APPENDIX I
OF
NATURA IMPACT REPORT

IN SUPPORT OF THE

APPROPRIATE ASSESSMENT

FOR THE

PROPOSED VARIATION NO. 2(B)

OF THE

Galway County Development Plan 2015-2021

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

for: **Galway County Council**

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Appendix 1

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 Natural Impact Report.

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

Table 1 List of European Sites within the Zone Of Influence of Variation 2(b) to the Galway County Development Plan 2015-2021; including the Qualifying features (Qualifying Interests or Special Conservation Interests) and Site Vulnerability/Sensitivity

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Vulnerability/Sensitivity
000212	Inishmaan Island SAC	0	Reefs [1170] Perennial vegetation of stony banks [1220] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] Machairs (* in Ireland) [21A0] European dry heaths [4030] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) [6510] Limestone pavements [8240]	Land developement and disturbance from tourism threaten breeding tern colonies. A change in agricultural practices would potentially threaten the rare and threatened arable weeds.
000213	Inishmore Island SAC	0	Coastal lagoons [1150] Reefs [1170] Perennial vegetation of stony banks [1220] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Dunes with Salix repens ssp. argentea (Salicion arenariae) [2170] Humid dune slacks [2190] Machairs (* in Ireland) [21A0] European dry heaths [4030] Alpine and Boreal heaths [4060]	Although grazing is vital to maintain the ecological interest of the grassland, in a number of areas overgrazing or undergrazing is damaging the site. The site is particularly vulnerable to changing agricultural practices. Development plans for tourism and amenity purposes require close monitoring to safeguard the wildlife and scientific value of this unique environment. The reefs of Inishmore Island are used for potting, angling and netting. It is also a popular dive destination. The effects of these activities have not been studied but should be monitored as there is a growing diving industry in the area. It is thought that, besides effects of fishing on the target species, there is minor localised, mechanical damage to

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Vulnerability/Sensitivity
			Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) [6510] Limestone pavements [8240] Submerged or partially submerged sea caves [8330] Vertigo angustior (Narrow-mouthed Whorl Snail) [1014]	benthic communities. The fragility of the deep circalittoral communities at Inishmore Island makes them particularly vulnerable to mechanical damage. The dragging of heavy fishing gear across the bottom should be prevented. The dunes in which *Vertigo angustior* occur are subject to recreational pressures, while the grassland location is heavily grazed. Monitoring of these populations is required.
000268	Galway Bay Complex SAC	0	Mudflats and sandflats not covered by seawater at low tide [1140] Coastal lagoons [1150] Large shallow inlets and bays [1160] Reefs [1170] Perennial vegetation of stony banks [1220] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Mediterranean salt meadows (Juncetalia maritimi) [1410] Turloughs [3180] Juniperus communis formations on heaths or calcareous grasslands [5130] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210] Alkaline fens [7230] Limestone pavements [8240] Lutra lutra (Otter) [1355]	A main concern is that sewage effluent and detritus of the aquaculture industry could be deleterious to benthic communities. Reef and sediment communities are vulnerable to disturbance or compaction from tractors accessing oyster trestles. The *Paracentrotus lividus* populations have been shown to be vulnerable to overfishing. Extraction of maerl in Galway Bay is a threat. Owing to the proximity of Galway city, shoreline and terrestrial habitats are under pressure from urban expansion and recreational activities. Eutrophication is probably affecting some of the lagoons and is a continued threat. Drainage is a general threat to the turlough and fen habitats. Bird populations may be disturbed by aquaculture activities.

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Vulnerability/Sensitivity
			Phoca vitulina (Harbour Seal) [1365]	
000297	Lough Corrib SAC	0	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110] Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130] Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410] Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150] Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210] Petrifying springs with tufa formation (Cratoneurion) [7220] Alkaline fens [7230] Limestone pavements [8240] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] Bog woodland [91D0] Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] Austropotamobius pallipes (White-clawed Crayfish) [1092] Petromyzon marinus (Sea Lamprey) [1095]	The main threats to the quality of this site are from water polluting activities resulting from intensification of agricultural activities on the eastern side of the lake, uncontrolled discharge of sewage which is causing localised eutrophication of the lake, and housing and boating development, which is causing the loss of native lakeshore vegetation. The raised bog habitats are susceptible to further degradation and drying out due to drainage and peat cutting and, on occasions, burning. Peat cutting threatens Addergoole Bog and already a substantial area of it has been cut away. Fishing and shooting occur in and around the lake. Introduction of exotic crayfish species or the crayfish fungal plague (*Aphanomyces astaci*) could have a serious impact on the native crayfish population. The bat roost is susceptible to disturbance or development.

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Vulnerability/Sensitivity
			Lampetra planeri (Brook Lamprey) [1096] Salmo salar (Salmon) [1106] Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303] Lutra lutra (Otter) [1355] Drepanocladus vernicosus (Slender Green Feather-moss) [1393] Najas flexilis (Slender Naiad) [1833]	
000474	Ballymaglancy Cave, Cong SAC	0	Caves not open to the public 8310 Rhinolophus hipposideros 1303	This site is frequently visited during the winter months by locals and caving groups. Visitors may cause degradation of delicate cave formations.
001251	Cregduff Lough SAC	0	Petalophyllum ralfsii 1395 Najas flexilis 1833	Site is potentially vulnerable to the effects of agricultural improvement and development for tourism in this scenic area
001257	Dog's Bay SAC	0	Annual vegetation of drift lines 1210 Embryonic shifting dunes 2110 Shifting dunes along the shoreline with Ammophila arenaria (white dunes) 2120 Fixed coastal dunes with herbaceous vegetation (grey dunes) 2130 European dry heaths 4030	The main threats to the site are erosion due to wave action, overgrazing (mainly by cattle) and recreational pressures. Erosion is particularly acute along the edges of the dune grassland and there have been recent attempts to halt this erosion by the planting of Marram grass. Grazing by cattle still continues throughout the site and is intensive in places. Recreational pressure on the site is very high, especially during the summer, and is largely restricted to the sandy beaches and adjoining areas of fore-dune. Visitor pressure is increased by the presence of a large caravan park along the north-eastern edge of the site.
001275	Inisheer Island SAC	0	Coastal lagoons 1150 Reefs 1170 European dry heaths 4030 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) 6210	Changing agricultural practices, in particular the abandonment of traditional farming methods would threaten the conservation value of the site.

