

# APPENDIX I NATURA IMPACT REPORT

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## IN SUPPORT OF THE APPROPRIATE ASSESSMENT

### FOR THE CORK METROPOLITAN AREA

### TRANSPORT STRATEGY 2040

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

**for: National Transport Authority**

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## **Appendix I**

### **Background information on European sites considered in the Natura Impact Report**

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**Table 1 Details of European Sites within the Zone Of Influence**

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Description (Site Vulnerability/Sensitivity)
001058 <sup>1</sup>	Great Island Channel SAC	Within	Mudflats and sandflats not covered by seawater at low tide [1140] Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritimae</i> ) [1330]	The Great Island Channel stretches from Little Island to Midleton, with its southern boundary being formed by Great Island. It is an integral part of Cork Harbour which contains several other sites of conservation interest. Geologically, Cork Harbour consists of two large areas of open water in a limestone basin, separated from each other and the open sea by ridges of Old Red Sandstone. Within this system, Great Island Channel forms the eastern stretch of the river basin and, compared to the rest of Cork Harbour, is relatively undisturbed. Within the site is the estuary of the Owennacurra and Dungourney Rivers. These rivers, which flow through Midleton, provide the main source of freshwater to the North Channel.  The standard data form for the site details a list of threats including agricultural activities, invasive non-native species, roads and motorways and marine and freshwater aquaculture. All of these threats have been identified within the boundary.  No other site-specific threats have been identified by the NPWS.
004030 <sup>2</sup>	Cork Harbour SPA	Within	Little Grebe ( <i>Tachybaptus ruficollis</i> ) [A004] Great Crested Grebe ( <i>Podiceps cristatus</i> ) [A005] Cormorant ( <i>Phalacrocorax carbo</i> ) [A017] Grey Heron ( <i>Ardea cinerea</i> ) [A028] Shelduck ( <i>Tadorna tadorna</i> ) [A048] Wigeon ( <i>Anas penelope</i> ) [A050] Teal ( <i>Anas crecca</i> ) [A052] Pintail ( <i>Anas acuta</i> ) [A054] Shoveler ( <i>Anas clypeata</i> ) [A056] Red-breasted Merganser ( <i>Mergus serrator</i> ) [A069] Oystercatcher ( <i>Haematopus ostralegus</i> ) [A130] Golden Plover ( <i>Pluvialis apricaria</i> ) [A140] Grey Plover ( <i>Pluvialis squatarola</i> ) [A141] Lapwing ( <i>Vanellus vanellus</i> ) [A142] Dunlin ( <i>Calidris alpina</i> ) [A149] Black-tailed Godwit ( <i>Limosa limosa</i> ) [A156] Bar-tailed Godwit ( <i>Limosa lapponica</i> ) [A157] Curlew ( <i>Numenius arquata</i> ) [A160] Redshank ( <i>Tringa totanus</i> ) [A162] Black-headed Gull ( <i>Chroicocephalus ridibundus</i> ) [A179] Common Gull ( <i>Larus canus</i> ) [A182] Lesser Black-backed Gull ( <i>Larus fuscus</i> ) [A183] Common Tern ( <i>Sterna hirundo</i> ) [A193] Wetland and Waterbirds [A999]	Cork Harbour is a large, sheltered bay system, with several river estuaries - principally those of the Rivers Lee, Douglas, Owenboy and Owennacurra. The SPA site comprises most of the main intertidal areas of Cork Harbour, including all of the North Channel, the Douglas River Estuary, inner Lough Mahon, Monkstown Creek, Lough Beg, the Owenboy River Estuary, Whitegate Bay, Ringabella Creek and the Rostellan and Poul nabie inlets.  The standard data form for the site details a list of threats including recreational activities, shipping lanes, removal of terrestrial animals. All of these pressures have been identified within the site boundary. The NPWS have also identified threats beyond the boundary including agricultural activities, dispersed habitation and recreational activities.  No other site-specific threats have been identified by the NPWS.
002170 <sup>3</sup>	Blackwater River (Cork/Waterford) SAC	2.46	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Perennial vegetation of stony banks [1220] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritimae</i> ) [1330] Mediterranean salt meadows ( <i>Juncetalia maritimi</i> ) [1410] Water courses of plain to montane levels with the <i>Ranunculus fluitans</i> and <i>Callitriche-Batrachion</i> vegetation [3260] Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0] Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> ( <i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i> ) [91E0]	The River Blackwater is one of the largest rivers in Ireland, draining a major part of Co. Cork and five ranges of mountains. In times of heavy rainfall, the levels can fluctuate widely by more than 12 feet on the gauge at Careysville. The peaty nature of the terrain in the upper reaches and of some of the tributaries gives the water a pronounced dark colour. The site consists of the freshwater stretches of the River Blackwater as far upstream as Ballydesmond, the tidal stretches as far as Youghal Harbour and many tributaries, the larger of which include the Licky, Bride, Flesk, Chimneyfield, Finisk, Araglin, Awbeg (Buttevant), Clyda, Glen, Allow, Dalua, Brogeen, Rathcool, Finner, Owentraglin and Awnaskirtaun. The portions of the Blackwater and its tributaries that fall within this SAC flow through the counties of Kerry, Cork, Limerick, Tipperary and Waterford. Nearby towns include Rathmore, Millstreet, Kanturk, Banteer, Mallow, Buttevant, Doneraile, Castletownroche, Fermoy, Ballyduff, Rathcormac, Tallow, Lismore, Cappoquin and Youghal.

