

National Parks and Wildlife Service

Conservation Objectives Series

Mulroy Bay SAC 002159



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



**National Parks and Wildlife Service,
Department of Arts, Heritage and the Gaeltacht,
7 Ely Place, Dublin 2, Ireland.**

**Web: www.npws.ie
E-mail: nature.conservation@ahg.gov.ie**

Citation:

NPWS (2012) Conservation Objectives: Mulroy Bay SAC 002159. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

**Series Editors: Rebecca Jeffrey & Naomi Kingston
ISSN 2009-4086**

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*

002159 Mulroy Bay SAC

- | | |
|------|-------------------------------|
| 1160 | Large shallow inlets and bays |
| 1170 | Reefs |
| 1355 | Otter <i>Lutra lutra</i> |

Please note that this SAC overlaps with Greers Isle SPA (004082). It also adjoins Lough Nagreany Dunes SAC (000164), Tranarossan and Melmore Lough SAC (000194), Sheephaven SAC (001190), Ballyhooriskey Point to Fanad Head SAC (001975) and Horn Head to Fanad Head SPA (004194). See map 2. The conservation objectives for this site should be used in conjunction with those for the overlapping and adjacent sites as appropriate.

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

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

Title:	Mulroy Bay SAC (002159). Conservation objectives supporting document - marine habitats. [Version 1]
Year:	2012
Author:	NPWS
Series:	Unpublished Report to NPWS
Title:	Subtidal Benthic Investigations in Mulroy Bay cSAC (cSAC Site Code: IE002159) Co. Donegal
Year:	2011
Author:	Aquafact
Series:	Unpublished Report to NPWS & MI
Title:	Reef Investigations in Mulroy Bay cSAC (cSAC Site Code: IE002159) Co. Donegal
Year:	2011
Author:	Aquafact
Series:	Unpublished Report to NPWS & MI
Title:	Otter tracking study of Roaringwater Bay
Year:	2010
Author:	De Jongh, A.; O'Neill, L.
Series:	Unpublished Draft Report to NPWS
Title:	Survey of Mulroy Bay SAC for the Stalked Sea squirt <i>Styela clava</i>
Year:	2008
Author:	MERC
Series:	Unpublished Report to NPWS & MI
Title:	Survey of sensitive subtidal benthic marine communities
Year:	2008
Author:	MERC
Series:	Unpublished Report to NPWS & MI
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:	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: 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 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. EPA WFD transitional waterbody data erased from extent. Expert opinion used as necessary to resolve any issues arising
Used for:	1160 (map 3)
Year:	Interpolated 2012
Title:	Benthic and reef surveys 2008, 2010; 1993 BioMar Survey
GIS operations:	Polygon feature classes from marine community types base data sub-divided based on interpolation of marine survey data. Expert opinion used as necessary to resolve any issues arising
Used for:	Marine community types, 1170 (maps 4 and 5)
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; EU Annex I Saltmarsh and Coastal data erased out if present
Used for:	Marine community types base data (map 5)
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 WFD 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 (no map)

1160 Large shallow inlets and bays

To maintain the favourable conservation condition of Large shallow inlets and bays in Mulroy Bay 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 3	Habitat area was estimated as 3170ha using OSI data and the Transitional Water Body Area as defined under the Water Framework Directive
Community extent	Hectares	Maintain the extent of the <i>Zostera</i> -dominated community complex; maërl-dominated community; and <i>Limaria hians</i> associated community, subject to natural processes. See map 5	The likely extent of the <i>Zostera</i> -dominated community complex, the maërl-dominated community and the <i>Limaria hians</i> associated community was derived from a dive survey undertaken in 2008 (MERC, 2008). See marine supporting document for further details
Community structure: <i>Zostera</i> density	Shoots per m ²	Conserve the high quality of the <i>Zostera</i> -dominated community, subject to natural processes. See map 5	Established from diver observation and underwater viewer (MERC, 2008a). See marine supporting document for further details
Community structure	Biological composition	Conserve the high quality of the maërl-dominated community, subject to natural processes. See map 5	Established from diver observation and underwater viewer (MERC, 2008a). See marine supporting document for further details
Community structure: <i>Limaria hians</i> density	Individuals per m ²	Conserve the high quality of the <i>Limaria hians</i> associated community, subject to natural processes. See map 5	Established from diver observation and underwater viewer (MERC, 2008a). See marine supporting document for further details
Community distribution	Hectares	Conserve the following community types in a natural condition: Sand dominated by <i>Nephtys cirrosa</i> and <i>Bathyporeia</i> sp. community complex; Gravel to mixed sediment with nematodes community complex; Gravelly sand with bivalves, polychaetes and nemerteans community complex; <i>Laminaria</i> -dominated community complex and Reef community complex. See map 5	The likely area of communities was derived from a combination of data obtained during the 1993 BioMar survey (Picton and Costello, 1997); subtidal data obtained in 2008 (MERC, 2008a, b) and 2010 (Aquafact, 2011a, b); and an intertidal walkover August 2012. See marine supporting document for further details

