NATURA IMPACT REPORT

IN SUPPORT OF THE

APPROPRIATE ASSESSMENT

OF THE

DRAFT TRANSPORT STRATEGY

FOR THE

GREATER DUBLIN AREA

2016-2035

IN ACCORDANCE WITH THE REQUIREMENTS OF
ARTICLE 6(3) OF THE EU HABITATS DIRECTIVE

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Section 1 Introduction and Background

1.1 Background

CAAS Ltd. has been appointed by the National Transport Authority to undertake Appropriate Assessment (AA) in relation to the Draft Transport Strategy for the Greater Dublin Area 2016-2035 in accordance with the requirements of Article 6 of the EU Habitats Directive[1]. This report is divided into these two sections:

Section 1	Introduction and background
Section 2	Stage 1 Screening
Section 3	Stage 2 Appropriate Assessment
Section 4	Mitigation
Section 5	Conclusion

1.2 Legislative Context

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as "The Habitats Directive", provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. These include candidate Special Areas of Conservation (cSACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (Directive 2009/147/EC - codified version of Directive 79/409/EEC as amended), hereafter referred to as European sites.

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect European sites. Article 6(3) establishes the requirement for Appropriate Assessment (AA):

"Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public

If, in spite of a negative assessment of the implications for the [Natura 2000] site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Where the site concerned hosts a priority natural habitat type and/or a priority species the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest."

[1] Directive 92/43/EEC

These requirements are implemented in the Republic of Ireland by the European Communities (Birds and Natural Habitats) Regulations 2011. These regulations consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in the Court of Justice of the European Union (CJEU) judgments.

1.3 Stages of Appropriate Assessment

This Appropriate Assessment has been prepared in accordance with the following guidance:

- *Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities*. Department of the Environment, Heritage and Local Government, 2010.
- *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 DG, 2002.
- *Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC.* European Commission, 2000

AA comprises up to four stages:

Stage One: Screening

The process which identifies the likely impacts upon a European site of a project or plan, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant.

Stage Two: Appropriate Assessment

The consideration of the impact on the integrity of the European site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts.

Stage Three: Assessment of Alternative Solutions

The process which examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the European site.

Stage Four: Assessment where no alternative solutions exist and where adverse impacts remain

An assessment of compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the plan should aim to avoid any impacts on European sites by identifying possible impacts early in the plan-making process and writing the plan in order to avoid such impacts. Second, mitigation measures should be applied, if necessary, during the AA process to the point where no adverse impacts on the site(s) remain. If the plan is still likely to result in impacts on European sites, and no further practicable mitigation is possible, then it must be rejected. If no alternative solutions are identified and the plan is required for imperative reasons of overriding public interest (IROPI test) under Article 6(4) of the Habitats Directive, then compensation measures are required for any remaining adverse effect.

Section 2 Stage 1 Screening

2.1 Description of the Draft Transport Strategy for the Greater Dublin Area

2.1.1 Introduction

The Transport Strategy provides a framework for the planning and delivery of transport infrastructure and services in the Greater Dublin Area (GDA) for the next two decades. It also provides a transport planning policy around which other agencies involved in land use planning, environmental protection, and delivery of other infrastructure such as housing, water and power, can align their investment priorities. It is, therefore, an essential component, along with investment programmes in other sectors, for the orderly development of the GDA over the next 20 years.

2.1.2 Dublin Transport Authority Act

Under section 12 of the 2008 Dublin Transport Authority Act, the Authority is required to prepare a Transport Strategy for the Greater Dublin Area. Section 12 (3) states that the objective of the Strategy shall be to provide a long-term strategic planning framework for the integrated development of transport infrastructure and services in the GDA and, in accordance with section 12 (4), shall consider the future development of the transport system in the GDA for a period of not less than 12 years and not more than 20 years.

Section 12 (5) states that when preparing a transport strategy the Authority shall have regard to:

- the National Spatial Strategy;
- the regional planning guidelines in force for the GDA;
- the development plans in force in the GDA, the Dublin Docklands Development Authority's master plan and the Grangegorman Development Agency's strategic plan;
- Transport 21 or any subsequent capital investment framework for transport published by the Minister or Government;
- the Department of Transport's sectoral plan under the Disability Act 2005 or any subsequent sectoral plan under that Act;
- demographic, economic, social, travel and transport trends in the GDA;
- existing, planned and projected land use developments;
- trends and requirements of persons travelling from outside the GDA into the GDA, and vice versa, and the demand for such travel;
- any proposals received from public transport authorities and operators;
- such other matters as may be prescribed by the Minister or as the Authority considers appropriate.

The Transport Strategy must also be reviewed every 6 years.

2.1.3 Previous Strategy

The National Transport Authority (the Authority) published a draft Transport Strategy in 2011, and the work undertaken in the development of that document also informed the current review and update. While much has changed since the commencement and development of the previous strategy in terms of population growth, employment contraction and growth, and the associated demand for travel, the long-term 20 year outlook is not radically dissimilar. As such, while the approach to the review of the Strategy incorporates the latest available forecast data, and environmental baseline data, the nature of many of the transport proposals are similar to those set out in the previous draft strategy.

2.1.4 Content of the GDA Strategy

The Strategy is set out over eight chapters as follows:

Chapter 1 - Introduction and Context
Chapter 2 – Policy Overview
Chapter 3 – Transport in the Greater Dublin Area
Chapter 4 - Development of the Strategy
Chapter 5 - The 2035 Transport Network

This chapter outlines the strategic transport infrastructure that is proposed to be delivered within the lifetime of the Strategy under the following categories:

- Heavy Rail Infrastructure;
- Light Rail Infrastructure;
- Bus Infrastructure;
- Cycling Infrastructure;
- Walking; and
- Road Network.

Additional sections address the issues of freight movement, parking provision, the provision of park & ride sites, and transport demand management.

Chapter 6 - Transport Services and Integration

The addition of new transport infrastructure and a need for increased transport capacity during the period of this Strategy will necessitate on-going review and development of the overall network of public transport services. This chapter sets out the key proposals proposed for implementation in each of the following areas:

- Bus services
- Rail Services
- Fares
- Passenger information systems
- Optimising Interchange and transport facilities
- Accessibility
- Small Public Service Vehicles
- Local Transport Services
- Environmental

Chapter 7 - Land Use Integration and Behavioural Change
Chapter 8 - Environmental Protection and Management
Chapter 9 – Summary of Outcomes

Various appendices including this AA Natura Impact Report and an SEA Environmental Report accompany the Strategy.

2.1.5 Relationship with other relevant Plans and Programmes

The GDA Strategy is a high level strategy which will relate to areas which have existing plans and programmes for a range of sectors (e.g. water management, land use, energy) at a range of levels (e.g. national, regional, county, local) that are already subject to more specific higher and lower tier AA as illustrated in Figure 2-1.

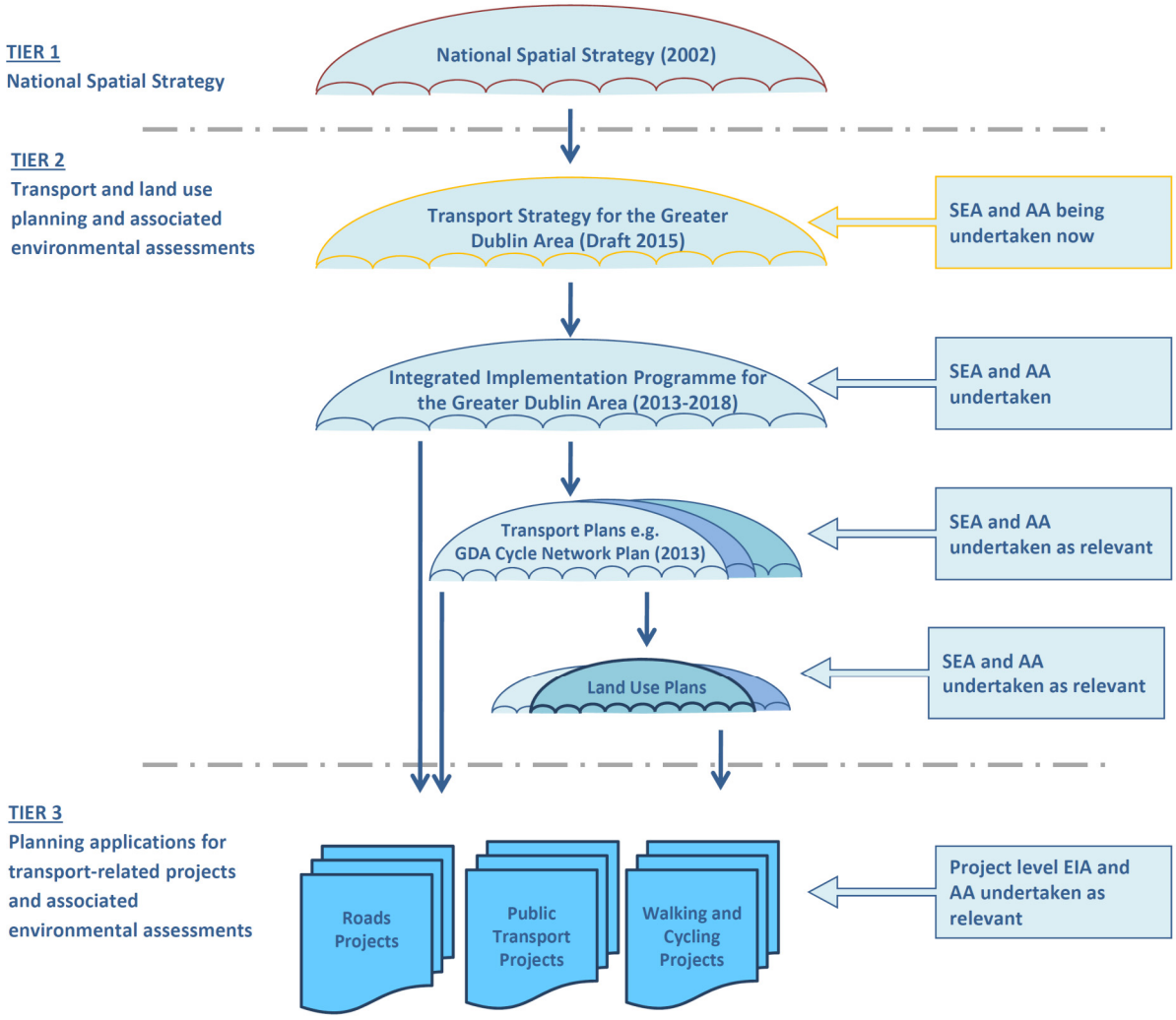

Figure 2-1 Hierarchy of Planning and Environmental Assessment of the Draft Transport Strategy for the Greater Dublin Area 2016-2035.

The Strategy sits within a hierarchy of strategic actions such as plans and programmes, including those detailed on Table 2-1 below. The Strategy must comply with relevant higher level strategic actions and may, in turn, guide lower level strategic actions.

The Strategy is subject to a number of high level environmental protection policies and objectives with which it must comply, including those which have been identified as Strategic Environmental Objectives in the SEA. Examples of Environmental Protection Objectives include the aim of the EU Habitats Directive - which is to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of Member States - and the purpose of the Water Framework Directive - which is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which, among other things, prevents deterioration in the status of all water bodies and protects, enhances and restores all waters with the aim of achieving good status by 2015.

Table 2-1 Relationship with legislation and other plans and programmes.

European
European Union Biodiversity Strategy to 2020
Water Framework Directive (2000/60/EC)
Surface Water Directive (75/440/EC)
Groundwater Directive (2006/118/EC)

Drinking Water Directive (98/83/EC)
Environmental Liability Directive (2004/35/EC)
Marine Strategy Framework Directive (2008/56/EC)
Urban Waste Water Treatment Directive (91/271/EEC)
Flood Directive (2007/60/EC)
Freshwater Fish Directive (78/659/EEC)
Shellfish Waters Directive (2006/113/EC)
Habitats Directive (92/43/EEC)
Birds Directive (2009/147/EC)
Nitrates Directive (91/676/EEC)
Dangerous Substances Directive
(76/464/EEC)
(2006/11/EC)
Environmental Quality Standards Directive (Directive 2008/105/EC)(also known as the Priority Substances Directive) as amended by Directive 2013/39/EU)
Environmental Liability Directive (2004/35/EC)
SEA Directive (2001/42/EC)
EIA Directive (2011/92/EU as amended by 2014/52/EU)
Renewable Energy Directive (2009/28/EC)
EU 2020 climate and energy package
A Blueprint to Safeguard Europe's Water Resources
European Union Biodiversity Strategy to 2020
National / Regional
Wildlife Act of 1976 Wildlife (Amendment) Act, 2000
Actions for Biodiversity 2011-2016 Ireland's National Biodiversity Plan, 2011
Smarter Travel Initiative 2012 - 2016
National Spatial Strategy for Ireland 2002-2020 (2002)
Smarter Travel – A Sustainable Transport Future – A New Transport Policy for Ireland 2009 – 2020 (2009)
Ireland's First National Cycle policy Framework (2009)
Regional Planning Guidelines
Flood Risk Management Plans
The Planning System and Flood Risk Management – Guidelines for Planning Authorities (2009)
River Basin Management Plans and associated Programmes of Measures - including International (Northern Ireland) Plans and Programmes
Groundwater Protection Schemes
Water Quality Management Plans
European Communities (Water Policy) Regulations of 2003 (SI 722 of 2003) European Communities (Water Policy) Regulations of 2003 (SI 350 of 2014)
European Communities Environmental Objectives (Surface waters) Regulations of 2009 (SI 272 of 2009)
European Communities Environmental Objectives (Groundwater) Regulations of 2010 (SI 9 of 2010)
Water Pollution Acts 1977 to 1990
Groundwater Protection Schemes
Water Quality Management Plans
Water Services Act 2007 Water Services (Amendment) Act 2012 Water Services Act 2013
Regional Waste Management Plans
National Renewable Energy Action Plan
Offshore Renewable Energy Development Plan
Transport 21
Grid25 Implementation Programme
Harvest 2020
Agri-vision 2015 Action Plan
Rural Environmental Protection Scheme (REPS)
Agri-Environmental Options Scheme(AEOS)
Green, Low-Carbon, Agri-environment Scheme (GLAS)
National Rural Development Programme
Forests, Products and People. Ireland's Forest Policy - A Renewed Vision (Draft)
National Peatlands Strategy (Draft)
Raised Bog SAC Management Plan and Review of Raised Bog Natural Heritage Areas

National Climate Change Strategy
National Renewable Energy Action Plan
Sustainable Development – A Strategy for Ireland (1997)
National Landscape Strategy 2015
Local
Greater Dublin Area Cycle Network Plan
Regional & County Green Infrastructure Plans/Strategies including any relevant Waterways Ireland plans/programmes
River Basin Management Plans and associated Programmes of Measures
Regional Planning Guidelines
County and Town Development Plans including those for Dublin City, Fingal, Dun Laoghaire – Rathdown, South Dublin and Counties Meath, Kildare and Wicklow
Local Area Plans
Planning Schemes for Strategic Development Zones
Strategic Development Zones(SDZ)
Biodiversity Action Plans
Dublin Docklands Development Authority's Masterplan
Heritage Plans
County Landscape Character Assessments
Freshwater Pearl Mussel Sub-Basin Management Plans
Local Catchment Food Risk Management Plans
County Landscape Character Assessments
Special Amenity Area Order
Grangegorman Development Agencies Strategic Plan
Freshwater Pearl Mussel Sub-Basin Management Plans
County Renewable Energy Strategies
Greater Dublin Strategic Drainage Strategy
Strategic Integrated Framework Plan for the Shannon Estuary
Local/County Water Services Strategic Plans
Local Catchment Flood Risk Management Plan
Office of Public Works Arterial Drainage Maintenance and High Risk Designation Programme 2011-2015

2.2 Natura 2000 Network

2.2.1 Study area

The spatial scope of the Strategy corresponds to counties Dublin, Meath, Kildare, and Wicklow (which make up the Greater Dublin Area) in addition to an area of County Louth to take account of the Dublin to Drogheda rail line. This area is shown on Figure 2-2.

2.2.2 SACs and SPAs

The European Union's Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna), in conjunction with the Birds Directive (Council Directive 79/409/EEC on the conservation of wild birds) is the main legal tool of the European Union for nature conservation. The EU Directive on the conservation of wild birds was adopted in 1979 by nine Member States, and was the first EU Directive on nature conservation. Since its adoption it has been a vital legal instrument for the conservation of all birds that occur naturally across the EU, acting in the broadest public interest to conserve Europe's natural heritage for present and future generations.

The EU Habitats Directive was proposed in 1988 and after many significant changes was adopted in July 1992. The stated aim of the Directive is to contribute to the maintenance of biodiversity within the European territory of the Member States through the conservation of natural habitats and of wild fauna and flora of Community interest. The Birds and Habitats Directive together offer useful legal conceptual models and a set of standards and norms in common use.

The Habitat Directive seeks to establish "Natura 2000", a network of protected areas throughout the European Community. It is the responsibility of each member state to designate Special Areas of Conservation (SACs) to protect habitats and species, which, together with the Special Protection Areas (SPAs) designated under the EU Birds Directive, form Natura 2000.

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. 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 or restoration of habitats and species within European sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Special Areas of Conservation (SACs) have been selected for protection under the European Council Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC) by the Department of Arts, Heritage, and the Gaeltacht (DAHG) due to their conservation value for habitats and species of importance in the European Union. The sites are candidate sites because they are currently under consideration by the Commission of the European Union. The Habitats Directive seeks to establish Natura 2000, a network of protected areas throughout the EU. It is the responsibility of each member state to designate SACs to protect habitats and species, which, together with the SPAs designated under the 1979 Birds Directive, form Natura 2000. SPAs have been selected for protection under the 1979 European Council Directive on the Conservation of Wild Birds (79/409/EEC) - referred to as the Birds Directive – by the DAHG due to their conservation value for birds of importance in the European Union.

It is general practice, when screening a plan or project for compliance with the Habitats Directive, to identify all European sites within the functional area of the plan itself and within 15 km of the boundaries of the area the plan applies to. This approach is currently recommended in the Department of the Environmental, Heritage and Local Government's document Guidance for Planning Authorities and as a precautionary measure, to ensure that all potentially affected European sites are included in the screening process.

European sites that are more than 15km from the plan area may also need to be considered depending on the likely impacts of the plan or project, and the sensitivities of the ecological receptors, bearing in mind the precautionary principle. In the case of sites with water dependent habitats or species, and a

plan or project that could affect water quality or quantity, for example, it may be necessary to consider the full extent of the upstream and/or downstream catchment.

Based on the above approach, a total of 75 European sites, comprising 50 SACs and 25 SPAs may potentially be impacted by the Strategy. Those European sites located within the Strategy Area are presented in Table 2-2, while those within a further 15km of the Strategy Area are listed in Table 2-3. A map showing the location and extent of all sites in relation to the Strategy Area is presented in Figure 2-2. The possibility of impacts beyond 15km was considered, and it was deemed unlikely that the provisions of the Strategy would have impacts over distances greater than 15km.

Further details on each of the relevant sites are presented in Appendix I of this report. Details presented include the following: the site's location in relation to the GDA strategy, the qualifying features of the site, known threats to the site (as reported in the Natura 2000 Standard Data Form (SDF), and the county (s) in which the site occurs. This information was derived from a variety of sources:

- *Ireland's Article 17 Report to the European Commission "Status of EU Protected Habitats and Species in Ireland" (NPWS 2014)*
- *Site Synopses*
- *NATURA 2000 Standard Data Forms*
- *Detailed Site Specific Conservation Objectives and supporting documents (where available)*

Since the conservation objectives for the European sites focus on maintaining the favourable conservation condition of the qualifying interests of each site, the screening process concentrated on assessing the potential implications of the implementation of the Strategy against the qualifying interests of each site.

The various Qualifying Interests (QIs) for which the cSACs have been selected (Special Conservation Interests (SCIs) in the case of SPAs) are summarised in 2.2.2.1 below.

Table 2-2 European sites within the Strategy Area

Site Code	Site Name	Relationship with the Strategy Area
0006	Killyconny Bog (Cloghbally) SAC	Within Strategy Area.
0199	Baldoyle Bay SAC	Within Strategy Area.
0202	Howth Head SAC	Within Strategy Area.
0205	Malahide Estuary SAC	Site overlapped by the DART Expansion Programme which will provide DART services as far north as Drogheda.
0206	North Dublin Bay SAC	Within Strategy Area.
0208	Rogerstown Estuary SAC	Site overlapped by the DART Expansion Programme which will provide DART services as far north as Drogheda Co. Louth.
0391	Ballynafagh Bog SAC	Within Strategy Area.
0396	Pollardstown Fen SAC	Within Strategy Area.
0397	Red Bog, Kildare SAC	Within Strategy Area.
0713	Ballyman Glen SAC	Within Strategy Area.
0714	Bray Head SAC	Within Strategy Area.
0716	Carriggower Bog SAC	Within Strategy Area.
0717	Deputy's Pass Nature Reserve SAC	Within Strategy Area.
0719	Glen Of The Downs SAC	Within Strategy Area.
0725	Knocksink Wood SAC	Within Strategy Area.
0729	Buckroney-Brittas Dunes And Fen SAC	Within Strategy Area.
0733	Vale Of Clara (Rathdrum Wood) SAC	Within Strategy Area.
0781	Slaney River Valley SAC	Within Strategy Area.
1209	Glenasmole Valley SAC	Within Strategy Area.

Site Code	Site Name	Relationship with the Strategy Area
1387	Ballynafagh Lake SAC	Within Strategy Area.
1398	Rye Water Valley/Carton SAC	Site overlapped by the DART Expansion Programme which will provide DART services as far west as Maynooth Co. Kildare.
1757	Holdenstown Bog SAC	Within Strategy Area.
1766	Magherabeg Dunes SAC	Within Strategy Area.
1810	White Lough, Ben Loughs And Lough Doo SAC	Within Strategy Area.
1957	Boyne Coast And Estuary SAC	Within Strategy Area.
2120	Lough Bane And Lough Glass SAC	Within Strategy Area.
2122	Wicklow Mountains SAC	Within Strategy Area.
2162	River Barrow And River Nore SAC	Within Strategy Area.
2249	The Murrough Wetlands SAC	Within Strategy Area.
2299	River Boyne And River Blackwater SAC	Site overlapped by enhancements of the N2/M2 national route inclusive of a bypass of Slane.
2331	Mouds Bog SAC	Within Strategy Area.
2342	Mount Hevey Bog SAC	Within Strategy Area.
4015	Rogerstown Estuary SPA	Site overlapped by the DART Expansion Programme which will provide DART services as far north as Drogheda Co. Louth.
4016	Baldoyle Bay SPA	Within Strategy Area.
4024	South Dublin Bay and River Tolka Estuary SPA	Within Strategy Area.
4025	Broadmeadow/Swords Estuary SPA	Site overlapped by the DART Expansion Programme which will provide DART services as far north as Drogheda Co. Louth.
4040	Wicklow Mountains SPA	Within Strategy Area.
4063	Poulaphouca Reservoir SPA	Within Strategy Area.
4065	Lough Sheelin SPA	Within Strategy Area.
4080	Boyne Estuary SPA	Within Strategy Area.
4127	Wicklow Head SPA	Within Strategy Area.
4158	River Nanny Estuary and Shore SPA	Site overlapped bythe DART Expansion Programme which will provide DART services as far north as Drogheda Co. Louth.
4186	The Murrough SPA	Within Strategy Area.
4232	River Boyne and River Blackwater SPA	Site overlapped by enhancements of the N2/M2 national route inclusive of a bypass of Slane.

Table 2-3 European sites within 15 km of the Strategy Area

Site Code	Site Name	Location in relation to strategy area
0204	Lambay Island SAC	Within 5km
0210	South Dublin Bay SAC	Within 5km
0455	Dundalk Bay SAC	Within 15km
0582	Raheenmore Bog SAC	Within 15km
0679	Garriskil Bog SAC	Within 15km
0685	Lough Ennell SAC	Within 15km
0770	Blackstairs Mountains SAC	Within 15km
0925	The Long Derries, Edenderry SAC	Within 5km

Site Code	Site Name	Location in relation to strategy area
1459	Clogher Head SAC	Within 10km
1742	Kilpatrick Sandhills SAC	Within 5km
2121	Lough Lene SAC	Within 5km
2141	Mountmellick SAC	Within 10km
2193	Ireland's Eye SAC	Within 5km
2256	Ballyprior Grassland SAC	Within 5km
2274	Wicklow Reef SAC	Within 5km
2340	Moneybeg And Clareisland Bogs SAC	Within 5km
2341	Ardagullion Bog SAC	Within 15km
3000	Rockabill to Dalkey Island SAC	Within 5km
4006	North Bull Island SPA	Within 5km
4014	Rockabill SPA	Within 10km
4026	Dundalk Bay SPA	Within 15km
4043	Lough Derravaragh SPA	Within 10km
4044	Lough Ennell SPA	Within 15km
4061	Lough Kinale and Derragh Lough SPA	Within 5km
4069	Lambay Island SPA	Within 5km
4091	Stabannan-Braganstown SPA	Within 10km
4102	Garriskil Bog SPA	Within 10km
4113	Howth Head Coast SPA	Within 5km
4117	Ireland's Eye SPA	Within 5km
4122	Skerries Islands SPA	Within 5km
4172	Dalkey Islands SPA	Within 5km

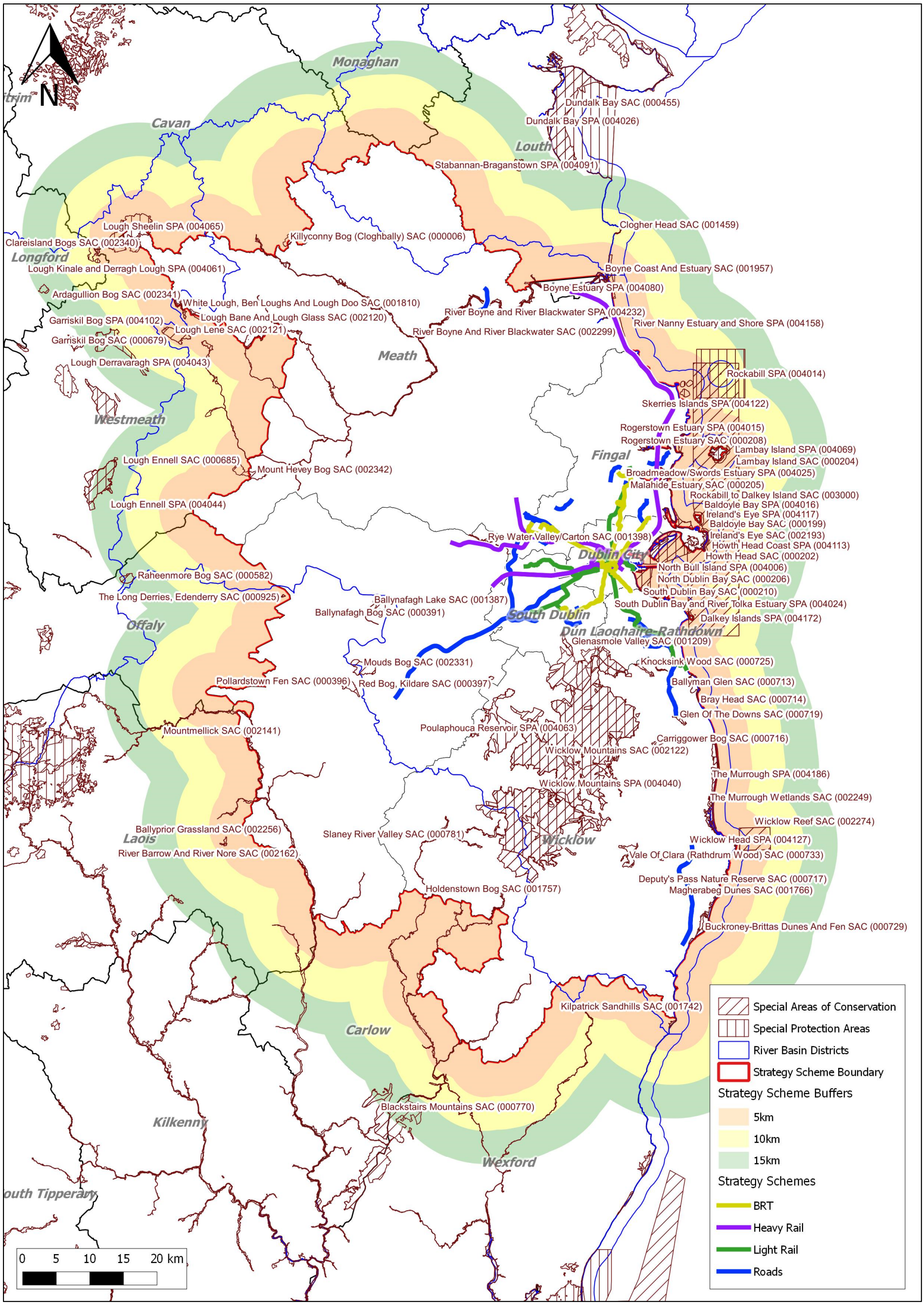

Figure 2-2 Map showing the distribution and extent of designated European sites in relation to the Transport Strategy for the Greater Dublin Area

2.2.2.1 Qualifying Interests (QIs) and Special Conservation Interests (SCIs)

Those cSAC sites listed in Section 2.2.2 above are selected for a range of different habitats and species listed on Annex I and Annex II of the habitats directive, known as Qualifying Interests (QIs). Those QIs for which each cSAC site is selected are presented in Table 2-4.

Those SPA sites listed in Section 2.2.2 above have been selected for the protection of endangered species of wild birds. Each SPA has been selected for one or a combination of the following:

- Listed rare and vulnerable species (as listed on Annex I of EU Birds Directive 2009/147/EC);
- Regularly occurring migratory species, such as ducks, geese, and waders;
- Wetlands, especially those of international importance, which attract large numbers of migratory birds each year.

The features for which SPAs have been selected are referred to as Special Conservation Interests (SCIs). Those SCIs for which each SPA is selected are presented in Table 2-5.

Table 2-4 QIs of cSACs in and within 15 km of the Strategy Area

Site Code	Site Name	SSCOs Published	Annex I Habitats[2]	Annex II Species
2341	Ardagullion Bog SAC	No	Degraded raised bogs	
			Raised bog (active)*	
			Rhynchosporion depressions	
199	Baldoyle Bay SAC	Yes	Atlantic salt meadows	
			Mediterranean salt meadows	
			Salicornia mud	
			Tidal mudflats	
713	Ballyman Glen SAC	No	Alkaline fens	
			Petrifying springs*	
391	Ballynafagh Bog SAC	No	Degraded raised bogs	
			Raised bog (active)*	
			Rhynchosporion depressions	
1387	Ballynafagh Lake SAC	No	Alkaline fens	Desmoulin's whorl snail
				Marsh Fritillary
2256	Ballyprior Grassland SAC	No	Orchid-rich calcareous grassland*	
770	Blackstairs Mountains SAC	No	Dry heaths	
			Wet heath	
1957	Boyne Coast and Estuary SAC	Yes	Atlantic salt meadows	
			Embryonic shifting dunes	
			Estuaries	
			Fixed dunes (grey dunes)*	
			Marram dunes (white dunes)	
			Mediterranean salt meadows	
			Salicornia mud	
			Tidal mudflats	
714	Bray Head SAC	No	Dry heaths	
			Sea cliffs	
729	Buckroney-Brittas Dunes and Fen SAC	No	Alkaline fens	
			Decalcified dune heath*	
			Drift lines	
			Dune slack	
			Dunes with creeping willow	
			Embryonic shifting dunes	
			Fixed dunes (grey dunes)*	
			Marram dunes (white dunes)	
			Mediterranean salt meadows	
			Perennial vegetation of stony banks	
716	Carriggower Bog SAC	No	Transition mires	
1459	Clogher Head SAC	No	Dry heaths	
			Sea cliffs	
717	Deputy's Pass Nature Reserve SAC	No	Old oak woodlands	
455	Dundalk Bay SAC	Yes	Atlantic salt meadows	
			Estuaries	
			Mediterranean salt meadows	
			Perennial vegetation of stony banks	
			Salicornia mud	
			Tidal mudflats	

[2] Abreviated habitat and species names are used as per NPWS (2013) The Status of EU Protected Habitats and Species in Ireland.

Site Code	Site Name	SSCOs Published	Annex I Habitats[2]	Annex II Species
679	Garriskil Bog SAC	No	Degraded raised bogs	
			Raised bog (active)*	
			Rhynchosporion depressions	
719	Glen of the Downs SAC	No	Old oak woodlands	
1209	Glenasmole Valley SAC	No	Molinia meadows	
			Orchid-rich calcareous grassland*	
			Petrifying springs*	
1757	Holdenstown Bog SAC	No	Transition mires	
202	Howth Head SAC	No	Dry heaths	
			Sea cliffs	
2193	Ireland's Eye SAC	No	Perennial vegetation of stony banks	
			Sea cliffs	
6	Killyconny Bog (Cloghbally) SAC	No	Degraded raised bogs	
			Raised bog (active)*	
1742	Kilpatrick Sandhills SAC	No	Decalcified dune heath*	
			Drift lines	
			Embryonic shifting dunes	
			Fixed dunes (grey dunes)*	
			Marram dunes (white dunes)	
725	Knocksink Wood SAC	No	Petrifying springs*	
			Residual alluvial forests*	
204	Lambay Island SAC	Yes	Sea cliffs	Common Seal
				Grey Seal
2120	Lough Bane and Lough Glass SAC	No	Hard water lakes	White-Clawed Crayfish
685	Lough Ennell SAC	No	Alkaline fens	
2121	Lough Lene SAC	No	Hard water lakes	White-Clawed Crayfish
1766	Magherabeg Dunes SAC	No	Decalcified dune heath*	
			Drift lines	
			Embryonic shifting dunes	
			Fixed dunes (grey dunes)*	
			Marram dunes (white dunes)	
			Petrifying springs*	
205	Malahide Estuary SAC	Yes	Atlantic salt meadows	
			Fixed dunes (grey dunes)*	
			Marram dunes (white dunes)	
			Mediterranean salt meadows	
			Salicornia mud	
			Spartinion	
			Tidal mudflats	
2340	Moneybeg and Clareisland Bogs SAC	No	Degraded raised bogs	
			Raised bog (active)*	
			Rhynchosporion depressions	
2331	Mouds Bog SAC	No	Degraded raised bogs	
			Raised bog (active)*	
			Rhynchosporion depressions	
2342	Mount Hevey Bog SAC	No	Degraded raised bogs	
			Raised bog (active)*	
			Rhynchosporion depressions	
2141	Mountmellick SAC	No		Desmoulin's whorl snail
206	North Dublin Bay SAC	No	Atlantic salt meadows	Petalwort
			Drift lines	
			Dune slack	
			Embryonic shifting dunes	
			Fixed dunes (grey dunes)*	
			Marram dunes (white dunes)	

Site Code	Site Name	SSCOs Published	Annex I Habitats[2]	Annex II Species
			Mediterranean salt meadows	
			Salicornia mud	
			Tidal mudflats	
396	Pollardstown Fen SAC	No	Alkaline fens	Desmoulin's whorl snail
			Cladium fen*	Geyer's whorl snail
			Petrifying springs*	Narrow-mouthed whorl snail
582	Raheenmore Bog SAC	No	Degraded raised bogs	
			Raised bog (active)*	
			Rhynchosporion depressions	
397	Red Bog, Kildare SAC	No	Transition mires	
2162	River Barrow and River Nore SAC	Yes	Atlantic salt meadows	Atlantic Salmon
			Dry heaths	Brook Lamprey
			Estuaries	Desmoulin's whorl snail
			Floating river vegetation	Freshwater Pearl Mussel
			Hydrophilous tall herb	Irish Freshwater Pearl Mussel
			Mediterranean salt meadows	Killarney Fern
			Old oak woodlands	Otter
			Petrifying springs*	River Lamprey
			Residual alluvial forests*	Sea Lamprey
			Salicornia mud	Twaite Shad
			Tidal mudflats	White-Clawed Crayfish
2299	River Boyne and River Blackwater SAC	No	Alkaline fens	Atlantic Salmon
			Residual alluvial forests*	Otter
				River Lamprey
3000	Rockabill to Dalkey Island SAC	Yes	Reefs	Harbour Porpoise
			Reefs	
208	Rogerstown Estuary SAC	Yes	Atlantic salt meadows	
			Estuaries	
			Fixed dunes (grey dunes)*	
			Marram dunes (white dunes)	
			Mediterranean salt meadows	
			Salicornia mud	
			Tidal mudflats	
1398	Rye Water Valley/Carton SAC	No	Petrifying springs*	Desmoulin's whorl snail
				Narrow-mouthed whorl snail
781	Slaney River Valley SAC	Yes	Estuaries	Atlantic Salmon
			Floating river vegetation	Brook Lamprey
			Old oak woodlands	Common Seal
			Residual alluvial forests*	Freshwater Pearl Mussel
			Tidal mudflats	Otter
				River Lamprey
				Sea Lamprey
				Twaite Shad
210	South Dublin Bay SAC	Yes	Tidal mudflats	
925	The Long Derries, Edenderry SAC	No	Orchid-rich calcareous grassland*	
2249	The Murrough Wetlands SAC	No	Alkaline fens	
			Atlantic salt meadows	
			Cladium fen*	

Site Code	Site Name	SSCOs Published	Annex I Habitats[2]	Annex II Species
			Drift lines	
			Mediterranean salt meadows	
			Perennial vegetation of stony banks	
733	Vale of Clara (Rathdrum Wood) SAC	No	Old oak woodlands	
1810	White Lough, Ben Loughs and Lough Doo SAC	No	Hard water lakes	White-Clawed Crayfish
2122	Wicklow Mountains SAC	No	Alpine and subalpine heath	Otter
			Blanket bog (active)*	
			Calcareous rocky slopes	
			Dry heaths	
			Dystrophic lakes	
			Old oak woodlands	
			Siliceous rocky slopes	
			Siliceous scree	
			Soft water lakes with base rich influences	
			Species-rich nardus upland grassland*	
			Wet heath	
2274	Wicklow Reef SAC	Yes	Reefs	

Table 2-5 SCIs of SPAs which occur in and within 15 km of the Strategy Area

Site Code	Site Name	SSCOs Published	Annex I Birds	Other SCIs
4006	North Bull Island SPA	Yes	Bar-tailed Godwit	Black-headed Gull
			Golden Plover	Black-tailed Godwit
				Curlew
				Dunlin
				Grey Plover
				Knot
				Light-bellied Brent Goose
				Oystercatcher
				Pintail
				Redshank
				Sanderling
				Shelduck
				Shoveler
				Teal
				Turnstone
				Wetlands & Waterbirds
4014	Rockabill SPA	Yes	Arctic Tern	Purple Sandpiper
			Common Tern	
			Corncrake	
4015	Rogerstown Estuary SPA	Yes		Black-tailed Godwit
				Dunlin
				Grey Plover
				Greylag Goose
				Knot
				Light-bellied Brent Goose
				Oystercatcher
				Redshank
				Ringed Plover
				Shelduck
				Shoveler
				Wetlands & Waterbirds
4016	Baldoyle Bay SPA	Yes	Bar-tailed Godwit	Grey Plover
			Golden Plover	Light-bellied Brent Goose
				Ringed Plover
				Shelduck
				Wetlands & Waterbirds
4024	South Dublin Bay and River Tolka Estuary SPA	Yes	Arctic Tern	Black-headed Gull
			Bar-tailed Godwit	Dunlin
			Common Tern	Grey Plover
			Roseate Tern	Knot
				Light-bellied Brent Goose
				Oystercatcher
				Redshank
				Ringed Plover
				Sanderling
				Wetlands & Waterbirds
4025	Malahide Estuary SPA	Yes	Bar-tailed Godwit	Black-tailed Godwit
			Golden Plover	Dunlin
				Goldeneye
				Great Crested Grebe
				Grey Plover
				Knot
				Light-bellied Brent Goose
				Oystercatcher

Site Code	Site Name	SSCOs Published	Annex I Birds	Other SCIs
				Pintail
				Red-breasted Merganser
				Redshank
				Shelduck
				Wetlands & Waterbirds
4026	Dundalk Bay SPA	Yes	Bar-tailed Godwit	Black-headed Gull
			Golden Plover	Black-tailed Godwit
				Common Gull
				Common Scoter
				Curlew
				Dunlin
				Great Crested Grebe
				Grey Plover
				Greylag Goose
				Herring Gull
				Knot
				Lapwing
				Light-bellied Brent Goose
				Mallard
				Oystercatcher
				Pintail
				Red-breasted Merganser
				Redshank
				Ringed Plover
				Shelduck
				Teal
				Wetlands & Waterbirds
4040	Wicklow Mountains SPA	No	Merlin	
			Peregrine	
4043	Lough Derravaragh SPA	No	Whooper Swan	Coot
				Pochard
				Tufted Duck
				Wetlands & Waterbirds
4044	Lough Ennell SPA	No		Coot
				Pochard
				Tufted Duck
				Wetlands & Waterbirds
4061	Lough Kinale & Derragh Lough SPA	No		Pochard
				Tufted Duck
				Wetlands & Waterbirds
4063	Poulaphouca Reservoir SPA	No		Greylag Goose
				Lesser Black-backed Gull
4065	Lough Sheelin SPA	No		Goldeneye
				Great Crested Grebe
				Pochard
				Tufted Duck
				Wetlands & Waterbirds
4069	Lambay Island SPA	No		Cormorant
				Fulmar
				Greylag Goose
				Guillemot
				Herring Gull
				Kittiwake
				Lesser Black-backed Gull
				Puffin
				Razorbill
				Shag

Site Code	Site Name	SSCOs Published	Annex I Birds	Other SCIs
4080	Boyne Estuary SPA	Yes	Golden Plover	Black-tailed Godwit
			Little Tern	Grey Plover
				Knot
				Lapwing
				Oystercatcher
				Redshank
				Sanderling
				Shelduck
				Turnstone
				Wetlands & Waterbirds
4091	Stabannan - Braganstown SPA	No		Greylag Goose
4102	Garriskil Bog SPA	No	Greenland White-fronted Goose	
4113	Howth Head Coast SPA	No		Kittiwake
4117	Ireland's Eye SPA	No		Cormorant
				Guillemot
				Herring Gull
				Kittiwake
				Razorbill
4122	Skerries Islands SPA	No		Cormorant
				Herring Gull
				Light-bellied Brent Goose
				Purple Sandpiper
				Shag
				Turnstone
4127	Wicklow Head SPA	No		
4158	River Nanny Estuary & Shore SPA	Yes	Golden Plover	Herring Gull
				Knot
				Oystercatcher
				Ringed Plover
				Sanderling
				Wetlands & Waterbirds
4172	Dalkey Island SPA	No	Arctic Tern	
			Common Tern	
			Roseate Tern	
4186	The Murrough SPA	No	Little Tern	Black-headed Gull
			Red-throated diver	Greylag Goose
				Herring Gull
				Light-bellied Brent Goose
				Teal
				Wigeon
				Wetlands & Waterbirds
4232	River Boyne and River Blackwater SPA	No	Kingfisher	

2.3 Assessment Criteria

2.3.1 Is the Plan Necessary to the Management of European Sites?

Under the Habitats Directive, Plans that are directly connected with or necessary to the management of a European site do not require AA. For this exception to apply, management is required to be interpreted narrowly as nature conservation management in the sense of Article 6(1) of the Habitats Directive. This refers to specific measures to address the ecological requirements of annexed habitats

and species (and their habitats) present on a site(s). The relationship should be shown to be direct and not a by-product of the plan, even if this might result in positive or beneficial effects for a site(s).

The primary purpose of the Transport Strategy for the GDA is not the nature conservation management of the sites, but to provide for development and maintenance of transport facilities and services within the greater Dublin area. Therefore, the Strategy is not considered by the Habitats Directive to be directly connected with or necessary to the management of European designated sites.

2.3.2 Elements of the Strategy with Potential to Give Rise to Significant Effects

This strategy provides a framework for the planning and delivery of transport infrastructure and services in the Greater Dublin Area (GDA) for the next two decades as summarised in Section 2.1 above.

The key provisions relating to transport infrastructure are presented in Chapter 5 of the Strategy, where the strategic transport infrastructure that is proposed to be delivered within the lifetime of the Strategy is outlined. The development and operation of transport infrastructure could potentially give rise to significant effects on European sites. The provisions of the Strategy relating to 'Transport Services and Integration' (Chapter 6) and 'Land Use Integration and Behavioural Change' (Chapter 7) are not likely to give rise to impacts on European sites, as they do not relate to significant physical development to be undertaken as part of the Strategy.

The provisions include proposals for transport infrastructure that are at various stages in the design and planning process and refer to specific locations within the Strategy area. Other proposals that are provided for but are at preliminary stages and therefore specific locations / routes and other project details have yet to be selected or decided upon. It is possible that some of the transport projects proposed in the Strategy, have potential to result in both direct impacts on European sites in terms of 'land-take' within the site boundary; or indirect impacts that may result from changes to hydrology or water quality, increased levels of human disturbance, and a range of other possible impacts.

Based on the provisions outlined in Chapter 5, the following are considered to be the key elements (according to different transport modes) of the Strategy that could potentially give rise to significant effects:

Heavy Rail Infrastructure:

- Ongoing operation, upgrade, and enhancement works on existing lines and associated infrastructure
- Implementation of DART Expansion Programme which includes development of electrified services along certain routes
- Development of new rail infrastructure including stations and control centre
- Additional track work

Light Rail Infrastructure:

- Further development of the light rail network which will involve the development a number of new lines (including both Luas and Metro) and associated infrastructure

Bus Infrastructure:

- Development of new bus stations
- Implementation of a programme for the improvement of bus facilities and stopping areas. This would include such works as installation of bus stops and associated infrastructure (shelters, cycle parking facilities etc.)

Cycling Infrastructure:

- Implementation of the Greater Dublin Area Cycle Network Plan. The network is to include primary, secondary as well as greenway routes. The Plan has already been subject to Appropriate Assessment[3]

[3] National Transport Authority (2013). Greater Dublin Area Cycle Network. Appropriate Assessment Screening Report Natura Impact Statement.

Walking:

- Improve footpaths by widening them where appropriate, resurfacing where necessary

Road Network:

- Ongoing operation, upgrade, and enhancement works on existing roads and associated infrastructure
- Development of new road infrastructure

Park and Ride:

- Development of new park and ride facilities at appropriate locations

2.3.3 Direct, Indirect or Secondary Impacts

As outlined in the European Commission Environment Directorate General document "*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*", impacts that could potentially occur through the implementation of the Strategy can be categorised under a number of headings:

- Loss / reduction of habitat area (e.g. due to the development of new projects);
- Disturbance to Key Species (e.g. increased public access to protected sites, or during the construction phase of infrastructure projects);
- Habitat or species fragmentation;
- Reduction in species density;
- Changes in key indicators of conservation value such as changes in water quality / quantity (e.g. alteration to drainage regime in sensitive wetland areas; run-off of pollutants during construction and operation of developments).

In determining the potential for significant effects, a number of factors have been taken into account. Firstly, the sensitivity of the European sites, secondly, the Strategy and the potential effects associated with its implementation on the sites were considered. The outcome of this screening is presented in Section 2.4 below. In summary, it is concluded that there is potential for significant impacts, if unmitigated, on a number of European sites. The potential impacts associated with the provisions of the Strategy are discussed in the following sections.

2.3.3.1 Loss / Reduction of Habitat Area

Direct habitat loss is caused where there is complete removal of a habitat type. Habitat loss can also occur through the reduction of habitat quality and a loss of important habitat functions. It can arise from the introduction of invasive species, toxic contamination, or physical alteration.

Loss or reduction of habitat area may occur through the construction of new transport infrastructure. Direct loss or reduction of habitat area will be confined to works which take place within or in close proximity to a European site(s).

2.3.3.2 Disturbance to Key Species

Key species are defined as those listed on the Annexes of the EU Habitats Directive and Birds Directive for which sites are designated. Disturbance to species supported by a European site is likely to increase where there is an increase in activity levels from developments within or adjacent to designated areas. Sources of disturbance include noise, vibration, light, emanating from construction and / or operational activities.

In relation to the activities provided for by the Strategy, disturbance to key species could result from construction associated with any new transport infrastructure. Similarly, the use of transport infrastructure during the operational phase could also give rise to disturbance where they are in proximity to a European site(s).

Any significant increases in traffic or rail volumes could also lead to increased disturbance to sensitive species where transport infrastructure is located within or close by relevant Europeans sites.

2.3.3.3 Habitat / Species Fragmentation

Habitat and species fragmentation can occur through the breaking up of or loss of habitats resulting in interference with existing ecological units. Fragmentation can also result from impediments to the natural movements of species. This is relevant where important corridors for movement or migration are likely to be disrupted such as along river corridors when construction may introduce a barrier to the free movement of species from one area of habitat to another. Habitat / species fragmentation may arise from the construction of new transport infrastructure and is particularly relevant to linear developments.

2.3.3.4 Reduction in Species Density

Reduction in species density may result from loss / reduction of habitat area, disturbance, or fragmentation, either individually or in combination. In addition, changes in habitat quality could lead to reductions in populations of sensitive species.

In relation to the transport strategy, reductions in species density could also occur where collision risks are introduced to previously undeveloped areas where vulnerable species may be present. The development of overhead power lines associated with the electrification of rail infrastructure could present a collision hazard to vulnerable bird species. The development of rail and roads in particularly sensitive locations could result in collision between vehicles and wildlife.

2.3.3.5 Changes in Key Indicators of Conservation Value

The key indicators of conservation value for sites likely to be affected by the implementation of the Strategy include surface water and groundwater quality and quantity.

Any deterioration in water quality within surface and ground water dependant ecosystems can lead to direct and indirect impacts on a range of habitats and species of conservation importance. Similarly, changes in water quantity (water table height; flow regime; flow rates etc) can also impact on many habitats and species that are associated with freshwater and marine European sites.

In relation to the Strategy, the main sources of such impacts may include:

- potential discharge of silt laden waters or other pollutants from construction related projects;
- potential discharge of contaminated (hydrocarbons) runoff from transport infrastructure during operation phase.

2.4 European Sites Potentially Affected by the Strategy

While the Strategy does propose development at particular locations, there are also a number of provisions that do not identify particular areas for development. Therefore, the locations or routes of particular projects that would be provided for by the Strategy have not yet been identified. This assessment concludes that the following European sites should be screened in and therefore require further consideration in the AA process as it is not possible at this stage to rule out potential significant effects:

All European sites which occur within the study area. This precautionary approach was adopted because certain proposals at this stage are at a high level and specific locations of developments have not been selected;

Those SPAs located within 5km of the study area that are designated for bird species that are likely to utilise habitats within the study area;

Those cSACs / SPAs located within 15km of the study area that are designated for the protection of water dependant habitats and / or species (wetlands in the case of SPAs) and which occur downstream of the study area.

The outcome of screening is presented in Table 2-6. A total of 55 European sites are 'screened in' for consideration in Stage 2 of this assessment, 20 SPAs and 35 cSACs.

Table 2-6 Screening of cSACs and SPAs in and within 15km of the Strategy Area.

Site Code	Site Name	Relationship with the Strategy	Potential Impacts resulting from the implementation of the GDA Strategy	Stage II AA Required
0006	Killyconny Bog (Cloghbally) SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
0199	Baldoyle Bay SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
0202	Howth Head SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
0204	Lambay Island SAC	Within 5km; Off-shore.	Considering location of site and the qualifying interests for which it is selected no potential impacts are identified.	No
0205	Malahide Estuary SAC	Within study area; Site overlapped by the DART Expansion Programme which will provide DART services as far north as Drogheda.	Potential for direct and indirect impacts associated with current proposals of the Strategy.	Yes
0206	North Dublin Bay SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
0208	Rogerstown Estuary SAC	Within study area; Site overlapped by the DART Expansion Programme which will provide DART services as far north as Drogheda.	Potential for direct and indirect impacts associated with current proposals of the Strategy.	Yes
0210	South Dublin Bay SAC	Within 5km; Coastal and downstream	Potential indirect impacts associated with proposals that may arise during lifetime of strategy.	Yes
0391	Ballynafagh Bog SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
0396	Pollardstown Fen SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
0397	Red Bog, Kildare SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
0455	Dundalk Bay SAC	Within 15km; Coastal and downstream	Potential indirect impacts associated with proposals that may arise during lifetime of strategy.	Yes
0582	Raheenmore Bog SAC	Within 15km; Downstream	Considering location of site and the qualifying interests for which it is selected no potential impacts are identified.	No

Site Code	Site Name	Relationship with the Strategy	Potential Impacts resulting from the implementation of the GDA Strategy	Stage II AA Required
0679	Garriskil Bog SAC	Within 15 km; Downstream	Considering location of site and the qualifying interests for which it is selected no potential impacts are identified.	No
0685	Lough Ennell SAC	Within 15 km; Downstream	Considering location of site and the qualifying interests for which it is selected no potential impacts are identified.	No
0713	Ballyman Glen SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
0714	Bray Head SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
0716	Carriggower Bog SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
0717	Deputy's Pass Nature Reserve SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
0719	Glen Of The Downs SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
0725	Knocksink Wood SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
0729	Buckroney-Brittas Dunes And Fen SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
0733	Vale Of Clara (Rathdrum Wood) SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
0770	Blackstairs Mountains SAC	Within 15 km; Downstream	Considering location of site and the qualifying interests for which it is selected no potential impacts are identified.	No
0781	Slaney River Valley SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
0925	The Long Derries, Edenderry SAC	Within 5 km; Downstream	Considering location of site and the qualifying interests for which it is selected no potential impacts are identified.	No
1209	Glenasmole Valley SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
1387	Ballynafagh Lake SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
1398	Rye Water Valley/Carton SAC	Within study area; Site overlapped by the DART Expansion Programme which will provide DART services as far west as Maynooth.	Potential for direct and indirect impacts associated with current proposals of the Strategy.	Yes

Site Code	Site Name	Relationship with the Strategy	Potential Impacts resulting from the implementation of the GDA Strategy	Stage II AA Required
1459	Clogher Head SAC	Within 10 km; Coastal site.	Considering location of site and the qualifying interests for which it is selected no potential impacts are identified.	No
1742	Kilpatrick Sandhills SAC	Within 5 km; Coastal and downstream	Considering location of site and the qualifying interests for which it is selected no potential impacts are identified.	No
1757	Holdenstown Bog SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
1766	Magherabeg Dunes SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
1810	White Lough, Ben Loughs And Lough Doo SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
1957	Boyne Coast And Estuary SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
2120	Lough Bane And Lough Glass SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
2121	Lough Lene SAC	Within 5 km; Downstream	Potential indirect impacts associated with proposals that may arise during lifetime of strategy.	Yes
2122	Wicklow Mountains SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
2141	Mountmellick SAC	Within 10 km; Downstream	Considering location of site and the qualifying interests for which it is selected no potential impacts are identified.	No
2162	River Barrow And River Nore SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
2193	Ireland's Eye SAC	Within 5km; Off-shore	Considering location of site and the qualifying interests for which it is selected no potential impacts are identified.	No
2249	The Murrough Wetlands SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
2256	Ballyprior Grassland SAC	Within 5km; Downstream	Considering location of site and the qualifying interests for which it is selected no potential impacts are identified.	No
2274	Wicklow Reef SAC	Within 5 km; Off-shore	Considering location of site and the qualifying interests for which it is selected no potential impacts are identified.	No
2299	River Boyne And River Blackwater SAC	Within study area; Site overlapped by enhancements of the N2/M2 national route inclusive of a bypass of	Potential for direct and indirect impacts.	Yes

Site Code	Site Name	Relationship with the Strategy	Potential Impacts resulting from the implementation of the GDA Strategy	Stage II AA Required
		Slane.road provisions.		
2331	Mouds Bog SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
2340	Moneybeg And Clareisland Bogs SAC	Within 5 km; Downstream	Considering location of site and the qualifying interests for which it is selected no potential impacts are identified.	No
2341	Ardagullion Bog SAC	Within 15 km; Downstream	Considering location of site and the qualifying interests for which it is selected no potential impacts are identified.	No
2342	Mount Hevey Bog SAC	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
3000	Rockabill to Dalkey Island SAC	Within 5 km; Marine and off-shore	Considering location of site and the qualifying interests for which it is selected no potential impacts are identified.	No
4006	North Bull Island SPA	Within 5 km; Designated for bird species that may utilise study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
4014	Rockabill SPA	Within 10 km	Considering location of site and the special conservation interests for which it is selected no potential impacts are identified.	No
4015	Rogerstown Estuary SPA	Within study area; Site overlapped by the DART Expansion Programme which will provide DART services as far north as Drogheda.	Potential for direct and indirect impacts.	Yes
4016	Baldoyle Bay SPA	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
4024	South Dublin Bay and River Tolka Estuary SPA	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
4025	Broadmeadow/Swords Estuary SPA	Within study area; Site overlapped by the DART Expansion Programme which will provide DART services as far north as Drogheda.	Potential for direct and indirect impacts.	Yes
4026	Dundalk Bay SPA	Within 15 km; Downstream	Potential impacts associated with proposals that may arise during lifetime of strategy. Designated for	Yes

Site Code	Site Name	Relationship with the Strategy	Potential Impacts resulting from the implementation of the GDA Strategy	Stage II AA Required
			wetlands and located downstream of study area.	
4040	Wicklow Mountains SPA	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
4043	Lough Derravaragh SPA	Within 10km; Downstream	Potential impacts associated with proposals that may arise during lifetime of strategy. Designated for wetlands and located downstream of study area.	Yes
4044	Lough Ennell SPA	Within 15 km	Potential impacts associated with proposals that may arise during lifetime of strategy. Designated for wetlands and located downstream of study area.	Yes
4158	River Nanny Estuary and Shore SPA	Within study area; Site overlapped by the DART Expansion Programme which will provide DART services as far north as Drogheda.	Potential for direct and indirect impacts.	Yes
4061	Lough Kinale and Derragh Lough SPA	Within 5 km; Downstream; Designated for bird species that may utilise study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
4063	Poulaphouca Reservoir SPA	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
4065	Lough Sheelin SPA	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
4069	Lambay Island SPA	Within 5 km; Designated for bird species that may utilise study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
4080	Boyne Estuary SPA	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
4091	Stabannan-Braganstown SPA	Within 10km; Outside of hydrological catchment of study area	Considering location of site and the special conservation interests for which it is selected no potential impacts are identified.	No
4102	Garriskil Bog SPA	Within 10km; Downstream	Considering location of site and the special conservation interests for which it is selected no potential impacts are identified.	No
4113	Howth Head Coast SPA	Within 5km; Downstream	Considering location of site and the special conservation interests for which it is selected no potential impacts are identified.	No

Site Code	Site Name	Relationship with the Strategy	Potential Impacts resulting from the implementation of the GDA Strategy	Stage II AA Required
4117	Ireland's Eye SPA	Within 5 km; Designated for bird species that may utilise study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
4122	Skerries Islands SPA	Within 5 km; Designated for bird species that may utilise study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
4127	Wicklow Head SPA	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
4172	Dalkey Islands SPA	Within 5 km; Off-shore	Considering location of site and the special conservation interests for which it is selected no potential impacts are identified.	No
4186	The Murrough SPA	Within study area	Potential impacts associated with proposals that may arise during lifetime of strategy.	Yes
4232	River Boyne and River Blackwater SPA	Within study area; Site overlapped by enhancements of the N2/M2 national route inclusive of a bypass of Slane.	Potential for direct and indirect impacts associated with current proposals of the Strategy.	Yes

2.5 Other Plans and Programmes

Article 6(3) of the Habitats Directive requires an assessment of a plan or project to consider other plans or programmes that might, in combinations with the plan or project, have the potential to adversely impact upon European sites. Table 2-7 lists the plans that may interact with the Strategy to cause in-combination effects to European sites. The plans are listed according to a spatial hierarchy of International, National, Regional/Local Projects and Plans.

Given the uncertainties that exist with regard to the scale and location of developments facilitated by the Strategy, it is recognised that the identification of cumulative impacts is limited and that the assessment of in-combination effects will need to be undertaken in a more comprehensive manner at the lower level plan or project-level.

Table 2-7 List of those plans and programmes that could give rise to in-combination effects

Directive	Purpose	Interactions resulting in Cumulative Impacts
International		
EU Water Framework Directive (2000/60/EC)	Objectives seek to maintain and enhance the quality of all surface waters in the EU.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
Bathing Water Directive (2006/7/EC)	Preserve, protect and improve the quality of the environment and to protect human health by complementing the Water Framework Directive 2000/60/EC	No risk of likely significant in-combination effects will result as the primary purpose of the

Directive	Purpose	Interactions resulting in Cumulative Impacts
		Directive is to improve water quality.
Marine Strategy Framework Directive (2008/56/EC)	Establishes a framework whereby the necessary measures are undertaken to achieve or maintain good environmental status in the marine environment by the year 2020.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
Shellfish Waters Directive (2006/113/EC)	Protect and improve the quality of shellfish waters in order to support selected shellfish populations. The Shellfish Waters Directive (92006/113/EC) was repealed by the Water Framework Directive from December 2013.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve water quality.
EU Freshwater Fish Directive (78/659/EEC)	Objectives seek to protect those fresh water bodies identified by Member States as waters suitable for sustaining fish populations. For those waters it sets physical and chemical water quality objectives for salmonid waters and cyprinid waters.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
EU Groundwater Directive (2006/118/EC)	This directive establishes a regime, which sets underground water quality standards and introduces measures to prevent or limit inputs of pollutants into groundwater.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
Surface Water Directive (75/440/EC)	This Directive, which is required to support the Water Framework Directive, will set limits on concentrations in surface waters of 41 dangerous chemical substances (including 33 priority substances and 8 other pollutants) that pose a particular risk to animal and plant life in the aquatic environment and to human health.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality
EU Floods Directive (2007/60/EC)	The Floods Directive applies to river basins and coastal areas at risk of flooding. With trends such as climate change and increased domestic and economic development in flood risk zones, this poses a threat of flooding in coastal and river basin areas.	Potential in-combination impacts may arise where changes in hydrographic flow could result from the development of water services infrastructure.
Nitrates Directive (91/676/EEC)	This Directive has the objective of reducing water pollution caused or induced by nitrates from agricultural sources and preventing further pollution.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
The Urban Wastewater Treatment Directive (91/271/EEC)	The primary objective is to protect the environment from the adverse effects of discharges of urban wastewater, by the provision of urban wastewater collecting systems (sewerage) and treatment plants for urban centres. The Directive also provides general rules for the sustainable disposal of sludge arising from wastewater treatment.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
Sewage Sludge Directive (86/278/EEC)	Objective is to encourage the appropriate use of sewage sludge in agriculture and to regulate its use in such a way as to prevent harmful effects on soil,	No risk of likely significant in-combination effects will result as the primary purpose of the

Directive	Purpose	Interactions resulting in Cumulative Impacts
	vegetation, animals and man. To this end, it prohibits the use of untreated sludge on agricultural land unless it is injected or incorporated into the soil.	Directive is to improve environmental quality.
The Integrated Pollution Prevention Control Directive (96/61/EC)	Objective is to achieve a high level of protection of the environment through measures to prevent or, where that is not practicable, to reduce emissions to air, water and land from industrial sources.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
European Union Biodiversity Strategy to 2020	Aims to halt or reverse biodiversity loss and speed up the EU's transition towards a resource efficient and green economy. Halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible.	No risk of likely significant in-combination effects will result as the primary purpose of the Strategy is to improve water quality.
Environmental Liability Directive (2004/35/EC)	Directive in relation to environmental liability with regard to the prevention and remedying of environmental damage (ELD) establishes framework based on the polluter pays principle to prevent and remedy environmental damage.	No risk of likely significant in-combination effects will result as the primary purpose of the directive is to improve environmental quality.
Habitats Directive (92/43/EEC) Birds Directive (2009/147/EC)	The Habitats Directive (together with the Birds Directive) forms the cornerstone of Europe's nature conservation policy. It is built around two pillars: the Natura 2000 network of protected sites and the strict system of species protection. All in all the directive protects over 1,000 animals and plant species and over 200 so called "habitat types" (e.g. special types of forests, meadows, wetlands, etc.), which are of European importance.	No risk of likely significant in-combination effects will result as the primary purpose of the directive is to improve conditions for habitats and species within the region.
SEA Directive (2001/42/EC)	The SEA Directive applies to a wide range of public plans and programmes (e.g. on land use, transport, energy, waste, agriculture, etc). The SEA Directive does not refer to policies. Broadly speaking the Member States have to carry out a screening procedure to determine whether the plans/programmes are likely to have significant environmental effects.	No risk of likely significant in-combination effects will result as the primary purpose of the directive is to avoid adverse impacts on the natural environment.
EIA Directive (2011/92/EU as amended by 2014/52/EU)	Applies to a wide range of defined public and private projects, which are defined in Annexes I and II: **Mandatory EIA:** all projects listed in Annex I are considered as having significant effects on the environment and require an EIA (e.g. long-distance railway lines, motorways and express roads). **Discretion of Member States (screening):** for projects listed in Annex II, the national authorities have to decide whether an EIA is needed. This is done by the "screening procedure", which determines the effects of projects on the basis of thresholds/criteria or a case by	No risk of likely significant in-combination effects will result as the primary purpose of the directive is to avoid adverse impacts on the natural environment.

Directive	Purpose	Interactions resulting in Cumulative Impacts
	case examination. However, the national authorities must take into account the criteria laid down in Annex III. The projects listed in Annex II are in general those not included in Annex I (railways, roads waste disposal installations, waste water treatment plants), but also other types such as urban development projects, flood-relief works, changes of Annex I and II existing projects)	
Renewable Energy Directive (2009/28/EC)	The Renewable Energy Directive sets rules for the EU to achieve its 20% renewables target by 2020.	Potential for incombination effects with the development of renewable energies such as wind and wave energy as developments may amplify pressures on habitats and species. In-combination effects may potentially lead to: Habitat loss Disturbance to key species Changes in key features of conservation interest
A Blueprint to Safeguard Europe's Water Resources	The "Blueprint" outlines actions that concentrate on better implementation of current water legislation, integration of water policy objectives into other policies, and filling the gaps in particular as regards water quantity and efficiency	No potential for in-combination effects as The objective is to ensure that a sufficient quantity of good quality water is available for people's needs, the economy and the environment throughout the EU.
EU 2020 climate and energy package	The climate and energy package is a set of binding legislation which aims to ensure the European Union meets its ambitious climate and energy targets for 2020.	Potential for incombination effects with the development of renewable energies such as wind and wave energy as developments may amplify pressures on habitats and species. In-combination effects may potentially lead to: • Habitat loss • Disturbance to key species • Changes in key features of conservation interest
National / Regional		
National Spatial Strategy 2002-2020	Objectives of the NSS are to achieve a better balance of social, economic and physical development across Ireland, supported by more effective planning.	Potential in-combination impacts may arise where there is a requirement to provide new transport services infrastructure.
Investing in our Transport Future – A Strategic Investment Framework for Land Transport	The Framework establishes: • High level priorities for future investment in land transport; and • Key principles, reflective of those priorities, to which transport investment proposals will be required to adhere.	The Framework has undergone AA Screening and potential impacts on European sites have been mitigated against with the inclusion of guidance measures to accompany the funding of proposals. It is therefore considered that in combination with this Framework the Transport Strategy will contribute towards smarter travel and associated positive environmental effects.
Smarter Travel Initiative 2012 - 2016	This initiative promotes the use of alternative travel, i.e. walking, cycling, car pooling.	No potential for in-combination impacts are foreseen.

Directive	Purpose	Interactions resulting in Cumulative Impacts
Ireland's First National Cycle policy Framework (2009)	Introduced to promote cycling as an alternative mode of transport to bus, rail, car, etc.	No potential for significant effects as this policy framework does not provide for transport infrastructure.
Grid 25	Grid25 is a high-level strategy outlining how EirGrid intends to undertake the development of the electricity transmission grid in the short, medium and longer terms, to support a long-term sustainable and reliable electricity supply. The Grid25 strategy thereby seeks to implement the provisions of the 2007 Government White Paper on Energy - "Delivering a Sustainable Energy Future for Ireland" in terms of development of electricity transmission infrastructure. The Grid25 Implementation Programme (IP) is a practical strategic overview of how the early stages of Grid25 are intended to be implemented.	Potential in-combination impacts may arise where there is a requirement to provide new water services infrastructure.
National Renewable Energy Action Plan	The National Renewable Energy Action Plan (NREAP) sets out the Government's strategic approach and concrete measures to deliver on Ireland's 16% target under Directive 2009/28/EC. The 16% target relates to Ireland having 16% of its energy from renewable sources by 2020.	Potential for in-combination impacts from the development of renewable energies which may potentially increase pressures on sensitive habitats and species during its development. Potential in-combination impacts may lead to: Habitat loss Disturbance to key species Fragmentation Changes to key features of conservation concern
Harvest 2020	Aims to innovate and expand the Irish food industry in response to increased global demand for quality foods. Sets out a vision for the potential growth in agricultural output after the removal of milk quotas in 2015	Potential in-combination impacts may arise due to increased pressures on the water environment associated with an intensification of agriculture. Potential in-combination impacts may lead to: Habitat loss Disturbance to key species Fragmentation Changes to key features of conservation concern
Agri-vision 2015 Action Plan	This Action Plan is based optimism about Ireland's capacity to compete and win on European and world food markets that are becoming ever more competitive, innovative and demanding.	Potential for in-combination effects as increased agricultural practices may potentially lead to amplified pressures on sensitive habitats and species. Potential in-combination impacts may lead to: Habitat loss Disturbance to key species Fragmentation Changes to key features of conservation concern
Agri-Environmental Options Scheme(AEOS)	This scheme was developed in 2010 to replace the REPS scheme.	No potential for in-combination effects as development of this scheme promotes environmentally friendly agricultural practices.

Directive	Purpose	Interactions resulting in Cumulative Impacts
Green, Low-Carbon, Agri-environment Scheme (GLAS)	GLAS is the new agri-environment scheme, part of the Rural Development Programme 2014-2020. GLAS achieves the objectives of Articles 28 and 30 of the Rural Development Regulation and ties in with the green vision for Irish agriculture as contained in Food Harvest 2020 and as promoted by Bord Bia in the Origin Green campaign.	No potential for in-combination impacts as the scheme is green as it preserves our traditional hay meadows and low-input pastures; low-carbon as it retains the carbon stocks in soil through margins, habitat preservation and practices such as minimum tillage; and, agri-environment as it promotes agricultural actions.
National Rural Development Programme	Promotes the development of rural development through schemes such as the LEADER programme.	No potential for in-combination impacts as the programme includes the promotion of environmentally friendly agricultural practices.
Rural Environmental Protection Scheme (REPS) Agri-Environmental Options Scheme(AEOS) Green, Low-Carbon, Agri-environment Scheme (GLAS)	Agri-environmental funding schemes aimed at rural development for the environmental enhancement and protection	No risk of likely significant in-combination effects will result as the primary purpose of the schemes is to improve environmental quality.
River Basin Management Plans	River Basin Management Plans outline the management of river basins in terms of the reduction of pollution in keeping with the Water Framework Directive.	No potential for in-combination impacts as these management plans provide for cleaner and less polluted ground and surface water.
Groundwater Protection Schemes	These schemes have been adapted to control and restore polluted groundwater sources.	No potential for in-combination impacts as these management plans provide for cleaner and less polluted groundwater.
Water Quality Management Plans	Water Quality Management Plans outline the management of river basins in terms of the reduction of pollution in keeping with the Water Framework Directive.	No potential for in-combination impacts as these management plans provide for cleaner and less polluted ground and surface water.
European Communities Environmental Objectives (Surface waters) Regulations of 2009 (SI 272 of 2009) European Communities Environmental Objectives (Groundwater) Regulations of 2010 (SI 9 of 2010)	These objectives provide for the protection of ground and surface water.	No potential for in-combination impacts as these objectives provide for the protection and enhancement of ground and surface waters.
Forests, Products and People. Ireland's Forest Policy - A Renewed Vision (Draft)	Outlines the framework for developing an internationally competitive and sustainable forestry sector that provides a range of economic, environmental and social benefits.	Potential in-combination impacts may arise due to any increased pressures on the water environment associated with forestry activities in sensitive areas.
National Peatlands Strategy (Draft)	Establishes principles in relation to Irish peatlands in order to guide Government policy. Aims to provide a framework for which all of the peatlands within the State can be managed responsibly in order to optimise their social, environmental and economic contribution.	No risk of likely significant in-combination effects foreseen.

Directive	Purpose	Interactions resulting in Cumulative Impacts
Raised Bog SAC Management Plan and Review of Raised Bog Natural Heritage Areas	Aims to meet nature conservation obligations while having regard to national and local economic, social and cultural needs.	No risk of likely significant in-combination effects foreseen.
Regional Planning Guidelines	Policy document which aims to direct the future growth of the Greater Dublin Area Area over the medium to long term and works to implement the strategic planning framework set out in the National Spatial Strategy (NSS)	Potential in-combination impacts may arise where there is a requirement to provide for new development and water services infrastructure.
Office of Public Works Arterial Drainage Maintenance and High Risk Designation Programme 2011-2015	Part 1 of the Programme comprises Arterial Drainage Maintenance (including Scheme Channel Maintenance Works, Maintenance of Scheme Structures, Scheme Embankment Maintenance and Flood Relief Scheme Maintenance. Part 2 of the Programme comprises High Risk Channel Designation.	Potential in-combination impacts may arise where there are pressures on Natura sites from Arterial Drainage maintenance schemes.
Actions for Biodiversity 2011-2016 Ireland's National Biodiversity Plan, 2011	The goal of this Plan is to enhance biodiversity.	This Plan has a positive impact on biodiversity.
Flood Risk Management Plans	These Plans focus on potential flood risk prior to developments.	No potential for in-combination impacts as these Plans are designed to flooding.
The Planning System and Flood Risk Management – Guidelines for Planning Authorities (2009)	These Plans focus on potential flood risk prior to developments.	No potential for in-combination impacts as these Plans are designed to flooding.
Regional Waste Management Plans (Eastern Midlands Region)	Outlines the manage ment plan for waste management in the eastern midlands region.	No potential for in-combination effects as these Plans provide for adequate and sustainable management of waste.
Local		
County Renewable Energy Strategies	Aims to ensure competitive, secure and sustainable energy.	Potential in-combination impacts may arise where there is a requirement to provide for new water services infrastructure.
County / City / Town Development Plans	Overall strategies for the proper planning and sustainable development of the administrative area of the relevant Local Authorities.	The core aims of Development Plans are to increase the community's employment, infrastructure, energy, residential, economic and water services potential. Potential in-combination impacts may arise where there is a requirement to provide for new development and water services infrastructure.
Greater Dublin Area Cycle Network Plan	Plan examines existing cycling infrastructure in the region and proposes new developments.	The GDA Cycle Network Plan has been incorporated into the Transport Strategy.
Regional & County Green Infrastructure Plans/Strategies including any relevant Waterways Ireland plans/programmes	These Plans include the promotion of tourism within Ireland's rivers and lakes.	Potential for in-combination effects through potential amplification of pressures on sensitive habitats.
Planning Schemes for Strategic Development Zones	These schemes provide for development in Adamstown, Clonburris, Hansfield, Cherrywood, Grangegorman and Docklands.	Potential for in-combination impacts from the provision of infrastructure and development.

Directive	Purpose	Interactions resulting in Cumulative Impacts
Dublin Docklands Development Authority's Masterplan	The Masterplan provided for the sustainable regeneration of the docklands area of Dublin City.	Potential for in-combination effects with European sites that occur within proximity to the Docklands area where planning applications have regard to the Masterplan
County Landscape Character Assessments	The objective of a Landscape Character Assessment is to analyse the character, value, and sensitivity of landscapes identified within a particular area.	No potential for in-combination impacts.
Freshwater Pearl Mussel Sub-Basin Management Plans	Sub-basin management plans have been produced to act alongside the wider River Basin Management Plans (RBMPs) to provide a programme of measures required to improve the habitat of the freshwater pearl mussel so that it can attain favourable conservation status.	No potential for in-combination impacts as these plans provide for the safeguarding the integrity of Fresh Water Pearl Mussels.
Local Catchment Food Risk Management Plans	The Management Plans provide for the assessment and management of flood risks.	No potential for in-combination impacts.
Greater Dublin Strategic Drainage Strategy	This strategy was introduced to combat the pressures on the storm and foul water drainage infrastructure since the increased development within the Greater Dublin Region since the 1990s.	This strategy provides for sustainable drainage works throughout the GDA, potential for in-combinations impacts may potentially occur where the construction of new drainage is required.
Local/County Water Services Strategic Plans	The Plans form the legislative basis for the revised policy on water charges including the capped charges agreed by the Government and the late payment fees, the proposal for the holding of a plebiscite in relation to any future proposal to change the ownership structure of Irish Water, the introduction of a new water conservation grant, the establishment of a public water forum, a statutory dispute resolution system and a number of other associated measures.	No potential for in-combination impacts as the plans do not relate to physical development.

2.6 Conclusions

The likely significant effects that may arise from the implementation of the Strategy have been examined in the context of a number of factors that could potentially affect the integrity of the Natura 2000 network. On the basis of the findings of this Screening for Appropriate Assessment, it is concluded that the Strategy:

(i) is not directly connected with or necessary to the management of a European site; and

(ii) may have significant impacts on the Natura 2000 network.

Therefore, applying the Precautionary Principle and in accordance with Article 6(3) of the Habitats Directive, a Stage 2 Appropriate Assessment is required.

Section 3 Stage 2 Appropriate Assessment

3.1 Introduction

The main objective of this stage (Stage 2) in the AA is to determine whether the Strategy would result in significant adverse impacts on the integrity of any European site with respect to the site's structure, function, and/or conservation objectives.

The Stage 1 Screening presented above has identified 55 sites with potential to be affected by the Strategy. Therefore, Stage 2 AA is required. The potential adverse effects considered at this stage will either be effects occurring as a result of the implementation of the Strategy alone or in-combination with other plans, programmes, and/or projects.

Detailed information relevant to the sites that has been reviewed to inform the AA includes the following:

- *NPWS Site Synopsis*
- *Natura 2000 Standard Data Form*
- *Conservation Objectives and supporting documents*

Those European sites that may potentially be impacted by the implementation of the Strategy are presented in Table 3-1 below. The sites are categorised according to the principal habitat / features of interest that occurs.

Summary data relevant to each site including the qualifying features and known site vulnerabilities are presented in Appendix I.

Table 3-1 European sites Subject to Stage 2 Appropriate Assessment categorised according to the principal habitat or feature of interest present.

Freshwater (rivers and lakes)		**Other (grasslands, woodlands uplands etc)**		**Wetlands (Bogs, fens etc)**		**Coastal and marine**		**SPAs for Birds**	
Site Code	Site Name	Site Code	Site Name	Site Code	Site Name	Site Code	Site Name	Site Code	Site Name
781	Slaney River Valley SAC	1209	Glenasmole Valley SAC	6	Killyconny Bog (Cloghbally) SAC	199	Baldoyle Bay SAC	4006	North Bull Island SPA
1810	White Lough, Ben Loughs And Lough Doo SAC	2122	Wicklow Mountains SAC	391	Ballynafagh Bog SAC	202	Howth Head SAC	4015	Rogerstown Estuary SPA
2120	Lough Bane And Lough Glass SAC	717	Deputy's Pass Nature Reserve SAC	396	Pollardstown Fen SAC	205	Malahide Estuary SAC	4016	Baldoyle Bay SPA
2121	Lough Lene SAC	719	Glen Of The Downs SAC	397	Red Bog, Kildare SAC	206	North Dublin Bay SAC	4024	South Dublin Bay and River Tolka Estuary SPA
2162	River Barrow And River Nore SAC	733	Vale Of Clara (Rathdrum Wood) SAC	713	Ballyman Glen SAC	208	Rogerstown Estuary SAC	4025	Broadmeadow/Swords Estuary SPA
2299	River Boyne And River Blackwater SAC	725	Knocksink Wood SAC	716	Carriggower Bog SAC	210	South Dublin Bay SAC	4026	Dundalk Bay SPA
				1387	Ballynafagh Lake SAC	455	Dundalk Bay SAC	4040	Wicklow Mountains SPA
				1398	Rye Water Valley/Carton SAC	714	Bray Head SAC	4043	Lough Derravaragh SPA
				1757	Holdenstown Bog SAC	729	Buckroney-Brittas Dunes and Fen SAC	4044	Lough Ennell SPA
				2249	The Murrough Wetlands SAC	1766	Magherabeg Dunes SAC	4158	River Nanny Estuary and Shore
				2331	Mouds Bog SAC	1957	Boyne Coast And Estuary SAC	4061	Lough Kinale and Derragh Lough
				2342	Mount Hevey Bog SAC			4063	Poulaphouca Reservoir SPA
								4065	Lough Sheelin SPA
								4069	Lambay Island SPA
								4080	Boyne Estuary SPA
								4117	Ireland's Eye SPA
								4122	Skerries Islands SPA
								4127	Wicklow Head SPA
								4186	The Murrough SPA
								4232	River Boyne and River Blackwater

3.2 Potential Significant Effects

As outlined in the European Commission Environment DG document "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", impacts that could potentially occur through the implementation of the Strategy, if unmitigated, can be categorised under a number of headings:

- Loss / reduction of habitat area (e.g. due to the development of new projects)
- Disturbance to Key Species (e.g. increased public access to protected sites, or during the construction phase of infrastructure projects)
- Habitat or species fragmentation
- Reduction in species density
- Changes in key indicators of conservation value such as decrease in water quality / quantity (e.g. through run-off of pollutants during construction and operation of developments).

The Strategy is a high level Strategy that provides a framework for the development of transport infrastructure within the Greater Dublin Area. It includes a number of site specific projects presented under the different modes of transport. The strategy also contains a number of provisions presented which relate to projects that are in early planning stages and therefore detailed location and design have not yet been determined.

All qualifying features relevant to European sites that have been screened in for AA are listed in Table 3-2 (QI habitats of SACs), Table 3-3 (QI species of SPAs), and Table 3-4 (SCIs of SPAs) together with an assessment of their vulnerability to the provisions of the Strategy, taking into consideration the conservation objectives referred to in Section 3.3 below. The number of sites selected for each individual habitat or species is also presented.

The potential for in-combination effects to occur due to interaction with other plans is presented in Table 2-7 above. The degree to which effects can be determined is limited as the Strategy will be implemented through the lower tier environmental assessments and decision making. Details of the project(s) which will emanate from the Strategy will allow for a more detailed consideration of environmental effects – including in-combination/cumulative effects – by project level assessments i.e. EIA and AA.

3.2.1.1 Loss / Reduction of Habitat Area

Direct habitat loss is caused where there is complete removal of a habitat type. Habitat loss can also occur through the reduction of habitat quality and a loss of important habitat functions. It can arise from the introduction of invasive species, toxic contamination, or physical alteration.

Loss or reduction of habitat area may occur through the development of rail, bus services, national and regional roads. Direct loss or reduction of habitat area will be confined to works which take place within or in close proximity to a European site(s). Those sites which overlap with location specific provisions of the Strategy include the following:

Site Code	Site Name	QI(s)/ SCI(s) Potentially Affected
0205	Malahide Estuary SAC	Within study area; Site overlapped by the DART Expansion Programme.
0208	Rogerstown Estuary SAC	Within study area; Site overlapped by the DART Expansion Programme.
1398	Rye Water Valley/Carton SAC	Within study area; Site overlapped by the DART Expansion Programme.
2299	River Boyne And River Blackwater SAC	Within study area; Site overlapped by enhancements of the N2/M2 national route inclusive of a bypass of Slane
4015	Rogerstown Estuary SPA	Within study area; Site overlapped by the DART Expansion Programme

4025	Broadmeadow/Swords Estuary SPA	Within study area; Site overlapped by the DART Expansion Programme
4158	River Nanny Estuary and Shore SPA	Within study area; Site overlapped by the DART Expansion Programme
4232	River Boyne and River Blackwater SPA	Within study area; Site overlapped by enhancements to the N2/M2 national route inclusive of a bypass of Slane.

The significance of potential habitat loss at each of these sites will be assessed by lower level Appropriate Assessment to be undertaken on the relevant scheme. Considering that the schemes mostly relate to improvement and enhancement of existing infrastructure, significant habitat loss is unlikely, and in any case will be assessed in detail at the project level.

Similarly, other European sites may be vulnerable to habitat loss from other projects provided for by the Strategy. The potential for habitat loss in relation to these projects will depend on the final location and detailed design chosen for relevant projects. Appropriate Assessment at the project level will further examine potential impacts.

Mitigation aimed at avoiding or reducing the potential for habitat loss to affect European sites due to the implementation of the Strategy is presented in Section 4 below.

3.2.1.2 Disturbance to Key Species

Key species are defined as those listed on the Annexes of the EU Habitats Directive and Bird's Directive for which sites are designated. Disturbance to species supported by a European site is likely to increase where there is an increase in activity levels from developments within or adjacent to designated areas. Sources of disturbance include noise, vibration, or light emanating from construction and / or operational activities.

In relation to the Strategy, disturbance to key species could result from construction related activity associated with providing new transport infrastructure and in maintaining existing infrastructure. Such disturbance would be short term and temporary. However, longer term disturbance is likely throughout the operational phase due to increased traffic and associated activities. The provision of infrastructure may also provide access to previously remote locations thereby having the effect of increasing recreational pressures at sensitive sites.

Those sites which are located in close proximity to and overlap with projects provided for by the Strategy that are designated for the protection of vulnerable species include the following:

Site Code	Site Name	Relationship to Strategy Provisions	QIs/ SCIs Sensitive to Disturbance
2299	River Boyne And River Blackwater SAC	Within study area; Site overlapped by enhancements of the N2/M2 national route inclusive of a bypass of Slane.	Otter, Atlantic Salmon, River Lamprey
4015	Rogerstown Estuary SPA	Within study area; Site overlapped by the DART Expansion Programme	Wintering wildfowl and waders
4025	Broadmeadow/Swords Estuary SPA	Within study area; Site overlapped by the DART Expansion Programme	Wintering wildfowl and waders
4158	River Nanny Estuary and Shore SPA	Within study area; Site overlapped by the DART Expansion Programme	Wintering wildfowl and waders
4232	River Boyne and River Blackwater SPA	Within study area; Site overlapped by enhancements of the N2/M2 national route inclusive of a bypass of Slane.	Kingfisher

The significance of disturbance at each of these sites will be assessed by lower level Appropriate Assessment to be undertaken on the relevant scheme.

Similarly, other European sites may be vulnerable to disturbance from other projects provided for by the Strategy. The potential for disturbance in relation to these projects will depend on the final location and design chosen for relevant projects. Appropriate Assessment at the project level will further examine potential impacts.

Sites susceptible to disturbance to key species include all those SPAs listed in Table 3-1 above and those cSACs with Annex II species included as a qualifying interest.

Mitigation aimed at avoiding or reducing the potential for disturbance to affect European sites due to the implementation of the Strategy is presented in Section 4 below.

3.2.1.3 Habitat / Species Fragmentation

Habitat and species fragmentation can occur through the breaking up of or loss of habitats resulting in interference with existing ecological units. Fragmentation can also result from impediments to the natural movements of species. This is relevant where important corridors for movement or migration are likely to be disrupted such as along river corridors when construction may introduce a barrier to the free movement of species from one area of habitat to another.

Habitat / species fragmentation may arise from the construction of transport infrastructure as it is a key issue associated with linear developments. Sites potentially affected include all those which occur within the study area of the Strategy.

Those sites which are located in close proximity to and overlap with projects provided for by the Strategy that would be sensitive to the effects of fragmentation include the following:

Site Code	Site Name	Relationship to Strategy Provisions
0205	Malahide Estuary SAC	Within study area; Site overlapped the DART Expansion Programme.
0208	Rogerstown Estuary SAC	Within study area; Site overlapped by the DART Expansion Programme.
1398	Rye Water Valley/Carton SAC	Within study area; Site overlapped by the DART Expansion Programme.
2299	River Boyne And River Blackwater SAC	Within study area; Site overlapped by enhancements of the N2/M2 national route inclusive of a bypass of Slane.
4015	Rogerstown Estuary SPA	Within study area; Site overlapped by the DART Expansion Programme.
4025	Broadmeadow/Swords Estuary SPA	Within study area; Site overlapped by the DART Expansion Programme.
4158	River Nanny Estuary and Shore SPA	Within study area; Site overlapped by the DART Expansion Programme.
4232	River Boyne and River Blackwater SPA	Within study area; Site overlapped by enhancements of the N2/M2 national route inclusive of a bypass of Slane.

The significance of fragmentation at each of these sites will be assessed by lower level Appropriate Assessment to be undertaken on the relevant scheme. Considering that the schemes mostly relate to improvement and enhancement of existing infrastructure, it is unlikely that significant fragmentation will arise.

Mitigation aimed at avoiding or reducing the potential for habitat / species fragmentation to affect European sites due to the implementation of the Strategy is presented in Section 4 below.

3.2.1.4 Reduction in Species Density

Reduction in species density may result from loss / reduction of habitat area, disturbance, or fragmentation, either individually or in combination. In addition, changes in habitat quality could lead to reductions in populations of sensitive species.

In relation to the transport strategy, reductions in species density could also occur where collision risks are introduced to previously undeveloped areas where vulnerable species may be present. The development of overhead power lines associated with the electrification of rail infrastructure could present a collision hazard to vulnerable bird species. The development of rail and roads in particularly sensitive locations could result in collision between vehicles and wildlife.

The significance of such impacts will be assessed by lower level Appropriate Assessment to be undertaken on the relevant scheme. Considering that the schemes mostly relate to improvement and enhancement of existing infrastructure, it is unlikely that significant effects will arise.

3.2.1.5 Changes in Key Indicators of Conservation Value

The key indicators of conservation value for sites likely to be affected by the implementation of the Strategy include surface water and groundwater quality and quantity.

Any deterioration in water quality within surface and ground water dependant ecosystems can lead to direct and indirect impacts on a range of habitats and species of conservation importance. Similarly, changes in water quantity (water table height; flow regime; flow rates etc) can also impact on many habitats and species that are associated with freshwater and marine European sites.

In relation to the Strategy, the main sources of such impacts may include:

- potential discharge of silt laden waters or other pollutants from construction related projects;
- potential discharge of contaminated (hydrocarbons) runoff from transport infrastructure during operation phase.

All sites that support water dependant habitats and species that occur within or downstream of the study area would be vulnerable to impacts on water quality and quantity.

3.3 Conservation Objectives

The Habitats Directive requires the focus of the assessment at this stage to be on the integrity of the site as indicated by its Conservation Objectives. The Department of Arts Heritage and the Gaeltacht (DAHG) is in the process of drawing up Site Specific Conservation Objectives (SSCOs) for all European sites.

These SSCOs aim to define favourable conservation condition for the qualifying habitats and species at that site. The maintenance (or restoration) of the favourable condition for these habitats and species at the site level will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

> ***Favourable conservation status*** *of a* ***species*** *can be described as being achieved when: 'population data on the species concerned indicate that it is maintaining itself, and the natural range of the species is neither being reduced or 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.'*
>
> ***Favourable conservation status*** *of a* ***habitat*** *can be described as being achieved when: 'its natural range, and area it covers within that range, is stable or increasing, and the ecological factors that 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'.*

For those sites where no SSCOs are available, the DAHG has provided generic Conservation Objectives for designated European sites. Generic Conservation Objectives for cSACs have been provided as follows:

- *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.*

One generic Conservation Objective has been provided for SPAs as follows:

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

SSCOs have been published (as of July 2015) for 16 European sites that have been screened in for Stage II AA. The conservation objectives of each qualifying habitat and species for European sites are presented as a selection of attributes against which targets are set. Detailed SSCOs are likely to be

more useful for project level AA. In this assessment they have been useful in determining the sensitivity of particular QIs and SCIs.

The reported sensitivity of all QIs and SCIs for those sites being considered in the Stage II AA are presented in Table 3-2, Table 3-3, and Table 3-4 below. Any significant adverse effects on these site features are likely to give rise to impacts on site integrity as indicated by the conservation objectives of individual sites.

Table 3-2 Habitats that are listed as QIs and the corresponding number of cSACs potentially affected

QI Annex I Habitat	No of Relevant Sites	Main threats[4]
Alkaline fens	6	Peat extraction, wetland reclamation, and infilling are the most notable threats to this habitat type.
Alpine and subalpine heath	1	High levels of sheep grazing, hill walking and abandonment of traditional agricultural practices (which has lead to scrub encroachment) are the most notable threats to this habitat
Atlantic salt meadows	8	This habitat is affected by ecologically unsuitable grazing levels impacting on the condition of the habitat.
Blanket bog (active)*	1	Main threats include overgrazing, trampling, burning, drainage, afforestation, peat extraction, windfarm and other infrastructural development.
Calcareous rocky slopes	1	Recreational activities such as rock climbing, unsuitable grazing levels and invasive non-native species are the most notable threats to this habitat type.
Cladium fen*	2	Peat extraction, wetland reclamation, and infilling are the most notable threats to this habitat type.
Decalcified dune heath*	2	Pressures from undergrazing and agricultural intensification.
Degraded raised bogs	4	Peat extraction (ongoing) and drainage have resulted in shrinking and slumping of the bog structure.
Drift lines	4	Recreational pressures, beach cleaning in particular, and coastal defences which may affect the sediment dynamics of this habitat are the most notable threats to this habitat type.
Dry heaths	4	Afforestation and agricultural improvement are the most notable threats to this habitat. The quality of the habitat has been affected by overgrazing, trampling, burning, invasive non-native species, drainage and erosion.
Dune slack	2	This habitat suffers from ongoing habitat loss from interference in the local hydrology, recreation and agriculture.
Dunes with creeping willow	1	This habitat is affected by undergrazing, forestry, and agricultural intensification.
Dystrophic lakes	1	Pressures causing peatland damage results in hydrological changes in dystrophic lakes and ponds, as well as increased sedimentation, colour, turbidity, organic material and ammonia. Fertilisation of forests may also contribute to enrichment of this habitat.
Embryonic shifting dunes	4	Recreational pressures and coastal defences which may affect the sediment dynamics and wave dynamics are the most notable threats to this habitat type.
Estuaries	5	Pollution and fishing/aquaculture related activities affect habitat quality, particularly in some highly sensitive areas.
Fixed dunes (grey dunes)*	6	This habitat is affected by ecologically unsuitable grazing levels impacting on the condition of the habitat, along with recreational pressures.

[4]Threats/vulnerabilities of habitats according to NPWS published document 'The Status of EU Protected Habitats and Species in Ireland 2013'.

QI Annex I Habitat	No of Relevant Sites	Main threats[4]
Floating river vegetation	2	Nutrient and organic losses from agriculture, municipal and industrial discharges are the most significant pressures to river habitats.
Hard water lakes	3	The hard water lake habitat is under significant pressure from eutrophication, the primary sources of nutrients and organic material being agriculture, municipal, and industrial wastewaters. Movement of pollutants, especially phosphorus, through groundwater is of significant concern.
Hydrophilous tall herb	1	Grazing (sheep and cattle), the spread of invasive species, intensified agriculture and land reclamation are the most notable threats to this habitat type.
Marram dunes (white dunes)	6	Recreational pressures and coastal defences are the most notable threats to this habitat type.
Mediterranean salt meadows	9	This habitat is affected by ecologically unsuitable grazing levels impacting on the condition of the habitat.
Molinia meadows	1	Succession to scrub, abandonment of pastoral systems, and abandonment of mowing have lead to a decline in this habitat type.
Old oak woodlands	6	Invasive non-native species such as Rhododendron and Beech, and overgrazing by deer are regarded as the main pressures to this habitat type.
Orchid-rich calcareous grassland*	1	Agricultural intensification and abandonment leading to scrub encroachment have led to habitat loss and fragmentation.
Perennial vegetation of stony banks	3	Recreational pressures and coastal defences which may affect the sediment dynamics of this habitat are the most notable threats to this habitat type.
Petrifying springs*	7	Drainage, land reclamation, unsuitable grazing levels, pollution and water abstraction, along with isolated incidences of road drainage and outdoor leisure pursuits are the most notable pressures on this habitat type.
Raised bog (active)*	4	Peat extraction (ongoing), and drainage have resulted in shrinking and slumping of the bog structure.
Residual alluvial forests*	4	This habitat has suffered considerable historic losses and is highly fragmented. Non-native and invasive species especially Sycamore and beech and problematic native species such as bramble and common nettle are regarded as the main pressures impacting on this habitat.
Rhynchosporion depressions	3	Sheep grazing is one of the main land uses occurring in this habitat, resulting in trampling and concomitant in standing water surfaces. This habitat is also affected by peat cutting and drainage.
Salicornia mud	7	The ongoing spread of common cordgrass (*Spartina anglica*) and invasion are the most notable threats to this habitat type.
Sea cliffs	2	Erosion caused by sea defences and pathways, and invasive species are the most notable threats to this habitat type.
Siliceous rocky slopes	1	Recreational activities such as rock climbing and unsuitable grazing levels are the most notable threats to this habitat type.
Siliceous scree	1	Recreational activities such as rock climbing, unsuitable grazing levels and invasive non-native species are the most notable threats to this habitat type.
Soft water lakes with base rich influences	1	Habitat affected by eutrophication and other activities linked to water pollution and hydrological change. Agriculture and domestic wastewater are the most significant sources of nutrients causing enrichment of this habitat, particularly in peaty soils. Peat-cutting and forestry on peatland are also notable pressures on this habitat.
Spartinion	1	Habitat is no longer considered to be of conservation interest as Spartina is an invasive non-native species.
Species-rich nardus upland grassland*	1	Forestry planting and agricultural improvements are ongoing and causing habitat loss, along with succession to heath and scrub.
Tidal mudflats	9	Pollution and fishing/aquaculture and diverse use of the foreshore are likely to affect habitat quality, particularly eelgrass beds.

QI Annex I Habitat	No of Relevant Sites	Main threats[4]
Transition mires	3	Peat extraction, wetland reclamation, and infilling are the most notable threats to this habitat type
Wet heath	1	Afforestation and agricultural improvement are the most notable threats to this habitat. The quality of the habitat has been affected by overgrazing, trampling, burning, invasive non-native species, drainage and erosion.

Table 3-3 Species that are listed as QIs and the corresponding number of cSACs potentially affected

QI Annex II Species	No of Relevant Sites	Main threats
Atlantic Salmon	3	There are numerous threats to the freshwater habitats of this species.
Brook Lamprey	2	No significant pressures affecting this species
Common Seal	1	Vulnerable to disturbance from human activities, accidental entanglement in fishing gear, illegal killing, competition for prey, pollution and other habitat degradation.
Desmoulin's whorl snail	4	The drying out of wetlands is an ongoing threat to this species.
Freshwater Pearl Mussel	2	Urban wastewater, development activities, farming, and forestry have led to increased sedimentation and nutrient run-off, a significant threat to the species. Direct impacts from channelization, bridge construction and recreational fishery structures.
Geyer's whorl snail	1	Species requires transitional wetland habitat. Sites for this species are small and easily damaged.
Irish Freshwater Pearl Mussel	1	Sedimentation of the Nore pearl mussel's habitat has been the main cause of its decline and the habitat quality continues to be in bad condition.
Killarney Fern	1	Threatened by habitat loss, deliberate collection, encroachment of invasive or vigorous species, or indirectly by water pollution, removal of woodland or alteration of watercourses.
Marsh Fritillary	1	Declines in habitat quality lead to species decline.
Narrow-mouthed whorl snail	2	Declines in habitat quality from drainage and grazing.
Otter	4	Otter are vulnerable to disturbance resulting from increased human activity.
Petalwort	1	There are no significant impacts affecting this species.
River Lamprey	3	No significant pressures affecting this species
Sea Lamprey	2	Barriers to upstream migration (e.g. weirs), which limit access to spawning beds and juvenile habitat are main threats to this species.
Twaite Shad	2	Habitat quality, particularly at spawning sites is the most notable threat to this species.
White-Clawed Crayfish	4	The threat of disease introduction is the most notable impact on this species.

Table 3-4 List of SCIs for which SPAs are designated and the number of SPAs potentially affected

SCI	Conservation Status	No of Relevant Sites	Vulnerability to significant effects
Arctic Tern	Annex I; Amber listed	1	All bird species listed as Special Conservation Interests are sensitive to varying degree by disturbance and displacement. Those wintering bird species are vulnerable to disturbance and displacement from October to March whereas those sites designated for breeding birds are vulnerable from March to August. Development of infrastructure in proximity to SPA sites would potentially cause disturbance to bird species during both the construction and operation phase. Similarly, the enhancement of transport infrastructure could have the effect of increasing visitor numbers at sensitive sites.
Common Tern	Annex I; Amber listed	1	
Kingfisher	Annex I; Amber listed	1	
Merlin	Annex I; Amber listed	1	
Peregrine	Annex I; Green listed	1	
Red-throated diver	Annex I; Amber listed	1	
Roseate Tern	Annex I; Red listed	1	
Whooper Swan	Annex I; Amber listed	1	
Little Tern	Annex I; Amber listed	2	
Bar-tailed Godwit	Annex I; Amber listed	5	
Golden Plover	Annex I; Red listed	6	
Black-headed Gull	Red listed	4	
Black-tailed Godwit	Red listed	5	
Common Gull	Amber listed	1	
Common Scoter	Red listed	1	
Coot	Amber listed	2	
Cormorant	Amber listed	3	
Curlew	Red listed	2	
Dunlin	Red listed	5	
Fulmar	Green listed	1	
Goldeneye	Red listed	2	
Great Crested Grebe	Amber listed	3	
Grey Plover	Amber listed	7	
Greylag Goose	Amber listed	5	
Guillemot	Amber listed	2	
Herring Gull	Red listed	6	
Kittiwake	Amber listed	2	
Knot	Amber listed	7	
Lapwing	Red listed	2	
Lesser Black-backed Gull	Amber listed	2	
Light-bellied Brent Goose	Amber listed	8	
Mallard	Green listed	1	
Oystercatcher	Amber listed	7	
Pintail	Red listed	3	
Pochard	Red listed	4	
Puffin	Amber listed	1	
Purple Sandpiper	Green listed	1	
Razorbill	Amber listed	2	
Red-breasted Merganser	Green listed	2	
Redshank	Red listed	6	
Ringed Plover	Green listed	5	
Sanderling	Green listed	4	
Shag	Amber listed	2	
Shelduck	Amber listed	6	
Shoveler	Red listed	2	
Teal	Amber listed	3	
Tufted Duck	Red listed	4	
Turnstone	Green listed	3	
Wigeon	Green listed	1	
Wetlands & Waterbirds		13	Vulnerable to habitat loss from activities such as drainage, infilling and development.

Section 4 Mitigation Measures

4.1 Introduction

This section outlines measures that have been incorporated into the Strategy in order to mitigate against potential impacts on the Natura 2000 network of sites as identified above.

The drafting of the Strategy was done in an iterative manner whereby the National Transport Authority (NTA) prepared the first draft of the Strategy which was provided to CAAS who made suggestions for integration into the Strategy. The NTA then reviewed the Strategy to take account of the SEA/AA suggestions and sent the following revision back to CAAS for comment.

In order to demonstrate that there will be no adverse effects[5] from the implementation of the Strategy, mitigation measures have been devised and incorporated into the text of the Strategy as described in Section 4.2 below. The measures that have been incorporated with those proposed by the SEA Environmental Report and with other relevant plans and programmes e.g. Programme of measures proposed by the River Basin Management Plans and associated SEAs. A monitoring programme has also been developed as part of the SEA / AA process to monitor the environmental effects associated with implementing the Strategy as described in Section 4.3 below.

4.2 Mitigation incorporated into text of Strategy

The main means by which mitigation is provided for is the inclusion of Chapter 8 which is dedicated entirely to Environmental Protection and Management and includes a range of commitments that will ensure that the Strategy and any plans or projects provided by same will not result in significant adverse effects on the Natura 2000 network of sites. The following provisions outlined in Chapter 8 of the Strategy will mitigate against potential significant effects identified during the AA.

The strategy will also be implemented in compliance with measures listed in Section 9 (Table 9.2) of then SEA Environmental Report as referred to in Section 8.5 of the Strategy, which will further mitigate potential adverse effects on the environment. Those measures relevant to the safeguarding of the Natura 2000 network are reproduced in Table 4-1 below.

Section 8.1 Regulatory Framework for Environmental Protection and Management

In implementing this strategy, the Authority will cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management and will ensure that plans, programmes and projects comply with EU Directives - including the Habitats Directive (92/43/EEC, as amended), the Birds Directive (2009/147/EC), the Environmental Impact Assessment Directive (85/337/EEC, as amended) and the Strategic Environmental Assessment Directive (2001/42/EC) – and relevant transposing Regulations.

[5] Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:
a) no alternative solution available,
b) imperative reasons of overriding public interest for the plan to proceed; and
c) Adequate compensatory measures in place.

Section 8.2 Lower-level Decision Making

Lower levels of decision making and environmental assessment should consider the sensitivities identified in Section 4 of the SEA Environmental Report, including the following:

- Candidate Special Areas of Conservation and Special Protection Areas;
- Features of the landscape that provide linkages/connectivity to designated sites (e.g. watercourses, areas of semi-natural habitat such as linear woodlands etc);
- Salmonid Waters;
- Shellfish Waters;
- Freshwater Pearl Mussel catchments;
- Nature Reserves;
- Natural Heritage Areas and proposed Natural Heritage Areas;
- Areas likely to contain a habitat listed in annex 1 of the Habitats Directive;
- Entries to the Record of Monuments and Places and Zones of Archaeological Potential;
- Entries to the Record of Protected Structures;
- Un-designated sites of importance to wintering or breeding bird species of conservation concern;
- Architectural Conservation Areas; and
- Relevant landscape designations.

Section 8.3 Corridor and Route Selection Process

The following Corridor and Route Selection Process will be undertaken for relevant new infrastructure:

Stage 1 – Route Corridor Identification, Evaluation and Selection

- Environmental constraints (including those identified in identified in Section 4 of the SEA Environmental Report) and opportunities (such as existing linear infrastructure) will assist in the identification of possible route corridor options;
- Potentially feasible corridors within which infrastructure could be accommodated will be identified and these corridors assessed. The selection of the preferred route corridor will avoid constraints and meet opportunities to the optimum extent, as determined by the relevant specialists; and
- In addition to the constraints identified above, site specific field data may be required to identify the most appropriate corridors.

Stage 2 – Route Identification, Evaluation and Selection

Potentially feasible routes within the preferred corridor will be identified and assessed. The selection of preferred routes will avoid constraints and meet opportunities to the optimum extent, as determined by the relevant specialists, taking into account project level information and potential mitigation measures;

In addition to the constraints identified above, site specific field data may be required to identify the most appropriate routes; and

In addition to environmental considerations, the identification of route corridors and the refinement of the route lines is likely to be informed by other considerations.

8.4 Appropriate Assessment

All projects and plans arising from this Strategy will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive. A plan or project will only be authorised after the competent authority has ascertained, based on scientific evidence, Screening for Appropriate Assessment, and a Stage 2 Appropriate Assessment where necessary, that:

1. The Plan or project will not give rise to significant adverse direct, indirect or secondary effects on the integrity of any European site (either individually or in combination with other plans or projects); or

2. The Plan or project will have significant adverse effects on the integrity of any European site (that does not host a priority natural habitat type/and or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or
3. The Plan or project will have a significant adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons for overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.

8.4.1 Protection of Natura 2000 Sites

No projects giving rise to significant cumulative, direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Strategy (either individually or in combination with other plans or projects)[6].

8.5 Other SEA Recommendations

In implementing the Strategy, the Authority will ensure that the measures included in Table 9.2 of the SEA Environmental Report are complied with.

Table 4-1 Measures detailed in Table 9.2 of the SEA Environmental Report relevant to the protection of European sites.

Potential adverse effect mitigated	Requirement
Impacts associated with the construction phase of projects provided for by the Strategy	**Construction and Environmental Management Plans** Construction Environment Management Plans (CEMPs) shall be prepared in advance of the construction of larger projects and implemented throughout. Such plans shall incorporate relevant mitigation measures which have been integrated into the Strategy and any lower tier Environmental Impact Statement or Appropriate Assessment. CEMPs typically provide details of intended construction practice for the proposed development, including: a. location of the sites and materials compound(s) including area(s) identified for the storage of construction refuse, b. location of areas for construction site offices and staff facilities, c. details of site security fencing and hoardings, d. details of on-site car parking facilities for site workers during the course of construction, e. details of the timing and routing of construction traffic to and from the construction site and associated directional signage, f. measures to obviate queuing of construction traffic on the adjoining road network,

[6] Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:
a) no alternative solution available,
b) imperative reasons of overriding public interest for the project to proceed; and
c) Adequate compensatory measures in place.

Potential adverse effect mitigated	Requirement
	g. measures to prevent the spillage or deposit of clay, rubble or other debris, h. alternative arrangements to be put in place for pedestrians and vehicles in the case of the closure of any public right of way during the course of site development works, i. details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels, j. containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained; such bunds shall be roofed to exclude rainwater, k. disposal of construction/demolition waste and details of how it is proposed to manage excavated soil, l. a water and sediment management plan, providing for means to ensure that surface water runoff is controlled such that no silt or other pollutants enter local water courses or drains, m. details of a water quality monitoring and sampling plan. n. if peat is encountered - a peat storage, handling and reinstatement management plan. o. measures adopted during construction to prevent the spread of invasive species (such as Japanese Knotweed). p. appointment of an ecological clerk of works at site investigation, preparation and construction phases.
Impacts associated with the operational phase of projects provided for by the Strategy	**Maintenance Plan** Lower tier assessments should examine the need for Maintenance Plans informed by environmental considerations to be prepared and implemented.
- Arising from both construction and operation of transport infrastructure and services and associated facilities/ infrastructure: loss of/damage to biodiversity in designated sites, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna - Habitat loss, fragmentation and deterioration, including patch size and edge effects - Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species and coastal squeeze- Effects in riparian zones where new crossings of waters, if any, are progressed- Potential effects from transport emissions	**Protection of Biodiversity including Natura 2000 Network** To contribute, as appropriate, towards the protection of designated ecological sites including candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs); UNESCO World Heritage and UNESCO Biosphere sites; Ramsar Sites; Salmonid Waters; Shellfish Waters; Freshwater Pearl Mussel catchments; Flora Protection Order sites; Wildlife Sites (including Nature Reserves); Certain entries to the Water Framework Directive Register of Protected Areas; Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs); Wildfowl Sanctuaries (see S.I. 192 of 1979); and Tree Preservation Orders (TPOs). To comply with relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines, including the following and any updated/superseding documents): EU Directives, including the Habitats Directive (92/43/EEC, as amended)80, the Birds Directive (2009/147/EC)81, the Environmental Liability Directive (2004/35/EC)82, the Environmental Impact Assessment Directive (85/337/EEC, as amended), the Water Framework Directive(2000/60/EC) and the Strategic Environmental Assessment Directive (2001/42/EC). National legislation, including the Wildlife Act 197683, the European Communities (Environmental Impact Assessment) Regulations 1989 (SI No. 349 of 1989) (as amended), the Wildlife (Amendment) Act 2000, the European Union (Water Policy) Regulations 2003 (as amended), the Planning and Development Act 2000 (as amended), the European Communities (Birds and Natural Habitats) Regulations 2011 (SI No.477 of 2011), the European Communities (Environmental Liability) Regulations 200884 and the Flora Protection Order 1999. National policy guidelines (including any clarifying Circulars or superseding versions of same), including the Landscape and Landscape Assessment Draft Guidelines 2000, the Environmental Impact Assessment Sub-Threshold Development Guidelines 2003, Strategic Environmental Assessment Guidelines 2004 and the Appropriate Assessment Guidance 2010. Catchment and water resource management Plans, including River Basin District Management Plans 2009-2015 (including any superseding versions of same).

Potential adverse effect mitigated	Requirement
	Biodiversity Plans and guidelines, including Actions for Biodiversity 2011-2016: Ireland's 2nd National Biodiversity Plan (including any superseding version of same). • Ireland's Environment 2014 (EPA, 2014, including any superseding versions of same), and to make provision where appropriate to address the report's goals and challenges.
	NPWS & Integrated Management Plans Regarding, integrated management plans, Article 6(1) of the Habitats Directive requires that Member States establish the necessary conservation measures for European sites involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans. The NPWS's current priority is to identify site specific conservation objectives; management plans may be considered after this is done. Where Integrated Management Plans are being prepared for European sites (or parts thereof), the NTA shall engage with the National Parks and Wildlife Service in order to ensure that plans are fully integrated with the Strategy and other plans and programmes, with the intention that such plans are practical, achievable and sustainable and have regard to all relevant ecological, cultural, social and economic considerations.
	Coastal Zone Management To support measures to protect the coast, the coastal edge and coastal habitats; and facilitate an Integrated Coastal Zone Management approach to ensure the conservation, management and projection of man-made and natural resources of the coastal zone.
	Biodiversity and Ecological Networks To contribute towards the protection and enhancement of biodiversity and ecological connectivity, including woodlands, trees, hedgerows, semi natural grasslands, rivers, streams, natural springs, wetlands, geological and geo-morphological systems, other landscape features and associated wildlife where these form part of the ecological network and/or may be considered as ecological corridors or stepping stones in the context of Article 10 of the Habitats Directive.
	Protection of Riparian Zone and Waterbodies and Watercourses To help to ensure that waterbodies and watercourses are protected from inappropriate development, including rivers, streams, associated undeveloped riparian strips, wetlands and natural floodplains. This will include protection buffers in riverine, wetland and coastal areas, as appropriate.
	Non-Designated Sites To help to ensure the appropriate protection of non-designated habitats and landscapes and to conserve the biological diversity.
	Non-native invasive species To support, as appropriate, the National Parks and Wildlife Service's efforts to seek to control the spread of non-native invasive species on land and water.
	National Peatlands Strategy To implement any relevant recommendations contained in the Department of Arts, Heritage and the Gaeltacht's National Peatlands Strategy, when finalised.
-Adverse impacts upon the status of water bodies and entries to the WFD Register of Protected Areas, arising from changes in quality, flow and/or morphology - Increase in the risk of flooding.	**Water Framework Directive and associated legislation** To contribute towards, as appropriate, the protection of existing and potential water resources, and their use by humans and wildlife, including rivers, streams, wetlands, groundwater, coastal waters and associated habitats and species in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009), the Groundwater Directive 2006/118/EC and the European Communities Environmental Objectives (groundwater) Regulations, 2010 (S.I. No. 9 of 2010) and other relevant EU Directives, including associated

Potential adverse effect mitigated	Requirement
	national legislation and policy guidance (including any superseding versions of same). To support the application and implementation of a catchment planning and management approach to development and conservation, including the implementation of Sustainable Drainage System techniques for new development.
	River Basin Management Plan To support the implementation of the relevant recommendations and measures as outlined in the various River Basin Management Plans 2009 – 2015, and associated Programmes of Measures, or any such plans that may supersede same during the lifetime of the Strategy, as well as relevant recommendations contained in the Water Quality in Ireland 2007 – 2009 (EPA, 2011, and any updated/superseding document). Proposals for development shall not have an unacceptable impact on the water environment, including surface waters, groundwater quality and quantity, river corridors and associated woodlands and coastal waters. Cognisance shall be given to the EU's Common Implementation Strategy Guidance Document No. 20 (which provides guidance on exemptions to the environmental objectives of the Water Framework Directive) where relevant.
	Bathing Water To contribute towards the achievement of the requirements of the EU Bathing Water Directive and transposing Bathing Water Quality Regulations (SI No. 79 of 2008) and EU Mandatory Values, as a minimum, and EU Guide Values, where possible.
	Flood Risk Management Guidelines To support, as appropriate, in co-operation with the OPW and planning authorities, the implementation of the EU Flood Risk Directive (2007/60/EC), the Flood Risk Regulations (SI No. 122 of 2010), the DEHLG/OPW publication The Planning System and Flood Risk Management Guidelines (2009) (including any clarifying Circulars or superseding versions of same) and relevant outputs of the Catchment and Flood Risk Assessment and Management Studies (CFRAMS).
	Surface Water Drainage and Sustainable Drainage Systems (SuDs) To ensure that new development is adequately serviced with surface water drainage infrastructure and promote the use of Sustainable Drainage Systems as appropriate.
Adverse impacts on the hydrogeological and ecological function of the soil resource as a result of construction of associated facilities/ infrastructure	**Soil Protection and Contamination** To ensure that adequate soil protection measures are undertaken where appropriate. Adequate and appropriate investigations shall be carried out into the nature and extent of any soil and groundwater contamination and the risks associated with site development work, where brownfield development is proposed.

4.3 Monitoring Programme

As part of the SEA and AA process a Monitoring Programme has been developed with the aim of monitoring the environmental effects of the Strategy. The full details of the environmental monitoring programme are presented in Section 10 of the SEA Environmental Report. Monitoring can enable, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action.

Monitoring is based around indicators which allow quantitative measures of trends. Each indicator to be monitored is accompanied by the target(s) which were identified with regard to the relevant strategic actions. Table 4-2 below shows the indicators and targets relevant to the Natura 2000 network which have been selected for monitoring the likely significant effects of implementing the Strategy, if unmitigated. The source of data and frequency is also indicated. In addition to existing monitoring datasets, the output of lower-tier environmental assessment and decision making – including a review of project approvals granted and associated documents – will also be utilised as part of the Monitoring Programme. Where significant effects - including positive, negative, cumulative and indirect - have the

potential to occur as a result of the undertaking of individual projects or multiple individual projects such instances should be identified and recorded and should feed into the monitoring evaluation.

Monitoring is an ongoing process and the programme allows for flexibility and the further refinement of indicators and targets. The Monitoring Programme may also be updated to deal with specific environmental issues - including unforeseen effects - as they arise. A stand-alone Monitoring Report on the significant environmental effects of implementing the Strategy will be prepared on in advance of the review of the Strategy.

Table 4-2 Selected Indicators, Targets and Monitoring Sources relevant to the protection of European sites

Environmental Component	Indicators	Targets	Source and Frequency
Biodiversity, Flora and Fauna	B1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive	B1: Maintenance of favourable conservation status for all habitats and species protected under National and International legislation to be unaffected by implementation of the Strategy[7]	• Lower tier environmental assessment and decision making – including review of project approvals granted and associated documents • Department of Arts, Heritage and the Gaeltacht report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive (every 6 years) • Department of Arts, Heritage and the Gaeltacht's National Monitoring Report for the Birds Directive under Article 12 (every 3 years) • Consultations with the NPWS (at monitoring review)
	B2: Percentage loss of functional connectivity without remediation resulting from development provided for by the Strategy	B2: No significant ecological networks or parts thereof which provide functional connectivity to be lost without remediation resulting from development provided for by the Strategy	• Lower tier environmental assessment and decision making – including review of project approvals granted and associated documents • CORINE mapping resurvey (every c. 5 years) • Review of EPA Ecological Network Mapping (if available)
Biodiversity, Flora and Fauna	B3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Strategy B3ii: Number of significant impacts on the protection of listed species	B3i: Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Strategy B3ii: No significant impacts on the protection of listed species	• Lower tier environmental assessment and decision making – including review of project approvals granted and associated documents • Consultations with the NPWS (at monitoring review)
Water	W1i: Classification of Overall Status (comprised of ecological and chemical status) under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009) W1ii: Mandatory and Guide values as set by the EU Bathing Water Directive and transposing Bathing Water Quality Regulations (SI No. 79 of 2008)	W1i: Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve 'good status' by 2015 W1ii: To contribute towards the achievement of - as a minimum - Mandatory values and, where possible, to achieve Guide values as set by the EU Bathing Water Directive and transposing Bathing Water Quality Regulations (SI No. 79 of 2008)	• Lower tier environmental assessment and decision making – including review of project approvals granted and associated documents • Data issued under the Water Framework Directive Monitoring Programme for Ireland (multi-annual) • EPA The Quality of Bathing Water in Ireland reports

[7] Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:
(a) No alternative solution available;
(b) Imperative reasons of overriding public interest for the plan/programme/project to proceed; and
(c) Adequate compensatory measures in place.

Environmental Component	Indicators	Targets	Source and Frequency
	W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	W2: Not to affect the ability of groundwaters to comply with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	• Lower tier environmental assessment and decision making – including review of project approvals granted and associated documents • Data issued under the Water Framework Directive Monitoring Programme for Ireland (multi-annual)
	W3: Compliance relevant lower tier assessments and decision making with the Flood Risk Management Guidelines	W3: For lower tier assessments and decision making to comply with the Flood Risk Management Guidelines	• Lower tier environmental assessment and decision making – including review of project approvals granted
Soil	S1: Soil extent and hydraulic connectivity	S1: To minimise reductions in soil extent and hydraulic connectivity	• Lower tier environmental assessment and decision making – including review of project approvals granted and associated documents

Section 5 Conclusion

Stage 1 and Stage 2 Appropriate Assessment of the Draft Transport Strategy for the Greater Dublin Area has been carried out. Implementation of the Strategy has the potential to result in impacts to the integrity of the Natura 2000 network, if unmitigated.

The risks to the safeguarding and integrity of the qualifying interests and conservation objectives of the Natura 2000 network have been addressed by the inclusion of mitigation measures that will prioritise the avoidance of impacts in the first place and mitigate these impacts where these cannot be avoided. In addition, all lower level plans and projects arising through the implementation of the Strategy will themselves be subject to Appropriate Assessment when further details of design and location are known.

Having incorporated these suggested mitigation measures; it is considered that the Strategy will not impact on the Natura 2000 network of sites[8].

[8] Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:
a) no alternative solution available,
b) imperative reasons of overriding public interest for the plan to proceed; and
c) Adequate compensatory measures in place.

NATURA IMPACT REPORT - APPENDIX I

SUMMARY DETAILS OF ALL EUROPEAN SITES CONSIDERED DURING THE APPROPRIATE ASSESSMENT

IN SUPPORT OF THE

APPROPRIATE ASSESSMENT

OF THE

DRAFT TRANSPORT STRATEGY

FOR THE

GREATER DUBLIN AREA

2016-2035

IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 6(3) OF THE EU HABITATS DIRECTIVE

for: **National Transport Authority**
Dún Scéine,
Iveagh Court,
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2nd Floor, The Courtyard,
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OCTOBER 2015

Introduction

This appendix presents background summary data relating to each Euroepan site (cSACs and SPAs) that were considered during the Appropriate Assessment of the Draft Transport Strategy for the Greater Dublin Area 2016-2035. Data presented has been collated from various sources made available by the National Parks and Wildlife Service (NPWS) of the Department of Arts, Heritage and the Gaeltacht.

Sites are presented in two spereate lists, firstly SACs and secondly SPAs. All sites within each list are sorted according to NPWS Site Code.

The principal sources of information include the following:

- *Site Synopses*
- *NATURA 2000 Standard Data Forms*
- *Conservation Objective (Generic Versions)*
- *Detailed Site Specific Conservation Objectives and supporting documents (where available)*

Data presented on each site includes:

- *Site Name*
- *Site Code*
- *County*
- *SSCO Published or not (as of August 2015)*
- *Location relevant to the Strategy area*
- *Previously reported threats*
- *Qualifying Interests (QIs) in the case of SACs:*
    - *Listed Annex I habitats for which site is selected - abbreviated version as used by NPWS (2013)*[1]
    - *Listed Annex II species for which site is selected - common english name*
- *Special Conservation Interests (SCIs) in the case of SPAs:*
    - *Listed Annex I birds for which site is selected (Annex I SCIs) - common english name*
    - *Non – annex birds for which site is selected (Non Annex I SCIs) - common english name*

[1] NPWS (2013). The Status of EU Protected Habitats and Species in Ireland. Overview Volume I. Unpublished Report, National Parks and Wildlife Services.

Summary data relating to all relevant cSACs sorted according to site name

Site Name: **Killyconny Bog (Cloghbally) SAC** **Site Code:** **000006**

County (s): Cavan, Meath **SSCOs Published:** No **Location:** Within study area

Threats

This site is especially vulnerable to the effects of peat cutting and drainage which are causing water loss and an overall deterioration in habitat quality. The cutover margins are vulnerable to agricultural reclamation.

Habitat QIs (Annex I Habitats):

Degraded raised bogs

Raised bog (active)*

Species QIs (Annex II Species):

Site Name: **Baldoyle Bay SAC** **Site Code:** **000199**

County (s): Dublin **SSCOs Published:** Yes **Location:** Within study area

Threats

A substantial part of the site is a Nature Reserve and is not significantly threatened in any way. The part of the site at the Mayne River, outside of the Nature Reserve, has been proposed for development in the past and is still considered to be under threat. The site receives pollution from a number of sources, chiefly the inflowing rivers but also an unsatisfactory sewage network. A new sewage works has been planned. Bait digging and controlled wildfowling may be problems. Spartina is well established in the inner estuary and may be causing unfavourable interactions with the intertidal and salt marsh habitats. Sterna albifrons formerly nested but regular disturbance is a problem.

Habitat QIs (Annex I Habitats):

Atlantic salt meadows

Mediterranean salt meadows

Salicornia mud

Tidal mudflats

Species QIs (Annex II Species):

Site Name: **Howth Head SAC** **Site Code:** **000202**

County (s): Dublin **SSCOs Published:** No **Location:** Within study area

Threats

At present the only threats are control of heath fires and possibly excess visitors. In future the growth of Dublin may increase visitor pressure and possibly air pollution. Overfishing in the Irish Sea may affect sea bird numbers.

Habitat QIs (Annex I Habitats):

Dry heaths

Sea cliffs

Species QIs (Annex II Species):

Site Name: **Lambay Island SAC** **Site Code:** **000204**

County (s): Dublin **SSCOs Published:** Yes **Location:** Within 5km of study area

Threats

The island has been maintained as a wildlife sanctuary by its owners for all of this century. No threats are envisaged should the present landuse continue. Rodents may be causing some damage to burrow nesting seabirds. There is some over-fishing in the marine areas.

Habitat QIs (Annex I Habitats):

Sea cliffs

Species QIs (Annex II Species):

Common Seal

Grey Seal

Site Name: **Malahide Estuary SAC** **Site Code:** **000205**

County (s): Dublin **SSCOs Published:** Yes **Location:** Within study area

Threats

The main problems or threats affecting this site are recreational activities, water pollution and infilling. Owing to the proximity of two large towns, the area is very popular for water sports and other amenity activities. These can disturb the bird populations and impact on the dune habitats, and the intensity of such activities is likely to increase in the future. Pollution, mostly nutrients, enters the system from the Broadmeadows River and from sewage plants at Swords and Malahide. The inner estuary is particularly affected owing to its lagoonal character. The efficiency of the sewage plants may be upgraded in the future. Parts of the estuary have been infilled in the past for various developments and this remains a threat.

Habitat QIs (Annex I Habitats):

Atlantic salt meadows

Fixed dunes (grey dunes)*

Marram dunes (white dunes)

Mediterranean salt meadows

Salicornia mud

Spartinion

Tidal mudflats

Species QIs (Annex II Species):

Site Name: **North Dublin Bay SAC** **Site Code:** **000206**

County (s): Dublin **SSCOs Published:** No **Location:** Within study area

Threats

Dunes are subject to high recreational pressures and moderate levels of grazing by rabbits which cause some localised damage. Damaged areas, however, are monitored by Dublin Corporation and appropriate management implemented. Abstraction of water by the golf clubs could result in a lowering of the water table which could affect the humid dune slacks. Any extensions to the two golf courses would be deleterious. The intertidal areas receive polluted water though there are no apparent significant impacts on the associated flora and fauna. Owing to its location in Dublin Bay, pollution such as oil spillages from Dublin Port and shipping is a threat. Commercial bait digging is a problem and causes disturbance to wintering birds.

Habitat QIs (Annex I Habitats):

Atlantic salt meadows

Drift lines

Dune slack

Embryonic shifting dunes

Fixed dunes (grey dunes)*

Marram dunes (white dunes)

Mediterranean salt meadows

Salicornia mud

Tidal mudflats

Species QIs (Annex II Species):

Petalwort

Site Name: **Rogerstown Estuary SAC** **Site Code:** **000208**

County (s): Dublin **SSCOs Published:** Yes **Location:** Within study area

Threats

A significant part of estuary (intertidal flats and salt marsh) has been lost due to landfilling and this remains a threat. Landfill site is also a major source of pollution to estuary. Other sources of pollution include input of raw sewage from a local town and general pollution inputs from a rich agricultural hinterland. Dunes at site are considered to be in a highly vulnerable state due to a combination of natural (i.e. erosion) and anthropogenic factors. Erosion has removed much of nesting area of Sterna albifrons.

Habitat QIs (Annex I Habitats):

Atlantic salt meadows

Estuaries

Fixed dunes (grey dunes)*

Marram dunes (white dunes)

Mediterranean salt meadows

Salicornia mud

Tidal mudflats

Species QIs (Annex II Species):

Site Name: **South Dublin Bay SAC** **Site Code:** **000210**

County (s): Dublin **SSCOs Published:** Yes **Location:** Within 5km of study area

Threats

The main threat to this site is further reclamation for industrial and/or infrastructural purposes. The intertidal areas receive water that is somewhat polluted though there are no apparent impacts on the associated flora and fauna. Owing to its location in Dublin Bay, pollution such as oil spillages from Dublin Port and shipping is a threat. Commercial bait digging may be a problem and causes disturbance to wintering birds. Disturbance to birds is also caused by walkers and dogs.

Habitat QIs (Annex I Habitats):

Tidal mudflats

Species QIs (Annex II Species):

Site Name: **Ballynafagh Bog SAC** **Site Code:** **000391**

County (s): Kildare **SSCOs Published:** No **Location:** Within study area

Threats

The wettest section of this site is probably protected at present, as it is located in a subsidence hollow. However ongoing peat cutting threatens its long term viability. Old and recent drains are increasing water loss. A recent fire event on the SW has increased surface water run-off. Further afforestation on the bog would be very damaging.

Habitat QIs (Annex I Habitats):

Degraded raised bogs

Raised bog (active)*

Rhyncosporion depressions

Species QIs (Annex II Species):

Site Name: **Pollardstown Fen SAC** **Site Code:** **000396**

County (s): Kildare **SSCOs Published:** No **Location:** Within study area

Threats

Largely protected as a nature reserve, the site is nontheless vulnerable to interference with the Curragh aquifer.

Habitat QIs (Annex I Habitats):

Alkaline fens

Cladium fen*

Petrifying springs*

Species QIs (Annex II Species):

Desmoulin's whorl snail

Gever's whorl snail

Narrow-mouthed whorl snail

Site Name: **Red Bog, Kildare SAC** **Site Code:** **000397**

County (s): Kildare **SSCOs Published:** No **Location:** Within study area

Threats

A main threat to this site is lowering of water table due to nearby quarrying operations. It is not known if this has already happened. The hydrology of the site could also be affected by direct drainage attempts. Agricultural run-off is likely to be entering the site from surrounding areas though the effects of this are unknown.

Habitat QIs (Annex I Habitats):

Transition mires

Species QIs (Annex II Species):

Site Name: **Dundalk Bay SAC** **Site Code:** **000455**

County (s): Louth **SSCOs Published:** Yes **Location:** Within 15km of study area

Threats

Water pollution, derived from both agricultural and domestic/industrial sources, is the principal threat to the quality of the habitats in the inner part of this site. A new sewage treatment works at Dundalk town, due to come into commission in 2000, will partly alleviate the problem. Localised infilling and dumping has occurred in the past, especially near Dundalk town, and this remains a threat to the shoreline habitats. Aquaculture may occur in the future as a feasibility study has been carried out. This activity would need to be controlled to avoid significant disturbance to habitats and bird populations. Spartina is well established and may threaten the estuarine habitats.

Habitat QIs (Annex I Habitats):

Atlantic salt meadows

Estuaries

Mediterranean salt meadows

Perennial vegetation of stony banks

Salicornia mud

Tidal mudflats

Species QIs (Annex II Species):

Site Name: **Raheenmore Bog SAC** **Site Code:** **000582**

County (s): Offaly **SSCOs Published:** No **Location:** Within 15km of study area

Threats

Due to the high water content of peat, raised bogs are vulnerable to drainage. A deep marginal drain surrounds most of this site which is causing drying out and subsidence. Two networks of surface drains also occur, one extensive, which are increasing water loss from the site.

Habitat QIs (Annex I Habitats):

Degraded raised bogs

Raised bog (active)*

Rhyncosporion depressions

Species QIs (Annex II Species):

Site Name: **Garriskil Bog SAC** **Site Code:** **000679**

County (s): Westmeath **SSCOs Published:** No **Location:** Within 15km of study area

Threats

Raised bogs are vulnerable to water loss caused by peat cutting, drainage and fire. There is no active peat cutting at this site at present. Recent drainage is causing drying out of a section of the site to the NE. Dredging of the river Inny may have caused water loss at the S and subsequent subsidence.

Habitat QIs (Annex I Habitats):

Degraded raised bogs

Raised bog (active)*

Rhyncosporion depressions

Species QIs (Annex II Species):

Site Name: **Lough Ennell SAC** **Site Code:** **000685**

County (s): Westmeath **SSCOs Published:** No **Location:** Within 15km of study area

Threats

Eutrophication, owing to sewage and fertiliser inputs, has been a problem since the 1970's. There has recently been significant improvement, however, as a result of reduction of phosphate in the effluent from Mullingar Sewage Treatment Plant, and in 1990 the water was classified as mesotrophic. Remobilisation of phosphate from the sediments of the lake is likely to continue, as well as runoff from surrounding lands. Boating activities on the lake could cause damage to the fragile Chara species.

Habitat QIs (Annex I Habitats): **Species QIs (Annex II Species):**

Alkaline fens

Site Name: **Ballyman Glen SAC** **Site Code:** **000713**

County (s): Dublin, Wicklow **SSCOs Published:** No **Location:** Within study area

Threats

Ballyman Glen is surrounded by intensively managed agricultural grassland and is vulnerable to nutrient run-off from this source. The petrifying springs could be threatened by over-extraction of water locally.

Habitat QIs (Annex I Habitats): **Species QIs (Annex II Species):**

Alkaline fens

Petrifying springs*

Site Name: **Bray Head SAC** **Site Code:** **000714**

County (s): Wicklow **SSCOs Published:** No **Location:** Within study area

Threats

The main threats to this site are reclamation of heath and grassland habitats, burning and recreational pressures. Reclamation for agriculture has occurred in the past and continues to be a threat. Burning of heath is a regular event and may be occurring too frequently. The site is a popular area for recreational activities, especially walking. Recreational pressures are likely to increase in the future owing to a growing population in surrounding areas.

Habitat QIs (Annex I Habitats): **Species QIs (Annex II Species):**

Dry heaths

Sea cliffs

Site Name: **Carriggower Bog SAC** **Site Code:** **000716**

County (s): Wicklow **SSCOs Published:** No **Location:** Within study area

Threats

A main threat to this site is lowering of the water table due to drainage attempts. A drainage channel has already been dug at the eastern end of site though its impact on the bog is not known. Part of the site is semi-improved grassland and any intensification of grazing could be damaging. Forestry is widespread in the area and is a general threat.

Habitat QIs (Annex I Habitats): **Species QIs (Annex II Species):**

Transition mires

Site Name: **Deputy's Pass Nature Reserve SAC** **Site Code:** **000717**

County (s): Wicklow **SSCOs Published:** No **Location:** Within study area

Threats

G02.06 - Attraction Park - Low Rank (L) - Inside site (i)
K05 - Genetic Depression - Low Rank (L) - Inside site (i)
A04 - Grazing - Medium Rank (M) - Outside site (o)
A04 - Grazing - Low Rank (L) - Inside site (i)
B - Forestry - Medium Rank (M) - Outside (o)

Habitat QIs (Annex I Habitats):

Old oak woodlands

Species QIs (Annex II Species):

Site Name: **Glen of the Downs SAC** **Site Code:** **000719**

County (s): Wicklow **SSCOs Published:** No **Location:** Within study area

Threats

Further road widening is planned which will reduce and modify the habitats on the valley floor.

Habitat QIs (Annex I Habitats):

Old oak woodlands

Species QIs (Annex II Species):

Site Name: **Knocksink Wood SAC** **Site Code:** **000725**

County (s): Dublin, Wicklow **SSCOs Published:** No **Location:** Within study area

Threats

As a popular amenity area the site is vulnerable to disturbance and littering.

Habitat QIs (Annex I Habitats):

Petrifying springs*

Residual alluvial forests*

Species QIs (Annex II Species):

Site Name: **Buckroney-Brittas Dunes and Fen SAC** **Site Code:** **000729**

County (s): Wicklow **SSCOs Published:** No **Location:** Within study area

Threats

Brittas Bay dunes are subject to intensive agricultural and recreational pressures. Stocking at high densities threatens the older dunes and dune heath. The recent development of a golf course on part of Buckroney dunes may threaten the hydrology of the overall system. Buckroney fen is threatened by a general lowering of the water table through drainage and water abstraction. Further reclamation of marginal areas of the fen would be detrimental.

Habitat QIs (Annex I Habitats):

Alkaline fens

Decalcified dune heath*

Drift lines

Dune slack

Dunes with creeping willow

Embryonic shifting dunes

Fixed dunes (grey dunes)*

Marram dunes (white dunes)

Mediterranean salt meadows

Perennial vegetation of stony banks

Species QIs (Annex II Species):

Site Name: **Vale of Clara (Rathdrum Wood) SAC** **Site Code:** **000733**

County (s): Wicklow **SSCOs Published:** No **Location:** Within study area

Threats

he main threat to this site is the regeneration of exotic conifers.

Habitat QIs (Annex I Habitats):

Old oak woodlands

Species QIs (Annex II Species):

Site Name: **Blackstairs Mountains SAC** **Site Code:** **000770**

County (s): Carlow, Wexford **SSCOs Published:** No **Location:** Within 15km of study area

Threats

The site is particularly vulnerable to afforestation with coniferous species - much of the land surrounding the site has been planted. The site is also vulnerable to overgrazing and to uncontrolled burning.

Habitat QIs (Annex I Habitats):

Dry heaths

Wet heath

Species QIs (Annex II Species):

Site Name: **Slaney River Valley SAC** **Site Code:** **000781**

County (s): Carlow, Wicklow, Wexford **SSCOs Published:** Yes **Location:** Within study area

Threats

Most of the habitats and species of ecological importance within this site are dependant on good water quality. While generally good, the system receives nutrient run-off from agricultural activities and also inputs of pollution from point sources associated with domestic and industrial activities. Any increases in the present levels of pollution could be harmful to water quality. Localised reclamation has occurred along the banks of the river and in the marginal areas of the estuary and any further reclamation is undesirable.

Habitat QIs (Annex I Habitats):

Estuaries

Floating river vegetation

Old oak woodlands

Residual alluvial forests*

Tidal mudflats

Species QIs (Annex II Species):

Atlantic Salmon

Brook Lamprey

Common Seal

Freshwater Pearl Mussel

Otter

River Lamprey

Sea Lamprey

Twaite Shad

Site Name: **The Long Derries, Edenderry SAC** **Site Code:** **000925**

County (s): Offaly **SSCOs Published:** No **Location:** Within 5km of study area

Threats

The calcareous grassland on the site is particularly vulnerable to changes in the grazing and fertilization regimes. This habitat is also threatened by the encroachment of scrub and by afforestation with coniferous species. The gravel pits, sites of three of the rare plant species, are threatened by continued gravel extraction, dumping and overuse by motorbikes. The ornithological interest of the site is vulnerable to disturbance from shooting.

Habitat QIs (Annex I Habitats):

Orchid-rich calcareous grassland*

Species QIs (Annex II Species):

Site Name: **Glenasmole Valley SAC** **Site Code:** **001209**

County (s): Dublin **SSCOs Published:** No **Location:** Within study area

Threats

Much of the dry calcareous grassland has been improved to some extent in recent decades by fertilisation and reseeding, and remains vulnerable to further improvement for agriculture. The Molinia meadows are also vulnerable to agricultural intensification, including drainage. There are no apparent threats
to the petrifying springs.

Habitat QIs (Annex I Habitats):

Molinia meadows

Orchid-rich calcareous grassland*

Petrifying springs*

Species QIs (Annex II Species):

Site Name: **Ballynafagh Lake SAC** **Site Code:** **001387**

County (s): Kildare **SSCOs Published:** No **Location:** Within study area

Threats

At present there are no significant threats to this site. Water levels in the lake have dropped over time and some management might be required to maintain open water in the future. There is a proposal to reopen the disused feeder canal - this would require raising of the water levels which would be damaging to some habitats and the Vertigo moulinsiana population. Detailed environmental impact assessment would be required before this could happen.

Habitat QIs (Annex I Habitats):

Alkaline fens

Species QIs (Annex II Species):

Desmoulin's whorl snail

Marsh Fritillary

Site Name: **Rye Water Valley/Carton SAC** **Site Code:** **001398**

County (s): Kildare, Meath **SSCOs Published:** No **Location:** Within study area

Threats

The woodland section of the site is vulnerable to woodland clearance - resulting in habitat loss for some of the rare flowering plants present. The Rye Water is vulnerable to pollution - much of the surrounding land is agricultural. The petrifying spring and Vertigo species are particularly vulnerable to urban development and to dumping.

Habitat QIs (Annex I Habitats):

Petrifying springs*

Species QIs (Annex II Species):

Desmoulin's whorl snail

Narrow-mouthed whorl snail

Site Name: **Clogher Head SAC** **Site Code:** **001459**

County (s): Louth **SSCOs Published:** No **Location:** Within 10km of study area

Threats

The site is vulnerable to overgrazing, land reclamation, burning and building. Since 1972 the area of heath on the headland has been reduced through building and agricultural development. Amenity use may cause local erosion.

Habitat QIs (Annex I Habitats):

Dry heaths

Sea cliffs

Species QIs (Annex II Species):

Site Name: **Kilpatrick Sandhills SAC** **Site Code:** **001742**

County (s): Wexford **SSCOs Published:** No **Location:** Within 5km of study area

Threats

The main landuses which presently occur on this site are grazing by cattle and recreational activities. Grazing has not caused significant damage to date but any increases in stocking rates could threaten the stability of the dunes. There is some erosion of the dunes in the southern part of the site due to tracks leading to the beach. An increase in the numbers of visitors to the area would probably be detrimental to the site unless carefully managed.

Habitat QIs (Annex I Habitats):

Decalcified dune heath*

Drift lines

Embryonic shifting dunes

Fixed dunes (grey dunes)*

Marram dunes (white dunes)

Species QIs (Annex II Species):

Site Name: **Holdenstown Bog SAC** **Site Code:** **001757**

County (s): Wicklow **SSCOs Published:** No **Location:** Within study area

Threats

The main potential threats to this site are drainage and infilling. A small amount of infilling has already occurred along the public road which skirts the northern boundary of site. A similar area of bog a little to the north has been drained and converted to grassland since the 1970s. Agricultural run-off is likely to be entering the site from surrounding areas though the effects of this are unknown.

Habitat QIs (Annex I Habitats):

Transition mires

Species QIs (Annex II Species):

Site Name: **Magherabeg Dunes SAC** **Site Code:** **001766**

County (s): Wicklow **SSCOs Published:** No **Location:** Within study area

Threats

At present, this site does not appear to be vulnerable to any particular pressures. There is no public access to the area and therefore recreational pressures are low. Natural erosion is evident in the southern part of site. The dry grassland at Ardmore Point is grazed by cattle but the dunes have not been grazed in recent years.

Habitat QIs (Annex I Habitats):

Decalcified dune heath*

Drift lines

Embryonic shifting dunes

Fixed dunes (grey dunes)*

Marram dunes (white dunes)

Petrifying springs*

Species QIs (Annex II Species):

Site Name: **White Lough, Ben Loughs and Lough Doo SAC** **Site Code:** **001810**

County (s): Meath, Westmeath **SSCOs Published:** No **Location:** Within study area

Threats

Attempts at agricultural improvement, which have already occurred on a small scale, is the main threat to this site. Recurrence of crayfish plague could have serious impact on the population of that species.

Habitat QIs (Annex I Habitats):

Hard water lakes

Species QIs (Annex II Species):

White-Clawed Crayfish

Site Name: **Boyne Coast and Estuary SAC** **Site Code:** **001957**

County (s): Louth, Meath **SSCOs Published:** Yes **Location:** Within study area

Threats

Parts of the intertidal sand and mud flats and the salt marsh habitats have been infilled in the past and this remains a threat. Pollution enters the estuary from Drogheda town, though a sewage treatment works under construction will improve this situation. The dunes are subject to intense recreational pressures, which is likely to increase owing to a growing population in the general area.

Habitat QIs (Annex I Habitats):

Atlantic salt meadows

Embryonic shifting dunes

Estuaries

Fixed dunes (grey dunes)*

Marram dunes (white dunes)

Mediterranean salt meadows

Salicornia mud

Tidal mudflats

Species QIs (Annex II Species):

Site Name: **Lough Bane and Lough Glass SAC** **Site Code:** **002120**

County (s): Meath, Westmeath **SSCOs Published:** No **Location:** Within study area

Threats

The site is vulnerable to eutrophication, mainly by run-off from surrounding agricultural fields. Some afforestation is occurring near the site - should this increase, water quality could be affected. Increased use of lake for boating could cause physical damage to Chara communities.

Habitat QIs (Annex I Habitats):

Hard water lakes

Species QIs (Annex II Species):

White-Clawed Crayfish

Site Name: **Lough Lene SAC** **Site Code:** **002121**

County (s): Westmeath **SSCOs Published:** No **Location:** Within 5km of study area

Threats

The main threat to this site is eutrophication caused by agricultural run-off from surrounding areas. Any further reclamation of the semi-natural habitats around the lakes shore would be detrimental to the overall ecology of the lake system. Increased usage of the lake for boating and angling could cause physical damage to the Chara communities. The crayfish population is vulnerable to water pollution and to further introductions of the crayfish fungus.

Habitat QIs (Annex I Habitats):

Hard water lakes

Species QIs (Annex II Species):

White-Clawed Crayfish

Site Name: **Wicklow Mountains SAC** **Site Code:** **002122**

County (s): Dublin, Wicklow **SSCOs Published:** No **Location:** Within study area

Threats

The main threat to the quality of habitats on the site is overgrazing by sheep, affecting the bog, heath and rocky habitats and both deer and sheep affecting the woodlands. Localised peat extraction and heavy burning is a threat to the blanket bog. The spread of non-native species is a threat to the quality of the woodlands. Many recreational activities occur within the site and some, such as
hill walking and climbing, have potential for disturbance to habitats and species. Peat erosion is frequent on the peaks - this may be a natural process but is likely to be accelerated by activities such as grazing.

Habitat QIs (Annex I Habitats):

Alpine and subalpine heath

Blanket bog (active)*

Calcareous rocky slopes

Dry heaths

Dystrophic lakes

Old oak woodlands

Siliceous rocky slopes

Siliceous scree

Soft water lakes with base rich influences

Species-rich nardus upland grassland*

Wet heath

Species QIs (Annex II Species):

Otter

Site Name: **Mountmellick SAC** **Site Code:** **002141**

County (s): Laois **SSCOs Published:** No **Location:** Within 10km of study area

Threats

Vertigo moulinsiana was formerly more widespread in the canal area but has disappeared from most of its recorded sites with the dredging and reopening of canal navigation channels. Area immediately west of Dangan’s Bridge has been drained and is now grassland. As site is state owned, prospects are good.

Habitat QIs (Annex I Habitats):

Species QIs (Annex II Species):

Desmoulin's whorl snail

Site Name: **River Barrow and River Nore SAC** **Site Code:** **002162**

County (s): Carlow, Kildare, Kilkenny, Laois, **SSCOs Published:** Yes **Location:** Within study area

Threats

30% of the site consists of water: 10% freshwater and 20% of estuarine and tidal stretches. The Annex II species listed in Section 4.2 are dependent on the quality of these waters. Much of the site along the water courses is under threat from pollution caused by increased fertiliser application, sewage and industrial waste. There is also loss of saltmeadow habitat with two legally
protected species and a rare sedge, as a result of infilling and agricultural intensification. Alosa fallax may be vulnerable to angling pressure. Aquaculture occurs in Waterford Harbour and may be causing some disturbance to the intertidal sediments and wintering birds - intensification of aquaculture is a threat.

Habitat QIs (Annex I Habitats):

- Atlantic salt meadows
- Dry heaths
- Estuaries
- Floating river vegetation
- Hydrophilous tall herb
- Mediterranean salt meadows
- Old oak woodlands
- Petrifying springs*
- Residual alluvial forests*
- Salicornia mud
- Tidal mudflats

Species QIs (Annex II Species):

- Atlantic Salmon
- Brook Lamprey
- Desmoulin's whorl snail
- Freshwater Pearl Mussel
- Irish Freshwater Pearl Mussel
- Killarney Fern
- Otter
- River Lamprey
- Sea Lamprey
- Twaite Shad
- White-Clawed Crayfish

Site Name: **Ireland's Eye SAC** **Site Code:** **002193**

County (s): **SSCOs Published:** No **Location:** Within 5km of study area

Threats

The main threat to the island would be an increase in the numbers of visitors to the island. This could impact upon the more sensitive sandy habitats and cause disturbance to the breeding seabirds.

Habitat QIs (Annex I Habitats):

- Perennial vegetation of stony banks
- Sea cliffs

Species QIs (Annex II Species):

Site Name: **The Murrough Wetlands SAC** **Site Code:** **002249**

County (s): Wicklow **SSCOs Published:** No **Location:** Within study area

Threats

Drainage, building of an embankment, reclamation, levelling of sandhills and afforestation have already affected the habitats. Further works pose a threat to these. The water quality of inflowing streams may be reduced as a result of agricultural intensification outside of the site. Housing development is becoming a feature at the edge of the site. Access and recreational pressure is affecting
the vegetation of the shingle shore, this will also cause disturbance to birds.

Habitat QIs (Annex I Habitats):

- Alkaline fens
- Atlantic salt meadows
- Cladium fen*
- Drift lines
- Mediterranean salt meadows
- Perennial vegetation of stony banks

Species QIs (Annex II Species):

Site Name: **Ballyprior Grassland SAC** **Site Code:** **002256**

County (s): Laois **SSCOs Published:** No **Location:** Within 5km of study area

Threats

Due to recent division of the lands between seven new owners, the site is vulnerable to habitat damage (clearance of scrub, surface rock, soil and vegetation disturbance) and subsequent improvement by harrowing, re-seeding and fertilising. Such efforts at 'improvement' are already occuring within and around the site. Adjacent grassland habitat has been lost also to afforestation in recent years, to the south. Appropriate grazing management is essential for conservation of this habitat; the site flora is therefore vulnerable to adverse changes in the grazing regime and also to encroachment by scrub and bracken.

Habitat QIs (Annex I Habitats):

Orchid-rich calcareous grassland*

Species QIs (Annex II Species):

Site Name: **Wicklow Reef SAC** **Site Code:** **002274**

County (s): Wicklow **SSCOs Published:** Yes **Location:** Within 5km of study area

Threats

This reef is vulnerable to any mechanical disturbance by pots and in particular fishing gear being dragged across the surface of the reef. If only a small part of the reef is disturbed, and this disturbance is not repeated with any frequency, the reef should be able to repair itself.

