised by species such as Sea-purslane (*Halimoine portulacoides*), Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*), Sea Arrowgrass (*Triglochin maritima*) and Common Saltmarsh-grass (*Puccinellia maritima*). Elsewhere in the outer estuary, a small area of Mediterranean salt meadow occurs which is characterised by the presence of Sea Rush (*Juncus maritimus*). Below the salt marshes there are good examples of pioneering glasswort (*Salicornia* spp.) swards and other annual species, typified by *S. dolichostachya* and Annual Sea-blite (*Suaeda maritima*).

The inner estuary does not drain at low tide apart from the extreme inner part. Here, patches of saltmarsh and salt meadows occur, with Sea Aster, Sea Plantain (*Plantago maritima*) and Sea Club-rush (*Scirpus maritimus*). Beaked Tasselweed occurs in one of the channels.

The site includes a fine area of rocky shore south-east of Malahide and extending towards Portmarnock. This represents the only continuous section through the fossiliferous Lower Carboniferous rocks in the Dublin Basin, and is the type locality for several species of fossil coral.

The estuary is an important wintering bird site and holds an internationally important population of Brent Goose and nationally important populations of a further 15 species. Average maximum counts during the 1995/96-1997/98 period were: Brent Goose 1217; Great Crested Grebe 52; Mute Swan 106; Shelduck 471; Pochard 200; Goldeneye 333; Red-breasted Merganser 116; Oystercatcher 1228; Golden Plover 2123; Grey Plover 190; Redshank 454; Wigeon 50; Teal 78; Ringed Plover 106; Knot 858; Dunlin 1474; Greenshank 38; Pintail 53; Black-tailed Godwit 345; Bar-tailed Godwit 99. The high numbers of diving birds reflects the lagoon-type nature of the inner estuary.

The estuary also attracts migrant species such as Ruff, Curlew Sandpiper, Spotted Redshank and Little Stint. Breeding birds of the site include Ringed Plover, Shelduck and Mallard. Up to the 1950s there was a major tern colony at the southern end of the island and the habitat remains suitable for these birds.

The inner part of the estuary is heavily used for water sports. A section of the outer estuary has recently been infilled for a marina and housing development.

This site is a fine example of an estuarine system with all the main habitats represented. The site is important ornithologically, with a population of Brent Goose of international significance.

SITE SYNOPSIS

SITE NAME: MALAHIDE ESTUARY SPA

SITE CODE: 004025

Malahide Estuary is situated in north Co. Dublin, between the towns of Malahide and Swords. The site encompasses the estuary, saltmarsh habitats and shallow subtidal areas at the mouth of the estuary. A railway viaduct, built in the 1800s, crosses the site and has led to the inner estuary becoming lagoonal in character and only partly tidal. Much of the outer part of the estuary is well-sheltered from the sea by a large sand spit, known as "The Island". This spit is now mostly converted to golf-course. The outer part empties almost completely at low tide and there are extensive intertidal flats exposed. Substantial stands of eelgrass (both *Zostera noltii* and *Z. angustifolia*) occur in the sheltered part of the outer estuary, along with Tasselweed (*Ruppia maritima*). Green algae, mostly *Ulva* spp., are frequent on the sheltered flats. Common Cord-grass (*Spartina anglica*) is well established in the outer estuary and also in the innermost part of the site. The intertidal flats support a typical macro-invertebrate fauna, with polychaete worms (*Arenicola marina* and *Hediste diversicolor*), bivalves such as *Cerastoderma edule, Macoma balthica* and *Scrobicularia plana*, the small gastropod *Hydrobia ulvae* and the crustacean *Corophium volutator*. Salt marshes, which provide important roosts during high tide, occur in parts of the outer estuary and in the extreme inner part of the inner estuary. These are characterised by such species as Sea Purslane (*Halimione portulacoides*), Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*), Sea Arrowgrass (*Triglochin maritima*) and Common Saltmarsh-grass (*Puccinellia maritima*).

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Great Crested Grebe, Light-bellied Brent Goose, Shelduck, Pintail, Goldeneye, Red-breasted Merganser, Oystercatcher, Golden Plover, Grey Plover, Knot, Dunlin, Black-tailed Godwit, Bar-tailed Godwit and Redshank. 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.

