

National Parks and Wildlife Service

Conservation Objectives

Lough Swilly SAC 002287

Lough Swilly SPA 004075



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

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

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QI	Description
1130	Estuaries
1150	* Coastal lagoons
1330	Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)
1355	Otter <i>Lutra lutra</i>
91A0	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles

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QI	Description	
A005	Great Crested Grebe <i>Podiceps cristatus</i>	wintering
A028	Grey Heron <i>Ardea cinerea</i>	wintering
A038	Whooper Swan <i>Cygnus cygnus</i>	wintering
A043	Greylag Goose <i>Anser anser</i>	wintering
A048	Shelduck <i>Tadorna tadorna</i>	wintering
A050	Wigeon <i>Anas penelope</i>	wintering
A052	Teal <i>Anas crecca</i>	wintering
A053	Mallard <i>Anas platyrhynchos</i>	wintering
A056	Shoveler <i>Anas clypeata</i>	wintering
A062	Scaup <i>Aythya marila</i>	wintering
A067	Goldeneye <i>Bucephala clangula</i>	wintering
A069	Red-breasted Merganser <i>Mergus serrator</i>	wintering
A125	Coot <i>Fulica atra</i>	wintering
A130	Oystercatcher <i>Haematopus ostralegus</i>	wintering
A143	Knot <i>Calidris canutus</i>	wintering
A149	Dunlin <i>Calidris alpina</i>	wintering
A160	Curlew <i>Numenius arquata</i>	wintering
A162	Redshank <i>Tringa totanus</i>	wintering
A164	Greenshank <i>Tringa nebularia</i>	wintering
A179	Black-headed Gull <i>Chroicocephalus ridibundus</i>	breeding
A182	Common Gull <i>Larus canus</i>	wintering
A191	Sandwich Tern <i>Sterna sandvicensis</i>	breeding
A193	Common Tern <i>Sterna hirundo</i>	breeding
A395	Greenland White-fronted goose <i>Anser albifrons flavirostris</i>	wintering
A999	Wetlands & Waterbirds	

Supporting documents, relevant reports & publications (listed by date)

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

Title: Seabird Monitoring Programme (SMP) Database

Year: 2011

Author: JNCC

Series: <http://jncc.defra.gov.uk/smp/Default.aspx>

Title: Lough Swilly SAC (002287): Conservation objectives supporting document - coastal habitats [Version 1]

Year: 2011

Author: NPWS

Series: Unpublished Report to NPWS

Title: Lough Swilly SPA (004075): Conservation objectives supporting document [Version 1]

Year: 2011

Author: NPWS

Series: Unpublished Report to NPWS

Title: Lough Swilly SAC (002287): Conservation objectives supporting document - marine habitats [Version 1]

Year: 2011

Author: NPWS

Series: Unpublished Report to NPWS

Title: Otter tracking study of Roaringwater Bay

Year: 2010

Author: De Jongh, A.; O'Neill, L.

Series: Unpublished Draft Report to NPWS

Title: A provisional inventory of ancient and long-established woodland in Ireland

Year: 2010

Author: Perrin, P.M.; Daly, O.H.

Series: Irish Wildlife Manuals No. 46

Title: Saltmarsh Monitoring Report 2007-2008

Year: 2009

Author: McCorry, M.; Ryle, T.

Series: Unpublished Report to NPWS

Title: National Survey of Native Woodlands 2003-2008

Year: 2008

Author: Perrin, P.; Martin, J.; Barron, S.; O'Neill, F.; McNutt, K.; Delaney, A.

Series: Unpublished Report to NPWS

Title: Saltmarsh Monitoring Report 2006

Year: 2007

Author: McCorry, M.

Series: Unpublished Report to NPWS

Title: Supporting documentation for the Habitats Directive Conservation Status Assessment - backing documents, Article 17 forms and supporting maps

Year: 2007

Author: NPWS

Series: Unpublished Report to NPWS

Title: Inventory of Irish coastal lagoons

Year: 2007

Author: Oliver, G.

Series: Unpublished Report to NPWS

Title: Otter Survey of Ireland 2004/2005

Year: 2006

Author: Bailey, M.; Rochford, J.

Series: Irish Wildlife Manuals No. 23

Title: Otters - ecology, behaviour and conservation

Year: 2006

Author: Kruuk, H.

Series: Oxford University Press

Title: Seabird Populations of Britain and Ireland

Year: 2004

Author: Mitchell, P.I.; Newton, S.F.; Ratcliffe, N.; Dunn, T.E.

Series: Poyser, London

Title: Reversing the habitat fragmentation of British woodlands

Year: 2002

Author: Peterken, G.

Series: WWF-UK, London

Title: Diet of Otters *Lutra lutra* on Inishmore, Aran Islands, west coast of Ireland

Year: 1999

Author: Kingston, S.; O'Connell, M.; Fairley, J.S.

Series: Biol & Environ Proc R Ir Acad B 99B:173–182

Title: Seabird monitoring handbook for Britain and Ireland: a compilation of methods for survey and monitoring of breeding seabirds.

Year: 1995

Author: Walsh, P.; Halley, D.J.; Harris, M.P.; del Nevo, A.; Sim, I.M.W.; Tasker, M.L.

Series: JNCC, Peterborough

Title: The spatial organization of otters (*Lutra lutra*) in Shetland

Year: 1991

Author: Kruuk, H.; Moorhouse, A.

Series: J. Zool, 224: 41-57

Title: Otter survey of Ireland

Year: 1982

Author: Chapman, P.J.; Chapman, L.L.

Series: Unpublished Report to Vincent Wildlife Trust

Spatial data sources

Year:	2010
Title:	EPA transitional waterbody data
GIS operations:	Clipped to SAC boundary
Used for:	1130 (map 2)
Year:	2005
Title:	OSi Discovery series vector data
GIS operations:	High water mark (HWM) and low water mark (LWM) polyline feature classes converted into polygon feature classes and combined; Saltmarsh and Sand Dune datasets erased out
Used for:	Marine community types base data (map 3)
Year:	Interpolated 2011
Title:	Intertidal/subtidal surveys 2009, 2010
GIS operations:	Polygon feature classes from marine community types base data sub-divided based on interpolation of marine survey data
Used for:	Marine community types (map 3)
Year:	Revision 2011
Title:	Inventory of Irish Coastal Lagoons. Version 3
GIS operations:	Clipped to SAC boundary
Used for:	1150 (map 4)
Year:	Revision 2010
Title:	Saltmarsh Monitoring Project 2007-2008. Version 1
GIS operations:	QI selected; clipped to SAC boundary
Used for:	1330 (map 5)
Year:	Revision 2010
Title:	National Survey of Native Woodlands 2003-2008. Version 1
GIS operations:	QIs selected; clipped to SAC boundary
Used for:	91A0 (map 6)
Year:	2005
Title:	OSi Discovery series vector data
GIS operations:	High water mark (HWM) and low water mark (LWM) polyline feature classes converted into polygon feature classes and combined; saltmarsh data for site combined to HWM and LWM polygon feature class; resulting polygon feature class unioned with SPA boundary; resulting polygon feature class clipped to SPA boundary; bird use zone attributes assigned to each polygon
Used for:	Bird use zones (map 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 landward side of the river banks data; creation of a 20m buffer applied to river centerline and stream data; combination of 10m river banks and 20m river and stream centerline buffer datasets; combined river and stream buffer dataset clipped to HWM; combination of HWM buffer dataset with river and stream buffer dataset; overlapping regions investigated and resolved; resulting dataset clipped to SAC boundary
Used for:	1355 (no map)

Conservation objectives for: Lough Swilly SAC [002287]

1130 Estuaries

To maintain the favourable conservation condition of Estuaries in Lough Swilly SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes. See map 2	Habitat area was estimated at 6118ha using OSI data and the defined Transitional Water Body area under the Water Framework Directive. See marine habitats supporting document for further information
Community distribution	Hectares	The following communities should be conserved in a natural condition: Fine sand community complex; Intertidal mixed sediment with polychaetes; Subtidal mixed sediment with polychaetes and bivalves; Muddy fine sand with <i>Thyasira flexuosa</i> ; Mud community complex and <i>Ostrea edulis</i> dominated community. See map 3	The communities were derived from the 2009 and 2010 intertidal survey and 2009 subtidal survey. See marine habitats supporting document for further information

1150 * Coastal lagoons

To restore the favourable conservation condition of Lagoons in Lough Swilly SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable, subject to slight natural variation. Favourable reference area 206ha- Inch Lough 176ha; Blanket Nook 30ha. See map 4	Areas calculated from spatial data derived from Oliver, 2007. Two lagoons are identified
Salinity regime	Practical salinity units (psu)	Maintain median annual salinity within natural ranges: Inch 0.1 - 3.0psu; Blanket Nook 10 - 20psu	Inch is one of the largest oligohaline (low salinity) lagoons in Ireland and most of the waterbody should have a salinity of 0.5 to 3.0 for most of the time but locally, fresh water may occur and at depth salinities of over 20 psu have been recorded. Blanket Nook is a mesohaline (medium salinity) lagoon. See Oliver (2007) for further information
Hydrological regime	Metres	Maintain current annual water level fluctuations and minima	Both lagoons are shallow- Inch only 2m and Blanket Nook 1m deep (Oliver, 2007). Small changes in summer levels would result in major losses of lagoonal area. Need to investigate normal fluctuations and set specific targets
Barrier	Sluice function	Maintain permeability, including appropriate management of sluices	Both lagoons are artificial with embankment barriers containing sluices. Need to identify main saline inputs and ensure that they, or equivalent, saline inputs are retained
Water quality: Chlorophyll a	µg/L	Reduce annual median chlorophyll a to less than 2.5µg/L at Inch; less than 5µg/L at Blanket Nook	These limits are needed to ensure that excessive shading from phytoplankton does not restrict macrophytes colonisation in the lagoons (J. Ryan, pers comm)
Water quality: Molybdate Reactive Phosphorus (MRP)	mg/L	Reduce annual median MRP to less than 0.01mg/L at Inch; less than 0.02mg/L at Blanket Nook	These limits are needed to ensure that excessive shading from phytoplankton does not restrict macrophytes colonisation in the lagoons (J. Ryan, pers comm)
Water quality: Dissolved Inorganic Nitrogen (DIN)	mg/L	Reduce annual median DIN to less than 0.15mg/L at Inch; less than 0.4mg/L at Blanket Nook	These limits are needed to ensure that excessive shading from phytoplankton does not restrict macrophytes colonisation in the lagoons (J. Ryan, pers comm)
Depth of macrophyte colonisation	Metres	Increase colonisation to maximum depth of both lagoons	Increased depth of colonisation increases both the extent and diversity of submergent macrophytes. This is especially important in Inch where, as well as being of major interest in their own right, the presence of a healthy submerged macrophyte sward is also important for the achievement of the SPA objectives
Typical plant species	Number and m ²	Maintain number and extent of listed lagoonal specialists, subject to natural variation	Species listed in Oliver (2007), especially <i>Chara canescens</i> , <i>Ruppia</i> spp. and <i>Zannichellia palustris</i> in Inch

1150 * Coastal lagoons

To restore the favourable conservation condition of Lagoons in Lough Swilly SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Typical invertebrate species	Number	Maintain listed lagoon specialists, subject to natural variation	Species listed in Oliver (2007), especially <i>Jaera ischiosetosa</i> (an isopod crustacean) in Blanket Nook
Negative indicator species	Number and % cover	Negative indicator species absent or under control	Because of eutrophication and the shallowness of both lagoons there is a danger that the cover of emergents and/or floating algal mats might increase at the expense of submerged macrophytes

1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

To restore the favourable conservation condition of Atlantic salt meadows in Lough Swilly 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: Fahan - 7.29ha, Green Hill - 2.02ha, Lower Lough Swilly - 8.44ha, Rathmelton - 10.01ha, Ray - 0.05ha. See map 5	Based on data from the Saltmarsh Monitoring Project (McCorry, 2007; McCorry and Ryle, 2009). Five sub-sites were mapped and additional areas of potential saltmarsh were identified from an examination of aerial photographs, giving a total estimated area of Atlantic salt meadow of 38.98ha. NB further unsurveyed areas maybe present within the site. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, subject to natural processes. See map 5 for known distribution	See coastal habitats supporting document for further details
Physical structure: sediment supply	Presence/absence of physical barriers	Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions	See coastal habitats supporting document for further details
Physical structure: creeks and pans	Occurrence	Maintain/restore creek and pan structure, subject to natural processes, including erosion and succession	Based on data from McCorry (2007) and McCorry and Ryle (2009). Creek and pan structure is well developed at Rathmelton, but poorly developed or absent at all other sub-sites. Significant drainage has occurred at Green Hill. See coastal habitats supporting document for further details
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime	See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain range of saltmarsh habitat zonations including transitional zones, subject to natural processes including erosion and succession. See map 5	Based on data from McCorry (2007) and McCorry and Ryle (2009). Most of the saltmarsh habitat in Lough Swilly is Atlantic salt meadow, although <i>Salicornia</i> mudflats have been recorded at Lower Lough Swilly and Rathmelton. Mediterranean salt meadow has also been recorded at Rathmelton. See coastal habitats supporting document for further details
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward	Based on data from McCorry (2007) and McCorry and Ryle (2009). See coastal habitats supporting document for further details
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% of area outside creeks vegetated	Based on data from the Saltmarsh Monitoring Project (McCorry, 2007; McCorry and Ryle, 2009). See coastal habitats supporting document for further details

1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

To restore the favourable conservation condition of Atlantic salt meadows in Lough Swilly SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Vegetation composition: typical species and sub-communities	Percentage cover at a representative sample of monitoring stops	Maintain range of sub-communities with characteristic species listed in Saltmarsh Monitoring Project (McCorry & Ryle, 2009)	See coastal habitats supporting document for further details
Vegetation composition: negative indicator species - <i>Spartina anglica</i>	Hectares	No significant expansion of <i>Spartina</i> . No new sites for this species and an annual spread of less than 1% where it is already known to occur	Based on data from McCorry (2007) and McCorry and Ryle (2009). Significantly large stands of <i>Spartina</i> have been recorded at Rathmelton, Lower Lough Swilly and Green Hill. The evidence suggests that there has been recent spread of <i>Spartina</i> at Green Hill and parts of Rathmelton, while it may have been planted at Lower Lough Swilly. See coastal habitats supporting document for further details

1355 Otter *Lutra lutra*

To restore the favourable conservation condition of Otter in Lough Swilly 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 in north-west estimated at 65% (Bailey and Rochford, 2006)
Extent of terrestrial habitat	Hectares	No significant decline. Area mapped and calculated as 95.7ha above high water mark (HWM); 44.0ha along river banks/ around pools	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 839.5ha	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 15.5km	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 83.7ha	No field survey. Lagoons have been included with other freshwater habitat as they are low/medium salinity. 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) and wrasse and rockling in coastal waters (Kingston et al., 1999)
Barriers to connectivity	Number	No significant increase	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

91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

To restore the favourable conservation condition of Old oak woodland with *Ilex* and *Blechnum* in Lough Swilly 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, at least 58.68ha for sub-sites surveyed: Rathmullen wood - 26.00ha; Salt Pans wood - 13.47ha; Ballynarry wood - 15.61ha; Carrow Cashel wood - 3.60ha. See map 6	Area based on Perrin et al. (2008) - site codes 1420, 1430, 1434 and 1695 and internal NPWS reports. NB further unsurveyed areas maybe present within the site
Habitat distribution	Occurrence	No decline. Surveyed locations shown on map 6	Distribution based on Perrin et al. (2008) - site codes 1420, 1430, 1434 and 1695 and internal NPWS reports. NB further unsurveyed areas maybe present within the site
Woodland size	Hectares	Large woods at least 25ha in size and "small" woods at least 3ha in size	The sizes of at least some of the existing woodlands need to be increased in order to reduce habitat fragmentation and benefit those species requiring 'deep' woodland conditions (Peterken, 2002). Topographical constraints may restrict expansion
Woodland structure: cover and height	Percentage and metres	Diverse structure with a relatively closed canopy containing mature trees; subcanopy layer with semi-mature trees and shrubs; and well-developed herb layer	Described in Perrin et al. (2008) - site codes 1420, 1430, 1434 and 1695 and internal NPWS reports
Woodland structure: community diversity and extent	Hectares	Maintain diversity and extent of community types, including oak-ash; alder-ash in seepage areas and alongside streams; oak-birch; willow-alder-ash	Described in Perrin et al. (2008) - site codes 1420, 1430, 1434 and 1695 and internal NPWS reports
Woodland structure: natural regeneration	Seedling:sapling:pole ratio	Seedlings, saplings and pole age-classes occur in adequate proportions to ensure survival of woodland canopy	Oak regenerates poorly. In suitable sites ash can regenerate in large numbers although few seedlings reach pole size
Woodland structure: dead wood	m ³ per hectare; number per hectare	At least 30m ³ /ha of fallen timber greater than 10cm diameter; 30 snags/ha; both categories should include stems greater than 40cm diameter	Dead wood is a valuable resource and an integral part of a healthy, functioning woodland ecosystem
Woodland structure: veteran trees	Number per hectare	No decline	Mature and veteran trees are important habitats for bryophytes, lichens, saproxylic organisms and some bird species. Their retention is important to ensure continuity of habitats/niches and propagule sources

91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

To restore the favourable conservation condition of Old oak woodland with *Ilex* and *Blechnum* in Lough Swilly SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Woodland structure: indicators of local distinctiveness	Occurrence	No decline	Includes ancient or long-established (i.e. pre-1840s) woodlands, archaeological and geological features as well as red-listed and other rare or localised species. Perrin and Daly (2010) list Rathmullen wood, Salt pans wood and Ballynarry wood as potential ancient/long established woodlands
Vegetation composition: native tree cover	Percentage	No decline. Native tree cover not less than 95%	Species reported in Perrin et al. (2008) - site codes 1420, 1430, 1434 and 1695 and internal NPWS reports
Vegetation composition: typical species	Occurrence	A variety of typical native species present, depending on woodland type, including oak (<i>Quercus petraea</i>) and birch (<i>Betula pubescens</i>)	Species listed in Perrin et al. (2008)
Vegetation composition: negative indicator species	Occurrence	Negative indicator species, particularly non-native invasive species, absent or under control	Species reported in Perrin et al. (2008) - site codes 1420, 1430, 1434 and 1695 and internal NPWS reports

A005 Great Crested Grebe *Podiceps cristatus*

To maintain the favourable conservation condition of Great Crested Grebe in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A028 Grey Heron *Ardea cinerea*

To maintain the favourable conservation condition of Grey Heron in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A038 Whooper Swan *Cygnus cygnus*

To maintain the favourable conservation condition of Whooper Swan in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A043 Greylag Goose *Anser anser*

To maintain the favourable conservation condition of Greylag Goose in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A048 **Shelduck *Tadorna tadorna***

To maintain the favourable conservation condition of Shelduck in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A050 Wigeon *Anas penelope*

To maintain the favourable conservation condition of Wigeon in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A052 Teal *Anas crecca*

To maintain the favourable conservation condition of Teal in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A053 Mallard *Anas platyrhynchos*

To maintain the favourable conservation condition of Mallard in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A056 Shoveler *Anas clypeata*

To maintain the favourable conservation condition of Shoveler in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A062 Scaup *Aythya marila*

To maintain the favourable conservation condition of Scaup in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A067 Goldeneye *Bucephala clangula*

To maintain the favourable conservation condition of Goldeneye in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A069 Red-breasted Merganser *Mergus serrator*

To maintain the favourable conservation condition of Red-breasted Merganser in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A125 Coot *Fulica atra*

To maintain the favourable conservation condition of Coot in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A130 Oystercatcher *Haematopus ostralegus*

To maintain the favourable conservation condition of Oystercatcher in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A143 Knot *Calidris canutus*

To maintain the favourable conservation condition of Knot in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A149 Dunlin *Calidris alpina*

To maintain the favourable conservation condition of Dunlin in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A160 Curlew *Numenius arquata*

To maintain the favourable conservation condition of Curlew in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A162 Redshank *Tringa totanus*

To maintain the favourable conservation condition of Redshank in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A164 Greenshank *Tringa nebularia*

To maintain the favourable conservation condition of Greenshank in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A179 Black-headed Gull *Chroicocephalus ridibundus*

To maintain the favourable conservation condition of Black-headed Gull in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population abundance: apparently occupied nests (AONs)	Number	No significant decline	Measure based on standard gull survey methods (see Walsh et al., 1995). Mitchell et al. (2004) provides summary population information. The Seabird Monitoring Programme (CMP) also provides background data (JNCC, 2011)
Productivity rate: fledged young per breeding pair	Mean number	No significant decline	Measure based on standard gull survey methods (see Walsh et al., 1995).
Distribution: breeding colonies	Number; location; area (Hectares)	No significant decline	

A182 Common Gull *Larus canus*

To maintain the favourable conservation condition of Common Gull in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment using (Generalised Additive Modelling (GAM)) could not be undertaken for this species due to an incomplete dataset. A measure of population change was calculated using the 'generic threshold' method. See Section 4 of the SPA conservation objectives supporting document for more details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A191 Sandwich Tern *Sterna sandvicensis*

To maintain the favourable conservation condition of Sandwich Tern in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population abundance: apparently occupied nests (AONs)	Number	No significant decline	Measure based on standard tern survey methods (see Walsh et al., 1995). Mitchell et al. (2004) provides summary population information. The Seabird Monitoring Programme (CMP) also provides background data (JNCC, 2011)
Productivity rate: fledged young per breeding pair	Mean number	No significant decline	Measure based on standard tern survey methods (see Walsh et al., 1995)
Distribution: breeding colonies	Number; location; area (Hectares)	No significant decline	The only known breeding site is on Inch Island

A193 Common Tern *Sterna hirundo*

To maintain the favourable conservation condition of Common Tern in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population abundance: apparently occupied nests (AONs)	Number	No significant decline	Measure based on standard tern survey methods (see Walsh et al., 1995). Mitchell et al. (2004) provides summary population information. The Seabird Monitoring Programme (CMP) also provides background data (JNCC, 2011)
Productivity rate: fledged young per breeding pair	Mean number	No significant decline	Measure based on standard tern survey methods (see Walsh et al., 1995)
Distribution: breeding colonies	Number; location; area (Hectares)	No significant decline	

A395 Greenland White-fronted goose *Anser albifrons flavirostris*

To maintain the favourable conservation condition of Greenland White-fronted Goose in Lough Swilly SPA, which is defined by the following list of attributes and targets:

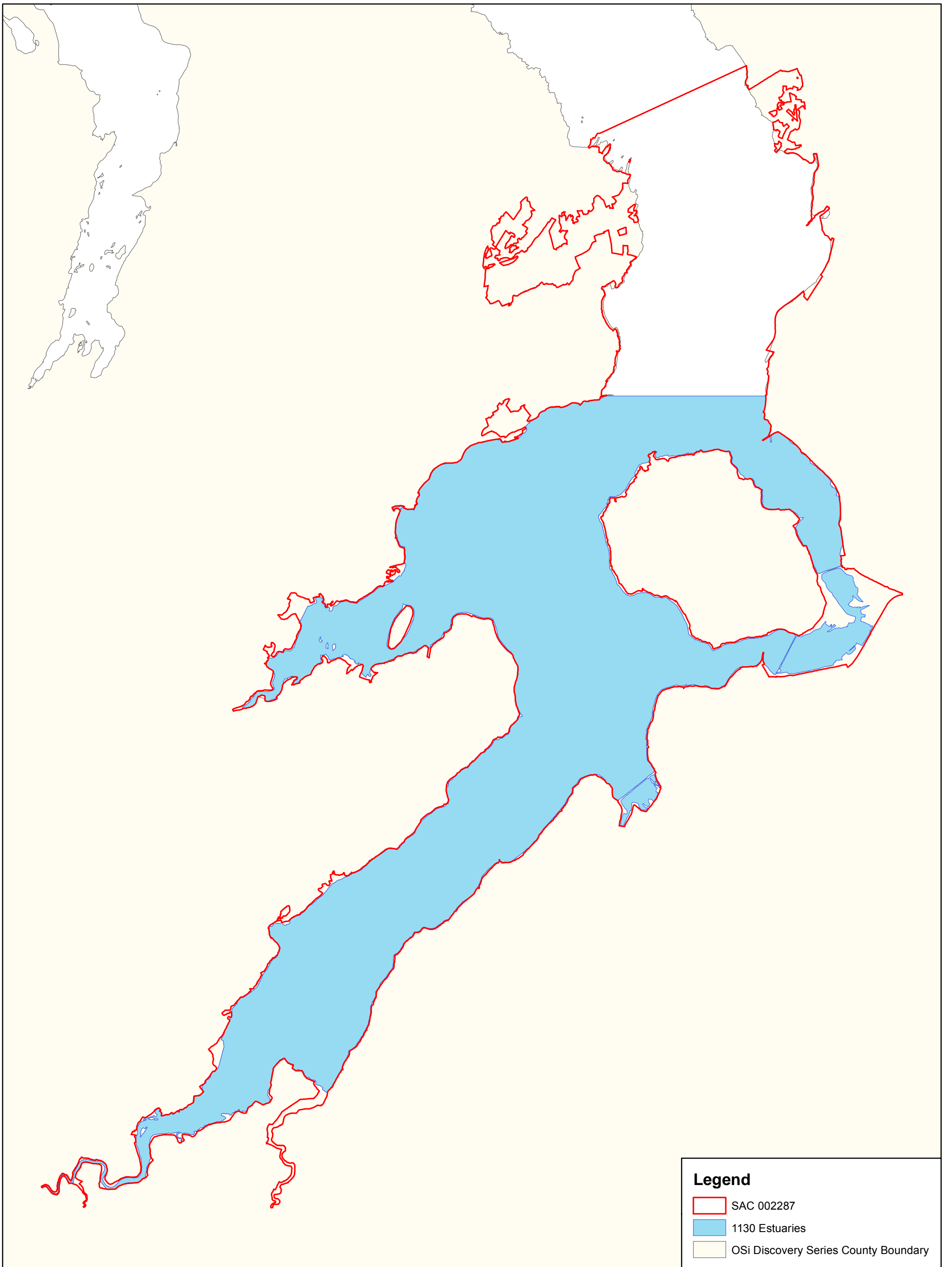
Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

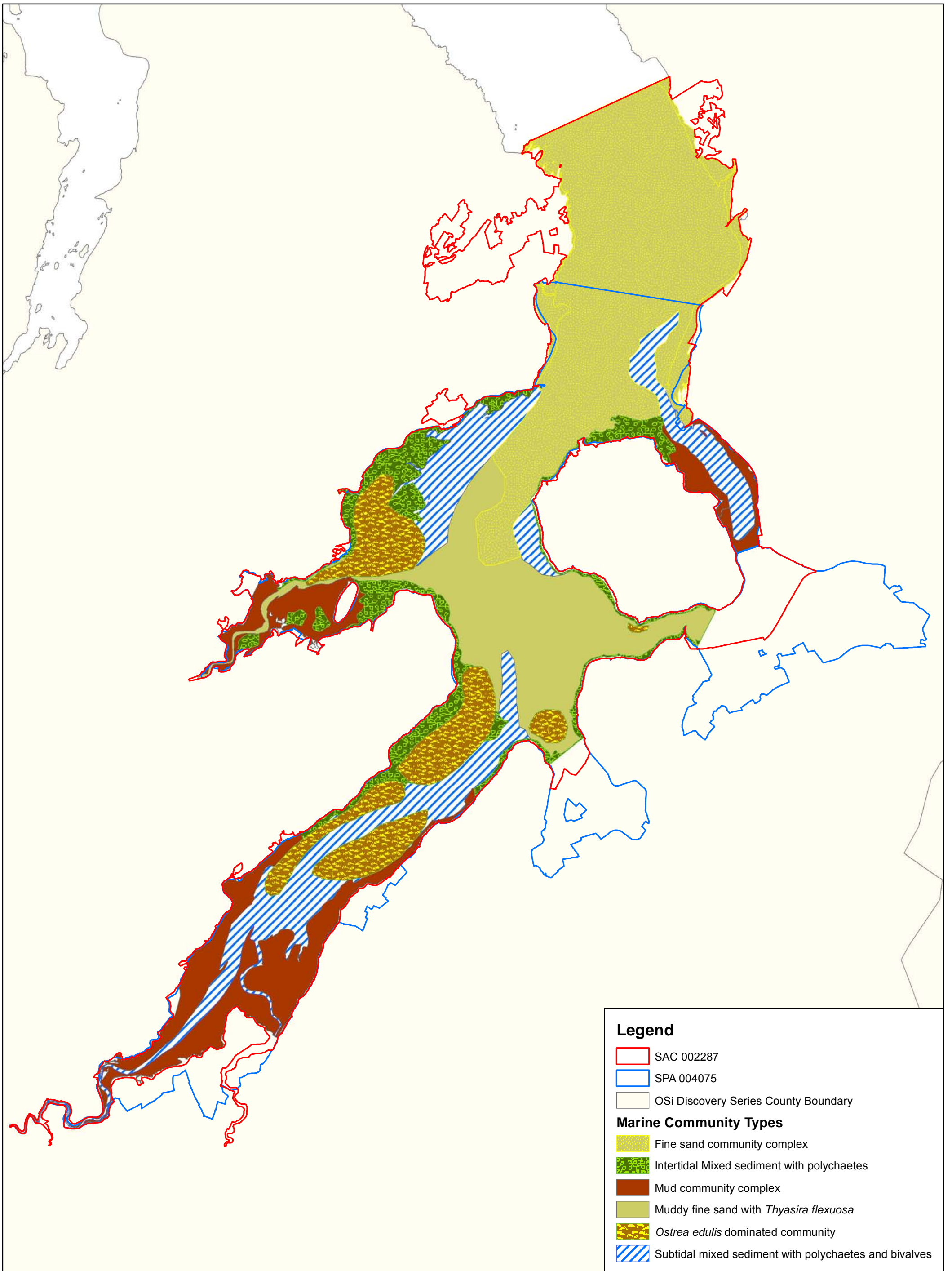
A999 Wetlands & Waterbirds

To maintain the favourable conservation condition of the wetland habitat in Lough Swilly SPA as a resource for the regularly-occurring migratory waterbirds that utilise it. This is defined by the following attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	The permanent area occupied by the wetland habitat is stable and not significantly less than the areas of 4,162, 2,419, 201 and 317 hectares for subtidal, intertidal, supratidal and lagoon (and associated) habitats respectively, other than that occurring from natural patterns of variation. See map 7	Wetland areas defined as follows: subtidal- seaward extent of SPA boundary up to MLWM; intertidal- MLWM to MHWM; supratidal- MHWM to SPA boundary minus the area of terrestrial habitat; lagoon (and associated) habitats- lagoon extent and adjacent wetland habitat as defined by embankments

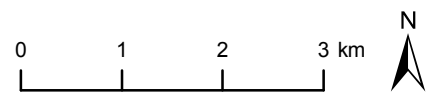


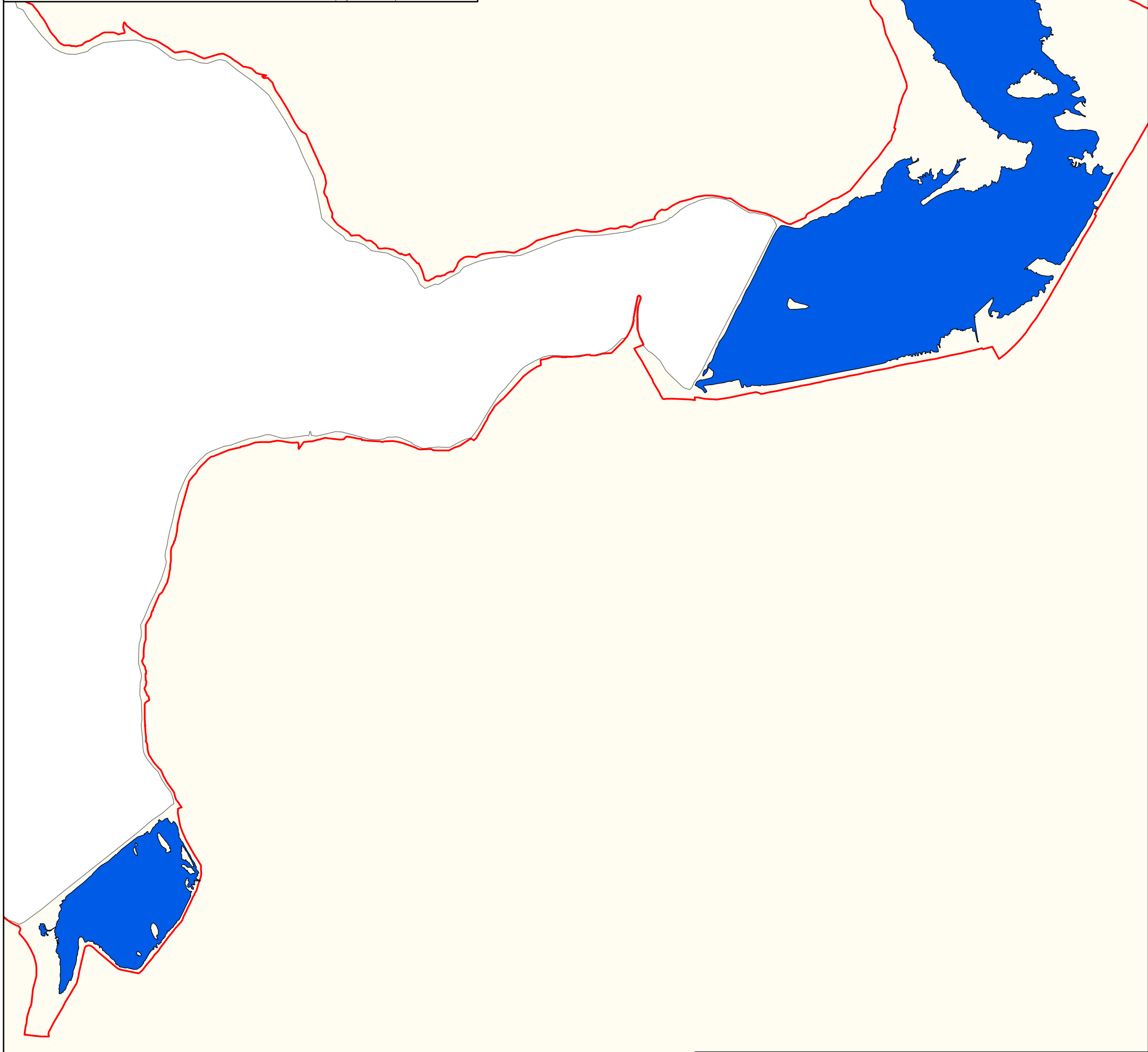
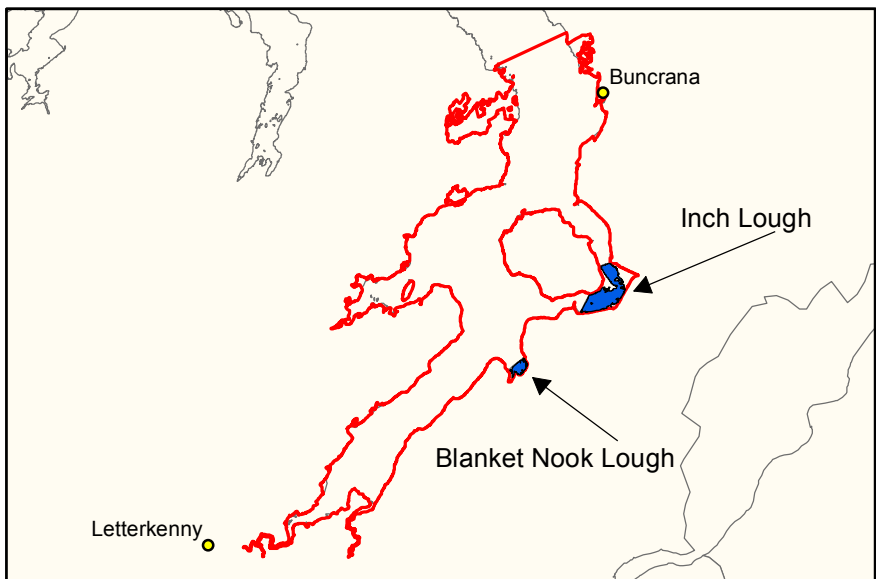







Legend

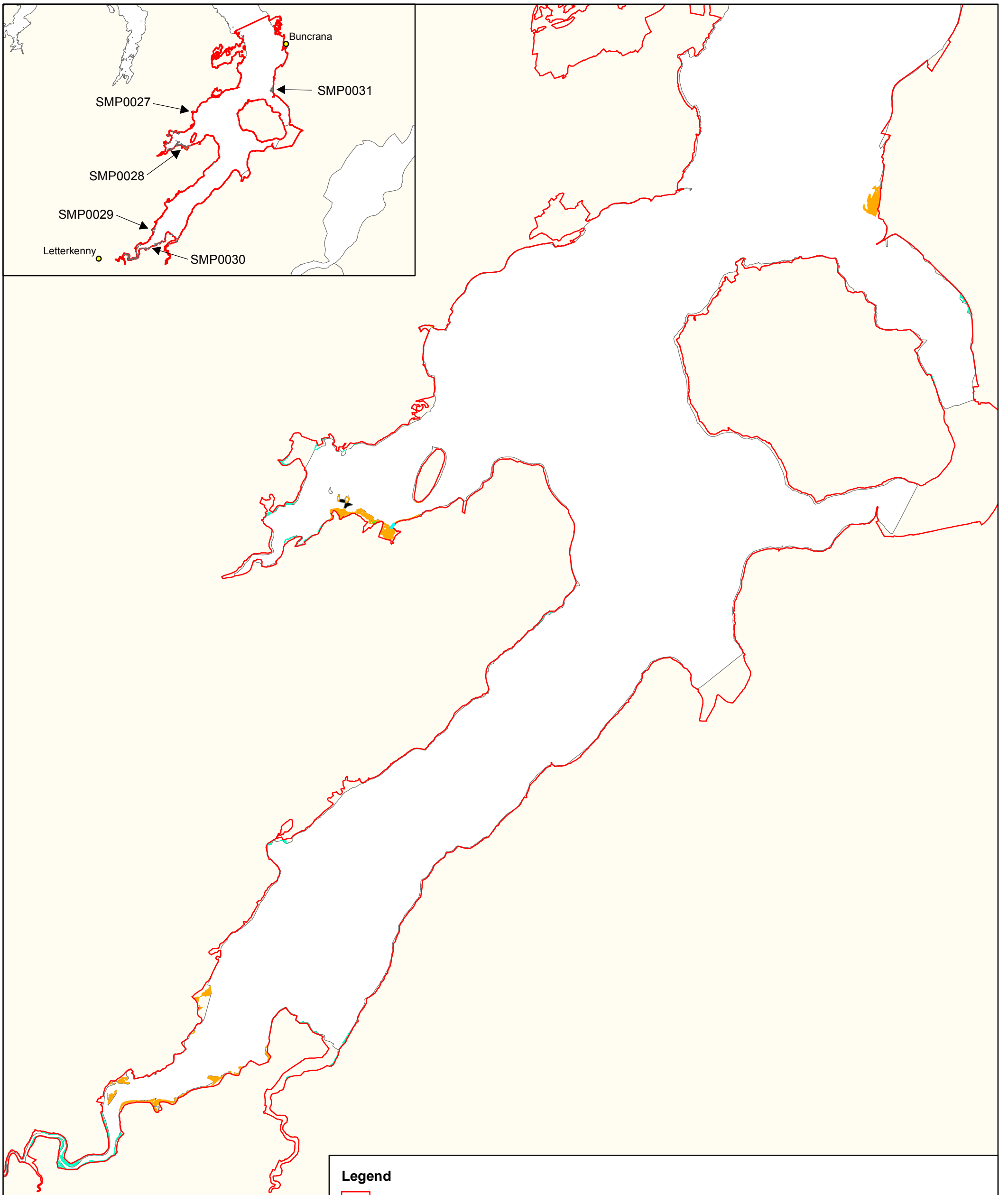
- SAC 002287
- SPA 004075
- OSi Discovery Series County Boundary
- Marine Community Types**
- Fine sand community complex
- Intertidal Mixed sediment with polychaetes
- Mud community complex
- Muddy fine sand with *Thyasira flexuosa*
- Ostrea edulis* dominated community
- Subtidal mixed sediment with polychaetes and bivalves





Legend

-  SAC 002287
-  1150 * Coastal Lagoons
-  OSi Discovery Series County Boundary



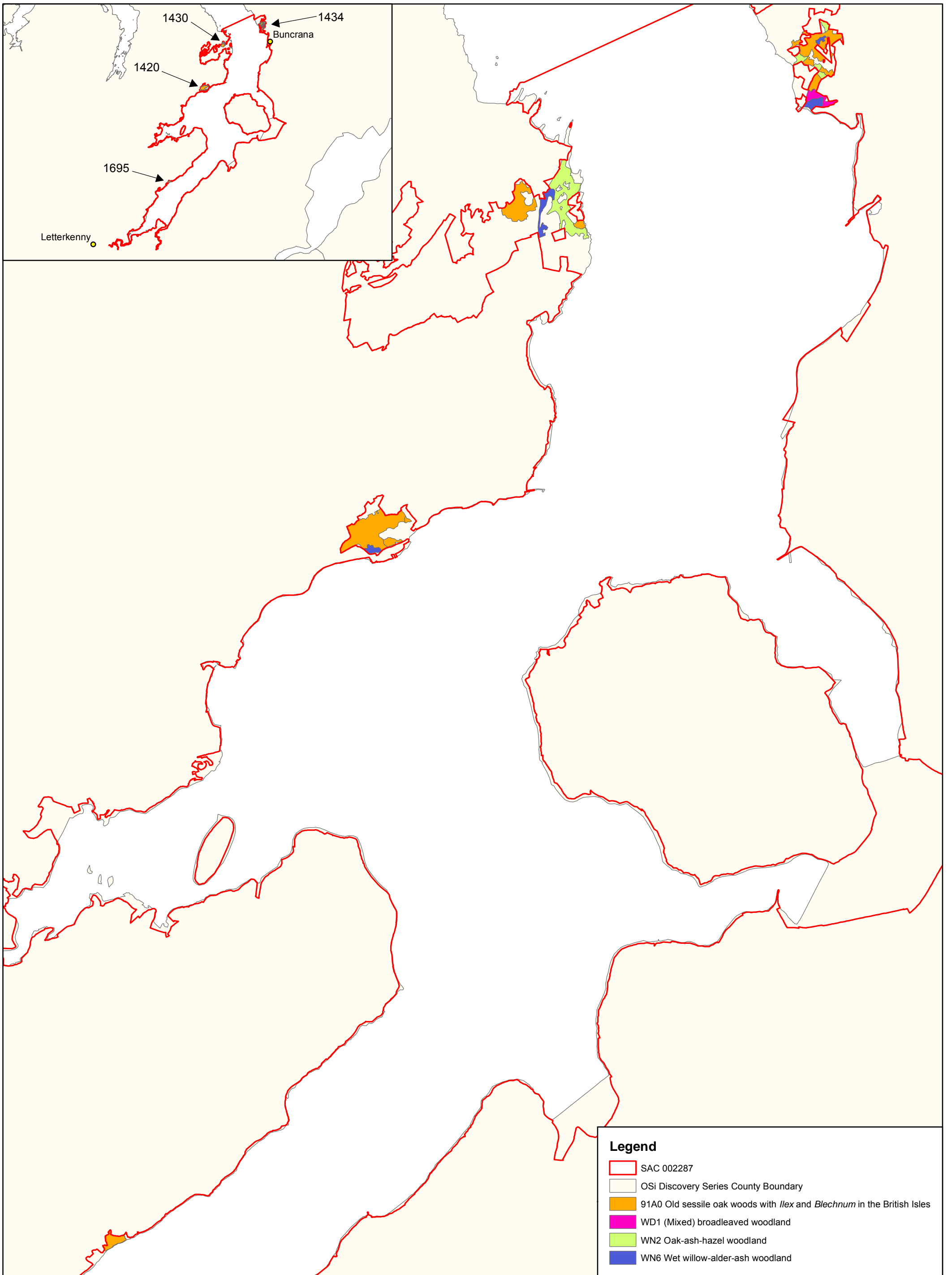
Legend

- SAC 002287
- OSi Discovery Series County Boundary

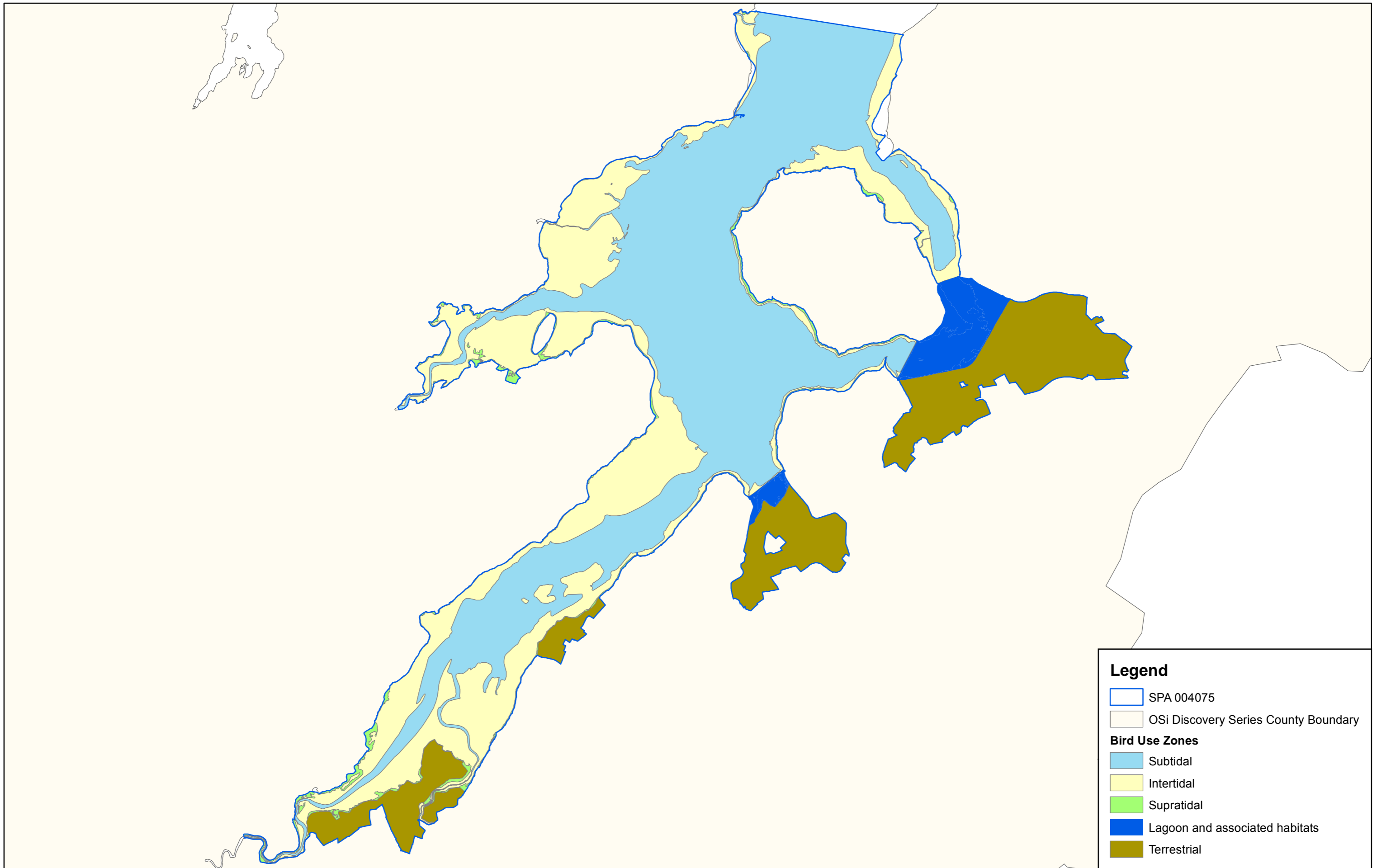
Saltmarsh Habitats

- 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) Qualifying Interest
- 1330 / 1410 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) Qualifying Interest / Mediterranean salt meadows (*Juncetalia maritimi*)
- Potential 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) Qualifying Interest
- 1310 *Salicornia* and other annuals colonising mud and sand
- 1410 Mediterranean salt meadows (*Juncetalia maritimi*)





- Legend**
- SAC 002287
 - OSi Discovery Series County Boundary
 - 91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles
 - WD1 (Mixed) broadleaved woodland
 - WN2 Oak-ash-hazel woodland
 - WN6 Wet willow-alder-ash woodland



Legend

- SPA 004075
- OSi Discovery Series County Boundary
- Bird Use Zones**
- Subtidal
- Intertidal
- Supratidal
- Lagoon and associated habitats
- Terrestrial



An Roinn
Ealaíon, Oidhreacht agus Gaeltachta

Department of
Arts, Heritage and the Gaeltacht

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