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Vulnerability/Sensitivity
			Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) 6510 Limestone pavements 8240	
001312	Ross Lake And Woods SAC	0	Rhinolophus hipposideros 1303 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. 3140	The lake is vulnerable to water polluting operations from the surrounding agricultural and forestry activities. The main threat to the bat populations would be human disturbance or a change of use of the building, but neither of these seem apparent at present.
001774	Lough Carra/Mask Complex SAC	0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) 91E0 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) 3110 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea 3130 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. 3140 European dry heaths 4030 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) 6210 Calcareous fens with Cladium mariscus and species of the Caricion davallianae 7210 Alkaline fens 7230 Limestone pavements 8240 Rhinolophus hipposideros 1303 Lutra lutra 1355 Drepanocladus vernicosus 1393	Water quality of both lakes is vulnerable to enrichment from surrounding agricultural activities and other commercial developments near the lakeshores. Areas of fens are vulnerable to drainage attempts, while both marginal wetland vegetation and dry grasslands could be affected by overgrazing. Clearance of scrub and limestone pavement has occurred in the past and is a continuous threat to these habitats. Any further plantings of exotic species would be damaging to the existing woodland habitats. The quality of the woodlands would be compromised by the further spread of invasive species such as *Acer pseudoplatanus, Prunus laurocereous and Fallopia japonica*. The bat population is presently under no threat. The population of *Drepanocladus vernicosus* is not presently threatened but the area is vulnerable to land drainage and improvement.
002008	Maumturk Mountains SAC	0	Salmo salar 1106 Najas flexilis 1833 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) 3110 Northern Atlantic wet heaths with Erica tetralix 4010	The heath and blanket bog vegetation present is currently overgrazed by sheep and these habitats are vulnerable to erosion. Lakes and rivers within the site are susceptible to a

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Vulnerability/Sensitivity
			Alpine and Boreal heaths 4060 Blanket bogs (* if active bog) 7130 Depressions on peat substrates of the Rhynchosporion 7150 Siliceous rocky slopes with chasmophytic vegetation 8220	reduction in water quality primarily due to peat inwash and fertilisation of adjoining land.
002031	The Twelve Bens/Garraun Complex SAC	0	Margaritifera margaritifera 1029 Salmo salar 1106 Lutra lutra 1355 Najas flexilis 1833 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) 3110 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea 3130 Alpine and Boreal heaths 4060 Blanket bogs (* if active bog) 7130 Depressions on peat substrates of the Rhynchosporion 7150 Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) 8110 Calcareous rocky slopes with chasmophytic vegetation 8210 Siliceous rocky slopes with chasmophytic vegetation 8220 Old sessile oak woods with Ilex and Blechnum in the British Isles 91A0	Large tracts of blanket bog are currently overgrazed by sheep and are vulnerable to erosion, a problem that could be accentuated by the striping of commonage which is taking place in some areas. Other threats are the further expansion of commercial afforestation on blanket bog, and the development of fish-farming in the oligotrophic lakes.
002034	Connemara Bog Complex SAC	0	Coastal lagoons 1150 Reefs 1170 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) 3110 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea 3130	Adjacent areas of high scientific interest, which would have formerly been included as part of the site, have been damaged as a result of afforestation. There is still a real threat that further areas within the site will be drained and planted with coniferous trees, a process which must be prevented.

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Vulnerability/Sensitivity
			Natural dystrophic lakes and ponds 3160 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation 3260 Northern Atlantic wet heaths with Erica tetralix 4010 European dry heaths 4030 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) 6410 Blanket bogs (* if active bog) 7130 Transition mires and quaking bogs 7140 Depressions on peat substrates of the Rhynchosporion 7150 Alkaline fens 7230 Old sessile oak woods with Ilex and Blechnum in the British Isles 91A0 Euphydryas aurinia 1065 Salmo salar 1106 Lutra lutra 1355 Najas flexilis 1833	Widespread grazing by cattle and sheep has damaged parts of the peatland landscape. Peat cutting, by hand and machine, is ongoing within the site but is generally confined to the more accessible areas. Deliberate burning of bog and heath is a further threat.
002111	Kilkieran Bay And Islands SAC	0	Lutra lutra 1355 Phoca vitulina 1365 Najas flexilis 1833 Mudflats and sandflats not covered by seawater at low tide 1140 Coastal lagoons 1150 Large shallow inlets and bays 1160 Reefs 1170 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) 1330 Mediterranean salt meadows (Juncetalia maritimi) 1410 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea 3130	The Department of Fisheries has designated Kilkieran Bay as an aquaculture area. It is possible that consequent increased siltation and eutrophication will have a deleterious effect on the benthic communities and on the Raspailia ramosa/Corella parallelogramma communities in the deep littoral reef. The effects of Invermectin and other biocides on adjacent fauna have not been studied. Sublittoral sediment communities are vulnerable to bottom-fishing for shellfish. The salt meadows and machair are subject to over-grazing. The lowland hay meadows would be sensitive to any type of change in agricultural practices, especially the use of fertilisers.