This site is of high importance for wintering waterfowl and supports a particularly good diversity of species. It has internationally important populations of Light-bellied Brent Goose (1,104 individuals or 5% of the all-Ireland total) and Black-tailed Godwit (409 individuals or 2.9% of the all-Ireland total) - figures given here and below are mean peaks for the five winters 1995/96-1999/2000. Furthermore, the site supports nationally important populations of an additional 12 species: Great Crested Grebe (63), Shelduck (439), Pintail (58), Goldeneye (215), Red-breasted Merganser (99), Oystercatcher (1,360), Golden Plover (1,843), Grey Plover (201), Knot (915), Dunlin (1,594), Bar-tailed Godwit (156) and Redshank (581). The high numbers of diving ducks reflects the lagoon-type nature of the inner estuary, and this is one of the few sites in eastern Ireland where substantial numbers of Goldeneye can be found.

A range of other species occurs, including Mute Swan (37), Pochard (36), Ringed Plover (86), Lapwing (1,542), Curlew (548), Greenshank (38) and Turnstone (112).

The estuary also attracts other migrant wader species such as Ruff, Curlew Sandpiper, Spotted Redshank and Little Stint. These occur mainly in autumn, though occasionally in spring and winter.

Breeding birds of the site include Ringed Plover, Shelduck and Mallard. Up to the 1950s there was a major tern colony at the southern end of Malahide Island. Grey Herons breed nearby and feed regularly within the site.

Malahide Estuary SPA is a fine example of an estuarine system, providing both feeding and roosting areas for a range of wintering waterfowl. The lagoonal nature of the inner estuary is of particular value as it increases the diversity of birds which occur. The site is of high conservation importance, with internationally important populations of Light-bellied Brent Goose and Black-tailed Godwit, and nationally important populations of a further 12 species. Two of the species which occur regularly (Golden Plover and Bar-tailed Godwit) are listed on Annex I of the E.U. Birds Directive. Malahide Estuary (also known as Broadmeadow Estuary) is a Ramsar Convention site.

23.8.2013

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.

Saltmarsh extends along the length of the landward side of the island and provides the main roost site for wintering birds in Dublin Bay. 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. Green algal mats (*Ulva* spp.) 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*).

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, 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. The site supports internationally important populations of three species, Light-bellied Brent Goose (1,548), Black-tailed Godwit (367) and Bar-tailed Godwit (1,529) - all figures are mean peaks for the five winters between 1995/96 and 1999/2000. The site is one of the most important in the country for Light-bellied Brent Goose. A further 14 species have populations of national importance – Shelduck (1,259), Teal (953), Pintail (233), Shoveler (141), Oystercatcher (1,784), Grey Plover (517), Golden Plover (2,033), Knot (2,837), Sanderling (141), Dunlin (4,146), Curlew (937), Redshank (1,431), Turnstone (157) and Black-headed Gull (2,196). The populations of Pintail and Knot are of particular note as they comprise 14% and 10% respectively of the all-Ireland population totals. Other species that occur regularly in winter include Grey Heron, Little Egret, Cormorant, Wigeon, Goldeneye, Red-breasted Merganser, Ringed Plover and Greenshank. Gulls are a feature of the site during winter and, along with the nationally important population of Black-headed Gull (2,196), other species that occur include Common Gull (332) and Herring Gull (331). 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 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. North Bull Island is a Ramsar Convention site, and part of the North Bull Island SPA is a Statutory Nature Reserve and a Wildfowl Sanctuary.

25.3.2014

SITE SYNOPSIS

Site Name: North Dublin Bay SAC

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 site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[1140] Tidal Mudflats and Sandflats
[1210] Annual Vegetation of Drift Lines
[1310] *Salicornia* Mud
[1330] Atlantic Salt Meadows
[1410] Mediterranean Salt Meadows
[2110] Embryonic Shifting Dunes
[2120] Marram Dunes (White Dunes)
[2130] Fixed Dunes (Grey Dunes)*
[2190] Humid Dune Slacks
[1395] Petalwort (*Petalophyllum ralfsii*)

North Bull 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 Sand Couch (*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*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Common Restharrow (*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 glutinosa*). The water table is very near the surface and is only slightly brackish. Saltmarsh Rush (*Juncus maritimus*) is the dominant species, with Meadowsweet (*Filipendula ulmaria*) and Devil's-bit Scabious (*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*), 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, the rushes *Juncus maritimus* and *J. gerardi* are dominant. Towards the tip of the island, the saltmarsh grades naturally into fixed dune vegetation.

The habitat 'annual vegetation of drift lines' is found in places, along the length of Dollymount Strand, with species such as Sea Rocket (*Cakile maritima*), Oraches (*Atriplex* spp.) and Prickly Saltwort (*Salsola kali*).

