

National Parks and Wildlife Service

Conservation Objectives Series

Clonakilty Bay SAC 000091



An Roinn
Ealaíon, Oidhreachta agus Gaeltachta

Department of
Arts, Heritage and the Gaeltacht



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Introduction

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

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

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

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

Favourable conservation status of a habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

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

Notes/Guidelines:

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

Qualifying Interests

** indicates a priority habitat under the Habitats Directive*

000091	Clonakilty Bay SAC
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1140	Mudflats and sandflats not covered by seawater at low tide
1210	Annual vegetation of drift lines
2110	Embryonic shifting dunes
2120	Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)
2130	Fixed coastal dunes with herbaceous vegetation (grey dunes)*
2150	Atlantic decalcified fixed dunes (Calluno-Ulicetea)*

Please note that this SAC overlaps with Clonakilty Bay SPA (004081). See map 2. The conservation objectives for this site should be used in conjunction with those for the overlapping site as appropriate.

Supporting documents, relevant reports & publications

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

NPWS Documents

Year :	2009
Title :	Coastal Monitoring Project 2004-2006
Author :	Ryle, T.; Murray, A.; Connolly, K.; Swann, M.
Series :	Unpublished report to NPWS
<hr/>	
Year :	2013
Title :	Monitoring survey of Annex I sand dune habitats in Ireland
Author :	Delaney, A.; Devaney, F.M.; Martin, J.R.; Barron, S.J.
Series :	Irish Wildlife Manual No. 75
<hr/>	
Year :	2014
Title :	Clonakilty Bay SAC (site code: 091) Conservation objectives supporting document- coastal habitats V1
Author :	NPWS
Series :	Conservation objectives supporting document
<hr/>	
Year :	2014
Title :	Clonakilty Bay SAC (site code: 091) Conservation objectives supporting document- marine habitats V1
Author :	NPWS
Series :	Conservation objectives supporting document

Other References

Year :	2008
Title :	The phytosociology and conservation value of Irish sand dunes
Author :	Gaynor, K.
Series :	Unpublished PhD thesis, National University of Ireland, Dublin
<hr/>	
Year :	2012
Title :	Intertidal benthic survey of Clonakilty Bay SAC and Clonakilty Bay SPA
Author :	MERC
Series :	Unpublished report to the Marine Institute and NPWS

Spatial data sources

Year :	Interpolated 2014
Title :	Intertidal benthic survey 2011
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 :	1140, marine community types (maps 3 and 4)
<hr/>	
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 4)
<hr/>	
Year :	2013
Title :	Sand Dune Monitoring Project 2011. Version 1
GIS Operations :	QIs selected; clipped to SAC boundary; overlapping regions with Saltmarsh CO data investigated and resolved with expert opinion used
Used For :	2110, 2120, 2130 (map 5)
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Conservation Objectives for : Clonakilty Bay SAC [000091]

1140 Mudflats and sandflats not covered by seawater at low tide

To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Clonakilty 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 using OSi data as 313ha
Community distribution	Hectares	Conserve the following community type in a natural condition: Sand to sandy mud with <i>Tubificoides benedii</i> and <i>Peringia ulvae</i> community complex. See map 4	Based on an intertidal survey undertaken in 2011 (MERC, 2012). See marine supporting document for further information

1210 Annual vegetation of drift lines

To maintain the favourable conservation condition of Annual vegetation of drift lines in Clonakilty Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession	Based on data from the Coastal Monitoring Project (CMP) (Ryle et al. 2009) and Sand Dunes Monitoring Project (SDM) (Delaney et al., 2013). The habitat is very difficult to measure in view of its dynamic nature which means that it can appear and disappear within a site from year to year. CMP mapped an area of 0.25ha but it was not recorded by SDM reflecting the dynamic nature of this habitat. NB further unsurveyed areas maybe present within the site. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes	Based on data from Ryle et al. (2009) and Delaney et al. (2013). As stated above, the habitat was not recorded during the SDM (Delaney et al., 2013). See coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Dunes are naturally dynamic systems that require continuous supply and circulation of sand. Accumulation of organic matter in tidal litter is essential for trapping sand and initiating dune formation. Physical barriers can lead to fossilisation or over-stabilisation of dunes, as well as beach starvation resulting in increased rates of erosion. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from Ryle et al. (2009) and Delaney et al. (2013). Sand dunes at Inchydoney are part of a coastal complex that includes estuarine and intertidal habitats as well as inland marshes. See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities with typical species: sea rocket (<i>Cakile maritima</i>), sea sandwort (<i>Honckenya peploides</i>), prickly saltwort (<i>Salsola kali</i>) and orache (<i>Atriplex</i> spp.)	Based on data from Ryle et al. (2009). See coastal habitats supporting document for further details
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover	Negative indicators include non-native species, species indicative of changes in nutrient status and species not considered characteristic of the habitat. See coastal habitats supporting document for further details