1170 Reefs

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

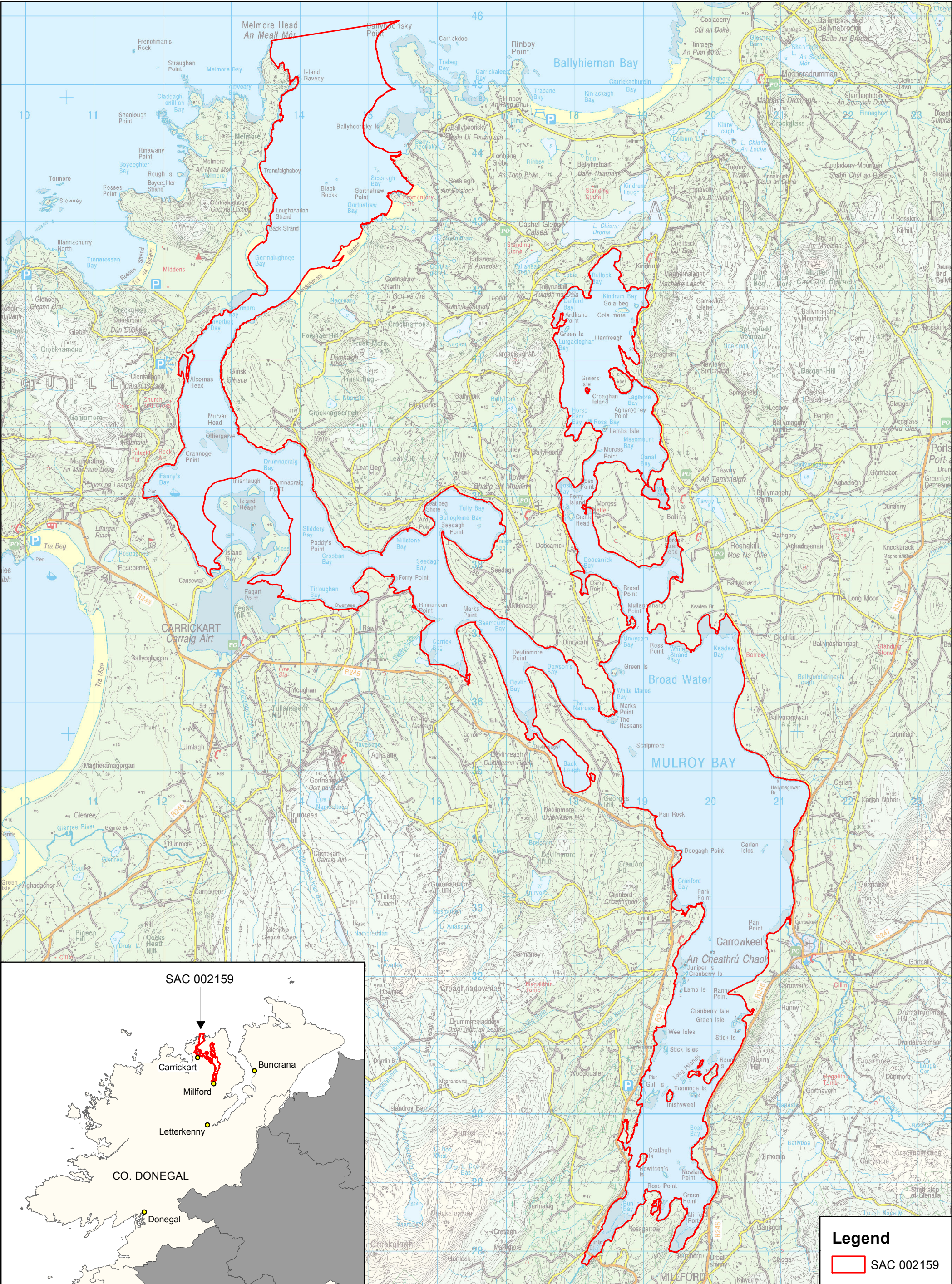
Attribute	Measure	Target	Notes
Distribution	Occurrence	The distribution of reefs is stable or increasing, subject to natural processes. See map 4	Distribution was derived from the 1993 BioMar survey (Picton and Costello, 1997) and subtidal reef survey in 2010 (Aquafact, 2011b)
Habitat area	Hectares	The permanent area is stable or increasing, subject to natural processes. See map 4	Habitat area was estimated as 43ha from the 1993 BioMar survey (Picton and Costello, 1997) and subtidal reef survey in 2010 (Aquafact, 2011b)
Community structure	Biological composition	Conserve the following community types in a natural condition: <i>Laminaria</i> -dominated community complex; and Reef community complex. See map 5	The likely area of reef communities was derived from the 1993 BioMar survey (Picton and Costello, 1997) and subtidal reef survey in 2010 (Aquafact, 2011b). See marine supporting document for further details

