

NATURA IMPACT REPORT: APPENDIX I

BACKGROUND INFORMATION ON EUROPEAN SITES CONSIDERED IN THE NATURA IMPACT REPORT

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Appendix I

Background information on European Sites considered in the Natura Impact Report

This appendix presents background information relating to all European sites that are considered in the Natura Impact Report.

The data is presented in a series of tables below as follows:

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Table 1 List of European Sites within the Core Zone Of Influence of the Draft Integrated Implementation Plan 2019-2024; including the Qualifying features (Qualifying Interests or Special Conservation Interests) and Site Vulnerability/Sensitivity

Site Code	Site Name	Distance	Qualifying Features/Special Conservation Interest	Threats
Special Areas of Conservation				
000006	Killyconny Bog (Cloghbally) SAC	0	Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120]	The uncut high bog area is surrounded by extensive cutover surfaces and a portion of this cutover has been planted with conifers.
000199	Baldoyle Bay SAC	0	Mudflats and sandflats not covered by seawater at low tide [1140] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritim</i>) [1410]	The area surrounding Baldoyle Bay is densely populated and so the main threats to the site include visitor pressure, disturbance to wildfowl and dumping. In particular, the dumping of spoil onto the foreshore presents a threat to the value of the site.
000202	Howth Head SAC	0	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] European dry heaths [4030]	The SAC occurs approximately 7.76km from the plan area. The main land use within the area is recreation, mostly walking and horse-riding, and this has led to some erosion within the site. Fires also pose a danger to the site. There may also be a threat in some areas from further housing development.
000204	Lambay Island SAC	0	Reefs [1170] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Halichoerus grypus (Grey Seal) [1364] Phoca vitulina (Harbour Seal) [1365]	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.
000205	Malahide Estuary SAC	0	Mudflats and sandflats not covered by seawater at low tide [1140] Salicornia and other annuals colonising mud and sand [1310] Spartina swards (<i>Spartinion maritima</i>) [1320] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritim</i>) [1410] Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	The SAC occurs 11.67km from the plan area. Much of the outer part of the estuary is well-sheltered from the sea by a large sand spit, known as "The Island". This spit is now mostly converted to golf-course. Threat's to the area, mainly the inner part of the estuary stem from the heavy use for water sports. A section of the outer estuary has recently been infilled for a marina and housing development.
000206	North Dublin Bay SAC	0	Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritim</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] Humid dune slacks [2190] <i>Petalophyllum ralfsii</i> (Petalwort) [1395]	The SAC occurs approximately 2.69km from the plan area. The site is mainly used as an area for amenity activities and nature conservation. The North Bull Island is the main recreational beach in Co. Dublin and is used throughout the year. The majority of the land surface of the island has been taken up by two golf courses. Threats to the site include bait digging which involved the physical destruction of EU Annex 1 Habitats and the Removal of invertebrates from the nature reserve.
000208	Rogerstown Estuary SAC	0	Fixed dunes (grey dunes)*; Atlantic salt meadows; Estuaries; Mediterranean salt meadows; Tidal mudflats; Salicornia mud; Marram dunes (white dunes)	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 <i>Sterna albifrons</i> .
000210	South Dublin Bay SAC	0	Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Salicornia and other annuals colonising mud and sand [1310] Embryonic shifting dunes [2110]	The SAC occurs approximately 0km from the plan area. Current land uses on the site include watersports, mainly at high tide. The main threats to this site include the possibility of reclamation of land or estuaries for industrial or infrastructure purposes, as a result of the sites location, discharges from Dublin Port would pose a threat to the site. Commercial bait digging may also pose a threat as it causes a disturbance to wintering birds.
000391	Ballynafagh Bog SAC	0	Raised bog (active)* [7110] Degraded raised bogs; [7120] Rhynchosporion depressions [7150]	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.
000396	Pollardstown Fen SAC	0	Calcareous fens with <i>Cladium mariscus</i> and species of the Caricion davallianae [7210] Petrifying springs with tufa formation (Cratoneurion) [7220]	Largely protected as a nature reserve, the site is nonetheless vulnerable to interference with the Curragh aquifer.

