



# Ramsar Information Sheet

Published on 7 March 2023

Update version, previously published on : 1 January 1987

## Ireland

### North Bull Island



Designation date	6 September 1988
Site number	406
Coordinates	53°22'08"N 06°08'03"W
Area	1 436,00 ha

## Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

## 1 - Summary

### Summary

The Ramsar site covers the inner part of north Dublin Bay, the seaward boundary extending from the Bull Wall lighthouse across to the Martello Tower at Howth Head. The site sits within the wider coastal and estuarine waters of Dublin Bay and has an urban hinterland dominated by Dublin City. Dublin City is the capital of Ireland; an area of intense development with a large seaport.

North Bull Island, the focal point of this site, is a sandy spit which formed after the building of the South Wall and Bull Wall in the 18th and 19th centuries. A well-developed and dynamic dune system stretches along the seaward side of the island. About 1 km from the tip of the island, a large dune slack with a rich flora occurs. Saltmarsh extends along the length of the landward side of the island and annual vegetation of drift lines is found in places, along the length of Dollymount Strand on the seaward side. The island shelters two intertidal lagoons which are divided by a solid causeway. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. The site extends below the low spring tide mark to include sublittoral habitat. The dune and saltmarsh support characteristic plant communities and a number of rare and scarce plants which are legally protected. The intertidal habitats have a rich macrofauna, small areas of eel grass and in the summer months green algal mats. The estuarine complex provides feeding and roosting habitat for internationally important numbers of wintering birds and is one of the top sites in Ireland. The site also supports invertebrates which are of national importance.

North Bull Island Ramsar Site occurs within the UNESCO Dublin Bay Biosphere and is one of the most 'designated' sites in Ireland. The site is a designated Nature Reserve, a Biogenetic Reserve, Wildlife Sanctuary, Important Bird Area and Special Amenity Area. It lies with the larger EU Habitats Directive Special Area of Conservation and EU Birds Directive Special Protection Area.

The proximity of the site to Dublin City results in it being a very popular recreational area. It is also very important for educational and research purposes. Nature conservation is a main land use within the site. Much of the land surface of the island in the adjacent area is taken up by two golf courses.

## 2 - Data & location

### 2.1 - Formal data

#### 2.1.1 - Name and address of the compiler of this RIS

##### Responsible compiler

Institution/agency	National Parks and Wildlife Service, Department of Housing, Local Government and Heritage
Postal address	National Parks and Wildlife Service, 90 North King Street, Smithfield, Dublin, Ireland D07 N7CV

##### National Ramsar Administrative Authority

Institution/agency	National Parks and Wildlife Service, Department of Housing, Local Government and Heritage
Postal address	National Parks and Wildlife Service, 90 North King Street, Smithfield, Dublin, Ireland D07 N7CV

#### 2.1.2 - Period of collection of data and information used to compile the RIS

From year

To year

#### 2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)

#### 2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

(Update) A. Changes to Site boundary Yes  No

(Update) B. Changes to Site area the area has decreased

(Update) The Site area has been calculated more accurately

(Update) The Site has been delineated more accurately

(Update) The Site area has increased because of a boundary extension

(Update) The Site area has decreased because of a boundary restriction

(Update) For secretariat only. This update is an extension

#### 2.1.5 - Changes to the ecological character of the Site

(Update) 6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS? Not evaluated

## 2.2 - Site location

### 2.2.1 - Defining the Site boundaries

#### b) Digital map/image

<2 file(s) uploaded>

Former maps

Boundaries description

The Ramsar Sites are presented on the Ordnance Survey of Ireland Discovery series maps. The legend for these maps can be found at Ordnance Survey Ireland; <https://osi.ie>

The North Bull Island Ramsar site lies within north Dublin Bay and extends from the end of the North Bull Wall across to the Martello Tower on Howth Island and includes the coastal habitats and waters inland of these points.

The boundaries for this site were defined using the boundaries of the North Dublin Bay Nature Reserve. North Bull Island Ramsar site is largely contiguous with the North Dublin Bay SAC. Both the SAC and the Ramsar site lie within the larger North Bull Island SPA and are an integral part of this wider wetland site. Details of the SAC and SPA can be found on the NPWS website at <https://www.npws.ie/protected-sites>. Within this area a number of GIS data layers were used to define the Ramsar habitats within the site. These included:

- NPWS data (Site-Specific Conservation Objectives)
- CORINE (Co-Ordinated Information on the Environment) land cover data sets (2012).
- Bing Maps Aerial - © Harris Corp, Earthstar Geographics LLC © 2017 Intermap Earthstar Geographics SIO © 2017 Microsoft Corporation.
- NPWS data layers (Salt marsh and Marine community mapping)

The mapped layers were subsequently inspected by a site visit to confirm the accuracy of the mapped habitats. Habitat areas were subsequently estimated by reference to the available imagery and layers and should be considered representative but approximate. Discrepancies between the original boundary for the Ramsar site and the current boundary are likely as a result of mapping projection anomalies.

### 2.2.2 - General location

a) In which large administrative region does the site lie?

b) What is the nearest town or population centre?

### 2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes  No

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes  No

### 2.2.4 - Area of the Site

Official area, in hectares (ha):

Area, in hectares (ha) as calculated from GIS boundaries

### 2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Marine Ecoregions of the World (MEOW)	Atlantic
EU biogeographic regionalization	Atlantic

Other biogeographic regionalisation scheme

British Isles, Irish Sea  
ctic (WWF Terrestrial Ecoregions), Northern British Isles (FEOW).