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Vulnerability/Sensitivity
			Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) 6510 Machairs (* in Ireland) 21A0	
002119	Lough Nageeron SAC	0	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea 3130 Najas flexilis 1833	The main threat to this site is deterioration in water quality which could arise as a result of eutrophication from surrounding agricultural activities. At present, stocking levels are not excessive.
004031	Inner Galway Bay SPA	0	Great Northern Diver (Gavia immer) [A003] Cormorant (Phalacrocorax carbo) [A017] Grey Heron (Ardea cinerea) [A028] Light-bellied Brent Goose (Branta bernicla hrota) [A046] Wigeon (Anas penelope) [A050] Teal (Anas crecca) [A052] Shoveler (Anas clypeata) [A056] Red-breasted Merganser (Mergus serrator) [A069] Ringed Plover (Charadrius hiaticula) [A137] Golden Plover (Pluvialis apricaria) [A140] Lapwing (Vanellus vanellus) [A142] Dunlin (Calidris alpina) [A149] Bar-tailed Godwit (Limosa lapponica) [A157] Curlew (Numenius arquata) [A160] Redshank (Tringa totanus) [A162] Turnstone (Arenaria interpres) [A169] Black-headed Gull (Chroicocephalus ridibundus) [A179] Common Gull (Larus canus) [A182] Sandwich Tern (Sterna sandvicensis) [A191] Common Tern (Sterna hirundo) [A193] Wetland and Waterbirds [A999]	While there are no imminent threats to the birds, a concern is that sewage effluent and detritus of the aquaculture industry could be deleterious to benthic communities and could affect food stocks of divers, sea duck and other birds. Bird populations may also be disturbed by aquaculture activities. Owing to the proximity of Galway City, shoreline and terrestrial habitats are under pressure from urban expansion and recreational activities
004042	Lough Corrib SPA	0	Gadwall (Anas strepera) [A051] Shoveler (Anas clypeata) [A056] Pochard (Aythya ferina) [A059] Tufted Duck (Aythya fuligula) [A061] Common Scoter (Melanitta nigra) [A065]	Any deterioration in water quality of the lake would be of concern for the wintering birds and perhaps the breeding *Melanitta nigra*, though the condition of the lake has been satisfactory in recent years.

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			Hen Harrier (Circus cyaneus) [A082] Coot (Fulica atra) [A125] Golden Plover (Pluvialis apricaria) [A140] Black-headed Gull (Chroicocephalus ridibundus) [A179] Common Gull (Larus canus) [A182] Common Tern (Sterna hirundo) [A193] Arctic Tern (Sterna paradisaea) [A194] Greenland White-fronted Goose (Anser albifrons flavirostris) [A395] Wetland and Waterbirds [A999]	
004062	Lough Mask SPA	0	Tufted Duck (Aythya fuligula) [A061] Black-headed Gull (Chroicocephalus ridibundus) [A179] Common Gull (Larus canus) [A182] Lesser Black-backed Gull (Larus fuscus) [A183] Common Tern (Sterna hirundo) [A193] Greenland White-fronted Goose (Anser albifrons flavirostris) [A395] Wetland and Waterbirds [A999]	No known threats recorded
004152	Inishmore SPA	0	Kittiwake (Rissa tridactyla) [A188] Arctic Tern (Sterna paradisaea) [A194] Little Tern (Sterna albifrons) [A195] Guillemot (Uria aalge) [A199]	There are no known significant threats to the cliff nesting seabird populations or the *Falco pergrinus* population. The terns, and especially *Sterna albifrons*, are vulnerable to disturbance.
004159	Slyne Head To Ardmore Point Islands SPA	0	Barnacle Goose (Branta leucopsis) [A045] Sandwich Tern (Sterna sandvicensis) [A191] Arctic Tern (Sterna paradisaea) [A194] Little Tern (Sterna albifrons) [A195]	No known threats recorded
004181	Connemara Bog Complex SPA	0	Cormorant (Phalacrocorax carbo) [A017] Merlin (Falco columbarius) [A098] Golden Plover (Pluvialis apricaria) [A140] Common Gull (Larus canus) [A182]	No known threats recorded
000324	Rosroe Bog SAC	0.47	Blanket bogs (* if active bog) 7130 Depressions on peat substrates of the Rhynchosporion 7150	Further cutting of peat at the margins of this site is a threat. More intense grazing by cattle and sheep would damage the peat surface.