<sup>1</sup> NPWS (2014) Conservation Objectives: Great Island Channel SAC 001058. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.<sup>2</sup> NPWS (2014) Conservation Objectives: Cork Harbour SPA 004030. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.<sup>3</sup> NPWS (2012) Conservation Objectives: Blackwater River (Cork/Waterford) SAC 002170. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

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Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Description (Site Vulnerability/Sensitivity)
			Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] Austropotamobius pallipes (White-clawed Crayfish) [1092] Petromyzon marinus (Sea Lamprey) [1095] Lampetra planeri (Brook Lamprey) [1096] Lampetra fluviatilis (River Lamprey) [1099] Alosa fallax fallax (Twaité Shad) [1103] Salmo salar (Salmon) [1106] Lutra lutra (Otter) [1355] Trichomanes speciosum (Killarney Fern) [1421]	The standard data form for the site details a list of threats including high inputs of nutrients into the river system from agricultural run-off and several sewage plants, dredging of the upper reaches of the Awbeg, overgrazing within the woodland areas, and invasion by non-native species, for example Rhododendron and Cherry Laurel. All of these threats have been identified within the boundary. The NPWS have also identified threats beyond the boundary including agricultural activities, sand and gravel extraction, urbanisation, invasive non-native species and recreational activities.  No other site specific threats have been identified by the NPWS.
004022 <sup>4</sup>	Ballycotton Bay SPA	3.74	Teal (Anas crecca) [A052] Ringed Plover (Charadrius hiaticula) [A137] Golden Plover (Pluvialis apricaria) [A140] Grey Plover (Pluvialis squatarola) [A141] Lapwing (Vanellus vanellus) [A142] Black-tailed Godwit (Limosa limosa) [A156] Bar-tailed Godwit (Limosa lapponica) [A157] Curlew (Numenius arquata) [A160] Turnstone (Arenaria interpres) [A169] Common Gull (Larus canus) [A182] Lesser Black-backed Gull (Larus fuscus) [A183] Wetland and Waterbirds [A999]	Situated on the south coast of Co. Cork, Ballycotton Bay is an east-facing coastal complex, which stretches northwards from Ballycotton to Ballynamona, a distance of c. 2 km. The site comprises two sheltered inlets which receive the flows of several small rivers. The southern inlet had formerly been lagoonal (Ballycotton Lake) but breaching of the shingle barrier in recent times has resulted in the area reverting to an estuarine system.  The standard data form for the site details a list of threats including agricultural activities and recreational activities. All of these threats have been identified within the site boundary. The NPWS have identified pressures outside the site boundary including fertilisation and urbanisation.  No other site-specific threats have been identified by the NPWS.
004124 <sup>5</sup>	Sovereign Islands SPA	9.29	Cormorant (Phalacrocorax carbo) [A017]	The Sovereign Islands are two very small marine islands located approximately 1 km off the coastline at the entrance to Oysterhaven Bay in Co. Cork. The islands are rocky stacks separated by a narrow sound of about 20 m width. The eastern island is flat-topped and rises to 24 m above sea level; the western one is more peaked and rises to 30 m. The geology is Lower Carboniferous limestones and shales. Both islands are largely devoid of soil apart from small amounts of organic matter trapped in cracks. Vegetation is sparse, with plants such as Sea Beet (Beta vulgaris), Spurrey (Spergularia spp.) and Orache (Atriplex spp.) recorded. The surrounding sea, to a distance of 200 m, is included.  No site-specific threats were identified by the NPWS.
000077 <sup>6</sup>	Ballymacoda (Clonpriest And Pillmore) SAC	9.84	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (Glauco-Puccinellietalia maritima) [1330] Mediterranean salt meadows (Juncetalia maritimi) [1410]	This coastal site stretches north-east from Ballymacoda to within about 6 km of Youghal, Co. Cork.  Much of the land adjacent to the estuary has been reclaimed and is subject to intensive agriculture, with cattle grazing and silage being the most common land uses. However, many of these fields remain marshy and are important feeding and roosting areas for wildfowl, Golden Plover and Lapwing. The most serious threat to the site is water pollution, primarily from slurry spreading.  The standard data form for the site details a list of threats including recreational activities, hunting, agricultural activities, bait digging, grazing and invasive non-native species. All of these threats have been identified within and beyond the site boundary.  No other site-specific threats have been identified by the NPWS.
004023 <sup>7</sup>	Ballymacoda Bay SPA	11.04	Wigeon (Anas penelope) [A050] Teal (Anas crecca) [A052] Ringed Plover (Charadrius hiaticula) [A137] Golden Plover (Pluvialis apricaria) [A140] Grey Plover (Pluvialis squatarola) [A141] Lapwing (Vanellus vanellus) [A142] Sanderling (Calidris alba) [A144] Dunlin (Calidris alpina) [A149]	This coastal site stretches north-east from Ballymacoda to within several kilometres of Youghal, Co. Cork. It comprises the estuary of the Womagh River, a substantial river which drains a large agricultural catchment. Part of the tidal section of the river is included in the site and on the seaward side the boundary extends to, and includes, Bog Rock, Barrel Rocks and Black Rock. The inner part of the estuary is well sheltered by the Ring peninsula, a stabilised sand spit with sand dunes at its northern end and salt marshes on the landward side. Sediment types vary from muds to muddy sands in the inner part to fine rippled sands in the outer exposed part. The macroinvertebrate fauna of the intertidal flats is well-developed, with the following species occurring: Ragworm (Hediste diversicolor), the crustacean Corophium volutator, Lugworm (Arenicola marina),