### 3 - Why is the Site important?

#### 3.1 - Ramsar Criteria and their justification

Criterion 1: Representative, rare or unique natural or near-natural wetland types

Hydrological services provided

The North Bull Island is considered to have a lens of fresh groundwater that develops immediately below the ground surface and extends many metres below the surface. This freshwater lens 'floats' on denser seawater situated below the island. The freshwater lens is dynamic and discharges around the margins of the island. Winter rains recharge the lens resulting in the water table forming a mound at the centre of the island (Environmental Impact Services 2001). The Royal Dublin Golf Club (RDGC) collects ground water for irrigation via ground bores, which is pumped to a central reservoir for distribution around the golf course (RDGC 1999). St Anne's Golf Club abstracts ground water from a pond and shallow well located to the north of the clubhouse (Environmental Impact Services 2001) (Cited McCorry & Ryle 2009). A number of smaller rivers and streams enter the site, including two on the landward side of North Bull Island: the Santry River, which flows into Sutton Creek, and the Naniken Stream which enters a channel flowing south-westward under Bull Bridge.

Aside from the specific hydrology of the site described above the complex of coastal and estuarine habitats at North Bull Island are important for mitigating the impacts of flooding (storm protection) and coastal erosion. These impacts are particularly serious given the urban nature of the sites hinterland. The estuarine and intertidal habitats and the communities (plant and invertebrate) which they support are important for nutrient cycling, carbon sequestration and sediment trapping. With the cycling of carbon and nutrients estuarine systems have a role in climate regulation. The estuary provides natural filtration services which are important for coastal water quality, however where input levels (e.g. chemicals, organic waste) are excessive the natural character of the estuary can be greatly affected.

Other ecosystem services provided

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

Criterion 2 : Rare species and threatened ecological communities

Optional text box to provide further information

Rare (high conservation concern) wintering bird species are defined as:  
 Regularly occurring species (occurring in at least 3 out of 10 seasons of monitoring or 30% of seasons; based on I-Webs data from 2006/07 to 2015/16) and that are:  
 - Red Listed in Ireland's national Red List (Birds of Conservation Concern in Ireland (BoCCI) published by Colhoun and Cummins (2013)  
 - Classified as VU in IUCN Global and/or European regional list  
 - Listed in Annex I of the European Union Birds Directive

Criterion 3 : Biological diversity

Justification

The site supports a complex of estuarine and coastal wetland habitats of importance in maintaining the regional biodiversity of the east coast of Ireland. The east coast of Ireland has few marine wetland areas and in this context the North Bull Island Ramsar site forms part of a small complex of wetland sites within close proximity to each other on the east coast of Ireland.

The assemblage of wintering birds including those of high (Red Listed in Ireland, Vulnerable in Europe and/or Globally) and medium (Amber Listed species in Ireland) conservation status contributes to biodiversity within the biogeographical region.

Criterion 4 : Support during critical life cycle stage or in adverse conditions

Optional text box to provide further information

The site is of international importance as the extensive intertidal habitats support internationally important populations of over wintering waterbirds. The extensive intertidal habitats at this site remain ice free over the winter and provide a key feeding resource for important populations of over wintering waterbirds. As well as providing a key foraging resource, the intertidal mud and sandflat habitats, together with saltmarsh, dune, and inshore waters provide important resting and roosting habitat for waterbirds.

Criterion 5 : >20,000 waterbirds

Overall waterbird numbers

Start year

End year

Source of data:

Criterion 6 : >1% waterbird population

Optional text box to provide further information

Light-bellied Brent Goose winter at this site in numbers of international importance. There are eight populations of Brent Goose including three populations of the Light-bellied hrota subspecies. The Light-bellied Brent goose population that breeds in Canada's eastern Queen Elizabeth Islands, winters almost entirely in Ireland, with small numbers in Britain, France, the Channel Islands and Spain (Lewis et al, 2019).

Black tailed Godwit winter at this site in numbers of international importance. There are three subspecies comprising six populations. *Limosa limosa islandica* breeds mostly in Iceland and the Faroes, with smaller numbers in Norway and Britain. This population winters in Ireland, Britain and Western France (Lewis et al, 2019).

### 3.2 - Plant species whose presence relates to the international importance of the site

Phylum	Scientific name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
<b>Plantae</b>								
TRACHEOPHYTA / MAGNOLIOPSIDA	<i>Centaureum pulchellum</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>	Flora Protection Order 2015.	FPO species in Ireland
TRACHEOPHYTA / MAGNOLIOPSIDA	<i>Galeopsis angustifolia</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Flora Protection Order 2015.	FPO species in Ireland
MARCHANTIOPHYTA / JUNGERMANNIOPSIDA	<i>Petalophyllum ralfsii</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Annex II of the E.U. Habitats Directive, Irish Red List (Least Concern), European Red List (Vulnerable)	Annex II listing. Rare in Ireland and mainly distributed in the west.
TRACHEOPHYTA / MAGNOLIOPSIDA	<i>Saxifraga granulata</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Flora Protection Order 2015.	FPO species in Ireland

The rare liverwort, *Petalophyllum ralfsii*, was first recorded from the North Bull Island in 1874 and has recently been confirmed as still present. This species is of high conservation value as it is listed on Annex II of the E.U. Habitats Directive, and therefore requires protection through designation of Special Areas of Conservation (SACs). The North Bull is the only known extant site for the species in Ireland away from the western seaboard. The species is listed as Endangered in the Red Data Book (NPWS, 2012). Due to the relatively large number of localities, *P. ralfsii* is categorised as Least Concern on the Irish Red List of rare and threatened bryophytes. However, as Ireland is a stronghold for *P. ralfsii* there exists an international obligation to protect and conserve the species and as such it is listed on the Flora (Protection) Order, 2015. Ireland also has a responsibility to monitor the populations under Article 11 of the EU Habitats Directive and, under Article 17, to report on the species' conservation status every six years under the parameters Range, Population, Habitat for the Species and Future Prospects. The current overall conservation status of the species in the Republic of Ireland is 'Favourable'.

