

6 ENVIRONMENTAL SCOPING STUDY

6.1 INTRODUCTION

The study area for the Murrough Coastal Protection Study has been defined in previous sections of this report. This section aims to undertake a broad desktop based environmental assessment under two main headings:

(1) The need for an Environmental Impact Statement

Relevant statutory regulations and legislation will be studied to determine if the proposed coastal protection works will require a full environmental impact statement to be prepared.

(2) Potential Environmental Effects

The preliminary environmental assessment will identify key environmental issues and constraints relevant to the development to enable an assessment to be made of the likely significant impacts and the mitigation measures required to ensure that any potentially damaging effects are avoided or minimised. Consultations will be undertaken with various statutory and non-statutory bodies, and an environmental scoping matrix will be compiled to identify the potential impacts of the development during both the construction and operational phases of the project against the following topics as listed in the EU Directive and EIA Regulations.

6.2 THE NEED FOR AN ENVIRONMENTAL IMPACT STATEMENT

The proposal has been screened by reference to the Planning and Development Act, 2000 and subsequent amendments; The Planning and Development Regulations, 2001 and subsequent amendments; The European Communities Environmental Impact Assessment Regulations 1989 to 1999; The Foreshore Acts, 1933 to 2003; The Foreshore (Environmental Impact Assessment) Regulations, 1990 and The Planning and Development (Strategic Infrastructure) Act, 2006.

The Fifth Schedule of the Planning and Development Regulations, 2001 (SI No 600 of 2001) sets out a comprehensive list of project types subject to Environmental Impact Assessment for the purposes of the Regulations. Section 10(k) lists “*coastal work to combat erosion and*

maritime works capable of altering the coast through the construction, for example, of dikes, moles, jetties and other sea defence works, where the length of coastline on which works would take place would exceed 1 kilometre, but excluding the maintenance and reconstruction of such works or works required for emergency purposes". The proposed scheme (300m of revetment and 2 no. 120m offshore breakwaters) is beneath the threshold for Section 10k and so does not fall under this part of the Planning and Development Regulations 2001.

However, in cases where a development is sub threshold yet is being undertaken in an environmentally sensitive site, Under Part X Chapter 4 Section 120 of the Planning and Development Regulations, 2001 the local planning authority has the right to request that an EIS should be prepared:

Section 120.

- (1) Where a local authority proposes to carry out a sub-threshold development, and where it considers that the development would be likely to have significant effects on the environment, it shall prepare, or cause to be prepared, an EIS in respect thereof.
- (2) Where a local authority proposes to carry out a sub-threshold development which would be located on or in –
 - (a) a European site,
 - (b) an area the subject of a notice under section 16(2)(b) of the Wildlife (Amendment) Act, 2000 ,
 - (c) an area designated as a natural heritage area under section 18 of the Wildlife (Amendment) Act, 2000,
 - (d) land established or recognised as a nature reserve within the meaning of section 15 or 16 of the Wildlife Act, 1976 as amended by sections 26 and 27 of the Wildlife (Amendment) Act, 2000 , or
 - (e) land designated as a refuge for flora or as a refuge for fauna under section 17 of the Wildlife Act, 1976 as amended by section 28 of the Wildlife (Amendment) Act, 2000 ,

The local authority concerned shall decide whether the development would or would not be likely to have significant effects on the environment of such site, area or land, as appropriate.

The Foreshore Acts, 1933 to 2003, require that a lease or licence must be obtained from the Minister for the Marine and Natural Resources for undertaking any works or placing structures or material on, or for the occupation of, or removal of material from, State-owned foreshore. The Foreshore Acts apply to the seabed and shore below the line of high water of ordinary or medium tides and extending outwards to the limit of the territorial seas - twelve nautical miles (approximately 22.24 kilometres).

In summary, given the environmental sensitivity of the receiving environment an Environmental Impact Statement (EIS) should be prepared for this development, having regard to the '*Guidelines on the Information to be contained in Environmental Impact Statements*' published by the Environmental Protection Agency (EPA) in 2002 and '*Advice Notes on Current Practice in the preparation of Environmental Impact Statements*', also published by the EPA in 2003. An application for a Foreshore Licence should also be submitted to the Department of Communications, Marine and Natural Resources.