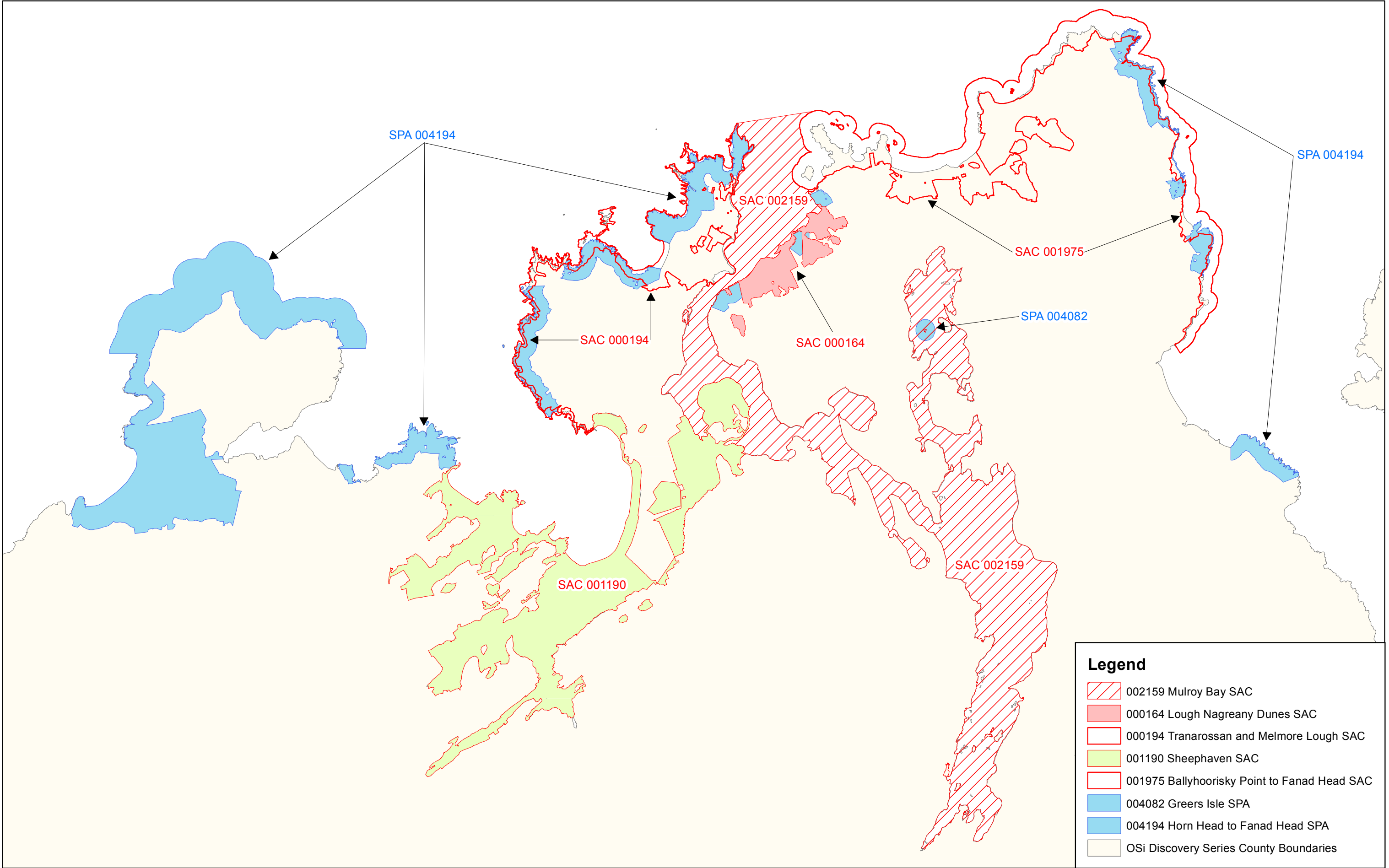
Conservation objectives for: Mulroy Bay SAC [002159]

