

National Parks and Wildlife Service

Conservation Objectives Series

Slieve Tooley/Tormore Island/Loughros Beg Bay
SAC 000190



An Roinn
Ealaíon, Oidhreachta agus Gaeltachta

Department of
Arts, Heritage and the Gaeltacht



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Introduction

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Notes/Guidelines:

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.
2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.
3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.
4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.
5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

Qualifying Interests

* indicates a priority habitat under the Habitats Directive

000190	Slieve Tooley/Tormore Island/Loughros Beg Bay SAC
1014	Narrow-mouthed Whorl Snail <i>Vertigo angustior</i>
1230	Vegetated sea cliffs of the Atlantic and Baltic coasts
1355	Otter <i>Lutra lutra</i>
1364	Grey Seal <i>Halichoerus grypus</i>
2110	Embryonic shifting dunes
2120	Shifting dunes along the shoreline with <i>Cladonia</i> (white dunes)
2140	Decalcified fixed dunes with <i>Cladonia</i> E
2150	Atlantic decalcified fixed dunes (Calluno-Ulicetea)E
4060	Alpine and Boreal heaths
7130	Blanket bogs (* if active bog)

Please note that this SAC overlaps with West Donegal Coast SPA (004150) and it adjoins Slieve League SAC (000189). See map 2. The conservation objectives for this site should be used in conjunction with those for overlapping and adjacent sites as appropriate.

Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: www.npws.ie/Publications

NPWS Documents

Year :	1990
Title :	A survey to locate lowland blanket bogs of scientific interest in county Donegal and upland blanket bogs in counties Cavan, Leitrim and Roscommon
Author :	Douglas, C.; Dunnells, D.; Scally, L.; Wyse Jackson, M.
Series :	Unpublished report to NPWS
Year :	2004
Title :	Harbour seal population assessment in the Republic of Ireland: August 2003
Author :	Cronin, M.; Duck, C.; O Cadhla, O.; Nairn, R.; Strong, D.; O'Keeffe, C.
Series :	Irish Wildlife Manual No. 11
Year :	2004
Title :	Summary of National Parks and Wildlife Service surveys for common (harbour) seals (<i>Phoca vitulina</i>) and grey seals (<i>Halichoerus grypus</i>), 1978 to 2003
Author :	Lyons, D.O.
Series :	Irish Wildlife Manual No. 13
Year :	2004
Title :	Aerial surveying of grey seal breeding colonies on the Blasket Islands, Co. Kerry, the Inishkea Group, Co. Mayo and the Donegal coast during the 2003 breeding season
Author :	Cronin, M.; Ó Cadhla, O.
Series :	Unpublished report to NPWS
Year :	2006
Title :	Otter survey of Ireland 2004/2005
Author :	Bailey, M.; Rochford, J.
Series :	Irish Wildlife Manual No. 23
Year :	2007
Title :	Supporting documentation for the Habitats Directive Conservation Status Assessment - backing documents. Article 17 forms and supporting maps
Author :	NPWS
Series :	Unpublished report to NPWS
Year :	2007
Title :	Grey seal moult population survey in the Republic of Ireland, 2007
Author :	Ó Cadhla, O.; Strong, D.
Series :	Unpublished report to NPWS
Year :	2007
Title :	Management prescriptions for <i>Vertigo angustior</i> at cSAC sites for the species in the Republic of Ireland
Author :	Moorkens, E.
Series :	Unpublished report to NPWS
Year :	2008
Title :	An assessment of the breeding population of grey seals in the Republic of Ireland, 2005
Author :	O Cadhla, O.; Strong, D.; O'Keeffe, C.; Coleman, M.; Cronin, M.; Duck, C.; Murray, T.; Dower, P.; Nairn, R.; Murphy, P.; Smiddy, P.; Saich, C.; Lyons, D.O.; Hiby, L.
Series :	Irish Wildlife Manual No. 34
Year :	2009
Title :	Coastal Monitoring Project 2004-2006
Author :	Ryle, T.; Murray, A.; Connolly, K.; Swann, M.
Series :	Unpublished report to NPWS

Year :	2011
Title :	National survey and assessment of the conservation status of Irish sea cliffs
Author :	Barron, S.J.; Delaney, A.; Perrin, P.M.; Martin, J.; O'Neill, F.
Series :	Irish Wildlife Manual No. 53
Year :	2011
Title :	Monitoring and condition assessment of populations of <i>Vertigo geyeri</i> , <i>Vertigo angustior</i> and <i>Vertigo moulinsiana</i> in Ireland
Author :	Moorkens, E.; Killeen, I.
Series :	Irish Wildlife Manual No. 55
Year :	2013
Title :	National otter survey of Ireland 2010/12
Author :	Reid, N.; Hayden, B.; Lundy, M.G.; Pietravalle, S.; McDonald, R.A.; Montgomery, W.I.
Series :	Irish Wildlife Manual No. 76
Year :	2013
Title :	Monitoring of the breeding population of grey seals in Ireland, 2009 - 2012
Author :	Ó Cadhla, O.; Keena, T.; Strong, D.; Duck, C.; Hiby, L.
Series :	Irish Wildlife Manual No. 74
Year :	2013
Title :	Monitoring survey of Annex I sand dune habitats in Ireland
Author :	Delaney, A.; Devaney, F.M; Martin, J.M.; Barron, S.J.
Series :	Irish Wildlife Manual No. 75
Year :	2013
Title :	An aerial survey of harbour seals in Ireland. Part 1: Lough Foyle to Galway Bay. August 2011
Author :	Duck, C.; Morris, C.
Series :	Unpublished report to NPWS
Year :	2014
Title :	Guidelines for a national survey and conservation assessment of upland vegetation and habitats in Ireland, Version 2.0
Author :	Perrin, P.M.; Barron, S.J.; Roche, J.R.; O'Hanrahan, B.
Series :	Irish Wildlife Manual No. 79
Year :	2015
Title :	Slieve Tooley/Tormore Island/Loughros Beg Bay SAC (site code: 190) Conservation objectives supporting document- coastal habitats V1
Author :	NPWS
Series :	Conservation objectives supporting document
Year :	2015
Title :	Slieve Tooley/Tormore Island/Loughros Beg Bay SAC (site code: 190) Conservation objectives supporting document- marine species V1
Author :	NPWS
Series :	Conservation objectives supporting document

Other References

Year :	1982
Title :	Otter survey of Ireland
Author :	Chapman, P.J.; Chapman, L.L.
Series :	Unpublished report to Vincent Wildlife Trust

Year : 1983
Title : The grey seal (*Halichoerus grypus*) in Ireland
Author : Summers, C.F.
Series : Unpublished Report to the Minister for Fisheries, Forestry and Wildlife

Year : 1991
Title : The spatial organization of otters (*Lutra lutra*) in Shetland
Author : Kruuk, H.; Moorhouse, A.
Series : J. Zool, 224: 41-57

Year : 1998
Title : Population biology of grey seals (*Halichoerus grypus*, Fabricius 1791) in western Ireland
Author : Kiely, O.R.M.
Series : Unpublished PhD thesis, National University of Ireland, University College Cork

Year : 1999
Title : Diet of otters (*Lutra lutra*) on Inishmore, Aran Islands, west coast of Ireland
Author : Kingston, S.; O'Connell, M.; Fairley, J.S.
Series : Biol & Environ Proc R Ir Acad B 99B:173-182

Year : 2006
Title : Otters - ecology, behaviour and conservation
Author : Kruuk, H.
Series : Oxford University Press

Year : 2007
Title : Interpretation manual of European Union habitats- EUR 27
Author : European Commission, DG Environment
Series : Reference document

Year : 2007
Title : Aerial surveying of grey seal breeding colonies on the Blasket Islands, Co. Kerry, the Inishkeas group, Co. Mayo and the Donegal coast, Ireland
Author : Cronin, M.A.; Duck, C.D.; Ó Cadhla, O.
Series : J. Nat. Conserv. 15(2): 77-83