Conservation Objectives for : Clonakilty Bay SAC [000091]

2110 Embryonic shifting dunes

To maintain the favourable conservation condition of Embryonic shifting dunes in Clonakilty Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Inchydoney - 1.62ha. See map 5	Based on data from the Sand Dunes Monitoring Project (SDM) (Delaney et al., 2013). Habitat mapped at one sub-site to give a total estimated area of 1.62ha. Habitat is very difficult to measure in view of its dynamic nature. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, subject to natural processes. See map 5 for known distribution	Based on data from Delaney et al. (2013). See coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Dunes are naturally dynamic systems that require continuous supply and circulation of sand. Physical barriers can lead to fossilisation or over-stabilisation of dunes, as well as beach starvation resulting in increased rates of erosion. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from Gaynor (2008), Ryle et al. (2009) and Delaney et al. (2013). The sand dunes at Inchydoney are part of a coastal complex that includes estuarine and intertidal habitats as well as inland marshes. See coastal habitats supporting document for further details
Vegetation composition: plant health of foredune grasses	Percentage cover	More than 95% of sand couch grass (<i>Elytrigia juncea</i>) and/or lyme grass (<i>Leymus arenarius</i>) should be healthy (i.e. green plant parts above ground and flowering heads present)	Based on data from Delaney et al. (2013). See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities with typical species: sand couch grass (<i>Elytrigia juncea</i>) and/or lyme grass (<i>Leymus arenarius</i>)	Based on data from Delaney et al. (2013). All dune habitats at Inchydoney support a typical flora. See coastal habitats supporting document for further details
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-native species) to represent less than 5% cover	Based on data from Delaney et al. (2013). Negative indicators include non-native species, species indicative of changes in nutrient status and species not considered characteristic of the habitat. Sea-buckthorn (<i>Hippophae rhamnoides</i>) should be absent or effectively controlled. Encroachment by bracken (<i>Pteridium aquilinum</i>) is considered a major problem at this site (Delaney et al., 2013). See coastal habitats supporting document for further details

Conservation Objectives for : Clonakilty Bay SAC [000091]

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

To maintain the favourable conservation condition of Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes') in Clonakilty Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes including erosion and succession. For sub-site mapped: Inchydoney - 0.72ha. See map 5	Based on data from the Sand Dunes Monitoring Project (SDM) (Delaney et al., 2013). Habitat mapped at one sub-site to give a total estimated area of 0.72ha. Habitat is very difficult to measure in view of its dynamic nature. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes. See map 5 for known distribution	Based on data from Delaney et al. (2013). See coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Dunes are naturally dynamic systems that require continuous supply and circulation of sand. Marram grass (<i>Ammophila arenaria</i>) reproduces vegetatively and requires constant accretion of fresh sand to maintain active growth encouraging further accretion. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from Gaynor (2008), Ryle et al. (2009) and Delaney et al. (2013). See coastal habitats supporting document for further details
Vegetation composition: plant health of dune grasses	Percentage cover	95% of marram grass (<i>Ammophila arenaria</i>) and/or lyme-grass (<i>Leymus arenarius</i>) should be healthy (i.e. green plant parts above ground and flowering heads present)	Based on data from Delaney et al. (2013). See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities dominated by marram grass (<i>Ammophila arenaria</i>) and/or lyme-grass (<i>Leymus arenarius</i>)	Based on data from Delaney et al. (2013). See coastal habitats supporting document for further details
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover	Based on data from Delaney et al. (2013). Negative indicators include non-native species; species indicative of changes in nutrient status and species not considered characteristic of the habitat. Sea-buckthorn (<i>Hippophae rhamnoides</i>) should be absent or effectively controlled. Encroachment by bracken (<i>Pteridium aquilinum</i>) is considered a major problem at this site (Delaney et al., 2013). See coastal habitats supporting document for further details

Conservation Objectives for : Clonakilty Bay SAC [000091]

2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)

To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation ('grey dunes') in Clonakilty Bay SAC, which is defined by the following list of attributes and targets:

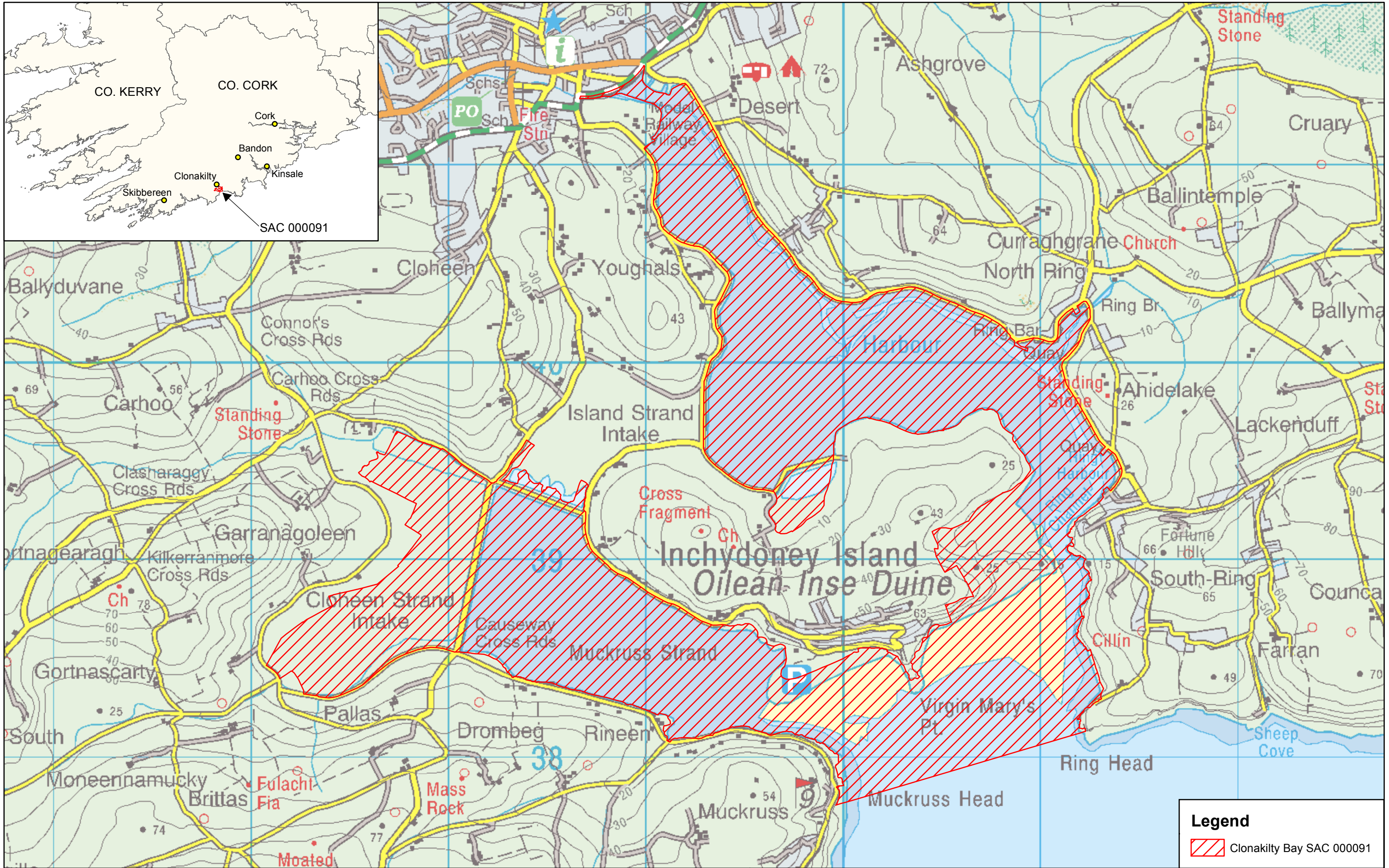
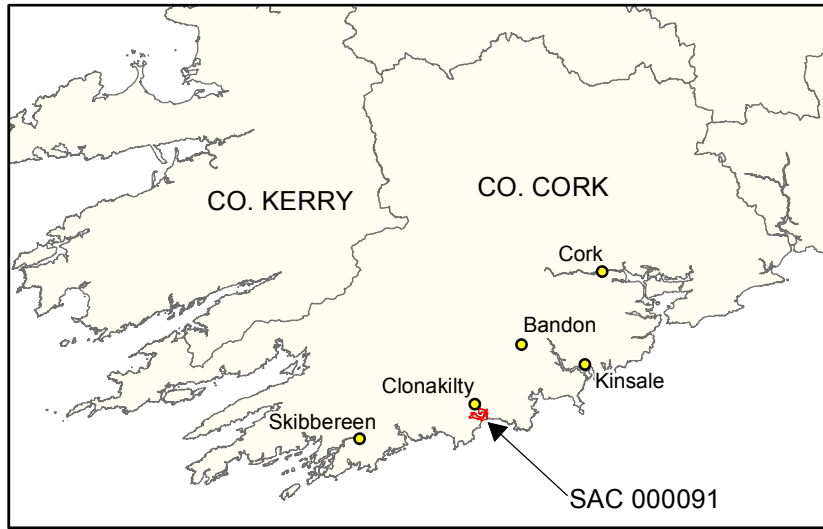
Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes including erosion and succession. For sub-site mapped: Inchydoney - 16.30ha. See map 5	Based on data from the Sand Dunes Monitoring Project (SDM) (Delaney et al., 2013). Habitat mapped at one sub-site to give a total estimated area of 16.30ha. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes. See map 5 for known distribution	Based on data from Delaney et al. (2013). The total sand dune area at Inchydoney is almost entirely accounted for by fixed dunes. See coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Physical barriers can lead to fossilisation or over-stabilisation of dunes, as well as beach starvation resulting in increased rates of erosion. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from Gaynor (2008), Ryle et al. (2009) and Delaney et al. (2013). The sand dunes at Inchydoney are part of a coastal complex that includes estuarine and intertidal habitats as well as inland marshes. See coastal habitats supporting document for further details
Vegetation structure: bare ground	Percentage cover	Bare ground should not exceed 10% of fixed dune habitat, subject to natural processes	Based on data from Gaynor (2008), Ryle et al. (2009) and Delaney et al. (2013). There are several large tracks and blowouts in the fixed dunes at Inchydoney. See coastal habitats supporting document for further details
Vegetation structure: sward height	Centimetres	Maintain structural variation within sward	Based on data from Gaynor (2008), Ryle et al. (2009) and Delaney et al. (2013). See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in Delaney et al. (2013)	Based on data from Delaney et al. (2013). All dune habitats at Inchydoney support a typical flora. See coastal habitats supporting document for further details
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover	Based on data from Delaney et al. (2013). Negative indicators include non-native species, species indicative of changes in nutrient status and species not considered characteristic of the habitat. Sea-buckthorn (<i>Hippophae rhamnoides</i>) should be absent or effectively controlled. Encroachment by bracken (<i>Pteridium aquilinum</i>) is considered a major problem at this site (Delaney et al., 2013). See coastal habitats supporting document for further details
Vegetation composition: scrub/trees	Percentage cover	No more than 5% cover or under control	Burnet rose (<i>Rosa pimpinellifolia</i>) was recorded in the fixed dune habitat at Inchydoney. Several shrub-sized trees were also recorded including sycamore (<i>Acer pseudoplatanus</i>), ash (<i>Fraxinus excelsior</i>) and hawthorn (<i>Crataegus monogyna</i>). See coastal habitats supporting document for further details

Conservation Objectives for : Clonakilty Bay SAC [000091]

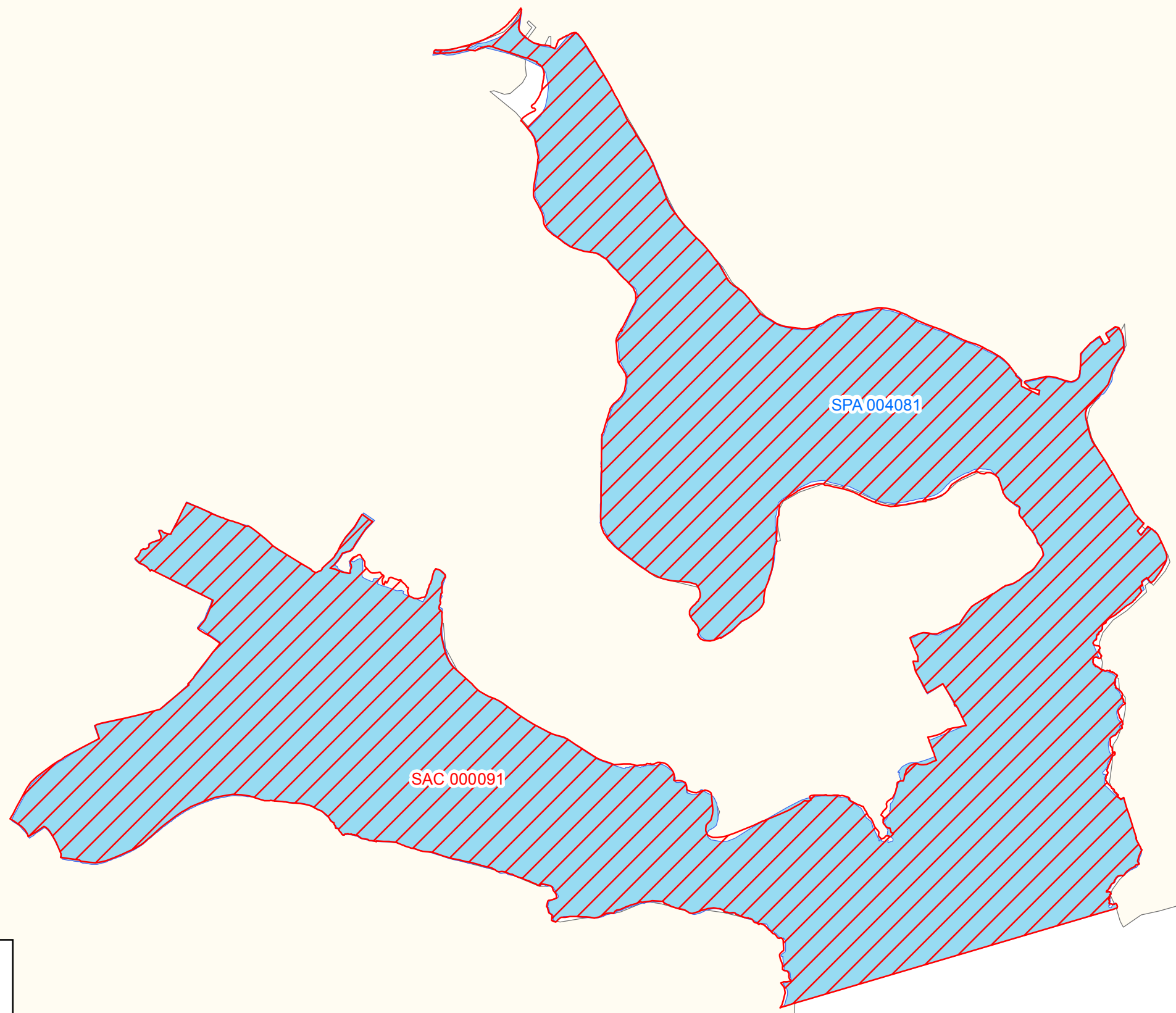
2150 Atlantic decalcified fixed dunes (Calluno-Ulicetea)

To maintain the favourable conservation condition of Atlantic decalcified fixed dunes (*Calluno-Ulicetea*) in Clonakilty Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes including erosion and succession	Based on data from the Coastal Monitoring Project (CMP) (Ryle et al., 2009) and Sand Dunes Monitoring Project (SDM) (Delaney et al., 2013). No area was mapped for this habitat at Inchydoney by the CMP or SDM, but is potentially present as evidenced by the occurrence of European gorse (<i>Ulex europaeus</i>). Possibly occurs in mosaic with fixed dune. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline or change in habitat distribution, subject to natural processes	Based on data from Ryle et al. (2009). This habitat is characterised by the presence of European gorse (<i>Ulex europaeus</i>). The CMP mapped the location of patches of gorse, most of which are in the northeastern corner of the dune system. See coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Physical barriers can lead to fossilisation or over-stabilisation of dunes, as well as beach starvation resulting in increased rates of erosion. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from Gaynor (2008), Ryle et al. (2009) and Delaney et al. (2013). Sand dunes at Inchydoney are part of a coastal complex that includes estuarine and intertidal habitats as well as inland marshes. See coastal habitats supporting document for further details
Vegetation structure: bare ground	Percentage cover	Bare ground should not exceed 10% of fixed dune habitat, subject to natural processes	Based on data from Gaynor (2008), Ryle et al. (2009) and Delaney et al. (2013). The CMP noted several large tracks and blowouts in the fixed dunes at Inchydoney. See coastal habitats supporting document for further details
Vegetation structure: sward height	Centimeters	Maintain structural variation within sward	Based on data from Gaynor (2008), Ryle et al. (2009) and Delaney et al. (2013). Fixed dunes are undergrazed. The absence of large grazers may be beneficial for the development of decalcified dunes. See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in Delaney et al. (2013)	Based on data from Gaynor (2008), Ryle et al. (2009) and Delaney et al. (2013). See coastal habitats supporting document for further details
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover	Based on data from Ryle et al. (2009). Negative indicators include non-native species, species indicative of changes in nutrient status and species not considered characteristic of the habitat. Sea-buckthorn (<i>Hippophae rhamnoides</i>) should be absent or effectively controlled. Encroachment by bracken (<i>Pteridium aquilinum</i>) is considered a major problem at this site (Delaney et al., 2013). See coastal habitats supporting document for further details
Vegetation composition: scrub/trees	Percentage cover	No more than 5% cover or under control	Based on data from Ryle et al. (2009). Burnet rose (<i>Rosa pimpinellifolia</i>) was recorded in the fixed dune habitat at Inchydoney. Several shrub-sized trees were also recorded such as sycamore (<i>Acer pseudoplatanus</i>), ash (<i>Fraxinus excelsior</i>) and hawthorn (<i>Crataegus monogyna</i>). See coastal habitats supporting document for further details



Legend
 Clonakilty Bay SAC 000091



Legend

- Clonakilty Bay SAC 000091
- Clonakilty Bay SPA 004081
- OSi Discovery Series County Boundary

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**MAP 2:
CLONAKILTY BAY SAC
CONSERVATION OBJECTIVES
ADJOINING / OVERLAPPING
DESIGNATIONS**

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

**SITE CODE:
SAC 000091; version 3.01.
SPA 004081; version 2. CO. CORK**




0 0.2 0.4 0.6 0.8 1 km

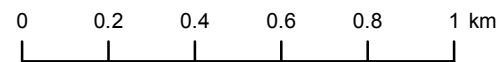
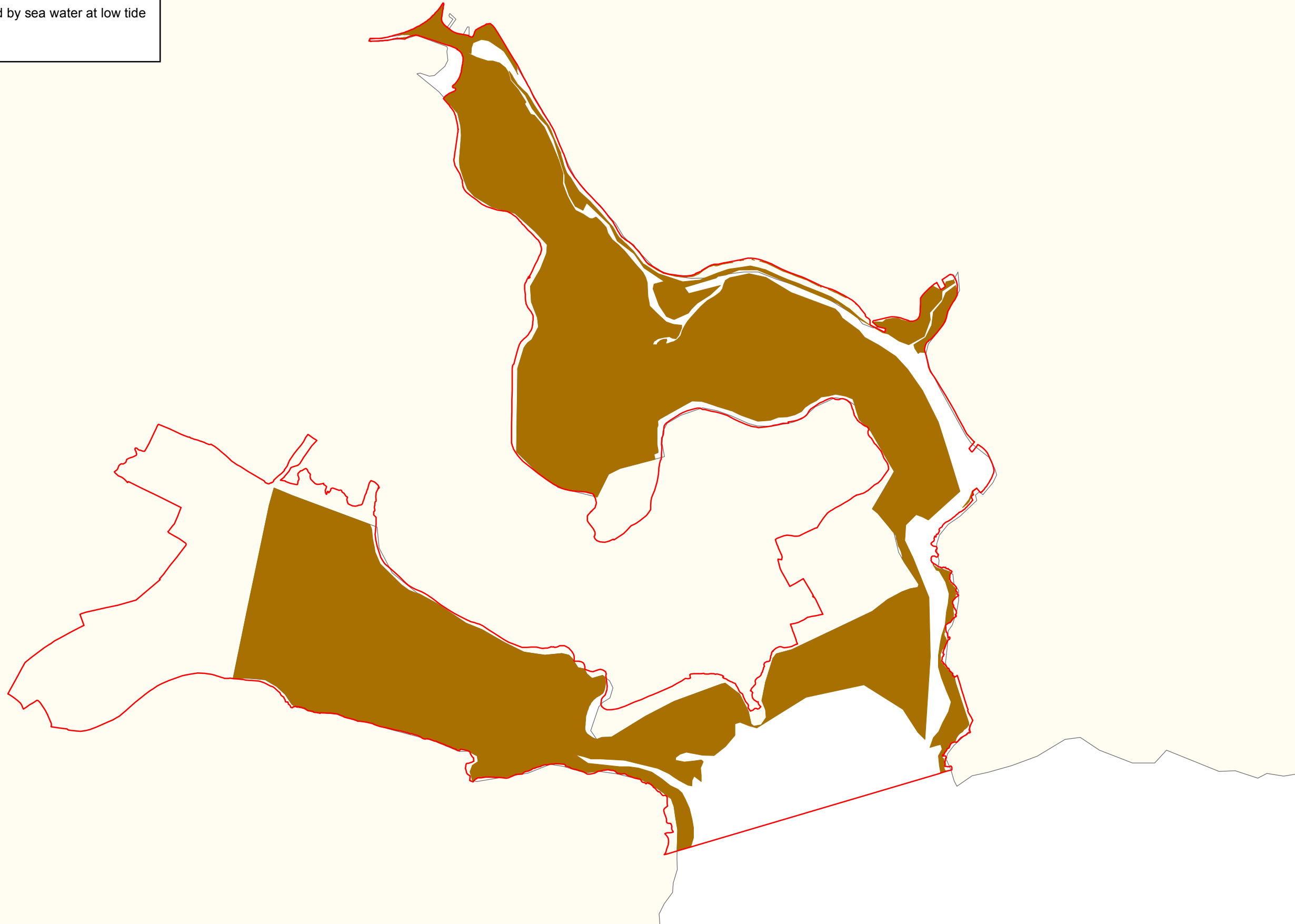
The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
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Níl sna teorainneacha ar na léarscáileanna ach nod garshuíomhach ginearálta. Féadfar athbheithnithe a déanamh ar theorainneacha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



**Map Version 1
Date: May 2014**

Legend



-  Clonakilty Bay SAC 000091
-  1140 Mudflats and sandflats not covered by sea water at low tide
-  OSi Discovery Series County Boundary

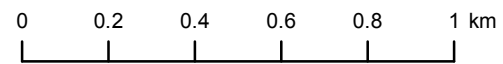
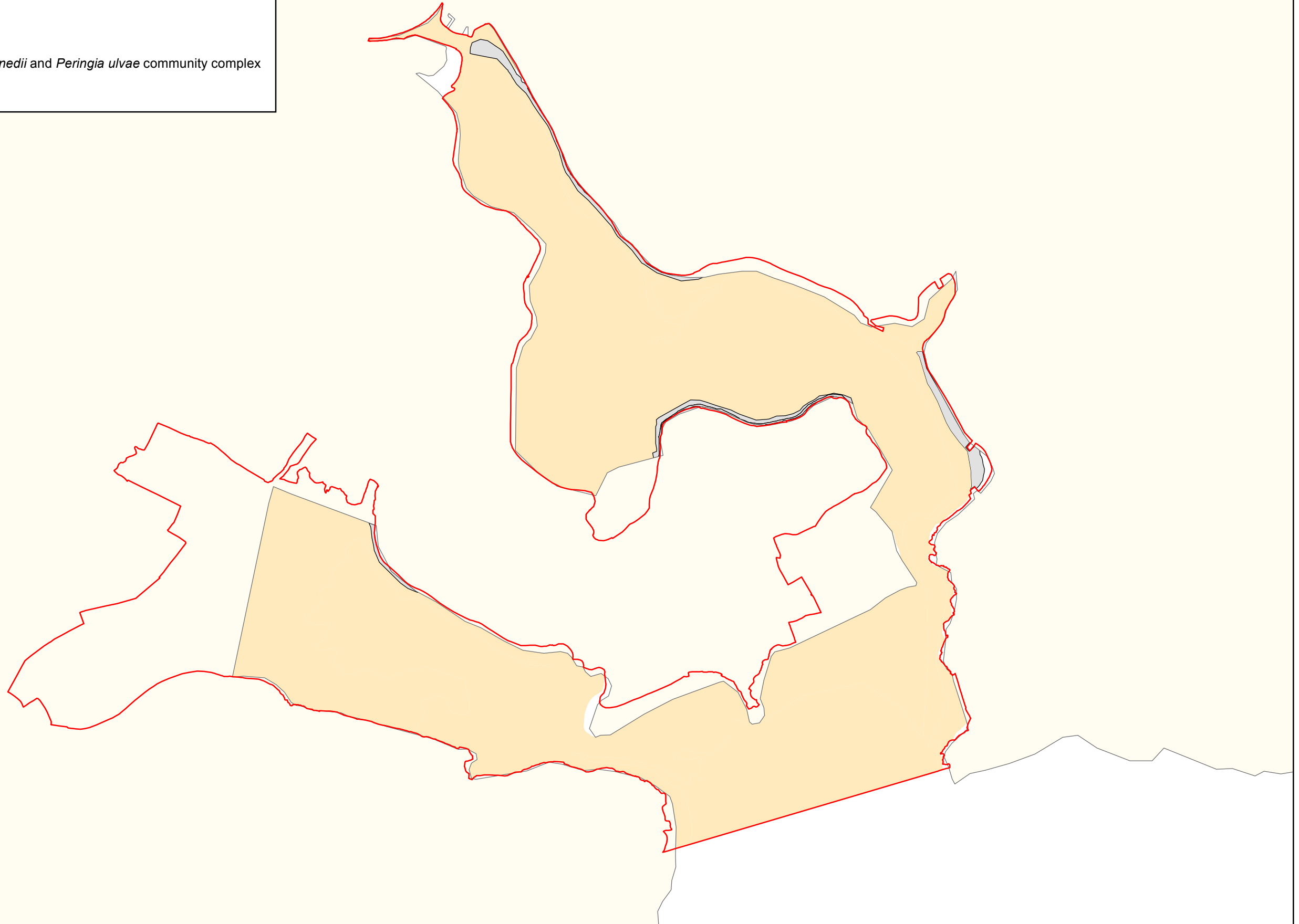


Legend



-  Clonakilty Bay SAC 000091
-  OSi Discovery Series County Boundary

Marine Community Types

-  Sand to sandy mud with *Tubificoides benedii* and *Peringia ulvae* community complex
-  Shingle






Legend


-  Clonakilty Bay SAC 000091
 -  OSi Discovery Series County Boundary
- SDM: 058 Sand Dunes Monitoring Project Site Codes

Sand Dune Habitats

Qualifying Interests

-  2110 Embryonic shifting dunes
-  2120 Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes')
-  2130 *Fixed coastal dunes with herbaceous vegetation ('grey dunes')

Non-Qualifying Interests

-  2190 Humid dune slacks