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. Beaked Tasselweed (*Ruppia maritima*) occurs in this area, along with some Narrow-leaved Eelgrass (*Zostera angustifolia*). Dwarf Eelgrass (*Z. noltii*) also occurs in Sutton Creek. Common 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 which are legally protected under the Flora (Protection) Order, 1999 have been recorded on the North Bull Island. These are Lesser Centaury (*Centaurium pulchellum*), Red Hemp-nettle (*Galeopsis angustifolia*) and Meadow Saxifrage (*Saxifraga granulata*). Two further species listed as threatened in the Red Data Book, Wild Clary/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 still present. 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 Goose 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 and 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 (from the Orders Diptera, Hymenoptera and Hemiptera).

The main land uses 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 surrrounding 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 site holds good examples of nine 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.

SITE SYNOPSIS

Site Name: Rockabill to Dalkey Island SAC

Site Code: 003000

This site includes a range of dynamic inshore and coastal waters in the western Irish Sea. These include sandy and muddy seabed, reefs, sandbanks and islands. This site extends southwards, in a strip approximately 7 km wide and 40 km in length, from Rockabill, running adjacent to Howth Head, and crosses Dublin Bay to Frazer Bank in south Co. Dublin. The site encompasses Dalkey, Muglins and Rockabill islands.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[1170] Reefs
[1351] Harbour Porpoise (*Phocoena phocoena*)

Reef habitat is uncommon along the eastern seaboard of Ireland due to prevailing geology and hydrographical conditions. Expansive surveys of the Irish coast have indicated that the greatest resource of this habitat within the Irish Sea is found fringing offshore islands which are concentrated along the Dublin coast. A detailed survey of selected suitable islands has shown areas with typical biodiversity for this habitat both intertidally and subtidally. Species recorded in the intertidal included *Fucus spiralis*, *Fucus serratus*, *Pelvetia canaliculata*, *Ascophyllum nodosum*, *Semibalanus balanoides* and *Necora puber*. Subtidally, a wide range of species include *Laminaria hyperborea*, *Flustra folicacea*, *Alaria esculenta*, *Halidrys siliquosa*, *Pomatocereos triqueter*, *Alcyonium digitatum*, *Metridium senile*, *Caryophyllia smithii*, *Tubularia indivisa*, *Mytilus edulis*, *Gibbula umbilcalis*, *Asterias rubens*, and *Echinus esculentus*. These reefs are subject to strong tidal currents with an abundant supply of suspended matter resulting in good representation of filter feeding fauna such as sponges, anemones and echinoderms.

The area selected for designation represents a key habitat for the Annex II species Harbour Porpoise within the Irish Sea. Population survey data show that porpoise occurrence within the site boundary meets suitable reference values for other designated sites in Ireland. The species occurs year-round within the site and comparatively high group sizes have been recorded. Porpoises with young (i.e. calves) are observed at favourable, typical reference values for the species. Casual and effort-related sighting rates from coastal observation stations are significant for the east coast of Ireland and the latter appear to be relatively stable across all seasons. The selected site contains a wide array of habitats believed to be important for Harbour Porpoise including inshore shallow sand and mudbanks and rocky reefs scoured by strong current flow. The site also supports Common Seal and Grey Seal,

for which terrestrial haul-out sites occur in immediate proximity to the site. Bottle-nosed Dolphins has also occasionally been recorded in the area. A number of other marine mammals have been recorded in this area including Minke, Fin and Killer Whales and Risso's and Common Dolphins.

The coastal environment of Co. Dublin is a very significant resource to birds with some nationally and internationally important populations. Of particular note in this site are the large number of terns (Arctic, Common and Roseate) known to use Dalkey Island as a staging area (approx. 2,000) after breeding. Other seabirds commonly seen include Kittiwake, Razorbill, Guillemot, Puffin, Fulmar, Shag, Cormorant, Manx Shearwater, Gannet and gulls.

This site is of conservation importance for reefs, listed on Annex I, and Harbour Porpoise, listed on Annex II, of the E.U. Habitats Directive.