Year : 2008
Title : The phytosociology and conservation value of Irish sand dunes
Author : Gaynor, K.
Series : Unpublished PhD thesis, National University of Ireland, Dublin

Year : 2010
Title : Otter tracking study of Roaringwater Bay
Author : De Jongh, A.; O'Neill, L.
Series : Unpublished draft report to NPWS

Spatial data sources

Year :	2011
Title :	National Survey and assessment of the conservation status of Irish sea cliffs
GIS Operations :	Clipped to SAC boundary
Used For :	1230 (map 3)
Year :	2009
Title :	Coastal Monitoring Project 2004-2006. Version 1
GIS Operations :	QIs selected; clipped to SAC boundary; overlapping regions with Saltmarsh CO data investigated and resolved with expert opinion used
Used For :	2110, 2120 2140, 2150 (map 4)
Year :	2013
Title :	Sand Dune Monitoring Project 2011. Version 1
GIS Operations :	QIs selected; clipped to SAC boundary; overlapping regions with Saltmarsh CO data investigated and resolved with expert opinion used
Used For :	2110, 2120 2140, 2150 (map 4)
Year :	2012
Title :	NPWS rare and threatened species database
GIS Operations :	Dataset created from spatial references in database records. Expert opinion used as necessary to resolve any issues arising
Used For :	1014, 1364 (maps 5 and 7)
Year :	2005
Title :	OSi Discovery series vector data
GIS Operations :	Creation of an 80m buffer on the marine side of the high water mark (HWM); creation of a 10m buffer on the terrestrial side of the HWM; combination of 80m and 10m HWM buffer datasets; creation of a 10m buffer on the terrestrial side of the river banks data; creation of 20m buffer applied to canal centreline data. These datasets are combined with the derived EPA WDF Waterbodies data for the 1355 CO. Overlapping regions investigated and resolved; resulting dataset clipped to SAC boundary. Expert opinion used as necessary to resolve any issues arising. Creation of 250m buffer on marine side of HWM to highlight potential commuting points
Used For :	1355 (map 6)
Year :	2010
Title :	EPA WFD Waterbodies data
GIS Operations :	Creation of a 20m buffer applied to river and stream centreline data; creation of 80m buffer on the aquatic side of lake data; creation of 10m buffer on the terrestrial side of lake data. These datasets are combined with the derived OSi data for the 1355 CO. Overlapping regions investigated and resolved; resulting dataset clipped to SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used For :	1355 (map 6)
Year :	2005
Title :	OSi Discovery series vector data
GIS Operations :	High Water Mark (HWM) polyline feature class converted into polygon feature class; clipped to SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used For :	1364 (map 7)

Conservation Objectives for : Slieve Tooley/Tormore Island/Loughros Beg Bay SAC [000190]

1230 Vegetated sea cliffs of the Atlantic and Baltic coasts

To maintain the favourable conservation condition of Vegetated sea cliffs of the Atlantic and Baltic coasts in Slieve Tooley/Tormore Island/Loughros Beg Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat length	Kilometres	Area stable, subject to natural processes, including erosion. For sub-sites mapped from desktop survey: Drumirrin - 2.95km; Glenlough - 27.63km; Malinmore - 2.41km. See map 3	Based on data from the Irish Sea Cliff Survey (ISCS) (Barron et al., 2011). Cliffs are linear features and are therefore measured in kilometres. Three sub-sites were identified using a combination of aerial photos and the DCENR helicopter viewer. The length of each cliff was measured (in some cases the cliff was measured in sections) to give a total estimated area of 32.99km
Habitat distribution	Occurrence	No decline, subject to natural processes. See map 3	Sea cliffs are distributed throughout the coastline of this SAC. Both hard and soft cliffs are present, with hard cliffs more common (Browne, 2005; Barron et al., 2011). See coastal habitats supporting document for further details
Physical structure: functionality and hydrological regime	Occurrence of artificial barriers	No alteration to natural functioning of geomorphological and hydrological processes due to artificial structures	Based on data from Barron et al. (2011). Maintaining natural geomorphological processes including natural erosion is important for the health of a vegetated sea cliff. Hydrological processes maintain flushes and in some cases tufa formations that can be associated with sea cliffs. Hydrological features such as gullies, streams or cascades were identified by the ISCS as occurring at Malinmore and Drumirrin sub-sites. Streams or cascades were also noted at the Glenlough sub-site. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain range of sea cliff habitat zonations including transitional zones, subject to natural processes including erosion and succession	Based on data from Barron et al. (2011). Adjacent habitats in this SAC include sand dune systems, heath, exposed rock, littoral rock and littoral sediment. See coastal habitats supporting document for further details
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward	Based on data from Barron et al. (2011). See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in the Irish Sea Cliff Survey (Barron et al., 2011)	Rare plant species such as roseroot (<i>Rhodiola rosea</i>) and purple saxifrage (<i>Saxifraga oppositifolia</i>) were noted on low cliffs in this SAC. See coastal habitats supporting document for further details
Vegetation composition: negative indicator species	Percentage	Negative indicator species (including non-natives) to represent less than 5% cover	Based on data from Barron et al. (2011). See coastal habitats supporting document for further details
Vegetation composition: bracken and woody species	Percentage	Cover of bracken (<i>Pteridium aquilinum</i>) on grassland and/or heath less than 10%. Cover of woody species on grassland and/or heath less than 20%	Based on data from Barron et al. (2011). See coastal habitats supporting document for further details

Conservation Objectives for : Slieve Tooley/Tormore Island/Loughros Beg Bay SAC [000190]

2110 Embryonic shifting dunes

To maintain the favourable conservation condition of Embryonic shifting dunes in Slieve Tooley/Tormore Island/Loughros Beg Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Glen Bay - 0.13ha; Maghera - 4.75ha; Maghera Island - 0.44ha. See map 4	Based on data from the Coastal Monitoring Project (CMP) (Ryle et al., 2009) and the Sand Dunes Monitoring Project (SDM) (Delaney et al., 2013). Habitat was recorded from three sub-sites, giving a total estimated area of 5.32ha. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, subject to natural processes. See map 4 for known distribution	Based on data from Ryle et al. (2009) and Delaney et al. (2013). See coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Based on data from Ryle et al. (2009) and Delaney et al. (2013). Dunes are naturally dynamic systems that require continuous supply and circulation of sand. At Glen Bay there is a dynamic band of fore dune development at the northwest tip of the dunes. At Maghera Island there is a good band of embryo and mobile dunes on the more sheltered side where there is ongoing accretion. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from Ryle et al. (2009) and Delaney et al. (2013). A range of coastal habitats including saltmarshes occur at both Glen Bay and Maghera. See coastal habitats supporting document for further details
Vegetation composition: plant health of foredune grasses	Percentage cover	More than 95% of sand couch grass (<i>Elytrigia juncea</i>) and/or lyme grass (<i>Leymus arenarius</i>) should be healthy (i.e. green plant parts above ground and flowering heads present)	Based on data from Ryle et al. (2009) and Delaney et al. (2013). See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities with typical species: sand couch grass (<i>Elytrigia juncea</i>) and/or lyme grass (<i>Leymus arenarius</i>)	Based on data from Ryle et al. (2009) and Delaney et al. (2013). See coastal habitats supporting document for further details
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-native species) to represent less than 5% cover	Based on data from Ryle et al. (2009) and Delaney et al. (2013). Negative indicators include non-native species, species indicative of changes in nutrient status and species not considered characteristic of the habitat. Sea-buckthorn (<i>Hippophae rhamnoides</i>) should be absent or effectively controlled. See coastal habitats supporting document for further details

Conservation Objectives for : Slieve Tooley/Tormore Island/Loughros Beg Bay SAC [000190]

2120 Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes)

To restore the favourable conservation condition of Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) in Slieve Tooley/Tormore Island/Loughros Beg Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes including erosion and succession. For sub-sites mapped: Glen Bay - 0.88ha; Maghera - 7.11ha; Maghera Island - 0.50ha. See map 4	Based on data from the Coastal Monitoring Project (CMP) (Ryle et al., 2009) and Sand Dunes Monitoring Project (SDM) (Delaney et al., 2013). Habitat was mapped at three sub-sites to give a total estimated area of 8.48ha. Habitat is very difficult to measure in view of its dynamic nature. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes. See map 4 for known distribution	Based on data from Ryle et al. (2009) and Delaney et al. (2013). Shifting dunes were recorded from both Glen Bay and Maghera. See coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Based on data from Ryle et al. (2009) and Delaney et al. (2013). Dunes are naturally dynamic systems that require continuous supply and circulation of sand. Marram grass (<i>Ammophila arenaria</i>) reproduces vegetatively and requires constant accretion of fresh sand to maintain active growth encouraging further accretion. At Glen Bay the CMP noted a dynamic zone of fore dune development at northwest tip of dunes. Habitat noted to be accreting at Maghera by CMP and SDM. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from Ryle et al. (2009) and Delaney et al. (2013). A range of coastal habitats including saltmarshes occur at both Glen Bay and Maghera. See coastal habitats supporting document for further details
Vegetation composition: plant health of dune grasses	Percentage cover	More than 95% of marram grass (<i>Ammophila arenaria</i>) and/or lyme-grass (<i>Leymus arenarius</i>) should be healthy (i.e. green plant parts above ground and flowering heads present)	Based on data from Ryle et al. (2009) and Delaney et al. (2013). See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities dominated by marram grass (<i>Ammophila arenaria</i>) and/or lyme-grass (<i>Leymus arenarius</i>)	Based on data from Ryle et al. (2009) and Delaney et al. (2013). See coastal habitats supporting document for further details
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover	Based on data from Ryle et al. (2009) and Delaney et al. (2013). Negative indicators include non-native species, species indicative of changes in nutrient status and species not considered characteristic of the habitat. Sea-buckthorn (<i>Hippophae rhamnoides</i>) should be absent or effectively controlled. See coastal habitats supporting document for further details

Conservation Objectives for : Slieve Tooley/Tormore Island/Loughros Beg Bay SAC [000190]

2140 Decalcified fixed dunes with *Empetrum nigrum*

To maintain the favourable conservation condition of Decalcified fixed dunes with *Empetrum nigrum* in Slieve Tooley/Tormore Island/Loughros Beg Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes including erosion and succession	Based on data from the Coastal Monitoring Project (CMP) (Ryle et al., 2009) and the Sand Dunes Monitoring Project (SDM) (Delaney et al., 2013). Habitat only recorded at Maghera (0.47ha) sub-site by CMP, but was not recorded by SDM who reclassified the same area as 2150 or 2130. Current status of this habitat in Ireland is unclear and is under review. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline or change in habitat distribution, subject to natural processes	See note for area above and coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Physical barriers can lead to fossilisation or over-stabilisation of dunes, as well as beach starvation resulting in increased rates of erosion. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from Gaynor (2008), Ryle et al. (2009) and Delaney et al. (2013). A range of coastal habitats including saltmarshes occurs at Maghera. See coastal habitats supporting document for further details
Vegetation composition: sward height	Centimeters	Maintain structural variation within sward	Based on data from Gaynor (2008), Ryle et al. (2009) and Delaney et al. (2013). At Maghera there is some sheep grazing in the heath habitat, though some areas are undergrazed. See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in Ryle et al. (2009)	Based on data from Gaynor (2008), Ryle et al. (2009) and Delaney et al. (2013). See coastal habitats supporting document for further details
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover	Based on data from Ryle et al. (2009) and Delaney et al. (2013). Negative indicators include non-native species, species indicative of changes in nutrient status and species not considered characteristic of the habitat. Sea-buckthorn (<i>Hippophae rhamnoides</i>) should be absent or effectively controlled. Bracken (<i>Pteridium aquilinum</i>) is an issue at Maghera in the heath habitat where in places it forms patches with hazel (<i>Corylus avellana</i>) and may have spread in to areas that were originally dune heath. See coastal habitats supporting document for further details
Vegetation composition: scrub/trees	Percentage cover	No more than 5% cover or under control	Based on data from Ryle et al. (2009) and Delaney et al. (2013). Hazel (<i>Corylus avellana</i>) and bramble (<i>Rubus fruticosus</i>) were recorded in dune heath habitat at Maghera. See coastal habitats supporting document for further details

Conservation Objectives for : Slieve Tooley/Tormore Island/Loughros Beg Bay SAC [000190]

2150 Atlantic decalcified fixed dunes (*Calluno-Ulicetea*)

To maintain the favourable conservation condition of Atlantic decalcified fixed dunes (*Calluno-Ulicetea*) in Slieve Tooley/Tormore Island/Loughros Beg Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes including erosion and succession. For sub-site mapped: Maghera - 13.14ha. See map 4	Based on data from the Coastal Monitoring Project (CMP) (Ryle et al., 2009) and the Sand Dunes Monitoring Project (SDM) (Delaney et al., 2013). Habitat was recorded at one sub-site giving a total estimated area of 13.14ha. Habitat is difficult to map as it occurs in mosaics. Maghera represents the best known site in Ireland (other than Murlough in County Down) for this habitat. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline or change in habitat distribution, subject to natural processes. See map 4 for known distribution	Based on data from the Ryle et al. (2009) and Delaney et al. (2013). See coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Physical barriers can lead to fossilisation or over-stabilisation of dunes, as well as beach starvation resulting in increased rates of erosion. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from Gaynor (2008), Ryle et al. (2009) and Delaney et al. (2013). See coastal habitats supporting document for further details
Vegetation composition: sward height	Centimeters	Maintain structural variation within sward	Based on data from Gaynor (2008), Ryle et al. (2009) and Delaney et al. (2013). At Maghera there is some sheep grazing in the dune heath habitat. See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in Ryle et al. (2009)	Based on data from Gaynor (2008), Ryle et al. (2009) and Delaney et al. (2013). The dune heath at Maghera is the best example of classic dune heath formation in Ireland. The back of the site consists of a dense canopy of bog myrtle (<i>Myrica gale</i>), ling (<i>Calluna vulgaris</i>), cross-leaved heath (<i>Erica tetralix</i>), purple moorgrass (<i>Molinia caerulea</i>) and creeping willow (<i>Salix repens</i>) in association with marram grass (<i>Ammophila arenaria</i>) and sand sedge (<i>Carex arenaria</i>). See coastal habitats supporting document for further details
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover	Based on data from Ryle et al. (2009) and Delaney et al. (2013). Negative indicators include non-native species, species indicative of changes in nutrient status and species not considered characteristic of the habitat. The spread of bracken (<i>Pteridium aquilinum</i>) is an issue in the dune heath habitat. See coastal habitats supporting document for further details
Vegetation composition: scrub/trees	Percentage cover	No more than 5% cover or under control	Based on data from Ryle et al. (2009) and Delaney et al. (2013). Hazel (<i>Corylus avellana</i>) and bramble (<i>Rubus fruticosus</i>) were recorded in dune heath habitat at Maghera. See coastal habitats supporting document for further details

Conservation Objectives for : Slieve Tooye/Tormore Island/Loughros Beg Bay SAC [000190]

4060 Alpine and Boreal heaths

To restore the favourable conservation condition of Alpine and Boreal heaths in Slieve Tooye/Tormore Island/Loughros Beg Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes	Alpine and Boreal heaths has not been mapped in detail for this SAC and thus total area of the qualifying habitat is unknown. It occurs in association with other habitats, including vegetated sea cliffs (1230), other heath types and acid grassland (NPWS internal files)
Habitat distribution	Occurrence	No decline, subject to natural processes	See note on area above
Ecosystem function: soil nutrients	Soil pH and appropriate nutrient levels at a representative number of monitoring stops	Maintain soil nutrient status within natural range	Relevant nutrients and their natural ranges are yet to be defined. However, nitrogen deposition is noted as being relevant to this habitat in NPWS (2013)
Community diversity	Abundance of variety of vegetation communities	Maintain variety of vegetation communities, subject to natural processes	Further information on vegetation communities associated with this habitat is presented in Perrin et al. (2014)
Vegetation composition: lichens and bryophytes	Number of species at a representative number of 2m x 2m monitoring stops	Number of bryophyte or non-crustose lichen species present at each monitoring stop is at least three	Attribute and target based on Perrin et al. (2014)
Vegetation composition: positive indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of positive indicator species at least 66%	Attribute and target based on Perrin et al. (2014) where the list of positive indicator species for this habitat is also given
Vegetation composition: dwarf-shrub species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of dwarf-shrub species at least 10%	Attribute and target based on Perrin et al. (2014)
Vegetation composition: negative indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Total cover of negative indicator species less than 10%	Attribute and target based on Perrin et al. (2014) where the list of negative indicator species for this habitat is also given
Vegetation composition: non-native species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of non-native species less than 1%	Attribute and target based on Perrin et al. (2014)
Vegetation structure: signs of grazing	Percentage of leaves browsed at a representative number of 2m x 2m monitoring stops	Less than 10% collectively of the live leaves of specific graminoids showing signs of grazing	Attribute and target based on Perrin et al. (2014)
Vegetation structure: signs of browsing	Percentage of shoots browsed at a representative number of 2m x 2m monitoring stops	Less than 33% collectively of the last complete growing season's shoots of ericoids and crowberry (<i>Empetrum nigrum</i>) showing signs of browsing	Attribute and target based on Perrin et al. (2014)
Vegetation structure: burning	Occurrence in local vicinity of a representative number of monitoring stops	No signs of burning within the habitat	Attribute and target based on Perrin et al. (2014)
Physical structure: disturbed bare ground	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of disturbed bare ground less than 10%	Attribute and target based on Perrin et al. (2014)

Indicators of local distinctiveness	Occurrence and population size	No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat	This includes species listed in the Flora (Protection Order 2015 and/or the red data book (Curtis and McGough, 1988))
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Conservation Objectives for : Slieve Tooley/Tormore Island/Loughros Beg Bay SAC [000190]

7130 Blanket bogs (* if active bog)

To restore the favourable conservation condition of Blanket bogs in Slieve Tooley/Tormore Island/Loughros Beg Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Stable or increasing, subject to natural processes	Blanket bogs has not been mapped in detail for this SAC and thus total area of the qualifying habitat is unknown. It occurs in mosaic with other habitats, such as heath habitats (Douglas et al., 1990; NPWS internal files)
Habitat distribution	Occurrence	No decline	See note on area above
Ecosystem function: soil nutrients	Soil pH and appropriate nutrient levels at a representative number of monitoring stops	Maintain soil nutrient status within natural range	Relevant nutrients and their natural ranges are yet to be defined. However, nitrogen deposition is noted as being relevant to this habitat in NPWS (2013)
Ecosystem function: peat formation	Active blanket bog as a proportion of the total area of Annex I blanket bog habitat	At least 99% of the total Annex I blanket bog area is active bog	Blanket bogs are considered active when "still supporting a significant area of vegetation that is normally peat forming" (EC, 2007)
Ecosystem function: hydrology	Flow direction, water levels, occurrence of drains and erosion gullies	Natural hydrology unaffected by drains and erosion	Drains and erosion gullies can affect the natural hydrological processes of blanket bog
Community diversity	Abundance of variety of vegetation communities	Maintain variety of vegetation communities, subject to natural processes	Further information on vegetation communities associated with this habitat is presented in Perrin et al. (2014). Douglas et al. (1990) describes the habitat in this SAC
Vegetation composition: positive indicator species	Number of species at a representative number of 2m x 2m monitoring stops	Number of positive indicator species at each monitoring stop is at least seven	Attribute and target based on Perrin et al. (2014) where the list of positive indicator species for this habitat is also given
Vegetation composition: lichens and bryophytes	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of bryophytes or lichens, excluding <i>Sphagnum fallax</i> , at least 10%	Attribute and target based on Perrin et al. (2014)
Vegetation composition: potential dominant species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of each of the potential dominant species less than 75%	Attribute and target based on Perrin et al. (2014)
Vegetation composition: negative indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Total cover of negative indicator species less than 1%	Attribute and target based on Perrin et al. (2014) where the list of negative indicator species for this habitat is also given
Vegetation composition: non-native species	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of non-native species less than 1%	Attribute and target based on Perrin et al. (2014)
Vegetation composition: native trees and scrub	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of scattered native trees and shrubs less than 10%	Attribute and target based on Perrin et al. (2014)
Vegetation structure: <i>Sphagnum</i> condition	Condition of <i>Sphagnum</i> at a representative number of 2m x 2m monitoring stops	Less than 10% of the <i>Sphagnum</i> cover is crushed, broken and/or pulled up	Attribute and target based on Perrin et al. (2014)

Vegetation structure: signs of browsing	Percentage of shoots browsed at a representative number of 2m x 2m monitoring stops	Last complete growing season's shoots of ericoids, crowberry (<i>Empetrum nigrum</i>) and bog-myrtle (<i>Myrica gale</i>) showing signs of browsing collectively less than 33%	Attribute and target based on Perrin et al. (2014)
Vegetation structure: burning	Occurrence in local vicinity of a representative number of monitoring stops	No signs of burning in sensitive areas, into the moss, liverwort or lichen layer or exposure of peat surface due to burning	Attribute and target based on Perrin et al. (2014) where the list of sensitive areas is also presented
Physical structure: disturbed bare ground	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of disturbed bare ground less than 10%	Attribute and target based on Perrin et al. (2014)
Physical structure: drainage	Occurrence in local vicinity of a representative number of monitoring stops	Area showing signs of drainage from heavy trampling, tracking or ditches less than 10%	Attribute and target based on Perrin et al. (2014)
Physical structure: erosion	Occurrence in local vicinity of a representative number of monitoring stops	Less than 5% of the greater bog mosaic comprises erosion gullies and eroded areas	Attribute and target based on Perrin et al. (2014). The greater bog mosaic incorporates the blanket bog itself and associated vegetation types as well as non-vegetation cover types that appear to have been derived from former blanket bog including gravel, rock and running water
Indicators of local distinctiveness	Occurrence and population size	No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat	This includes species listed in the Flora (Protection) Order 2015 and/or the red data book (Curtis and McGough, 1988)

Conservation Objectives for : Slieve Tooley/Tormore Island/Loughros Beg Bay SAC [000190]

1014 Narrow-mouthed Whorl Snail *Vertigo angustior*

To maintain the favourable conservation condition of Narrow-mouthed Whorl Snail in Slieve Tooley/Tormore Island/Loughros Beg Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Distribution: occupied sites	Number	No decline. There is one known site in the SAC at Glencolumbcille in grid square G5285. See map 5	From Moorkens (2000, 2007); Moorkens and Killeen (2011) (site code VaCAM4)
Occurrence in suitable habitat	Percentage positive records in a representative number of samples	A minimum of 25% positive samples in areas of habitat that are at least sub-optimal	Target based on Moorkens and Killeen (2011). Positive samples mean the confirmed presence of snails (living or recently dead adults and/or juveniles). See habitat extent target below for definition of optimal and sub-optimal habitat
Habitat quality	Metres along transect; percentage of representative number of samples	90m of the established monitoring transect assessed as at least sub-optimal or at least 60% of samples within suitable habitat polygon at least sub-optimal	Transect established as part of condition assessment monitoring by Moorkens and Killeen (2011). See habitat extent target below for definition of optimal and sub-optimal habitat
Optimal soil wetness	Metres along transect; percentage of representative number of samples	90m of the established monitoring transect assessed as optimal wetness or at least 60% of sampling stops assessed as optimal wetness	Optimal wetness is defined by Moorkens and Killeen (2011)
Habitat extent	Hectares	Area of suitable habitat stable or increasing subject to natural processes and at least 7.1ha	From Moorkens and Killeen (2011). Optimal habitat is defined as fixed dune, species-rich grassland dominated by red fescue (<i>Festuca rubra</i>), with sparse marram grass (<i>Ammophila arenaria</i>), birds-foot trefoil (<i>Lotus corniculatus</i>), thyme (<i>Thymus praecox</i>), ribwort plantain (<i>Plantago lanceolata</i>), kidney vetch (<i>Anthyllis vulneraria</i>), white clover (<i>Trifolium repens</i>), lady's bedstraw (<i>Galium verum</i>) and other low growing herbs in vegetation with height between 10-30cm, growing on damp, friable soil covered with a layer of humid, open structured thatch. Sub-optimal habitat is as above but either vegetation height is less than 10cm or between 30 and 50cm, or the soil is dry and sandy, or the thatch is wetter, or the thatch has either a very dense structure, or the thatch is very sparse

Conservation Objectives for : Slieve Tooley/Tormore Island/Loughros Beg Bay SAC [000190]

1355 Otter *Lutra lutra*

To maintain the favourable conservation condition of Otter in Slieve Tooley/Tormore Island/Loughros Beg Bay SAC, which is defined by the following list of attributes and targets:

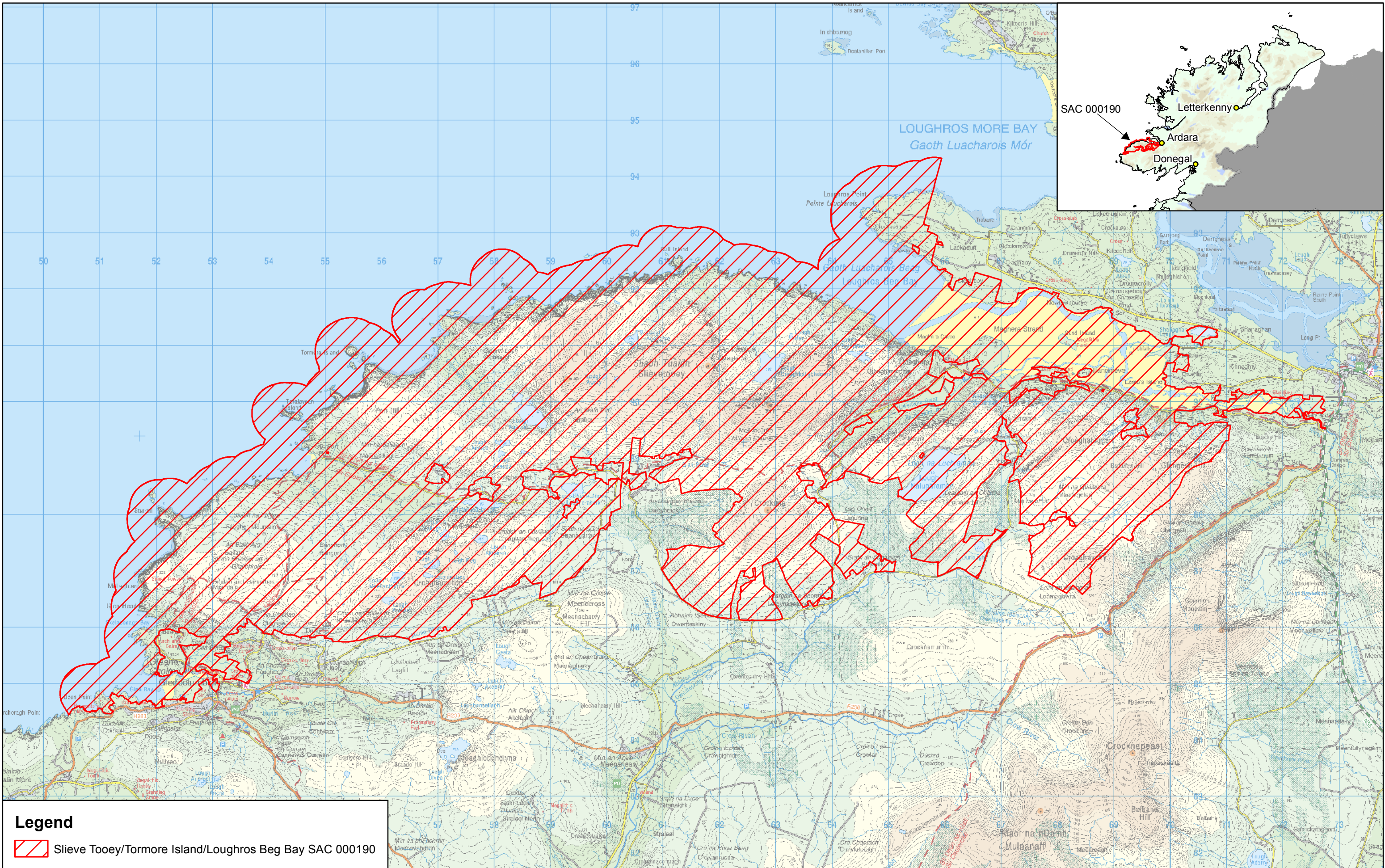
Attribute	Measure	Target	Notes
Distribution	Percentage positive survey sites	No significant decline	Measure based on standard otter survey technique. FCS target, based on 1980/81 survey findings, is 88% in SACs. Current range is estimated as 93.6% (Reid et al., 2013)
Extent of terrestrial habitat	Hectares	No significant decline. Area mapped and calculated as 272.4ha	No field survey. Areas mapped to include 10m terrestrial buffer along shoreline (above HWM and along river banks) identified as critical for otters (NPWS, 2007)
Extent of marine habitat	Hectares	No significant decline. Area mapped and calculated as 523.9ha	No field survey. Area mapped based on evidence that otters tend to forage within 80m of the shoreline (HWM) (NPWS, 2007; Kruuk, 2006)
Extent of freshwater (river) habitat	Kilometres	No significant decline. Length mapped and calculated as 93.9km	No field survey. River length calculated on the basis that otters will utilise freshwater habitats from estuary to headwaters (Chapman and Chapman, 1982)
Extent of freshwater (lake/lagoon) habitat	Hectares	No significant decline. Area mapped and calculated as 107.2ha	No field survey. Area mapped based on evidence that otters tend to forage within 80m of the shoreline (NPWS, 2007)
Couching sites and holts	Number	No significant decline	Otters need lying up areas throughout their territory where they are secure from disturbance (Kruuk, 2006; Kruuk and Moorhouse, 1991)
Fish biomass available	Kilograms	No significant decline	Broad diet that varies locally and seasonally, but dominated by fish, in particular salmonids, eels and sticklebacks in freshwater (Bailey and Rochford, 2006; Reid et al., 2013) and wrasse and rockling in coastal waters (Kingston et al., 1999)
Barriers to connectivity	Number	No significant increase. For guidance, see map 6	Otters will regularly commute across stretches of open water up to 500m e.g. between the mainland and an island; between two islands; across an estuary (De Jongh and O'Neill, 2010). It is important that such commuting routes are not obstructed

**Conservation Objectives for : Slieve Tooley/Tormore Island/Loughros Beg Bay SAC
[000190]**


1364 Grey Seal *Halichoerus grypus*


To maintain the favourable conservation condition of Grey Seal in Slieve Tooley/Tormore Island/Loughros Beg Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Access to suitable habitat	Number of artificial barriers	Species range within the SAC should not be restricted by artificial barriers to site use. See map 7	See marine supporting document for further details
Breeding behaviour	Breeding sites	Conserve the breeding sites in a natural condition. See map 7 for known sites	Attribute and target based on background knowledge of Irish breeding populations, a preliminary survey in 2003 (Cronin and Ó Cadhla, 2004; Cronin et al., 2007), comprehensive breeding surveys in 2005 (Ó Cadhla et al., 2008) and 2012 (Ó Cadhla et al., 2013) and unpublished NPWS records including those reported by Summers (1983) and Lyons (2004). See marine supporting document for further details
Moulting behaviour	Moult haul-out sites	Conserve the moult haul-out sites in a natural condition. See map 7 for known sites	Attribute and target based on background knowledge of Irish populations, on review of data from Kiely (1998) and Lyons (2004), a national moult survey (Ó Cadhla & Strong, 2007) and unpublished NPWS records. See marine supporting document for further details
Resting behaviour	Resting haul-out sites	Conserve the resting haul-out sites in a natural condition. See map 7 for known sites	Attribute and target based on review data from Lyons (2004), Cronin et al. (2004), Duck and Morris (2013) and unpublished NPWS records. See marine supporting document for further details
Disturbance	Level of impact	Human activities should occur at levels that do not adversely affect the grey seal population at the SAC	See marine supporting document for further details



Legend

 Slieve Tooley/Tormore Island/Loughros Beg Bay SAC 000190



An Roinn
Ealaíon, Oidhreachta agus Gaeltachta
Department of
Arts, Heritage and the Gaeltacht

MAP 1:
**SLIEVE TOOHEY/TORMORE ISLAND/LOUGHROS
BEG BAY SAC**
CONSERVATION OBJECTIVES
SAC DESIGNATION

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 000190; version 3. CO. DONEGAL

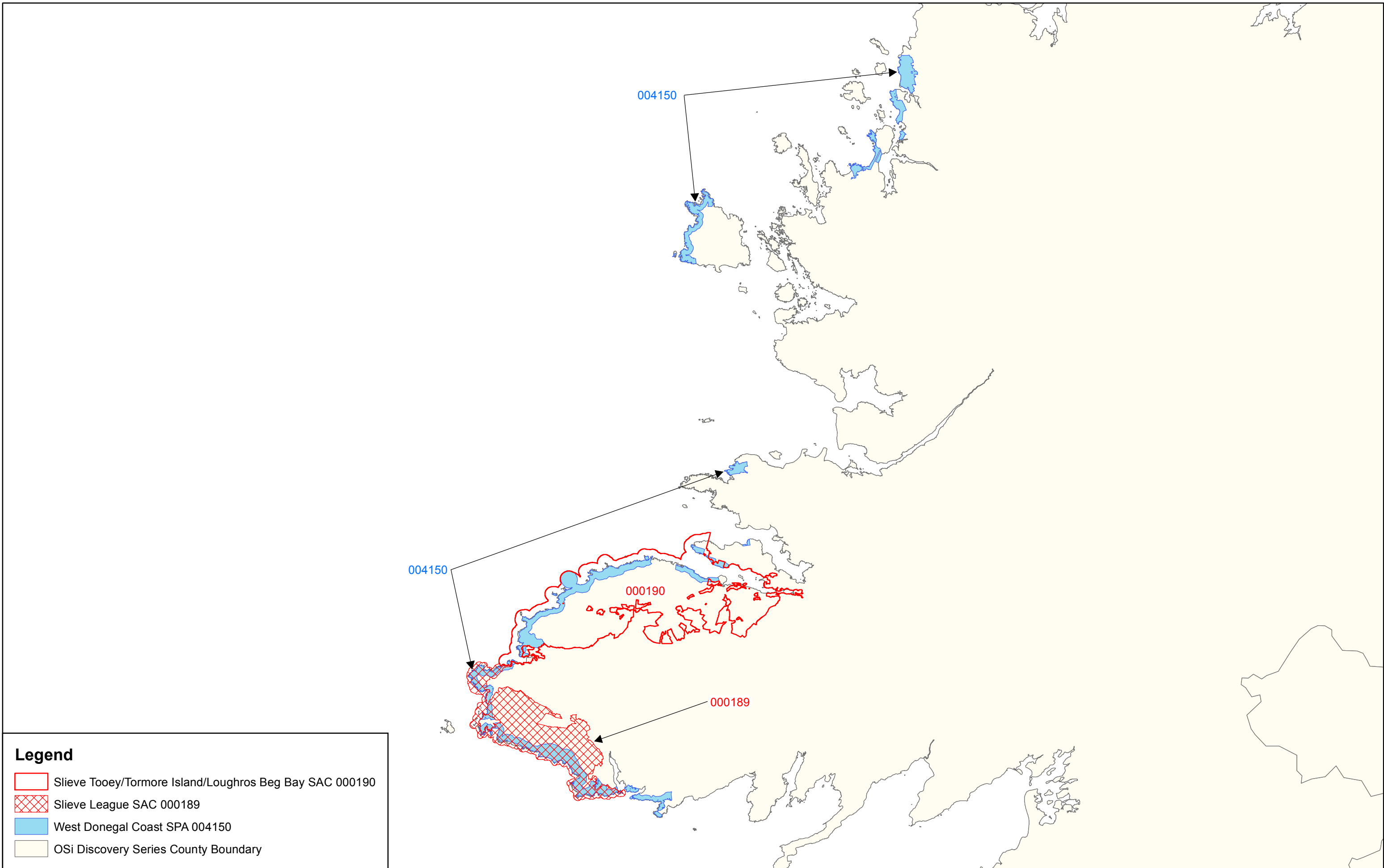
0 1 2 3 4 km

The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
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Níl sna teorainneacha ar na léarscáileanna ach nod garshuíomhach ginearálta. Féadfar athbheithnithe a déanamh ar theorainneacha na gceantar comharthaíthe. Suirbhéarachta Ordonáis na hÉireann Ceadúnas Uimh EN 0059214. © Suirbhéarachta Ordonáis na hÉireann Rialtas na hÉireann

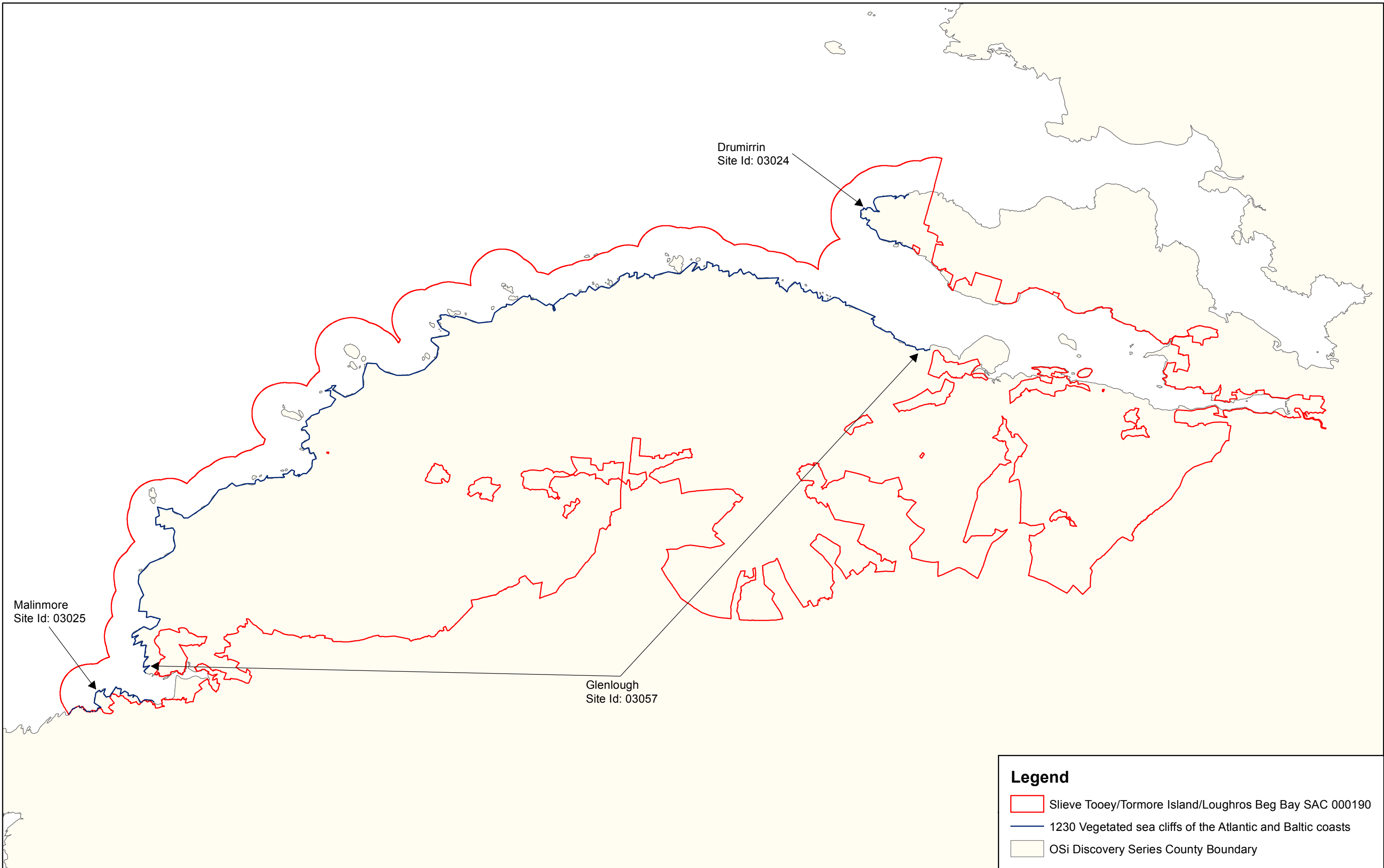


Map Version 1
Date: May 2015



Legend

- Slieve Tooley/Tormore Island/Loughros Beg Bay SAC 000190
- Slieve League SAC 000189
- West Donegal Coast SPA 004150
- OSi Discovery Series County Boundary



Legend

- Slieve Tooley/Tormore Island/Loughros Beg Bay SAC 000190
- 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts
- OSi Discovery Series County Boundary

Legend

- Slieve Tooley/Tormore Island/Loughros Beg Bay SAC 000190
- OSi Discovery Series County Boundary
- CMP: 146 Coastal Monitoring Project Site Codes
- SDM: 147 Sand Dunes Monitoring Project Site Codes

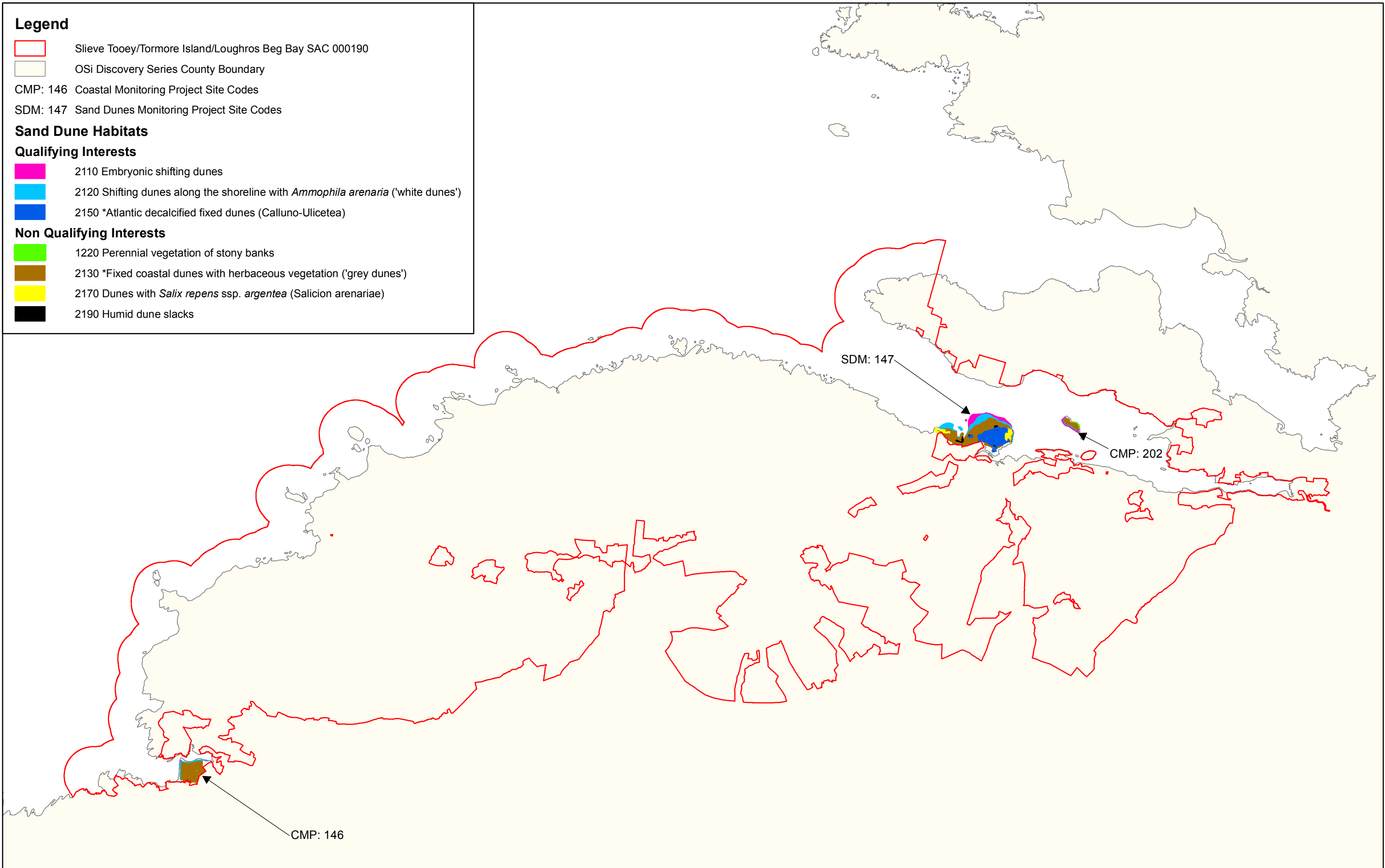
Sand Dune Habitats

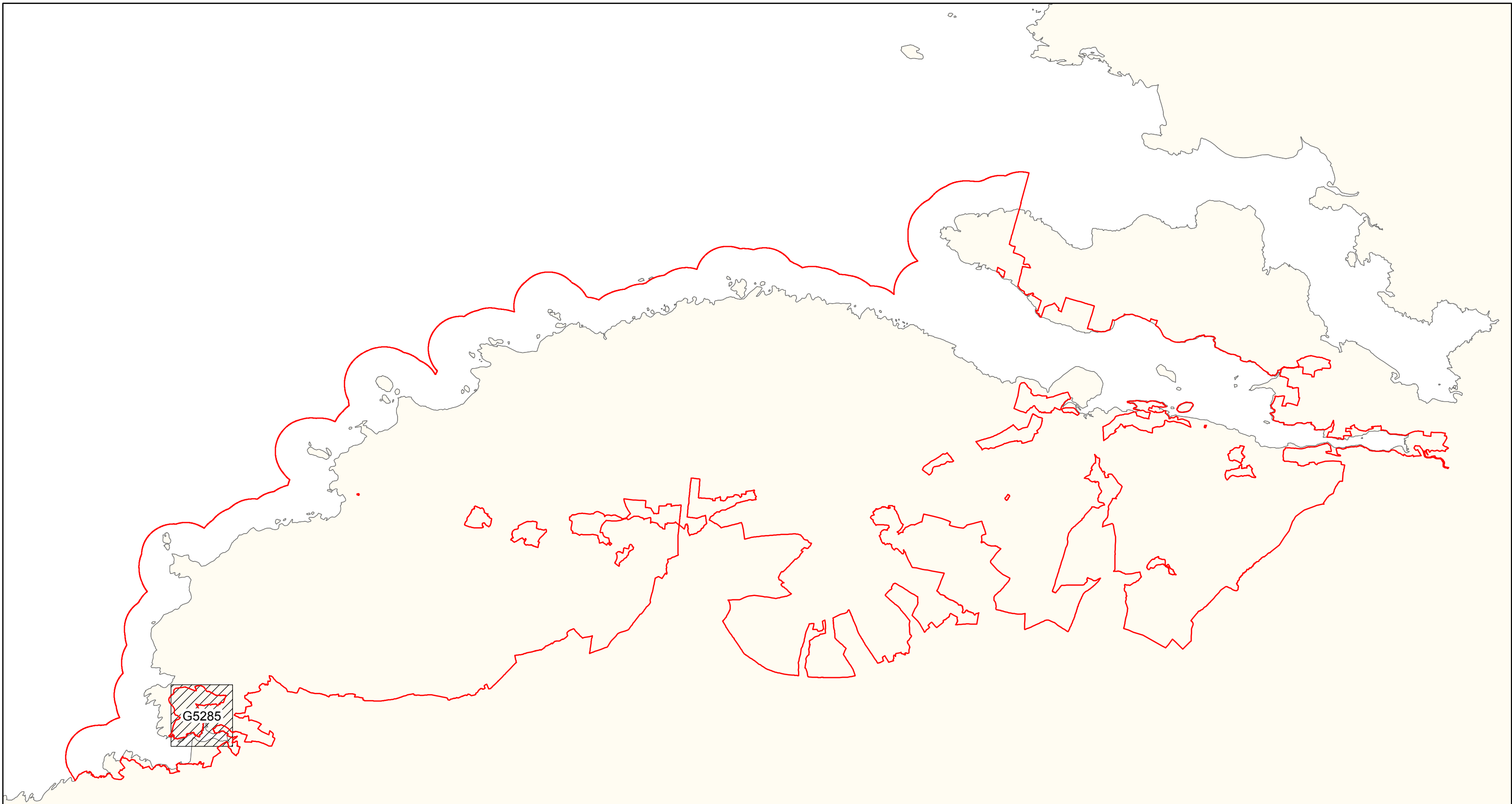
Qualifying Interests

- 2110 Embryonic shifting dunes
- 2120 Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes')
- 2150 *Atlantic decalcified fixed dunes (*Calluno-Ulicetea*)

Non Qualifying Interests

- 1220 Perennial vegetation of stony banks
- 2130 *Fixed coastal dunes with herbaceous vegetation ('grey dunes')
- 2170 Dunes with *Salix repens* ssp. *argentea* (*Salicion arenariae*)
- 2190 Humid dune slacks





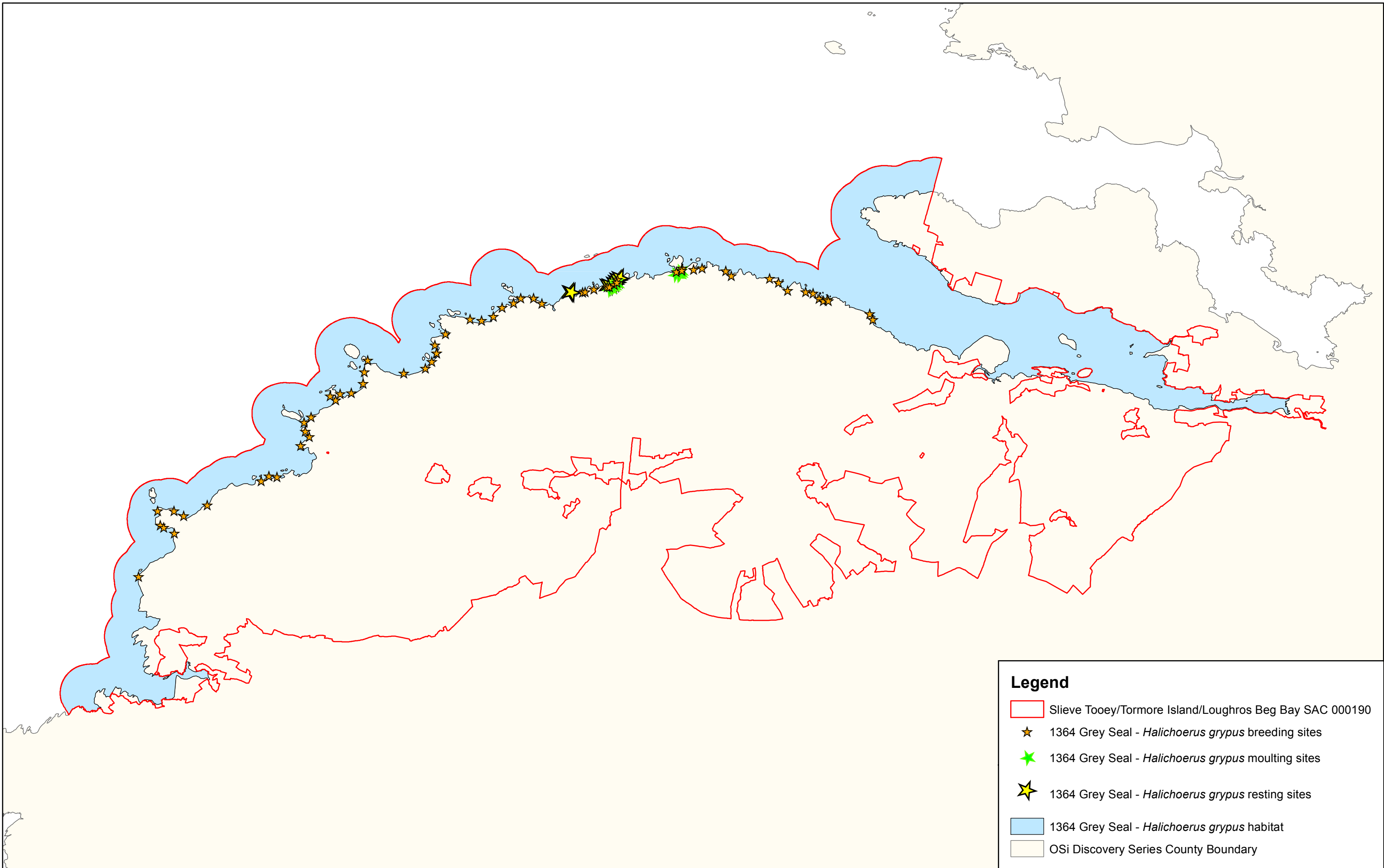
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- Slieve Tooley/Tormore Island/Loughros Beg Bay SAC 000190
- 1014 Narrow-Mouthed Whorl Snail - *Vertigo angustior*
- OSi Discovery Series County Boundary



Legend

- Slieve Tooley/Tormore Island/Loughros Beg Bay SAC 000190
- 1355 Otter - *Lutra lutra* Commuting 250m buffer
- OSi Discovery Series County Boundary



Legend

- Slieve Tooley/Tormore Island/Loughros Beg Bay SAC 000190
- ★ 1364 Grey Seal - *Halichoerus grypus* breeding sites
- ★ 1364 Grey Seal - *Halichoerus grypus* moulting sites
- ★ 1364 Grey Seal - *Halichoerus grypus* resting sites
- 1364 Grey Seal - *Halichoerus grypus* habitat
- OSi Discovery Series County Boundary