

Grange Road Cycle Route – Part 8 Planning Application

Screening for Appropriate Assessment



October 2015


Comhairle Contae
Átha Cliath Theas
South Dublin County Council

 **Roughan &
O'Donovan**

Consulting Engineer
Roughan & O'Donovan
Consulting Engineers
Arena House
Arena Road
Sandyford
Dublin 18

Client
South Dublin County Council
County Hall Tallaght,
Dublin 24

Grange Road Cycle Route

Screening for Appropriate Assessment

Document No:..... 15.194

Made:..... Máire Daly

Checked:..... Christine Murphy

Approved: Barry Corrigan

Issue	Description	Made	Checked	Approved	Date
V1	Screening for AA	MD	CM	BC	27 th October 2015

Grange Road Cycle Route

Screening for Appropriate Assessment

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Introduction.....	1
1.2	The Requirement for an Assessment under Article 6	1
1.3	Legislative Context	1
1.4	Scope of the Appropriate Assessment	2
1.5	Main Sources of Consultation	2
2.0	DESCRIPTION OF THE PROJECT.....	3
2.1	Overview.....	3
2.2	Construction Methodology	4
3.0	NATURA 2000 SITES.....	5
3.1	Designated Sites in the Vicinity of the Project.....	5
4.0	ASSESSMENT OF POTENTIAL SIGNIFICANT EFFECTS: STAGE 1 SCREENING	7
4.1	Steps Required in Screening for Appropriate Assessment.....	7
4.2	Stage 1: Screening.....	7
4.3	Consideration of Potential Cumulative Impacts.....	12
5.0	DISCUSSION AND CONCLUSION	13
6.0	REFERENCES.....	13

1.0 INTRODUCTION

1.1 Introduction

This report has been prepared to determine the potential effects, if any, of the proposed development of a 1.6km cycle route in Rathfarnham, South County Dublin on nearby sites with European conservation designations (i.e. Natura 2000 sites). The new cycleway is proposed along Grange Road between the Taylors Lane/Grange Road junction in the south and the Nutgrove Avenue/Grange Road junction to the north (See Figure 2.1). The purpose of this assessment is to determine the appropriateness, or otherwise, of the proposal in the context of the conservation status of such designated sites. This report forms part of the overall Part VIII planning application submission for the cycle route project.

Grange Road forms part of Secondary Route 10B in the Greater Dublin Area (GDA) Cycle Network Plan and is crossed by Primary Route S05. The route is a desire line for commuters accessing the city centre and also links several schools to residential areas. Grange Road is also used by recreational cyclists as it provides access to Marlay Park and St. Enda's Park. Many recreational cyclists going to and from the Wicklow Mountains do so via Grange Road. As such, Grange Road represents an important cycle route both locally and strategically and the current proposal seeks to improve this route for all users.

1.2 The Requirement for an Assessment under Article 6

The requirement for an Appropriate Assessment (AA) was determined by South Dublin County Council to inform the proposed cycleway. According to Regulation 42 (1) of the European Communities (Birds and Natural Habitats) Regulations 2011, the competent authority (in this case, South Dublin County Council) has a duty to:

- Determine whether the proposal is directly connected with or necessary to Natura 2000 site management for conservation; and, if not,
- Determine whether the proposal is likely to have a significant effect on the Natura 2000 site(s) either individually or in combination with other plans or projects; and, if so,
- Make an appropriate assessment of the implications (of the activities) for the Natura 2000 site(s) in view of the conservation objectives.

This report provides a screening for AA and is intended to address all issues regarding the activities involved with the development of the Grange Road Cycle Route (hereafter referred to as the "Site") and potential impacts on any designated Natura 2000 sites; and allow South Dublin County Council as the "Competent Authority" to comply with Article 6 (3) and (4) of the Habitats Directive 92/43/EEC.

1.3 Legislative Context

European Directive 92/43/EEC (The Habitats Directive) requires competent authorities to carry out an AA of plans and projects that, either alone or in combination with other plans and projects are likely to have a significant effect on European designated sites.

The Habitats Directive is currently transposed into Irish law by the European Communities (Birds & Natural Habitats) Regulations 2011. Part 5: 42 (1) of these regulations requires that any proposal likely to have a significant effect on a European Site, alone or in combination with other operations or activities, needs to be assessed with respect to its potential impact on the site's conservation objectives (an Appropriate Assessment).

1.4 Scope of the Appropriate Assessment

This Screening for Appropriate Assessment (Stage 1) has been prepared in accordance with current guidance and provides the information required in order to establish whether or not the proposed development is likely to have a significant impact on the Natura 2000 sites in the context of their conservation objectives and specifically on the habitats and species for which the Natura 2000 sites have been designated. Section 3.2.3 of the DoEHLG (2010) Guidance for Planning Authorities states that the specific approach to screening will depend on the scale of likely impacts of the plan or project; the sensitivities of the ecological receptors potentially affected; and, the potential for in combination effects, while cognisant of the precautionary principle.

Description of the project:

- Location of the Site and distances from the qualifying features of Natura 2000 designations including a map of the Site in relation to these Natura 2000 boundaries;
- The size, scale, area of the project in relation to Natura 2000 sites and projected level of activity, class of activity and frequency; and,
- Details of construction works including duration, materials and physical changes as detailed for the project.

Potential Impacts on Natura 2000 sites with respect to the Conservation Objectives:

- The impact of the proposed construction on the defining structure and function of the Natura 2000 sites.

1.5 Main Sources of Consultation

- Department of Environment, Heritage and Local Government (2010) Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities;
- European Community Habitats Directive (92/43/EEC) – The Habitats Directive;
- European Communities (Birds & Natural Habitats) Regulations 2011;
- National Parks & Wildlife Service (2013) The Status of EU Protected Habitats and Species in Ireland. Volume 2 & 3: Article 17 Assessments. Department of Arts, Heritage and Gaeltacht;
- Eionet (2015) Reporting under Article 12 of the Birds Directive (period 2008-2012). European Topic Centre on Biological Diversity.
- Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular NPWS 1/10 & PSSP 2/10;
- European Commission Environment Directorate-General (2001). Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC;
- European Commission Environment Directorate-General (2000) Managing European Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC.