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Site Code	Site Name	Distance	Qualifying Features/Special Conservation Interest	Threats
			Alkaline fens [7230] Vertigo geyeri (Geyer's Whorl Snail) [1013] Vertigo angustior (Narrow-mouthed Whorl Snail) [1014] Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016]	
000397	Red Bog, Kildare SAC	0	Transition mires and quaking bogs [7140]	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.
000713	Ballyman Glen SAC	0	Petrifying springs with tufa formation (Cratoneurion) [7220] Alkaline fens [7230]	The SAC occurs approximately 14.41km from the plan area. This site current land uses include clay pigeon shooting, this results in shattered clay pigeons scattered around the area. There is an area of land that has sloped towards the Fen, this section of land has become an area that is now used as a landfill for domestic waste.
000714	Bray Head SAC	0	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] European dry heaths [4030]	The heath and grassland habitats at this site are threatened by reclamation for agriculture and also by frequent burning. The site is a popular recreational area and is especially used by walkers.
000716	Carriggower Bog SAC	0	Transition mires [7140]	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.
000717	Deputy's Pass Nature Reserve SAC	0	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	No site-specific threats were identified.
000719	Glen Of The Downs SAC	0	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	Further road widening is planned which will reduce and modify the habitats on the valley floor.
000725	Knocksink Wood SAC	0	Petrifying springs with tufa formation (Cratoneurion) [7220] 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 SAC occurs approximately 13.78km from the plan area. Much of this site has been designated a Statutory Nature Reserve as a result of the presence of rare or vulnerable plants and invertebrates. Threats to the area include; the artificial planting of non-native trees on open ground, overgrazing and removal of forest undergrowth resulting in the restructuring of agricultural land.
000729	Buckronev-Brittis Dunes And Fen SAC	0	Annual vegetation of drift lines [1210] Perennial vegetation of stony banks [1220] 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] Atlantic decalcified fixed dunes (<i>Calluno-Ulicetea</i>) [2150] Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>) [2170] Humid dune slacks [2190] Alkaline fens [7230]	The dune systems and beaches are subject to high amenity usage from day-trippers and several areas around the site have been developed as caravan parks, car parks and golf courses. The marginal areas of the fen have been reclaimed, especially at the south end, though these areas still flood in winter and attract waterfowl.
000733	Vale Of Clara (Rathdrum Wood) SAC	0	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	No site-specific threats were identified.
000781	Slaney River Valley SAC	0	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260] Old sessile oak woods with Ilex and Blechnum 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] <i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029] <i>Petromyzon marinus</i> (Sea Lamprey) [1095] <i>Lampetra planeri</i> (Brook Lamprey) [1096] <i>Lampetra fluviatilis</i> (River Lamprey) [1099] <i>Alosa fallax fallax</i> (Twaiite Shad) [1103] <i>Salmo salar</i> (Salmon) [1106] <i>Lutra lutra</i> (Otter) [1355] <i>Phoca vitulina</i> (Harbour Seal) [1365]	Waste water outflows, runoff from intensive agricultural enterprises, a meat factory at Clohamon, a landfill site adjacent to the river, and further industrial development upstream in Enniscorthy and in other towns could all have potential adverse impacts on the water quality unless they are carefully managed. The spread of exotic species is reducing the quality of the woodlands.

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Site Code	Site Name	Distance	Qualifying Features/Special Conservation Interest	Threats
001209	Glenasmole Valley SAC	0	Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [6210] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinia caeruleae</i>) [6410] Petrifying springs with tufa formation (Cratoneurion) [7220]	The SAC occurs approximately 13.46km from the plan area. Activities, such as tourism, development to the Implementation Plan in proximity to the Wicklow Mountains may lead to adverse impacts on the Glenasmole Valley SAC. Much of the grassland has been improved to some extent in recent years with the aid of fertilization and reseeded, it remains vulnerable to further improvement in the way of agriculture.
001387	Ballynafagh Lake SAC	0	Alkaline fens [7230] Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016] Euphydryas aurinia (Marsh Fritillary) [1065]	The main land use at the site is fishing in the lake. There is a 'No Shooting Area' Order on the site.
001398	Rye Water Valley/Carton SAC	0	Petrifying springs with tufa formation (Cratoneurion) [7220] Vertigo angustior (Narrow-mouthed Whorl Snail) [1014] Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016]	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.
001742	Kilpatrick Sandhills SAC	0	Annual vegetation of drift lines [1210] 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] Atlantic decalcified fixed dunes (Calluno-Ulicetea) [2150]	At the southern end of the site, the sand dunes and beach are used by visitors for amenity purposes. Parts of the site are also used for grazing cattle. Grazing is a critical factor in coastal systems: the correct grazing pressure maintains species-rich open swards and curtails scrub encroachment. Over-exposure to grazing and amenity usage can cause damage to dune vegetation and exacerbate dune erosion.
001757	Holdenstown Bog SAC	0	Transition mires and quaking bogs [7140]	No site-specific threats identified.
001766	Magherabeg Dunes SAC	0	Annual vegetation of drift lines [1210] 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] Atlantic decalcified fixed dunes (Calluno-Ulicetea) [2150] Petrifying springs with tufa formation (Cratoneurion) [7220]	No site-specific threats identified.
001810	White Lough, Ben Loughs And Lough Doo SAC	0	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140] <i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092]	The presence of stoneworts in such abundance is significant as many of these species are threatened by loss of habitat or by pollution.
001957	Boyne Coast And Estuary SAC	0	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] 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 has been somewhat modified by human activities. The river is regularly dredged to accommodate cargo ships, which causes disturbance to the bird, fish and invertebrate communities in the estuary. Several factories operate upstream from the estuary and pollution and disturbance associated with them has had an impact on the ecology of the area. There is a proposal to create a deep-water facility at the north end of Mornington Dunes on the mouth of the Boyne estuary.
002120	Lough Bane And Lough Glass SAC	0	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140] <i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092]	As it is a small water body and situated in a valley, it is vulnerable to water pollution. A further threat comes from afforestation within the catchment - should there be an increase in the areas under commercial forestry, the quality of the water could be affected.
002122	Wicklow Mountains SAC	0	Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) [3110] Natural dystrophic lakes and ponds [3160] Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010] European dry heaths [4030] Alpine and Boreal heaths [4060] Calaminarian grasslands of the <i>Violetalia calaminariae</i> [6130] Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230] Blanket bogs (* if active bog) [7130] Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladanii</i>) [8110] Calcareous rocky slopes with chasmophytic vegetation [8210] Siliceous rocky slopes with chasmophytic vegetation [8220] Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0] <i>Lutra lutra</i> (Otter) [1355]	The SAC occurs approximately 11.9km from the plan area. Large areas of the site are owned by the National Parks and Wildlife Service (NPWS) and are managed for nature conservation based on traditional land uses of upland areas. The most common land use is traditional sheep grazing, but others include turf cutting, mostly hand-cutting but some machine-cutting also occurs. These activities are largely confined to the Military Road, where there is easy access. Large areas which had been previously hand-cut and are now abandoned are regenerating. In the last 40 years, forestry has become an important land use in the uplands and has affected both the wildlife and the hydrology of the area. Amenity use is very high, with Dublin city close to the site. Peat erosion is frequent on the peaks. This may be a natural process but is likely to be accelerated by activities such as grazing.

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002162	River Barrow And River Nore SAC	0	<p>Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Reefs [1170] 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] Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260] European dry heaths [4030] Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] Petrifying springs with tufa formation (<i>Cratoneurion</i>) [7220] 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] <i>Vertigo moulinsiana</i> (<i>Desmoulin's Whorl Snail</i>) [1016] <i>Margaritifera margaritifera</i> (<i>Freshwater Pearl Mussel</i>) [1029] <i>Austropotamobius pallipes</i> (<i>White-clawed Crayfish</i>) [1092] <i>Petromyzon marinus</i> (<i>Sea Lamprey</i>) [1095] <i>Lampetra planeri</i> (<i>Brook Lamprey</i>) [1096] <i>Lampetra fluviatilis</i> (<i>River Lamprey</i>) [1099] <i>Alosa fallax fallax</i> (<i>Twaite Shad</i>) [1103] <i>Salmo salar</i> (<i>Salmon</i>) [1106] <i>Lutra lutra</i> (<i>Otter</i>) [1355] <i>Trichomanes speciosum</i> (<i>Killarney Fern</i>) [1421] <i>Margaritifera durrovensis</i> (<i>Nore Pearl Mussel</i>) [1990]</p>	<p>30% of the site consists of water: 10% freshwater and 20% of estuarine and tidal stretches. Annex II species 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 salt meadow habitat with two legally protected species and a rare sedge, as a result of infilling and agricultural intensification. <i>Alosa fallax</i> 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.</p>
002193	Ireland's Eye SAC	0	<p>Perennial vegetation of stony banks [1220] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</p>	<p>The SAC occurs approximately 11.48km from the plan area. As a result of its close proximity and easy access to the city it is utilized for educational purposes and has great amenity value.</p>
002249	The Murrrough Wetlands SAC	0	<p>Annual vegetation of drift lines [1210] Perennial vegetation of stony banks [1220] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> [7210] Alkaline fens [7230]</p>	<p>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.</p>
002299	River Boyne And River Blackwater SAC	0	<p>Alkaline fens [7230] 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] <i>Lampetra fluviatilis</i> (<i>River Lamprey</i>) [1099] <i>Salmo salar</i> (<i>Salmon</i>) [1106] <i>Lutra lutra</i> (<i>Otter</i>) [1355]</p>	<p>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.</p>
002331	Mouds Bog SAC	0	<p>Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120]</p>	<p>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 <i>Sphagnum</i> cover. Further burning would be damaging.</p>
002340	Moneybeg And Clareisland Bogs SAC	0	<p>Raised Bogs [7110] Degraded Raised Bogs [7110] <i>Rhynchosporion</i> Vegetation [7150]</p>	<p>The main land use on this site is peat cutting to the west and north west of the bog, and forestry to the south. Threats to the site include drainage and burning. These activities can lead to a loss of habitats and cause damage to the hydrological status of the site. They can also pose a threat to the viability of the high bogs.</p>
002342	Mount Hevey Bog SAC	0	<p>Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the <i>Rhynchosporion</i> [7150]</p>	<p>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</p>

