

National Parks and Wildlife Service

Conservation Objectives

Roaringwater Bay and Islands SAC 000101



*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*

000101 Roaringwater Bay and Islands SAC

QI	Description
1160	Large shallow inlets and bays
1170	Reefs
1230	Vegetated sea cliffs of the Atlantic and Baltic coasts
1351	Harbour porpoise <i>Phocoena phocoena</i>
1355	Otter <i>Lutra lutra</i>
1364	Grey seal <i>Halichoerus grypus</i>
4030	European dry heaths
8330	Submerged or partly submerged sea caves

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

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

Title: National survey and assessment of the conservation status of Irish sea cliffs

Year: 2011

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

Series: Irish Wildlife Manuals No. 53

Title: Roaringwater Bay and Islands SAC (000101) Conservation objectives supporting document - marine habitats and species [Version 1]

Year: 2011

Author: NPWS

Series: Unpublished Report to NPWS

Title: Roaringwater Bay and Islands SAC (000101) Conservation objectives supporting document - coastal 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: Guidelines for a national survey and conservation assessment of upland vegetation and habitats in Ireland [Version 1.0]

Year: 2010

Author: Perrin, P.M.; Barron, S.J.; Roche, J.R.; O'Hanrahan, B.

Series: Irish Wildlife Manuals No. 48

Title: Subtidal benthic surveys (Roaringwater Bay)

Year: 2009

Author: MERC

Series: Unpublished Report to NPWS & MI

Title: Roaringwater Bay baseline intertidal survey

Year: 2009

Author: RPS

Series: Unpublished Report to NPWS

Title: An assessment of the breeding population of grey seals in the Republic of Ireland, 2005

Year: 2008

Author: Ó 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.; Hiby, L.

Series: Irish Wildlife Manuals No. 34

Title: Survey of sensitive subtidal benthic marine communities

Year: 2007

Author: MERC

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:	Grey seal moult population survey in the Republic of Ireland, 2007
Year:	2007
Author:	Ó Cadhla, O.; Strong, D.
Series:	Unpublished Report to NPWS & CMRC
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:	Harbour seal population assessment in the Republic of Ireland: August 2003
Year:	2004
Author:	Cronin, M.; Duck, C.; Ó Cadhla, O.; Nairn, R.; Strong, D.; O'Keeffe, C.
Series:	Irish Wildlife Manuals No. 11
Title:	Summary of National Parks & Wildlife Service surveys for common (harbour) seals (<i>Phoca vitulina</i>) and grey seals (<i>Halichoerus grypus</i>), 1978 to 2003
Year:	2004
Author:	Lyons, D.O.
Series:	Irish Wildlife Manuals No. 13
Title:	Broadscale mapping of candidate marine Special Area of Conservation. Roaringwater Bay and Islands, Co. Cork cSAC (000101)
Year:	2003
Author:	SSI; Aquafact
Series:	Unpublished Report to NPWS
Title:	Diet of Otters <i>Lutra lutra</i> 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:	The BioMar biotope viewer: a guide to marine habitats, fauna and flora in Britain and Ireland
Year:	1997
Author:	Picton, B.E.; Costello, M.J.
Series:	Trinity College Dublin
Title:	The Wild Plants of Sherkin, Cape Clear and adjacent Islands of West Cork
Year:	1996
Author:	Akeroyd, J.
Series:	Sherkin Island Marine Station

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:	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
Used for:	1160 (map 2)
Year:	Interpolated 2011
Title:	1994 BioMar Survey; 2002 broadscale mapping survey; 2009 subtidal reef survey and intertidal survey
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, 1170 (maps 3 and 4)
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
Used for:	Marine community types base data (map 4)
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 5)
Year:	Derived 2011
Title:	Coast of Ireland Oblique Imagery Survey 2003
GIS operations:	Point dataset created from visual inspection of survey
Used for:	8330 (map 5)
Year:	2005
Title:	OSi Discovery series vector data
GIS operations:	Low Water Mark (LWM) polyline feature class converted into polygon feature class; clipped to SAC boundary
Used for:	1351, 1364 (map 6)
Year:	2011
Title:	NPWS rare and threatened species database
GIS operations:	Point dataset created from spatial references in database records
Used for:	1364 (map 6)
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 (map 7)

1160 Large shallow inlets and bays

To maintain the favourable conservation condition of Large shallow inlets and bays in Roaringwater Bay and Islands 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 using OSI data as 12,809ha. See marine supporting document for further details
Community extent	Hectares	The extent of the <i>Zostera</i> -dominated and maërl-dominated communities should be conserved, subject to natural processes. See map 4	Area established from 2002 acoustic mapping and groundtruthing data and 2007 diver observation dropdown camera data. See marine supporting document for further details
Shoot density	Shoots per m ²	The quality of <i>Zostera</i> -dominated communities should be conserved, subject to natural processes	Derived from 2007 diver observation dropdown camera data. See marine supporting document for further details
Community structure	Biological composition	The quality of maërl-dominated communities should be conserved, subject to natural processes	Derived from 2002 grab sample data and 2008 diver observation dropdown camera data. See marine supporting document for further details
Community distribution	Hectares	The following communities should be conserved in a natural condition: Muddy sand with bivalves and polychaetes community complex; Mixed sediment community complex; Shallow sand/mud community complex. See map 4	The likely area of sediment communities was derived from a combination of acoustic mapping and grab data obtained in 2002 and 2009