<sup>4</sup> NPWS (2014) Conservation Objectives: Ballycotton Bay SPA 004022. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

<sup>5</sup> NPWS (2018) Conservation Objectives for Sovereign Islands SPA [004124]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

<sup>6</sup> NPWS (2015) Conservation Objectives: Ballymacoda (Clonpriest and Pillmore) SAC 000077. Version 2. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

<sup>7</sup> NPWS (2015) Conservation Objectives: Ballymacoda Bay SPA 004023. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

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Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Description (Site Vulnerability/Sensitivity)
			Black-tailed Godwit ( <i>Limosa limosa</i> ) [A156] Bar-tailed Godwit ( <i>Limosa lapponica</i> ) [A157] Curlew ( <i>Numenius arquata</i> ) [A160] Redshank ( <i>Tringa totanus</i> ) [A162] Turnstone ( <i>Arenaria interpres</i> ) [A169] Black-headed Gull ( <i>Chroicocephalus ridibundus</i> ) [A179] Common Gull ( <i>Larus canus</i> ) [A182] Lesser Black-backed Gull ( <i>Larus fuscus</i> ) [A183] Wetland and Waterbirds [A999]	Baltic Tellin ( <i>Macoma balthica</i> ), Peppery Furrowshell ( <i>Scrobicularia plana</i> ), Common Cockle ( <i>Cerastoderma edule</i> ) and the tubeworm <i>Lanice conchilega</i> . In the more sheltered areas the intertidal flats are colonised by mats of green algae (mostly <i>Ulva</i> spp.), with brown seaweeds occurring on the rocky shores of the shingle spits. Common Cord-grass ( <i>Spartina anglica</i> ) has spread within the estuary since the late 1970s. The main channel is flanked by salt marshes and wet fields, much of the latter being improved for agriculture.  The standard data form for the site details a list of threats including invasive non-native species, recreational activities and hunting. All of these threats have been identified within the site boundary. The NPWS have also identified threats beyond the boundary including grazing and fertilisation.  No other site-specific threats have been identified by the NPWS.
004094 <sup>8</sup>	Blackwater Callows SPA	14.32	Whooper Swan ( <i>Cygnus cygnus</i> ) [A038] Wigeon ( <i>Anas penelope</i> ) [A050] Teal ( <i>Anas crecca</i> ) [A052] Black-tailed Godwit ( <i>Limosa limosa</i> ) [A156] Wetland and Waterbirds [A999]	The Blackwater Callows SPA comprises the stretch of the River Blackwater that runs in a west to east direction between Fermoy and Lismore in Counties Cork and Waterford, a distance of almost 25 km. The site includes the river channel and strips of seasonally-flooded grassland within the flood plain. Sandstone ridges, which run parallel to the river, confine the area of flooding to a relatively narrow corridor.  The standard data form for the site details a list of threats including grazing, fertilisation and fishing. All of these threats have been identified within the site boundary. The NPWS have also identified pressures beyond the boundary including urbanisation and agricultural activities.  No other site-specific threats have been identified by the NPWS.
004028 <sup>9</sup>	Blackwater Estuary SPA	14.42	Wigeon ( <i>Anas penelope</i> ) [A050] Golden Plover ( <i>Pluvialis apricaria</i> ) [A140] Lapwing ( <i>Vanellus vanellus</i> ) [A142] Dunlin ( <i>Calidris alpina</i> ) [A149] Black-tailed Godwit ( <i>Limosa limosa</i> ) [A156] Bar-tailed Godwit ( <i>Limosa lapponica</i> ) [A157] Curlew ( <i>Numenius arquata</i> ) [A160] Redshank ( <i>Tringa totanus</i> ) [A162] Wetland and Waterbirds [A999]	The Blackwater Estuary SPA is a moderately-sized, sheltered south-facing estuary, which extends from Youghal New Bridge to the Ferry Point peninsula, close to where the river enters the sea. It comprises a section of the main channel of the River Blackwater to Ballynaclash Quay. At low tide, intertidal flats are exposed on both sides of the channel. On the eastern side the intertidal channel as far as Kinsalebeg and Moord Cross Roads is included, while on the west side the site includes part of the estuary of the Tourig River as far as Kilmagner.  