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 (*Ulva* spp.) 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*), *Nephthys* 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, 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 five year mean peaks for the period 1995/96 to 1999/2000. 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 (368) occurs regularly and newly arrived birds in the autumn feed on the Eelgrass bed at

Merrion. At the time of designation the site supported nationally important numbers of a further nine species: Oystercatcher (1,145), Ringed Plover (161), Grey Plover (45), Knot (548), Sanderling (321), Dunlin (1,923), Bar-tailed Godwit (766), Redshank (260) and Black-headed Gull (3,040). Other species occurring in smaller numbers include Great Crested Grebe (21), Curlew (127) and Turnstone (52). Little Egret, a species which has recently colonised Ireland, also occurs at this site.

South Dublin Bay is a significant site for wintering gulls, with a nationally important population of Black-headed Gull, 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 in 1995 recorded nationally important numbers of Common Tern nesting here (52 pairs). The breeding population of Common Tern at this site has increased, with 216 pairs recorded in 2000. 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.

South Dublin Bay is an important staging/passage site for a number of tern species in the autumn (mostly late July to September). 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. This site is selected for designation for its autumn tern populations: Roseate Tern (2,000 in 1999), Common Tern (5,000 in 1999) and Arctic Tern (20,000 in 1996).

The South Dublin Bay and River Tolka Estuary SPA is of ornithological importance as it supports an internationally important population of Light-bellied Brent Goose and nationally important populations of a further nine wintering species. Furthermore, the site supports a nationally important colony of breeding Common Tern and is an internationally important passage/staging site for three tern species. It is of note that four of the species that regularly occur at this site are listed on Annex I of the E.U. Birds Directive, i.e. Bar-tailed Godwit, Common Tern, Arctic Tern and Roseate Tern. Sandymount Strand/Tolka Estuary is also a Ramsar Convention site.

30.5.2015

SITE SYNOPSIS

Site Name: South Dublin Bay SAC

Site Code: 000210

This site lies south of the River Liffey in Co. Dublin, 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. 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.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[1140] Tidal Mudflats and Sandflats
[1210] Annual vegetation of drift lines
[1310] Salicornia and other annuals colonising mud and sand
[2110] Embryonic shifting dunes

The bed of Dward Eelgrass (*Zostera noltii*) found below Merrion Gates 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/ Booterstown. The formation at Booterstown is very recent. Drift line vegetation occurs in association with the embryonic and incipient fore dunes. Typically drift lines occur in a band approximately 5 m wide, though at Booterstown 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* subsp. *maritima*) and Annual Sea-blite (*Suaeda maritima*). A small area of pioneer saltmarsh now occurs in the lee of an embryonic sand dune just north of Booterstown Station. This early stage of saltmarsh development is here characterised by the presence of pioneer stands of glassworts (*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*), Cockles (*Cerastoderma edule*) and annelids and other 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), Dunlin (2628) and Redshank (356) (average winter peaks 1996/97 and 1997/98). Up to 100 Turnstones are usual in the south bay during winter. Brent Goose regularly occur in numbers of international importance (average peak 299). Bar-tailed Godwit (565), a species listed on Annex I of the E.U. 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, and incipient dune formations. South Dublin Bay is also an internationally important bird site.

SITE SYNOPSIS

Site Name: Wicklow Mountains SAC

Site Code: 002122

Wicklow Mountains SAC is a complex of upland areas in Counties Wicklow and Dublin, flanked by the Blessington reservoir to the west and Vartry reservoir in the east, Cruagh Mountain in the north and Lybagh Mountain in the south. Most of the site is over 300 m, with much ground over 600 m. The highest peak is 925 m at Lugnaquilla. The Wicklow uplands comprise a core of granites flanked by Ordovician schists, mudstones and volcanics. The form of the Wicklow Glens is due to glacial erosion. The topography is typical of a mountain chain, showing the effects of more than one cycle of erosion. The massive granite has weathered characteristically into broad domes. Most of the western part of the site consists of an elevated moorland, covered by peat. The surrounding schists have assumed more diverse outlines, forming prominent peaks and rocky foothills with deep glens. The dominant topographical features are the products of glaciation. High corrie lakes, deep valleys and moraines are common features of this area. The substrate over much of the area is peat, usually less than 2 m deep. Poor mineral soil covers the slopes, and rock outcrops are frequent. The Wicklow Mountains are drained by several major rivers including the Dargle, Liffey, Dodder, Slaney and Avonmore. The river water in the mountain areas is often peaty, especially during floods.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[3110] Oligotrophic Waters containing very few minerals
[3160] Dystrophic Lakes
[4010] Wet Heath
[4030] Dry Heath
[4060] Alpine and Subalpine Heaths
[6130] Calaminarian Grassland
[6230] Species-rich *Nardus* Grassland*
[7130] Blanket Bogs (Active)*
[8110] Siliceous Scree
[8210] Calcareous Rocky Slopes
[8220] Siliceous Rocky Slopes
[91A0] Old Oak Woodlands

[1355] Otter (*Lutra lutra*)

The vegetation over most of Wicklow Mountains SAC is a mosaic of heath, blanket bog and upland grassland (mostly on peaty soil, though some on mineral soil), stands of dense Bracken (*Pteridium aquilinum*), and small woodlands mainly along the rivers. Mountain loughs and corrie lakes are scattered throughout the site.