Three rare plant species which are legally protected under the Flora (Protection) Order have been recorded on the North Bull Island. These are Lesser Centaury (*Centaureum pulchellum*), Red Hemp-nettle (*Galeopsis angustifolia*) and Meadow Saxifrage (*Saxifraga granulata*). The first two species are listed as Vulnerable in the Irish Red Data Book (Curtis & McGough, 1988) while the latter is listed as Endangered.

Two further Red Data Book species (classified as Least Concern) Wild Clary/Sage (*Salvia verbenaca*) and Spring Vetch (*Vicia lathyroides*), have also been recorded (Wyse Jackson et al, 2016)

### 3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence <sup>1)</sup>	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
<b>Birds</b>																	
CHORDATA/AVES	<i>Anas acuta</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	169	2011-2015		LC	<input type="checkbox"/>	<input type="checkbox"/>	Red-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013), and Vulnerable classification IUCN Global & Europe region)	National (BoCCI) classification, part of wintering assemblage
CHORDATA/AVES	<i>Anas clypeata</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	104	2011-2015			<input type="checkbox"/>	<input type="checkbox"/>	Red-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013), and Vulnerable classification IUCN Global & Europe region)	National (BoCCI) classification, part of wintering assemblage
CHORDATA/AVES	<i>Anas crecca</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1086	2011-2015		LC	<input type="checkbox"/>	<input type="checkbox"/>	Amber-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013)	Part of wintering assemblage, maintaining biodiversity
CHORDATA/AVES	<i>Anas penelope</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1008	2011-2015			<input type="checkbox"/>	<input type="checkbox"/>	Red-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013), and Vulnerable classification IUCN Global & Europe region)	National (BoCCI) classification, part of wintering assemblage
CHORDATA/AVES	<i>Branta bernicla hrota</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3764	2011-2015	9.4		<input type="checkbox"/>	<input type="checkbox"/>	Amber-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013)	Part of wintering assemblage, maintaining biodiversity, >1% pop - Internationally important numbers of the <i>Branta bernicla hrota</i> population of Brent Goose
CHORDATA/AVES	<i>Bucephala clangula</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3	2011-2015		LC	<input type="checkbox"/>	<input type="checkbox"/>	Red-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013), and Vulnerable classification IUCN Global & Europe region)	National (BoCCI) classification, part of wintering assemblage
CHORDATA/AVES	<i>Calidris alpina</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2563	2011-2015		LC	<input type="checkbox"/>	<input type="checkbox"/>	Red-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013), and Vulnerable classification IUCN Global & Europe region)	National (BoCCI) classification, part of wintering assemblage
CHORDATA/AVES	<i>Calidris canutus</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2353	2011-2015		NT	<input type="checkbox"/>	<input type="checkbox"/>	Amber-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013)	Part of wintering assemblage, maintaining biodiversity
CHORDATA/AVES	<i>Cygnus olor</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2	2011-2015		LC	<input type="checkbox"/>	<input type="checkbox"/>	Amber-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013)	Part of wintering assemblage, maintaining biodiversity

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
CHORDATA/ AVES	<i>Egretta garzetta</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	39	2011-2015		LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex I listed (EU Birds Directive)	Annex I listing, part of wintering assemblage
CHORDATA/ AVES	<i>Gavia stellata</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2	2011-2015		LC	<input type="checkbox"/>	<input type="checkbox"/>	Listed on Annex I (Birds Directive), Amber-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013)	Annex I listing, and National (BoCCI) classification, part of wintering assemblage
CHORDATA/ AVES	<i>Haematopus ostralegus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2291	2011-2015		NT	<input type="checkbox"/>	<input type="checkbox"/>	Amber-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013), and Vulnerable classification (IUCN Europe region)	IUCN & National (BoCCI) classifications, part of wintering assemblage
CHORDATA/ AVES	<i>Limosa lapponica</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1185	2011-2015		NT	<input type="checkbox"/>	<input type="checkbox"/>	Listed on Annex I (Birds Directive), Amber-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013)	Annex I listing, and National (BoCCI) classification, part of wintering assemblage
CHORDATA/ AVES	<i>Limosa limosa</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1237	2011-2015	2	NT	<input type="checkbox"/>	<input type="checkbox"/>	Amber-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013), and Vulnerable classification (IUCN Europe region)	IUCN & National (BoCCI) classifications, part of wintering assemblage, >1% pop - Internationally important numbers of icelandic population of Black-tailed Godwit <i>Limosa limosa islandica</i> .
CHORDATA/ AVES	<i>Numenius arquata</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	949	2011-2015		NT	<input type="checkbox"/>	<input type="checkbox"/>	Red-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013), and Vulnerable classification (IUCN Europe region)	National (BoCCI) and IUCN classifications, part of wintering assemblage
CHORDATA/ AVES	<i>Phalacrocorax carbo</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	39	2011-2015		LC	<input type="checkbox"/>	<input type="checkbox"/>	Amber-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013)	Part of wintering assemblage, maintaining biodiversity
CHORDATA/ AVES	<i>Pluvialis apricaria</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	754	2011-2015		LC	<input type="checkbox"/>	<input type="checkbox"/>	Listed on Annex I (Birds Directive), Red-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013)	Annex I listing, and National (BoCCI) classification, part of wintering assemblage
CHORDATA/ AVES	<i>Podiceps cristatus</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	61	2011-2015		LC	<input type="checkbox"/>	<input type="checkbox"/>	Amber-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013)	Part of wintering assemblage, maintaining biodiversity
CHORDATA/ AVES	<i>Tachybaptus ruficollis</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3	2011-2015		LC	<input type="checkbox"/>	<input type="checkbox"/>	Amber-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013)	Part of wintering assemblage, maintaining biodiversity
CHORDATA/ AVES	<i>Tadorna tadorna</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1187	2011-2015		LC	<input type="checkbox"/>	<input type="checkbox"/>	Amber-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013)	Part of wintering assemblage, maintaining biodiversity
CHORDATA/ AVES	<i>Tringa totanus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1841	2011-2015		LC	<input type="checkbox"/>	<input type="checkbox"/>	Red-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013), and Vulnerable classification IUCN Global & Europe region)	National (BoCCI) classification, part of wintering assemblage
CHORDATA/ AVES	<i>Vanellus vanellus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	85	2011-2015		NT	<input type="checkbox"/>	<input type="checkbox"/>	Red-listed in Birds of Conservation Concern in Ireland (Colhoun and Cummins 2013), and Vulnerable classification (IUCN Europe region)	National (BoCCI) and IUCN classifications, part of wintering assemblage