1170 Reefs

To maintain the favourable conservation condition of Reefs in Roaringwater Bay and Islands SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat distribution	Occurrence	The distribution of reefs should remain stable, subject to natural processes. See map 3 for mapped distribution	Reef mapping based on information from 1994 BioMar Survey (Picton and Costello, 1997); 2002 broadscale mapping survey; 2009 subtidal reef survey (MERC, 2009) and intertidal survey (RPS, 2009). See marine supporting document for further details
Habitat area	Hectares	The permanent habitat area is stable, subject to natural processes. See map 3	The areas generated from the mapped extent is 3497ha. However, this is an under-estimate due to much of the reef habitat comprising vertical or steeply sloping rock. See marine supporting document for further details
Community structure	Biological composition	The following reef community complexes should be maintained in a natural condition: Exposed to moderately exposed intertidal reef; Exposed to moderately exposed subtidal reef below 20m; Sheltered reef. See map 4	Based on information from: 1994 BioMar Survey; 2002 broadscale mapping survey; 2009 subtidal reef survey and intertidal survey. See marine supporting document for further details
Community extent	Hectares	The extent of <i>Laminaria</i> -dominated communities should be conserved, subject to natural processes. See map 4	Based on information from: 1994 BioMar Survey; 2002 broadscale mapping survey ; 2009 subtidal reef survey and Intertidal survey. See marine supporting document for further details
Community structure	Biological composition	The biology of <i>Laminaria</i> -dominated communities should be conserved, subject to natural processes	Based on information from: 1994 BioMar Survey; 2002 broadscale mapping survey; 2009 subtidal reef survey and intertidal survey. See marine supporting document for further details

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 Roaringwater Bay and Islands 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. Total length of cliff section mapped within SAC: 21.01km. See map 5	Based on data from the Irish Sea Cliff Survey (Barron et al., 2011). 19 sub-sites were identified using a combination of aerial photos and the DCENR helicopter viewer. Cliffs are linear features and are therefore measured in kilometres. Length of cliff likely to be underestimated. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, subject to natural processes. See map 5	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	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. 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 the Irish Sea Cliff Survey (Barron et al., 2011). See coastal habitats supporting document for further details
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward	Based on data from the Irish Sea Cliff Survey (Barron et al., 2011). See coastal habitats supporting document for further details
Vegetation composition: typical species & sub-communities	Percentage cover at a representative sample of monitoring stops	Maintain range of sub-communities with typical species listed in the Irish Sea Cliff Survey (Barron et al. 2011)	Based on data from the Irish Sea Cliff Survey (Barron et al., 2011). 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 the Irish Sea Cliff Survey (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 the Irish Sea Cliff Survey (Barron et al., 2011). See coastal habitats supporting document for further details

1351 Harbour porpoise *Phocoena phocoena*

To maintain the favourable conservation condition of Harbour Porpoise in Roaringwater Bay and Islands 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 site should not be restricted by artificial barriers to site use. See map 6	See marine supporting document for further details
Disturbance	Level of impact	Human activities should occur at levels that do not adversely affect the harbour porpoise community at the site	See marine supporting document for further details

1355 Otter *Lutra lutra*

To restore the favourable conservation condition of Otter in Roaringwater Bay and Islands 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 estimated at 75% (Bailey and Rochford, 2006; Rapid assessment results from Roaringwater Bay)
Extent of terrestrial habitat	Hectares	No significant decline. Area mapped and calculated as 171ha above high water mark (HWM); 3ha along river banks/ around ponds	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 1562ha	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	Kilometers	No significant decline. Length mapped and calculated as 0.74km	No field survey. River length calculated on the basis that otters will utilise freshwater habitats from estuary to headwaters (Chapman and Chapman, 1982)
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. For guidance, see map 7	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

1364 Grey seal *Halichoerus grypus*

To maintain the favourable conservation condition of Grey Seal in Roaringwater Bay and Islands 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 site should not be restricted by artificial barriers to site use. See map 6	See marine supporting document for further details
Breeding behaviour	Breeding sites	The breeding sites should be maintained in a natural condition. See map 6 for known sites	Attribute and target based on background knowledge of Irish breeding populations, a comprehensive breeding survey in 2005 (Ó Cadhla et al., 2007) and unpublished National Parks and Wildlife Service records. See marine supporting document for further details
Moulting behaviour	Moult haul-out sites	The moult haul-out sites should be maintained in a natural condition. See map 6 for known sites	Attribute and target based on background knowledge of Irish populations, a national moult survey (Ó Cadhla and Strong, 2007) and unpublished National Parks and Wildlife Service records. See marine supporting document for further details
Resting behaviour	Resting haul-out sites	The resting haul-out sites should be maintained in a natural condition. See map 6 for known sites	Attribute and target based on review of data from Lyons (2004), Cronin et al. (2004), Ó Cadhla et al. (2007), Ó Cadhla and Strong (2007) and unpublished National Parks and Wildlife Service records. See marine supporting document for further details
Population composition	Number of cohorts	The grey seal population occurring within this site should contain adult, juvenile and pup cohorts annually	Attribute and target based on review of data from Lyons (2004), Ó Cadhla et al. (2007), Ó Cadhla and Strong (2007) and unpublished National Parks and Wildlife Service 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 site	See marine supporting document for further details