The standard data form for the site details a list of threats including roads and motorways, hunting, agricultural activities, recreational activities and fishing. All of these threats have been identified within the boundary. The NPWS have also identified threats beyond the boundary including fertilisation and urbanisation.  No other site-specific threats have been identified by the NPWS.
001230 <sup>10</sup>	Courtmacsherry Estuary SAC	14.6	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Perennial vegetation of stony banks [1220] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritima</i> ) [1330] Mediterranean salt meadows ( <i>Juncetalia maritimi</i> ) [1410] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	This site is located in west Cork, some 12 km south of Bandon and immediately east of the village of Timoleague. The estuary consists of the drowned valley of the Argideen River, which is now filled with sediments, resulting in an extensive area of mudflats.  The spread of cord-grass on parts of the mudflats poses a threat to the quality of the area for feeding birds, and pollution is an ever-present threat in such a wetland.  The standard data form for the site details a list of threats including recreational activities, urbanization, bait digging/collection, fertilization and removal of beach materials. All of these threats have been identified within the site boundary.  No other site-specific threats have been identified by the NPWS.
000108 <sup>11</sup>	The Gearagh SAC	14.7	Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260] Rivers with muddy banks with <i>Chenopodium rubri</i> p.p. and <i>Bidention</i> p.p. vegetation [3270]	This site is located on the River Lee in Co. Cork, extending westwards and southwards from the Lee Bridge, which is about 1.5 km south of Macroom. It extends for about 7 km of river, to Dromcarra Bridge. The Gearagh occupies a wide, flat valley of the River Lee, on a bed of limestone overlain with sand and gravel. The adjacent valley walls are of Old Red Sandstone.

<sup>8</sup> NPWS (2018) Conservation Objectives for Blackwater Callows SPA [004094]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

<sup>9</sup> NPWS (2012) Conservation Objectives: Blackwater Estuary SPA 004028. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

<sup>10</sup> NPWS (2014) Conservation Objectives: Courtmacsherry Estuary SAC 001230. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

<sup>11</sup> NPWS (2016) Conservation Objectives: The Gearagh SAC 000108. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Description (Site Vulnerability/Sensitivity)
			Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0] Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae) [91E0] <i>Lutra lutra</i> (Otter) [1355]	The wooded part of the Gearagh is largely undisturbed due to the inaccessible nature of the terrain. Cattle graze in some areas, but the impacts of this are very localised. In the past, coppicing was practiced over most of the area. Little felling has occurred since the early 1950s and the installation of the hydro-electric scheme. The least disturbed part of woodland occurs in the upper reaches of the Gearagh. Tree regeneration is occurring around the reservoir, which may restore some of the lost portion of woodland.  The standard data form for the site details a list of threats including diffuse pollution to surface waters due to agricultural and forestry activities and natural systems modifications. All of these threats have been identified within the boundary.  No other site-specific threats have been identified by the NPWS.