The two dominant vegetation communities in the area are heath and blanket bog. Heath vegetation, with both wet and dry heath well represented, occurs in association with blanket bog, upland acid grassland and rocky habitats. The wet heath is characterised by species such as Heather (*Calluna vulgaris*), Cross-leaved Heath (*Erica tetralix*), cottongrasses (*Eriophorum* spp.), Tormentil (*Potentilla erecta*), Mat-grass (*Nardus stricta*), bent grasses (*Agrostis* spp.) and bog mosses (*Sphagnum* spp.). In places the wet heath occurs in conjunction with flush communities and streamside vegetation, and here species such as Heath Rush (*Juncus squarrosus*) and sedges (*Carex* spp.) are found. Dry heath at this site is confined to shallow peaty soils on steep slopes where drainage is better and particularly in sheltered conditions. It is characterised by species such as Heather, gorse (*Ulex* spp.), Bell Heather (*Erica cinerea*), Bilberry (*Vaccinium myrtillus*), Purple Moor-grass (*Molinia caerulea*) and lichens (*Cladonia* spp.). In places the heath grades into upland grassland on mineral soil.

Blanket bog is usually dominated by cottongrasses, Heather and bog mosses. On steeper slopes there is some flushing and here Purple Moor-grass, Heath Rush and certain *Sphagnum* species become more common. The Liffey Head blanket bog is among the best of its kind in eastern Ireland, with deep peat formations and an extensive system of dystrophic pools developed among the hummocks and hollows on the bog surface. The vegetation is largely dominated by Heather and Cross-leaved Heath, with cottongrasses (*Eriophorum vaginatum* and *E. angustifolium*), Deergrass (*Scirpus cespitosus*) and Bog Asphodel (*Narthecium ossifragum*). In drier areas, Bilberry and Cowberry (*Vaccinium vitis-idaea*) are common, while the scarce Bog-rosemary (*Andromeda polifolia*) is also found. Blanket bog occurs over extensive areas of deeper peat on the plateau and also on gentle slopes at high altitudes.

Due to the underlying rock strata, the water of the rivers and streams is acid rather than alkaline. The water is generally oligotrophic and free from enrichment. The lakes within the area range from the high altitude lakes of Lough Firrib and Three Lakes, to the lower pater-noster lakes of Glendalough, Lough Tay and Lough Dan. Spectacular corrie lakes, such as Loughs Bray (Upper and Lower), Ouler, Cleevaun, Arts, Kellys and Nahanagan, exhibit fine sequences of moraine stages. The deep lakes are characteristically species-poor, but hold some interesting plants including an unusual form of Quillwort (*Isoetes lacustris* var. *morei*), a stonewort (*Nitella* sp.) and Floating Bur-reed (*Sparganium angustifolium*).

Alpine vegetation occurs on some of the mountain tops, notably in the Lugnaquilla area, and also on exposed cliffs and scree slopes elsewhere in the site. Here alpine heath vegetation is represented with heath species such as Crowberry (*Empetrum nigrum*) and Cowberry, and others such as Dwarf Willow (*Salix herbacea*), the grey-green moss *Racomitrium lanuginosum*, and scarce species such as Mountain Clubmoss

(*Diphasiastrum alpinum*), Firmoss (*Huperzia selago*), and Starry Saxifrage (*Saxifraga stellaris*). Some rare arctic-alpine species have been recorded, including Alpine Lady's-mantle (*Alchemilla alpina*) and Alpine Saw-wort (*Saussurea alpina*).

Old lead mine workings at Glendasan support an estimated 3.6 hectares of Calaminarian Grassland, with a suite of rare metallophyte (metal-loving) bryophytes, including the moss *Ditrichum plumbicola* and the liverworts *Cephaloziella massalongi* and *C. nicholsonii*.