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				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.
003000	Rockabill to Dalkey Island SAC	0	Reefs [1170] <i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	This SAC occurs approximately 7.37km from the plan area. Threats to this site include indirect noise impacts as which may affect the harbour porpoise. Siltation changed may occur during pilling operations, along with the dumping and removal of mud. Discharges from the plan area also have the potential to be of threat to the site.
002274	Wicklow Reef SAC	0.47	Reefs [1170]	No site-specific threats identified
000925	The Long Derries, Edenderry SAC	0.57	Orchid-rich Calcareous Grassland*[6210]	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.
002256	Ballyprior Grassland SAC	2.79	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]	Ballyprior Grassland was traditionally managed as a commonage for grazing of cattle and horses. But the recent division of the lands into private holdings has led to a drive to improve the agricultural quality and output of these lands. Much of the farmland in surrounding areas is improved. Recent damage has occurred to parts of the site and some damaged habitat has been excluded. Semi-improved grassland has developed from enrichment and fertilising in the west of the site, with persistent Common Sorrel (<i>Rumex acetosa</i>) in places. South of the site, recent afforestation has resulted in loss of contiguous grassland habitat.
002121	Lough Lene SAC	2.91	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140] <i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092]	Much of the lakeshore is accessible to grazing cattle and the surrounding fields have been heavily improved. The stoneworts may become gradually displaced as the principal primary producers by phytoplankton or vascular plants if the lake becomes artificially enriched with nutrients.
001459	Clogher Head SAC	6.61	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] European dry heaths [4030]	The main land use at Clogher Head is sheep grazing. The site is very susceptible to damage from a variety of sources including fire, over-grazing and amenity pressures such as littering and building.
002141	Mountmellick SAC	8.77	Desmoulin's whorl snail	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.
000770	Blackstairs Mountains SAC	10.73	Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010] European dry heaths [4030]	Land use within the site is centred on grazing. Overall, sheep numbers are low, though there are some pockets where high numbers are found. In these areas there are patches of bare ground, an abundance of Mat-grass and in some places upland grassland replaces the heath. Burning of the Heather is carried out on what appears to be a rotational basis. Heather is regenerating in the burnt areas. From a distance the age structure is evident in the different hues of brown to be seen. Cattle are overwintered on the slopes just inside the boundary of the commonage. Severe poaching Version date: 23.09.2013 3 of 3 000770_Rev13.Doc is associated with this, especially where supplementary feeding is carried out. Coniferous forestry is present over much of the slopes of the mountain (outside of the site), extending to a height of 640 m north of Mount Leinster.
000685	Lough Ennell SAC	12.06	Alkaline fens [7230]	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.
000679	Garriskil Bog SAC	12.10	Active raised bogs [7110] Degraded raised [7120] Rhynchosporion Vegetation [7150]	This site is sensitive to drainage and the alteration of the water table, Activities such as continued turf cutting is an issue for this site.
000582	Raheenmore Bog SAC	12.74	Raised Bog (Active)* [7110] Degraded Raised Bog [7120] Rhynchosporion Vegetation [7150]	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.
002341	Ardagullion Bog SAC	13.54	Raised Bogs [7110] Degraded Raised Bogs [7110] Rhynchosporion Vegetation [7150]	Threats to the site include drainage throughout and burning of the high bog. These activities result in loss of habitat and damage to the hydrological status of the site.
000455	Dundalk Bay SAC	14.64	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140]	The saltmarshes at Lurgangreen and Marsh South are partially fenced and grazed by sheep. No other site-specific threats were identified.

Site Code	Site Name	Distance	Qualifying Features/Special Conservation Interest	Threats
			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]	
Special Protected Areas				
004006	North Bull Island SPA	0	Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Teal (<i>Anas crecca</i>) [A052] Pintail (<i>Anas acuta</i>) [A054] Shoveler (<i>Anas clypeata</i>) [A056] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Knot (<i>Calidris canutus</i>) [A143] Sanderling (<i>Calidris alba</i>) [A144] 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] Turnstone (<i>Arenaria interpres</i>) [A169] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Wetland and Waterbirds [A999]	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 <i>Sterna albifrons</i> .
004015	Rogerstown Estuary SPA	0	Greylag Goose (<i>Anser anser</i>) [A043] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Shoveler (<i>Anas clypeata</i>) [A056] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Knot (<i>Calidris canutus</i>) [A143] Dunlin (<i>Calidris alpina</i>) [A149] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Redshank (<i>Tringa totanus</i>) [A162] Wetland and Waterbirds [A999]	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 <i>Sterna albifrons</i> . Illegal shooting causes disturbance to wintering waterfowl.
004016	Baldoye Bay SPA	0	Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Wetland and Waterbirds [A999]	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. <i>Spartina</i> is well established in the inner estuary and may be causing unfavourable interactions with the intertidal and salt marsh habitats. <i>Sterna albifrons</i> formerly nested but regular disturbance from walkers and dogs is a problem.
004024	South Dublin Bay and River Tolka Estuary SPA	0	Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Knot (<i>Calidris canutus</i>) [A143] Sanderling (<i>Calidris alba</i>) [A144] Dunlin (<i>Calidris alpina</i>) [A149] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Redshank (<i>Tringa totanus</i>) [A162] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194] Wetland and Waterbirds [A999]	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.

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Site Code	Site Name	Distance	Qualifying Features/Special Conservation Interest	Threats
004025	Broadmeadow/Swords Estuary SPA	0	Great Crested Grebe (<i>Podiceps cristatus</i>) [A005] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Pintail (<i>Anas acuta</i>) [A054] Goldeneye (<i>Bucephala clangula</i>) [A067] 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] Knot (<i>Calidris canutus</i>) [A143] Dunlin (<i>Calidris alpina</i>) [A149] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Redshank (<i>Tringa totanus</i>) [A162] Wetland and Waterbirds [A999]	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.
004040	Wicklow Mountains SPA	0	Gadwall (<i>Anas strepera</i>) [A051] Shoveler (<i>Anas clypeata</i>) [A056] Pochard (<i>Aythya ferina</i>) [A059] Tufted Duck (<i>Aythya fuligula</i>) [A061] Common Scoter (<i>Melanitta nigra</i>) [A065] Hen Harrier (<i>Circus cyaneus</i>) [A082] Coot (<i>Fulica atra</i>) [A125] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Common Gull (<i>Larus canus</i>) [A182] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194] Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395] Wetland and Waterbirds [A999]	Any deterioration in water quality of the lake would be of concern for the wintering birds and perhaps the breeding <i>Melanitta nigra</i> , though the condition of the lake has been satisfactory in recent years.
004063	Poulaphouca Reservoir SPA	0	Greylag Goose (<i>Anser anser</i>) [A043] Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183]	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.
004065	Lough Sheelin SPA	0	Great Crested Grebe (<i>Podiceps cristatus</i>) [A005] Pochard (<i>Aythya ferina</i>) [A059] Tufted Duck (<i>Aythya fuligula</i>) [A061] Goldeneye (<i>Bucephala clangula</i>) [A067] Wetland and Waterbirds [A999]	The site has a large recreational fishing community which places pressures on the bird communities present through disturbance. Similarly, recreational walkers cause disturbance to the bird populations.
004069	Lambay Island SPA	0	Fulmar (<i>Fulmarus glacialis</i>) [A009] Cormorant (<i>Phalacrocorax carbo</i>) [A017] Shag (<i>Phalacrocorax aristotelis</i>) [A018] Greylag Goose (<i>Anser anser</i>) [A043] Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] Herring Gull (<i>Larus argentatus</i>) [A184] Kittiwake (<i>Rissa tridactyla</i>) [A188] Guillemot (<i>Uria aalge</i>) [A199] Razorbill (<i>Alca torda</i>) [A200] Puffin (<i>Fratercula arctica</i>) [A204]	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 <i>Rattus norvegicus</i> and <i>R. rattus</i>) 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.
004080	Boyne Estuary SPA	0	Shelduck (<i>Tadorna tadorna</i>) [A048] 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] Knot (<i>Calidris canutus</i>) [A143] Sanderling (<i>Calidris alba</i>) [A144] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Redshank (<i>Tringa totanus</i>) [A162] Turnstone (<i>Arenaria interpres</i>) [A169]	The main threats to the Boyne Estuary SPA are from recreational uses, such as walking, horse-riding or non-motorised vehicles.

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Site Code	Site Name	Distance	Qualifying Features/Special Conservation Interest	Threats
			Little Tern (<i>Sterna albifrons</i>) [A195] Wetland and Waterbirds [A999]	
004113	Howth Head Coast SPA	0	Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395]	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 <i>Anser albifrons flavirostris</i> reflects a general move away from raised bogs and is not considered to be due to conditions at the site
004117	Ireland's Eye SPA	0	Cormorant (<i>Phalacrocorax carbo</i>) [A017] Herring Gull (<i>Larus argentatus</i>) [A184] Kittiwake (<i>Rissa tridactyla</i>) [A188] Guillemot (<i>Uria aalge</i>) [A199] Razorbill (<i>Alca torda</i>) [A200]	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 <i>Fratercula arctica</i> colony. Nesting <i>Falco peregrinus</i> are disturbed in some years.
004127	Wicklow Head SPA	0	Kittiwake (<i>Rissa tridactyla</i>) [A188]	No site-specific threats identified
004158	River Nanny Estuary and Shore SPA	0	Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Knot (<i>Calidris canutus</i>) [A143] Sanderling (<i>Calidris alba</i>) [A144] Herring Gull (<i>Larus argentatus</i>) [A184] Wetland and Waterbirds [A999]	No site-specific threats identified
004172	Dalkey Islands SPA	0	Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194]	Traditionally, the nesting terns are vulnerable to severe 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 likely to have been responsible for attracting <i>Sterna dougallii</i> to breed.
004186	The Murrough SPA	0	Red-throated Diver (<i>Gavia stellata</i>) [A001] Greylag Goose (<i>Anser anser</i>) [A043] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Wigeon (<i>Anas penelope</i>) [A050] Teal (<i>Anas crecca</i>) [A052] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Herring Gull (<i>Larus argentatus</i>) [A184] Little Tern (<i>Sterna albifrons</i>) [A195] Wetland and Waterbirds [A999]	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.
004232	River Boyne and River Blackwater SPA	0	Kingfisher (<i>Alcedo atthis</i>) [A229]	There are no recorded site-specific threats.
004122	Skerries Islands SPA	0.32	Cormorant (<i>Phalacrocorax carbo</i>) [A017] Shag (<i>Phalacrocorax aristotelis</i>) [A018] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Purple Sandpiper (<i>Calidris maritima</i>) [A148] Turnstone (<i>Arenaria interpres</i>) [A169] Herring Gull (<i>Larus argentatus</i>) [A184]	The main threats to the Skerries Islands SPA are from recreational uses, such as walking, horse-riding or non-motorised vehicles.
004014	Rockabill SPA	1.69	Purple Sandpiper (<i>Calidris maritima</i>) [A148] Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194]	No site-specific threats were identified.
004061	Lough Kinale and Derragh Lough SPA	3.95	Pochard (<i>Aythya ferina</i>) [A059] Tufted Duck (<i>Aythya fuligula</i>) [A061] Wetland and Waterbirds [A999]	The variable water quality over the years, with periods of highly eutrophic conditions, undoubtedly has had 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 that 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.
004091	Stabannan-Braganstown SPA	8.71	Greylag Goose (<i>Anser anser</i>) [A043]	No site-specific threats were identified.

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Site Code	Site Name	Distance	Qualifying Features/Special Conservation Interest	Threats
004043	Lough Derravaragh SPA	9.36	Whooper Swan (<i>Cygnus cygnus</i>) [A038] Pochard (<i>Aythya ferina</i>) [A059] Tufted Duck (<i>Aythya fuligula</i>) [A061] Coot (<i>Fulica atra</i>) [A125] Wetland and Waterbirds [A999]	No site-specific threats were identified.
004044	Lough Ennell SPA	12.45	Pochard (<i>Aythya ferina</i>) [A059] Tufted Duck (<i>Aythya fuligula</i>) [A061] Coot (<i>Fulica atra</i>) [A125] Wetland and Waterbirds [A999]	No site-specific threats were identified.
004026	Dundalk Bay SPA	14.38	Great Crested Grebe (<i>Podiceps cristatus</i>) [A005] Greylag Goose (<i>Anser anser</i>) [A043] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Teal (<i>Anas crecca</i>) [A052] Mallard (<i>Anas platyrhynchos</i>) [A053] Pintail (<i>Anas acuta</i>) [A054] Common Scoter (<i>Melanitta nigra</i>) [A065] Red-breasted Merganser (<i>Mergus serrator</i>) [A069] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Lapwing (<i>Vanellus vanellus</i>) [A142] Knot (<i>Calidris canutus</i>) [A143] 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] Herring Gull (<i>Larus argentatus</i>) [A184] Wetland and Waterbirds [A999]	No site-specific threats were identified.
004102	Garriskil Bog SPA	14.74	Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395]	No site-specific threats were identified.

Table 2: List of all Qualifying Interests of SACs that have undergone Assessment including Summaries of Current Threats and Sensitivity to Effects

Qualifying Interests	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
Active raised bogs [7110]	Deterioration of the hydrological conditions caused by peat cutting, drainage, forestry and burning. Arterial drainage, water abstraction, Inappropriate management e.g. overgrazing, forestry Peat extraction Agricultural reclamation	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management
Alkaline fens [7230]	Peat mining activities, land drainage; infilling; fertiliser pollution and eutrophication	Groundwater dependant. Highly sensitive to hydrological changes. Changes in nutrient or base status
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]	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.
Alosa fallax fallax (Twaité Shad) [1103]	Habitat quality, particularly at spawning sites is the most notable threat to this species.	Changes in management. Changes in nutrient or base status. Moderately sensitive to hydrological change
Alpine and Boreal heaths [4060]	Abandonment; overgrazing; burning; outdoor recreation; quarries; communication networks; and wind farm developments.	Changes in management. Changes in nutrient or base status. Moderately sensitive to hydrological change
Annual vegetation of drift lines [1210]	Grazing; sand and gravel extraction; recreational activities; coastal protection works	Overgrazing and erosion. Changes in management.
Atlantic decalcified fixed dunes (Calluno-Ulicetea) [2150]	Recreation; overgrazing and inappropriate grazing: non-native plant species, particularly sea buckthorn (<i>Hippophae rhamnoides</i>),	Overgrazing, and erosion. Changes in management.
Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330]	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
Austropotamobius pallipes (White-clawed Crayfish) [1092]	The threat of disease introduction is the most notable impact on this species.	Changes in management. Changes in nutrient or base status. Moderately sensitive to hydrological change
Blanket bogs (* if active bog) [7130]	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
Calaminarian grasslands of the <i>Violetalia calaminariae</i> [6130]	Land reclamation, afforestation; drainage; and infrastructural development.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management
Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> [7210]	Peat or turf cutting, arterial drainage, local drainage and agricultural reclamation, infilling of sites with building waste, dumping of household refuse, afforestation, water pollution and urban expansion.	Groundwater dependent. Highly sensitive to hydrological changes. Changes in nutrient or base status.
Calcareous rocky slopes with chasmophytic vegetation [8210]	Overgrazing; extractive industries; recreational activities and improved access	Erosion, overgrazing and recreation.
Degraded raised bogs; [7120]	Changes in agricultural practices; afforestation and general forest management; burning; peat extraction; drainage; and the introduction of invasive species.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management
Depressions on peat substrates of the <i>Rhynchosporion</i> [7150]	Drainage; burning; peat extraction; overgrazing; afforestation; erosion; and climate change.	Surface and groundwater dependent. Low sensitivity to hydrological changes. Erosion, land-use changes
Desmoulin's whorl snail	The drying out of wetlands is an ongoing threat to this species.	Highly sensitive to hydrological change. Changes in management.
Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>) [2170]	Agricultural improvement; overgrazing and inappropriate grazing; forestry; recreational activity	Overgrazing, and erosion. Changes in management.
Embryonic shifting dunes [2110]	Natural erosion processes exacerbated by recreation and sand extraction. Coastal protection interfering with natural processes	Overgrazing, and erosion. Changes in management.
Estuaries [1130]	Pollution, fishing /aquaculture and habitat quality.	Inappropriate development, changes in turbidity and
<i>Euphydryas aurinia</i> (Marsh Fritillary) [1065]	Declines in habitat quality lead to species decline.	Habitat management; land use change and drainage.
European dry heaths [4030]	Afforestation, overburning, over-grazing, under-grazing and bracken invasion.	Moderately sensitive to hydrological change. Changes in management. Changes in nutrient status
Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	Recreation; overgrazing and inappropriate grazing: non-native plant species, particularly sea buckthorn (<i>Hippophae rhamnoides</i>),	Overgrazing, and erosion. Changes in management.
Fixed dunes (grey dunes)*; Atlantic salt meadows; Estuaries; Mediterranean salt meadows; Tidal mudflats; <i>Salicornia</i> mud; Marram dunes (white dunes)	Recreation; overgrazing and inappropriate grazing: non-native plant species, particularly sea buckthorn (<i>Hippophae rhamnoides</i>),	Overgrazing, and erosion. Changes in management.
<i>Halichoerus grypus</i> (Grey Seal) [1364]	Distance to human activities, accidental entanglement in fishing gear competition for prey resources, illegal killing, pollution and habitat degradation.	Prey availability, reduction in available habitat and water quality.
Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. [3140]	Nutrient enrichment arising from intensification of agriculture and urban developments.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Highly sensitive to pollution

Qualifying Interests	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
Humid dune slacks [2190]	Agricultural improvement; overgrazing and inappropriate grazing; forestry; recreational activity	Overgrazing, and erosion. Changes in management. Sensitive to hydrological change.
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]	Grazing (sheep and cattle), the spread of invasive species, intensified agriculture and land reclamation are the most notable threats to this habitat type.	Overgrazing, and erosion. Changes in management. Sensitive to hydrological change.
Lampetra fluviatilis (River Lamprey) [1099]	Channel maintenance, barriers, passage obstruction, gross pollution and specific pollutants.	Surface water dependent Highly sensitive to hydrological change
Lampetra planeri (Brook Lamprey) [1096]	Channel maintenance, barriers, passage obstruction, gross pollution and specific pollutants.	Surface water dependent Highly sensitive to hydrological change
Lutra lutra (Otter) [1355]	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 aquatic and bank vegetation for drainage purposes; and canalization or modifying structures of inland water course.	Surface and marine water dependent. Moderately sensitive to hydrological change. Sensitivity to pollution
Margaritifera durrovensis (Nore Pearl Mussel) [1990]	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
Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]	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
Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]	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.
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinia caeruleae</i>) [6410]	Agricultural intensification; drainage; abandonment of pastoral systems	Surface and groundwater dependent. Moderately sensitive to hydrological change. Changes in management. Changes in nutrient status
Mudflats and sandflats not covered by seawater at low tide [1140]	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
Natural dystrophic lakes and ponds [3160]	Peat cutting, overgrazing and afforestation of peatland habitats.	Surface and groundwater dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution
Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010]	Reclamation, afforestation and burning; overstocking; invasion by non-heath species; exposure of peat to severe erosion.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management
Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]	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.
Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) [3110]	Nutrient enrichment; afforestation; waste water; invasive alien species; sport and leisure activities.	Surface and groundwater dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution
Orchid-rich Calcareous Grassland*[6210]	Agricultural intensification and abandonment leading to scrub encroachment have led to habitat loss and fragmentation.	Overgrazing and over-enrichment.
Perennial vegetation of stony banks [1220]	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.
<i>Petalophyllum ralfsii</i> (Petaltwort) [1395]	There are no significant impacts affecting this species.	None identified
Petrifying springs with tufa formation (Cratoneurion) [7220]	Peat or turf cutting; arterial drainage; local drainage; water abstraction and agricultural reclamation.	Groundwater dependent. Highly sensitive to hydrological changes. Changes in nutrient or base status.
Petromyzon marinus (Sea Lamprey) [1095]	Barriers to upstream migration (e.g. weirs), which limit access to spawning beds and juvenile habitat are main threats to this species.	Marine water dependent. Low sensitivity to hydrological changes. Coastal development, trampling from recreational activity.
Phoca vitulina (Harbour Seal) [1365]	Distance to human activities, accidental entanglement in fishing gear competition for prey resources, illegal killing, pollution and habitat degradation.	Prey availability, reduction in available habitat and water quality.
<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	The main threats to this species includes by-catch in fishing gear, pollution of the marine environment and habitat degradation.	Falling prey densities is a threat to this species.
Raised bog (active)* [7110]	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
Reefs [1170]	Professional fishing; taking for fauna; taking for flora; water pollution; climate change; and change in species composition.	Sensitive to disturbance and pollution.
Rhynchosporion Vegetation [7150]	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.	Land use management activities and hydrodynamics.
Salicornia and other annuals colonising mud and sand [1310]	Invasive Species; erosion and accretion	Marine water dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Infilling, reclamation, invasive species
Salmo salar (Salmon) [1106]	Marine survival rates are of concern for the populations.	Disease, parasites and barriers to movement.

Qualifying Interests	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [6210]	The main threats to this habitat include the abandonment of traditional agricultural practices and reclamation.	Changes in management. Changes in nutrient or base status. Moderately sensitive to hydrological change
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120]	Removal of beach material and interference with the supply of sand; construction of coastal defences; sand compaction caused by vehicles and trampling.	Overgrazing, and erosion. Changes in management
Siliceous rocky slopes with chasmophytic vegetation [8220]	Overgrazing; extractive industries; recreational activities and improved access	Erosion, overgrazing and recreation.
Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>) [8110]	Overgrazing; extractive industries; recreational activities and improved access.	Erosion, overgrazing and recreation
<i>Spartina</i> swards (<i>Spartinion maritimae</i>) [1320]	Habitat is no longer considered to be of conservation interest as <i>Spartina</i> is an invasive non-native species.	N/A
Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230]	Forestry planting and agricultural improvements are ongoing and causing habitat loss, along with succession to heath and scrub.	Land use management activities
Transition mires [7140]	Drainage, infilling, reclamation and pollution.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management
<i>Trichomanes speciosum</i> (Killarney Fern) [1421]	Threatened by habitat loss, deliberate collection, encroachment of invasive or vigorous species, or indirectly by water pollution, removal of woodland or alteration of watercourses.	Land use management and direct impacts
Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	Erosion; grazing; recreational pressures; development of golf courses and housing; dumping; cutting of peat; coastal protection works; climate change	Coastal development. Erosion, over-grazing and recreation
<i>Vertigo angustior</i> (Narrow-mouthed Whorl Snail) [1014]	Loss of riverside and canalside habitat; exploitation of esker sites and drainage of wetlands, and sheep grazing and overexploitation of dune sites.	Groundwater dependent. Highly sensitive to hydrological changes
<i>Vertigo geyeri</i> (Geyer's Whorl Snail) [1013]	Loss of riverside and canalside habitat; exploitation of esker sites and drainage of wetlands, and sheep grazing and overexploitation of dune sites.	Groundwater dependent. Highly sensitive to hydrological changes
<i>Vertigo moulinsiana</i> (Desmoulin's Whorl Snail) [1016]	Loss of riverside and canalside habitat; exploitation of esker sites and drainage of wetlands, and sheep grazing and overexploitation of dune sites.	Groundwater dependent. Highly sensitive to hydrological changes
Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260]	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.

Table 3 List of all Special Conservation Interest of SPAs that have undergone Assessment including Summaries of Current Threats and Sensitivity to Effects

Special Conservation Interests	Vulnerabilities of Special Conservation Interests
<p>Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Teal (<i>Anas crecca</i>) [A052] Pintail (<i>Anas acuta</i>) [A054] Shoveler (<i>Anas clypeata</i>) [A056] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Knot (<i>Calidris canutus</i>) [A143] Sanderling (<i>Calidris alba</i>) [A144] 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] Turnstone (<i>Arenaria interpres</i>) [A169] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Wetland and Waterbirds [A999] Greylag Goose (<i>Anser anser</i>) [A043] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194] Great Crested Grebe (<i>Podiceps cristatus</i>) [A005] Goldeneye (<i>Bucephala clangula</i>) [A067] Red-breasted Merganser (<i>Mergus serrator</i>) [A069] Gadwall (<i>Anas strepera</i>) [A051] Pochard (<i>Aythya ferina</i>) [A059] Tufted Duck (<i>Aythya fuligula</i>) [A061] Common Scoter (<i>Melanitta nigra</i>) [A065] Hen Harrier (<i>Circus cyaneus</i>) [A082] Coot (<i>Fulica atra</i>) [A125] Common Gull (<i>Larus canus</i>) [A182] Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395] Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] Fulmar (<i>Fulmarus glacialis</i>) [A009] Cormorant (<i>Phalacrocorax carbo</i>) [A017] Shag (<i>Phalacrocorax aristotelis</i>) [A018] Herring Gull (<i>Larus argentatus</i>) [A184] Kittiwake (<i>Rissa tridactyla</i>) [A188] Guillemot (<i>Uria aalge</i>) [A199] Razorbill (<i>Alca torda</i>) [A200] Puffin (<i>Fratercula arctica</i>) [A204] Lapwing (<i>Vanellus vanellus</i>) [A142] Little Tern (<i>Sterna albifrons</i>) [A195] Red-throated Diver (<i>Gavia stellata</i>) [A001] Wigeon (<i>Anas penelope</i>) [A050] Kingfisher (<i>Alcedo atthis</i>) [A229] Purple Sandpiper (<i>Calidris maritima</i>) [A148] Whooper Swan (<i>Cygnus cygnus</i>) [A038] Mallard (<i>Anas platyrhynchos</i>) [A053]</p>	<p>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.</p> <p>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.</p> <p>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.</p> <p>Availability of nesting/roosting habitat. Particularly for the Hen Harrier.</p> <p>Vegetation composition, structure and functionality.</p>
<p>Wetland and Waterbirds [A999]</p>	<p>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 using it.</p>