6.3 CONSULTATIONS

A letter containing information about the proposed coastal protection measures was issued to the following consultees with a request for them to identify issues relevant to their organisation.

- Department of Communications, Marine and Natural Resources
- DOEHLG National Parks and Wildlife Service
- Teagasc
- Eastern Regional Fisheries Board
- Birdwatch Ireland
- An Taisce
- Environmental Protection Agency
- Marine Institute
- Coastwatch Europe Network
- Geological Survey of Ireland
- Bord Iascaigh Mhára
- East Coast and Midlands Regional Tourist Authority
- Irish Federation of Sea Anglers
- Wicklow County Council Heritage Office
- Irish Rail

A face-to-face meeting was also held with NPWS to appraise them of the potential options for coastal protection and record their views and concerns in relation to the project at this feasibility stage.

6.4 DESKTOP STUDY

A preliminary desktop study was undertaken to identify any relevant issues. The main sources of information were as follows:

- Information from statutory and non-statutory bodies;
- Mapping (OSi maps and Admiralty charts);
- Reports, books, journals and internet;
- Existing databases, e.g. Department of Environment, Heritage and Local Government databases for designated sites and monuments.

The key issues which have arisen as a result of the Scoping Study are discussed under the topics set out in the EIA Regulations as follows:

- Flora and Fauna
- Fisheries
- Cultural Heritage
- Human Beings
- Landscape
- Air
- Water

6.4.1 Flora and Fauna

In 1992 the EU adopted legislation designed to protect the most seriously threatened habitats and species across Europe. This legislation is called the Habitats Directive and complements the Birds Directive adopted in 1979. At the heart of both these Directives is the creation of a network of sites called Natura 2000. The Birds Directive requires the establishment of Special Protection Areas (SPAs) for birds. The Habitats Directive similarly requires Special Areas of Conservation (SACs) to be designated for other species, and for habitats. Together, SPAs and SACs make up the Natura network of sites.

The section of the eastern Irish seaboard comprising the study area is internationally important for its wildlife and habitats present, and is statutorily protected under various legal instruments, as described above. As noted in Section 2.0, The Murrough Wetlands candidate Special Area of Conservation (cSAC) extends for 15km along the coast. This expansive site contains The Murrough proposed Natural Heritage Area (pNHA), and two Special Protection Areas (SPA), namely Broad Lough and Kilcoole Marshes. Broad Lough is protected under S.I. No. 210/1997, and Kilcoole Marshes under S.I. No. 305/1996. The area supports a number of habitats listed on Annex 1 of the EU Habitats Directive and a number of bird species listed on Annex 1 of the EU Birds Directive, as well as a wide range of important migrating birds and rare flora in parts of the area.

Kilcoole Marshes and Broad Lough SPAs

Special Protection Areas (SPAs) are designated because they are important habitats for birds. The legal basis for the SPA is the European Birds Directive (79/409/EEC). The Birds Directive is implemented into Irish law mainly by the Wildlife Act, 1976 and the European Communities (Conservation of Wild Birds) Regulations, 1985. Under the Birds Directive, Ireland is required to conserve the habitats of (1) scheduled rare and vulnerable species of birds; and (2) regularly occurring migratory species of scheduled birds.

Those areas that warrant protection are categorized as Special Protection Areas (SPA) within which steps must be taken to avoid any pollution, deterioration and excessive disturbance affecting the wild birds. Only activities which do not have significant effects on birds are permitted in SPAs. The study area falls within the Kilcoole Marshes SPA and the Broad Lough SPA (see Figure 6.1).