1) Percentage of the total biogeographic population at the site

Wintering bird species listed under 3.3 have been selected based on an assessment of Irish Wetland Bird Survey data from the period 2006/07 to 2015/16. North Bull Island is an SPA for wintering birds, however not all species listed for the SPA may be listed under 3.3 as the SPA designation is based on I-WeBs data for the period 1995/96 - 1999/2000.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Shelduck, Teal, Pintail, Shoveler, Oystercatcher, Golden Plover, Grey Plover, Knot, Sanderling, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Turnstone and Black-headed Gull. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds. The site supports internationally important populations of three species, Light-bellied Brent Goose (1,548), Black-tailed Godwit (367) and Bar-tailed Godwit (1,529) - all figures are mean peaks for the five winters between 1995/96 and 1999/2000. The site is one of the most important in the country for Light-bellied Brent Goose. A further 14 species have populations of national importance – Shelduck (1,259), Teal (953), Pintail (233), Shoveler (141), Oystercatcher (1,784), Grey Plover (517), Golden Plover (2,033), Knot (2,837), Sanderling (141), Dunlin (4,146), Curlew (937), Redshank (1,431), Turnstone (157) and Black-headed Gull (2,196) (NPWS Site Synopsis).

### 3.4 - Ecological communities whose presence relates to the international importance of the site

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
Fine sand to sandy mud with <i>Pygospio elegans</i> and <i>Crangon crangon</i> community complex	<input type="checkbox"/>	Fine sand to sandy mud with <i>Pygospio elegans</i> and <i>Crangon crangon</i> community complex	This community is of importance as a food resource for wintering water birds
<i>Zostera noltii</i> community	<input checked="" type="checkbox"/>	The site supports a small bed of Eel grass at Sutton creek.	This habitat has a restricted distribution in Ireland. It is considered threatened on the OSPAR list of threatened or declining habitats
Saltmarsh community	<input checked="" type="checkbox"/>	Atlantic salt meadows and Mediterranean salt meadows occur within the site.	This community has a restricted distribution within the biogeographical range.
[1410] Mediterranean Salt Meadows	<input type="checkbox"/>		Annex II of the E.U. Habitats Directive
[2120] Marram Dunes (White Dunes)	<input type="checkbox"/>		Annex II of the E.U. Habitats Directive
[2130] Fixed Dunes (Grey Dunes)*	<input type="checkbox"/>		Annex II of the E.U. Habitats Directive
[2110] Embryonic Shifting Dunes	<input checked="" type="checkbox"/>	Extensive areas of a variety of sand dune habitats occur within the site.	Annex II of the E.U. Habitats Directive
[2190] Humid Dune Slacks	<input type="checkbox"/>		Annex II of the E.U. Habitats Directive
<i>Mytilus edulis</i> dominated community	<input checked="" type="checkbox"/>	The site supports a significant bed of both intertidal and subtidal Blue Mussel.	<i>M. edulis</i> beds are included in the OSPAR (Annex V) list of threatened and declining species and habitats. ICES found sufficient evidence for the decline and threat of this habitat over the whole OSPAR area (ICES 2002).
[1210] Annual Vegetation of Drift Lines	<input type="checkbox"/>		Annex II of the E.U. Habitats Directive
[1310] <i>Salicornia</i> Mud	<input type="checkbox"/>		Annex II of the E.U. Habitats Directive
[1330] Atlantic Salt Meadows	<input type="checkbox"/>		Annex II of the E.U. Habitats Directive

## 4 - What is the Site like? (Ecological character description)

### 4.1 - Ecological character

North Bull Island Ramsar site comprises of a low-lying sand spit, a relatively recent depositional feature, formed as a result of improvements to Dublin Port during the 18th and 19th centuries. It is almost 5km long and 1km wide and runs parallel to the coast between Clontarf and Sutton. A sandy beach, Dollymount Strand, occurs on the seaward side of the island and a salt marsh fringes its mainland side. The island is separated from the mainland by intertidal mud and sandflats. A causeway built in 1965 divides these intertidal flats into the northern and southern intertidal areas.

The sheltered intertidal flats on the west side of the Bull Islands are characterised by a fine sand to sandy mud with *Pygospio elegans* and *Crangon crangon* community complex. The north lagoon has an area known as the "Salicornia flat", which is dominated by *Salicornia dolichostachya*, a pioneer glasswort species, and covers about 25 ha. Beaked Tasselweed (*Ruppia maritima*) occurs in this area. Eelgrass (*Zostera noltii*) also occurs within the site at Sutton Creek. The potentially invasive plant; Common Cordgrass (*Spartina anglica*) occurs in places but its growth is controlled by management.