**Table 2: Qualifying Interests and Summaries of Current Threats and Sensitivity to Impacts of the Great Island Channel SAC**

Qualifying Interests	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)	Inappropriate grazing levels; invasive species; and clearance for agriculture or felling for timber	Surface and groundwater dependent. Highly sensitive to hydrological changes. Changes in management.
Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritima</i> )	Overgrazing; erosion; invasive species, particularly common cordgrass ( <i>Spartina anglica</i> ); infilling and reclamation.	Marine and groundwater dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Overgrazing, erosion and accretion
Blanket bog (active only)	Land reclamation, peat extraction; afforestation; erosion and landslides triggered by human activity; drainage; burning and infrastructural development.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management
Calcareous rocky slopes with chasmophytic vegetation	Overgrazing; extractive industries; recreational activities and improved access	Erosion, overgrazing and recreation.
Embryonic shifting dunes	Natural erosion processes exacerbated by recreation and sand extraction. Coastal protection interfering with natural processes	Overgrazing, and erosion. Changes in management.
Estuary	Pollution, fisheries/aquaculture activities, habitat quality.	Sensitive to hydrodynamic interactions.
Fixed coastal dunes with herbaceous vegetation (grey dunes)	Recreation; overgrazing and undergrazing; non-native plant species, particularly sea buckthorn ( <i>Hippophae rhamnoides</i> ),	Overgrazing, and erosion. Changes in management.
Mediterranean salt meadows ( <i>Juncetalia maritima</i> )	Over-grazing by cattle or sheep; infilling and reclamation.	Marine and groundwater dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Coastal development and reclamation.
Mudflats and sandflats not covered by seawater at low tide	Aquaculture, fishing, bait digging, removal of fauna, reclamation of land, coastal protection works and invasive species, particularly cord-grass; hard coastal defence structures; sea-level rise.	Surface and marine water dependent. Moderately sensitive to hydrological change. Moderate sensitivity to pollution. Changes to salinity and tidal regime. Coastal development
Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in British Isles	The introduction of alien species; sub-optimal grazing patterns; general forestry management; increases in urbanisation and human habitation adjacent to oak woodlands; and the construction of communication networks through the woodland.	Changes in management. Changes in nutrient or base status. Introduction of alien species.
Perennial vegetation of stony banks	Disruption of the sediment supply, owing to the interruption of the coastal processes, caused by developments such as car parks and coastal defence structures including rock armour and sea walls. The removal of gravel.	Marine water dependent. Low sensitivity to hydrological changes. Coastal development, trampling from recreational activity and gravel removal.
Rivers with muddy banks with <i>Chenopodium rubri</i> p.p. and <i>Bidention</i> p.p. vegetation	Changes in flooding regimes; grazing, fertilisation, peat extraction, pollution, general forestry management and invasive species.	This habitat is dependent on surface-water flooding and high nutrient status. It is highly sensitive to hydrological change and changes in nutrient status.
<i>Salicornia</i> and other annuals colonizing mud and sand	Invasive Species; erosion and accretion	Marine water dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Infilling, reclamation, invasive species
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (White Dunes)	Recreation and coastal defence works.	This habitat is sensitive to trampling which causes the removal of marram grass, which subsequently leave the habitat open to erosion.
Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	Eutrophication; overgrazing, excessive fertilisation; afforestation; and the introduction of invasive alien species.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Highly sensitive to pollution.
<i>Alosa fallax fallax</i>	Habitat quality at spawning sites degrading and hybridization with <i>Alosa alosa</i> .	Changes in Sediment condition
Austroptamobius pallipes	Introduction of diseases transmitted by introduced American crayfish.	Surface water dependent Highly sensitive to hydrological change. Very highly sensitive to pollution
<i>Lampetra fluviatilis</i>	Channel maintenance, barriers, passage obstruction, gross pollution and specific pollutants.	Surface water dependent Highly sensitive to hydrological change
<i>Lampetra planeri</i>	Channel maintenance, barriers, passage obstruction, gross pollution and specific pollutants.	Surface water dependent Highly sensitive to hydrological change
<i>Lutra lutra</i>	Decrease in water quality: Use of pesticides; fertilization; vegetation removal; professional fishing (including lobster pots and fyke nets); hunting; poisoning; sand and gravel extraction; mechanical removal of peat; urbanised areas; human habitation; continuous urbanization; drainage; management of	Surface and marine water dependent. Moderately sensitive to hydrological change. Sensitivity to pollution