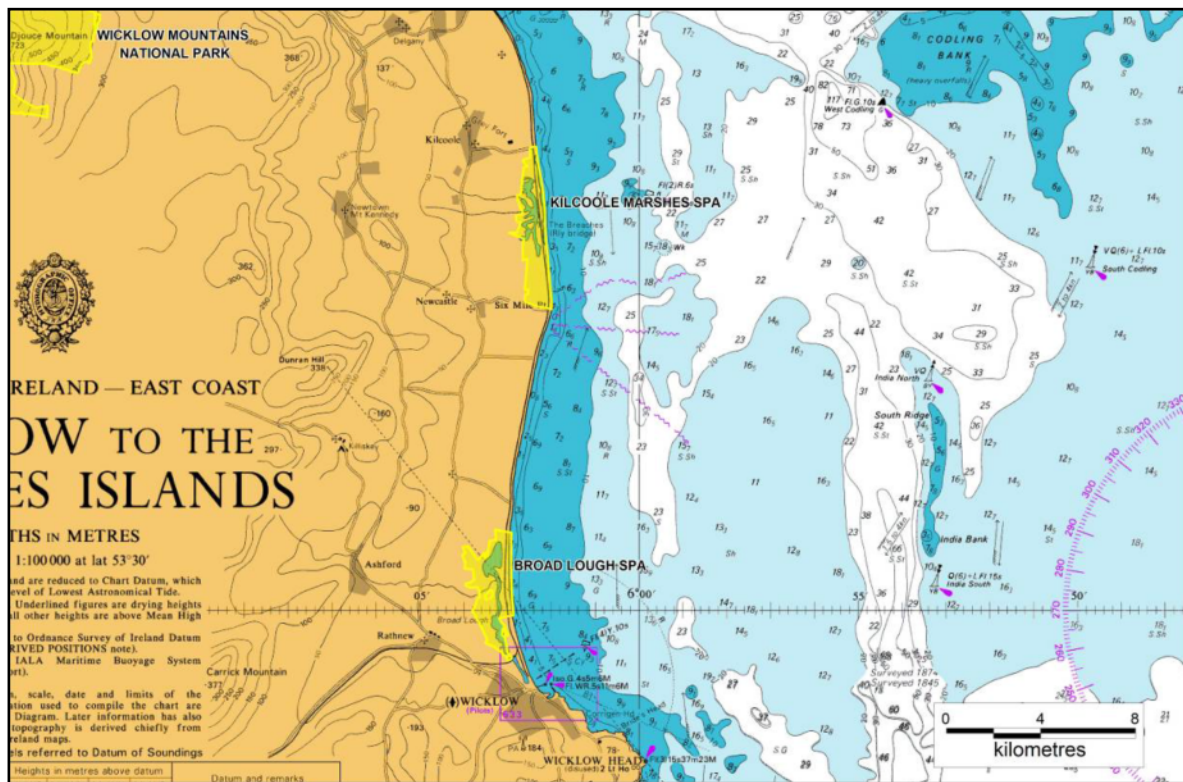


Figure 6.1 Kilcoole Marshes and Broad Lough SPAs

Broad Lough SPA is a regionally important site for wintering waterfowl and was formerly a favoured haunt for a nationally important Greylag Goose population. The occurrence of Little Egret is of note as this species is listed on Annex I of the E.U. Birds Directive. The site also supports a typical diversity of birds associated with reed swamp, including Reed Warbler, a very localised species in Ireland. The Kilcoole Marshes SPA is an important site for wintering waterfowl, being internationally important for Brent Goose and nationally important for Greylag Goose and Widgeon. It is probably the most important site in the country for nesting Little Tern. The regular occurrence of Whooper Swan, Golden Plover and Little Tern is of note as these species are listed on Annex I of the E.U. Birds Directive. The site is well-monitored and is a focal point for conservation projects and research.

The Murrough Wetlands cSAC and pNHA

Special Areas of Conservation (SAC) are among the most important areas of wildlife in Ireland and throughout the European Union. The legal basis for the SACs is Council Directive 92/43/EEC of 21 May 1992, commonly known as the Habitats Directive. The aim of the Directive is to ensure the protection of biodiversity through the conservation of natural habitats of wild flora and fauna. The Directive is binding on the Member States and its

agencies and the Department of Environment, Heritage and Local Government is the statutory agency responsible for the selection and designation of SACs. Once landowners and stakeholders concerning a particular SAC have been publicly notified, the site is called a *candidate* SAC (cSAC). The study area runs along the coastline contiguous with much of The Murrough Wetlands cSAC (see Figure 6.2).