Green algal mats cover large areas of the flats during summer. A significant mussel bed (*Mytilus edulis*) occurs within the sheltered intertidal flat. The east side of the Bull Island is exposed and characterised by a fine sand with *Spio martinensis* community complex. These marine community complexes form an important habitat which is a food resource for wintering water birds.

The North Bull Island Ramsar site is an excellent example of an estuarine complex and is one of the top sites in Ireland for wintering waterbirds. It is of international importance on account of both the total number of waterbirds and the individual populations of Light-bellied Brent Goose and Black-tailed Godwit that use it. Also of significance is the regular presence of several species that are listed on Annex I of the EU Birds Directive.

### 4.2 - What wetland type(s) are in the site?

#### Marine or coastal wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
A: Permanent shallow marine waters	Shallow marine waters	2	530	Representative
E: Sand, shingle or pebble shores	Sand shores and sand dunes	3	180	Representative
G: Intertidal mud, sand or salt flats	Intertidal mud, sand or sandflats	1	600	Representative
H: Intertidal marshes	Saltmarsh	4	120	Representative

#### Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
Roads, car parks, buildings	6

### 4.3 - Biological components

#### 4.3.1 - Plant species

##### Invasive alien plant species

Phylum	Scientific name	Impacts	Changes at RIS update
TRACHEOPHYTA/LILOPSIDA	<i>Spartina anglica</i>	Actual (minor impacts)	No change

#### 4.3.2 - Animal species

##### Other noteworthy animal species

Phylum	Scientific name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATA/AVES	<i>Ardea cinerea</i>	27	2011-2015		Occurs in nationally important numbers
CHORDATA/AVES	<i>Arenaria interpres</i>	295	2011-2015		Occurs in nationally important numbers
CHORDATA/AVES	<i>Calidris alba</i>	332	2011-2015		Occurs in nationally important numbers
CHORDATA/MAMMALIA	<i>Lepus timidus hibernicus</i>				
CHORDATA/AVES	<i>Mergus serrator</i>	37	2011-2015		Occurs in nationally important numbers
MOLLUSCA/BIVALVIA	<i>Mytilus edulis</i>				
CHORDATA/AVES	<i>Pluvialis squatarola</i>	260	2011-2015		Occurs in nationally important numbers
CHORDATA/AVES	<i>Tringa nebularia</i>	44	2011-2015		Occurs in nationally important numbers

Optional text box to provide further information

A well-known population of Irish Hare is resident on Bull Island. The invertebrates of the North Bull Island have been studied and the island has been shown to contain at least seven species of regional or national importance in Ireland (from the Orders Diptera, Hymenoptera and Hemiptera). During the summer months Common, Arctic and Sandwich terns feed around the island and in the wider Dublin Bay which is an important post breeding roost site. The North Bull Island SPA is a regular site for passage waders, especially Ruff, Curlew Sandpiper and Spotted Redshank. These are mostly observed in single figures in autumn but occasionally in spring or winter. Passerines include Skylark, Meadow Pipit, Stonechat and Reed Bunting breed in terrestrial habitats and the island is a regular wintering site for Short-eared Owl, with up to five present in some winters.

#### 4.4 - Physical components

##### 4.4.1 - Climate

Climatic region	Subregion
C: Moist Mid-Latitude climate with mild winters	Cfb: Marine west coast (Mild with no dry season, warm summer)

##### 4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

- Entire river basin
- Upper part of river basin
- Middle part of river basin
- Lower part of river basin
- More than one river basin
- Not in river basin
- Coastal

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

The site is part of estuarine and coastal waters of Dublin Bay which extends into the marine waters of the Irish Sea.

##### 4.4.3 - Soil

Mineral

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

No available information

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes  No

Please provide further information on the soil (optional)

Most of the soils throughout the terrestrial part of the site are derived from sandy material. The dunes are composed almost entirely of fine grained quartz sand (Harris, 1977). However, on the older, fixed dunes organic matter has accumulated on the dune surface forming a humus layer or thin soil (Jeffrey et al. 1977). As the dunes age they will gradually become more acidic. Some glacial soil has been imported onto the island for embankment improvement works around the Royal Dublin Golf Club (An Bord Pleanala 2004). Glacial soil has also been used in the 1970s to cap the former dump north of the causeway and now part of St Annes Golf Club. The saltmarsh is derived from mud and silt of a marine source. The intertidal mud and sandflats, estuarine channels and sub-tidal areas are composed of fine-grained material of various size classes (Cited McCorry & Ryle 2009).

##### 4.4.4 - Water regime

Water permanence

Presence?	Changes at RIS update
Usually permanent water present	

Source of water that maintains character of the site

Presence?	Predominant water source	Changes at RIS update
Water inputs from surface water	<input type="checkbox"/>	No change
Marine water	<input checked="" type="checkbox"/>	No change

Water destination

Presence?	Changes at RIS update
Marine	No change

Stability of water regime

Presence?	Changes at RIS update
Water levels fluctuating (including tidal)	No change

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology:

Overall, the gross tidal movement in Dublin Bay is clockwise. However, the localised movements are complex. Around North Bull Island the flow is altered due to interference from the Bull Wall, the Tolka River and Sutton Creek. Generally, tidal flow on Dollymount Strand is longshore to the north-east, although on the ebb tide the water is caught up in a fluvial 'jet' which emanates from between the Bull Wall and South Wall. The so-called 'lagoons' landward of North Bull Island are connected to two different channels: the southern area fills and empties beneath Bull Bridge, while water in the northern area is channelled in and out through Sutton Creek (Harris, 1977). (Cited McCorry & Ryle, 2009).

#### 4.4.5 - Sediment regime

Significant erosion of sediments occurs on the site

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Significant accretion or deposition of sediments occurs on the site

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Significant transportation of sediments occurs on or through the site

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Sediment regime is highly variable, either seasonally or inter-annually

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Sediment regime unknown

Please provide further information on sediment (optional):

Subject to a natural and constant cycle of erosion and accretion. According to McCorry & Ryle (2009) North Bull Island has been a naturally accreting system that has seen significant dune formation over the past 50 years, at the southern part of the dunes/beach there is a healthy mobile and embryonic dune system; any erosion of the sand dunes likely to be of a cyclic nature and accretion and growth of the island is likely to continue. Accreting sand-dune systems are rare in Ireland. Accretion and erosion are natural elements of Saltmarsh systems. According to McCorry & Ryle (2009) there is no significant loss of saltmarsh due to erosion; Indications of erosion of Atlantic salt meadow habitat were noted in places along its seaward boundary, but this is compensated by accretion along the north side of the causeway; the actual rate of erosion is quite slow. Main impacts recorded as acting on the saltmarsh habitats include the presence of Cordgrass, recreational pressures and erosion.

#### 4.4.6 - Water pH

Alkaline (pH>7.4)

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Unknown

#### 4.4.7 - Water salinity

Mixohaline (brackish)/Mixosaline (0.5-30 g/l)

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Euhaline/Eusaline (30-40 g/l)

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Unknown

#### 4.4.8 - Dissolved or suspended nutrients in water

Unknown

Please provide further information on dissolved or suspended nutrients (optional):

Coastal Waterbody WFD Status 2010-2015 for Dublin Bay is GOOD.  
Bathing water Quality for Dollymount Strand is Good Water Quality. (<http://gis.epa.ie>)

#### 4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the site itself: i) broadly similar  ii) significantly different

Surrounding area has greater urbanisation or development

Surrounding area has higher human population density

Surrounding area has more intensive agricultural use

Surrounding area has significantly different land cover or habitat types

Please describe other ways in which the surrounding area is different:

Large centres of human habitation lie adjacent to this site i.e. Clontarf and Sutton. The site is situated adjacent to Dublin City, the capital of Ireland; an area of intense development with a large seaport. North Bull Island is a very important amenity for the people of Dublin and is managed as a public park and Nature Reserve by Parks and Landscape Services, Dublin City Council (DCC). Two golf courses are located on the island, Royal Dublin Golf Club (RDGC) and St Anne's Golf Club (SAGC).

## 4.5 - Ecosystem services

### 4.5.1 - Ecosystem services/benefits

#### Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	Medium

#### Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Erosion protection	Soil, sediment and nutrient retention	Medium
Pollution control and detoxification	Water purification/waste treatment or dilution	Medium
Climate regulation	Local climate regulation/buffering of change	Low
Climate regulation	Regulation of greenhouse gases, temperature, precipitation and other climatic processes	Low
Hazard reduction	Flood control, flood storage	Low
Hazard reduction	Coastal shoreline and river bank stabilization and storm protection	Low

#### Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Picnics, outings, touring	High
Recreation and tourism	Water sports and activities	High
Recreation and tourism	Nature observation and nature-based tourism	High
Spiritual and inspirational	Contemporary cultural significance, including for arts and creative inspiration, and including existence values	Low
Spiritual and inspirational	Spiritual and religious values	Low
Spiritual and inspirational	Aesthetic and sense of place values	Low
Scientific and educational	Educational activities and opportunities	Medium
Scientific and educational	Major scientific study site	Medium
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	Medium
Scientific and educational	Long-term monitoring site	not relevant for site

#### Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part	Medium
Soil formation	Accumulation of organic matter	Low
Soil formation	Sediment retention	Low
Nutrient cycling	Carbon storage/sequestration	Low
Nutrient cycling	Storage, recycling, processing and acquisition of nutrients	Low

#### Other ecosystem service(s) not included above:

A Visitor and Interpretative Centre managed by DCC is located on the island and provides a popular educational resource for primary, secondary and third-level students including PhD students. This centre is also a popular resource for NGOs such as Birdwatch Ireland, Dublin Naturalist's Field Club etc. The island is utilised on a daily basis by many users, including walkers, cyclists, bathers using Dollymount Strand and wildlife enthusiasts. and are very popular with golfers.

Outside the site: 100000

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes  No  Unknown

#### 4.5.2 - Social and cultural values

i) the site provides a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland

ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland

iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples

iv) relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland

<no data available>

#### 4.6 - Ecological processes

<no data available>

## 5 - How is the Site managed? (Conservation and management)

### 5.1 - Land tenure and responsibilities (Managers)

#### 5.1.1 - Land tenure/ownership

Public ownership

Category	Within the Ramsar Site	In the surrounding area
National/Federal government	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Private ownership

Category	Within the Ramsar Site	In the surrounding area
Other types of private/individual owner(s)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Provide further information on the land tenure / ownership regime (optional):

Dublin City Council owns the North Bull Island Nature Reserve (terrestrial), and is also the Local Authority for the site and manages the site through a Special Amenity Area Order (SAAO)

The Irish State owns the intertidal, estuarine and marine areas around the island including the saltmarsh. All of the foreshore of Ireland is deemed owned by the State, unless a valid alternative title is provided. The foreshore of Ireland is classed as the land and seabed between the high water of ordinary or medium tides (shown HWM on Ordnance Survey maps) and the twelve-mile limit (12 nautical miles equals approximately 22.24 kilometers). The foreshore also covers tidal areas of rivers particularly estuaries (Housing.gov.ie).