4030 European dry heaths

To maintain the favourable conservation condition of European dry heaths in Roaringwater Bay and Islands SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat distribution	Occurrence	No decline from current habitat distribution, subject to natural processes	Spatial extent currently unmapped but indicated as occurring in rocky coastal areas and also on the islands especially the larger ones (based on NPWS NHA Survey Site Notes and photographs; Natura 2000 Form Explanatory Notes; Commonage Framework Plans CO8-A2 (2007); CO8-Q1 (2000); CO8-R1 (2000) and on plant records from the NPWS rare and threatened species database (2011).
Habitat area	Hectares	Area stable or increasing, subject to natural processes. Habitat area is not known but estimated as 5% (or 414ha) of the area of the SAC	Based on NPWS NHA Survey Site Notes; Natura 2000 Form Explanatory Notes and Commonage Framework Plans CO8-A2 (2007); CO8-Q1 (2000); CO8-R1 (2000)
Physical structure: outcropping rock	Occurrence	No increase or decrease in outcropping rock or scree, subject to natural processes. (Where rock has been exposed due to human activities, decrease necessary)	Attribute and target based on dry heath habitat condition assessment methodology outlined in Perrin et al. (2010)
Vegetation structure: dwarf shrub indicator species	Percentage cover	Cover of characteristic dwarf shrub indicator species (heather (<i>Calluna vulgaris</i>), bell heather (<i>Erica cinerea</i>) and Western gorse (<i>Ulex gallii</i>)) at least 25%	Dry heath in this SAC occurs on free-draining nutrient poor soils and on rock outcrop. It is characterised by a mosaic of dwarf shrubs chiefly heather, bell heather and Western gorse and open areas with a characteristic composition of grasses, herbs, bryophytes and lichens. The mosaic patterning of dwarf shrub species interspersed with more open 'grassy' areas are characteristics of the dry heath habitat that need to be maintained in order to conserve the full range of dry heath plants. The species occurring on the site are listed in NPWS NHA Survey Site Notes of 1994. A very brief overview of the principal characteristics of the Dry heath habitat is given in the Site Synopsis on www.npws.ie . Attribute and target based on dry heath habitat condition assessment methodology outlined in Perrin et al. (2010)
Vegetation structure: senescent <i>Calluna vulgaris</i>	Percentage cover	Cover of senescent <i>Calluna vulgaris</i> less than 50%	Attribute and target based on dry heath habitat condition assessment methodology outlined in Perrin et al. (2010)
Vegetation structure: browsing	Percentage cover	Long shoots of palatable dwarf shrubs with signs of browsing collectively less than 33%	Attribute and target based on dry heath habitat condition assessment methodology outlined in Perrin et al., (2010)

4030 European dry heaths

To maintain the favourable conservation condition of European dry heaths in Roaringwater Bay and Islands SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Vegetation structure: native trees and shrubs	Percentage cover	Cover of scattered native trees and shrubs less than 20%	Attribute and target based on dry heath habitat condition assessment methodology outlined in Perrin et al., (2010)
Vegetation composition: positive indicator species	Number	Number of positive indicator species at least 2 (e.g. heather (<i>Calluna vulgaris</i>), bell heather (<i>Erica cinerea</i>) and Western gorse (<i>Ulex gallii</i>) or other characteristic dry heath grass and herbaceous species for this SAC)	Dry heath in this SAC occurs on free-draining nutrient poor soils and on rock outcrop. It is characterised by a mosaic of dwarf shrubs chiefly heather, bell heather and Western gorse and open areas with a characteristic composition of grasses, herbs, bryophytes and lichens. Based on NPWS NHA Survey Site Notes and Natura 2000 Form Explanatory Notes. Attribute and target based on dry heath habitat condition assessment methodology outlined in Perrin et al. (2010)
Vegetation composition: positive indicator species	Percentage cover	Cover of positive indicator species at least 60%. This should include plant species characteristic of dry heath in this SAC including 'southern' plant species	Dry heath in this SAC occurs on free-draining nutrient poor soils and on rock outcrop. It is characterised by a mosaic of dwarf shrubs chiefly heather, bell heather and Western gorse and open areas with a characteristic composition of grasses, herbs, bryophytes and lichens. Based on NPWS NHA Survey Site Notes and Natura 2000 Form Explanatory Notes. Attribute and target based on dry heath habitat condition assessment methodology outlined in Perrin et al. (2010)
Vegetation composition: bryophyte and non-crustose lichen species	Number	Number of bryophyte or non-crustose lichen species present at least 2	Attribute and target based on dry heath habitat condition assessment methodology outlined in Perrin et al. (2010)
Vegetation composition: bracken	Percentage cover	Cover of bracken (<i>Pteridium aquilinum</i>) less than 10%	Attribute and target based on dry heath habitat condition assessment methodology outlined in Perrin et al. (2010)
Vegetation composition: weedy negative indicator species	Percentage cover	Cover of agricultural weed species (negative indicator species) less than 1%	Attribute and target based on dry heath habitat condition assessment methodology outlined in Perrin et al. (2010)
Vegetation composition: non-native species	Percentage cover	Cover of non-native species less than 1%	Attribute and target based on dry heath habitat condition assessment methodology outlined in Perrin et al. (2010)