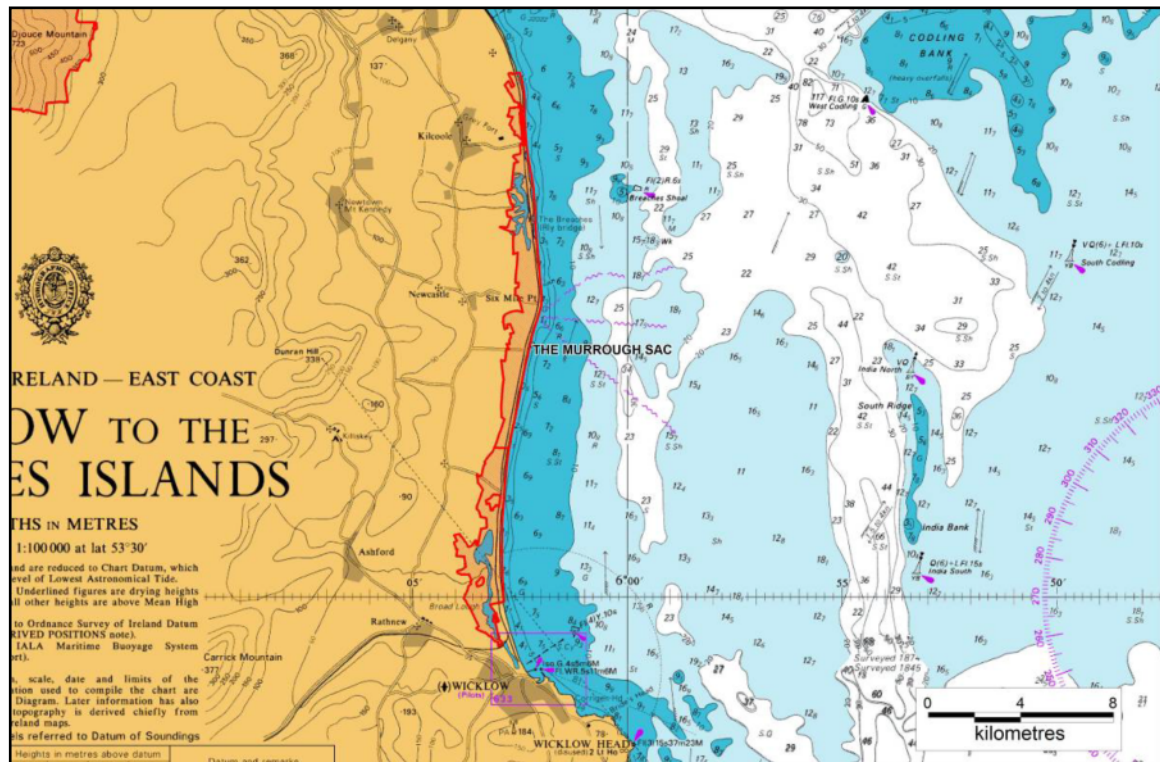


Figure 6.2 The Murrough Wetlands cSAC

This site is of importance as it is the largest coastal wetland complex on the east coast of Ireland. Although much affected by drainage, it still contains a wide range of coastal and freshwater habitats including five listed on Annex I of the EU Habitats Directive, some of which contain threatened plants. Areas on the site contain a rich invertebrate fauna, including several rarities. It is an important site for both wintering and breeding birds and supports a wide variety of species listed on Annex I of the EU Birds Directive.

The NHA designation is the basis for the protection of Irish natural habitats and is a national designation. NHAs include the best of Ireland's remaining natural habitats and encompass 1,246 sites. The NHA designation evolved from the Area of Scientific Interest (ASI) designation. NHAs have statutory protection under The Wildlife (Amendment) Act 2000. The statutory body with responsibility for NHAs is the Department of Environment, Heritage and Local Government. The study area runs along the coastline contiguous with much of

Any proposed coastal protection works may have impacts on the shoreline habitats and species which use them for breeding, food and shelter. The construction phase of coastal defence works is likely to be the more disruptive than the operational phase. This could potentially occur via habitat degradation through temporary haul routes, access tracks or site compounds; noise and disturbance by working machinery; or isolated pollution incidents associated with construction plant. The timing of works is also a factor which will govern the magnitude of ecological impact, given that many bird species chiefly use the site to overwinter, while others breed in the spring and summer.