Dublin Port Company owns a 19 ha strip of land contiguous with the Bull Wall; and all the intertidal and marine areas within the site are within the Port of Dublin.

Royal Dublin Golf Club owns the Golf course (66.7 ha) on North Bull Island.

#### 5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

National Parks & Wildlife Service (NPWS),  
 Department of Housing, Local Government and Heritage  
 Dublin County Council.  
 Environmental Protection Agency (EPA).  
 Department of Communications, Climate Action and Environment.  
 Marine Institute.  
 Eastern Regional Fisheries Board.  
 Dublin Port Company

Provide the name and/or title of the person or people with responsibility for the wetland:

Maurice Eakin

Postal address:

National Parks and Wildlife Service,  
 90 North King Street,  
 Smithfield, Dublin,  
 Ireland  
 D07 N7CV

E-mail address:

maurice.eakin@housing.gov.ie

## 5.2 - Ecological character threats and responses (Management)

### 5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Housing and urban areas	High impact		<input type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change
Commercial and industrial areas	High impact		<input checked="" type="checkbox"/>	No change	<input type="checkbox"/>	No change
Tourism and recreation areas	High impact		<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Drainage	unknown impact		<input checked="" type="checkbox"/>	No change	<input type="checkbox"/>	No change
Water abstraction	unknown impact		<input checked="" type="checkbox"/>	No change	<input type="checkbox"/>	No change

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Roads and railroads	High impact		<input checked="" type="checkbox"/>	No change	<input type="checkbox"/>	No change

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Unspecified			<input checked="" type="checkbox"/>		<input type="checkbox"/>	
Fishing and harvesting aquatic resources	Medium impact		<input checked="" type="checkbox"/>	No change	<input type="checkbox"/>	No change

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Recreational and tourism activities	High impact		<input checked="" type="checkbox"/>	No change	<input type="checkbox"/>	No change

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Unspecified/others			<input checked="" type="checkbox"/>		<input type="checkbox"/>	

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Invasive non-native/ alien species	Low impact		<input checked="" type="checkbox"/>	No change	<input type="checkbox"/>	No change

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Household sewage, urban waste water	High impact		<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Habitat shifting and alteration	unknown impact		<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Please describe any other threats (optional):

Two invasive species impact the site: the Common Cordgrass and the Sea Buckthorn. The development of species-poor rank grassland dominated by Marram in parts of the fixed dune area is deemed a negative indicator (McCorry & Ryle, 2009). According to McCorry & Ryle (loc. cit.) there have been several indications in the past few years that the Alder marsh at North Bull Island was subject to changes in hydrology - the recent spread of scrub (including the invasive Sea Buckthorn) in this area is one indicator, signifying drier conditions. While increases in the Sea Rush abundance possibly indicate an increased saline element to the hydrology. A study by Devaney (2008) (cited McCorry & Ryle loc. cit.) concluded that there was a strong indication that water extraction could be affecting ground water levels in the Alder marsh. This study predicted that continued drying of the Alder marsh would probably lead to the loss of important dune slack habitat, and to the development of dune heath habitat (scrub) and finally to woodland. It recommended active management is required for this issue and consultation with both golf courses is needed about water management issues such as drainage, local water abstraction on the island, water budgets, methods of water collection and irrigation. Threats listed above are taken from NPWS (2015a, 2015b) and McCorry & Ryle (loc. cit.).

5.2.2 - Legal conservation status

Global legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Other global designation	North Bull Island	<a href="http://www.dublincity.ie/main-me-nu-services-recreation-culture-dublin-city-parks-visit-park-north-bull-island-unesco-2">http://www.dublincity.ie/main-me-nu-services-recreation-culture-dublin-city-parks-visit-park-north-bull-island-unesco-2</a>	whole
UNESCO Biosphere Reserve	Dublin Bay	<a href="http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/europe-north-america/ireland/dublin-bay/">http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/europe-north-america/ireland/dublin-bay/</a>	whole

Regional (international) legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
EU Natura 2000	North Dublin Bay SAC Site Code 0000206		whole
EU Natura 2000	North Dublin Bay SPA Site Code 004006		whole
Other international designation	North Bull Island	<a href="http://www.dublincity.ie/main-me-nu-services-recreation-culture-dublin-city-parks-visit-park-north-bull-island-unesco-2">http://www.dublincity.ie/main-me-nu-services-recreation-culture-dublin-city-parks-visit-park-north-bull-island-unesco-2</a>	whole

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Nature Reserve	North Bull Island	<a href="https://www.npws.ie/nature-reserves/dublin/north-bull-island-nature-reserves">https://www.npws.ie/nature-reserves/dublin/north-bull-island-nature-reserves</a>	whole
Special Area Amenity Order	North Bull Island	<a href="http://www.dublincity.ie/main-menu-services-recreation-culture-dublin-city-parks-visit-park-north-bull-island-unesco/national">http://www.dublincity.ie/main-menu-services-recreation-culture-dublin-city-parks-visit-park-north-bull-island-unesco/national</a>	whole
Wildfowl Sanctuary	The North Bull Island	<a href="https://www.npws.ie/protected-sites/wildfowl-sanctuaries">https://www.npws.ie/protected-sites/wildfowl-sanctuaries</a>	partly

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	Dublin Bay	<a href="http://datazone.birdlife.org/site/factsheet/dublin-bay-iba-ireland">http://datazone.birdlife.org/site/factsheet/dublin-bay-iba-ireland</a>	whole

5.2.3 - IUCN protected areas categories (2008)