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002129	Murvey Machair SAC	1.3	Machairs (* in Ireland) 21A0 Petalophyllum ralfsii 1395	The main threat to the integrity of the site is erosion due to wave action and overgrazing (mainly by sheep). The effects are largely restricted to the machair area. While little can be done to prevent further damage by wave action, a reduction in the grazing pressure at the site would have a positive effect on the vegetation. There is also some evidence to suggest that the wetland areas are experiencing some eutrophication due to agricultural practices in surrounding fields.
001271	Gortnandarragh Limestone Pavement SAC	1.64	Limestone pavements 8240	The site is vulnerable to scrub invasion through lack of grazing and to land reclamation and quarrying. The two last-named activities have both occurred to a small extent within the site.
001932	Mweelrea/Sheeffry/Erriff Complex SAC	2.09	Coastal lagoons 1150 Annual vegetation of drift lines 1210 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) 1330 Mediterranean salt meadows (Juncetalia maritimi) 1410 Embryonic shifting dunes 2110 Shifting dunes along the shoreline with Ammophila arenaria (white dunes) 2120 Atlantic decalcified fixed dunes (Calluno-Ulicetea) 2150 Dunes with Salix repens ssp. argentea (Salicion arenariae) 2170 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) 3110 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea 3130 Natural dystrophic lakes and ponds 3160	The habitats within the site are vulnerable to a number of threats. Areas of blanket bog and heath are threatened by overgrazing, afforestation and peat cutting. These activities also threaten the water quality of the lakes in these areas. Coastal habitats within the site are susceptible to overgrazing and reclamation, in addition to natural erosion by the sea. The populations of *Vertigo geyeri* and *V. angustior* on the machairs at Dooaghtry are threatened by heavy grazing by sheep and cattle.

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Vulnerability/Sensitivity
			Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation 3260 Northern Atlantic wet heaths with Erica tetralix 4010 European dry heaths 4030 Alpine and Boreal heaths 4060 Juniperus communis formations on heaths or calcareous grasslands 5130 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels 6430 Blanket bogs (* if active bog) 7130 Transition mires and quaking bogs 7140 Depressions on peat substrates of the Rhynchosporion 7150 Petrifying springs with tufa formation (Cratoneurion) 7220 Alkaline fens 7230 Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) 8110 Calcareous rocky slopes with chasmophytic vegetation 8210 Siliceous rocky slopes with chasmophytic vegetation 8220 Machairs (* in Ireland) 21A0 Vertigo geyeri 1013 Vertigo angustior 1014 Margaritifera margaritifera 1029 Salmo salar 1106 Lutra lutra 1355 Petalophyllum ralfsii 1395 Najas flexilis 1833	
000479	Cloughmoyne SAC	2.96	Limestone pavements 8240	Agricultural activities within and adjacent to the site pose the main threats to the future of the site. Both clearance of limestone

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				pavement and the application of fertilizer are presently a serious problem at the site. Some poaching by cattle recorded along the edge of the fen.
002320	Kildun Souterrain SAC	3.27	Rhinolophus hipposideros 1303	Microclimatic stability within the souterrain may be vulnerable to excess trampling by domestic animals at ground level. This has exposed some of the stone slabs and light leaks through gaps - the internal temperature and humidity conditions of the souterrain may fluctuate as a result and render the site less suitable for hibernating bats. The souterrain would benefit from grilling because members of the public may occasionally enter it. The bats' foraging areas and summer roost(s) have not been established and are not protected.
004142	Cregganna Marsh SPA	4.62	Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]	The main threat to the geese at this site is disturbance from existing developments and potential developments in the surrounding areas, reflecting the proximity of the site to Galway City. Any attempts at draining the remaining wetland vegetation (marsh and wet grassland) could make the site less attractive for feeding geese.
004221	Illaunnanoon SPA	5.71	Sandwich Tern (Sterna sandvicensis) [A191]	No known threats recorded
002074	Slyne Head Peninsula SAC	5.73	Petalophyllum ralfsii 1395 Najas flexilis 1833 Coastal lagoons 1150 Large shallow inlets and bays 1160 Reefs 1170 Annual vegetation of drift lines 1210 Perennial vegetation of stony banks 1220 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) 1330	The main threats to site are further improvement for agriculture of heath and grassland habitats. Overgrazing is a general threat but especially to machair. Further housing developments within site would be locally damaging. Extension to the golf course at Aillebrack is a threat to the machair, while increase in leisure activites, especially caravanning is also a threat to machair. Lakes

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Vulnerability/Sensitivity
			Mediterranean salt meadows (Juncetalia maritimi) 1410 Embryonic shifting dunes 2110 Shifting dunes along the shoreline with Ammophila arenaria (white dunes) 2120 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) 3110 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea 3130 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. 3140 European dry heaths 4030 Juniperus communis formations on heaths or calcareous grasslands 5130 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) 6210 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) 6410 Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) 6510 Alkaline fens 7230 Machairs (* in Ireland) 21A0	which are oligotrophic would be affected by intensification of agriculture in the immediate vicinity. *Petalophyllum ralfsii* population in part of the site is threatened by undergrazind and by heavy vehicle usage. Aquaculture activities seem to be the most immediate source of concern at Mannin Bay. The 'Coral Strand' of Mannin Bay is most vulnerable to activities that affect the maerl bed in the middle of the bay. Such activities include commercial extraction of maerl deposits, mollusc dredging, and suction dredging of bivalves such as *Ensis* and *Venerupis* spp. Ecological changes to maerl beds may be caused by removing predator or grazer species by fishing. Mechanical damage due to mooring boats is likely to be a result of increased leisure activities over maerl. Low intensity pollution from use of Invermectin is of particular concern to rocky shore communities at Mannin Bay.
000480	Clyard Kettle-Holes SAC	5.78	Turloughs 3180 Calcareous fens with Cladium mariscus and species of the Caricion davallianae 7210	Agricultural practices, mainly grazing and fertiliser application but also some scrub removal, have already caused damage to part of the site. Further intensification of agriculture within and around the site would be damaging. Drainage is a general threat to the wetland habitats. A possible flood relief scheme at Thomastown turlough could have effects on other turloughs in the area.
001536	Mocorha Lough SAC	5.95	Calcareous fens with Cladium mariscus and species of the Caricion davallianae 7210	There are no known significant threats to the wetland vegetation though some localised