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6.4.2 Fisheries

Ground and seabed preparation and associated construction works, including dredging and large-scale topographic alteration have significant potential to cause the release of sediments and pollutants into surrounding waters. Pollution of the adjacent fresh / marine waters from poor on-site construction practices could have a significantly negative impact on the fauna and flora of surface waters in this area. High levels of suspended solids settling on the sea shore and seabed can alter habitats resulting in potential loss of feeding nursery and spawning grounds for fish.

Migratory runs of salmon *Salmo salar* and sea trout *Salmo trutta trutta* utilise the coastal waters in this area with local freshwater systems e.g. the River Vartry, supporting populations of Atlantic salmon (a species listed under Annex II and V of the EU Habitats Directive). Coastal waters and estuaries serve as the natural linkage for species such as salmon and sea trout migrating between freshwater and ocean environments, providing the necessary habitat for their transition. Both migratory and resident fish groups utilise coastal habitat in the vicinity of the proposed development at some time during their life cycle. Thus it is essential to consider fisheries impacts of the development at all times, particularly impacts on those species of conservation importance.

6.4.3 Cultural Heritage

The sites and monuments record has been examined (Figure 6.4) and it is envisaged that no known archaeological sites should be affected by the works. This database does not record sites in the tidal zone or beyond. The Underwater Archaeology Unit (UAU) of the National Monuments Service has been established to quantify the underwater resource, undertake survey and enforcement and to assess development impacts in order to manage this aspect of Ireland's heritage. The UAU also manage and update the Shipwreck Inventory of Ireland. These databases will need to be investigated as part of the EIA process upon the selected engineering solution to scope the potential requirements for underwater survey work. This work should be undertaken by a suitably qualified archaeologist to ensure that the potential for archaeological impact is fully investigated prior to construction.



Figure 6.4 Extract from Sites and Monuments Record

6.4.4 Human Beings

The study area is very undeveloped, with only isolated dwellings scattered along the coastline. Wicklow Town is the main urban fabric to the immediate south of the study area. No other significant coastal settlements occur until Greystones, some 18km north of Wicklow Town. North of Wicklow Town and Rathnew, most ribbon development occurs along the R761, with settlement clusters occurring at Newcastle and Kilcoole.

During the construction phase, access to parts of the beach may be temporarily restricted due to health and safety risks. It is important that beach users are kept aware of those parts of the beach with reduced access and are notified well in advance so that any inconvenience is kept to a minimum.

6.4.5 Landscape

The entire stretch of coastline from Greystones to Wicklow town is a Prospect of Special Amenity (No. 7, Wicklow County Development Plan 2004 – 2010, Map 9A) and a Zone of Outstanding Natural Beauty (Wicklow County Development Plan 2004 – 2010, Map 3D). Policy HL6 states that it is the policy of the Council to preserve views and prospects as identified in schedule 10.6 / 10.7 to protect the natural beauty of the County. In addition, the Council will reinforce and preserve the scenic quality of zones of outstanding natural beauty by restricting development within them. The Council will require the submission of a visual impact assessment where a planning application is made for development in an Outstanding Natural Beauty Zone. Accordingly, a scheme such as this must be assessed in terms of its impact on the local landscape character and its visual impact.

6.4.6 Air and Noise

With the exception of the Wicklow Town environs, this stretch of coastline is virtually undeveloped. The construction works associated with the proposed development may result in temporary noise impacts upon amenity users of the coastline and wildlife.

6.4.7 Water

The impact of the proposed development on coastal processes in the area has been modelled, and desirable predicted impacts are discussed in Section 4.