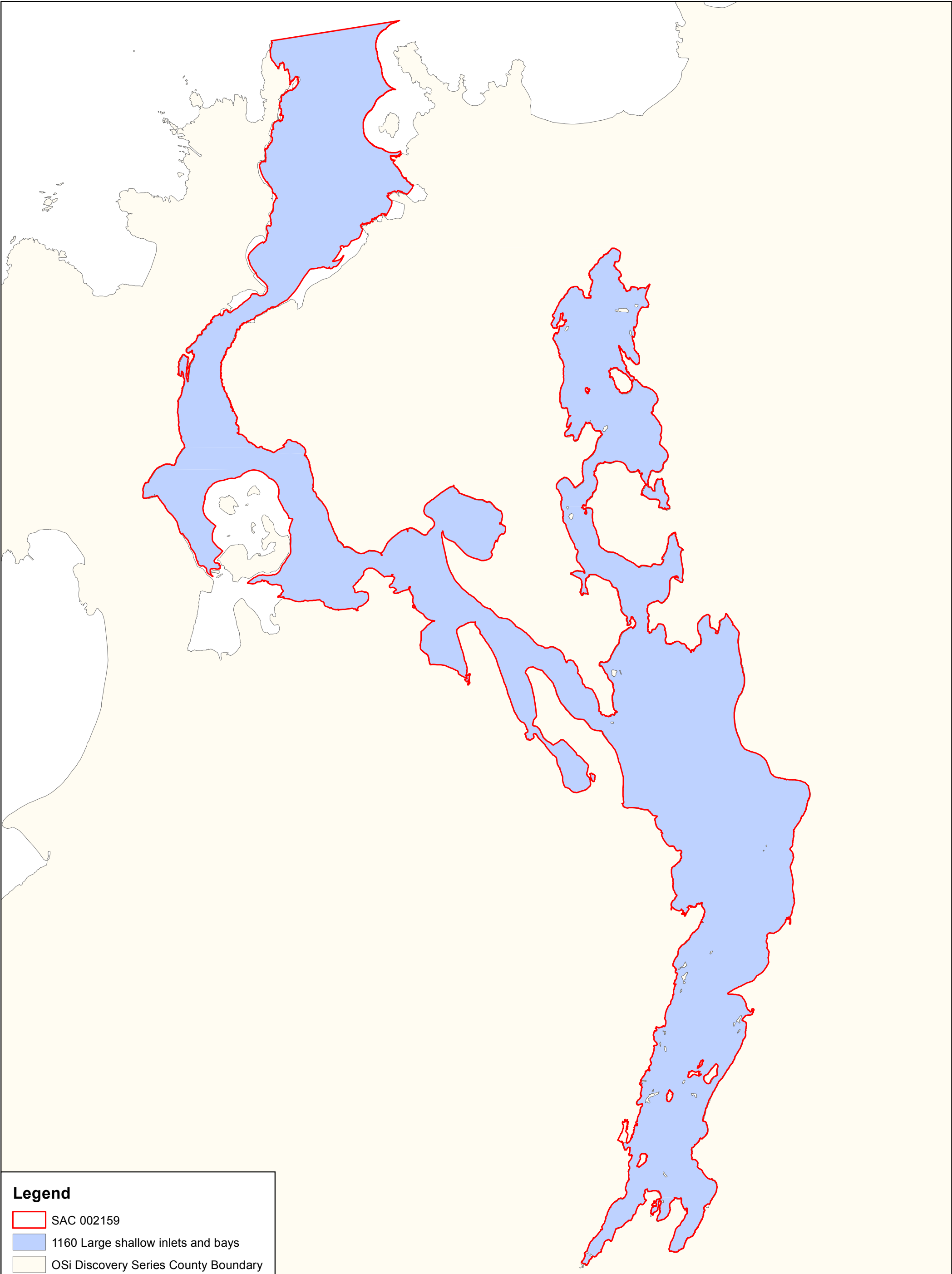
1355 Otter *Lutra lutra*

To restore the favourable conservation condition of Otter in Mulroy 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 in the north-west estimated at 65% (Bailey and Rochford, 2006)
Extent of terrestrial habitat	Hectares	No significant decline. Area mapped and calculated as 32.4ha above high water mark (HWM); 0.9ha along river banks	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 800.2ha	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 0.5km	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 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

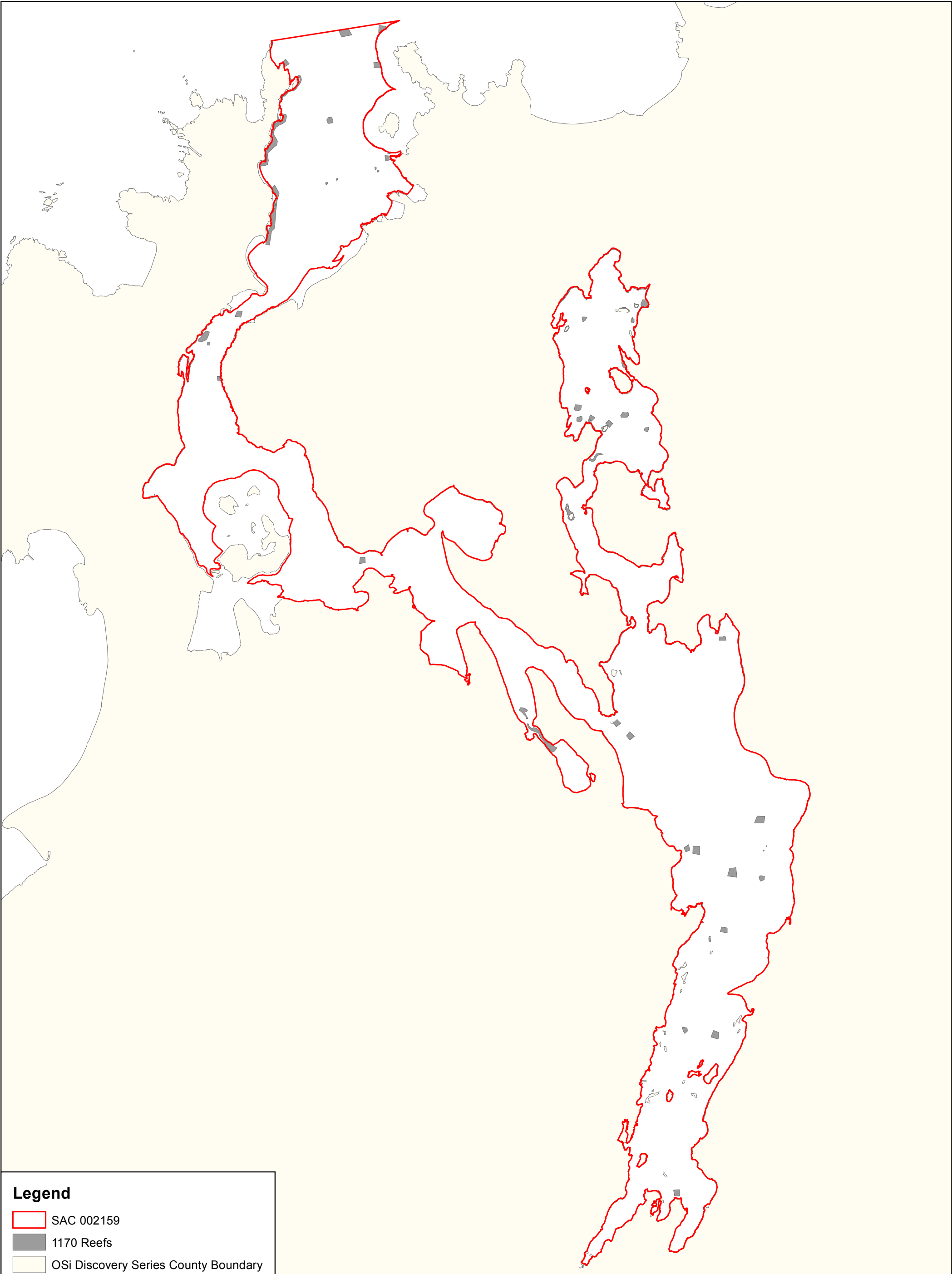






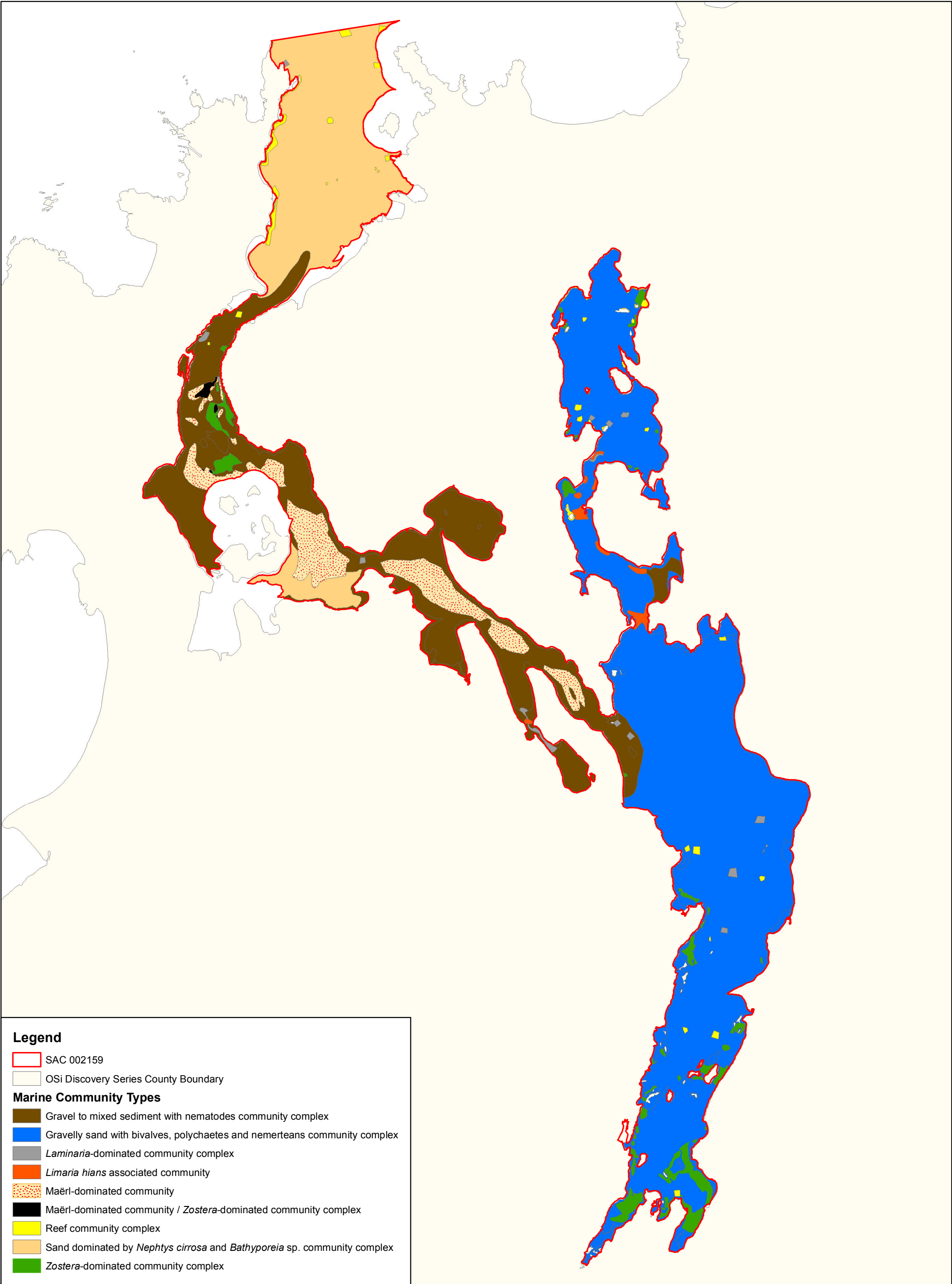
Legend

-  SAC 002159
-  1160 Large shallow inlets and bays
-  OSi Discovery Series County Boundary



Legend

- SAC 002159
- 1170 Reefs
- OSi Discovery Series County Boundary

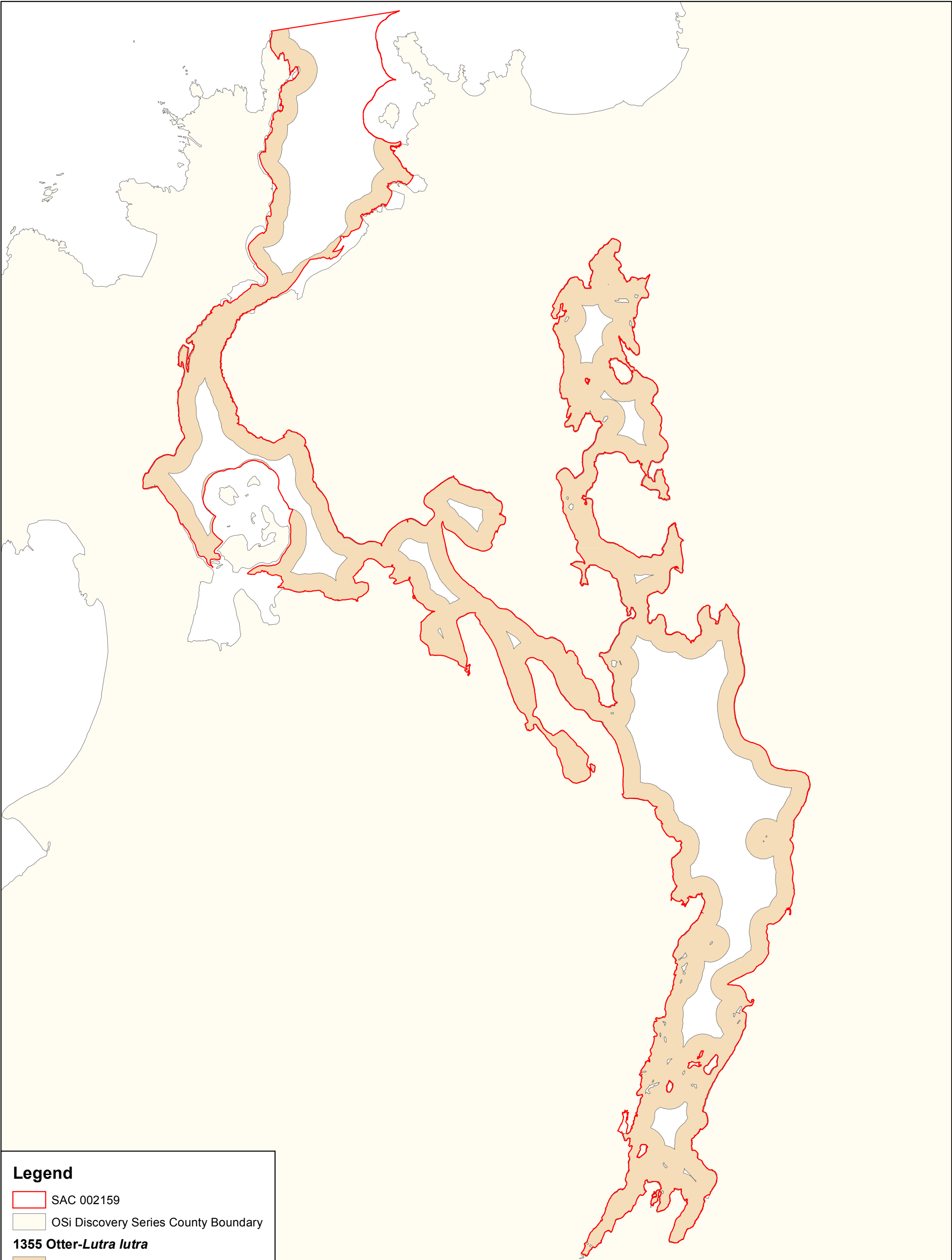


Legend



- SAC 002159
- OSi Discovery Series County Boundary

Marine Community Types

- Gravel to mixed sediment with nematodes community complex
- Gravelly sand with bivalves, polychaetes and nemerteans community complex
- Laminaria-dominated community complex
- Limaria hians associated community
- Maërl-dominated community
- Maërl-dominated community / Zostera-dominated community complex
- Reef community complex
- Sand dominated by Nephtys cirrosa and Bathyporeia sp. community complex
- Zostera-dominated community complex



Legend

-  SAC 002159
-  OSi Discovery Series County Boundary
- 1355 Otter-*Lutra lutra***
-  Otter Commuting 250m HWM buffer