APPROPRIATE ASSESSMENT SCREENING REPORT

FOR

STRATEGIC HOUSING DEVELOPMENT

AT

CLAREMONT, HOWTH, CO. DUBLIN

November 2019

ON BEHALF OF

ATLAS GP LIMITED

Prepared by
Enviroguide Consulting

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1 INTRODUCTION

1.1 Background

Enviroguide Consulting were commissioned by Atlas GP Limited to carry out an Appropriate Assessment Screening Report in relation to a proposed Strategic Housing Development at Claremont, Howth, Co. Dublin. The purpose of this report is to provide information for the relevant competent authority to carry out the screening for Appropriate Assessment.

1.2 Relevant Legislation

1.2.1 Legislative 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 relevant 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.

1.2.2 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."

This AA Screening Report was conducted within this legislative framework and the published Department of Environment, Heritage and Local Government 2009 guidelines - "Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DEHLG. 2009, Revised February 2010)". The directives are transposed into Irish legislation by the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended).

As outlined in these, it is the responsibility of the proponent of the project to provide a comprehensive and objective Screening for NIS, which can then be used by the competent authority in order to conduct Stage 2 Appropriate Assessment (DEHLG, 2009).

1.2.3 Stages of AA

This Appropriate Assessment Screening Report (the "**Screening Report**") has been prepared by Enviroguide Consulting which considers whether 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.

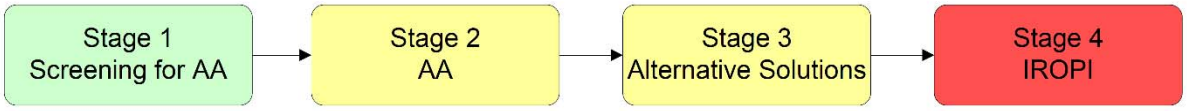

FIGURE 1. THE FOUR STAGES OF THE APPROPRIATE ASSESSMENT PROCESS (DEHLG, 2010).

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 the project or plan.
- Stage 2: *Natura Impact Statement (NIS)*. The second stage of the AA process assesses the impact of the project or plan (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 project or plan 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, the 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.

The Competent Authority must determine that an NIS is required where the project is not directly connected with or necessary to the management of the site as a European Site and if it cannot be excluded, on the basis of objective scientific information following screening under this Regulation, that the plan or project, individually or in combination with other plans or projects, will have a significant effect on a European site.

2 METHODOLOGY

2.1 Screening Steps

This AA Screening Report 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, 2018). Screening for AA involves the following:

- Establish whether the plan is directly connected with or necessary for the management of a Natura 2000 site;
- Description of the plan or project and the description and characterisation of other projects or plans that in combination have the potential for having significant effects on the Natura 2000 site;
- Identification of Natura 2000 sites potentially affected;
- Identification and description of potential effects on the Natura 2000 site;
- Assessment of the likely significance of the impacts identified on the Natura 2000 site; and
- Exclusion of sites where it can be objectively concluded that there will be no significant effects.

This AA Screening Report examines whether likely effects upon a Natura 2000 site will be significant and determines whether the AA process for the proposed development at Claremont, Howth, Co. Dublin alone and in combination with other developments in the area requires to proceed to a Stage 2 Appropriate Assessment.

2.2 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 between January and July 2019, relied on the following sources:

- Information on the network of Natura 2000 sites, relevant 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 development, or developments awaiting decision, in the vicinity of the proposed development from Fingal County Council, available at *www.fingalcoco.maps.arcgis.com*.
- Information on the extent, nature and location of the proposed development, provided by the applicant and their design team;
- Information on the construction methods to be followed as part of the proposed development obtained from the Construction Management Plan (BMCE, 2019a);
- Information on the construction methods to be followed as part of the proposed development obtained from the Construction Environmental Management Plan (Enviroguide, 2019);
- Information on the location of the culverted section of the Bloody Stream within the proposed development site obtained from the relevant drawings; and
- Information on the potential for flood events at the proposed development site, informed by the Flood Risk Assessment (BMCE, 2019b).

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 5, References.

The following planning and policy documents were reviewed as part of the cumulative impact assessment contained in this report:

- Fingal Development Plan 2017 – 2013;
- Fingal Heritage Plan 2018 – 2023;
- Fingal Biodiversity Action Plan 2018 -2023;

- Dublin City Development Plan 2016 - 2022;
- Dublin City Biodiversity Action Plan 2015 - 2020;
- Dún Laoghaire-Rathdown County Council County Development Plan 2016 - 2022; and
- South Dublin County Council Development Plan 2016 - 2022.

2.3 Field Surveys

A comprehensive suite of ecological surveys have been carried in relation to the proposed development site between October 2018 and June 2019. This suite of surveys included:

- 2no. habitat & invasive species surveys;
- 2no. bat surveys (including roost inspection and activity);
- 2no. breeding bird surveys;
- 16no. wintering bird surveys (encompassing Claremont Strand & Deer Park); and
- 15no. flight-line surveys;

3 STAGE 1 SCREENING

3.1 Management of Natura 2000 Sites

The Construction and Operation of the proposed Strategic Housing Development at Claremont, Howth, Co. Dublin (the Proposed Development) is not directly connected with or necessary to the management of Natura 2000 sites in Co. Dublin or elsewhere.

3.2 Description of Project

3.2.1 Description of Development

The proposed development will occur at a site bounded to the south by the Howth Road, to the east by a private dwelling, to the north by the DART line, and to the west by Local Authority lands. The site incorporates the former Techrete manufacturing facility, the former Beshoff's Motors showroom, and the former Howth Garden Centre.

The proposed development will include the demolition of all structures on site (c.8,162sqm GFA) and excavation of a basement. The proposed development comprises of the provision of a mixed use development of residential, retail/restaurant/cafe uses and a crèche in 4 no. blocks (A to D), over part basement. Blocks A, B, C and D with a height up to a maximum of seven storeys of apartments over lower ground floor and basement car parking levels (a total of eight storeys over basement level). The residential component will consist of 512 no. residential units. The proposed development includes the provision of two vehicular entrances on to Howth Road, excavation of basement to provide for car parking, plant, waste storage and ancillary use. Additional car parking spaces shall be provided at lower ground floor level. A total of 439 no. car parking spaces and 1,335 no. bicycle parking spaces, including 49 no. bicycle spaces to cater for the retail units and crèche shall be provided. One vehicular access is located at Block A, serving car parking spaces. The second is at Block C, providing access to the basement, residential and retail parking, and a service area for the retail units. A service route will be provided along part of the northern perimeter of the site with access from the western end of the site at a junction with Howth Road and at the main vehicular entrance at Block C;

A publicly accessible walkway/cycleway to the north of the site shall be provided at podium level. A civic plaza will be provided between Blocks D and C, and a landscaped park to the west of Block A. A channel to the sea for the Bloody Stream with associated riparian strip shall be incorporated as a feature within a designed open space between Blocks A and B. Communal gardens will be provided for Blocks A, B and C;

The residential component consists of 512 no. residential units, which includes 4 no. studio, 222 no. one bed, 276 no. two bed, 10 no. three bed apartments, and communal facilities of 708 sqm. Ground floor units onto the Howth Road will have own door access. The units will be served by balconies or terraces on all elevations;

Block A, with a maximum height of seven storeys of apartments over lower ground level car park (a total of eight storeys), will provide for 234 residential units, with residents' amenities to include a gym, residents' lounge, residents' support office, and 2 no. residents' multi-purpose rooms. Block B, with a maximum height of seven storeys of apartments over lower ground floor and basement car park (a total of eight storeys over basement), shall provide for 154 no.

units, residents' lounge, residents' multi-purpose room, and crèche of 236 sqm with outdoor play area. Own door access will be provided at ground floor. Block C, with a maximum height of seven storeys over basement car parking (a total of seven storeys) will provide for 83 no. residential units in two wings over a retail unit and Block D, with a maximum of 6 storeys over basement, shall provide for 41 no. residential units over retail units;

The commercial component in Blocks C and D consists of 4 no. units with 2,637 sqm gross floor area. In Block C, it consists of a 1,705 sqm anchor unit, accessed from the civic plaza. In Block D, it consists of a restaurant (243 sqm) and retail unit (603 sqm) and café (86 sqm). The restaurant and retail units are accessed from Howth Road, and the café is accessed from the upper level of the civic plaza.

The proposed development includes the provision of public and communal open space, green roofs, landscaping, boundary treatments, set down locations, substations, meter rooms, waste management and all ancillary site works, including upgrading of the public paths along Howth Road and relocation of bus stop in new setback with a bus shelter. Two set down areas are provided at either end of the site;

The gross floor area of the proposed development is 48,252 sqm (excluding enclosed car parking) on a site of 2.68 ha.

3.2.2 Existing Environment

The Site of the Proposed Development is located along the north side of the Howth Road (R105) and is situated *c*.60m west of Howth DART Station. The Site covers a total area of *c*.2.68ha and encompasses the former *Howth Garden Centre*, *Beshoff Motors* and *Techcrete* premises. The Site borders the Howth Road to the south and the DART railway line to the north. Claremont beach is located *c.*30m to the north of the site and Howth Castle is situated *c.*260m to the south of the site.

The subject Site is located within the townland of Howth Demense in Co. Dublin. Howth Demense 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 Pure Unbedded Limestones* and the sub-soil at the site is classified as *man-made*. The site area is located on a *locally important* aquifer with groundwater vulnerability in the area listed as *Extreme*. Onsite boreholes logs (Golders (2019) *Interpretative Ground Investigation Report* describes the bedrock as fractured (become less fractured with depth) limestone with a honeycomb weathered structure in its upper layer becomes dolomitise (recalcified and veins) with depth.

The Site of the Proposed Development site is located within the Mayne River sub-catchment (*Mayne_SC_010*) and the *Howth_010* sub-basin. The Bloody Stream, or "Howth Stream" (*IE_EA_09H230880*) is mapped by the EPA as flowing through the western section of the site, from south to north. This watercourse is mapped as rising within the grounds of the Deer Park Hotel. It then flows northerly for *c*.1.2km to where it enters the proposed development site. The culverted watercourse passes underground through the Site for *c*.160m, where it then passes under the railway line and discharges into the Irish sea approximately 20m north of the site boundary via the Bob Davis culvert. The EPA does not have any operational monitoring stations on the Bloody Stream for biological water quality.

The Bloody Stream water quality was sampled as part of this assessment. The surface water laboratory results were screened against the European Communities Environmental Objectives (Surface Waters) 2009 and S.I. No. 327/2012, S.I. No. 386/2015 and S.I. No. 77/2019 amendments, and European Communities (Quality of Shellfish Waters) 2006 at four locations, the full details can be found in Golders (2019) *Interpretative Ground Investigation Report.* Screening of surface water analysis results highlighted a number of screening level exceedances. The majority of determinant analysed did not report exceedances above Tier 1[1] screening values, the exceedances that were observed can be summarised as follows:

- Total Polycyclic aromatic hydrocarbons (PAHs), there was 1 exceedance from 11 samples analysed;
- Ammoniacal Nitrogen (as N), there was 6 exceedances from 13 samples analysed.

The Site of the Proposed Development site was previously used by Techrete to produce precast concrete elements for the construction industry, and to the eastern section Howth Garden Centre and Beshoff Motors (car sales). On-site investigations details there is no attenuation for storm flows or facilities to manage water quality before being discharged to the north of the proposed development site into Baldoyle Bay.

The Site of the Proposed Development site is approximately 90% hardstanding where all surface water is currently discharged into the Bloody Stream. This includes surface water from Howth Road. During site surveys, it was noted that the outfall of the Bloody Stream (Bob Davis Culvert) is maintained by a JCB digger accessing Claremont Strand, presumable to prevent sand infilling the culvert during the tidal cycle.

As mentioned above, the Site is primarily composed of hardstanding areas and disused industrial buildings. The following habitats (Fossitt, 2000) were identified within the proposed development site during the habitat survey: (full details of the habitat survey is contained in Chapter 8 of the EIAR)

- Buildings and artificial surfaces (ED3);
- Dry meadows and grassy verges (GS2) [unmanaged];
- Scrub (WS1);
- Hedgerows WL1);
- Treelines (WL2); and
- Earth Banks (BL2).

A number of non-native species was recorded within the above habitats, some of which are considered to be invasive, namely: butterfly bush (*Buddleja davidii*), fuchsia (*Fuchsia magellanica*), montbretia (*Crocosmia x crocosmiiflora*) and hedge bindweed (*Calystegia sepium*).

The soil and unlaying bedrock of the Site of the Proposed Development site was intrusively investigated by ground investigation by taking soil samples for laboratory analysis from boreholes and trial pits (see Golders (2019) *Interpretative Ground Investigation Report* for full details). The results showed that the majority of determinants analysed did not report exceedances above Tier 1[2] screening values, however there were some exceedances recorded, and

[1] Low Level contamination

[2] Moderate contamination levels

hot spots of contaminated soils. For example, exceedances were reported for the following parameters:

- Metals
    - Arsenic, 17 of the 132 samples analysed
    - Barium, 2 of the 132 samples analysed
    - Lead, 53 of the 132 samples analysed
    - Nickle, 17 of the 132 samples analysed
- PAHs
    - Napthalene, 2 of the 99 samples analysed
    - Benzo(a)anthracene, 2 of the 99 samples analysed
    - Benzo(a)pyrene, 16 of the 99 samples analysed
    - Dibenzo(ah)anthracene, 22 of the 99 samples analysed
    - Benzo(b)fluranthene, 16 of the 99 samples analysed
- Tetrahydropyran (THPs)
    - Aliphatic C10 to C12, between 335.8mg/kg and 1,324.8mg/kg from all 120 samples analysed
- Polychlorinated Bipheny (PCBs)
    - Total PCB, 1 of the 120 samples analysed
- Asbestos
    - Asbestos fibre bundles, 24 of the 119 samples analysed.

Data from NPWS (2012c), Conservation objectives Support Document, Version 1 *Baldoyle Bay Special Protection Area* provides subsite roosting data from 2011, showing Claremont Strand (OUL 38 Howth Harbour in document) as a roosting location. The species that were recorded Roost in OUL 38 during the 25th November 2011 were:

- Black-Headed Gull;
- Common Gull;
- Herring Gull;
- Oystercatcher; and
- Ringed Plover.

The total number of species roosting was recorded between 50-99 individuals, recorded at the tidal defence mound north of Claremont beach.

Data from NPWS (2012d), Conservation objectives Support Document – Marine Habitats Version 1 *Baldoyle Bay SAC* provides data of the habitat found along Claremont Strand, detailing that along Claremont stand and west wards is *Fine sand dominated by Angulus tenuis community complex*. This community can be defined as largely that of fine sand which ranges from 63.9% to 93%; medium sand ranges from 0.4% to 30.1%. Negligible amounts of silt-clay and gravel are recorded within this complex. This community complex is distinguished by the bivalve *Angulus tenuis* which occurs in high to moderate abundances here. The *bivalve Angulus fabula* and the polychaetes *Nephtys cirrosa, Scoloplos armiger, Sigalion mathildae, Lanice conchilega* are also recorded within this complex. The amphipod *Bathyporeia pelagica* and the bivalve *Donax vittatus* occur in high abundance at Claremont Beach.

Legend

Site Boundary

Project

Appropriate Assessment Screening Report for Residential Development, Howth Road, Howth, Co. Dublin

Client

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Figure 2: Site Location

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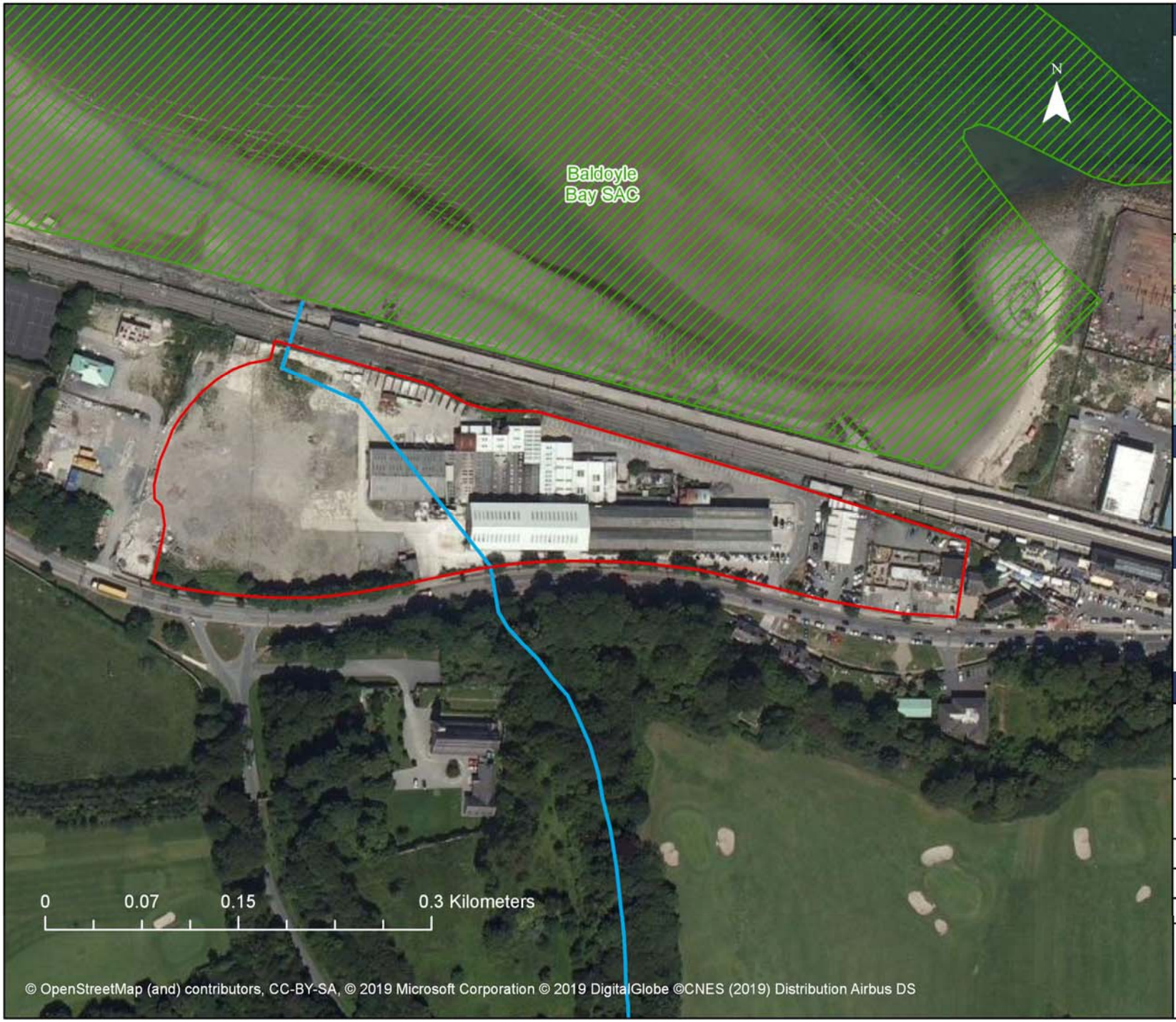
Drawn by: DW	**Projection:** WGS 1984 Web Mercator Auxiliary Sphere
Checked : JD	
Date: 30/10/2018	**Scale:** 1:43,000 @A4

Notes:

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



Legend

- Site Boundary
- Bloody Stream
- Special Area of Conservation

Project

Appropriate Assessment Screening Report for Strategic Housing Development, Howth, Co. Dublin

Client

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Title

Figure 3: Site Layout

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Drawn by: DW	**Projection:** WGS 1984 Web Mercator Auxiliary Sphere
Checked : JD	
Date: 09/07/2019	**Scale:** 1:4,000 @A4

Notes:

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

3.3 Identification of Relevant Natura 2000 Sites

In order to identify potentially affected Natura 2000 sites, as a starting point, and adopting the precautionary principle, all SPAs and SACs within a 15km distance radius of the proposed development were included in the zone of influence (ZOI). Natura 2000 sites outside of this 15km radius are either; (a) located a considerable physical distance inland; (b) separated by a substantial marine buffer and/or located within different surface water catchment zones to the proposed development; and (c) are such a distance that the proposed development site is considered to be outside the natural range of any qualifying species.