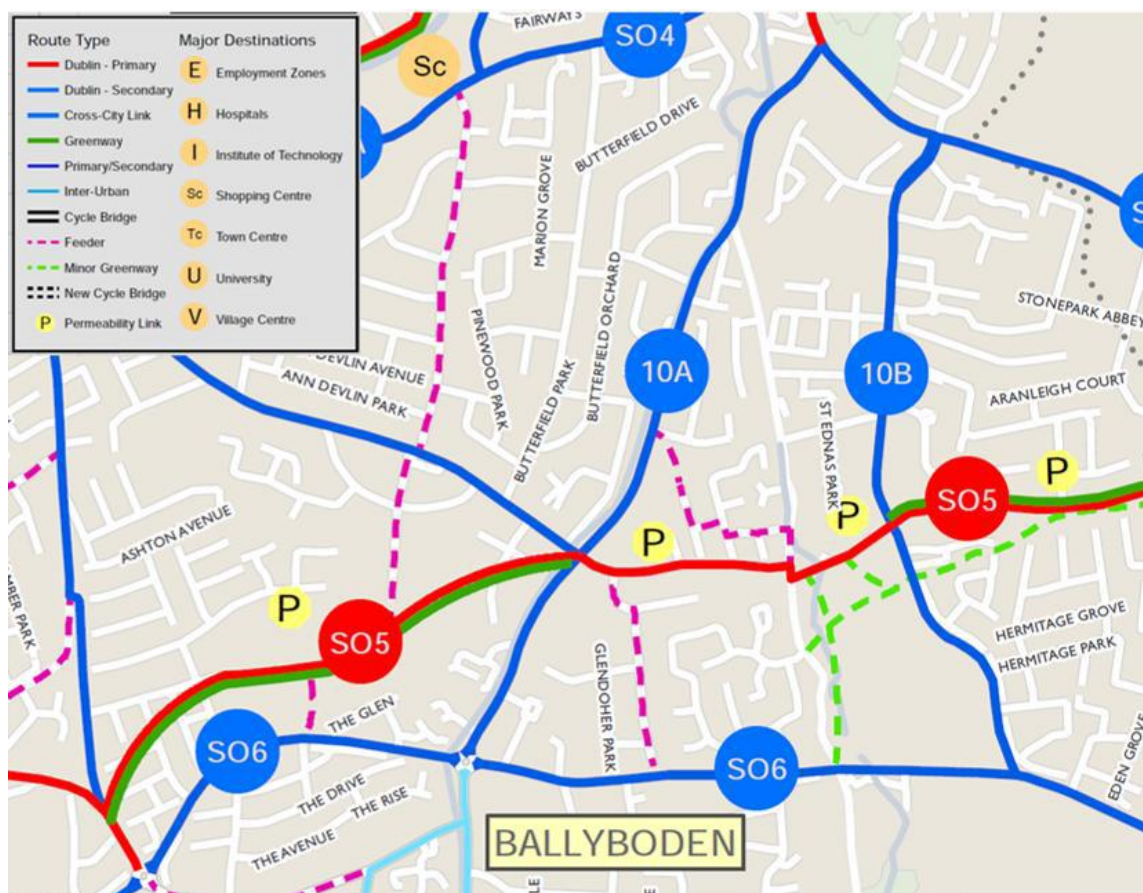


Figure 2.2 Extract from GDA CNP – Grange Road cycle route 10B (Source: GDA CNP)

A site visit was conducted by the project ecologist completing the current assessment in October 2015 in order to examine any possible connectivity between the proposed greenway and any designated Natura 2000 sites in the surrounding area.

2.2 Construction Methodology

Construction along the 1.6km route will involve the following elements:

- Construction of new kerblines for new footpath and for cycle track;
- Earthworks - excavation of portions of existing verge along eastern side of carriageway;
- Removal of trees;
- Break-up of redundant road carriageway;
- Construction of footpath;
- Construction of cycle track;
- Relocation of drainage gullies;
- New gullies and gully connections to existing drainage network for certain sections;
- Resurfacing and new lining; and
- Landscaping.

The majority of the works will take place within the existing carriageway, with minor works to adjacent grass verges and some tree removal in parts.

3.0 NATURA 2000 SITES

3.1 Designated Sites in the Vicinity of the Project

Section 3.2.3 of the *Guidance for Planning Authorities* states that the approach to screening can be different for different plans and projects and will depend on the scale and the likely effects of the project. A key variable that will determine whether or not a particular Natura 2000 site is likely to be negatively affected is its physical distance from the project site.

Furthermore UK guidance (Scott Wilson et al., 2006) states that a distance of 15km is currently recommended in the case of plans. For projects, the distance could be much less than 15km and in some cases less than 100m, but this must be evaluated on a case-by-case basis.

Figure 3.1 overleaf illustrates the location of the nearest designated Natura 2000 sites including both Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). The details of all illustrated sites are listed in Table 3.1. Further consideration of any likely significant impacts is provided in Section 4.

Table 3.1 Designated Natura 2000 sites within proximity to project site

County	Site Name	Distance from proposed development
Dublin/Wicklow	Wicklow Mountains SAC (002122)	5km
Dublin/Wicklow	Wicklow Mountains SPA (004040)	5.5km
Dublin	South Dublin Bay and River Tolka SPA (004024)	6km
Dublin	South Dublin Bay SAC (000210)	6km
Dublin	Glenasmole Valley SAC (001209)	6.6km

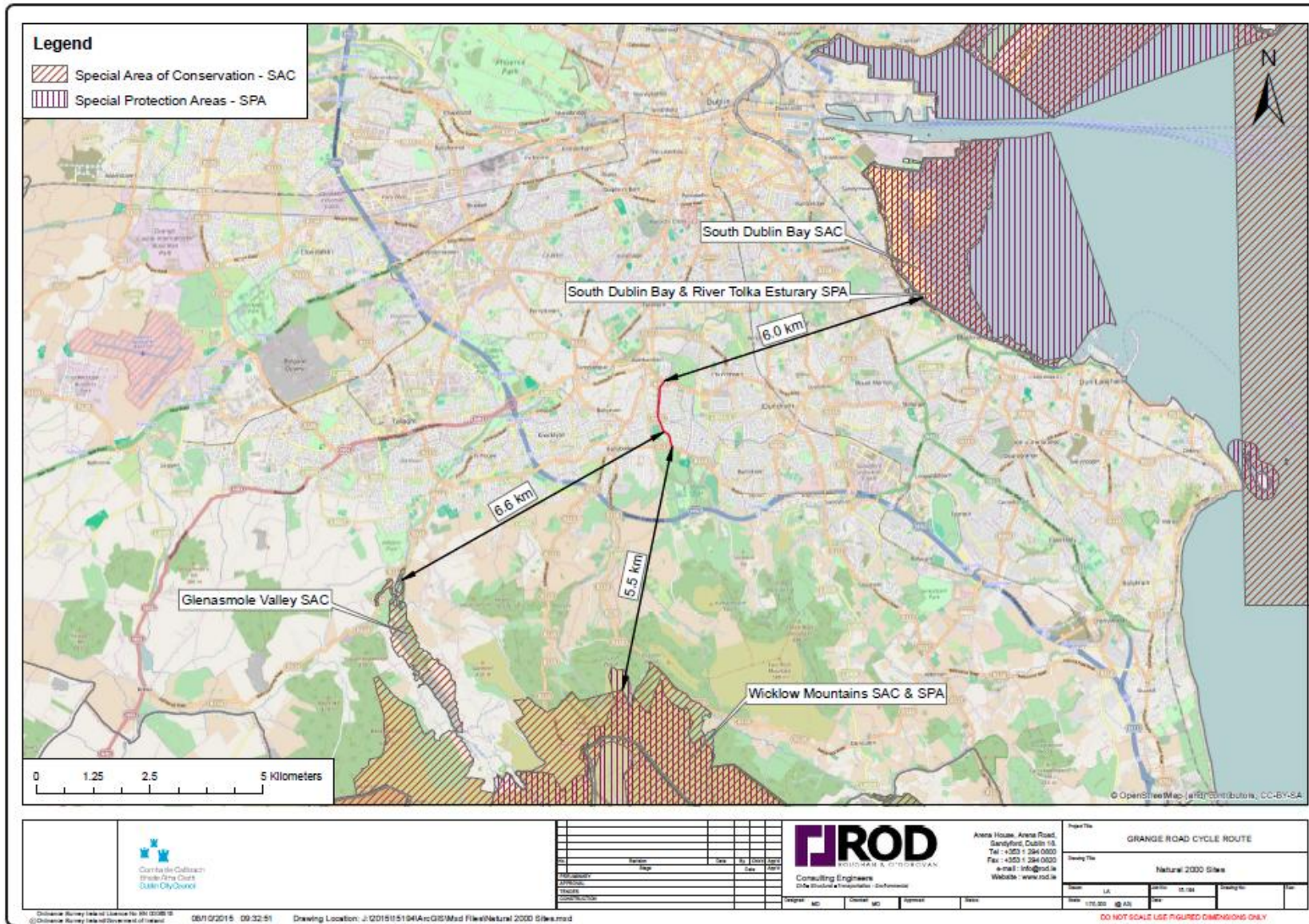


Figure 3.1 Designated Natura 2000 sites within proximity of project site

4.0 ASSESSMENT OF POTENTIAL SIGNIFICANT EFFECTS: STAGE 1 SCREENING

4.1 Steps Required in Screening for Appropriate Assessment

The Department of Environment, Heritage & Local Government's publication 'Appropriate Assessment of Plans and Projects in Ireland: Guidance for Local Authorities' (revision 10/02/10) states that Screening for Appropriate Assessment includes the following steps:

1. Description of plan or project, and local site or plan area characteristics;
2. Identification of relevant European Sites, and compilation of information on their qualifying interests and conservation objectives;
3. Assessment of likely effects – direct, indirect and cumulative – undertaken on the basis of available information as a desk study or field survey or primary research as necessary; and
4. Screening statement with conclusion.

Steps 2 to 4 above are addressed in Table 4.1.

4.2 Stage 1: Screening

The assessment questions listed below have been sourced from EU Guidance - Assessment of plans and projects significantly affecting Natura 2000 sites – Assessment Criteria and each has been answered in the context of the current project:

Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site:

Construction works are limited to existing built surfaces. There are no actual works within any designated Natura 2000 site boundary. No elements of the activities at Grange Road are considered likely to result in a significant affect on the conservation objectives of any of the Natura 2000 sites listed in Section 3.

Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site:

No element of the application will result in loss of habitat area; fragmentation; disturbance; subsequent impacts on species population density; or, any change to water resources or water quality hydrologically connected to any Natura 2000 site.

Describe any likely significant changes to the site:

No element of the cycleway development will result in impacts to any Annex I habitat; cause a reduction in the area of any listed habitat within any Natura 2000 site; cause any direct or indirect damage to the physical quality of the environment within any Natura 2000 site; or cause any serious or on-going disturbance to species or habitats for which any Natura 2000 is designated.

Describe any likely impacts on the Natura 2000 site as a whole:

No element of the application will cause direct or indirect damage to the site; characteristics of any Natura 2000 site; reproductive ability of designated populations for which any Natura 2000 site is selected; or interfere with any known mitigation measures currently in place for other plans and projects.

Provide indicators of significance as a result of the identification of effects set out above:

There will be no hydrological connection to any of the Natura 2000 sites and no change in connectivity will result from the cycleway development. There will be no subsequent change to the physical quality of the environment (e.g. water quality).

Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known:

Table 4.1 examines any potential effects that may occur as a result of the proposed works on the Natura 2000 sites previously outlined in Section 3. For a construction project of the nature and scale of the cycle route project, the likely zone of potential direct impact is considered to be the zone immediately around the construction site (based on the proposed works, a radius of 100m is considered reasonable in this instance). Outside of this zone of potential direct impact there must be a source – pathway – receptor link connecting the project with the Natura 2000 site for an indirect impact to occur e.g. a watercourse or in the case of an SPA an area that may be recognised for bird species usage. As the project is small scale, any direct or indirect impacts are considered extremely unlikely. However in order to satisfy the requirements of Article 6.3 of the Habitats Directive and for transparency, a Screening Matrix (Table 4.1) is provided showing how the key indicators have been applied in a systematic and objective manner.

Table 4.1 Screening Matrix of Natura 2000 sites within 10km of project site for Likely Significant Effects

Natura 2000 site	Distance from proposed development	Qualifying Features	Assessment of Likely Significant Effect (LSE)	Screening Conclusion
Glenasmole Valley SAC (001209)	6.6km	6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia) (* important orchid sites)* 6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) 7220 Petrifying springs with tufa formation (Cratoneurion)* * denotes a priority habitat	In relation to potential impacts on the qualifying features listed, no complete source-pathway-receptor chain could be identified between the proposed works and the Natura 2000 site, therefore no LSE is expected on any of the qualifying interests or the conservation objectives of the Glenasmole Valley SAC	Screened Out
Wicklow Mountains SAC (002122)	5km	3130 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea 3160 Natural dystrophic lakes and ponds 4010 Northern Atlantic wet heaths with Erica tetralix 4030 European dry heaths 4060 Alpine and Boreal heaths 6230 Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)* 7130 Blanket bogs (* if active bog)	In relation to potential impacts on the qualifying features listed, no complete source-pathway-receptor chain could be identified between the proposed works and the Natura 2000 site, therefore no LSE is expected on any of the qualifying interests or the conservation objectives of the Wicklow Mountains SAC	Screened Out

		<p>8110 Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)</p> <p>8210 Calcareous rocky slopes with chasmophytic vegetation</p> <p>8220 Siliceous rocky slopes with chasmophytic vegetation</p> <p>91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles * denotes a priority habitat</p> <p>1355 Otter – <i>Lutra lutra</i></p>		
Wicklow Mountains SPA (004040)	5.5km	<p>A098 Merlin <i>Falco columbarius</i></p> <p>A103 Peregrine <i>Falco peregrinus</i></p>	In relation to potential impacts on the qualifying features listed, no complete source-pathway-receptor chain could be identified between the proposed works and the Natura 2000 site, therefore no LSE is expected on any of the of the bird species listed as Special Conservation Interests or the conservation objectives of the Wicklow Mountains SPA.	Screened Out
South Dublin Bay and River Tolka SPA (004024)	6km	<p>A046 Brent Goose <i>Branta berniclahrota</i></p> <p>A130 Oystercatcher <i>Haematopus ostralegus</i></p> <p>A137 Ringed Plover <i>Charadrius hiaticula</i></p> <p>A141 Grey Plover <i>Pluvialis squatarola</i></p> <p>A143 Knot <i>Calidris canutus</i></p> <p>A144 Sanderling <i>Calidris alba</i></p>	In relation to potential impacts on the qualifying features listed, no complete source-pathway-receptor chain could be identified between the proposed works and the Natura 2000 site, therefore no LSE is expected on any of the of the bird species listed as Special Conservation Interests or the conservation objectives	Screened Out

		<p>A149 Dunlin <i>Calidris alpina alpina</i></p> <p>A157 Bar-tailed Godwit <i>Limosa lapponica</i></p> <p>A162 Redshank <i>Tringa tetanus</i></p> <p>A179 Black-headed Gull <i>Chroicocephalus ridibundus</i></p> <p>A192 Roseate Tern <i>Sterna dougallii</i></p> <p>A193 Common Tern <i>Sterna hirundo</i></p> <p>A194 Arctic Tern <i>Sterna paradisaea</i></p> <p>A999 Wetlands</p>	of the South Dublin Bay and River Tolka SPA.	
South Dublin Bay SAC (000210)	6km	1140 Mudflats and sandflats not covered by seawater at low tide	In relation to potential impacts on the qualifying features listed, no complete source-pathway-receptor chain could be identified between the proposed works and the Natura 2000 site, therefore no LSE is expected on any of the qualifying interests or the conservation objectives of the South Dublin Bay SAC.	Screened Out

Any likely direct, indirect or secondary impacts of the proposed development, both alone and in combination with other plans or projects, on the Natura 2000 sites by virtue of the following criteria: size and scale, land-take, distance from the Natura 2000 sites or key features of the site, resource requirements (such as water abstraction), emissions (disposal to land, water or air), excavation requirements, transportation requirements and duration of construction, operation, decommissioning are presented in Table 4.2 below.

Table 4.2 Likely Direct, Indirect or Secondary Impacts of the Project on the Natura 2000 Sites

Size and Scale	There will be no impact as a result of the size and scale of the proposed development given that the majority of the proposed route is located within existing roads with little or no disturbance to natural habitats.
Land take	There will be no land take within any Natura 2000 site.
Distance from the Natura 2000 Site or Key Features of the Site	There is no direct connectivity between any designated Natura 2000 site and the proposed cycle route. Significant impacts to the Natura 2000 sites based on proximity are not anticipated since the works are wholly outside Natura 2000 sites, are small scale in nature and unlikely to result in any indirect impacts on Natura 2000 sites or any of their qualifying interests, conservation objectives or special conservation interests.
Resource Requirements	The proposed development will not exploit any resources within any Natura 2000 site.
Emissions	Given the nature and scale of the works, significant emissions to air, water or land are considered unlikely.
Excavation Requirements	The only excavations proposed as part of the works are those required for the installation of the cycle path and are deemed insignificant and no resultant impacts are anticipated. No excavations are required within any Natura 2000 site.
Transportation Requirements	All transportation to the site will occur within the public road network. Therefore there will be no impact in this regard on any Natura 2000 site.
Duration of Construction, Operation, Decommissioning	The construction phase of the proposed development will be short-term in duration and therefore there will be no significant impact in terms of length of the construction phase. The operational phase is likely to be long-term in duration. However, given the development is small scale in nature significant impacts as a result of the duration of the project are not anticipated.

4.3 Consideration of Potential Cumulative Impacts

The Habitats Directive requires that the potential cumulative impacts on Natura 2000 sites be assessed in combination with other significant projects in the vicinity.

The scheme makes up part of the larger proposal for GDA Cycle Network Plan (2013). This Cycle Network Plan has already been subject to appropriate assessment under the Habitats Directive. The route which is the subject of this assessment was assessed on a strategic level in 2013 and was not identified as requiring further assessment or mitigation measures.

All the proposed works associated with the current project are minor in nature and the assessment above has confidently confirmed that the project will have no impact on any Natura 2000 site. In addition to the assessment above, an examination of approved developments in the area was also carried out using SDCC's Online Planning Maps. No developments were identified that would be considered to cause any likely significant impact on any Natura 2000 sites in-combination with the current project. It is therefore concluded that there is no possibility of a cumulative effect arising in association with the proposed works.

5.0 DISCUSSION AND CONCLUSION

The first stage of the Appropriate Assessment process, Screening, has been completed in compliance with the relevant European Commission and national guidelines.

The potential impacts during the construction and operation of the proposed Grange Road cycle route have been considered in the context of the Natura 2000 sites, their Qualifying Interests, Special Conservation Interests and Conservation Objectives. The evaluation undertaken has not identified any significant impacts on the Qualifying Habitats or Species of any Natura 2000 sites within close proximity to the site, either alone or in-combination with other plans or projects.

As a result of the assessment carried out it is the considered view of the author that the proposed development will have no adverse affect on the integrity of any of the Natura 2000 sites listed and as such this report returns a conclusion that there is no potential for significant effects on any Natura 2000 sites. As such the project can be screened out under the Habitats Directive and does not require a Stage 2 Appropriate Assessment.

6.0 REFERENCES

DoEHLG (2010) *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities* (Department of Environment, Heritage and Local Government, Rev Feb 2010);

European Commission (2001) *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission Environment Directorate-General);

European Commission (2000) *Managing Natura 2000 sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC* (EC Environment Directorate-General, 2000); hereinafter referred to as "MN2000";

European Commission (2007) *Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC. Clarification of the Concepts of Alternative Solutions, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence*, Opinion of the European Commission.

National Parks and Wildlife Service (NPWS) Circular NPW 1/10 & PSSP 2/10 *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities*. (Department of Environment, Heritage and Local Government, March 2010);

National Transport Authority (NTA) (2013) *Greater Dublin Area Cycle Network Plan*, compiled by Roughan and O' Donovan/AECOM Consulting Engineers on behalf of the NTA.

South Dublin County Council (SDCC) Planning Maps online, accessed 01/10/15 - <http://sdublincoco.maps.arcgis.com/apps/Solutions/s2.html?appid=b83a115566bd43648a4b9fa3bb3a4cae>

APPENDIX I

NPWS Site Synopsis & Conservation Objectives

Conservation objectives for Glenasmole Valley SAC [001209]

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

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

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

Favourable conservation status of a habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

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

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

Code	Description
6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia) (* important orchid sites)*
6410	<i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)
7220	Petrifying springs with tufa formation (Cratoneurion)*

* denotes a priority habitat



Citation: NPWS (2015) Conservation objectives for Glenasmole Valley SAC [001209]. Generic Version 4.0. Department of Arts, Heritage and the Gaeltacht.

Site Name: Glenasmole Valley SAC

Site Code: 001209

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

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

[6210] Orchid-rich Calcareous Grassland*

[6410] *Molinia* Meadows

[7220] Petrifying Springs*

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

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

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

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

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

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

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

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

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

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

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

National Parks and Wildlife Service

Conservation Objectives Series

South Dublin Bay SAC 000210



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: South Dublin Bay SAC 000210. 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*

000210	South Dublin Bay SAC
1140	Mudflats and sandflats not covered by seawater at low tide

Please note that this SAC overlaps with 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 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 : 2006

Title : A survey of intertidal mudflats and sandflats in Ireland

Author : Aquafact

Series : Unpublished report to NPWS

Year : 2013

Title : South Dublin Bay SAC (site code 210) Conservation objectives supporting document- marine habitat V1

Author : NPWS

Series : Conservation objectives supporting document

Other References

Year : 2012

Title : Intertidal survey of South Dublin Bay SAC and South Dublin Bay and River Tolka Estuary SPA

Author : MERC

Series : Unpublished report to the Marine Institute and NPWS

Spatial data sources

Year :	Interpolated 2013
Title :	2006, 2011 intertidal surveys
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 :	1140, marine community types (maps 3 and 4)
<hr/>	
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)
<hr/>	


Conservation Objectives for : South Dublin Bay SAC [000210]

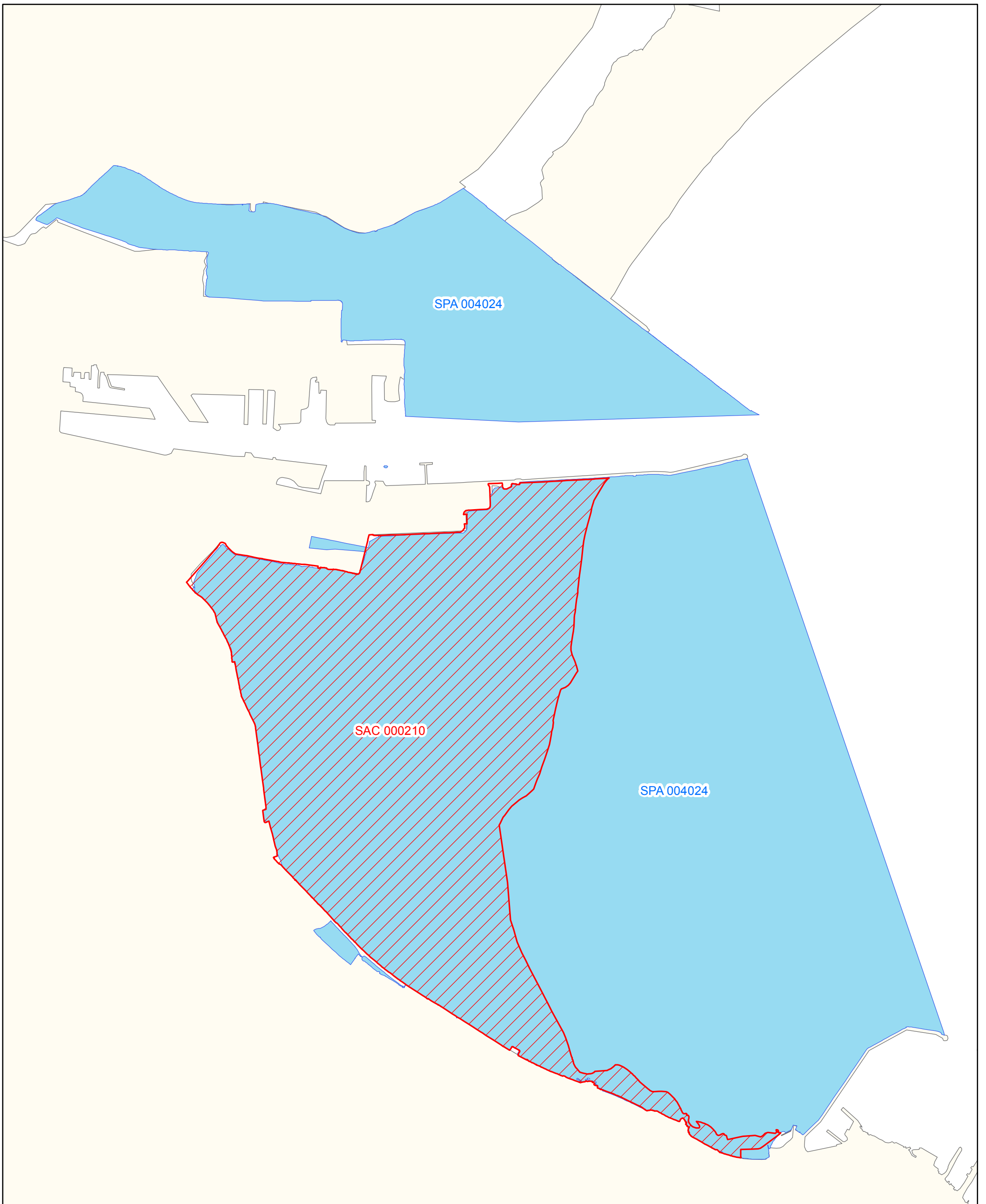
1140 Mudflats and sandflats not covered by seawater at low tide

To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in South Dublin 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 using OSi data as 720ha
Community extent	Hectares	Maintain the extent of the <i>Zostera</i> -dominated community, subject to natural processes. See map 4	Based on an intertidal survey undertaken in 2011 (MERC, 2012). See marine supporting document for further information
Community structure: <i>Zostera</i> density	Shoots/m ²	Conserve the high quality of the <i>Zostera</i> -dominated community, subject to natural processes	Based on an intertidal survey undertaken in 2011 (MERC, 2012). See marine supporting document for further details
Community distribution	Hectares	Conserve the following community type in a natural condition: Fine sands with <i>Angulus tenuis</i> community complex. See map 4	Based on intertidal surveys undertaken in 2006 (Aquafact, 2006) and 2011 (MERC, 2012). See marine supporting document for further information

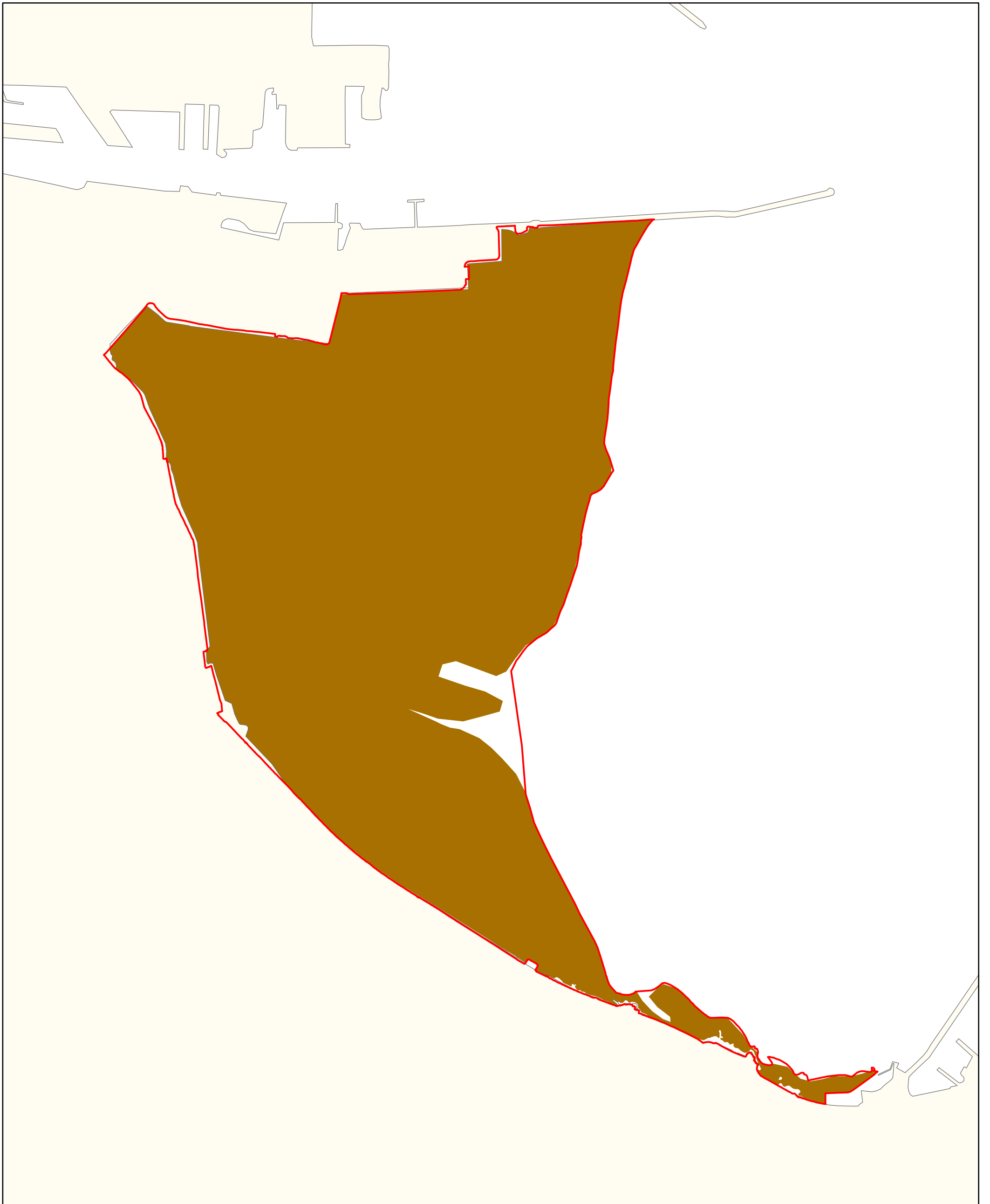


Legend
 SAC 000210



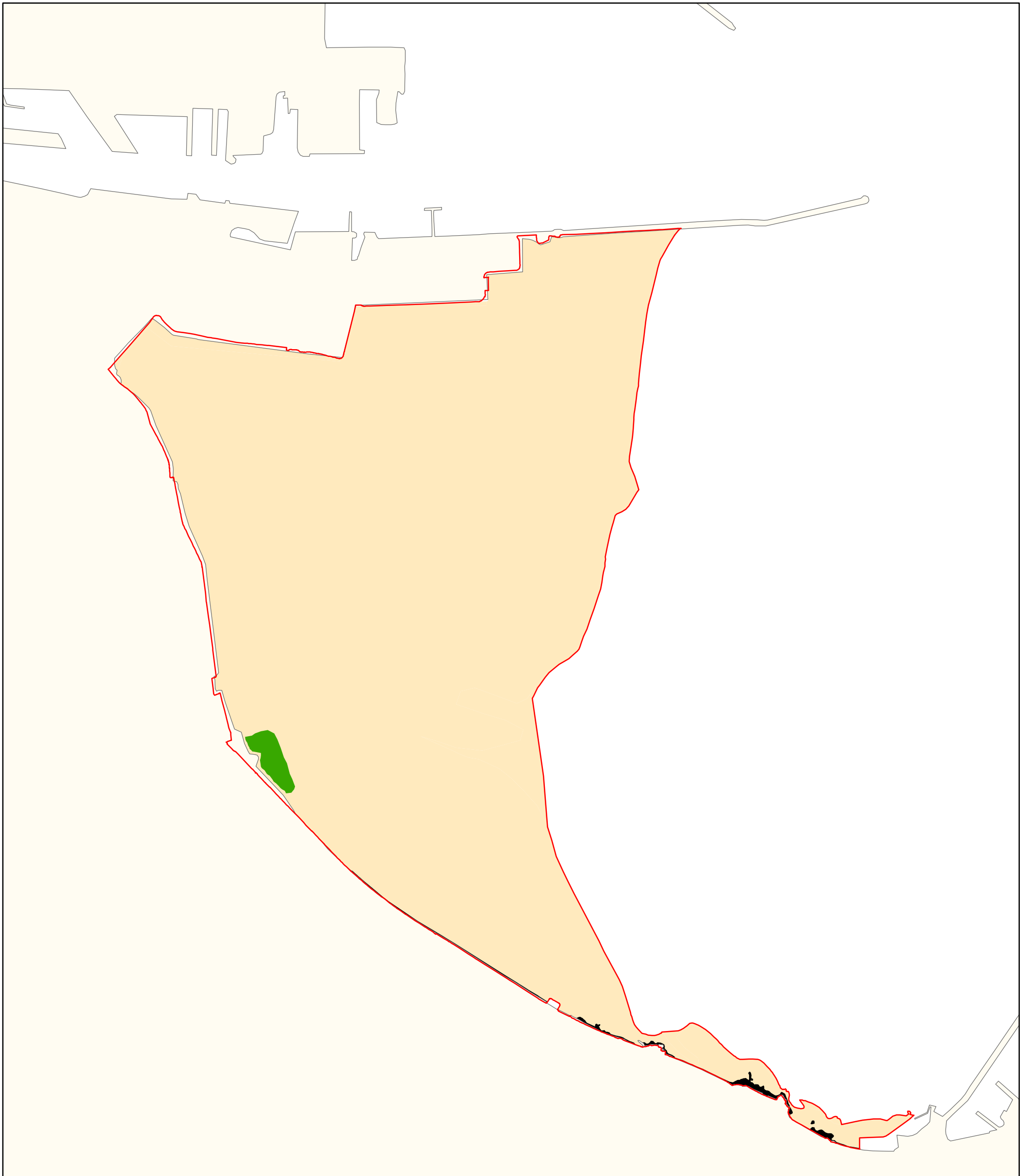
Legend

-  South Dublin Bay SAC 000210
-  South Dublin Bay and River Tolka Estuary SPA 004024
-  OSi Discovery Series County Boundaries



Legend

- SAC 000210
- 1140 Mudflats and sandflats not covered by sea water at low tide
- OSi Discovery Series County Boundaries



Legend

- SAC 000210
- OSi Discovery Series County Boundaries

Marine Community Types

- Fine sands with *Angulus tenuis* community complex
- Intertidal reef community
- Zostera*-dominated community

Site Name: South Dublin Bay SAC

Site Code: 000210

This site lies south of the River Liffey in Co. Dublin, and extends from the South Wall to the west pier at Dun Laoghaire. It is an intertidal site with extensive areas of sand and mudflats. The sediments are predominantly sands but grade to sandy muds near the shore at Merrion Gates. The main channel which drains the area is Cockle Lake.

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

[1140] Tidal Mudflats and Sandflats

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

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

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

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

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

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

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

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 (201) 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

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 Šā @ġā^||ā áÁ 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 @[\HVY`]YX **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

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

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 (<i>Sterna hirundo</i>), with smaller numbers of Arctic and roseate terns (<i>S. paradisaea</i> , <i>S. dougallii</i>) (sandwich, little and black terns (<i>S. sandvicensis</i> , <i>S. albifrons</i> , <i>Chlidonias niger</i>) 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

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

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 (<i>Sterna hirundo</i>), with smaller numbers of Arctic and roseate terns (<i>S. paradisaea</i> , <i>S. dougallii</i>); (sandwich, little and black terns (<i>S. sandvicensis</i> , <i>S. albifrons</i> , <i>Chlidonias niger</i>) 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 birds 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

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

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:

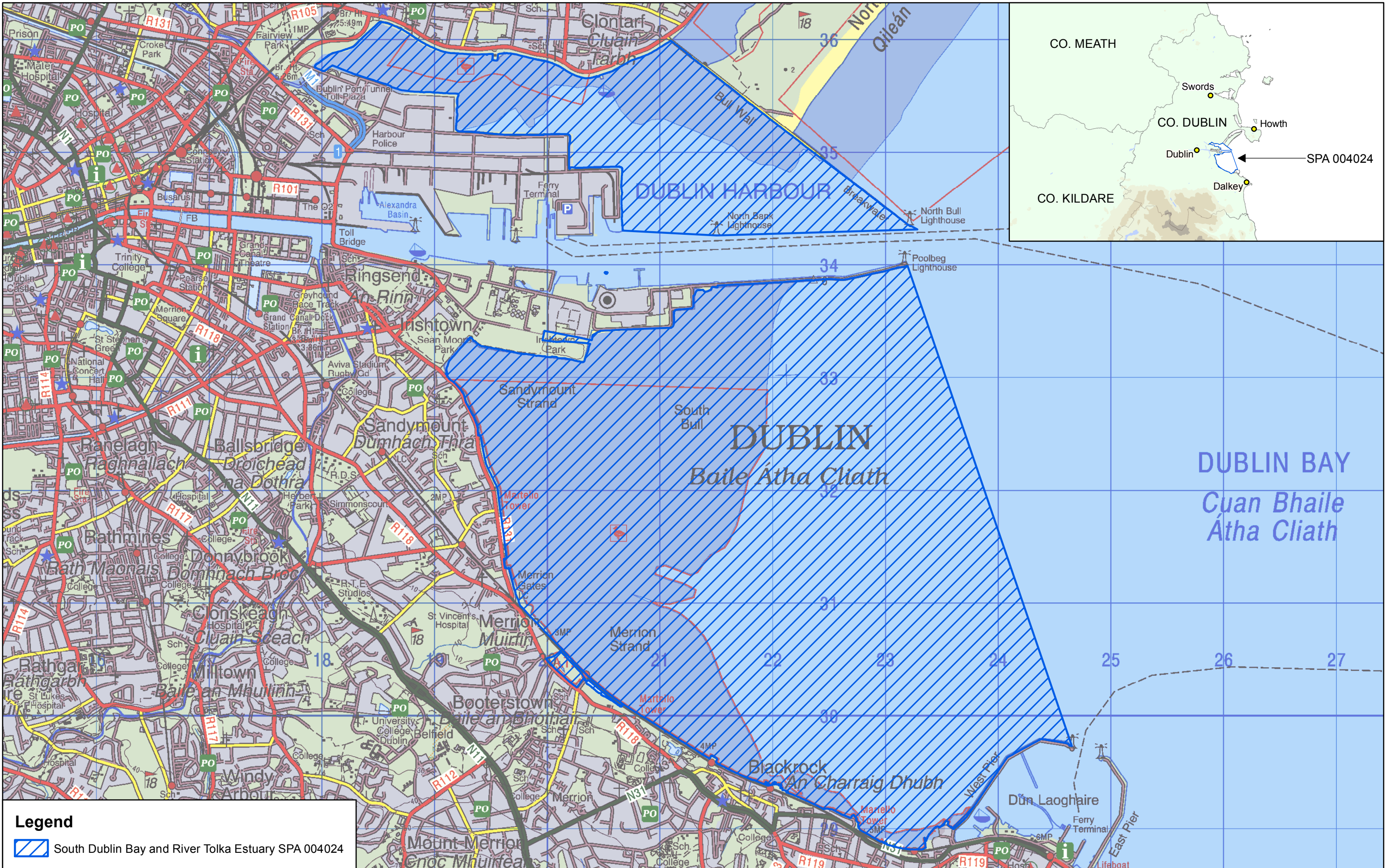
Attribute	Measure	Target	Notes
Passage population	Number of individuals	No significant decline	Evening surveys of roosting terns in South Dublin Bay and River Tolka Estuary SPA confirm the conservation importance of the south Dublin Bay area during the post-breeding/pre-migration period. Up to 11,700, 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 (<i>Sterna hirundo</i>), with smaller numbers of Arctic and roseate terns (<i>S. paradisaea</i> , <i>S. dougallii</i>); (sandwich, little and black terns (<i>S. sandvicensis</i> , <i>S. albifrons</i> , <i>Chlidonias niger</i>) 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

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

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

**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.

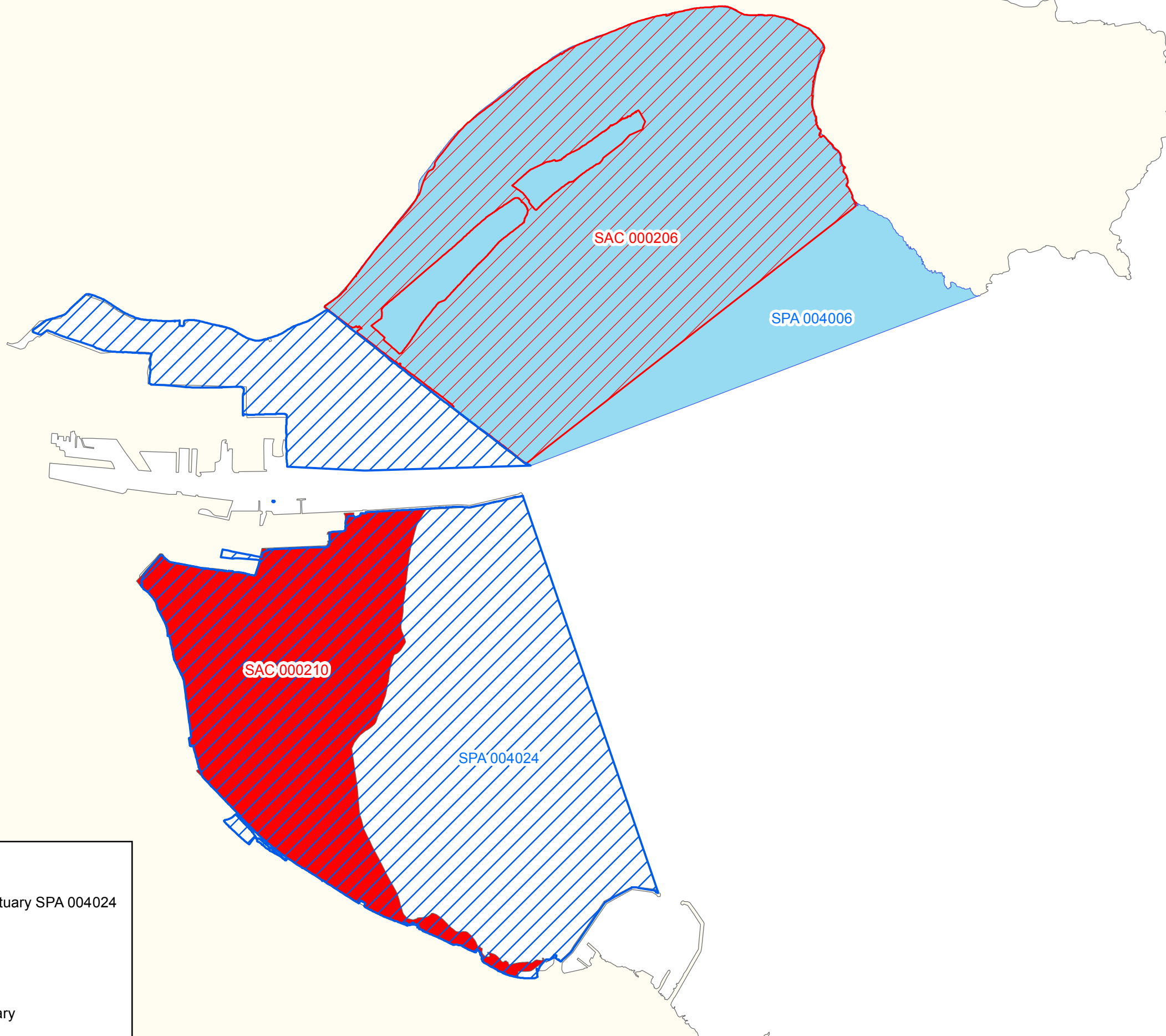
**SITE CODE:
SPA 004024; version 2. CO. DUBLIN**

0 0.5 1 1.5 2 km

The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
 Ordnance Survey of Ireland Licence No EN 0059214. © Ordnance Survey of Ireland Government of Ireland

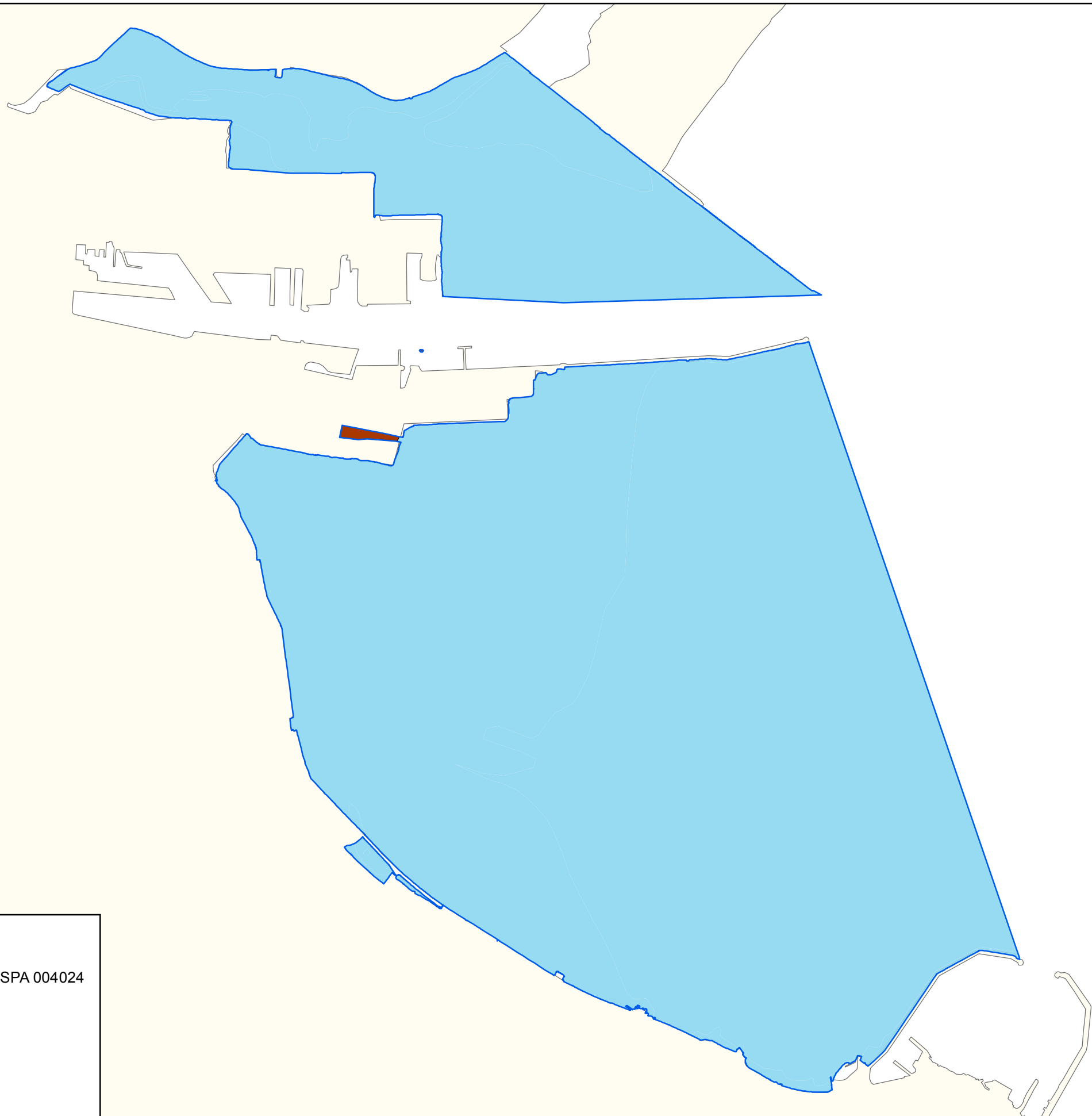
Níl sna teorainneacha ar na léarscáléanna ach nod garshuíomhach ginearálta. Féadfar athbheirithneithe a déanamh ar theorainneacha na gceantar comharthaithe. Suirbhéarachta Ordonáis na hÉireann Ceadúnas Uimh EN 0059214. © Suirbhéarachta Ordonáis na hÉireann Rialtas na hÉireann

**Map Version 1
Date: Sep 2014**



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



Legend

- South Dublin Bay and River Tolka Estuary SPA 004024
- OSi Discovery Series County Boundary
- Wetlands and Waterbirds**
- Wetlands
- Terrestrial

SITE SYNOPSIS

SITE NAME: SOUTH DUBLIN BAY AND RIVER TOLKA ESTUARY SPA

SITE CODE: 004024

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

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

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

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

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

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

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

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

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

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

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

Conservation objectives for Wicklow Mountains SAC [002122]

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

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

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

Favourable conservation status of a habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

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

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

Code	Description
3130	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea
3160	Natural dystrophic lakes and ponds
4010	Northern Atlantic wet heaths with <i>Erica tetralix</i>
4030	European dry heaths
4060	Alpine and Boreal heaths
6230	Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)*
7130	Blanket bogs (* if active bog)
8110	Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>)



- 8210 Calcareous rocky slopes with chasmophytic vegetation
8220 Siliceous rocky slopes with chasmophytic vegetation
91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles
* denotes a priority habitat

Code	Common Name	Scientific Name
1355	Otter	<i>Lutra lutra</i>

Citation: NPWS (2015) Conservation objectives for Wicklow Mountains SAC [002122]. Generic Version 4.0. Department of Arts, Heritage and the Gaeltacht.

Site Name: Wicklow Mountains SAC

Site Code: 002122

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

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

- [3130] Oligotrophic to Mesotrophic Standing Waters
- [3160] Dystrophic Lakes
- [4010] Wet Heath
- [4030] Dry Heath
- [4060] Alpine and Subalpine Heaths
- [6230] Species-rich *Nardus* Grassland*
- [7130] Blanket Bogs (Active)*
- [8110] Siliceous Scree
- [8210] Calcareous Rocky Slopes
- [8220] Siliceous Rocky Slopes
- [91A0] Old Oak Woodlands

- [1355] Otter (*Lutra lutra*)

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

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

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

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

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

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

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

The site supports a range of rare plant species. Parsley Fern (*Cryptogramma crispa*), Marsh Clubmoss (*Lycopodiella inundata*), Lanceolate Spleenwort (*Asplenium billotii*), Small-white Orchid (*Pseudorchis albida*) and Bog Orchid (*Hammarbya paludosa*) are all legally protected under the Flora (Protection) Order, 1999. Greater Broomrape (*Orobanche rapum-genistae*), Alpine Saw-wort and Alpine Lady's-mantle are listed in the Irish Red Data Book. The rare Myxomycete fungus *Echinostelium colliculosum* has been recorded from the Military Road.

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

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

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

Wicklow Mountains is important as a complex, extensive upland site. It shows great diversity from a geomorphological and a topographical point of view. The vegetation provides examples of the typical upland habitats with heath, blanket bog and upland

grassland covering large, relatively undisturbed areas. In all, eleven habitats listed on Annex I of the E.U. Habitats Directive are found within the site. Several rare or protected plant and animal species occur, adding further to its value.

Conservation objectives for Wicklow Mountains SPA [004040]

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
A098	Merlin	<i>Falco columbarius</i>
A103	Peregrine	<i>Falco peregrinus</i>

Citation: NPWS (2015) Conservation objectives for Wicklow Mountains SPA [004040]. Generic Version 4.0. Department of Arts, Heritage and the Gaeltacht.

SITE SYNOPSIS

SITE NAME: WICKLOW MOUNTAINS SPA

SITE CODE: 004040

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

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

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

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

13.10.2010