Habitat QIs (Annex I Habitats):

Reefs

Species QIs (Annex II Species):

Site Name: **River Boyne and River Blackwater SAC** **Site Code:** **002299**

County (s): Cavan, Meath, Louth, Westmeath **SSCOs Published:** No **Location:** Within study area

Threats

Main threats to the ecological interests of this site are further drainage schemes and water pollution. In the past, where drainage occurred it altered the character of the river and removed natural bankside structure and vegetation. Ongoing maintenance dredging is carried out along stretches of the river system where the gradient is low. This can be extremely destructive to salmonid habitat. Drainage also impacts on the many small wetland areas throughout the site. Water quality is impaired in parts of the system through agricultural runoff and inputs from domestic and industrial sources. A reduction in the input of pollutants to the system is required to preserve the important aquatic interests in this site.

Habitat QIs (Annex I Habitats):

Alkaline fens

Residual alluvial forests*

Species QIs (Annex II Species):

Atlantic Salmon

Otter

River Lamprey

Site Name: **Mouds Bog SAC** **Site Code:** **002331**

County (s): Kildare **SSCOs Published:** No **Location:** Within study area

Threats

The main threat to the hydrology of this site is the extensive area of industrial cutting which is affecting the western part of the high bog. Peat-cutting for domestic purposes also still continues on a small scale. The ongoing removal of peat and the associated drainage if continued could threaten the long-term viability of the remaining high bog. The surface of the bog appears to be burned regularly and this is impairing the functioning of the acrotelm by damaging the peat-forming Sphagnum cover. Further burning would be damaging.

Habitat QIs (Annex I Habitats):

Degraded raised bogs

Raised bog (active)*

Rhyncosporion depressions

Species QIs (Annex II Species):

Site Name: **Moneybeg and Clareisland Bogs SAC** **Site Code:** **002340**

County (s): Meath, Westmeath **SSCOs Published:** No **Location:** Within 5km of study area

Threats

The main threats to the site are peat-cutting and associated activities such as drainage and burning. It must be noted however that the intensity of such damages appears to be relatively low at present in comparison to many other Irish raised bog sites. Agricultural reclamation and afforestation are potential threats to cutover areas of bog within the site. Burning events would damage the surface of the bogs.

Habitat QIs (Annex I Habitats):

Degraded raised bogs

Raised bog (active)*

Rhyncosporion depressions

Species QIs (Annex II Species):

Site Name: **Ardagullion Bog SAC** **Site Code:** **002341**

County (s): Longford **SSCOs Published:** No **Location:** Within 15km of study area

Threats

The site continues to be subject to threats to its hydrological integrity. The main threat is drying out of the surface due to forestry, however much of the forestry in the cutover margins of the site has been felled recently. Although active peat cutting occurs, the intensity is relatively low in comparison to other raised bog sites in Ireland. A large proportion of the site is in semistate ownership.

Habitat QIs (Annex I Habitats):

Degraded raised bogs

Raised bog (active)*

Rhyncosporion depressions

Species QIs (Annex II Species):

Site Name: **Mount Hevey Bog SAC** **Site Code:** **002342**

County (s): Meath, Westmeath **SSCOs Published:** No **Location:** Within study area

Threats

In the past this site was subject to extensive peat-cutting. More recently there has been afforestation in the south-eastern corner of the site. Both of these damaging operations have resulted in the drying-out of the high bog area. Unless peat-cutting is curtailed and the areas of forestry are removed, the site will continue to be vulnerable to drying out. Any intensification of these activities could be very damaging. The drier areas of the high bog surface are vulnerable to burning events which, if intense, can be very damaging.

Habitat QIs (Annex I Habitats):

Degraded raised bogs

Raised bog (active)*

Rhyncosporion depressions

Species QIs (Annex II Species):

Site Name: **Rockabill to Dalkey Island SAC** **Site Code:** **003000**

County (s): Dublin **SSCOs Published:** Yes **Location:** Within 5km of study area

Threats

Rockabill to Dalkey Island cSAC is designated for reefs and Harbour Porpoise. The resilience/recoverability of reefs is very low and even small levels of pressure, particularly from fishing, have the potential to affect ecological quality. Harbour Porpoise are vulnerable to a range of threats and pressures in their natural habitat, including accidental entanglement in fishing gear, competition for prey resources, pollution and other habitat degredation, and from disturbance from human activities.

Habitat QIs (Annex I Habitats):

Reefs

Reefs

Species QIs (Annex II Species):

Harbour Porpoise

Summary data relating to all relevant SPAs sorted according to site name

Site Name: **North Bull Island SPA** **Site Code:** **004006**

County (s): Dublin **SSCOs Published:** Yes **Location:** Within 5km of study area

Threats

Owing to the various conservation designations, there are no serious imminent threats to the wintering birds. However, due to its location in Dublin Bay, pollution such as oil spillages from Dublin Port and shipping is a general threat. Also, the intertidal areas receive polluted water though there are no apparent significant impacts on the associated flora and fauna. Commercial bait digging is a localised activity and causes disturbance to wintering birds. There is also some disturbance from walkers, free-running dogs, and sailing activities. There is high disturbance from amenity activities which is probably responsible for the abandonment of the site by Sterna albifrons.

SCIs (Annex I):

Bar-tailed Godwit

Golden Plover

Non-annex SCIs:

Black-headed Gull

Black-tailed Godwit

Curlew

Dunlin

Grey Plover

Knot

Light-bellied Brent Goose

Oystercatcher

Pintail

Redshank

Sanderling

Shelduck

Shoveler

Teal

Turnstone

Wetlands & Waterbirds

Site Name: **Rockabill SPA** **Site Code:** **004014**

County (s): Dublin **SSCOs Published:** Yes **Location:** Within 10km of study area

Threats

Since 1989 Rockabill has been manned continuously in each breeding season. This BirdWatch Ireland / National Parks & Wildlife project ensures that disturbance is kept to the minimum. Without such wardening, disturbance could be quite high from casual visitors landing on the Lighthouse island.

SCIs (Annex I):

Arctic Tern

Common Tern

Corncrake

Non-annex SCIs:

Purple Sandpiper

Site Name: **Rogerstown Estuary SPA** **Site Code:** **004015**

County (s): Dublin **SSCOs Published:** Yes **Location:** Within study area

Threats

A significant part of the estuary (intertidal flats and salt marsh) has been lost due to landfilling; while this remains a threat it is unlikely because of the site's various conservation designations. The landfill site is a major source of pollution to the estuary. Other sources of pollution include input of raw sewage from a local town and general pollution inputs from a rich agricultural hinterland. Erosion has removed much of the nesting area of Sterna albifrons. Illegal shooting causes disturbance to wintering waterfowl.

SCIs (Annex I):

Non-annex SCIs:

Black-tailed Godwit

Dunlin

Grey Plover

Greylag Goose

Knot

Light-bellied Brent Goose

Oystercatcher

Redshank

Ringed Plover

Shelduck

Shoveler

Wetlands & Waterbirds

Site Name: **Baldoyle Bay SPA** **Site Code:** **004016**

County (s): Dublin **SSCOs Published:** Yes **Location:** Within study area

Threats

The majority of the site is a Nature Reserve and is not threatened. The site receives pollution from a number of sources, chiefly the inflowing rivers and, until recently, an unsatisfactory sewage network. Bait digging and controlled wildfowling may be problems. Spartina is well established in the inner estuary and may be causing unfavourable interactions with the intertidal and salt marsh habitats. Sterna albifrons formerly nested but regular disturbance from walkers and dogs is a problem.

SCIs (Annex I):

Bar-tailed Godwit

Golden Plover

Non-annex SCIs:

Grey Plover

Light-bellied Brent Goose

Ringed Plover

Shelduck

Wetlands & Waterbirds

Site Name: **South Dublin Bay and River Tolka Estuary SPA** **Site Code:** **004024**

County (s): Dublin **SSCOs Published:** Yes **Location:** Within study area

Threats

The main threat to this site is further reclamation for industrial and/or infrastructural purposes. The intertidal areas receive water that is somewhat polluted though there are no apparent impacts on the associated flora and fauna. Owing to its location in Dublin Bay, pollution such as oil spillages from Dublin Port and shipping is a threat. Commercial bait digging may be a problem and can cause disturbance to wintering birds. Disturbance to birds is also caused by walkers and dogs.

SCIs (Annex I):

- Arctic Tern
- Bar-tailed Godwit
- Common Tern
- Roseate Tern

Non-annex SCIs:

- Black-headed Gull
- Dunlin
- Grey Plover
- Knot
- Light-bellied Brent Goose
- Oystercatcher
- Redshank
- Ringed Plover
- Sanderling
- Wetlands & Waterbirds

Site Name: **Malahide Estuary SPA** **Site Code:** **004025**

County (s): Dublin **SSCOs Published:** Yes **Location:** Within study area

Threats

The main problems or threats affecting this site are recreational activities, water pollution and infilling. Owing to the proximity of two large towns, the area is very popular for water sports and other amenity activities. These can cause disturbance to the bird populations - the intensity of such activities is likely to increase in the future. Pollution enters the system from the Broadmeadow River and from sewage plants at Swords and Malahide, and the inner estuary is particularly affected owing to its lagoonal character. The efficiency of the sewage plants may be upgraded in the future. Parts of the estuary have been infilled in the past for various developments, including housing and walk-ways, and this remains a threat.

SCIs (Annex I):

- Bar-tailed Godwit
- Golden Plover

Non-annex SCIs:

- Black-tailed Godwit
- Dunlin
- Goldeneye
- Great Crested Grebe
- Grey Plover
- Knot
- Light-bellied Brent Goose
- Oystercatcher
- Pintail
- Red-breasted Merganser
- Redshank
- Shelduck
- Wetlands & Waterbirds

Site Name: **Dundalk Bay SPA** **Site Code:** **004026**

County (s): Louth **SSCOs Published:** Yes **Location:** Within 15km of study area

Threats

The intertidal areas receive polluted water though there are no apparent significant impacts on the associated flora and fauna. Oil pollution from Dundalk Port is a general threat. Localised infilling and dumping has occurred in the past, especially near Dundalk town, and this remains a threat to the shoreline habitats. Aquaculture may occur in the future as a feasibility study has been carried out. This activity would need to be controlled to avoid significant disturbance to habitats and bird populations. There is some disturbance from walkers, free-running dogs, sailing activities and bait-digging. Spartina is well established and may threaten the estuarine habitats.

SCIs (Annex I):

Bar-tailed Godwit

Golden Plover

Non-annex SCIs:

Black-headed Gull

Black-tailed Godwit

Common Gull

Common Scoter

Curlew

Dunlin

Great Crested Grebe

Grey Plover

Greylag Goose

Herring Gull

Knot

Lapwing

Light-bellied Brent Goose

Mallard

Oystercatcher

Pintail

Red-breasted Merganser

Redshank

Ringed Plover

Shelduck

Teal

Wetlands & Waterbirds

Site Name: **Wicklow Mountains SPA** **Site Code:** **004040**

County (s): Wicklow **SSCOs Published:** No **Location:** Within study area

Threats

As the site is largely State-owned and within a National Park, there are no significant threats to the bird populations. Some of the peatland habitats are affected by overgrazing by sheep, whilst both deer and sheep reduce regeneration within the woodlands. Localised peat extraction and burning is a threat to the blanket bog and heath habitats. Many recreational activities occur within the site and some, such as hill walking and climbing, could have potential for disturbance to habitats and species if not properly controlled.

SCIs (Annex I):

Merlin

Peregrine

Non-annex SCIs:

Site Name: **Lough Derravaragh SPA** **Site Code:** **004043**

County (s): Westmeath **SSCOs Published:** No **Location:** Within 10km of study area

Threats

Lough Derravaragh is classified as a mesotrophic system, with increased planktonic algal growth recorded in 2000. Enrichment of the lake, mainly by agricultural run-off, is a threat and could affect the bird populations and especially the diving duck. An increase in recreational and wildfowling activities could cause disturbance to the birds though this is not considered to be a major threat.

SCIs (Annex I):

Whooper Swan

Non-annex SCIs:

Coot

Pochard

Tufted Duck

Wetlands & Waterbirds

Site Name: **Lough Ennell SPA** **Site Code:** **004044**

County (s): Westmeath **SSCOs Published:** No **Location:** Within 15km of study area

Threats

Lough Ennell is very vulnerable to pollution from agricultural and domestic sources though water quality has been satisfactory in recent years. A deterioration in water quality could affect bird populations (as shown by marked fluctuations in some populations in the past). Lough Ennell is an important amenity area, much used for fishing, boating and camping. Sections of the shoreline are managed for visitor access and amenity. Increases in such recreational activities could cause disturbance to the birds.

SCIs (Annex I):

Non-annex SCIs:

Coot

Pochard

Tufted Duck

Wetlands & Waterbirds

Site Name: **Lough Kinale & Derragh Lough SPA** **Site Code:** **004061**

County (s): Cavan, Longford, Westmeath **SSCOs Published:** No **Location:** Within 5km of study area

Threats

The variable water quality over the years, with periods of highly eutrophic conditions, undoubtedly has had some adverse impacts on the wintering waterfowl and especially the diving duck. This would appear to be borne out by very variable numbers of birds recorded over the years. The lake is still vulnerable to pollution and it is considered there is urgent need to reduce the phosphorus inputs to the system. Afforestation has taken place close to parts of the shoreline and further planting would be undesirable. Angling and wildfowling activities currently cause some disturbance to the birds and any increase in such activities would be of concern.

SCIs (Annex I):

Non-annex SCIs:

Pochard

Tufted Duck

Wetlands & Waterbirds

Site Name: **Poulaphouca Reservoir SPA** **Site Code:** **004063**

County (s): Kildare, Wicklow **SSCOs Published:** No **Location:** Within study area

Threats

Generally, there are no significant threats to the wintering bird populations. Recreational use of the reservoir for boating activities causes some disturbance to the birds and any increase in such activities could be of concern.

SCIs (Annex I):

Non-annex SCIs:

Greylag Goose

Lesser Black-backed Gull

Site Name: **Lough Sheelin SPA** **Site Code:** **004065**

County (s): Cavan, Meath, Westmeath **SSCOs Published:** No **Location:** Within study area

Threats

The variable water quality over the years, with periods of highly eutrophic conditions, undoubtedly has had some adverse impacts on the wintering waterfowl, and especially the diving duck. This would appear to be borne out by very variable numbers over the years. The lake is still considered to be vulnerable to pollution and there is a need to reduce the phosphorus inputs to the feeder streams entering the lake. Recreational and wildfowling activities currently cause some disturbance to the birds and any increase in such activities would be of concern.

SCIs (Annex I):

Non-annex SCIs:

Goldeneye

Great Crested Grebe

Pochard

Tufted Duck

Wetlands & Waterbirds

Site Name: **Lambay Island SPA** **Site Code:** **004069**

County (s): Dublin **SSCOs Published:** No **Location:** Within 5km of study area

Threats

Lambay has essentially been maintained as a wildlife sanctuary by its owners since the early 20th century. As access is strictly controlled, there is very little disturbance to the breeding or wintering birds. The present landuse is conducive for wintering geese. The presence of rats (both Rattus norvegicus and R. rattus) may be having detrimental effects on burrowing seabirds. Over-fishing in the surrounding seas could affect the food supplies of some of the seabirds. As Lambay is close to major shipping lanes, oil pollution is always a threat.

SCIs (Annex I):

Non-annex SCIs:

Cormorant

Fulmar

Greylag Goose

Guillemot

Herring Gull

Kittiwake

Lesser Black-backed Gull

Puffin

Razorbill

Shag

Site Name: **Boyne Estuary SPA** **Site Code:** **004080**

County (s): Louth, Meath **SSCOs Published:** Yes **Location:** Within study area

Threats

Parts of the intertidal sand and mud flats and the salt marsh habitats have been infilled in the past and this remains a threat. Pollution enters the estuary from Drogheda town, though a sewage treatment works under construction will improve this situation. Planned port extension could affect bird populations. Nowadays there are no significant shooting pressures as the site is a Wildfowl Sanctuary

SCIs (Annex I):

Golden Plover

Little Tern

Non-annex SCIs:

Black-tailed Godwit

Grey Plover

Knot

Lapwing

Oystercatcher

Redshank

Sanderling

Shelduck

Turnstone

Wetlands & Waterbirds

Site Name: **Stabannan - Braganstown SPA** **Site Code:** **004091**

County (s): Louth **SSCOs Published:** No **Location:** Within 10km of study area

Threats

While the site is privately owned and actively farmed, there are no threats as there is a management agreement in place to benefit the waterfowl. In the longterm, possible changes in agricultural practices could be detrimental to the wintering birds.

SCIs (Annex I):

Non-annex SCIs:

Greylag Goose

Site Name: **Garriskil Bog SPA** **Site Code:** **004102**

County (s): Westmeath **SSCOs Published:** No **Location:** Within 10km of study area

Threats

There is little active peat cutting taking place at this site and recent information suggests that fire damage has been slight recently. The apparent abandonment of the site by wintering Anser albifrons flavirostris reflects a general move away from raised bogs and is not considered to be due to conditions at the site.

SCIs (Annex I):

Greenland White-fronted Goose

Non-annex SCIs:

Site Name: **Howth Head Coast SPA** **Site Code:** **004113**

County (s): Dublin **SSCOs Published:** No **Location:** Within 5km of study area

Threats

Despite the high numbers of casual visitors to the site, there does not appear to be any significant disturbance to the seabird colonies (some of which are on inaccessible cliff faces). Over-fishing in local waters could put pressure on food supplies for the birds.

SCIs (Annex I):

Non-annex SCIs:

Kittiwake

Site Name: **Ireland's Eye SPA** **Site Code:** **004117**

County (s): Dublin **SSCOs Published:** No **Location:** Within 5km of study area

Threats

Ireland's Eye is a popular site for day trippers though at present there does not seem to be any adverse impacts on the nesting seabirds (most of which are on relatively inaccessible cliffs). However, further increases in the numbers of visitors could cause disturbance to some of the nesting birds. High populations of rats could be detrimental to the growth of the Fratercula arctica colony. Nesting Falco peregrinus are disturbed in some years.

SCIs (Annex I):

Non-annex SCIs:

Cormorant

Guillemot

Herring Gull

Kittiwake

Razorbill

Site Name: **Skerries Islands SPA** **Site Code:** **004122**

County (s): Dublin **SSCOs Published:** No **Location:** Within 5km of study area

Threats

The islands, especially Shenick's, are visited regularly in summer and some disturbance may be caused to the breeding birds.

SCIs (Annex I):

Non-annex SCIs:

Cormorant

Herring Gull

Light-bellied Brent Goose

Purple Sandpiper

Shag

Turnstone

Site Name: **Wicklow Head SPA** **Site Code:** **004127**

County (s): Wicklow **SSCOs Published:** No **Location:** Within study area

Threats

There are no known significant threats to the seabird colony at present. Casual visitors to the site could cause disturbance though most of the seabirds are on an inaccessible cliff face. Over-fishing in local waters could put pressure on food supplies for the birds. Interference is caused to the nesting peregrines in some years.

SCIs (Annex I):

Non-annex SCIs:

Kittiwake

Site Name: **Wicklow Head SPA** **Site Code:** **004127**

County (s): Wicklow **SSCOs Published:** No **Location:** Within study area

Threats

There are no known significant threats to the seabird colony at present. Casual visitors to the site could cause disturbance though most of the seabirds are on an inaccessible cliff face. Over-fishing in local waters could put pressure on food supplies for the birds. Interference is caused to the nesting peregrines in some years.

SCIs (Annex I):

Non-annex SCIs:

Kittiwake

Site Name: **River Nanny Estuary & Shore SPA** **Site Code:** **004158**

County (s): Meath **SSCOs Published:** Yes **Location:** Within study area

Threats

The main threat to the wintering birds is increased levels of disturbance by beach users (walkers, dogs ect.).

SCIs (Annex I):

Golden Plover

Non-annex SCIs:

Herring Gull

Knot

Oystercatcher

Ringed Plover

Sanderling

Wetlands & Waterbirds

Site Name: **Dalkey Island SPA** **Site Code:** **004172**

County (s): Dublin **SSCOs Published:** No **Location:** Within 5km of study area

Threats

Traditionally, the nesting terns are vulnerable to sever weather, predation and disturbance and breeding success has often been low. Since 1995 a conservation programme, co-ordinated by BirdWatch Ireland / National Parks and Wildlife Service, has aimed at improving conditions for the terns with the provision of nest boxes and shelters, some wardening and monitoring of productivity. This has led to more successful breeding and is likly to have been responsible for attracting Sterna dougallii to breed.

SCIs (Annex I):

Arctic Tern

Common Tern

Roseate Tern

Non-annex SCIs:

Site Name: **The Murrough SPA** **Site Code:** **004186**

County (s): Wicklow **SSCOs Published:** No **Location:** Within study area

Threats

The proximity of the site to Wicklow town and Kilcoole village is a threat in that there is pressure on the area for housing and increased disturbance. From that flows the risk of water pollution. It is suspected that the system is receiving high nutrient loading from the surrounding farmland. Access and recreational pressure is affecting the vegetation of the shingle shore which, in turn, causes disturbance to birds. The inclusion of the BirdWatch reserve and the state-owned foreshore in the site gives additional protection.

SCIs (Annex I):

Little Tern

Red-throated diver

Non-annex SCIs:

Black-headed Gull

Greylag Goose

Herring Gull

Light-bellied Brent Goose

Teal

Wetlands & Waterbirds

Wigeon

Site Name: **River Boyne and River Blackwater SPA** **Site Code:** **004232**

County (s): Cavan, Louth, Meath, Westmeath **SSCOs Published:** No **Location:** Within study area

Threats

There are no known threats.

SCIs (Annex I):

Kingfisher

Non-annex SCIs: