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Conservation Objectives Series

Bannow Bay SAC 000697

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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***

000697	Bannow Bay SAC
1130	Estuaries
1140	Mudflats and sandflats not covered by seawater at low tide
1210	Annual vegetation of drift lines
1220	Perennial vegetation of stony banks
1310	*Salicornia* and other annuals colonizing mud and sand
1330	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
1410	Mediterranean salt meadows (*Juncetalia maritimi*)
1420	Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*)
2110	Embryonic shifting dunes
2120	Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes')
2130	*Fixed coastal dunes with herbaceous vegetation ('grey dunes')

Please note that this SAC overlaps with Bannow Bay SPA (004033) and is adjacent to Hook Head SAC (000764). See map 2. The conservation objectives for this site should be used in conjuntion with those for 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: Bannow Bay SAC (000697). Conservation objectives supporting document - coastal habitats [Version 1]

Year: 2012

Author: NPWS

Series: Unpublished Report to NPWS

Title: Bannow Bay SAC (000697). Conservation objectives supporting document - marine habitats and species [Version 1]

Year: 2011

Author: NPWS

Series: Unpublished Report to NPWS

Title: Subtidal Benthic Investigations in Bannow Bay SAC (Site Code: IE000697) and SPA (Site Code: IE004033), Co. Wexford.

Year: 2010

Author: Aquafact

Series: Unpublished Report to NPWS & MI

Title: A survey of mudflats and sandflats in Ireland. An intertidal soft sediment survey of Bannow Bay

Year: 2010

Author: Aquatic Services Unit

Series: Unpublished Report to NPWS & MI

Title: Saltmarsh Monitoring Report 2007-2008

Year: 2009

Author: McCorry, M.; Ryle, T.

Series: Unpublished Report to NPWS

Title: Coastal Monitoring Project 2004-2006

Year: 2009

Author: Ryle, T.; Murray, A.; Connolly, C.; Swann, M.

Series: Unpublished Report to NPWS

Title: The phytosociology and conservation value of Irish sand dunes

Year: 2008

Author: Gaynor, K.

Series: Unpublished PhD thesis, National University of Ireland, Dublin

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Title: National Shingle Beach Survey of Ireland 1999

Year: 1999

Author: Moore, D.; Wilson, F.

Series: Unpublished Report to NPWS

Title: A survey of intertidal sediment biotopes in estuaries in Ireland

Year: 1997

Author: Falvey, J.P.; Costello, M.J.; Dempsey, S.

Series: Unpublished Report

Title:	A Preliminary Report on Areas of Scientific Interest in County Wexford
Year:	1979
Author:	Goodwillie, R.
Series:	Unpublished Report

Spatial data sources

Year:	2010
Title:	EPA WFD transitional waterbody data
GIS operations:	Clipped to SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used for:	1130 (map 3)
Year:	
Title:	Mudflat and sandflat survey 2009; subtidal benthic survey 2009
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, 1140 (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:	
Title:	Saltmarsh Monitoring Project 2007-2008. Version 1
GIS operations:	QIs selected; clipped to SAC boundary; overlapping regions with Coastal CO data investigated and resolved with expert opinion used
Used for:	1310, 1330, 1410, 1420 (map 6)
Year:	2009
Title:	Coastal Monitoring Project 2004-2006. Version 1
GIS operations:	QIs selected; clipped to SAC boundary; overlapping regions with Saltmarsh CO data investigated and resolved with expert opinion used
Used for:	1210, 1220, 2110, 2120, 2130 (map 7)

1130 Estuaries

To maintain the favourable conservation condition of Estuaries in Bannow 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 34ha using OSi data and the defined Transitional Water Body area under the Water Framework Directive. See marine supporting document for further information
Community distribution	Hectares	Conserve the following community type in a natural condition: Fine sands with *Pygospio elegans* and *Corophium volutator* community complex. See map 5	The likely area of sediment communities was derived from intertidal and subtidal surveys undertaken in 2009 (ASU, 2010; Aquafact, 2010). See marine supporting document for further information

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 Bannow 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 4	Habitat area was estimated as 893ha using OSi data. See marine supporting document for further information
Community distribution	Hectares	Maintain the extent of the *Zostera*-dominated and the *Barnea candida* communities, subject to natural processes. See map 5	Estimated during 2009 intertidal survey (ASU, 2010). See marine supporting document for further information
½2ăűŜℕI· shoot density	Shoots/m²	Conserve the high quality of the *Zostera*-dominated community, subject to natural processes	See marine supporting document for further information
. I·ℕyŜI· ŎI·yŘℝŘI· density	Individuals/m²	Conserve the high quality of the *Barnea candida* community, subject to natural processes	See marine supporting document for further information
Community distribution	Hectares	Conserve the following community complexes in a natural condition: Fine sands with *Pygospio elegans* and *Corophium volutator* community complex; and Intertidal sand dominated by polychaetes community complex. See Map 5	The likely area of sediment communities was derived from intertidal surveys undertaken in 2009 (ASU, 2010). 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 Bannow Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Grange - 0.023ha, Bannow Island - 0.002ha. See map 7	Based on data from the Coastal Monitoring Project (Ryle et al. 2009). Two sub-sites were mapped giving a total estimated area of 0.025ha. 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. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes. See map 7	Based on data from Ryle et al. (2009). Strandline is more extensive at Grange sub-site than at Bannow Island. 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. 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). 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: *Cakile maritima*, *Honckenya peploides*, *Salsola kali* and *Atriplex* 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. Based on data from Ryle et al. (2009). See coastal habitats supporting document for further details

1220 Perennial vegetation of stony banks

To maintain the favourable conservation condition of perennial vegetation of stony banks in Bannow 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. See map 7 for mapped location	Current area unknown. One area of vegetated shingle was recorded during the Coastal Monitoring Project (Ryle et al., 2009): Grange - 0.05ha. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes. See map 6 for mapped location	Current distribution unknown. Shingle known to occur at Grange, Saltmills and Taulaght. Likely to be more widespread. 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	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 Moore & Wilson (1999) . See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative sample of monitoring stops	Maintain the typical vegetated shingle flora including the range of sub-communities within the different zones	Based on data from Moore & Wilson (1999). 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 Moore & Wilson (1999). 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

1310 *Salicornia* and other annuals colonizing mud and sand

To restore the favourable conservation condition of *Salicornia* and other annuals colonizing mud and sand in Bannow Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Bannow Island -0.002ha, Clonmines - 0.02ha, Taulaght - 0.01ha, Saltmills - 0.01ha, Gorteens - 0.01ha, Fethard - 0.10ha. See map 6	Based on data from Saltmarsh Monitoring Project (McCorry & Ryle, 2009). Habitat recorded at six of the seven sub-sites surveyed and mapped, giving a total estimated area of 0.15ha. 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. See map 6 for known distribution	Based on data from McCorry & Ryle (2009). Salicornia is an annual species, so its distribution can vary significantly from year to year. See coastal habitats supporting document for further details
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain natural circulation of sediments and organic matter, without any physical obstructions	Sediment supply is particularly important for this pioneer saltmarsh community, as the distribution of this habitat depends on accretion rates. See coastal habitats backing 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 & Ryle (2009). Creeks deliver sediment throughout saltmarsh system. Creeks and pan structures well developed at Fethard and Talaught. See coastal habitats supporting document for further details
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime	This pioneer saltmarsh community requires regular tidal inundation. 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 McCorry & Ryle (2009). See coastal habitats supporting document for further details
Vegetation structure: vegetation height	Centimeters	Maintain structural variation within sward	Based on data from McCorry & 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 McCorry & Ryle (2009). See coastal habitats supporting document for further details
Vegetation composition: typical species & sub-communities	Percentage cover	Maintain the presence of species-poor communities with typical species listed in saltmarsh Monitoring Project (McCorry & Ryle, 2009)	Based on data from McCorry & Ryle (2009). See coastal habitats supporting document for further details

1310 *Salicornia* and other annuals colonizing mud and sand

To restore the favourable conservation condition of *Salicornia* and other annuals colonizing mud and sand in Bannow Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Vegetation structure: negative indicator species: *Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%	Based on data from McCorry & 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 (*Glauco-Puccinellietalia maritimae*) in Bannow Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Bannow Island - 2.57ha, Clonmines - 16.16ha, Taulaght - 2.95ha, Saltmills - 1.14ha, Gorteens - 1.17ha, Grange - 0.01ha, Fethard - 5.85ha. See map 6	Based on data from the Saltmarsh Monitoring Project (McCorry & Ryle 2009). Seven sub-sites that supported Atlantic salt meadow were mapped giving a total estimated area of 29.87ha. 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. See map 6 for known distribution	Based on data from McCorry & Ryle (2009). See coastal habitats supporting document for further details
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain 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 to develop, subject to natural processes, including erosion and succession	Creeks and pan structures well developed at Fethard and Talaught sub-sites. 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 the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from McCorry & Ryle (2009). See coastal habitats supporting document for further details
Vegetation structure: vegetation height	Centimeters	Maintain structural variation within sward	See coastal habitats supporting document for further details
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain >90% of the saltmarsh area vegetated	See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative sample of monitoring stops	Maintain range of sub-communities with typical species listed in Saltmarsh Monitoring Project (McCorry & Ryle, 2009)	See coastal habitats supporting document for further details
Vegetation structure: negative indicator species - *Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%	Based on data from McCorry & Ryle (2009). See coastal habitats supporting document for further details

1410 Mediterranean salt meadows (*Juncetalia maritimi*)

To restore the favourable conservation condition of Mediterranean salt meadows (*Juncetalia maritimi*) in Bannow Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Clonmines - 1.92ha, Taulaght - 0.49ha, Saltmills - 0.83ha, Gorteens - 0.77ha, Grange - 0.40ha. See map 6	Based on data from the Saltmarsh Monitoring Project (McCorry & Ryle, 2009). Five sub-sites that support Mediterranean salt meadows were mapped giving a total estimated area of 4.41ha. 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. See map 6 for known distribution	See coastal habitats supporting document for further details
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain 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 the Saltmarsh Monitoring Project (McCorry & Ryle, 2009). The Mediterranean salt meadows at Taulaght has a well developed saltmarsh structure in places with creeks and small salt pans present. See coastal habitats supporting document for further details
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime	Mediterranean salt meadows is found high up in the saltmarsh but requires occasional tidal inundation. 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 McCorry & Ryle (2009). See coastal habitats supporting document for further details
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within the sward	Based on data from McCorry & Ryle (2009). See coastal habitats supporting document for further details
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain >90% of area outside creeks vegetated	Based on data from McCorry & Ryle (2009). Grazing is only recorded at Clonmines, though natural grazing by wildfowl reported at most sub-sites. See coastal habitats supporting document for further details
Vegetation composition: typical species	Percentage cover	Maintain range of sub-communities with typical species listed in Saltmarsh Monitoring Project (McCorry & Ryle, 2009)	See coastal habitats supporting document for further details

1410 Mediterranean salt meadows (*Juncetalia maritimi*)

To restore the favourable conservation condition of Mediterranean salt meadows (*Juncetalia maritimi*) in Bannow Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Vegetation structure: negative indicator species - *Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%	Based on data from McCorry & Ryle (2009). Spartina swards occur at all sub-sites except Grange (although clumps of *Spartina* were recorded here). Occupies a significant proportion of the total saltmarsh area in most sub-sites . See coastal habitats supporting document for further details

1420 Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*)

To restore the favourable conservation condition of Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*) in Bannow Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Bannow Island - 0.17ha, Taulaght - 0.01ha, Gorteens - 0.06ha, Fethard - 0.12ha. See map 6	Based on data from the Saltmarsh Monitoring Project (McCorry & Ryle, 2009). four sub-sites that support Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi)* were mapped giving a total estimated area of 0.36ha. 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. See map 6 for known distribution	See coastal habitats supporting document for further details
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain 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 the Saltmarsh Monitoring Project (McCorry & Ryle, 2009). 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 the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Halophilous scrub occurs in association with ASM, MSM, Spartina swards and shingle at Bannow Bay. Based on data from McCorry & Ryle (2009). See coastal habitats supporting document for further details
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within the sward	Based on data from McCorry & Ryle (2009). See coastal habitats supporting document for further details
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain >90% of area outside creeks vegetated	Based on data from McCorry & Ryle (2009). Grazing is only recorded at Clonmines, though natural grazing by wildfowl reported at most sub-sites. See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover	Maintain range of sub-communities with typical species listed in Saltmarsh Monitoring Project (McCorry & Ryle, 2009)	Halophilous scrubs are characterised by the precence of perennial glasswort (*Sarcocornia perennis*). See coastal habitats supporting document for further details

1420 Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*)

To restore the favourable conservation condition of Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*) in Bannow Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Vegetation structure: negative indicator species - *Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%	Based on data from McCorry & Ryle (2009). *Spartina* swards occur at all sub-sites except Saltmills and Grange, and in most sites occupy a significant proportion of the total saltmarsh area. Spartina seems to provide new habitat for colonisation by perennial glasswort (*Sarcocornia perennis*). See coastal habitats supporting document for further details

2110 Embryonic shifting dunes

To restore the favourable conservation condition of embryonic shifting dunes at Bannow Bay, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Grange - 1.37ha. See map 7	Based on data from the Coastal Monitoring Project (Ryle et al., 2009). Habitat is very difficult to measure in view of its dynamic nature and was only recorded at the Grange sub-site. Embryonic dunes have been decimated at the northern end. Accretion was noted from the north-western corner and southern end of the site. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes. See map 7 for known distribution	Based on data from Ryle et al. (2009). 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. 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). See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover	Maintain the presence of species-poor communities with typical species: Elytrigia juncea and/or Leymus arenarius	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	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 (*Hippophae rhamnoides*) should be absent or effectively controlled. See coastal habitats supporting document for further details

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

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

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area increasing, subject to natural processes including erosion and succession. For sub-sites mapped:Bannow Island 0.11ha; Grange: 0.55ha. See map 7	Habitat was mapped during the Coastal Monitoring Project (Ryle et al. 2009). Habitat mapped at two sub-sites to give a total estimated area of 0.66ha. 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 7 for known distribution	Significant area of shifting dunes have been lost to erosion at the Grange sub-site though despite the erosion, sand is accumulating in places. The front of the dune face at Bannow Island sub-site is being regularly reworked and only a narrow band of shifting dunes occur in front of fixed dune habitat. 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. Ammophila reproduces vegetaqtively 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) and Ryle et al. (2009). See coastal habitats supporting document for further details
Vegetation composition: plant health of dune grasses	Percentage cover	>95% of *Ammophila* and/or *Leymus* should be healthy (i.e. green plant parts above ground and flowering heads present)	Based on data from Ryle et al. (2009). 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 Ammophila arenaria* and/or *Leymus arenarius*	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	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 (*Hippophae rhamnoides*) should be absent or effectively controlled. See coastal habitats supporting document for further details

2130 *Fixed coastal dunes with herbaceous vegetation ('grey dunes')

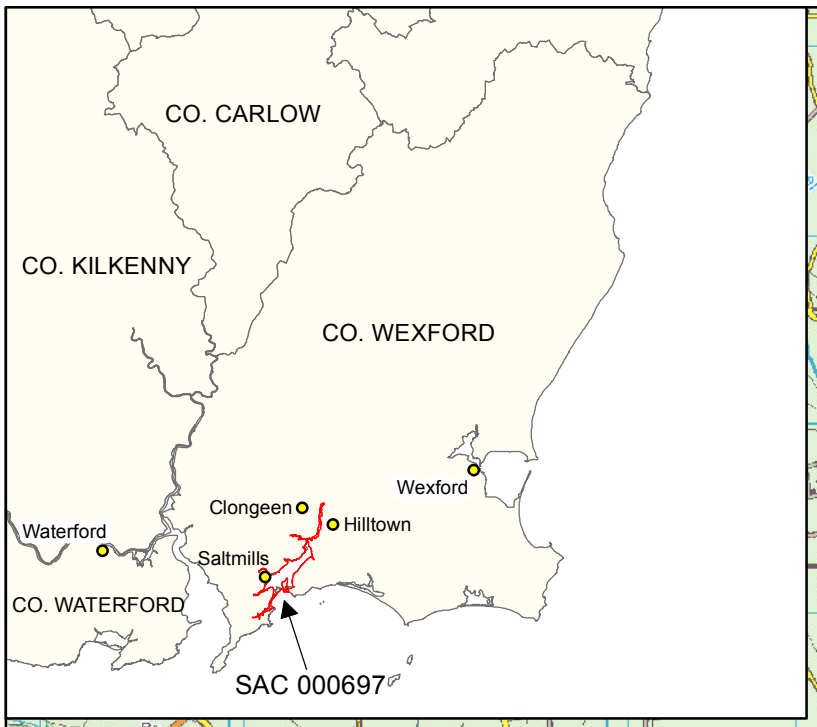
To restore the favourable conservation condition of fixed coastal dunes with herbaceous vegetation (grey dunes) in Bannow Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area increasing, subject to natural processes including erosion and succession. For sub-sites mapped: Grange -0.85ha, Bannow Island - 3.21ha. See map 7	Based on data from the Coastal Monitoring Project (Ryle et al., 2009). Two sub-sites were mapped, giving a total estimated area of 4.05ha. 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. See map 7 for known distribution	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 Ryle et al. (2009). 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) and Ryle et al. (2009). See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative sample of monitoring stops	Maintain range of sub-communities with typical species listed in Ryle et al. (2009)	Based on data from Gaynor (2008) and Ryle et al. (2009). The presence of the Red Data Book species wild asparagus (*Asparagus officinalis* subsp. *prostratus*) is an indicator of local distinctiveness. See coastal habitats supporting document for further details
Vegetation composition: negative indicator species (including Hippophae rhamnoides)	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 (*Hippophae rhamnoides*) should be absent or effectively controlled. Bracken (*Pteridium aquilinum*) was recorded at Grange sub-site and is spreading at the rear of the dune system (Ryle et al., 2009) See coastal habitats supporting document for further details

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 Bannow Bay SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Vegetation composition: scrub/trees	Percentage cover	No more than 5% cover or under control	Based on data from Ryle et al. (2009). Blackthorn (*Prunus spinosa*) occurs at Grange and shrub-dominated vegetation is a feature of the fixed dune at Bannow Island. See coastal habitats supporting document for further details



MAP 1: BANNOW BAY CONSERVATION OBJECTIVES SAC DESIGNATION

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

SITE CODE: SAC 000697 Version 1.02

0 0.5 1 1.5 2 km

N

Map Version 1
Date: Feb 2012

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000697

004033

000764

Legend

- SAC 000697
- SAC 000764
- SPA 004033
- OSi Discovery Series County Boundary

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MAP 2:
BANNOW BAY SAC
CONSERVATION OBJECTIVES
ADJOINING / OVERLAPPING DESIGNATIONS

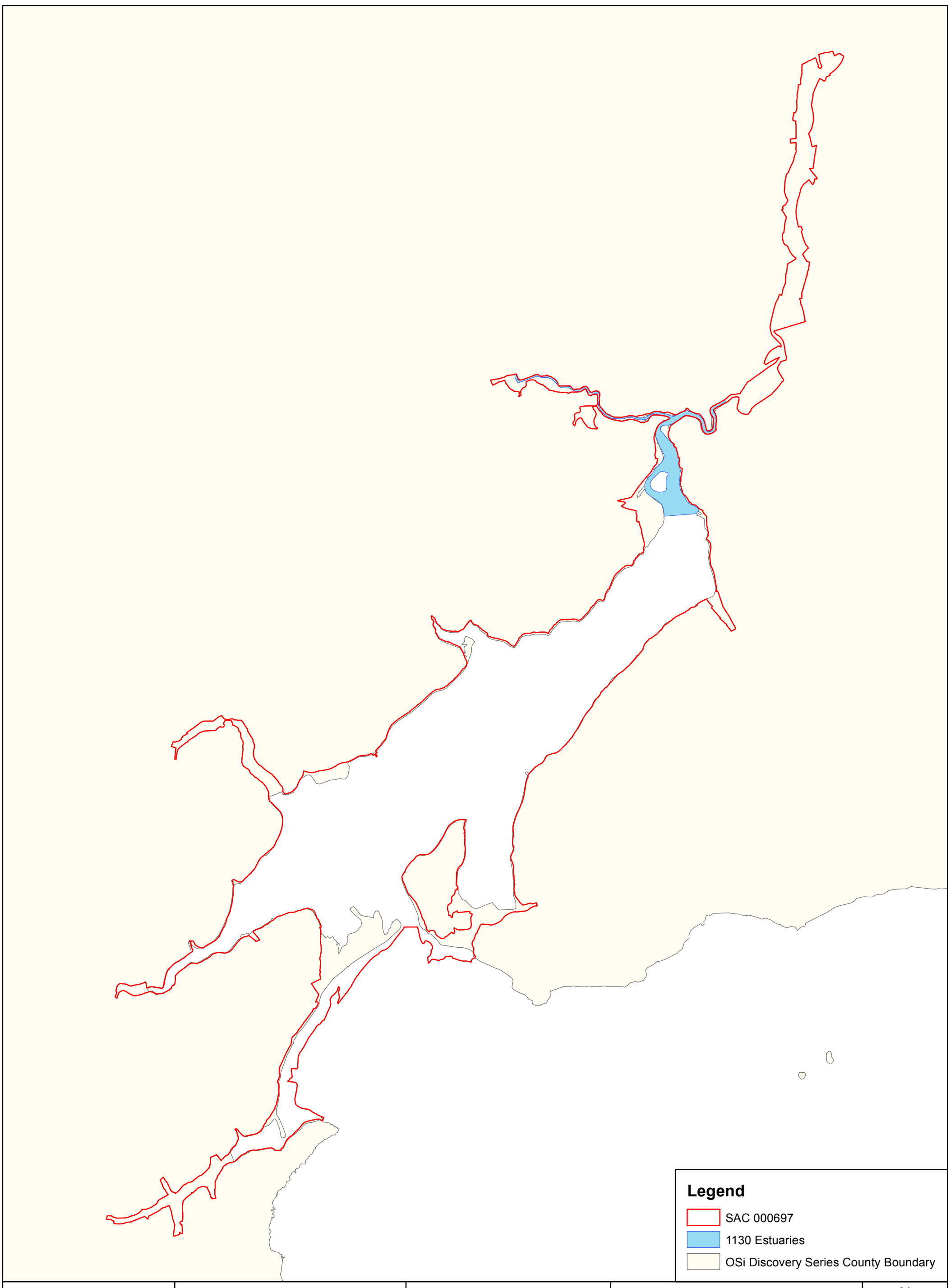
Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 000697 Version 1.02
SAC 000764 Version 1
SPA 004033 Version 1.01

0 0.5 1 1.5 2 km

N

Map Version 1
Date: Feb 2012



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MAP 3: BANNOW BAY SAC CONSERVATION OBJECTIVES ESTUARIES

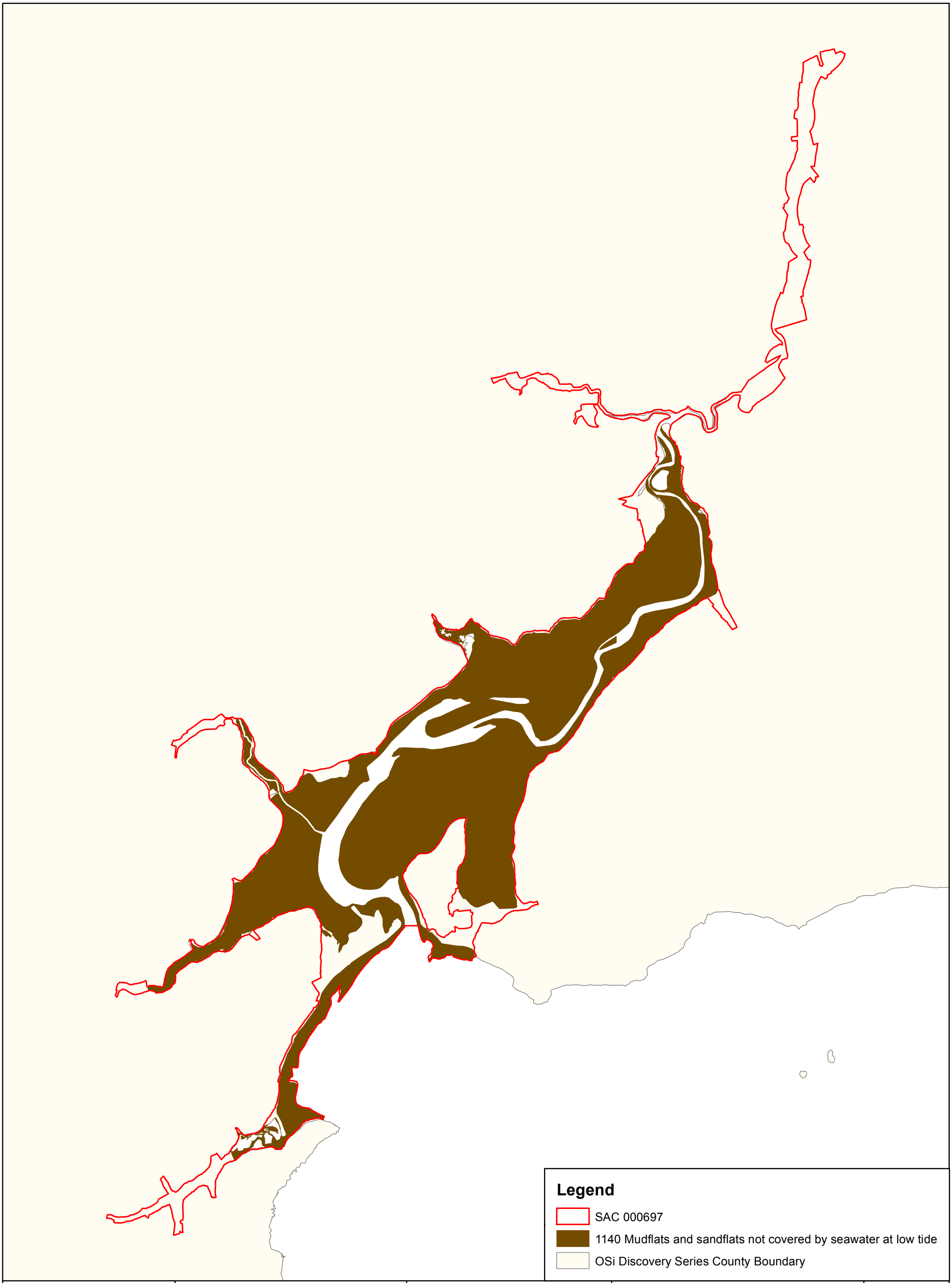
Map to be read in conjunction with the NPWS Conservation Objectives Document.

CO. WEXFORD

0 0.5 1 1.5 2 km

N

Map Version 1
Date: Feb 2012



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MAP 4:
BANNOW BAY SAC
CONSERVATION OBJECTIVES
TIDAL MUDFLATS & SANDFLATS

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

CO. WEXFORD

0 0.5 1 1.5 2 km

N

Map Version 1
Date: March 2012

Legend

- SAC 000697
- SPA 004033
- OSi Discovery Series County Boundary

Marine Community Types

- *Barnea candida* community
- Coarse sediment with Pisidia longicornis & epibenthic fauna community complex
- Fine sands with *Pygospio elegans* and *Corophium volutator* community complex
- Intertidal sand dominated by polychaetes community complex
- River
- Sand with *Chaetozone christei* and *Tellina* sp. community complex
- *Zostera*-dominated community

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MAP 5:
BANNOW BAY SAC
CONSERVATION OBJECTIVES
MARINE COMMUNITY TYPES

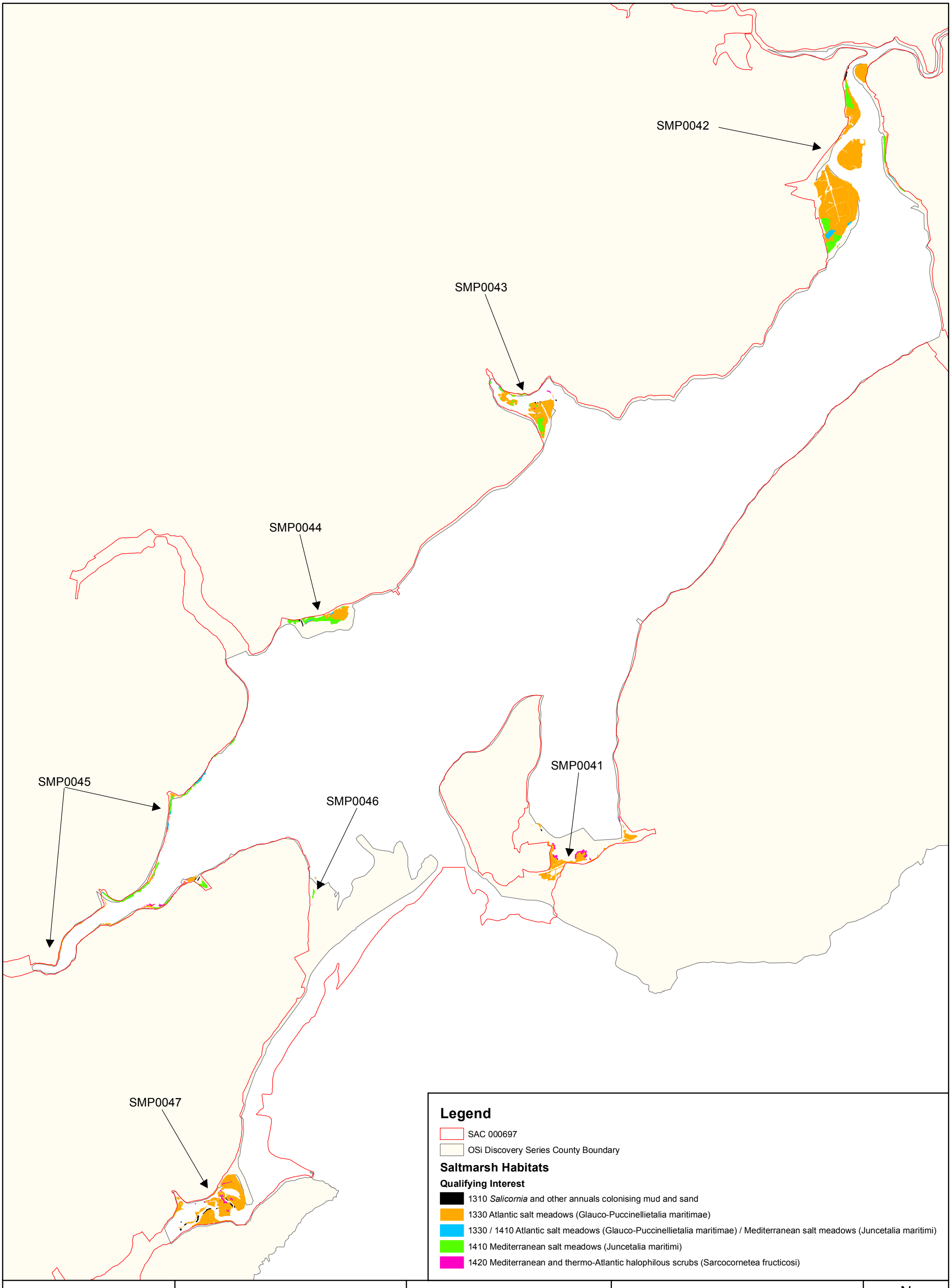
Map to be read in conjunction with the NPWS Conservation Objectives Document.

CO. WEXFORD

0 0.5 1 1.5 2 km

N

Map Version 1
Date: March 2012



Legend

SAC 000697

OSi Discovery Series County Boundary

Saltmarsh Habitats

Qualifying Interest

1310 *Salicornia* and other annuals colonising mud and sand

1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)

1330 / 1410 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) / Mediterranean salt meadows (Juncetalia maritimi)

1410 Mediterranean salt meadows (Juncetalia maritimi)

1420 Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fructicosi)

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MAP 6:
BANNOW BAY SAC
CONSERVATION OBJECTIVES
SALTMARSH HABITATS

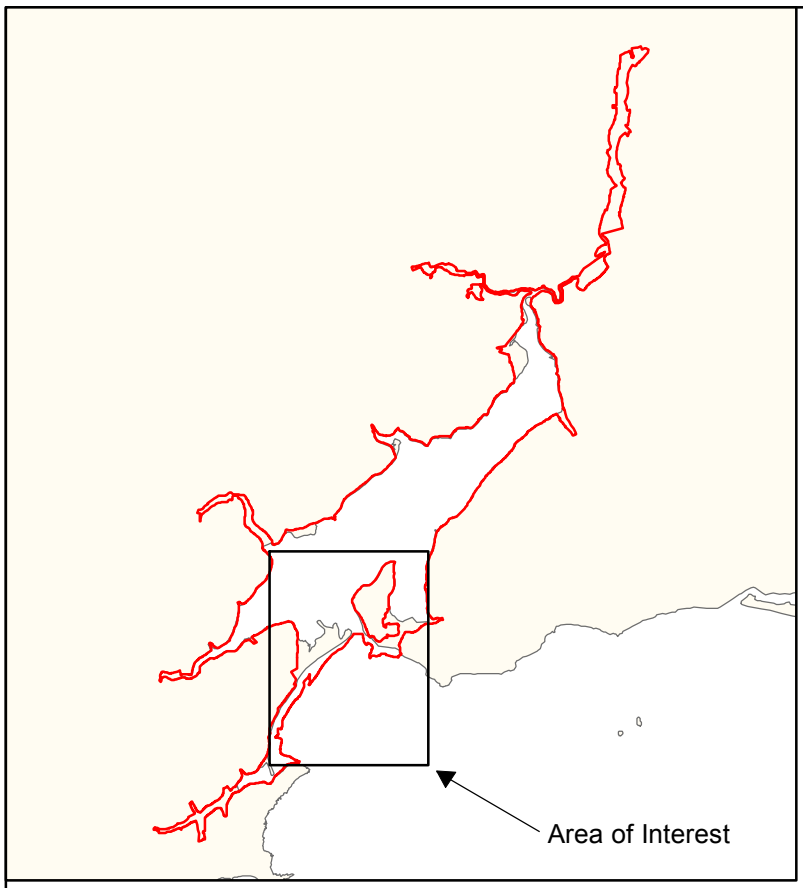
Map to be read in conjunction with the NPWS Conservation Objectives Document.

CO. WEXFORD

0 0.25 0.5 0.75 1 km

N

Map Version 1
Date: Feb 2012



Legend

SAC 000697

OSi Discovery Series County Boundary

Qualifying Interest

1210 Annual vegetation of drift lines

1220 Perennial vegetation of stony banks

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 Interest

2190 Humid dune slacks

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MAP 7: BANNOW BAY SAC CONSERVATION OBJECTIVES SAND DUNE HABITATS

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

CO. WEXFORD

0 100 200 300 400 500 m

N

Map Version 1
Date: Feb 2012