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Vulnerability/Sensitivity
				infilling has occurred in the past and could happen again. The level of duck and snipe shooting at the site may be too high.
000020	Black Head-Poulsallagh Complex SAC	6.9	Reefs 1170 Perennial vegetation of stony banks 1220 Fixed coastal dunes with herbaceous vegetation (grey dunes) 2130 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation 3260 Alpine and Boreal heaths 4060 Juniperus communis formations on heaths or calcareous grasslands 5130 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) 6210 Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) 6510 Petrifying springs with tufa formation (Cratoneurion) 7220 Limestone pavements 8240 Submerged or partially submerged sea caves 8330 Petalophyllum ralfsii 1395	The main threats to the site are from agricultural improvement activities to the grassland, heath and scrub habitats. Further land improvements in the Caher River valley should be prevented so as to maintain water quality. Extension to the caravan park at Fanore poses a threat to the presence of *Petalophyllum ralfsii*. The shoreline would be vulnerable to oil spills, and over collection of *Paracentrotus lividus*, although many are below the market size.
000525	Shrule Turlough SAC	7.08	Turloughs 3180	There is some water flow from the west end into the basin which could be a eutrophying influence as there is farmland there. More direct run-off could occur at E. end. Arterial drainage is the major risk: the Black River is 1.9km away.
000330	Tully Mountain SAC	8.16	European dry heaths 4030 Alpine and Boreal heaths 4060	The entire site is under threat from over-grazing by sheep. Burning on the lower slopes is also a problem. Much of the heath habitat has already been eroded leaving bare soil exposed. Quarrying also poses a threat to the dry heath habitat.

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Vulnerability/Sensitivity
002998	West Connacht Coast SAC	8.3	Tursiops truncatus 1349	No known threats recorded
002130	Tully Lough SAC	8.58	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea 3130 Najas flexilis 1833	The main threat at this site is further agricultural intensification, leading to loss of bog and wet grassland habitats surrounding the lake and ultimately to eutrophication of the lake. The oligotrophic vegetation, including *Najas flexilis,* could be affected. Afforestation in the catchment would also be a serious threat. *Rhododendron ponticum* is present on the islands and on the blanket bog and is likely to spread further if not checked.
004005	Cliffs of Moher SPA	8.66	Fulmar (Fulmarus glacialis) [A009] Kittiwake (Rissa tridactyla) [A188] Guillemot (Uria aalge) [A199] Razorbill (Alca torda) [A200] Puffin (Fratercula arctica) [A204] Chough (Pyrrhocorax pyrrhocorax) [A346]	Nesting ledges on cliffs are mostly inaccessible due to the sheerness of the face. The large visitor numbers to the site, if not properly controlled, could cause damage to the cliff-top vegetation which *Pyrrhocorax pyrrhocorax* use. Fishing close to the cliffs using drift nets could be very damaging to auk species.
000322	Rahasane Turlough SAC	9.54	Turloughs 3180	Local drainage schemes on the turlough floor have been attempted and could cause significant damage to vegetation though probably not to the wintering birdlife. Arterial drainage would be more of a risk. Shooting disturbance could be serious as there are few alternative sites for such numbers of birds.
004089	Rahasane Turlough SPA	9.54	Whooper Swan (Cygnus cygnus) [A038] Wigeon (Anas penelope) [A050] Golden Plover (Pluvialis apricaria) [A140] Black-tailed Godwit (Limosa limosa) [A156] Greenland White-fronted Goose (Anser albifrons flavirostris) [A395] Wetland and Waterbirds [A999]	Arterial drainage, whilst probably unlikely to occur, would cause serious damage to the flooding pattern of this turlough and would be expected to affect the bird populations. The *Anser albifrons flavirostris* population is particularly vulnerable to habitat degradation as the flock has only one alternative feeding site (at Cregganna). Some degree of artificial enrichment of the basin is occurring from the

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Vulnerability/Sensitivity
				farming areas upstream, and local enrichment is associated with grazing practices; however, the bird populations are unlikely to be affected by such activities. The turlough is closely grazed by cattle, sheep and horses and grazing is a critical factor in maintaining a balance between open swards and woodland development at the edges of the turlough.
004051	Lough Carra SPA	10.99	Common Gull (Larus canus) [A182]	Eutrophication of this hard water and naturally mesotrophic system is a serious threat. Clearance of lakeshore vegetation for agricultural intensification has occurred and is a continued threat.
000328	Slyne Head Islands SAC	11.18	Reefs 1170 Halichoerus grypus 1364	There are no known threats to the habitats, seals or birds of these islands. Culling of seals is a potential threat at all seal colonies. The only recorded use of the marine area is potting. Overstocking of the grassy islands with sheep could lead to habitat destruction and soil erosion.
000606	Lough Fingall Complex SAC	11.2	Rhinolophus hipposideros 1303 Turloughs 3180 Alpine and Boreal heaths 4060 Juniperus communis formations on heaths or calcareous grasslands 5130 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) 6210 Calcareous fens with Cladium mariscus and species of the Caricion davallianae 7210 Limestone pavements 8240	Conditions in the wetland components of the site are maintained by groundwater input and lack of development. Any further change in drainage patterns would have significant and adverse repercussions. The limestone paving and heath habitats are vulnerable to clearance for agriculture. Burning is also a threat to the heath and scrub communities. There are no apparent threats to the bat population.
000541	Skealoghan Turlough SAC	11.31	Turloughs 3180	The turlough floods frequently and no drainage attempts are apparent. Much of the area is closely grazed by cattle, as is common in many turloughs, but the vegetation has not