Nine SACs and nine SPAs are located within the precautionary ZOI of the proposed development site. The name of each site, corresponding code and qualifying interests are detailed in Table 1 below. The distances to each site listed below are taken from the nearest possible point of the proposed development site boundary to nearest possible point of each Natura 2000 site.

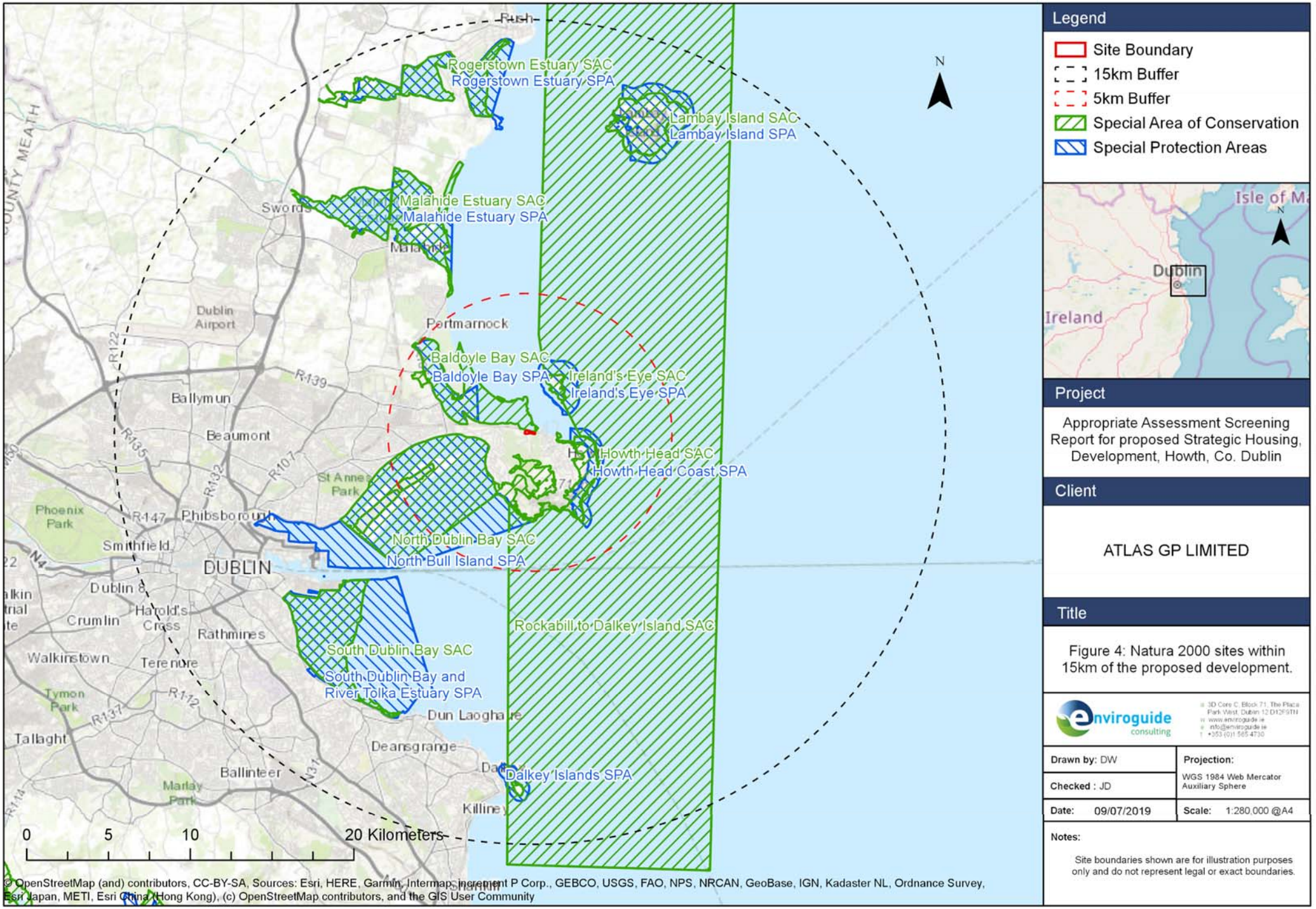
TABLE 1. NATURA 2000 SITES WITHIN THE PRECAUTIONARY ZONE OF INFLUENCE OF THE PROPOSED DEVELOPMENT SITE.

Site Code	Site Name	Qualifying Interests	Distance to Site
Special Areas of Conservation (SAC)			
000199	Baldoyle Bay SAC	- [1140] Mudflats and sandflats not covered by seawater at low tide - [1310] Salicornia Mud - [1330] Atlantic Salt Meadows - [1410] Mediterranean Salt Meadows	0.02km
000202	Howth Head SAC	- [1230] Vegetated Sea Cliffs - [4030] Dry Heath	0.79km
000206	North Dublin Bay SAC	- [1140] Mudflats and sandflats not covered by seawater at low tide - [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)	1.38km
003000	Rockabill to Dalkey Island SAC	- [1170] Reefs - [1351] Harbour Porpoise (*Phocoena phocoena*)	1.42km
002193	Ireland's Eye SAC	- [1220] Perennial Vegetation of Stony Banks - [1230] Vegetated Sea Cliffs	1.47km
000205	Malahide Estuary SAC	- [1140] Mudflats and sandflats not covered by seawater at low tide	5.65km

		- [1310] Salicornia Mud - [1330] Atlantic Salt Meadows - [1410] Mediterranean Salt Meadows - [2120] Marram Dunes (White Dunes) - [2130] Fixed Dunes (Grey Dunes)*	
000210	South Dublin Bay SAC	- [1140] Mudflats and sandflats not covered by sea-water at low tide	7.80km
000204	Lambay Island SAC	- [1170] Reefs - [1230] Vegetated Sea Cliffs - [1364] Grey Seal (*Halichoerus grypus*) - [1365] Common (Harbour) Seal (*Phoca vitulina*)	10.79km
000208	Rogerstown Estuary SAC	- [1130] Estuaries - [1140] Mudflats and sandflats not covered by sea-water at low tide - [1310] Salicornia Mud - [1330] Atlantic Salt Meadows - [1410] Mediterranean Salt Meadows - [2120] Marram Dunes (White Dunes) - [2130] Fixed Dunes (Grey Dunes)*	11.54km
Special Protection Areas (SPA)			
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]	1.20km
004113	Howth Head Coast SPA	- [A188] Kittiwake (Rissa tridactyla) [breeding]	1.29km
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	1.40km

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	1.75km
004025	Malahide 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] - [A156] Black-tailed Godwit (*Limosa limosa*) [wintering] - [A157] Bar-tailed Godwit (*Limosa lapponica*) [wintering] - [A162] Redshank (*Tringa totanus*) [wintering] - [A999] Wetland and Waterbirds	6.24km
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] - [A194] Arctic Tern (*Sterna paradisaea*) [breeding [passage] - [A999] Wetland and Waterbirds	6.70km
004069	Lambay Island SPA	- [A009] Fulmar (*Fulmarus glacialis*) [breeding] - [A017] Cormorant (*Phalacrocorax carbo*) [breeding]	10.55km

		- [A018] Shag (*Phalacrocorax aristotelis*) [breeding] - [A043] Greylag Goose (*Anser anser*) [wintering] - [A183] Lesser Black-backed Gull (*Larus fuscus*) [breeding] - [A184] Herring Gull (*Larus argentatus*) [breeding] [wintering] - [A188] Kittiwake (*Rissa tridactyla*) [breeding] - [A199] Guillemot (*Uria aalge*) [breeding] - [A200] Razorbill (*Alca torda*) [breeding] - [A204] Puffin (*Fratercula arctica*) [breeding]	
004015	Rogerstown Estuary SPA	- [A043] Greylag Goose (*Anser anser*) [wintering] - [A046] Light-bellied Brent Goose (*Branta bernicla hrota*) [wintering] - [A048] Shelduck (*Tadorna tadorna*) [wintering] [breeding] - [A056] Shoveler (*Anas clypeata*) [wintering] - [A130] Oystercatcher (*Haematopus ostralegus*) [wintering] - [A137] Ringed Plover (*Charadrius hiaticula*) [wintering] - [A141] Grey Plover (*Pluvialis squatarola*) [wintering] - [A143] Knot (*Calidris canutus*) [wintering] - [A149] Dunlin (*Calidris alpina*) [wintering] - [A156] Black-tailed Godwit (*Limosa limosa*) [wintering] [passage] - [A162] Redshank (*Tringa totanus*) [wintering] - [A999] Wetland and Waterbirds	11.02km
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]	12.12km



3.4 Identification and Assessment of Potential Impacts

Information available on the Natura 2000 sites within the identified precautionary zone of influence was reviewed and assessed in order to establish whether the construction and operation of the proposed development has the potential to have an impact on any of the qualifying interest and/or conservation objectives of identified Natura 2000 sites.

The identification of likely 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: 2 years)
  - Surface water run-off containing silt, sediments and/or other pollutants into the Bloody Stream;
  - Release of contamination from on-site soil and sediment during construction works;
  - Release of silt, sediments and/or other pollutants during in-stream works on the Bloody Stream;
  - 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;
  - Increased human presence in the vicinity as a result of construction activity;
  - Habitat loss within the site as a result of the construction of the proposed development;
  - Potential for the spread of invasive species during construction activity; and
  - Demolition of existing site structures.

- **Operational Phase** (estimated duration: indefinite)
  - Surface water run-off containing silt, sediments and/or other pollutants into the Bloody Stream;
  - Surface water drainage from Site of the Proposed Development;
  - Alterations to flow rate of Bloody Stream at the Bob Davis culvert outflow point as a result of in-stream works;
  - Flooding events at the Site of the Proposed Development;
  - Increased noise during the Operational Phase;
  - Dust and air emissions from increased traffic volumes;
  - Increased lighting in the vicinity emitted from the proposed development;
  - Increased human presence in the vicinity as a result of the proposed residential development;
  - Overshowing of Baldoyle Bay SAC from the final development; and
  - Increased wastewater being sent to Ringsend Wastewater Treatment Plant during the Operational Phase of the Proposed Development.

The features of the Proposed Development that have the potential to directly or indirectly impact on the qualifying interests and/or conservation objectives of the 9 SACs and 9 SPAs that are located within the precautionary zone of influence of the proposed development are detailed in Table 2 below. This assessment framework is taken from the best practice guidelines issued by the European Commission, "*Assessment of plans and projects significantly affecting Natura 2000 sites – Methodological guidance*" (EC, 2001).

TABLE 2. 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)		
Baldoyle Bay SAC [000199]	**Potential for likely significant effects on SAC due to:** **Possible discharge/run-off of waters containing sediment, silt, oils and/or other pollutants during the Construction/Operational Phases of the Proposed Development into SAC.** - The Bloody Stream, or "Howth Stream" (IE_EA_09H230880) is mapped by the EPA as flowing through the western section of the site, from south to north. The culverted watercourse passes underground through the proposed development site for *c.*160m, where it then passes under the rail-way line and discharges into this SAC approximately 20m north of the site boundary via the Bob Davis Culvert. There is a potential for sediment / pollutants to enter this watercourse during works involved with the Construction Phase of the Proposed Development, during both general constructions works and direct in-stream works on the riparian strip, and subsequently enter the SAC. **Possible discharge/run-off of groundwaters containing sediment, silt, oils and/or other pollutants during the Construction Phase of the Proposed Development into SAC.** - The groundwater at the site is linked to tidal variation and present a potential pathway to the SAC. There is a potential for sediment / pollutants to enter the groundwater during construction works during the Construction Phase of the Proposed Development. **Possibility for the facilitation of the spread of invasive species into areas within the SAC.** - A number of non-native floral species were recorded within the proposed development site during ecological surveys, some of which are considered to be invasive, namely: butterfly bush (*Buddleja davidii*), fuchsia (*Fuchsia magellanica*), montbretia (*Crocosmia x crocosmiiflora*) and hedge bindweed (*Calystegia sepium*). There is a potential for plant material to be inadvertently carried from the proposed development site to the SAC during the construction phase of the proposed development, which could facilitate the spread of invasive species within the SAC. It is therefore concluded that, in the absence of mitigation measures or further analysis, the possibility of significant effects on some or all of the qualifying interests of Baldoyle Bay SAC cannot be excluded in view of the relevant conservation objectives.	**Yes**

Howth Head SAC [000202]	**Potential for likely significant effects on SAC due to:** **Possible increased footfall and visitor numbers within SAC, and the potential resulting habitat loss/alteration/erosion, as a result of the increase in local population numbers because of the Proposed Development.** - Howth Head SAC is located c.0.79km to the east of the Site of the Proposed Development. The SAC contains a number of popular walking trails, namely the Cliff Path Loop. Erosion caused as a result of walking and horse-riding activities is highlighted in the Site Synopsis for this SAC (NPWS, 2013). The Proposed Development will result in an increase of a potential *c*.1,075 inhabitants in the local area. This increase in population has the potential to increase recreational users within the SAC and, should this increase be significant, could result in further erosion of habitats listed as qualifying interests for this SAC; *vegetated sea cliffs* and *dry heath*. It is therefore concluded that, in the absence of mitigation measures or further analysis, the possibility of significant effects on some or all of the qualifying interests of Howth Head SAC cannot be excluded in view of the relevant conservation objectives.	**Yes**
North Dublin Bay SAC [000206]	**No possibility of likely significant effects on SAC due to:** **The intervening distance of *c*.1.4km between the Proposed Development and the SAC.** - This intervening distance is considered sufficient in order to exclude the possibility of significant effects on the SAC arising from: emissions of noise, dust, pollutants and/or vibrations emitted from the site during the construction phase; increased traffic volumes during the construction and operational phases and associated emissions; potential increased lighting emitted from the site during construction and operational phases; and increased human presence at the site during construction and operational phases. **The considerable marine buffer / dilution factor that exists between the outflow of the Bloody Stream and the SAC.** - This marine buffer is considered sufficient in order to exclude the possibility of significant effects on the SAC arising from: potential surface water discharges containing sediment, silts and/or pollutants into the Bloody Stream during the Construction and/or Operational Phases of the Proposed Development; potential flooding events at the Site of the Proposed Development; and potential alterations to flow rate of the Bloody Stream at the outflow point. There is a large marine water buffer that exists between the outflow of the Bloody Stream and the SAC over which any sediment and/or pollutants released during the Construction and/or Operational Phases would be diluted to non-discernible levels. - Estuaries act as a filter for riverine contaminants entering marine waters from terrestrial systems (Teuchies et al. 2013), reducing for example the input of trace metals suspended in river water, into the marine environment. Salt marshes in particular preform very well per habitat surface area with one marsh making up 8% of an estuary's surface area (the Schelde estuary- Belgium & the Netherlands), yet removing approx. 30% of the riverine metal content (Teuchies et al. 2013).	No

	The insignificant increase in the loading at Ringsend Wastewater Treatment Plant as a result of the Proposed Development. - The increase of a maximum load of 1,075 Population Equivalent (PE) at the facility as a result of the proposed development, assuming each PE unit was not previously supported by the WwTP, is considered to be an insignificant increase in terms of the overall scale of the facility. This potential maximum increased load of 1,075 PE does not have the capacity to alter the effluent released from the WwTP to such an extent as to result in likely significant effects on this SAC. In addition, upgrade works are currently on-going at Ringsend WwTP to increase the capacity of the facility from 1.6 million PE to 2.4 million PE. This will result in an overall reduction in the final effluent discharge of a number of parameters from the facility including BOD, suspended soils, ammonia, DIN and MRP (Irish Water, 2018).	
Rockabill to Dalkey Island SAC [003000]	**No possibility of likely significant effects on SAC due to:** **The intervening minimum distance of *c.*1.4km between the Proposed Development and the SAC.** - This intervening distance is considered sufficient in order to exclude the possibility of significant effects on the SAC arising from: emissions of noise, dust, pollutants and/or vibrations emitted from the site during the construction phase; increased traffic volumes during the construction and operational phases and associated emissions; potential increased lighting emitted from the site during construction and operational phases; and increased human presence at the site during construction and operational phases. **The considerable marine buffer / dilution factor that exists between the outflow of the Bloody Stream and the SAC.** - This marine buffer is considered sufficient in order to exclude the possibility of significant effects on the SAC arising from: potential surface water discharges containing sediment, silts and/or pollutants into the Bloody Stream during the construction and/or operational phases of the proposed development; potential flooding events at the proposed development site; and potential alterations to flow rate of the Bloody Stream at the outflow point. There is a large marine water buffer that exists between the outflow of the Bloody Stream and the SAC over which any sediment and/or pollutants released during the construction and/or operational phases would be diluted to non-discernible levels. - Estuaries act as a filter for riverine contaminants entering marine waters from terrestrial systems (Teuchies et al. 2013), reducing for example the input of trace metals suspended in river water, into the marine environment. Salt marshes in particular preform very well per habitat surface area with one marsh making up 8% of an estuary's surface area (the Schelde estuary- Belgium & the Netherlands), yet removing approx. 30% of the riverine metal content (Teuchies et al. 2013). **The insignificant increase in the loading at Ringsend Wastewater Treatment Plant as a result of the Proposed Development.** - The increase of a maximum load of 1,075 Population Equivalent (PE) at the facility as a result of the Proposed Development, assuming each PE unit was not previously supported by the WwTP, is considered to be an insignificant increase	No

	in terms of the overall scale of the facility. This potential maximum increased load of 1,075 PE does not have the capacity to alter the effluent released from the WwTP to such an extent as to result in likely significant effects on this SAC. In addition, upgrade works are currently on-going at Ringsend WwTP to increase the capacity of the facility from 1.6 million PE to 2.4 million PE. This will result in an overall reduction in the final effluent discharge of a number of parameters from the facility including BOD, suspended soils, ammonia, DIN and MRP (Irish Water, 2018).	
Ireland's Eye SAC [002193]	**No possibility of likely significant effects on SAC due to:** **The intervening minimum distance of *c.*1.5km between the Proposed Development and the SAC.** - This intervening distance is considered sufficient in order to exclude the possibility of significant effects on the SAC arising from: emissions of noise, dust, pollutants and/or vibrations emitted from the site during the construction phase; increased traffic volumes during the construction and operational phases and associated emissions; potential increased lighting emitted from the site during construction and operational phases; and increased human presence at the site during construction and operational phases. **The lack of any identified hydrological connections between the proposed development and the SAC.** - The proposed development is located within a different surface water catchment zone to the SAC and there is no path-way for any potential surface water discharges containing sediment, silts and/or pollutants during the Construction and/or Operational Phases of the Proposed Development.	No
Malahide Estuary SAC [000205]	**No possibility of likely significant effects on SAC due to:** **The intervening minimum distance of *c.*5.7km between the Proposed Development and the SAC.** - This intervening distance is considered sufficient in order to exclude the possibility of significant effects on the SAC arising from: emissions of noise, dust, pollutants and/or vibrations emitted from the site during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; potential increased lighting emitted from the site during Construction and Operational Phases; and increased human presence at the site during Construction and Operational phases. **The considerable marine buffer / dilution factor that exists between the outflow of the Bloody Stream and the SAC.** - This marine buffer is considered sufficient in order to exclude the possibility of significant effects on the SAC arising from: potential surface water discharges containing sediment, silts and/or pollutants into the Bloody Stream during the	No

	Construction and/or Operational Phases of the Proposed Development; potential flooding events at the Site of the Proposed Development site; and potential alterations to flow rate of the Bloody Stream at the outflow point. There is a large marine water buffer that exists between the outflow of the Bloody Stream and the SAC over which any sediment and/or pollutants released during the Construction and/or Operational Phases would be diluted to non-discernible levels. - Estuaries act as a filter for riverine contaminants entering marine waters from terrestrial systems (Teuchies et al. 2013), reducing for example the input of trace metals suspended in river water, into the marine environment. Salt marshes in particular preform very well per habitat surface area with one marsh making up 8% of an estuary's surface area (the Schelde estuary- Belgium & the Netherlands), yet removing approx. 30% of the riverine metal content (Teuchies et al. 2013). **The insignificant increase in the loading at Ringsend Wastewater Treatment Plant as a result of the Proposed Development.** - The increase of a maximum load of 1,075 Population Equivalent (PE) at the facility as a result of the Proposed Development, assuming each PE unit was not previously supported by the WwTP, is considered to be an insignificant increase in terms of the overall scale of the facility. This potential maximum increased load of 1,075 PE does not have the capacity to alter the effluent released from the WwTP to such an extent as to result in likely significant effects on this SAC. In addition, upgrade works are currently on-going at Ringsend WwTP to increase the capacity of the facility from 1.6 million PE to 2.4 million PE. This will result in an overall reduction in the final effluent discharge of a number of parameters from the facility including BOD, suspended soils, ammonia, DIN and MRP (Irish Water, 2018).	
South Dublin Bay SAC [000210]	**No possibility of likely significant effects on SAC due to:** **The intervening minimum distance of *c.*7.8km between the Proposed Development and the SAC.** - This intervening distance is considered sufficient in order to exclude the possibility of significant effects on the SAC arising from: emissions of noise, dust, pollutants and/or vibrations emitted from the site during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; potential increased lighting emitted from the site during Construction and Operational Phases; and increased human presence at the site during Construction and Operational phases. **The considerable marine buffer / dilution factor that exists between the outflow of the Bloody Stream and the SAC.** - This marine buffer is considered sufficient in order to exclude the possibility of significant effects on the SAC arising from: potential surface water discharges containing sediment, silts and/or pollutants into the Bloody Stream during the Construction and/or Operational phases of the Proposed Development; potential flooding events at the Site of the Proposed Development site; and potential alterations to flow rate of the Bloody Stream at the outflow point. There is a large marine water buffer that exists between the outflow of the Bloody Stream and the SAC over which any sediment and/or pollutants released during the Construction and/or Operational Phases would be diluted to non-discernible levels.	No

	- Estuaries act as a filter for riverine contaminants entering marine waters from terrestrial systems (Teuchies et al. 2013), reducing for example the input of trace metals suspended in river water, into the marine environment. Salt marshes in particular perform very well per habitat surface area with one marsh making up 8% of an estuary's surface area (the Schelde estuary- Belgium & the Netherlands), yet removing approx. 30% of the riverine metal content (Teuchies et al. 2013). **The insignificant increase in the loading at Ringsend Wastewater Treatment Plant as a result of the Proposed Development.** - The increase of a maximum load of 1,075 Population Equivalent (PE) at the facility as a result of the Proposed Development, assuming each PE unit was not previously supported by the WwTP, is considered to be an insignificant increase in terms of the overall scale of the facility. This potential maximum increased load of 1,075 PE does not have the capacity to alter the effluent released from the WwTP to such an extent as to result in likely significant effects on this SAC. In addition, upgrade works are currently on-going at Ringsend WwTP to increase the capacity of the facility from 1.6 million PE to 2.4 million PE. This will result in an overall reduction in the final effluent discharge of a number of parameters from the facility including BOD, suspended soils, ammonia, DIN and MRP (Irish Water, 2018).	
Lambay Island SAC [000204]	**No possibility of likely significant effects on SAC due to:** **The intervening minimum distance of *c.*10.8km between the Proposed Development and the SAC.** - This intervening distance is considered sufficient in order to exclude the possibility of significant effects on the SAC arising from: emissions of noise, dust, pollutants and/or vibrations emitted from the site during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; potential increased lighting emitted from the site during Construction and Operational Phases; and increased human presence at the site during Construction and Operational Phases. **The considerable marine buffer / dilution factor that exists between the outflow of the Bloody Stream and the SAC.** - This marine buffer is considered sufficient in order to exclude the possibility of significant effects on the SAC arising from: potential surface water discharges containing sediment, silts and/or pollutants into the Bloody Stream during the Construction and/or Operational Phases of the Proposed Development; potential flooding events at the Site of the Proposed Development; and potential alterations to flow rate of the Bloody Stream at the outflow point. There is a large marine water buffer that exists between the outflow of the Bloody Stream and the SAC over which any sediment and/or pollutants released during the Construction and/or Operational Phases would be diluted to non-discernible levels. - Estuaries act as a filter for riverine contaminants entering marine waters from terrestrial systems (Teuchies et al. 2013), reducing for example the input of trace metals suspended in river water, into the marine environment. Salt marshes in particular preform very well per habitat surface area with one marsh making up 8% of an estuary's surface area (the	No

	Schelde estuary- Belgium & the Netherlands), yet removing approx. 30% of the riverine metal content (Teuchies et al. 2013). **The insignificant increase in the loading at Ringsend Wastewater Treatment Plant as a result of the Proposed Development.** - The increase of a maximum load of 1,075 Population Equivalent (PE) at the facility as a result of the Proposed Development, assuming each PE unit was not previously supported by the WwTP, is considered to be an insignificant increase in terms of the overall scale of the facility. This potential maximum increased load of 1,075 PE does not have the capacity to alter the effluent released from the WwTP to such an extent as to result in likely significant effects on this SAC. In addition, upgrade works are currently on-going at Ringsend WwTP to increase the capacity of the facility from 1.6 million PE to 2.4 million PE. This will result in an overall reduction in the final effluent discharge of a number of parameters from the facility including BOD, suspended soils, ammonia, DIN and MRP (Irish Water, 2018).	
Rogerstown Estuary SAC [000208]	**No possibility of likely significant effects on SAC due to:** **The intervening minimum distance of *c.*11.5km between the Proposed Development and the SAC.** - This intervening distance is considered sufficient in order to exclude the possibility of significant effects on the SAC arising from: emissions of noise, dust, pollutants and/or vibrations emitted from the site during the Construction Phase; increased traffic volumes during the Construction and Operational Phases and associated emissions; potential increased lighting emitted from the site during Construction and Operational phases; and increased human presence at the site during the Construction and Operational phases. **The considerable marine buffer / dilution factor that exists between the outflow of the Bloody Stream and the SAC.** - This marine buffer is considered sufficient in order to exclude the possibility of significant effects on the SAC arising from: potential surface water discharges containing sediment, silts and/or pollutants into the Bloody Stream during the Construction and/or Operational Phases of the Proposed Development; potential flooding events at the Site of the Proposed Development; and potential alterations to flow rate of the Bloody Stream at the outflow point. There is a large marine water buffer that exists between the outflow of the Bloody Stream and the SAC over which any sediment and/or pollutants released during the Construction and/or Operational Phases would be diluted to non-discernible levels. - Estuaries act as a filter for riverine contaminants entering marine waters from terrestrial systems (Teuchies et al. 2013), reducing for example the input of trace metals suspended in river water, into the marine environment. Salt marshes in particular perform very well per habitat surface area with one marsh making up 8% of an estuary's surface area (the Schelde estuary- Belgium & the Netherlands), yet removing approx. 30% of the riverine metal content (Teuchies et al. 2013).	No

	The insignificant increase in the loading at Ringsend Wastewater Treatment Plant as a result of the Proposed Development. - The increase of a maximum load of 1,075 Population Equivalent (PE) at the facility as a result of the Proposed Development, assuming each PE unit was not previously supported by the WwTP, is considered to be an insignificant increase in terms of the overall scale of the facility. This potential maximum increased load of 1,075 PE does not have the capacity to alter the effluent released from the WwTP to such an extent as to result in likely significant effects on this SAC. In addition, upgrade works are currently on-going at Ringsend WwTP to increase the capacity of the facility from 1.6 million PE to 2.4 million PE. This will result in an overall reduction in the final effluent discharge of a number of parameters from the facility including BOD, suspended soils, ammonia, DIN and MRP (Irish Water, 2018).	
Special Protection Areas (SPA)		
Ireland's Eye SPA [004117]	**Potential for likely significant effects on SPA due to:** **Possibility of disturbance and/or displacement of qualifying interests during the Construction and Operational Phases of the Proposed Development, which is located adjacent to a section of coastal habitat (*1140 Mudflats and sandflats not covered by seawater at low tide*) associated with Baldoyle Bay SAC (NPWS, 2012).** - Environmental nuisances (noise, dust and vibrations) generated during the Construction Phase of the Proposed Development have the potential to cause disturbance to qualifying interests of the SPA, should they regularly utilise this section of coastal habitat in close proximity to the Proposed Development. - Increased human presence at Claremont Beach during the Operational Phase of the Proposed Development has the potential to cause disturbance to qualifying interests of the SPA, should they regularly utilise this section of coastal habitat. - Should any of the qualifying interests of the SPA regularly use the area over the Site of the Proposed Development for passage flight, then the Operation of the Proposed Development has the potential to cause disturbance to these qualifying interests via impediment caused to potential flight-lines by the presence of the proposed structures. It is therefore concluded that, in the absence of mitigation measures or further analysis, the possibility of significant effects on some or all of the qualifying interests of Ireland's Eye SPA cannot be excluded in view of the relevant conservation objectives.	**Yes**
Howth Head Coast SPA [004113]	**No possibility of likely significant effects on SPA due to:** **The intervening minimum distance of *c.*1.3km between the proposed development and the SPA.** - This intervening distance is considered sufficient in order to exclude the possibility of significant effects on the SPA arising from: emissions of noise, dust, pollutants and/or vibrations emitted from the site during the construction phase;	No

	increased traffic volumes during the construction and operational phases and associated emissions; potential increased lighting emitted from the site during construction and operational phases; and increased human presence at the site during Construction and Operational phases. **The considerable marine buffer / dilution factor that exists between the outflow of the Bloody Stream and the SPA.** - This marine buffer is considered sufficient in order to exclude the possibility of significant effects on the SPA arising from: potential surface water discharges containing sediment, silts and/or pollutants into the Bloody Stream during the Construction and/or Operational phases of the Proposed Development; potential flooding events at the Site of the Proposed Development; and potential alterations to flow rate of the Bloody Stream at the outflow point. There is a large marine water buffer that exists between the outflow of the Bloody Stream and the SPA over which any sediment and/or pollutants released during the Construction and/or Operational Phases would be diluted to non-discernible levels. **The insignificant increase in the loading at Ringsend Wastewater Treatment Plant as a result of the Proposed Development.** - The increase of a maximum load of 1,075 Population Equivalent (PE) at the facility as a result of the Proposed Development, assuming each PE unit was not previously supported by the WwTP, is considered to be an insignificant increase in terms of the overall scale of the facility. This potential maximum increased load of 1,075 PE does not have the capacity to alter the effluent released from the WwTP to such an extent as to result in likely significant effects on this SPA. In addition, upgrade works are currently on-going at Ringsend WwTP to increase the capacity of the facility from 1.6 million PE to 2.4 million PE. This will result in an overall reduction in the final effluent discharge of a number of parameters from the facility including BOD, suspended soils, ammonia, DIN and MRP (Irish Water, 2018). - **The lack of suitable habitat for qualifying interests of the SPA within, or within close proximity, to the Proposed Development.** - The Site of the Proposed Development is primarily composed of buildings and artificial surfaces and is adjacent to an area of sand flats. These are not suitable breeding, roosting, staging or foraging habitats for qualifying interests of this SPA. Kittiwake (*Rissa tridactyla*) are cliff nesters and pelagic surface feeders (Chivers et. al, 2012) and are therefore not considered to be at risk of disturbance/displacement as a result of the Proposed Development.	

North Bull Island SPA [004006]	**Potential for likely significant effects on SPA due to:** **Possibility of disturbance and/or displacement of qualifying interests during the Construction and Operational Phases of the Proposed Development, which is located adjacent to a section of coastal habitat (*1140 Mudflats and sandflats not covered by seawater at low tide*) associated with Baldoyle Bay SAC (NPWS, 2012). This section of habitat has the potential to be an *ex-situ* feeding site for the qualifying interests of this SPA.** - Environmental nuisances (noise, dust and vibrations) generated during the Construction Phase of the Proposed Development have the potential to cause disturbance to qualifying interests of the SPA, should they regularly utilise this section of coastal habitat in close proximity to the Proposed Development. - Increased human presence at Claremont Beach during the Operational Phase of the Proposed Development has the potential to cause disturbance to qualifying interests of the SPA, should they regularly utilise this section of coastal habitat. - Should any of the qualifying interests of the SPA regularly use the area over the Site of the Proposed Development for passage flight, then the Operation of the Proposed Development has the potential to cause disturbance to these qualifying interests via impediment caused to potential flight-lines by the presence of the proposed structures. It is therefore concluded that, in the absence of mitigation measures or further analysis, the possibility of significant effects on some or all of the qualifying interests of North Bull Island SPA cannot be excluded in view of the relevant conservation objectives.	**Yes**
Baldoyle Bay SPA [004016]	**Potential for likely significant effects on SPA due to:** **Possibility of disturbance and/or displacement of qualifying interests during the Construction and Operational Phases of the Proposed Development, which is located adjacent to a section of coastal habitat (*1140 Mudflats and sandflats not covered by seawater at low tide*) associated with Baldoyle Bay SAC (NPWS, 2012). This section of habitat has the potential to be an *ex-situ* feeding site for the qualifying interests of this SPA.** - Environmental nuisances (noise, dust and vibrations) generated during the Construction Phase of the Proposed Development have the potential to cause disturbance to qualifying interests of the SPA, should they regularly utilise this section of coastal habitat in close proximity to the Proposed Development. - Increased human presence at Claremont Beach during the Operational Phase of the Proposed Development has the potential to cause disturbance to qualifying interests of the SPA, should they regularly utilise this section of coastal habitat. - Should any of the qualifying interests of the SPA regularly use the area over the Site of the Proposed Development site for passage flight, then the Operational phase of the Proposed Development has the potential to cause disturbance to these qualifying interests via impediment caused to potential flight-lines by the presence of the proposed structures.	**Yes**

	It is therefore concluded that, in the absence of mitigation measures or further analysis, the possibility of significant effects on some or all of the qualifying interests of Baldoyle Bay SPA cannot be excluded in view of the relevant conservation objectives.	
Malahide Estuary SPA [004025]	**Potential for likely significant effects on SPA due to:** **Possibility of disturbance and/or displacement of qualifying interests during the Construction and Operational Phases of the Proposed Development, which is located adjacent to a section of coastal habitat (*1140 Mudflats and sandflats not covered by seawater at low tide*) associated with Baldoyle Bay SAC (NPWS, 2012).** - Environmental nuisances (noise, dust and vibrations) generated during the Construction Phase of the Proposed Development have the potential to cause disturbance to qualifying interests of the SPA, should they regularly utilise this section of coastal habitat in close proximity to the Proposed Development. - Increased human presence at Claremont Beach during the Operational Phase of the Proposed Development has the potential to cause disturbance to qualifying interests of the SPA, should they regularly utilise this section of coastal habitat. - Should any of the qualifying interests of the SPA regularly use the area over Site of the Proposed Development site for passage flight, then the Operational Phase of the Proposed Development has the potential to cause disturbance to these qualifying interests via impediment caused to potential flight-lines by the presence of the proposed structures. It is therefore concluded that, in the absence of mitigation measures or further analysis, the possibility of significant effects on some or all of the qualifying interests of Malahide Estuary SPA cannot be excluded in view of the relevant conservation objectives.	**Yes**
South Dublin Bay and River Tolka Estuary SPA [004024]	**Potential for likely significant effects on SPA due to:** **Possibility of disturbance and/or displacement of qualifying interests during the Construction and Operational Phases of the Proposed Development, which is located adjacent to a section of coastal habitat (*1140 Mudflats and sandflats not covered by seawater at low tide*) associated with Baldoyle Bay SAC (NPWS, 2012)..** - Environmental nuisances (noise, dust and vibrations) generated during the Construction Phase of the Proposed Development have the potential to cause disturbance to qualifying interests of the SPA, should they regularly utilise this section of coastal habitat in close proximity to the Proposed Development.	**Yes**

	- Increased human presence at Claremont Beach during the Operational Phase of the Proposed Development has the potential to cause disturbance to qualifying interests of the SPA, should they regularly utilise this section of coastal habitat. - Should any of the qualifying interests of the SPA regularly use the area over the Site of the Proposed Development site for passage flight, then the Operational Phase of the Proposed Development has the potential to cause disturbance to these qualifying interests via impediment caused to potential flight-lines by the presence of the proposed structures. It is therefore concluded that, in the absence of mitigation measures or further analysis, the possibility of significant effects on some or all of the qualifying interests of South Dublin Bay and River Tolka Estuary SPA cannot be excluded in view of the relevant conservation objectives.	
Lambay Island SPA	**Potential for likely significant effects on SPA due to:** **Possibility of disturbance and/or displacement of qualifying interests during the Construction and Operational Phases of the Proposed Development, which is located adjacent to a section of coastal habitat (*1140 Mudflats and sandflats not covered by seawater at low tide*) associated with Baldoyle Bay SAC (NPWS, 2012). This section of habitat has the potential to be an *ex-situ* feeding site for the qualifying interests of this SPA.** - Environmental nuisances (noise, dust and vibrations) generated during the Construction Phase of the Proposed Development have the potential to cause disturbance to qualifying interests of the SPA, should they regularly utilise this section of coastal habitat in close proximity to the Proposed Development. - Increased human presence at Claremont Beach during the Operational Phase of the Proposed Development has the potential to cause disturbance to qualifying interests of the SPA, should they regularly utilise this section of coastal habitat. - Should any of the qualifying interests of the SPA regularly use the area over the Site of the Proposed Development for passage flight, then the Operational Phase of the Proposed Development has the potential to cause disturbance to these qualifying interests via impediment caused to potential flight-lines by the presence of the proposed structures. It is therefore concluded that, in the absence of mitigation measures or further analysis, the possibility of significant effects on some or all of the qualifying interests of Lambay Island SPA cannot be excluded in view of the relevant conservation objectives.	**Yes**

Rogerstown Estuary SPA	**Potential for likely significant effects on SPA due to:** **Possibility of disturbance and/or displacement of qualifying interests during the Construction and Operational Phases of the Proposed Development, which is located adjacent to a section of coastal habitat (*1140 Mudflats and sandflats not covered by seawater at low tide*) associated with Baldoyle Bay SAC (NPWS, 2012). This section of habitat has the potential to be an *ex-situ* feeding site for the qualifying interests of this SPA.** - Environmental nuisances (noise, dust and vibrations) generated during the Construction Phase of the Proposed Development have the potential to cause disturbance to qualifying interests of the SPA, should they regularly utilise this section of coastal habitat in close proximity to the Proposed Development. - Increased human presence at Claremont Beach during the Operational Phase of the Proposed Development has the potential to cause disturbance to qualifying interests of the SPA, should they regularly utilise this section of coastal habitat. - Should any of the qualifying interests of the SPA regularly use the area over the Site of the Proposed Development site for passage flight, then the Operational Phase of the Proposed Development has the potential to cause disturbance to these qualifying interests via impediment caused to potential flight-lines by the presence of the proposed structures. It is therefore concluded that, in the absence of mitigation measures or further analysis, the possibility of significant effects on some or all of the qualifying interests of Rogerstown Estuary SPA cannot be excluded in view of the relevant conservation objectives.	**Yes**
Dalkey Islands SPA	**No possibility of likely significant effects on SPA due to:** **The intervening minimum distance of *c.*12.1km between the proposed development and the SPA.** - This intervening distance is considered sufficient in order to exclude the possibility of significant effects on the SPA arising from: emissions of noise, dust, pollutants and/or vibrations emitted from the site during the Construction Phase; increased traffic volumes during the Construction and Operational phases and associated emissions; potential increased lighting emitted from the site during Construction and Operational phases; and increased human presence at the site during Construction and Operational phases. **The considerable marine buffer / dilution factor that exists between the outflow of the Bloody Stream and the SPA.** - This marine buffer is considered sufficient in order to exclude the possibility of significant effects on the SPA arising from: potential surface water discharges containing sediment, silts and/or pollutants into the Bloody Stream during the Construction and/or Operational phases of the Proposed Development; potential flooding events at the Site of the Proposed Development; and potential alterations to flow rate of the Bloody Stream at the outflow point. There is a large marine water buffer that exists between the outflow of the Bloody Stream and the SPA over which any sediment and/or pollutants released during the Construction and/or Operational Phases would be diluted to non-discernible levels.	No

	The insignificant increase in the loading at Ringsend Wastewater Treatment Plant as a result of the Proposed Development. - The increase of a maximum load of 1,075 Population Equivalent (PE) at the facility as a result of the Proposed Development, assuming each PE unit was not previously supported by the WwTP, is considered to be an insignificant increase in terms of the overall scale of the facility. This potential maximum increased load of 1,075 PE does not have the capacity to alter the effluent released from the WwTP to such an extent as to result in likely significant effects on this SPA. In addition, upgrade works are currently on-going at Ringsend WwTP to increase the capacity of the facility from 1.6 million PE to 2.4 million PE. This will result in an overall reduction in the final effluent discharge of a number of parameters from the facility including BOD, suspended soils, ammonia, DIN and MRP (Irish Water, 2018). **The lack of suitable habitat for qualifying interests of the SPA within, or within close proximity, to the proposed development.** - The Proposed Development is not in close proximity to any recorded breeding site for common, arctic or roseate tern. In addition, the sand flats adjacent to the Proposed Development are not a recorded staging site for any tern species.	