4030 European dry heaths

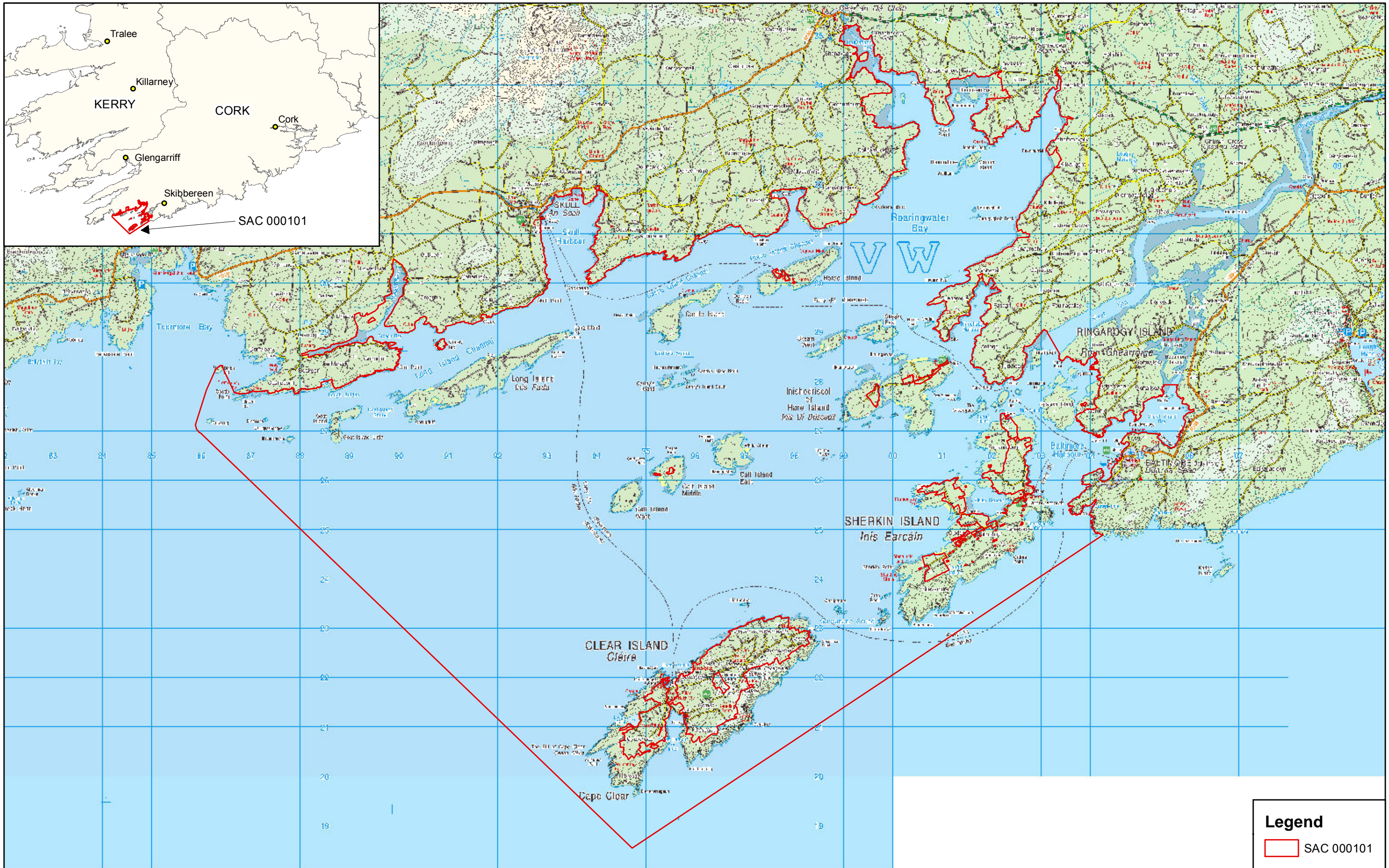
To maintain the favourable conservation condition of European dry heaths in Roaringwater Bay and Islands SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Vegetation composition: rare/scarce heath species	Location, area and number	No decline in distribution or population sizes of rare/scarce species, including hairy birdsfoot trefoil (<i>Lotus subbiflorus</i>), bird's foot (<i>Ornithopus perpusillus</i>), spotted rockrose (<i>Tuberaria guttata</i>); soft clover (<i>Trifloium striatum</i>); pale dog-violet (<i>Viola lactea</i>), bird's foot clover (<i>Trifolium ornithopodioides</i>), heath pearlwort (<i>Sagina subulata</i>)	The floristic composition of dry heath in this SAC is distinguished by 'southern' elements. Records based on: NPWS NHA Survey Site Notes and maps; Natura 2000 Form Explanatory Notes; NPWS rare and threatened species database; Akeroyd (1996)
Vegetation structure: disturbed bare ground	Percentage cover	Cover of disturbed bare ground less than 10% (but if peat soil less than 5%)	Attribute and target based on dry heath habitat condition assessment methodology outlined in Perrin et al. (2010)
Vegetation structure: burning	Occurrence	No signs of burning within sensitive areas	Perrin et al. (2010) define sensitive areas

8330 Submerged or partly submerged sea caves

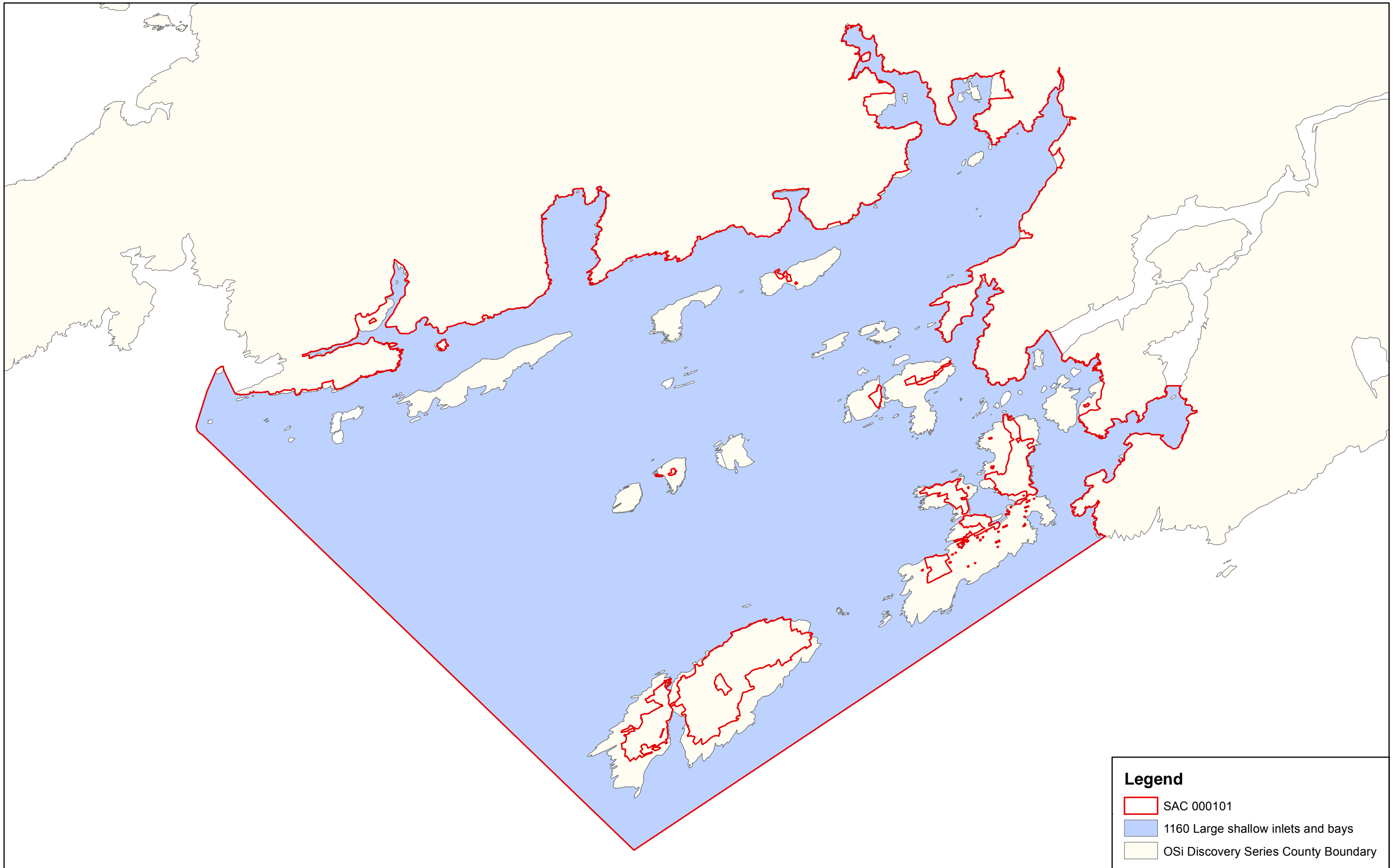
To maintain the favourable conservation condition of Submerged or partly submerged sea caves in Roaringwater Bay and Islands SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Distribution	Occurrence	The distribution of sea caves occurring in the site should remain stable, subject to natural processes. See map 5 for known caves	Sea cave distribution at this site was derived from an oblique aerial survey and therefore only detects the presence of sea caves visible intertidally in the flight path. See marine supporting document for further details
Community structure	Biological composition	Human activities should occur at levels that do not adversely affect the ecology of sea caves at the site	See marine supporting document for further details



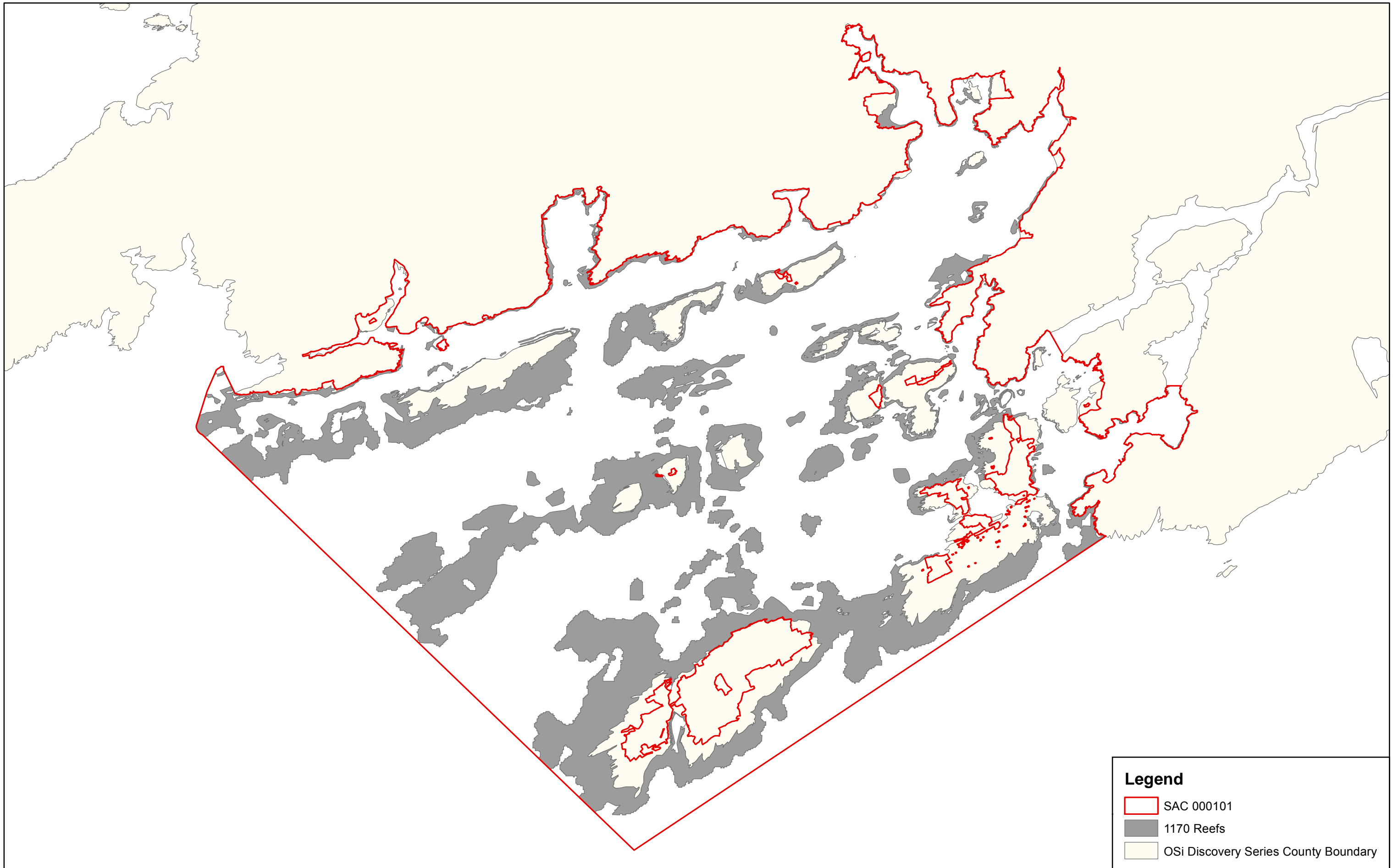
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SAC 000101