Small areas of old oakwood (Blechno-Quercetum petraeae type) occur on the slopes of Glendalough and Glenmalure, near Lough Tay and Lough Dan, with native Sessile Oak (*Quercus petraea*) trees, many of which are 100-120 years old. On wetter areas, wet broadleaved semi-natural woodlands occur which are dominated by Downy Birch (*Betula pubescens*). Mixed woodland with non-native tree species also occurs.

The site supports a range of rare plant species. Parsley Fern (*Cryptogramma crispa*), Marsh Clubmoss (*Lycopodiella inundata*), Lanceolate Spleenwort (*Asplenium billotii*), Small-white Orchid (*Pseudorchis albida*) and Bog Orchid (*Hammarbya paludosa*) are all legally protected under the Flora (Protection) Order, 2015. Greater Broomrape (*Orobanche rapum-genistae*), Alpine Saw-wort and Alpine Lady's-mantle are listed in the Irish Red Data Book. The rare Myxomycete fungus *Echinostelium colliculosum* has been recorded from the Military Road.

The Red Data Book fish species Arctic Char has been recorded from Lough Dan, but this population may now have died out.

Mammals and birds which occur are typical of the uplands. Deer are abundant, mainly hybrids between Red and Sika Deer. Other mammals include Hare, Badger and Otter, the latter being a species listed on Annex II of the E.U. Habitats Directive. Pine Marten has recently been confirmed as occurring within the site. Among the birds, Meadow Pipit, Skylark, Raven and Red Grouse are resident throughout the site. Wheatear, Whinchat and the scarce Ring Ouzel are summer visitors. Wood Warbler and Redstarts are rare breeding species of the woodlands. Dipper and Grey Wagtail are typical riparian species. Merlin and Peregrine, both Annex I species of the E.U. Birds Directive, breed within the site. Recently, Goosander has become established as a breeding species.

Large areas of the site are owned by the National Parks and Wildlife Service (NPWS) and are managed for nature conservation based on traditional land uses of upland areas. The most common land use is traditional sheep grazing, but others include turf cutting, mostly hand-cutting but some machine-cutting also occurs. These activities are largely confined to the Military Road, where there is easy access. Large areas which had been previously hand-cut and are now abandoned are regenerating. In the last 40 years, forestry has become an important land use in the uplands, and has affected both the wildlife and the hydrology of the area. Amenity use is very

high, with Dublin city close to the site. Peat erosion is frequent on the peaks. This may be a natural process, but is likely to be accelerated by activities such as grazing.

Wicklow Mountains is important as a complex, extensive upland site. It shows great diversity from a geomorphological and a topographical point of view. The vegetation provides examples of the typical upland habitats with heath, blanket bog and upland grassland covering large, relatively undisturbed areas. In all, twelve habitats listed on Annex I of the E.U. Habitats Directive are found within the site. Several rare or protected plant and animal species occur, adding further to its value.

SITE SYNOPSIS

SITE NAME: WICKLOW MOUNTAINS SPA

SITE CODE: 004040

This is an extensive upland site, comprising a substantial part of the Wicklow Mountains. Most of the site is in Co. Wicklow, but a small area lies in Co. Dublin. The underlying geology of the site is mainly of Leinster granites, flanked by Ordovician schists, mudstones and volcanics. The area was subject to glaciation and features fine examples of glacial lakes, deep valleys and moraines. Most of site is over 300 m, with much ground being over 600 m; the highest peak is Lugnaquillia (925 m). The substrate over much of site is peat, with poor mineral soil occurring on the slopes and lower ground. Exposed rock and scree are features of the site. The predominant habitats present are blanket bog, heaths and upland grassland.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Merlin and Peregrine.

A series of surveys of the Wicklow Mountains SPA indicates that up to 9 pairs of Merlin breed within the site in any one year. Traditionally a ground-nesting species, Merlin in the Wicklow Mountains are usually found nesting in old crows nests in conifer plantations. The open peatlands provide excellent foraging habitat for Merlin with small birds such as Meadow Pipit being their main prey. The cliffs and crags within the site also provide ideal breeding locations for Peregrine (20 pairs in 2002). Other birds of the open peatlands and scree slopes that have been recorded within the site include Ring Ouzel and Red Grouse.

The Wicklow Mountains SPA is of high ornithological importance as it supports nationally important populations of Merlin and Peregrine, both species that are listed on Annex I of the E.U. Birds Directive. Part of Wicklow Mountains SPA is a Statutory Nature Reserve.

7.7.2014