3.4.1 In-combination Effects

The following permitted, or in-progress, developments within the vicinity of the proposed development were reviewed and considered for possible in-combination effects with the proposed development:

SHD/001/18 (*Crekav Trading GP Limited*) - Planning application for proposed strategic housing development comprising 163 no. residential units at the former Baily Court Hotel, Main Street and at lands located south of the Martello tower on Balscadden Road, Howth County Dublin all on a site measuring *c*.1.55ha.

The permitted SHD at Balscadden, Howth, Co. Dublin has the potential to act in-combination with the proposed development in relation to the following impacts identified above:

- Increased human presence at Claremont Beach during the Operational phase of the Proposed Development, which has the potential to cause disturbance to qualifying interests of seven SPAs within the precautionary zone of influence of the proposed development, should they regularly utilise this section of coastal habitat.
- Possible increased footfall and visitor numbers within Howth Head SAC, and the potential resulting habitat loss/alteration/erosion, as a result of the increase in local population numbers because of the proposed development.

The above SHD (SHD/001/18) will result in an increase of a potential *c*.342 inhabitants in the local area. This increase in population, in conjunction with the potential of *c.* 1,075 inhabitants from the proposed development, could act in-combination in relation to the potential impacts outlined above.

F18A/0267 (*Dept. of Agriculture, Food & Marine*) - Construction of two number ground level industrial buildings (5 number units each) and associated site works at Claremont, West Pier, Howth, Co. Dublin.

The above development has the potential to act in-combination with the Proposed Development in relation to the following identified impacts:

- Environmental nuisances (noise, dust and vibrations) generated during the construction phase of the Proposed Development which have the potential to cause disturbance to qualifying interests of seven SPAs within the precautionary zone of influence of the proposed development, should they regularly utilise this section of coastal habitat in close proximity to the proposed development.

The potential for this in-combination effect would only arise should the Construction Phase of the proposed development occur simultaneously with the construction and/or operation of the above permitted development.

F17A/0553 (*Oceanpath Ltd.*) - The construction of 1,258 sq.m. (approx.) two storey extension (8.135 metres high approx.) to west side of existing 1,130 sq.m. (approx.) two storey building (8,135 metres high approx.) at Sites 37-03 and 37-05, Claremont Industrial Estate, West Pier, Howth, Co Dublin.

The construction of the above permitted development has already been completed. It is considered that there is no potential for the Proposed Development to act in-combination with the above development, and therefore no potential for likely significant effects on Natura 2000 sites as a result of in-combination effects.

F18/0074: Permission granted for the provision of 130m long quay wall; associated deck area, road access, hard standing; localised dredging to facilitate works, dredging to -4m Chart Datum along the front of new quay wall to provide berthing depth and land reclamation of approximate 0.30 Ha on the east side of Middle Pier of Howth FHC.

Granted Permission on 01/10/2019. The above permitted development has the potential to impact on the Natura 2000 sites by creating environmental nuisances or releasing contaminants into the marine environment during the construction phase. If this permitted development is under construction during the Construction Phase of the Proposed Development there is the possibility for in-combination effects.

Potential future pedestrian footbridge spanning railway line from the proposed development site to the walkway at Claremont Beach.

There is a potential for the future development of a footbridge connecting the Site of the Proposed Development directly to Claremont Beach. This potential development will be subject to the Appropriate Assessment process when / if it is considered and any potential for likely significant impacts on Natura 2000 sites will need to be determined at that stage.

We understand that the design and particulars of that potential future development are at a very early stage, such that it is not possible at this stage to assess its cumulative effects with the Proposed Development.

It is considered that there are no other means for the Proposed Development to act in-combination with any other plan or project in relation to any likely significant effects on any Natura 2000 sites.

4 CONCLUDING STATEMENT

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 listed below:

- North Dublin Bay SAC [000206]
- Rockabill to Dalkey Island SAC [003000]
- Ireland's Eye SAC [002193]
- Malahide Estuary SAC [000205]
- South Dublin Bay SAC [000210]
- Lambay Island SAC [000204]
- Rogerstown Estuary SAC [000208]
- Howth Head Coast SPA [004113]
- Dalkey Islands SPA [004172]

However, 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 **not** be excluded that the Proposed Development will have a likely significant effect on any of the Natura 2000 sites listed below:

- Baldoyle Bay SAC [000199]
- Howth Head SAC [000202]
- Ireland's Eye SPA [004117]
- North Bull Island SPA [004006]
- Baldoyle Bay SPA [004016]
- Malahide Estuary SPA [004025]
- Lambay Island SPA [004069]
- South Dublin Bay and River Tolka Estuary SPA [004024]
- Rogerstown Estuary SPA [004015]

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Appendix 1. Site Conservation Objectives

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National Parks and Wildlife Service

Conservation Objectives Series

Baldoyle Bay SAC 000199

An Roinn
Ealaíon, Oidhreachta agus Gaeltachta
Department of
Arts, Heritage and the Gaeltacht

National Parks and Wildlife Service,
Department of Arts, Heritage and the Gaeltacht,

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Introduction

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

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

A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

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

Favourable conservation status of a habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

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

Notes/Guidelines:

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.
2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.
3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.
4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.
5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

Qualifying Interests

**** indicates a priority habitat under the Habitats Directive***

000199	Baldoyle Bay SAC
1140	Mudflats and sandflats not covered by seawater at low tide
1310	Salicornia and other annuals colonizing mud and sand
1330	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
1410	Mediterranean salt meadows (*Juncetalia maritimi*)

Please note that this SAC overlaps with Baldoyle Bay SPA (004016). See map 2. The conservation objectives for this site should be used in conjunction with those for the overlapping SPA as appropriate.

Supporting documents, relevant reports & publications (listed by date)

Supporting documents, NPWS reports and publications are available for download from: www.npws.ie/Publications

Title: Intertidal Benthic Survey Baldoyle Bay SAC and Baldoyle Bay SPA
Year: 2012
Author: MERC; ERM
Series: Unpublished Report to NPWS & MI

Title: Baldoyle Bay SAC (000199). Conservation objectives supporting document - marine habitats [Version 1]
Year: 2012
Author: NPWS
Series: Unpublished Report to NPWS

Title: Baldoyle Bay SAC (000199). Conservation objectives supporting document - coastal habitats [Version 1]
Year: 2012
Author: NPWS
Series: Unpublished Report to NPWS

Title: Saltmarsh Monitoring Report 2007-2008
Year: 2009
Author: McCorry, M.; Ryle, T.
Series: Unpublished Report to NPWS

Title: Coastal Monitoring Project 2004-2006
Year: 2009
Author: Ryle, T.; Murray, A.; Connolly, C.; Swann, M.
Series: Unpublished Report to NPWS

Title: A Survey of Intertidal Mudflats and Sandflats in Ireland
Year: 2007
Author: Aquatic Services Unit
Series: Unpublished Report

Title: Saltmarsh Monitoring Report 2006
Year: 2007
Author: McCorry, M.
Series: Unpublished Report to NPWS

Spatial data sources

Year:	Interpolated 2012
Title:	Intertidal surveys 2007, 2010
GIS operations:	Polygon feature classes from marine community types base data sub-divided based on interpolation of marine survey data. Expert opinion used as necessary to resolve any issues arising
Used for:	Marine community types, 1140 (maps 3 and 4)
Year:	2005
Title:	OSi Discovery series vector data
GIS operations:	High water mark (HWM) and low water mark (LWM) polyline feature classes converted into polygon feature classes and combined; EU Annex I Saltmarsh and Coastal data erased out if present
Used for:	Marine community types base data (map 4)
Year:	Revision 2010
Title:	Saltmarsh Monitoring Project 2007-2008. Version 1
GIS operations:	QIs selected; clipped to SAC boundary; overlapping regions with Coastal CO data investigated and resolved with expert opinion used
Used for:	1310, 1330, 1410 (map 5)

1140 Mudflats and sandflats not covered by seawater at low tide

To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Baldoyle Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes. See map 3	Habitat area was estimated as 409ha using OSi data
Community distribution	Hectares	Conserve the following community types in a natural condition: Fine sand dominated by *Angulus tenuis* community complex; and Estuarine sandy mud with *Pygospio elegans* and T*ubificoides benedii* community complex. See map 4	Habitat structure was elucidated from intertidal surveys undertaken in 2007 (Aquafact, 2007) and 2010 (MERC and ERM, 2012). See marine habitats supporting document for further information

1310 Salicornia and other annuals colonizing mud and sand

To maintain the favourable conservation condition of *Salicornia* and other annuals colonizing mud and sand in Baldoyle Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Baldoyle - 0.383ha. See map 5	Based on data from Saltmarsh Monitoring Project (SMP) (McCorry, 2007). Habitat recorded at one sub-sites surveyed and mapped, giving a total estimated area of 0.38ha. NB further unsurveyed areas maybe present within the site. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes. See map 5 for known distribution	Based on data from McCorry (2007). This habitat was more extensive in the past. *Salicornia* is an annual species, so its distribution can vary significantly from year to year. See coastal habitats supporting document for further details
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain natural circulation of sediments and organic matter, without any physical obstructions	Based on data from McCorry (2007). Sediment supply is particularly important for this pioneer saltmarsh community, as the distribution of this habitat depends on accretion rates. At Baldoyle there are some signs of erosion of the saltmarsh in the mid part and south-eastern corner of the estuary. Accretion has occurred at the lower end of Portmarnock spit. See coastal habitats backing document for further details
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession	Based on data from McCorry (2007). Creeks deliver sediment throughout saltmarsh system. See coastal habitats supporting document for further details
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime	Based on date from McCorry (2007). This pioneer saltmarsh community requires regular tidal inundation. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from McCorry (2007). See coastal habitats supporting document for further details
Vegetation structure: vegetation height	Centimeters	Maintain structural variation within sward	Based on data from McCorry (2007). Saltmarshes at Baldoyle are not grazed by livestock and have a diverse sward structure. See coastal habitats supporting document for further details
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% of area outside creeks vegetated	Based on data from McCorry (2007). See coastal habitats supporting document for further details

1310 Salicornia and other annuals colonizing mud and sand

To maintain the favourable conservation condition of *Salicornia* and other annuals colonizing mud and sand in Baldoyle Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Vegetation composition: typical species and sub-communities	Percentage cover	Maintain the presence of species-poor communities with typical species listed in the Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	Based on data from McCorry (2007). See coastal habitats supporting document for further details
Vegetation structure: negative indicator species-*Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%	Based on data from McCorry (2007). Spartina swards occur extensively throughout the Baldoyle sub-site. Additional clumps of cordgrass are present within the *Salicornia* flats, although at low cover values. See coastal habitats supporting document for further details

1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

To maintain the favourable conservation condition of Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) in Baldoyle Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Baldoyle - 11.98ha. See map 5	Based on data from the Saltmarsh Monitoring Project (McCorry, 2007). One sub-site supporting Atlantic salt meadow was mapped giving a total estimated area of 11.98ha. NB further unsurveyed areas maybe present within the site. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes. See map 5 for known distribution	Based on data from McCorry (2007). No indications of any loss in extent of ASM at Baldoyle. See coastal habitats supporting document for further details
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain natural circulation of sediments and organic matter, without any physical obstructions	Based on data from McCorry (2007). There are some small areas of erosion in places and these may have been exacerbated by infilling and sea defence measures (sea wall). See coastal habitats supporting document for further details
Physical structure: creeks and pans	Occurrence	Maintain/restore creek and pan structure to develop, subject to natural processes, including erosion and succession	Based on data from McCorry (2007). The largest area of ASM at Baldoyle has a well developed creek and pan structure. The other parts have a poorly developed structure. See coastal habitats supporting document for further details
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime	See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from McCorry (2007). At Baldoyle there are transitions to sanddune habitats as well as transitional mosaics within the saltmarsh habitats. See coastal habitats supporting document for further details
Vegetation structure: vegetation height	Centimeters	Maintain structural variation within sward	Based on data from McCorry (2007). The saltmarshes around Baldoyle are not grazed by livestock allowing a diverse sward structure to develop. See coastal habitats supporting document for further details
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% of the area outside of the creeks vegetated	See coastal habitats supporting document for further details

1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

To maintain the favourable conservation condition of Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) in Baldoyle Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Vegetation composition: typical species and sub-communities	Percentage cover at a representative sample of monitoring stops	Maintain range of sub-communities with typical species listed in the Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	Based on data from McCorry (2007). Species of local distictiveness at Baldoyle include the Red Data Book species, Borrer's saltmarsh-grass (*Puccinellia fasciculata*) and meadow barley (*Hordeum secalinum*). The locally rare species rock lavender (*Limonium binervosum*) was also recorded at Baldoyle. See coastal habitats supporting document for further details
Vegetation structure: negative indicator species-*Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%	Based on data from McCorry (2007). *Spartina* occurs extensively at Baldoyle bay. See coastal habitats supporting document for further details

1410 Mediterranean salt meadows (*Juncetalia maritimi*)

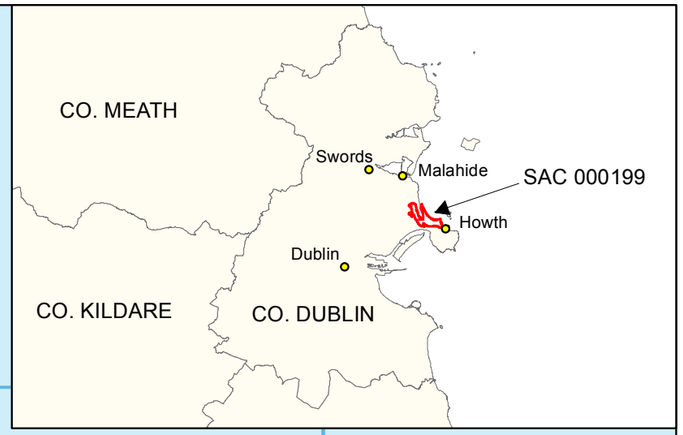
To maintain the favourable conservation condition of Mediterranean salt meadows (*Juncetalia maritimi*) in Baldoyle Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Baldoyle - 2.64ha. See map 5	Based on data from the Saltmarsh Monitoring Project (McCorry, 2007). One sub-site that supports Mediterranean Salt Meadow was mapped, giving a total estimated area of 2.64ha. NB further unsurveyed areas maybe present within the site. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes. See map 5 for known distribution	See coastal habitats supporting document for further details
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain natural circulation of sediments and organic matter, without any physical obstructions	Based on data from McCorry (2007). There are some indications that the area of brackish marsh at Mayne including the MSM community has decreased. Older maps show that the brackish vegetation was more extensive in the recent past. See coastal habitats supporting document for further details
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession	Based on data from the Saltmarsh Monitoring Project (McCorry, 2007). The MSM at Baldoyle has a poorly developed topography. See coastal habitats supporting document for further details
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime	Mediterranean salt meadow is found high up in the saltmarsh but requires occasional tidal inundation. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from McCorry (2007). At Baldoyle there are transitions to sand dune habitats as well as transitional mosaics within the saltmarsh habitats. See coastal habitats supporting document for further details
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within the sward	Based on data from McCorry (2007). The saltmarshes around Baldoyle are not grazed by livestock allowing a diverse sward structure to develop. See coastal habitats supporting document for further details
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% of the area outside of the creeks vegetated	Based on data from McCorry (2007). See coastal habitats supporting document for further details

1410 Mediterranean salt meadows (*Juncetalia maritimi*)

To maintain the favourable conservation condition of Mediterranean salt meadows (*Juncetalia maritimi*) in Baldoyle Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Vegetation composition: typical species	Percentage cover	Maintain range of sub-communities with typical species listed in the Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	Based on data from McCorry (2007). Species of local distictiveness at Baldoyle include the Red Data Book species, Borrer's saltmarsh-grass (*Puccinellia fasciculata*) and meadow barley (*Hordeum secalinum*). The locally rare species rock lavender (*Limonium binervosum*) was also recorded at Baldoyle. See coastal habitats supporting document for further details
Vegetation structure: negative indicator species-*Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%	Based on data from McCorry (2007). *Spartina* occurs extensively at Baldoyle bay. See coastal habitats supporting document for further details



Legend

SAC 000199

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Department of Arts, Heritage and the Gaeltacht

MAP 1:
BALDOYLE BAY SAC
CONSERVATION OBJECTIVES
SAC DESIGNATION

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 000199 CO. DUBLIN; version 1.2

0 0.25 0.5 0.75 1 km

N

Map Version 1
Date: October 2012

Legend

- Baldoyle Bay SAC 000199
- Baldoyle Bay SPA 004016

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MAP 2:
BALDOYLE BAY SAC
CONSERVATION OBJECTIVES
ADJOINING / OVERLAPPING
DESIGNATIONS

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 000199 CO. DUBLIN; version 1.2

0 0.2 0.4 0.6 0.8 1 km

N

Map Version 1
Date: October 2012

Legend

- SAC 000199
- 1140 Mudflats and sandflats not covered by seawater at low tide
- OSi Discovery Series County Boundaries

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Arts, Heritage and the Gaeltacht

MAP 3:
BALDOYLE BAY SAC
CONSERVATION OBJECTIVES
TIDAL MUDFLATS AND SANDFLATS

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 000199 CO. DUBLIN; version 1.2

0 0.2 0.4 0.6 0.8 1 km

N

Map Version 1
Date: October 2012

Legend

SAC 000199

OSi Discovery Series County Boundaries

Marine Community Types

Estuarine sandy mud with *Pygospio elegans* and *Tubificoides benedii* community complex

Fine sand dominated by *Angulus tenuis* community complex

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MAP 4:
BALDOYLE BAY SAC
CONSERVATION OBJECTIVES
MARINE COMMUNITY TYPES

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 000199 CO. DUBLIN; version 1.2

0 0.2 0.4 0.6 0.8 1 km

N

Map Version 1
Date: October 2012

Legend

SAC 000199

OSi Discovery Series County Boundaries

SMP 0003 Saltmarsh Monitoring Project Site Codes

Qualifying Interests

1310 *Salicornia* and other annuals colonising mud and sand

1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)

1330 / 1410 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) / Mediterranean salt meadows (Juncetalia maritimi)

1410 Mediterranean salt meadows (Juncetalia maritimi)

SMP 0003

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MAP 5:
BALDOYLE BAY SAC
CONSERVATION OBJECTIVES
SALTMARSH HABITATS

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 000199 CO. DUBLIN; version 1.2

0 0.2 0.4 0.6 0.8 1 km

N

Map Version 1
Date: October 2012

ISSN 2009-4086

National Parks and Wildlife Service

Conservation Objectives Series

Howth Head SAC 000202

An Roinn Ealaíon, Oidhreachta,
Gnóthaí Réigiúnacha, Tuaithe agus Gaeltachta

Department of Arts, Heritage,
Regional, Rural and Gaeltacht Affairs

National Parks and Wildlife Service,
Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs,

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Citation:

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Series Editor: Rebecca Jeffrey
ISSN 2009-4086

Introduction

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

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

A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

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

Favourable conservation status of a habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

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

Notes/Guidelines:

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.
2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.
3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.
4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.
5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

Qualifying Interests

**** indicates a priority habitat under the Habitats Directive***

000202	Howth Head SAC
1230	Vegetated sea cliffs of the Atlantic and Baltic coasts
4030	European dry heaths

Please note that this SAC overlaps with North Bull Island SPA (004006) and Howth Head Coast SPA (004113) and adjoins North Dublin Bay SAC (000206) and Rockabill to Dalkey Island SAC (003000). See map 2. The conservation objectives for this site should be used in conjunction with those for the overlapping and adjacent sites as appropriate.

Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: www.npws.ie/Publications

NPWS Documents

Year :	2011
Title :	National survey and assessment of the conservation status of Irish sea cliffs
Author :	Barron, S.J.; Delaney, A.; Perrin, P.M.; Martin, J.; O'Neill, F.
Series :	Irish Wildlife Manual No. 53
Year :	2012
Title :	Ireland Red List no. 8: Bryophytes
Author :	Lockhart, N.; Hodgetts, N.; Holyoak, D.
Series :	Ireland Red List series, NPWS
Year :	2013
Title :	The status of EU protected habitats and species in Ireland. Volume 2. Habitats assessments
Author :	NPWS
Series :	Conservation assessments
Year :	2014
Title :	Guidelines for a national survey and conservation assessment of upland vegetation and habitats in Ireland, Version 2.0
Author :	Perrin, P.M.; Barron, S.J.; Roche, J.R.; O'Hanrahan, B.
Series :	Irish Wildlife Manual No. 79
Year :	2016
Title :	Howth Head SAC (site code: 202) Conservation objectives supporting document- coastal habitats V1
Author :	NPWS
Series :	Conservation objectives supporting document

Other References

Year :	1988
Title :	The Irish red data book 1. Vascular plants
Author :	Curtis, T.G.F.; McGough, H.N.
Series :	Wildlife Service, Dublin
Year :	2002
Title :	A Catalogue of Alien Plants in Ireland
Author :	Reynolds, S.C.P.
Series :	National Botanic Gardens, Glasnevin
Year :	2005
Title :	National inventory of sea cliffs and coastal heaths
Author :	Browne, A.
Series :	Unpublished Report to NPWS

Spatial data sources

Year :	2011
Title :	National survey and assessment of the conservation status of Irish sea cliffs
GIS Operations :	Clipped to SAC boundary
Used For :	1230 (map 3)

Conservation Objectives for : Howth Head SAC [000202]

1230 Vegetated sea cliffs of the Atlantic and Baltic coasts

To maintain the favourable conservation condition of Vegetated sea cliffs of the Atlantic and Baltic coasts in Howth Head SAC, which is defined by the following list of attributes and targets:

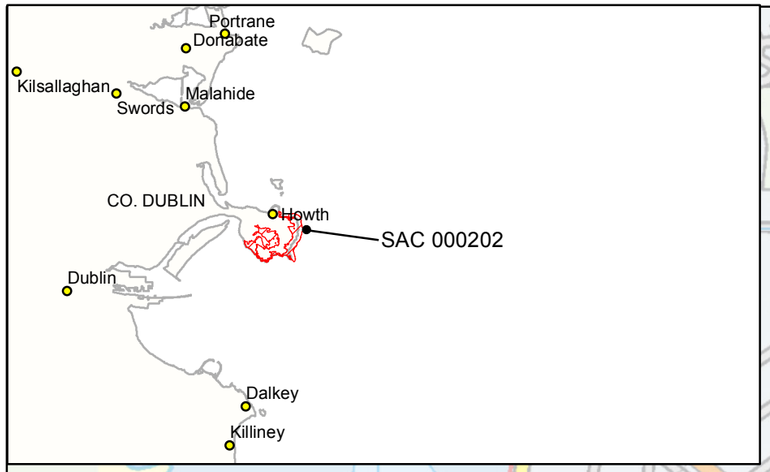
Attribute	Measure	Target	Notes
Habitat length	Kilometres	Area stable, subject to natural processes, including erosion. Total length of cliff: 8.22km. See map 3	Cliffs are linear features and are therefore measured in kilometres. The Irish Sea Cliff Survey (Barron et al., 2011) identified the site, though did not survey it, and the length of cliffs within Howth Head SAC is estimated to be 8.22km. The length of cliff is likely to be underestimated. See the Howth Head SAC conservation objectives supporting document for coastal habitats for further details
Habitat distribution	Occurrence	No decline, subject to natural processes. See map 3	See map 3 for the estimated distribution of sea cliffs in the SAC. Hard cliffs have been noted in this SAC and it is thought that all of the cliffs are of the hard type (Browne, 2005). See the coastal habitats supporting document for further details
Physical structure: functionality and hydrological regime	Occurrence of artificial barriers	No alteration to natural functioning of geomorphological and hydrological processes, including groundwater quality, due to artificial structures	Attribute and target based on Barron et al. (2011). Maintaining natural geomorphological processes, including natural erosion, is important for the health of vegetated sea cliffs. Hydrological processes maintain flushes, and in some cases tufa formations, that can be associated with sea cliffs. See the coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain range of sea cliff habitat zonations including transitional zones, subject to natural processes including erosion and succession	Attribute and target based on Barron et al. (2011). A mosaic of European dry heath (4030) vegetation and maritime grassland occurs on the slopes above the sea cliff vegetation at Howth Head SAC. See the coastal habitats supporting document for further details
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward	Attribute and target based on Barron et al. (2011). See the coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in the Irish Sea Cliff Survey (Barron et al., 2011)	In places, the cliffs at Howth Head SAC comprise fairly sheer, exposed rock faces. The maritime flora is of particular interest as a number of scarce and local plants have been recorded. Some of these are species of ledges on hard cliffs and coastal heath. See the coastal habitats supporting document for further details
Vegetation composition: negative indicator species	Percentage	Negative indicator species (including non-natives) to represent less than 5% cover	Attribute and target based on Barron et al. (2011). Hottentot fig (*Carpobrotus edulis*) is an aggressive invader of coastal habitats that poses a serious ecological threat. The first record for hottentot fig in the wild in Ireland is from Howth Head in 1962 (Reynolds, 2002). See the coastal habitats supporting document for further details
Vegetation composition: bracken and woody species	Percentage	Cover of bracken (*Pteridium aquilinum*) on grassland and/or heath less than 10%. Cover of woody species on grassland and/or heath less than 20%	Attribute and target based on Barron et al. (2011). Bracken occurs on the cliffs tops at Howth Head and there is some scrub encroachment on the heath. See the coastal habitats supporting document for further details

4030 European dry heaths

To maintain the favourable conservation condition of European dry heaths in Howth Head SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes	European dry heath has not been mapped in detail for Howth Head SAC and thus the total area of the qualifying habitat is unknown. Dry heath is the dominant habitat within the SAC and occurs on the slopes above the sea cliffs and in the central part of the peninsula. The habitat occurs in mosaic with other habitats, such dry grassland and exposed rock in places (NPWS internal files)
Habitat distribution	Occurrence	No decline, subject to natural processes	See note on area above
Ecosystem function: soil nutrients	Soil pH and appropriate nutrient levels at a representative number of monitoring stops	Maintain soil nutrient status within natural range	Relevant nutrients and their natural ranges are yet to be defined. However, nitrogen deposition is noted as being relevant to this habitat (NPWS, 2013)
Community diversity	Abundance of variety of vegetation communities	Maintain variety of vegetation communities, subject to natural processes	The diversity of dry heath communities within this SAC is unknown. Information on vegetation communities associated with this habitat is presented in Perrin et al. (2014)
Vegetation composition: lichens and bryophytes	Number of species at a representative number of 2m x 2m monitoring stops	Number of bryophyte or non-crustose lichen species present at each monitoring stop is at least three, excluding *Campylopus* and *Polytrichum* mosses	Attribute and target based on Perrin et al. (2014). Dry heath is not necessarily rich in lichen and bryophyte species, but a minimum amount should still be present
Vegetation composition: number of positive indicator species	Number of species at a representative number of 2m x 2m monitoring stops	Number of positive indicator species present at each monitoring stop is at least two	Attribute and target based on Perrin et al. (2014), where the list of positive indicator species for this habitat, which is composed of dwarf shrubs, is also presented. Bell heather (*Erica cinerea*), ling (*Calluna vulgaris*) and western gorse (*Ulex gallii*) are listed as present in the dry heath in this SAC (NPWS internal files)
Vegetation composition: cover of positive indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of positive indicator species at least 50% for siliceous dry heath and 50-75% for calcareous dry heath	Attribute and target based on Perrin et al. (2014), where the list of positive indicator species for this habitat, which is composed of dwarf shrubs, is also presented
Vegetation composition: dwarf shrub composition	Percentage cover at a representative number of 2m x 2m monitoring stops	Proportion of dwarf shrub cover composed collectively of bog-myrtle (*Myrica gale*), creeping willow (*Salix repens*) and western gorse (*Ulex gallii*) is less than 50%	Attribute and target based on Perrin et al. (2014). Bog-myrtle is indicative of flushed conditions and is more characteristic of wet heaths and blanket bogs. Creeping willow is more characteristic of dune heaths. Western gorse is a component of dry heath, but high proportions of it may indicate a history of undesirable levels of grazing
Vegetation composition: negative indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Total cover of negative indicator species less than 1%	Attribute and target based on Perrin et al. (2014), where the list of negative indicator species for this habiat is also presented
Vegetation composition: non-native species	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of non-native species less than 1%	Attribute and target based on Perrin et al. (2014). Non-native species can be invasive and have deleterious effects on native vegetation. A low target is set as non-native species can spread rapidly and are most easily dealt with when still at lower abundances. Rhododendron (*Rhododendron ponticum*) occurs in places on dry heath in this SAC
Vegetation composition: native trees and shrubs	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of scattered native trees and shrubs less than 20%	Attribute and target based on Perrin et al. (2014). High cover of native trees and shrubs would indicate that the habitat may be succeeding towards scrub or woodland due to lack of grazing

Vegetation composition: bracken	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of bracken (*Pteridium aquilinum*) less than 10%	Attribute and target based on Perrin et al. (2014). High cover of bracken would indicate that the habitat may be succeeding towards a dense bracken community
Vegetation composition: soft rush	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of soft rush (*Juncus effusus*) less than 10%	Attribute and target based on Perrin et al. (2014). High cover of soft rush would suggest undesirable hydrological conditions. Note however, that poor flushes dominated by soft rush can naturally occur in mosaic with this habitat. Discrete areas of this separate habitat should not be considered here
Vegetation structure: senescent ling	Percentage cover at a representative number of 2m x 2m monitoring stops	Senescent proportion of ling (*Calluna vulgaris*) cover less than 50%	Attribute and target based on Perrin et al. (2014). Senescence is part of the natural cycle of ling, but a dominance of ling in the senescent phase would indicate a lack of management (appropriate grazing or burning) to promote ling regeneration
Vegetation structure: signs of browsing	Percentage of shoots browsed at a representative number of 2m x 2m monitoring stops	Less than 33% collectively of the last complete growing season's shoots of ericoids showing signs of browsing	Attribute and target based on Perrin et al. (2014)
Vegetation structure: burning	Occurrence in local vicinity of a representative number of monitoring stops	No signs of burning in sensitive areas	Attribute and target based on Perrin et al. (2014), where the list of sensitive areas is also presented. Fires can be part of the natural cycle of dry heath and may also be used as a valuable management tool to promote a diversity of growth phases in ling (*Calluna vulgaris*). However, fires which are too intense, too frequent, too extensive or which occur in sensitive areas are damaging to the habitat
Vegetation structure: growth phases of ling	Percentage cover in local vicinity of a representative number of monitoring stops	Outside sensitive areas, all growth phases of ling (*Calluna vulgaris*) should occur throughout, with at least 10% of cover in the mature phase	Attribute and target based on Perrin et al. (2014), where the list of sensitive areas is also presented. The growth phases of ling are pioneer (<10cm high), building (10-30cm high) and mature (<30cm high). As burning is undesirable in sensitive areas, it is not reasonable to require the stated diversity of growth phases within these areas
Physical structure: disturbed bare ground	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of disturbed bare ground less than 10%	Attribute and target based on Perrin et al. (2014). Disturbance can include hoof marks, wallows, human foot prints and vehicle and machinery tracks. Excessive disturbance can result in loss of characteristic species and presage erosion for heaths and peatlands
Indicators of local distinctiveness	Occurrence and population size	No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat	This includes species listed in the Flora (Protection) Order, 2015 and/or the red data lists (Curtis and McGough, 1988; Lockhart et al., 2012)



Legend

Howth Head SAC 000202

An Roinn Ealaíon, Oidhreachta, Gnóthaí Réigiúnacha, Tuaithe agus Gaeltachta

Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs

MAP 1:
HOWTH HEAD SAC
CONSERVATION OBJECTIVES
SAC DESIGNATION

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 000202; version 3.02 CO. DUBLIN

0 0.25 0.5 0.75 1 km

The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
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Níl sna teorainneacha ar na léarscáileanna ach nod garshuiomhach ginearálta. Féadfar athbhreithnithe a déanamh ar theorainneacha na gceantar comharthaithe. Suirbhéarachta Ordonáis na hÉireann Ceadúnas Uimh EN 0059216. © Suirbhéarachta Ordonáis na hÉireann Rialtas na hÉireann.

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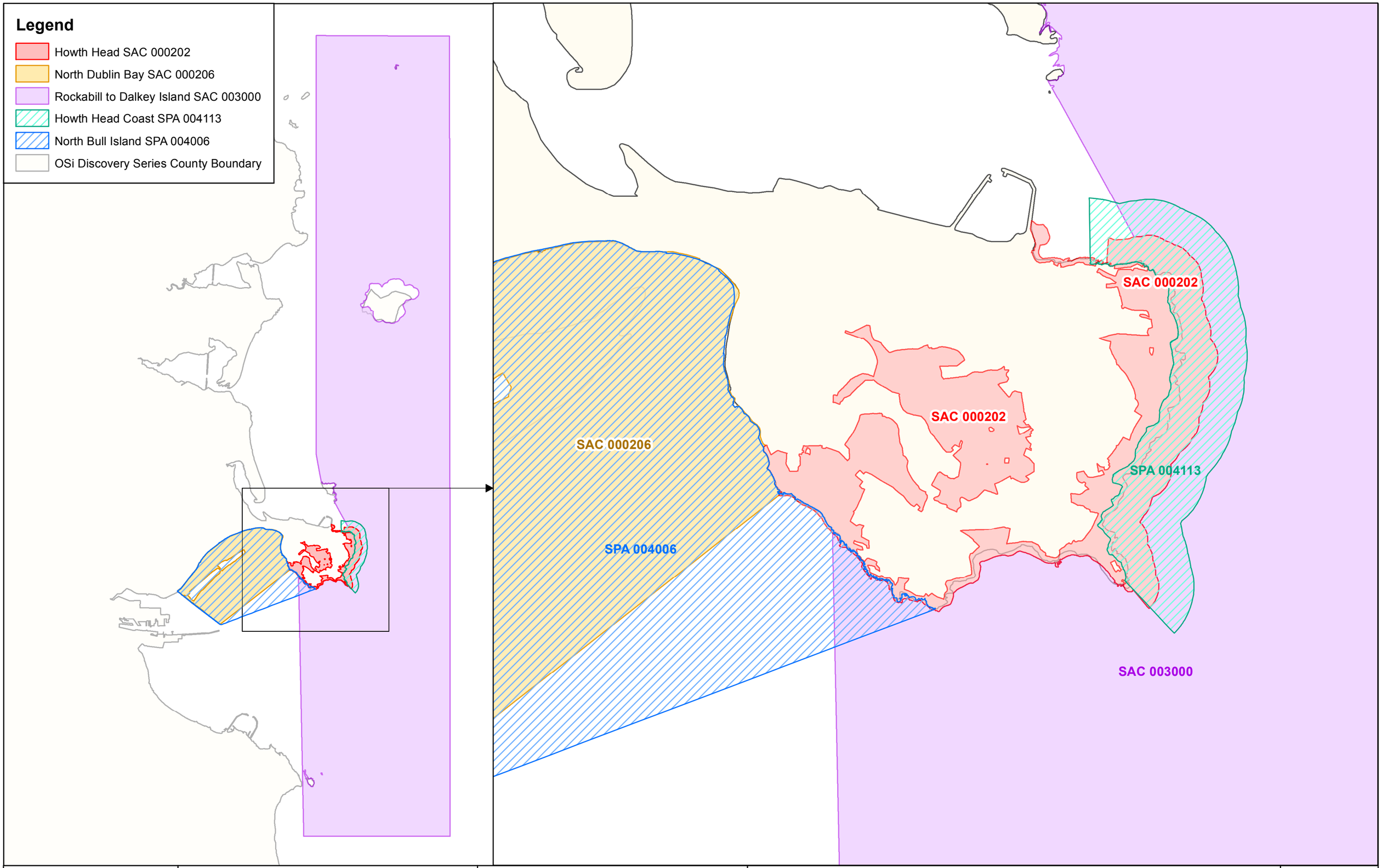
Map Version 1
Date: July 2016



An Roinn Ealaíon, Oidhreachta, Gnóthaí Réigiúnacha, Tuaithe agus Gaeltachta

Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs

MAP 2:
HOWTH HEAD SAC
CONSERVATION OBJECTIVES
ADJOINING, OVERLAPPING AND ADJACENT DESIGNATIONS

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 000202; version 3.02. SAC 000206; version 3. SAC 003000; version 3.02. SPA 004113; version 3. SPA 004006; version 3 CO. DUBLIN

0 3 6 9 12 km

N

Map Version 1
Date: Oct 2016

Legend

- Howth Head SAC 000202
- 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts
- OSi Discovery Series County Boundary

An Roinn Ealaíon, Oidhreachta,
Gnóthaí Réigiúnacha, Tuaithe agus Gaeltachta

Department of Arts, Heritage,
Regional, Rural and Gaeltacht Affairs

MAP 3:
HOWTH HEAD SAC
CONSERVATION OBJECTIVES
VEGETATED SEA CLIFFS

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 000202; version 3.02.
CO. DUBLIN

0 0.25 0.5 0.75 1 km

N

Map Version 1
Date: Oct 2016

Conservation objectives for Ireland's Eye SPA [004117]

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

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

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

Favourable conservation status of a habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

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

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

Bird Code	Common Name	Scientific Name
A017	Cormorant	*Phalacrocorax carbo*
A184	Herring Gull	*Larus argentatus*
A188	Kittiwake	*Rissa tridactyla*
A199	Guillemot	*Uria aalge*
A200	Razorbill	*Alca torda*

Citation: *NPWS (2018) Conservation objectives for Ireland's Eye SPA [004117]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.*

ISSN 2009-4086

National Parks and Wildlife Service

Conservation Objectives Series

North Bull Island SPA 004006

An Roinn
Ealaíon, Oidhreachta agus Gaeltachta
Department of
Arts, Heritage and the Gaeltacht

National Parks and Wildlife Service,
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Citation:

NPWS (201p) Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

Series Editor: Rebecca Jeffrey

ISSN 2009-4086

Introduction

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

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

A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

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

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

The favourable conservation status of a species is achieved when:

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

Notes/Guidelines:

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.
2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.
3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.
4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.
5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

Qualifying Interests

**** indicates a priority habitat under the Habitats Directive***

004006 North Bull Island SPA

A046	Light-bellied Brent Goose *Branta bernicla hrota*
A048	Shelduck *Tadorna tadorna*
A052	Teal *Anas crecca*
A054	Pintail *Anas acuta*
A056	Shoveler *Anas clypeata*
A130	Oystercatcher *Haematopus ostralegus*
A140	Golden Plover *Pluvialis apricaria*
A141	Grey Plover *Pluvialis squatarola*
A143	Knot *Calidris canutus*
A144	Sanderling *Calidris alba*
A149	Dunlin *Calidris alpina alpina*
A156	Black-tailed Godwit *Limosa limosa*
A157	Bar-tailed Godwit *Limosa lapponica*
A160	Curlew *Numenius arquata*
A162	Redshank *Tringa totanus*
A169	Turnstone *Arenaria interpres*
A179	Black-headed Gull *Chroicocephalus ridibundus*
A999	Wetlands

Please note that this SPA overlaps with North Dublin Bay SAC (000206) and Rockabill to Dalkey Island SAC (003000). It adjoins Howth Head SAC (000202) and South Dublin Bay and River Tolka Estuary SPA (004024). See map 2. The conservation objectives for this site should be used in conjunction with those for overlapping and adjacent sites as appropriate.

Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: www.npws.ie/Publications

NPWS Documents

Year :	2014
Title :	North Bull Island SPA (site code: 4006) and South Dublin Bay and River Tolka Estuary SPA (site code: 4024) Conservation objectives supporting document V1
Author :	NPWS
Series :	Conservation objectives supporting document

Spatial data sources

Year :	2014
Title :	NPWS SPA boundary data
GIS Operations :	SPA boundary polygons divided into two classifications (wetlands, terrestrial) based on line identified by expert judgement. Expert opinion used as necessary to resolve any issues arising
Used For :	Wetlands (map 3)

A046 Light-bellied Brent Goose *Branta bernicla hrota*

To maintain the favourable conservation condition of Light-bellied Brent Goose in North Bull Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by light-bellied brent goose, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part fiveof the conservation objectives supporting document

A048 **Shelduck *Tadorna tadorna***

To maintain the favourable conservation condition of Shelduck in North Bull Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by shelduck, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A052 Teal *Anas crecca*

To maintain the favourable conservation condition of Teal in North Bull Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by teal, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

Conservation Objectives for : North Bull Island SPA [004006]

A054 **Pintail *Anas acuta***

To maintain the favourable conservation condition of Pintail in North Bull Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by pintail, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A056 Shoveler *Anas clypeata*

To maintain the favourable conservation condition of Shoveler in North Bull Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by shoveler, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

Conservation Objectives for : North Bull Island SPA [004006]

A130 Oystercatcher *Haematopus ostralegus*

To maintain the favourable conservation condition of Oystercatcher in North Bull Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by oystercatcher, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part four of the conservation objectives supporting document

A140 Golden Plover *Pluvialis apricaria*

To maintain the favourable conservation condition of Golden Plover in North Bull Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by golden plover, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

Conservation Objectives for : North Bull Island SPA [004006]

A141 Grey Plover *Pluvialis squatarola*

To maintain the favourable conservation condition of Grey Plover in North Bull Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by grey plover, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

Conservation Objectives for : North Bull Island SPA [004006]

A143 **Knot *Calidris canutus***

To maintain the favourable conservation condition of Knot in North Bull Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by knot, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A144 Sanderling *Calidris alba*

To maintain the favourable conservation condition of Sanderling in North Bull Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by sanderling, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

Conservation Objectives for : North Bull Island SPA [004006]

A149 Dunlin *Calidris alpina alpina*

To maintain the favourable conservation condition of Dunlin in North Bull Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by dunlin, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

Conservation Objectives for : North Bull Island SPA [004006]

A156 Black-tailed Godwit *Limosa limosa*

To maintain the favourable conservation condition of Black-tailed Godwit in North Bull Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by black-tailed godwit, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A157 Bar-tailed Godwit *Limosa lapponica*

To maintain the favourable conservation condition of Bar-tailed Godwit in North Bull Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by bar-tailed godwit, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A160 Curlew *Numenius arquata*

To maintain the favourable conservation condition of Curlew in North Bull Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by curlew, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A162 Redshank *Tringa totanus*

To maintain the favourable conservation condition of Redshank in North Bull Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by redshank, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A169 Turnstone *Arenaria interpres*

To maintain the favourable conservation condition of Turnstone in North Bull Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by turnstone, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A179 Black-headed Gull *Chroicocephalus ridibundus*

To maintain the favourable conservation condition of Black-headed Gull in North Bull Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by black-headed gull other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

Conservation Objectives for : North Bull Island SPA [004006]

A999 Wetlands

To maintain the favourable conservation condition of the wetland habitat in North Bull Island SPA as a resource for the regularly occurring migratory waterbirds that utilise it. This is defined by the following attribute and target:

Attribute	Measure	Target	Notes
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 1,713 hectares, other than that occurring from natural patterns of variation. See map 3	The wetland habitat area was estimated as 1,713ha using OSi data and relevant orthophotographs. For further information see part three of the conservation objectives supporting document

Legend

North Bull Island SPA 004006

MAP 1:
NORTH BULL ISLAND SPA
CONSERVATION OBJECTIVES
SPA DESIGNATION

Map to be read in conjunction with the NPWS Conservation Objectives Document.

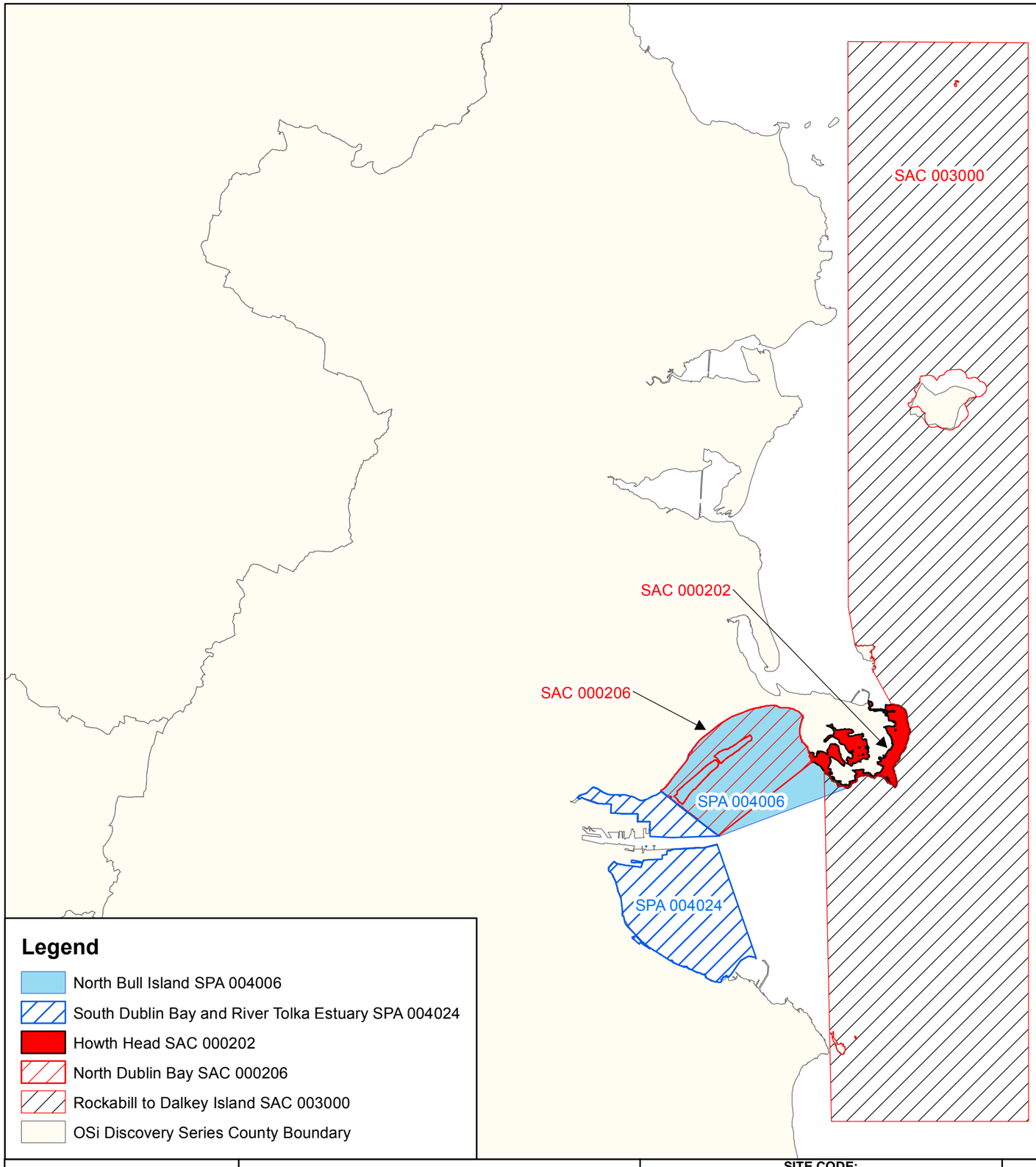
SITE CODE:
SPA 004006; version 2. CO. DUBLIN

0 0.25 0.5 0.75 1 km

N

Map Version 1
Date: Sep 2014

An Roinn Ealaíon, Oidhreachta agus Gaeltachta
Department of Arts, Heritage and the Gaeltacht



Legend

- North Bull Island SPA 004006
- South Dublin Bay and River Tolka Estuary SPA 004024
- Howth Head SAC 000202
- North Dublin Bay SAC 000206
- Rockabill to Dalkey Island SAC 003000
- OSi Discovery Series County Boundary

An Roinn Ealaíon, Oidhreachta agus Gaeltachta
Department of Arts, Heritage and the Gaeltacht

MAP 2:
NORTH BULL ISLAND SPA
CONSERVATION OBJECTIVES
ADJOINING / OVERLAPPING DESIGNATIONS

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SPA 004006; version 2, SPA 004024; version 2.
SAC 000202; version 3, SAC 000206; version 3,
SAC 003000; version 3. CO. DUBLIN

0 2 4 6 8 10 km

N

Map Version 1
Date: Sep 2014

Legend

North Bull Island SPA 004006

OSi Discovery Series County Boundary

Wetlands and Waterbirds

Wetlands

Terrestrial

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Department of
Arts, Heritage and the Gaeltacht

MAP 3:
NORTH BULL ISLAND SPA
CONSERVATION OBJECTIVES
WETLANDS AND WATERBIRDS

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SPA 004006; version 2. CO. DUBLIN

0 0.25 0.5 0.75 1 km

N

Map Version 1
Date: Sep 2014

ISSN 2009-4086

National Parks and Wildlife Service

Conservation Objectives Series

Baldoyle Bay SPA 004016

An Roinn
Ealaíon, Oidhreachta agus Gaeltachta

Department of
Arts, Heritage and the Gaeltacht

National Parks and Wildlife Service,
Department of Arts, Heritage and the Gaeltacht,

7 Ely Place, Dublin 2, Ireland.

Web: www.npws.ie
E-mail: nature.conservation@ahg.gov.ie

Citation:

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

Series Editor: Rebecca Jeffrey
ISSN 2009-4086

Introduction

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- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

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- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

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2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.
3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.
4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.
5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

Qualifying Interests

**** indicates a priority habitat under the Habitats Directive***

004016	Baldoyle Bay SPA
A046	Brent Goose *Branta bernicla hrota*
A048	Shelduck *Tadorna tadorna*
A137	Ringed Plover *Charadrius hiaticula*
A140	Golden Plover *Pluvialis apricaria*
A141	Grey Plover *Pluvialis squatarola*
A157	Bar-tailed Godwit *Limosa lapponica*
A999	Wetlands

Please note that this SPA overlaps with Baldoyle Bay SAC (000199). See map 2. The conservation objectives for this site should be used in conjunction with those for the overlapping SAC as appropriate.

Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: www.npws.ie/Publications

Year :	2012
Title :	Baldoyle Bay SPA (site code 4016) Conservation Objectives Supporting Document V1
Author :	NPWS
Series :	Unpublished report to NPWS

A046 Brent Goose *Branta bernicla hrota*

To maintain the favourable conservation condition of Light-bellied Brent Goose in Baldoyle Bay SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing and intensity of use of areas by light-bellied brent goose, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A048 Shelduck *Tadorna tadorna*

To maintain the favourable conservation condition of Shelduck in Baldoyle Bay SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of areas	No significant decrease in the range, timing or intensity of use of areas by shelduck, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A137 Ringed Plover *Charadrius hiaticula*

To maintain the favourable conservation condition of Ringed Plover in Baldoyle Bay SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by ringed plover, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A140 Golden Plover *Pluvialis apricaria*

To maintain the favourable conservation condition of Golden Plover in Baldoyle Bay SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by golden plover, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A141 Grey Plover *Pluvialis squatarola*

To maintain the favourable conservation condition of Grey Plover in Baldoyle Bay SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by grey plover, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A157 Bar-tailed Godwit *Limosa lapponica*

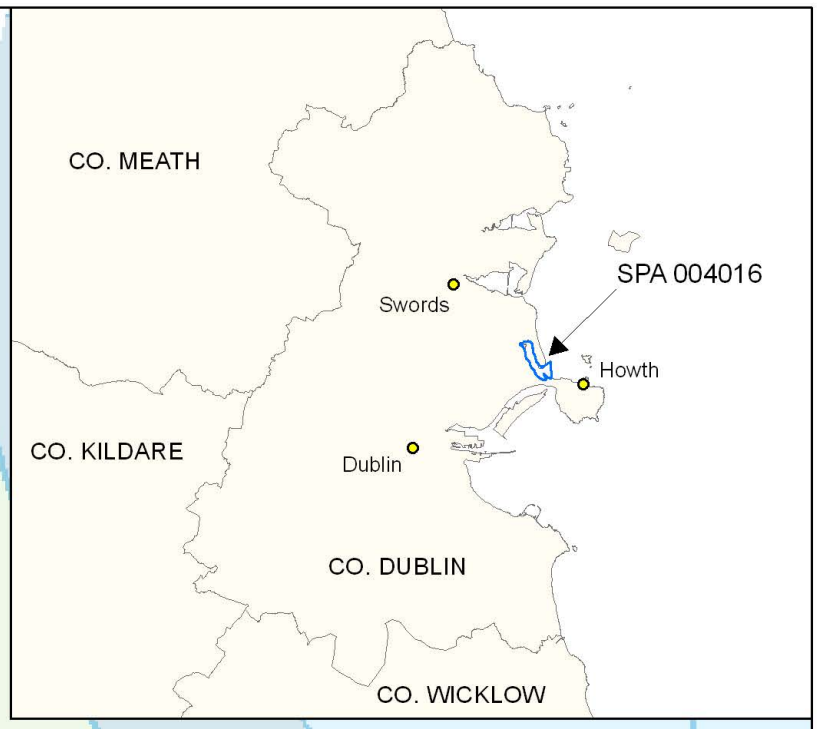
To maintain the favourable conservation condition of Bar-tailed Godwit in Baldoyle Bay SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by bar-tailed godwit, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A999 Wetlands

To maintain the favourable conservation condition of the wetland habitat in Baldoyle Bay SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 263ha, other than that occurring from natural patterns of variation	The wetland habitat area was estimated as 263ha using OSi data and relevant orthophotographs. For further information see part three of the conservation objectives supporting document



Portmarnock Bridge
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Sch
3
9
nd
10
Maynetown
Mayne Bridge
18
Strand
2
nge
Stapolin
24
25
26
Baldoyle
Sch
Hosp
13
Portmarnock Point
Baile Dúill
Sch
Sch
PO
Cush Point
R106
9
L.C.
L.C. 2MP
Sch
1MP
L.C.
Sutton
Cill Fhionntain
Sch

Legend

SPA 004016

An Roinn Ealaíon, Oidhreachta agus Gaeltachta
Department of Arts, Heritage and the Gaeltacht

MAP 1: BALDOYLE BAY SPA CONSERVATION OBJECTIVES SPA DESIGNATION

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE: SPA 004016 Version 1.04

0 250 500 m

N

Map Version 1
Date: Nov 2012

004016

000199

Legend

- SPA 004016 Baldoyle Bay
- SAC 000199 Baldoyle Bay
- OSi Discovery Series County Boundaries

An Roinn
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Department of
Arts, Heritage and the Gaeltacht

MAP 2:
BALDOYLE BAY SPA
CONSERVATION OBJECTIVES
ADJOINING / OVERLAPPING DESIGNATIONS

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SPA 004016 Version 1.04
SAC 000199 Version 1.02

0 0.5 1 km

N

Map Version 1
Date: Nov 2012

ISSN 2009-4086

National Parks and Wildlife Service

Conservation Objectives Series

Malahide Estuary SPA 004025

An Roinn
Ealaíon, Oidhreachta agus Gaeltachta
Department of
Arts, Heritage and the Gaeltacht

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E-mail: nature.conservation@ahg.gov.ie

Citation:

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

Series Editor: Rebecca Jeffrey
ISSN 2009-4086

Introduction

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

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

A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

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

Favourable conservation status of a habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

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

Notes/Guidelines:

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.
2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.
3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.
4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.
5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

Qualifying Interests

**** indicates a priority habitat under the Habitats Directive***

004025 Malahide Estuary SPA

A005	Great Crested Grebe *Podiceps cristatus*
A046	Brent Goose *Branta bernicla hrota*
A048	Shelduck *Tadorna tadorna*
A054	Pintail *Anas acuta*
A067	Goldeneye *Bucephala clangula*
A069	Red-breasted Merganser *Mergus serrator*
A130	Oystercatcher *Haematopus ostralegus*
A140	Golden Plover *Pluvialis apricaria*
A141	Grey Plover *Pluvialis squatarola*
A143	Knot *Calidris canutus*
A149	Dunlin *Calidris alpina alpina*
A156	Black-tailed Godwit *Limosa limosa*
A157	Bar-tailed Godwit *Limosa lapponica*
A162	Redshank *Tringa totanus*
A999	Wetlands

Please note that this SPA overlaps with Malahide Estuary SAC (000205). See map 2. The conservation objectives for this site should be used in conjunction with those for the overlapping site as appropriate.

Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: www.npws.ie/Publications

NPWS Documents

Year :	2013
Title :	Malahide Estuary SPA (site code 4025) Conservation objectives supporting document V1
Author :	NPWS
Series :	Conservation objectives supporting document

A005 Great Crested Grebe *Podiceps cristatus*

To maintain the favourable conservation condition of Great Crested Grebe in Malahide Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by great crested grebe, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A046 Brent Goose *Branta bernicla hrota*

To maintain the favourable conservation condition of Light-bellied Brent Goose in Malahide Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by light-bellied brent goose, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A048 Shelduck *Tadorna tadorna*

To maintain the favourable conservation condition of Shelduck in Malahide Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by shelduck, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A054 Pintail *Anas acuta*

To maintain the favourable conservation condition of Pintail in Malahide Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by pintail, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A067 Goldeneye *Bucephala clangula*

To maintain the favourable conservation condition of Goldeneye in Malahide Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by goldeneye, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A069 Red-breasted Merganser *Mergus serrator*

To maintain the favourable conservation condition of Red-breasted Merganser in Malahide Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by red-breasted merganser, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A130 Oystercatcher *Haematopus ostralegus*

To maintain the favourable conservation condition of Oystercatcher in Malahide Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by oystercatcher, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part four of the conservation objectives supporting document

A140 Golden Plover *Pluvialis apricaria*

To maintain the favourable conservation condition of Golden Plover in Malahide Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by golden plover, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A141 Grey Plover *Pluvialis squatarola*

To maintain the favourable conservation condition of Grey Plover in Malahide Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by grey plover, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A143 Knot *Calidris canutus*

To maintain the favourable conservation condition of Knot in Malahide Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by knot, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A149 Dunlin *Calidris alpina alpina*

To maintain the favourable conservation condition of Dunlin in Malahide Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by dunlin, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A156 Black-tailed Godwit *Limosa limosa*

To maintain the favourable conservation condition of Black-tailed Godwit in Malahide Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by black-tailed godwit, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A157 Bar-tailed Godwit *Limosa lapponica*

To maintain the favourable conservation condition of Bar-tailed Godwit in Malahide Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by bar-tailed godwit, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A162 Redshank *Tringa totanus*

To maintain the favourable conservation condition of Redshank in Malahide Estuary SPA, which is defined by the following list of attributes and targets:

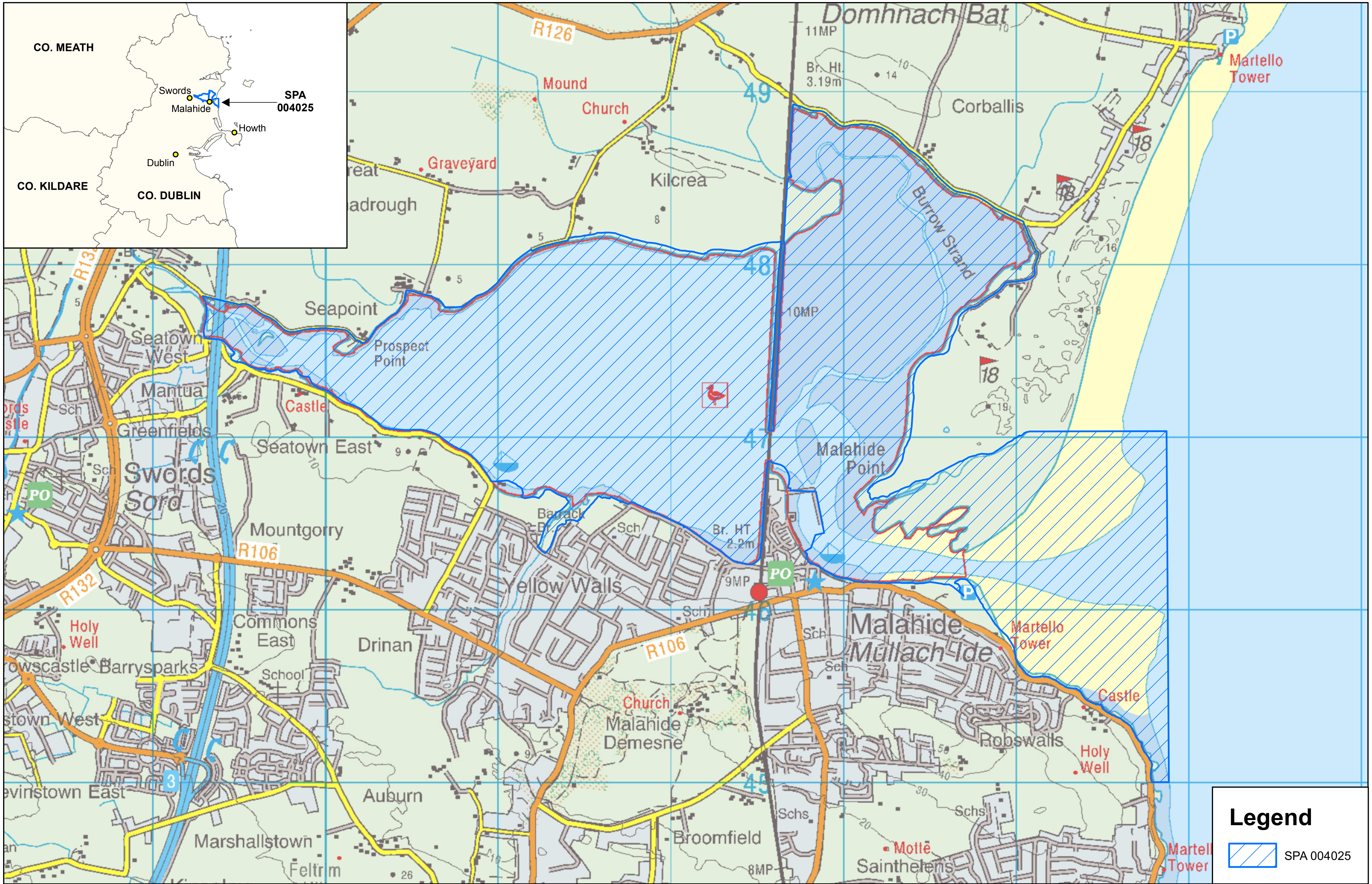
Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by redshank, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

Conservation Objectives for : Malahide Estuary SPA [004025]

A999 Wetlands

To maintain the favourable conservation condition of the wetland habitat in Malahide Estuary SPA as a resource for the regularly-occurring migratory waterbirds that utilise it. This is defined by the following attribute and target:

Attribute	Measure	Target	Notes
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 765 hectares, other than that occurring from natural patterns of variation	The wetland habitat area was estimated as 765ha using OSi data and relevant orthophotographs. For further information see part three of the conservation objectives supporting document


CO. MEATH
Swords
Malahide
SPA
004025
Howth
Dublin
CO. KILDARE
CO. DUBLIN
Domhnach Bat
R126
Mound
Church
Corballis
Martello
Tower
Graveyard
Kilcrea
Burrow Strand
Seapoint
Prospect
Point
Seatown
West
Mantua
Castle
Greenfields
Seatown East
Swords
Sord
Malahide
Point
Mountgorry
R106
Yellow Walls
Commons
East
Drinan
Holy
Well
Barrysparks
School
R132
Church
Malahide
Demesne
Malahide
Mullach Íde
Castle
Robswalls
Auburn
Marshallstown
Feltrim
Broomfield
Motte
Sainthelens
Legend
SPA 004025

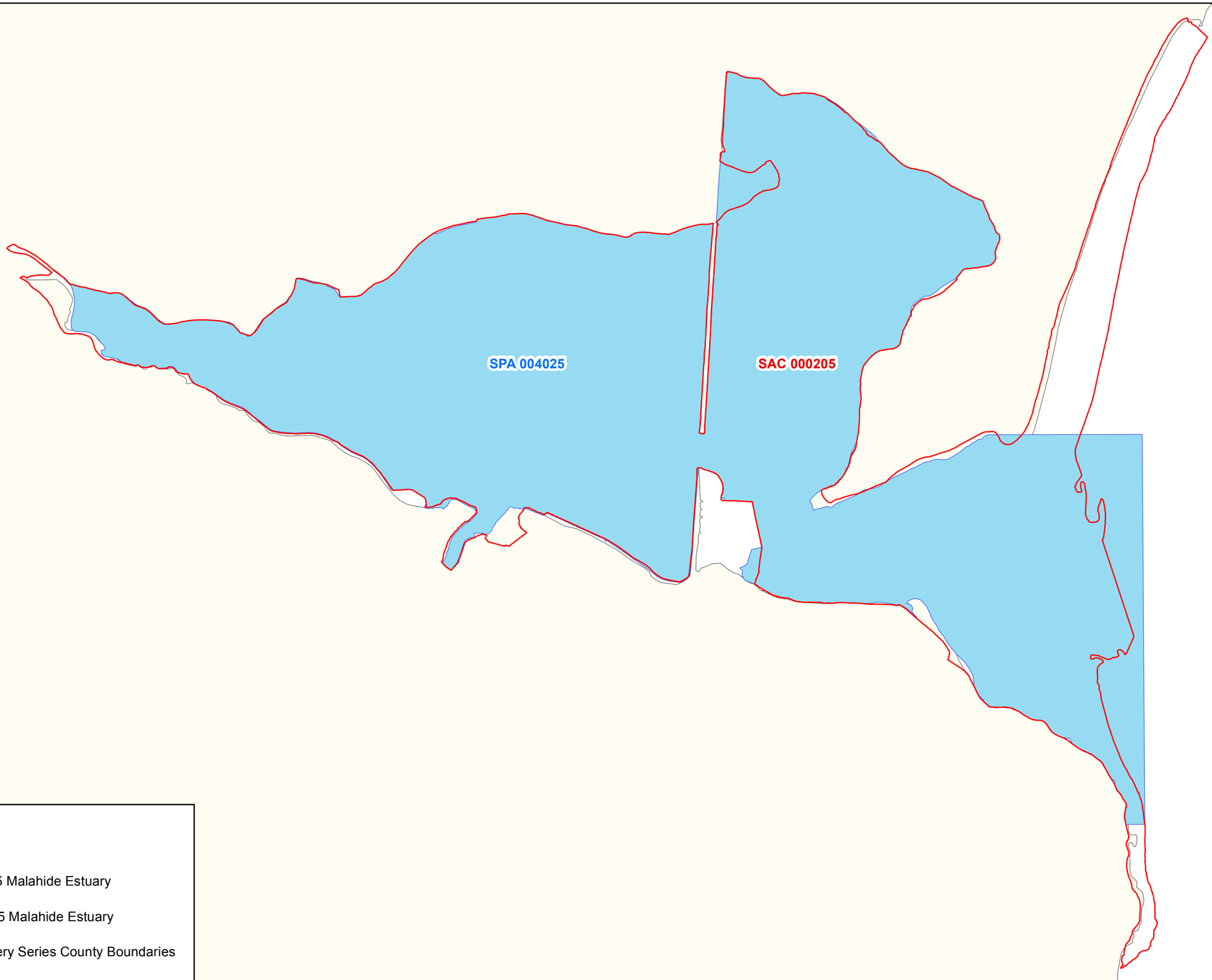
An Roinn Ealaíon, Oidhreachta agus Gaeltachta
Department of Arts, Heritage and the Gaeltacht

MAP 1:
MALAHIDE ESTUARY SPA
CONSERVATION OBJECTIVES
SPA DESIGNATION
Map to be read in conjunction with the NPWS Conservation Objectives Document.

0 0.5 1 km

N

Site Code
SPA 004025
Version: 1.03
Map Version 1
Date: March 2013



Legend

- SPA 004025 Malahide Estuary
- SAC 000205 Malahide Estuary
- OSi Discovery Series County Boundaries

An Roinn Ealaíon, Oidhreachta agus Gaeltachta
Department of Arts, Heritage and the Gaeltacht

MAP 2:
MALAHIDE ESTUARY SPA
CONSERVATION OBJECTIVES
ADJOINING / OVERLAPPING
DESIGNATIONS

Map to be read in conjunction with the NPWS Conservation Objectives Document.

0 0.5 1 km

N

Site Code
SPA 004025 version 1.03
SAC 000205 version 1.02
Map Version 1
Date: March 2013

Conservation objectives for Lambay Island SPA [004069]

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

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

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

Favourable conservation status of a habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

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

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

Bird Code	**Common Name**	**Scientific Name**
A009	Fulmar	*Fulmarus glacialis*
A017	Cormorant	*Phalacrocorax carbo*
A018	Shag	*Phalacrocorax aristotelis*
A043	Greylag Goose	*Anser anser*
A183	Lesser Black-backed Gull	*Larus fuscus*
A184	Herring Gull	*Larus argentatus*
A188	Kittiwake	*Rissa tridactyla*
A199	Guillemot	*Uria aalge*

A200	Razorbill	*Alca torda*
A204	Puffin	*Fratercula arctica*

Citation: *NPWS (2018) Conservation objectives for Lambay Island SPA [004069]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.*

ISSN 2009-4086

National Parks and Wildlife Service

Conservation Objectives Series

South Dublin Bay and River Tolka Estuary SPA 004024

An Roinn
Ealaíon, Oidhreachta agus Gaeltachta
Department of
Arts, Heritage and the Gaeltacht

National Parks and Wildlife Service,
Department of Arts, Heritage and the Gaeltacht,

7 Ely Place, Dublin 2, Ireland.

Web: www.npws.ie
E-mail: nature.conservation@ahg.gov.ie

Citation:

NPWS (201p) Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

Series Editor: Rebecca Jeffrey
ISSN 2009-4086

Introduction

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

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

A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

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

Favourable conservation status of a habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

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

Notes/Guidelines:

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.
2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.
3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.
4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.
5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

Qualifying Interests

**** indicates a priority habitat under the Habitats Directive***

004024	South Dublin Bay and River Tolka Estuary SPA
A046	Light-bellied Brent Goose *Branta bernicla hrota*
A130	Oystercatcher *Haematopus ostralegus*
A137	Ringed Plover *Charadrius hiaticula*
A141	Grey Plover *Pluvialis squatarola*
A143	Knot *Calidris canutus*
A144	Sanderling *Calidris alba*
A149	Dunlin *Calidris alpina alpina*
A157	Bar-tailed Godwit *Limosa lapponica*
A162	Redshank *Tringa totanus*
A179	Black-headed Gull *Chroicocephalus ridibundus*
A192	Roseate Tern *Sterna dougallii*
A193	Common Tern *Sterna hirundo*
A194	Arctic Tern *Sterna paradisaea*
A999	Wetlands

Please note that this SPA overlaps with South Dublin Bay SAC (000210). It adjoins North Bull Island SPA (004006) and North Dublin Bay SAC (000206). See map 2. The conservation objectives for this site should be used in conjunction with those for overlapping and adjacent sites as appropriate.

Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: www.npws.ie/Publications

NPWS Documents

Year :	2014
Title :	North Bull Island SPA (site code: 4006) and South Dublin Bay and River Tolka Estuary SPA (site code: 4024) Conservation objectives supporting document V1
Author :	NPWS
Series :	Conservation objectives supporting document

Other References

Year :	1995
Title :	Seabird monitoring handbook for Britain and Ireland: a compilation of methods for survey and monitoring of breeding seabirds
Author :	Walsh, P.; Halley, D.J.; Harris, M.P.; del Nevo, A.; Sim, I.M.W.; Tasker, M.L.
Series :	JNCC, Peterborough
Year :	2008
Title :	Autumn roosting by terns in south Dublin Bay
Author :	Merne, O.J.; Madden, B.; Archer, E.; Porter, B.
Series :	Irish Birds 8: 335-340
Year :	2010
Title :	Terns roosting in Dublin Bay, autumn 2010
Author :	Merne, O.J.
Series :	Irish Birds 9: 126-128
Year :	2014
Title :	BirdLife International Seabird Ecology and Foraging Range Database
Author :	BirdLife International
Series :	http://seabird.wikispaces.com
Year :	2014
Title :	Dublin Bay Birds Project - Dublin Port Tern Conservation Project; report for the 2014 season
Author :	Newton S.; Tierney N.; Whelan R.
Series :	BirdWatch Ireland and Dublin Port Company

Spatial data sources

Year :	2014
Title :	NPWS SPA boundary data
GIS Operations :	SPA boundary polygons divided into two classifications (wetlands, terrestrial) based on line identified by expert judgement. Expert opinion used as necessary to resolve any issues arising
Used For :	Wetlands (map 3)

A046 Light-bellied Brent Goose *Branta bernicla hrota*

To maintain the favourable conservation condition of Light-bellied Brent Goose in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by light-bellied brent goose, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A130 Oystercatcher *Haematopus ostralegus*

To maintain the favourable conservation condition of Oystercatcher in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by oystercatcher, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part four of the conservation objectives supporting document

A137 Ringed Plover *Charadrius hiaticula*

To maintain the favourable conservation condition of Ringed Plover in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by ringed plover, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of conservation objectives supporting document

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

A141 **Grey Plover *Pluvialis squatarola***

Grey Plover is proposed for removal from the list of Special Conservation Interests for South Dublin Bay and River Tolka Estuary SPA. As a result, a site-specific conservation objective has not been set for this species.

Attribute	Measure	Target	Notes

A143 Knot *Calidris canutus*

To maintain the favourable conservation condition of Knot in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by knot, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A144 Sanderling *Calidris alba*

To maintain the favourable conservation condition of Sanderling in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by sanderling, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A149 Dunlin *Calidris alpina alpina*

To maintain the favourable conservation condition of Dunlin in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by dunlin, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A157 Bar-tailed Godwit *Limosa lapponica*

To maintain the favourable conservation condition of Bar-tailed Godwit in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by bar-tailed godwit, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A162 Redshank *Tringa totanus*

To maintain the favourable conservation condition of Redshank in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by redshank, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A179 Black-headed Gull *Chroicocephalus ridibundus*

To maintain the favourable conservation condition of Black-headed Gull in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by black-headed gull other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A192 Roseate Tern *Sterna dougallii*

To maintain the favourable conservation condition of Roseate Tern in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Passage population: individuals	Number	No significant decline	Evening surveys of roosting terns in South Dublin Bay and River Tolka Estuary SPA confirm the conservation importance of the south Dublin Bay area during the post-breeding/pre-migration period. Up to 11,700, 9,025 and 8,020 terns were recorded in 2006, 2007 and 2010 respectively. Given the counting conditions (i.e. low light levels and long distance recording) it was rarely possible to identify the terns to species level but the majority of the birds appear to have been common terns (*Sterna hirundo*), with smaller numbers of Arctic and roseate terns (*S. paradisaea, S. dougallii*) (sandwich, little and black terns (*S. sandvicensis, S. albifrons, Chlidonias niger*) were also recorded) (Merne et al., 2008; Merne 2010). At least 645 roseate tern have been recorded here during the aforementioned survey years. This estimate does not factor in turnover rates and therefore the total number of roseate tern using this SPA may be significantly higher
Distribution: roosting areas	Number; location; area (hectares)	No significant decline	Merne et al. (2008) describe the main roosting area as the exposed sand banks in south Dublin Bay primarily between the Martello Towers at Sandymount (319524, 232021) and Williamstown (320796, 229979). Terns have been occasionally recorded outside of this area on adjacent sandflats extending to Irishtown/South Bull Wall and to Blackrock but these birds eventually join the birds roosting in the main area (Merne et al., 2008)
Prey biomass available	Kilogrammes	No significant decline	Terns associated with the roost are thought to feed during the day in the wider Dublin Bay area but direct survey evidence is incomplete. Evening observations of terns arriving to the roosting area indicated that most flew in from an easterly and southeasterly direction leading the authors to suggest they were feeding in the shallow waters of the Kish/Bray and Burford Banks (Merne et al., 2008). During the breeding season, roseate terns can make extensive use of marine waters adjacent to their breeding colonies. Key prey items: Small, schooling marine fish, very rarely small crustaceans. Key habitats: roseate tern forage in/over shallow and upwelling areas, including tide rips and shoals and over sandy bottoms. Foraging range: max. 30km, mean max. 18.28km, mean 12.3km (Birdlife International, 2014). As these foraging range estimates relate to birds during the breeding season, the distances between post-breeding roost sites and feeding areas may be greater

Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	Terns associated with the roost are thought to feed during the day in the wider Dublin Bay area but direct survey evidence is incomplete. Evening observations of terns arriving to the roosting area indicated that most flew in from an easterly and southeasterly direction leading the authors to suggest they were feeding in the shallow waters of the Kish/Bray and Burford Banks (Merne et al., 2008). During the breeding season roseate terns can make extensive use of marine waters adjacent to their breeding colonies. Key habitats: roseate tern forage in/over shallow and upwelling areas, including tide rips and shoals and over sandy bottoms. Foraging range: max. 30km, mean max. 18.28km, mean 12.3km (Birdlife International, 2014). As these foraging range estimates relate to birds during the breeding season, the distances between post-breeding roost sites and feeding areas may be greater
Disturbance at roosting site	Level of impact	Human activities should occur at levels that do not adversely affect the numbers of roseate tern among the post-breeding aggregation of terns	Merne et al. (2008) describes the main roosting area as the exposed sand banks in south Dublin Bay primarily between the Martello Towers at Sandymount (319524, 232021) and Williamstown (320796, 229979). Although principally used as a night roost, birds begin to roost at least one hour before sunset during the period July - September with peak activity occurring between mid-August and mid-September (Merne et al., 2008; Merne, 2010). Merne (2010) recorded significant disturbance events to the roosting terns caused by people with dogs off the leash and kite surfing

A193 Common Tern *Sterna hirundo*

To maintain the favourable conservation condition of Common Tern in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population abundance: apparently occupied nests (AONs)	Number	No significant decline	Measure based on standard tern survey methods (see Walsh et al., 1995). For more information on the history and recent population estimates of the tern colony at this SPA see Newton et al. (2014)
Productivity rate: fledged young per breeding pair	Mean number	No significant decline	Measure based on standard tern survey methods (see Walsh et al., 1995). For more information on the history and recent population estimates of the tern colony at this SPA see Newton et al. (2014)
Passage population: individuals	Number	No significant decline	Evening surveys of roosting terns in South Dublin Bay and River Tolka Estuary SPA confirm the conservation importance of the south Dublin Bay area during the post-breeding/pre-migration period. Up to 11,700, 9,025 and 8,020 terns were recorded in 2006, 2007 and 2010 respectively. Given the counting conditions (i.e. low light levels and long distance recording), it was rarely possible to identify terns to species level but the majority of the birds appear to have been common terns (*Sterna hirundo*), with smaller numbers of Arctic and roseate terns (*S. paradisaea, S. dougallii*); (sandwich, little and black terns (*S. sandvicensis, S. albifrons, Chlidonias niger*) were also recorded) (Merne et al., 2008; Merne 2010). At least 4,887 common tern have been recorded here during the aforementioned survey years. This estimate does not factor in turnover rates and therefore the total number of common tern using this SPA may be significantly higher
Distribution: breeding colonies	Number; location; area (Hectares)	No significant decline	The common tern breeding colony in Dublin Bay is primarily sited on an artificial structure known as the 'ESB Dolphin' (see Newton et al., 2014)
Distribution: roosting areas	Number; location; area (Hectares)	No significant decline	Merne et al. (2008) describe the main roosting area as the exposed sand banks in south Dublin Bay, primarily between the Martello Towers of at Sandymount (319524, 232021) and Williamstown (320796, 229979). Terns have been occasionally recorded outside of this area on adjacent sandflats extending to Irishtown/South Bull Wall and to Blackrock but these birds eventually joined the birds roosting in the main area (Merne et al 2008)
Prey biomass available	Kilogrammes	No significant decline	During the breeding season, common terns can make extensive use of marine waters adjacent to their breeding colonies. Key prey items: Small fish, crustaceans, insects and occasionally squid. Key habitats: forage in/over shallow coastal waters, bays, inlets, shoals, tidal-rips, drift lines, beaches, saltmarsh creeks, lakes, ponds or rivers. Foraging range: max. 37km; mean max. 33.81km; mean 8.67km (Birdlife International, 2014). Terns associated with the roost are thought to feed during the day in the wider Dublin Bay area but direct survey evidence is incomplete. Evening observations of arriving terns to the primary roosting area indicated that most flew into Dublin Bay from an easterly and southeasterly direction leading the authors to suggest they were feeding in the shallow waters of the Kish/Bray and Burford Banks (Merne et al., 2008). Foraging ranges between post-breeding roost sites and feeding areas may be greater than the estimates given for the breeding season

Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	During the breeding season, common terns can make extensive use of marine waters adjacent to their breeding colonies. Foraging range: max. 37km; mean max. 33.81km; mean 8.67km (Birdlife International, 2014). Terns associated with the roost are thought to feed during the day in the wider Dublin Bay area but direct survey evidence is incomplete. Evening observations of arriving terns to the primary roosting area indicated that most flew into Dublin Bay from an easterly and southeasterly direction leading the authors to suggest the bird were feeding in the shallow waters of the Kish/Bray and Burford Banks (Merne et al., 2008). Foraging ranges between post-breeding roost sites and feeding areas may be greater than the estimates given for the breeding season
Disturbance at breeding site	Level of impact	Human activities should occur at levels that do not adversely affect the breeding common tern population	The common tern breeding colony in Dublin Bay is primarily sited on an artificial structure known as the 'ESB Dolphin' (see Newton et al., 2014)
Disturbance at roosting site	Level of impact	Human activities should occur at levels that do not adversely affect the numbers of common tern among the post-breeding aggregation of terns	Merne et al (2008) describes the main roosting area as the exposed sand banks in south Dublin Bay primarily between the Martello Towers at Sandymount (319524, 232021) and Williamstown (320796, 229979). Although principally used as a night roost, birds begin to roost at least one hour before sunset during the period July - September with peak activity occurring between mid-August and mid-September (Merne et al 2008; Merne 2010). Merne (2010) recorded significant disturbance events to the roosting terns caused by people with dogs off the leash and kite surfing

A194 Arctic Tern *Sterna paradisaea*

To maintain the favourable conservation condition of Arctic Tern in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Passage population	Number of individuals	No significant decline	Evening surveys of roosting terns in South Dublin Bay and River Tolka Estuary SPA confirm the conservation importance of the south Dublin Bay area during the post-breeding/pre-migration period. Up to 11,700, 9,025 and 8,020 terns were recorded in 2006, 2007 and 2010 respectively. Given the counting conditions (i.e. low light levels and long distance recording) it was rarely possible to identify the terns to species level but the majority of the birds appear to have been common terns (*Sterna hirundo*), with smaller numbers of Arctic and roseate terns (*S. paradisaea, S. dougallii*); (sandwich, little and black terns (*S. sandvicensis, S. albifrons, Chlidonias niger*) were also recorded) (Merne et al., 2008; Merne 2010). At least 200 Arctic tern have been recorded here during the aforementioned survey years. This estimate does not factor in turnover rates and therefore the total number of Arctic tern using this SPA may be significantly higher
Distribution: roosting areas	Number; location; area (hectares)	No significant decline	Merne et al. (2008) describe the main roosting area as the exposed sand banks in south Dublin Bay primarily between the Martello Towers at Sandymount (319524, 232021) and Williamstown (320796, 229979). Terns have been occasionally recorded outside of this area on adjacent sandflats extending to Irishtown/South Bull Wall and to Blackrock but these birds eventually join the birds roosting in the main area (Merne et al., 2008)
Prey biomass available	Kilogrammes	No significant decline	Terns associated with the roost are thought to feed during the day in the wider Dublin Bay area but direct survey evidence is incomplete. Evening observations of terns arriving to the roosting area indicated that most flew in from an easterly and southeasterly direction leading the authors to suggest they were feeding in the shallow waters of the Kish/Bray and Burford Banks (Merne et al., 2008). During the breeding season Arctic terns can make extensive use of marine waters adjacent to their breeding colonies. Key prey items: Small fish, crustaceans and other invertebrates. Key habitats: forage in/over open waters and shallow bays, rocky shores, tidal flats, shoals, tide rips and ocean fronts. Foraging range: max. 20.6km, mean max. 12.24km, mean 11.75km (Birdlife International, 2014). As these foraging range estimates relate to birds during the breeding season, the distances between post-breeding roost sites and feeding areas may be greater

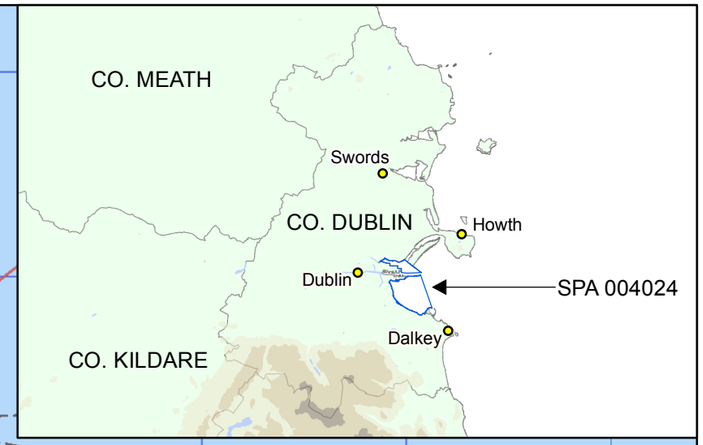
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	Terns associated with the roost are thought to feed during the day in the wider Dublin Bay area but direct survey evidence is incomplete. Evening observations of arriving terns to the primary roosting area indicated that most flew into Dublin Bay from an easterly and southeasterly direction leading the authors to suggest the birds were feeding in the shallow waters of the Kish/Bray and Burford Banks (Merne et al., 2008). During the breeding season Arctic terns can make extensive use of marine waters adjacent to their breeding colonies. Foraging range: max. 20.6km, mean max. 12.24km, mean 11.75km (Birdlife International, 2014). As these foraging range estimates relate to birds during the breeding season, the distances between post-breeding roost sites and feeding areas may be greater
Disturbance at roosting site	Level of impact	Human activities should occur at levels that do not adversely affect the numbers of Arctic tern among the post-breeding aggregation of terns	Merne et al. (2008) describes the main roosting area as the exposed sand banks in south Dublin Bay primarily between the Martello Towers at Sandymount (319524, 232021) and Williamstown (320796, 229979). Although principally used as a night roost, birds begin to roost at least one hour before sunset during the period July - September with peak activity occurring between mid-August and mid-September (Merne et al., 2008; Merne, 2010). Merne (2010) recorded significant disturbance events to the roosting terns caused by people with dogs off the leash and kite surfing

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

A999 Wetlands

To maintain the favourable conservation condition of the wetland habitat in South Dublin Bay and River Tolka Estuary SPA as a resource for the regularly occurring migratory waterbirds that utilise it. This is defined by the following attribute and target:

Attribute	Measure	Target	Notes
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 2,192 hectares, other than that occurring from natural patterns of variation. See map 3	The wetland habitat area was estimated as 2,192ha using OSi data and relevant orthophotographs. For further information see part three of the conservation objectives supporting document



Legend

South Dublin Bay and River Tolka Estuary SPA 004024

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MAP 1:
SOUTH DUBLIN BAY AND RIVER TOLKA ESTUARY SPA
CONSERVATION OBJECTIVES
SPA DESIGNATION

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SPA 004024; version 2. CO. DUBLIN

0 0.5 1 1.5 2 km

N

Map Version 1
Date: Sep 2014

SAC 000206

SPA 004006

SAC 000210

SPA 004024

Legend

- South Dublin Bay and River Tolka Estuary SPA 004024
- North Bull Island SPA 004006
- North Dublin Bay SAC 000206
- South Dublin Bay SAC 000210
- OSi Discovery Series County Boundary

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Department of Arts, Heritage and the Gaeltacht

MAP 2:
SOUTH DUBLIN BAY AND RIVER TOLKA ESTUARY SPA CONSERVATION OBJECTIVES ADJOINING / OVERLAPPING DESIGNATIONS

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SPA 004006; version 2, SPA 004024: version 2.
SAC 000206: version 3, SAC 000210: version 3.
CO. DUBLIN

0 1 2 3 km

N

Map Version 1
Date: Sep 2014

Legend

South Dublin Bay and River Tolka Estuary SPA 004024

OSi Discovery Series County Boundary

Wetlands and Waterbirds

Wetlands

Terrestrial

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MAP 3:
SOUTH DUBLIN BAY AND RIVER TOLKA ESTUARY SPA CONSERVATION OBJECTIVES WETLANDS AND WATERBIRDS

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SPA 004024; version 2. CO. DUBLIN

0 0.5 1 1.5 2 km

N

Map Version 1
Date: Sep 2014

ISSN 2009-4086

National Parks and Wildlife Service

Conservation Objectives Series

Rogerstown Estuary SPA 004015

An Roinn
Ealaíon, Oidhreachta agus Gaeltachta
Department of
Arts, Heritage and the Gaeltacht

National Parks and Wildlife Service,
Department of Arts, Heritage and the Gaeltacht,

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NPWS (2013) Conservation Objectives: Rogerstown Estuary SPA 004015. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

Series Editor: Rebecca Jeffrey
ISSN 2009-4086

Introduction

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

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

A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

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

Favourable conservation status of a habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

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

Notes/Guidelines:

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.
2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.
3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.
4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.
5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

Qualifying Interests

**** indicates a priority habitat under the Habitats Directive***

004015	Rogerstown Estuary SPA
A043	Greylag Goose *Anser anser*
A046	Brent Goose *Branta bernicla hrota*
A048	Shelduck *Tadorna tadorna*
A056	Shoveler *Anas clypeata*
A130	Oystercatcher *Haematopus ostralegus*
A137	Ringed Plover *Charadrius hiaticula*
A141	Grey Plover *Pluvialis squatarola*
A143	Knot *Calidris canutus*
A149	Dunlin *Calidris alpina alpina*
A156	Black-tailed Godwit *Limosa limosa*
A162	Redshank *Tringa totanus*
A999	Wetlands

Please note that this SPA overlaps with Rogerstown Estuary SAC (000208). See map 2. The conservation objectives for this site should be used in conjunction with those for the overlapping site as appropriate.

Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: www.npws.ie/Publications

NPWS Documents

Year :	2013
Title :	Rogerstown Estuary SPA (site code 4015) Conservation Objectives Supporting Document V1
Author :	NPWS
Series :	Conservation objectives supporting document

A043 Greylag Goose *Anser anser*

To maintain the favourable conservation condition of Greylag Goose in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Number and range of areas used by waterbirds	No significant decrease in the range, timing or intensity of use of areas by greylag goose, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A046 Brent Goose *Branta bernicla hrota*

To maintain the favourable conservation condition of Light-bellied Brent Goose in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Number and range of areas used by waterbirds	No significant decrease in the range, timing and intensity of use of areas by light-bellied brent goose, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A048 Shelduck *Tadorna tadorna*

To maintain the favourable conservation condition of Shelduck in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Number, range, timing and intensity of areas used by waterbirds	No significant decrease in the range, timing or intensity of use of areas by shelduck, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A056 Shoveler *Anas clypeata*

To maintain the favourable conservation condition of Shoveler in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Number and range of areas used by waterbirds	No significant decrease in the range, timing or intensity of use of areas by shoveler, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A130 Oystercatcher *Haematopus ostralegus*

To maintain the favourable conservation condition of Oystercatcher in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Number, range, timing and intensity of areas used by waterbirds	No significant decrease in the range, timing and intensity of use of areas by oystercatcher, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part four of the conservation objectives supporting document

A137 Ringed Plover *Charadrius hiaticula*

To maintain the favourable conservation condition of Ringed Plover in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Number and range of areas used by waterbirds	No significant decrease in the range, timing or intensity of use of areas by ringed plover, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of conservation objectives supporting document

A141 Grey Plover *Pluvialis squatarola*

To maintain the favourable conservation condition of Grey Plover in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Number, range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by grey plover, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A143 Knot *Calidris canutus*

To maintain the favourable conservation condition of Knot in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Number, range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by knot, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A149 Dunlin *Calidris alpina alpina*

To maintain the favourable conservation condition of Dunlin in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Number, range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by dunlin, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A156 Black-tailed Godwit *Limosa limosa*

To maintain the favourable conservation condition of Black-tailed Godwit in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Number, range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by black-tailed godwit, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A162 Redshank *Tringa totanus*

To maintain the favourable conservation condition of Redshank in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets:

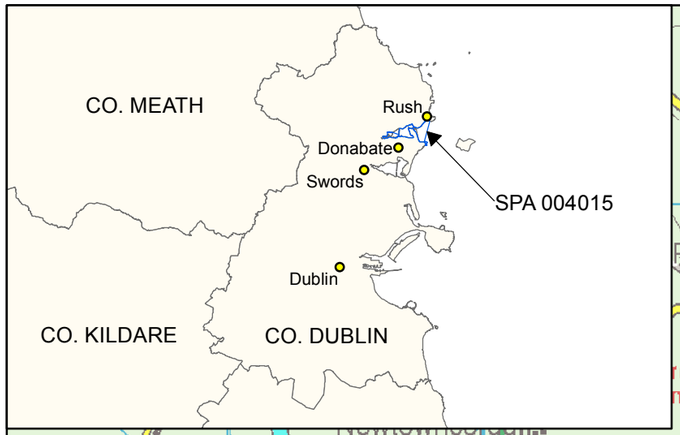
Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Number, range, timing and intensity of use of area	No significant decrease in the range, timing or intensity of use of areas by redshank, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

Conservation Objectives for : Rogerstown Estuary SPA [004015]

A999 Wetlands

To maintain the favourable conservation condition of wetland habitat in Rogerstown Estuary SPA as a resource for the regularly occurring migratory waterbirds that utilise it. This is defined by the following attribute and target:

Attribute	Measure	Target	Notes
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 646 hectares, other than that occurring from natural patterns of variation	The wetland habitat area was estimated as 646ha using OSi data and relevant orthophotographs. For further information see part three of the conservation objectives supporting document



MAP 1:
ROGERSTOWN ESTUARY SPA
CONSERVATION OBJECTIVES
SPA DESIGNATION

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE: SPA 004015
CO. DUBLIN; version 1.02

0 0.25 0.5 0.75 1 km

An Roinn Ealaíon, Oidhreachta agus Gaeltachta
Department of Arts, Heritage and the Gaeltacht

The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision. Reproduced from Ordnance Survey material by permission of the Government (Permit number EN 0059212).

Níl sna teorainneacha ar na léarscáileanna ach nod garshuiomhach ginearálta. Féadfar athbhreithnithe a déanamh ar theorainneacha na gceantar comharthaithe. Macasamhail d'ábhar na Suirbhéarachta Ordonáis le chead ón Rialtas (Ceadunas Uimh. EN 0059212)

N

Map Version 1
Date: May 2013

Legend

SPA 004015

SPA 004015

SAC 000208

Legend

- Rogerstown Estuary SPA 004015
- Rogerstown Estuary SAC 000208
- OSi Discovery Series County Boundaries

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Department of Arts, Heritage and the Gaeltacht

MAP 2:
ROGERSTOWN ESTUARY SPA
CONSERVATION OBJECTIVES
ADJOINING / OVERLAPPING DESIGNATION

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE: SPA 004015 CO. DUBLIN; version 1.02
SAC 000208 CO. DUBLIN; version 1.02

0 0.25 0.5 0.75 1 km

N

Map Version 1
Date: May 2013