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Vulnerability/Sensitivity
				suffered unduly from this, especially in the wetter areas. Peat cutting was terminated many years ago after a small amount was removed. Despite some intensive agriculture to the west of the site, the area remains quite oligotrophic.
001311	Rusheenduff Lough SAC	11.38	Najas flexilis 1833 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea 3130	Owing to its small size, this lake is very vulnerable to eutrophication from surrounding commercial and/or agricultural activities. The present ecological balance would be altered should a breach occur in the shingle ridge between the lake and the sea (initiated by either natural or artificial means).
000242	Castletaylor Complex SAC	11.87	Turloughs 3180 Alpine and Boreal heaths 4060 Juniperus communis formations on heaths or calcareous grasslands 5130 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) 6210 Limestone pavements 8240	There are presently few real threats to the turlough. Limited clearance of scrub from around parts of the turlough has destroyed the transitional zone vegetation. Scrub clearance has damaged parts of the woodland and is an ongoing problem. The heath-limestone habitats are not under any present threat. Water relations in the turlough seem natural but a regional water scheme that would affect the watertable would cause considerable damage.
002265	Kingstown Bay SAC	11.91	Large shallow inlets and bays 1160	The only known activities within the site are potting and clam collecting which occur at low intensity. The beaches are not used for recreational activities. No known significant threats.
001926	East Burren Complex SAC	12.23	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) 91E0 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. 3140 Turloughs 3180	The main threat to this site is from agricultural improvement activities - these involve clearance of limestone pavement and associated habitats (heaths and grassland), subsequent reseeding, fertilisation and then grazing. Heavy grazing pressures is a threat to

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Vulnerability/Sensitivity
			Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation 3260 Alpine and Boreal heaths 4060 Juniperus communis formations on heaths or calcareous grasslands 5130 Calaminarian grasslands of the Violetalia calaminariae 6130 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) 6210 Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) 6510 Calcareous fens with Cladium mariscus and species of the Caricion davallianae 7210 Petrifying springs with tufa formation (Cratoneurion) 7220 Alkaline fens 7230 Limestone pavements 8240 Caves not open to the public 8310 Euphydryas aurinia 1065 Rhinolophus hipposideros 1303 Lutra lutra 1355	the lowland areas of the site. The water quality of the various wetlands is vulnerable to run-off from agricultural lands.
000054	Moneen Mountain SAC	12.66	Euphydryas aurinia 1065 Rhinolophus hipposideros 1303 Turloughs 3180 Alpine and Boreal heaths 4060 Juniperus communis formations on heaths or calcareous grasslands 5130 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) 6210 Petrifying springs with tufa formation (Cratoneurion) 7220 Limestone pavements 8240	Agriculture activities in the form of fertilizer application, inappropriate grazing regimes and land reclamation pose the greatest threats to the future of the site. The colony of *Rhinolophus hipposideros* is subject to periodic disturbance due to human presence. Also, the building used by the bats is in poor condition.

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Vulnerability/Sensitivity
002352	Monivea Bog SAC	12.74	Active raised bogs 7110 Degraded raised bogs still capable of natural regeneration 7120 Depressions on peat substrates of the Rhynchosporion 7150	Commercial peat-cutting is a serious threat to the western half of this site. Burning of the bog surface also appears to be a frequent occurrence. Even though over half of the site lies within a National Nature Reserve peat-cutting and burning will remain as significant threats to habitat quality. These activities also lower the value of the site for *Anser albifrons flavirostris*.
002118	Barnahallia Lough SAC	12.82	Najas flexilis 1833 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea 3130	The only apparent threat to this site is nutrient enrichment from cattle. While water is abstracted for local use, this is presently on a small scale.
001285	Kiltiernan Turlough SAC	13.03	Turloughs 3180	The whole site is threatened by the intensive farming operations of the western half and by two flood control schemes - one of which is built. This will remove high floods but allow water level to rise to 'normal' levels - the bounding hedges.
000461	Ardkill Turlough SAC	13.71	Turloughs 3180	The condition of the ground water gives some cause for concern as the basin has two farms beside it, one highly intensive for the region.
002244	Ardrahan Grassland SAC	13.75	Alpine and Boreal heaths 4060 Juniperus communis formations on heaths or calcareous grasslands 5130 Limestone pavements 8240	The majority of this site is being managed in the traditional practise of low intensity winter grazing by cattle. This form of farming is vital to the continued high scientific value of this site, and at present does not appear to be under threat. Water quality of Brackloaon Lake is threatened by the intensive fertilization of sloping ground adjacent to the southern shore.
004231	Inishbofin, Omey Island and Turbot Island SPA	13.78	Corncrake (Crex crex) [A122]	*Crex crex* require the cover of tall vegetation throughout their breeding cycle and are strongly associated with meadows which are harvested annually, where they nest and feed.

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Site Vulnerability/Sensitivity
				Annual cutting of these meadows creates a sward which is easy for the birds to move through. Other habitats, which can provide cover for *Crex crex* in the early and late stages of the breeding season, are also important for this species. Changes in agricultural practices could impact on the species.
000504	Kilglassan/Caheravoostia Turlough Complex SAC	14.15	Turloughs 3180	Some adverse impacts have been caused by agricultural intensification in the surrounding area and there is a possibility of future site drainage. The habitat is fairly eutrophic so that pollution of the ground water does not pose a significant ecological threat.
001309	Omey Island Machair SAC	14.64	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. 3140 Machairs (* in Ireland) 21A0 Petalophyllum ralfsii 1395	The main threats to the site are erosion of the sandy areas by the sea, overgrazing and recreational pressures. The seaward edge of the machair plain is experiencing erosion at present and this is likely to continue in the future unless restoration measures are taken. Damage due to overgrazing (cattle and rabbits) occurs throughout the site and remains a threat. The area is becoming increasingly popular with tourists and visitors and damage may be caused to the machair surface. Owing to its relatively small size, Fahy Lough could be prone to eutrophication from agricultural or tourism related activities.
000996	Ballyvaughan Turlough SAC	14.79	Turloughs 3180	The site seems to be largely unaffected by intensive pastures at the western end but is obviously susceptible to eutrophication. It is one of five wetlands in a small area so bird disturbance by hunting is not likely to be significant.

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

Qualifying Interests	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
Active raised bogs	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	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 Alnus glutinosa and Fraxinus excelsior (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.
Alpine and Boreal heaths	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	Grazing; sand and gravel extraction; recreational activities; coastal protection works	Overgrazing and erosion. Changes in management.
Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Overgrazing; erosion; invasive species, particularly common cordgrass (*Spartina anglica*); 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
Bog woodland	Drainage, peat cutting, burning and development;	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management
Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*	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	Overgrazing; extractive industries; recreational activities and improved access	Erosion, ovegrazing and recreation.

Qualifying Interests	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
Caves not open to the public	Human habitation adjacent to the cave system; disposal of household waste; road development; speleology (which leads to the disturbance of bats); vandalism; and inundation.	Human disturbance. Pollution
Coastal lagoons	Drainage for agricultural and safety reasons; natural siltation; Water pollution in the form of excessive nutrient enrichment	Surface, ground and marine water dependent. Highly sensitive to hydrological changes. Highly sensitive to pollution. Changes in salinity and tidal regime
Degraded raised bogs still capable of natural regeneration	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 *Rhynchosporion*	Drainage; burning; peat extraction; overgrazing; afforestation; erosion; and climate change.	Surface and groundwater dependent. Low sensitivity to hydrological changes. Erosion, land-use changes
Dunes with Salix repens ssp.argentea (Salix arenariae)	Agricultural improvement; overgrazing and undergrazing; forestry; recreational activity	Overgrazing, and erosion. Changes in management.
Embryonic shifting dunes	Natural erosion processes exacerbated by recreation and sand extraction. Coastal protection interfering with natural processes	Overgrazing, and erosion. Changes in management.
European dry heaths	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)	Recreation; overgrazing and undergrazing: non-native plant species, particularly sea buckthorn (*Hippophae rhamnoides*),	Overgrazing, and erosion. Changes in management.
Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp	Nutrient enrichment arising from intensification of agriculture and urban developments.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Highly sensitive to pollution
Humid dune slacks	Agricultural improvement; overgrazing and undergrazing; forestry; recreational activity	Overgrazing, and erosion. Changes in management. Sensitive to hydrological change.
Juniperus communis formations on heaths or calcareous grasslands	Overgrazing; fire; agricultural expansion; invasion by alien species particularly *Rhododenron ponticum*; and poor regeneration.	Onset of inundation or waterlogging Inappropriate management
Large shallow inlets and bays	Aquaculture, fishing, dumping of wastes and water pollution.	Surface and marine water dependent. Low sensitivity to hydrological changes. Aquaculture, fishing and pollution.

Qualifying Interests	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
Limestone pavements	Quarrying, reclamation for agriculture and reduced farming activity which has facilitated the spread of scrub over some areas. Intensive agriculture and domestic/municipal waste sources in the vicinity of pavement may also threaten groundwater.	Physical removal. Scrub encroachment
Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	Agricultural intensification; drainage; abandonment of pastoral systems and the associated encroachment of rank vegetation and scrub.	Surface and groundwater dependent. Moderately sensitive to hydrological change. Changes in management. Changes in nutrient status
Machairs (in Ireland)	Agricultural activity; fertilisation; overgrazing and undergrazing; recreational activity; waste disposal; invasion by a species.	Changes in management. Changes in nutrient status.
Mediterranean salt meadows (*Juncetalia maritimi*)	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 clavey-silt-laden soils (*Molinion caeruleae*)	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	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	Peat cutting, overgrazing and afforestation of peatland habitats.	Surface and groundwater dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution
Natural euthrophic lakes with *Magnopotamion* or *Hydrocharition*-type vegetation	Nutrient enrichment; overgrazing; afforestation and general forest management; introduction of invasive species; and increased pressures from human activities.	Surface and groundwater dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution.
Northern Atlantic wet heaths with *Erica tetralix*	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

Qualifying Interests	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
Old sessile oak woods with *Ilex* and *Blechnum* 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.
Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*)	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
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.
Petrifying springs with tufa formation (*Cratoneurion*)	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.
Reefs	Professional fishing; taking for fauna; taking for flora; water pollution; climate change; and change in species composition.	Sensitive to disturbance and pollution.
Rivers with muddy banks with *Chenopodion rubri* p.p. and *Bidention* 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.
Salicornia 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
Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco Brometalia*)(important orchid sites)	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
Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco Brometalia*)(important orchid sites)	Overgrazing; erosion; invasive species, particularly common cordgrass (*Spartina anglica*); infilling and reclamation.	Marine and groundwater dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Overgrazing, erosion and accretion
Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes)	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

Qualifying Interests	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
Siliceous rocky slopes with *chasmophytic* vegetation	Overgrazing; extractive industries; recreational activities and improved access	Erosion, ovegrazing and recreation.
Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*)	Overgrazing; extractive industries; recreational activities and improved access.	Erosion, ovegrazing and recreation
Submerged or partly submerged sea caves	Water pollution	Pollution
Taxus baccata woods of the British Isles	Invasive alien's species. Restricted distribution and limited suitable habitat	Inappropriate management, Invasion by alien species
Transition mires and quaking bogs	Drainage, infilling, reclamation and pollution.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management
Turloughs	Nutrient enrichment and inappropriate grazing; drainage, peat cutting; marl extraction and quarrying.	Surface and Groundwater dependent. Highly sensitive to hydrological changes. Changes in nutrient or base status.
Vegetated sea cliffs of the Atlantic and Baltic coasts	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
Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* 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.
Austropotamobius pallipes	Introduction of diseases transmitted by introduced American crayfish.	Surface water dependent Highly sensitive to hydrological change. Very highly sensitive to pollution
Drepanocladus vernicosus	Fertilization; abandonment of pastoral systems; undergrazing; afforestation; water pollution; and drainage.	Highly sensitive to hydrological changes. Highly sensitive to pollution.
Euphydryas aurinia	Abandonment of traditional pastoral systems; infrastructure developments and increased urbanisation	Changes in management. Habitats are sensitive to hydrological changes. Changes in nutrient base status.
Halichoerus grypus	Continued by-catch in fishing gear; occasional illegal culling; competition for prey resources with fisheries and disturbance at key breeding and moulting haul-out sites.	Marine water dependent. Sensitive to changes in food supply.
Lampetra planeri	Channel maintenance, barriers, passage obstruction, gross pollution and specific pollutants.	Surface water dependent Highly sensitive to hydrological change

Qualifying Interests	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
Lutra lutra	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 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
Najas flexilis	Fertilization; disposal of household waste; water pollution; eutrophication; and invasion by alien species.	Highly sensitive to hydrological changes. Highly sensitive to pollution.
Petalophyllum ralfsii	Agricultural improvement and fertilisation; overgrazing; changes in agricultural practices i.e. land abandonment & undergrazing; drainage; erosion and drying out.	Changes in management. Changes in nutrient or base status. Sensitive to hydrological change
Petromyzon marinus	Obstructions to movement; pollution	Surface water dependent. Highly sensitive to hydrological change
Phoca vitulina	Continued by-catch in fishing gear; occasional illegal culling; competition for prey resources with fisheries and disturbance at key breeding and moulting haul-out sites.	Marine water dependent. Sensitive to changes in food supply.
Rhinolophus hipposideros	Loss of suitable summer and winter roosting sites; loss of commuting routes linking roosts to foraging sites, and loss of suitable foraging sites.	Disturbance. Changes in Management.
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
Vertigo angustior	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

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

Special Conservation Interests	**Vulnerabilities of Special Conservation Interests**
Arctic Tern (Sterna paradisaea) [A194]	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. 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. Land use change is an issue for bird species such as the *Crex crex*, which require the cover of tall vegetation throughout their breeding cycle and are strongly associated with meadows which are harvested annually, where they nest and feed. Annual cutting of these meadows creates a sward which is easy for the birds to move through. Changes in agricultural practices could affect the species due to their dependence on management procices for habitat availability. 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. Availability of nesting/roosting habitat. Vegetation composition, structure and functionality.
Barnacle Goose (Branta leucopsis) [A045]	
Bar-tailed Godwit (Limosa lapponica) [A157]	
Black-headed Gull (Chroicocephalus ridibundus) [A179]	
Black-tailed Godwit (Limosa limosa) [A156]	
Chough (Pyrrhocorax pyrrhocorax) [A346]	
Common Gull (Larus canus) [A182]	
Common Scoter (Melanitta nigra) [A065]	
Common Tern (Sterna hirundo) [A193]	
Coot (Fulica atra) [A125]	
Cormorant (Phalacrocorax carbo) [A017]	
Corncrake (Crex crex) [A122]	
Curlew (Numenius arquata) [A160]	
Dunlin (Calidris alpina) [A149]	
Fulmar (Fulmarus glacialis) [A009]	
Gadwall (Anas strepera) [A051]	
Golden Plover (Pluvialis apricaria) [A140]	
Great Northern Diver (Gavia immer) [A003]	
Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]	
Grey Heron (Ardea cinerea) [A028]	
Guillemot (Uria aalge) [A199]	
Hen Harrier (Circus cyaneus) [A082]	
Kittiwake (Rissa tridactyla) [A188]	
Lapwing (Vanellus vanellus) [A142]	
Lesser Black-backed Gull (Larus fuscus) [A183]	
Light-bellied Brent Goose (Branta bernicla hrota) [A046]	
Little Tern (Sterna albifrons) [A195]	
Merlin (Falco columbarius) [A098]	
Pochard (Aythya ferina) [A059]	
Puffin (Fratercula arctica) [A204]	
Razorbill (Alca torda) [A200]	
Red-breasted Merganser (Mergus serrator) [A069]	
Redshank (Tringa totanus) [A162]	
Ringed Plover (Charadrius hiaticula) [A137]	
Sandwich Tern (Sterna sandvicensis) [A191]	
Shoveler (Anas clypeata) [A056]	
Teal (Anas crecca) [A052]	
Tufted Duck (Aythya fuligula) [A061]	
Turnstone (Arenaria interpres) [A169]	
Whooper Swan (Cygnus cygnus) [A038]	
Wigeon (Anas penelope) [A050]	
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.