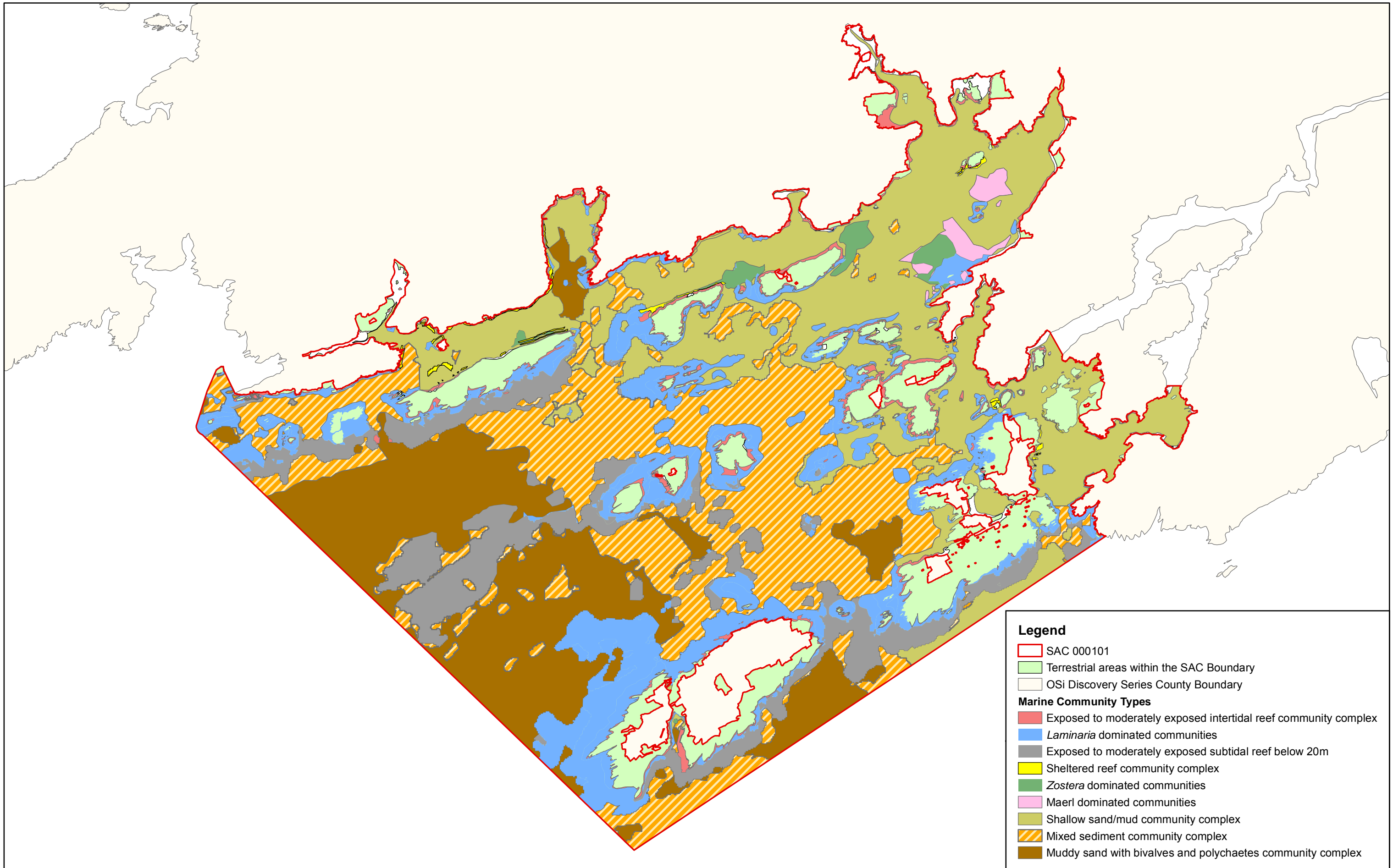
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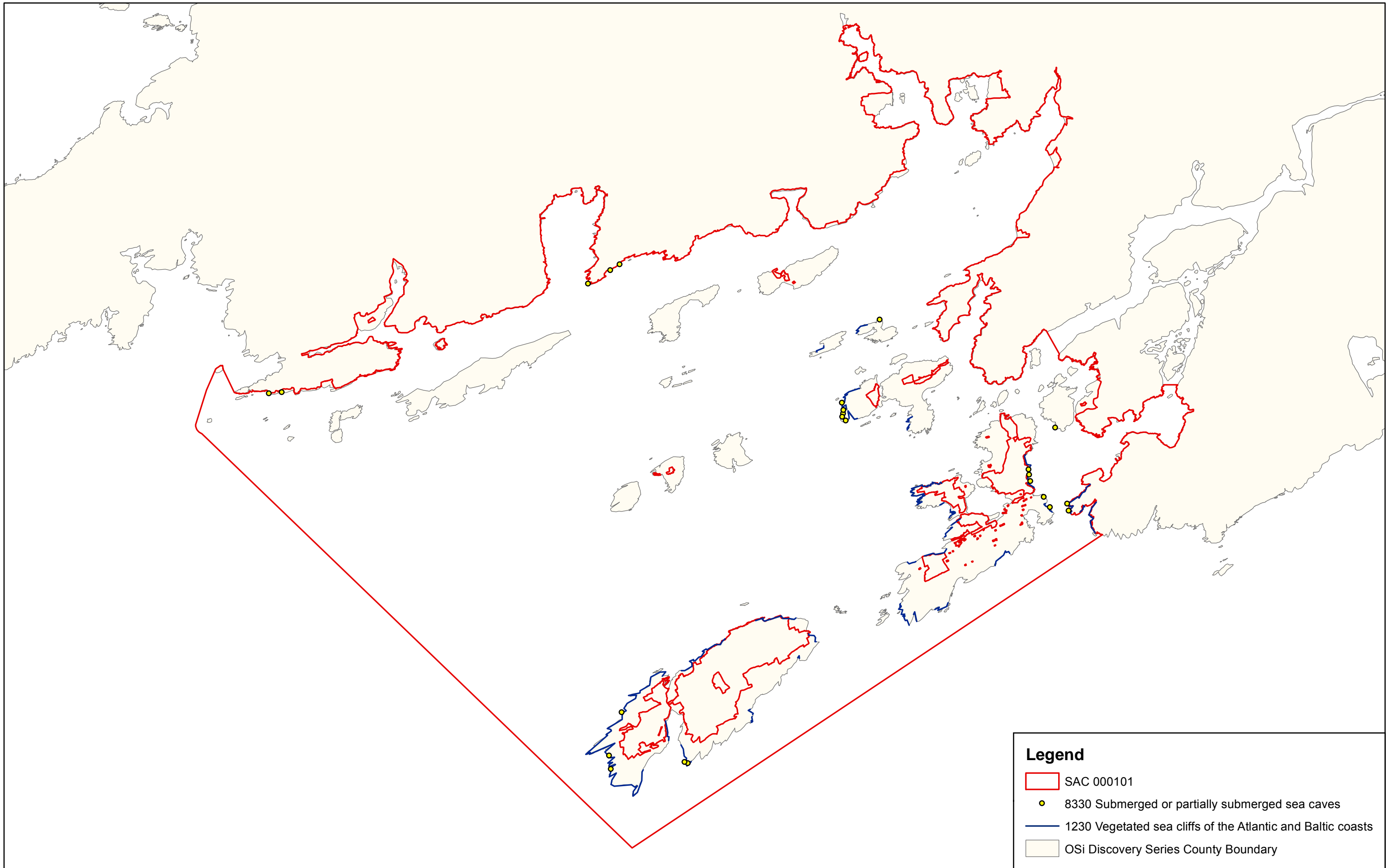
- SAC 000101
- 1160 Large shallow inlets and bays
- OSi Discovery Series County Boundary