6.5 SUMMARY OF KEY ISSUES

Flora and Fauna	Impact on marine and terrestrial flora and fauna at the site of the proposed works and surrounding area; Impact on bird feeding, roosting and nesting sites.
Fisheries	Possible impact of breakwater construction and beach placement
Landscape & Visual	Visual impact assessment of the proposed development; Impact on the local landscape character.
Cultural Heritage	Impact of development on terrestrial and intertidal archaeology
Human Beings.	Impact on the local economy in terms of tourism and socio-economic factors. Impact of construction phase on beach users
Coastal Processes	Impact on the local sediment transport regime in terms of coastal erosion and deposition processes;
Air & Noise	Noise impact assessment of the proposed development (construction and operational phase)

6.6 ENVIRONMENTAL SCOPING CONCLUSIONS

A scoping matrix has been compiled to identify the potential impacts of the development during both the construction and the operational phases of the project against the topics listed in the EU directive and EIA regulations. The scoping matrix is presented in Table 6.1.

It should be noted that since the beach at The Murrough is within an environmentally designated area, in accordance with EU Birds Directive 79/409/EEC and EU Habitats Directive 92/43/EEC, the scheme will be subject to environmental impact assessment (EIA) under Regulations 15-17 of The European Communities (Natural Habitats) Regulations 1997-2005. The proposal is neither directly connected with nor necessary to the management of the Natura sites, however, it may result in significant effects to the sites, either alone or in combination with other operations or activities. As such, an assessment should be made of the implications for the sites in view of their conservation objectives.

As the proposed scheme also lies on the foreshore and includes works below the high water mark, a planning application will have to be made to An Bord Pleanála in accordance with Part XV of the Planning and Development Regulations, 2001-2006. Consultation with An Bord Pleanála should be undertaken by Wicklow County Council to ascertain the opinion of the Board opinion under Section 37B of The Planning and Development Act 2000 as caused by The Planning and Development (Strategic Infrastructure) Act 2006.

In summary, an Environmental Impact Statement (EIS) should be prepared for this development, having regard to the 'Guidelines on the Information to be contained in Environmental Impact Statements' published by the Environmental Protection Agency (EPA) in 2002 and 'Advice Notes on Current Practice in the preparation of Environmental Impact Statements', also published by the EPA in 2003. Specifically, this EIS would be undertaken on a Type 12B project.

This EIS should be prepared in accordance with the provisions of the Planning and Development Regulations (2001-2006) and The European Communities (Environmental Impact Assessment) Regulations (1989-2006).

Table 6.1 Scoping Matrix

Environmental Topic (Ref: EIA regulations)	Potential Impacts			
	Construction Phase		Operational Phase	
	Degree of Potential	Description	Degree of Potential	Description
Human Beings	Neutral to slight negative	General disturbance from construction activity, e.g. noise, dust, etc.	Slight to moderate positive	Improved beach resulting in greater amenity value.
	Slight negative	Disruption to existing beach users during construction period.	Slight to moderate positive	Economic benefits from increased tourism/recreational activity in the area
	Slight positive	Creation of employment through construction activities	neutral	No long term employment predicted
	Neutral to slight negative	Impact of construction traffic on local road network	neutral	No impact
Flora – terrestrial and marine	Neutral to moderate	Disturbance during construction activities, further assessment required	unknown	Further assessment required
Fauna – benthic and littoral	Neutral to moderate	Removal of habitats during construction activities, further assessment required	Neutral to positive	Further assessment required – new habitats created
Fauna – marine mammals	neutral	No impact likely, further assessment required	neutral	No impact
Cultural Heritage	unknown	Uncovering of previously unrecorded terrestrial and/or marine archaeological	unknown	Further assessment required

Table 6.1 Contd.

Environmental Topic (Ref: EIA regulations)	Potential Impacts			
	Construction Phase		Operational Phase	
	Degree of Potential Impact	Description	Degree of Potential Impact	Description
Fauna - birds	Neutral to moderate negative	Temporary disturbance of feeding and roosting areas	Neutral to positive	New habitats created at breakwaters
Air	Neutral to slight negative	Noise impact particularly during construction.	Neutral to slight negative	Noise impact during maintenance.
Water	Impact unknown	Sediment plume during beach placement operations	Impact unknown	No Impact
Climate	neutral	No impact	neutral	No impact
Landscape	Neutral to moderate negative	Visual impact of construction activities	Neutral to adverse negative	Further assessment required upon protected prospect and area of outstanding natural beauty
			Neutral to slight positive	Improvement of beach amenity value