Qualifying Interests	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
	aquatic and bank vegetation for drainage purposes; and canalization or modifying structures of inland water course.	
Margaritifera margaritifera	Poor substrate quality due to increased growth of algal and macrophyte vegetation as a result of severe nutrient enrichment, as well as physical siltation.	Surface water dependent. Highly sensitive to hydrological change. Very highly sensitive to pollution
Petromyzon marinus	Obstructions to movement; pollution	Surface water dependent. Highly sensitive to hydrological change
Salmo salar	Numerous threats impact upon this species. Some of these include: cultivation, pesticides; fertilization; pollution; water pollution; biocenotic evolution; accumulation of organic material; eutrophication; over-fishing; forest related pressures; parasites.	Surface water dependent. Highly sensitive to hydrological change
Trichomanes speciosum (Killarney Fern)	Loss of habitat, encroachment, invasion, water pollution, alteration to hydrodynamics.	Woodland condition dependent.

**Table 3 Special Conservation Interests and Summaries of Current Threats and Sensitivity to Impacts for Cork Harbour SPA**

Special Conservation Interests	Vulnerabilities of Special Conservation Interests
Little Grebe ( <i>Tachybaptus ruficollis</i> ) [A004]	Bird species are particularly vulnerable to direct disturbance due to noise and/or vibration. These effects are localised and disturbance effects are foreseen to be low at distances beyond 2km ("A Review of Disturbance Distances in Selected Bird Species", Scottish Natural Heritage, 2007).
Great Crested Grebe ( <i>Podiceps cristatus</i> ) [A005]	
Cormorant ( <i>Phalacrocorax carbo</i> ) [A017]	Direct habitat loss is a serious concern for bird species, as well as the reduction in habitat quality. Habitat degradation could occur through effects such as local enrichment due to agricultural practices or damage to habitat through activities such as trampling.
Grey Heron ( <i>Ardea cinerea</i> ) [A028]	
Shelduck ( <i>Tadorna tadorna</i> ) [A048]	
Wigeon ( <i>Anas penelope</i> ) [A050]	Prey species diversity and availability is a key element of species conservation. Community dynamics and ecosystem functionality are complex concepts and require site specific information. The site synopsis and conservation objectives for the SPA's identified within the ZOI were used to identify any specific prey sensitivities.
Teal ( <i>Anas crecca</i> ) [A052]	
Pintail ( <i>Anas acuta</i> ) [A054]	Availability of nesting/roosting habitat.
Shoveler ( <i>Anas clypeata</i> ) [A056]	
Red-breasted Merganser ( <i>Mergus serrator</i> ) [A069]	Vegetation composition, structure and functionality.
Oystercatcher ( <i>Haematopus ostralegus</i> ) [A130]	
Golden Plover ( <i>Pluvialis apricaria</i> ) [A140]	
Grey Plover ( <i>Pluvialis squatarola</i> ) [A141]	
Lapwing ( <i>Vanellus vanellus</i> ) [A142]	
Dunlin ( <i>Calidris alpina</i> ) [A149]	
Black-tailed Godwit ( <i>Limosa limosa</i> ) [A156]	
Bar-tailed Godwit ( <i>Limosa lapponica</i> ) [A157]	
Curlew ( <i>Numenius arquata</i> ) [A160]	
Redshank ( <i>Tringa totanus</i> ) [A162]	
Black-headed Gull ( <i>Chroicocephalus ridibundus</i> ) [A179]	
Common Gull ( <i>Larus canus</i> ) [A182]	
Lesser Black-backed Gull ( <i>Larus fuscus</i> ) [A183]	
Common Tern ( <i>Sterna hirundo</i> ) [A193]	
Ringed Plover ( <i>Charadrius hiaticula</i> ) [A137]	
Turnstone ( <i>Arenaria interpres</i> ) [A169]	
Sanderling ( <i>Calidris alba</i> ) [A144]	
Whooper Swan ( <i>Cygnus cygnus</i> ) [A038]	
Wetland and Waterbirds [A999]	Sensitivity and threats vary on a site to site basis. Direct land take is a common vulnerability to all sites; as well as significant water quality effects. The conservation objective of all SPA's designated for Wetland and Waterbirds [A999] is to maintain the favourable conservation condition of the wetland habitat as a resource for the regularly-occurring migratory waterbirds that utilise it.