Legend

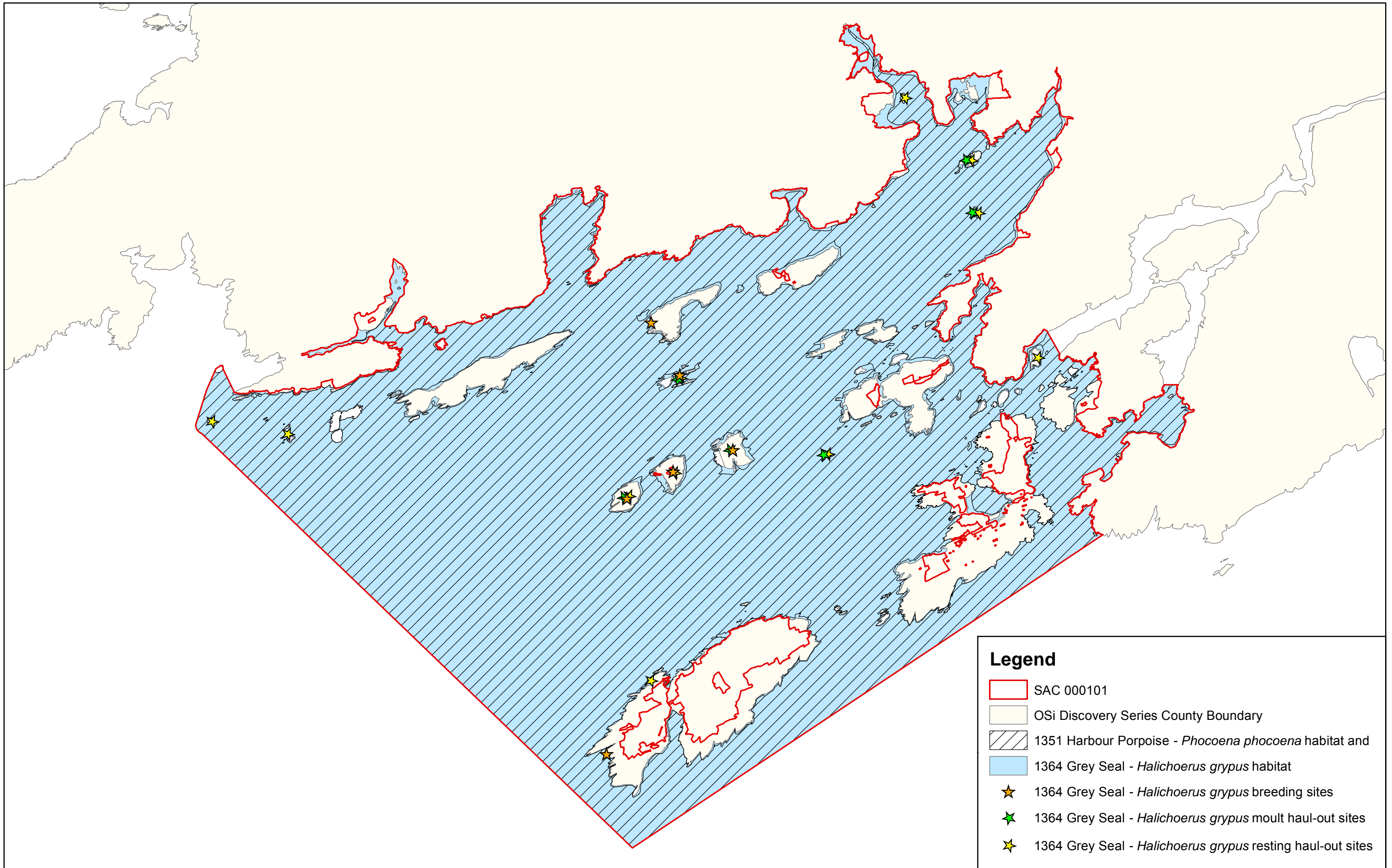
- SAC 000101
- 1170 Reefs
- OSi Discovery Series County Boundary





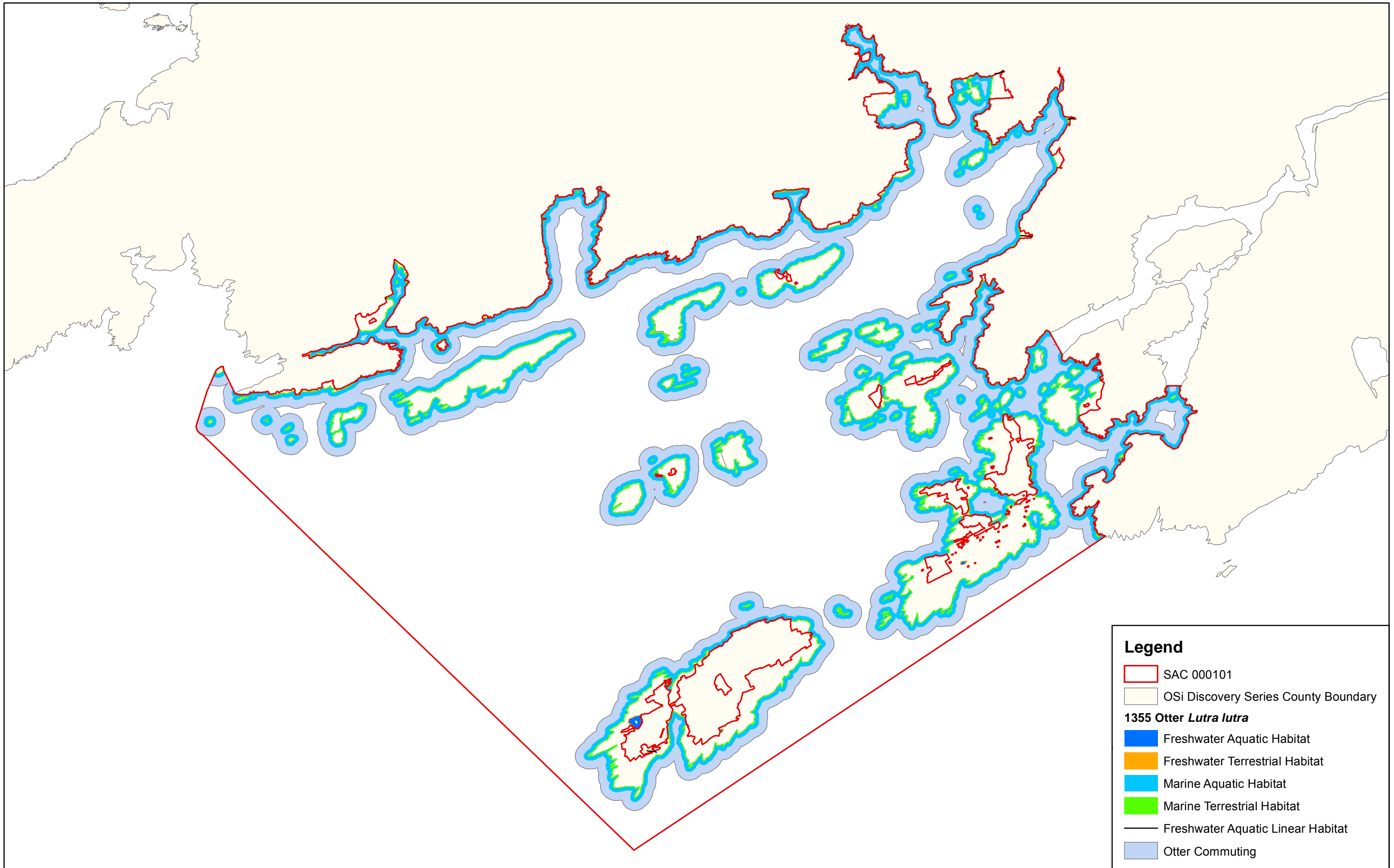
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- SAC 000101
- 8330 Submerged or partially submerged sea caves
- 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts
- OSi Discovery Series County Boundary



Legend

- SAC 000101
- OSi Discovery Series County Boundary
- 1351 Harbour Porpoise - *Phocoena phocoena* habitat and
- 1364 Grey Seal - *Halichoerus grypus* habitat
- ★ 1364 Grey Seal - *Halichoerus grypus* breeding sites
- ★ 1364 Grey Seal - *Halichoerus grypus* moult haul-out sites
- ★ 1364 Grey Seal - *Halichoerus grypus* resting haul-out sites



Legend

- SAC 000101
- OSi Discovery Series County Boundary
- 1355 Otter *Lutra lutra***
- Freshwater Aquatic Habitat
- Freshwater Terrestrial Habitat
- Marine Aquatic Habitat
- Marine Terrestrial Habitat
- Freshwater Aquatic Linear Habitat
- Otter Commuting



An Roinn
Ealaíon, Oidhreacht agus Gaeltachta

Department of
Arts, Heritage and the Gaeltacht

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