- Ia Strict Nature Reserve
- Ib Wilderness Area: protected area managed mainly for wilderness protection
- II National Park: protected area managed mainly for ecosystem protection and recreation
- III Natural Monument: protected area managed mainly for conservation of specific natural features
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
- VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Habitat

Measures	Status
Catchment management initiatives/controls	Implemented
Improvement of water quality	Implemented
Habitat manipulation/enhancement	Implemented
Land conversion controls	Implemented

Species

Measures	Status
Threatened/rare species management programmes	Implemented
Control of invasive alien plants	Implemented

Human Activities

Measures	Status
Regulation/management of wastes	Implemented
Regulation/management of recreational activities	Implemented
Research	Implemented
Communication, education, and participation and awareness activities	Implemented
Fisheries management/regulation	Implemented
Harvest controls/poaching enforcement	Implemented

Other:

The North Bull Ramsar site lies within the North Bull Island SAC (000206) and North Bull Island SPA (004006). Under the European and national legislation, Ireland must maintain at favourable conservation status areas designated as Special Areas of Conservation and Special Protection Areas. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites. Conservation objectives of this site have been set for the SAC and SPA and are listed below; these can be accessed on NPWS.ie.

- To maintain or restore the favourable conservation condition of the Annex I habitat(s) for which the SAC has been selected: Mudflats and sandflats not covered by seawater at low tide, Annual vegetation of drift lines, Salicornia and other annuals colonising mud and sand and other annuals colonising mud and sand, Atlantic salt meadows (*Glaucopuccinellietalia maritimae*), Petalwort *Petalophyllum ralfsii*, Mediterranean salt meadows (*Juncetalia maritimi*), Embryonic shifting dunes, Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes), Fixed coastal dunes with herbaceous vegetation (grey dunes)\* and Humid dune slacks.

- To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA; and Wetlands [A999].

Legislation in the Republic of Ireland affords protection to bird species outside of designated sites e.g. all wild bird species are afforded protection by The Wildlife Act 1976. Waterfowl shooting is under license only, managed by the National Parks & Wildlife Service. The North Bull Island Ramsar site lies within the UNESCO Dublin Bay Biosphere.

### 5.2.5 - Management planning

Is there a site-specific management plan for the site? Yes

Has a management effectiveness assessment been undertaken for the site? Yes  No

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes  No

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

Yes. North Bull Island Interpretative Centre. The Centre is ideal for visiting school and group tours, with facilities for teachers, environmental groups and researchers.

URL of site-related webpage (if relevant): <http://www.dublincity.ie/main-menu-services-recreation-culture-dublin-city-parks-visit-park-north-bull-island-unesco/your>

### 5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Please select a value

### 5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Water regime monitoring	Implemented
Water quality	Implemented
Plant community	Implemented
Plant species	Implemented
Animal community	Implemented
Birds	Implemented

A requirement of the Water Framework Directive is that benthic macro-invertebrates must be sampled from coastal and transitional waters at least twice within a river basin cycle (6 years) in order to classify these water bodies. The site is sampled and monitored under this programme. As a EU Natura 2000 site, it is required under Article 12 and 17 of the EU Birds and Habitats Directives respectively, that the status and trends of the conservation objectives within the site are monitored and reported on every 6 years.

North Bull Island is routinely surveyed as part of I-WeBS which provides comprehensive counts of the bird species using the site. The site is regularly inspected by the National Parks and Wildlife Service Conservation Rangers for the area.

## 6 - Additional material

### 6.1 - Additional reports and documents

#### 6.1.1 - Bibliographical references

Lockhart, N., Hodgetts, N. & Holyoak, D. (2012) Ireland Red List No.8: Bryophytes. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

McCorry, M. & Ryle, T. (2009). Saltmarsh Monitoring Project 2007-2008. Volume 2. Unpublished report to the National Parks and Wildlife Service, Dublin.

McCorry, M. & Ryle, T. (2009b) A Management Plan for North Bull Island. Parks and Landscape Services, Dublin City Council.

NPWS (2013a) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2015a) Natura 2000 Form North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2014a) Site Synopsis for North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2013b) North Dublin Bay SAC (site code 206) Conservation objectives supporting document -coastal habitats. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2013c) Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2015b) Natura 2000 Form North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2014b) Site Synopsis for North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

IUCN 2017. The IUCN Red List of Threatened Species. Version 2017-2. <http://www.iucnredlist.org>. Downloaded on 14 October 2017.

Wyse Jackson, M., FitzPatrick, Ú., Cole, E., Jebb, M., McFerran, D., Sheehy Skeffington, M. & Wright, M. (2016) Ireland Red List No. 10: Vascular Plants. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, Dublin, Ireland.

[BirdwatchIreland.ie](http://birdwatchireland.ie)

<http://irishwetlands.ie>

<http://www.ramsar.org>

<http://eu.nis.eea.europa.eu>

<http://www.gis.epa.ie>

The Irish Wetland Bird Survey (IWeBS).

BirdLife International (2017) Important Bird Areas factsheet: Dublin Bay. Downloaded from <http://www.birdlife.org> on 17/10/2017

#### 6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<no file available>

ii. a detailed Ecological Character Description (ECD) (in a national format)

<no file available>

iii. a description of the site in a national or regional wetland inventory

<no file available>

iv. relevant Article 3.2 reports

<no file available>

v. site management plan

<no file available>

vi. other published literature

<no file available>

<no data available>

#### 6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



North Bull Island ( NPWS, October 2017 )



North Bull Island ( NPWS, October 2017 )



North Bull Island ( NPWS, October 2017 )



North Bull Island ( NPWS, October 2017 )

#### 6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation