

**APPENDIX A: HISTORICAL PHOTOGRAPHS OF
PORTRANE AND RUSH**

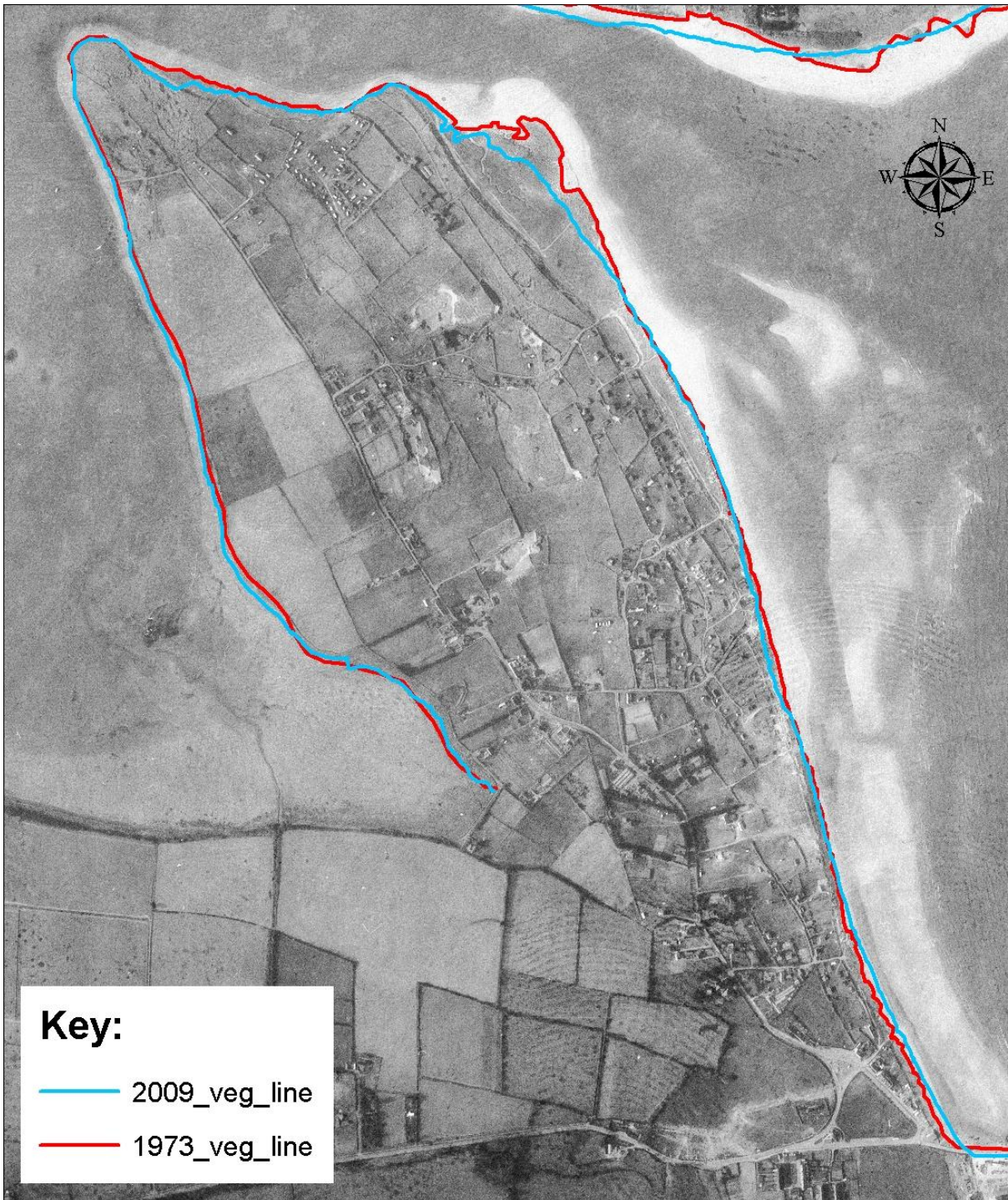


Figure 1: Portrane - vegetation lines superimposed on an OS aerial photograph taken in 1973



Figure 2: Portrane - vegetation lines superimposed on an OS aerial photograph taken in 1982

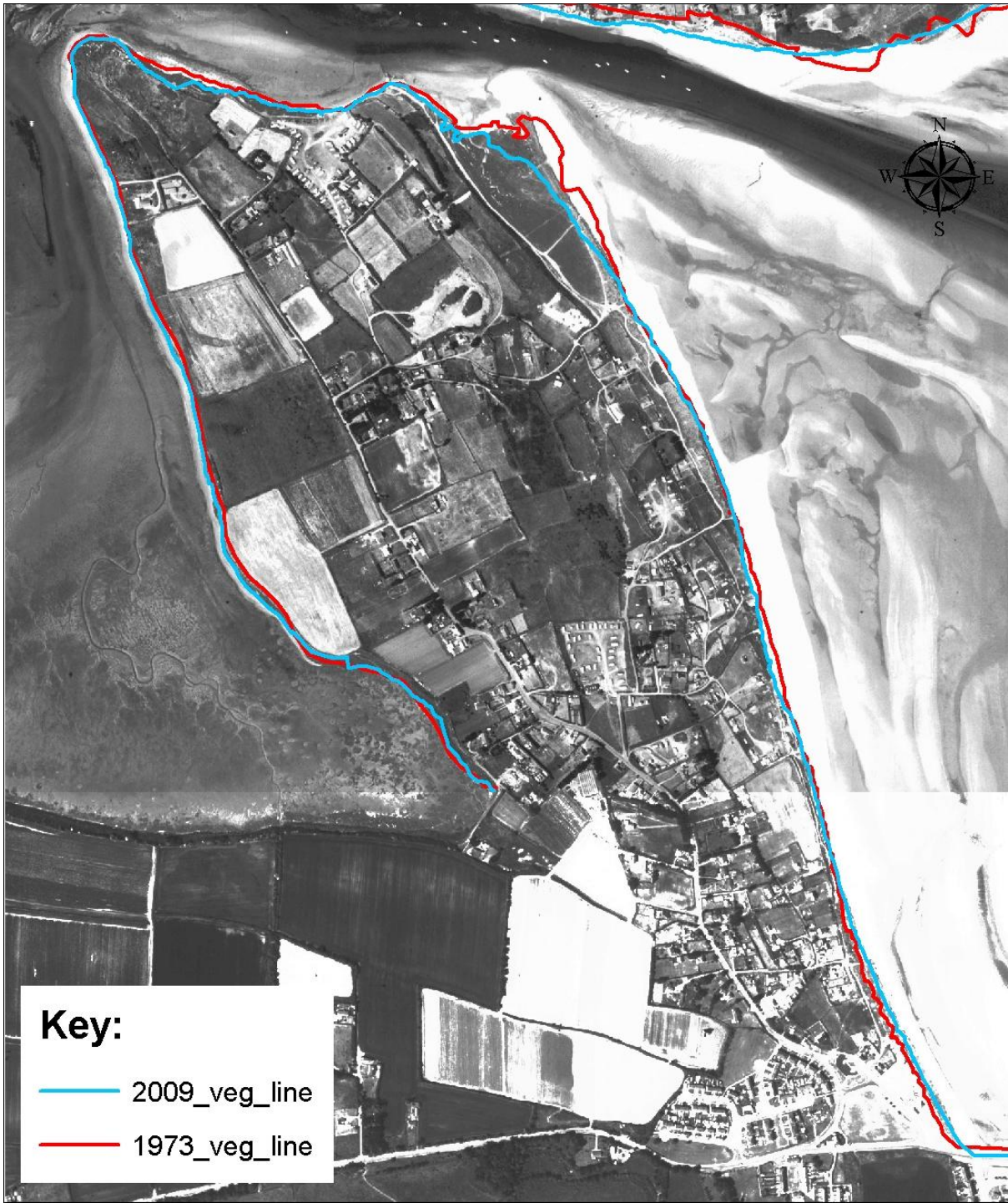


Figure 3: Portrane - Portrane - vegetation lines superimposed on an OS aerial photograph taken in 1995

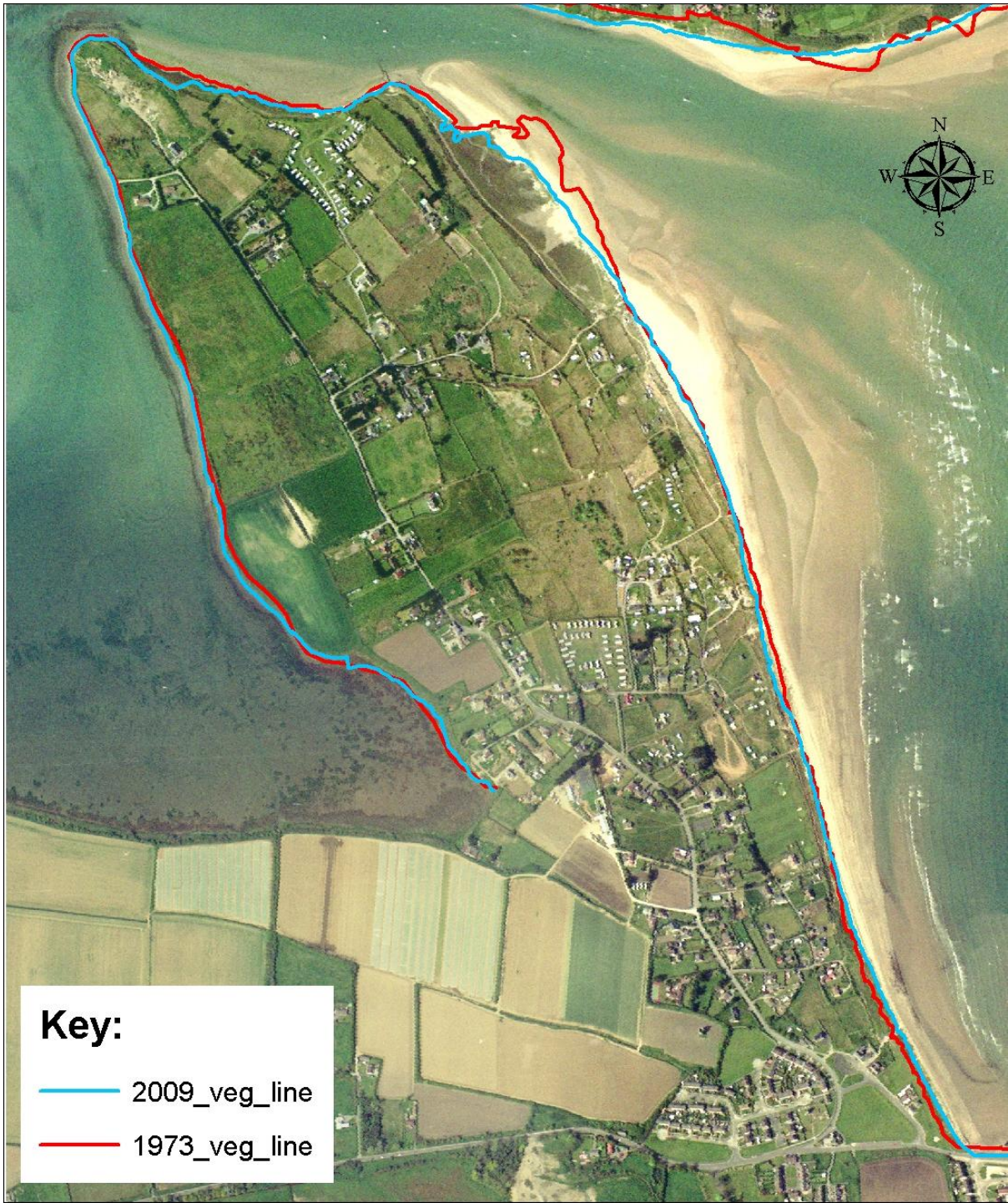


Figure 4: Portrane - Portrane - vegetation lines superimposed on an OS aerial photograph taken in 2000



Figure 5: Portrane - Portrane - vegetation lines superimposed on an OS aerial photograph taken in 2009



Figure 6: Rush - vegetation lines superimposed on an OS aerial photograph taken in 1973



Figure 7: Rush - vegetation lines superimposed on an OS aerial photograph taken in 1995



Figure 8: Rush - vegetation lines superimposed on an OS aerial photograph taken in 2000



Figure 9: Rush - vegetation lines superimposed on an OS aerial photograph taken in 2005



Figure 10: Rush - vegetation lines superimposed on an OS aerial photograph taken in 2009



Figure 11: Aerial photograph of Portrane taken in 1971

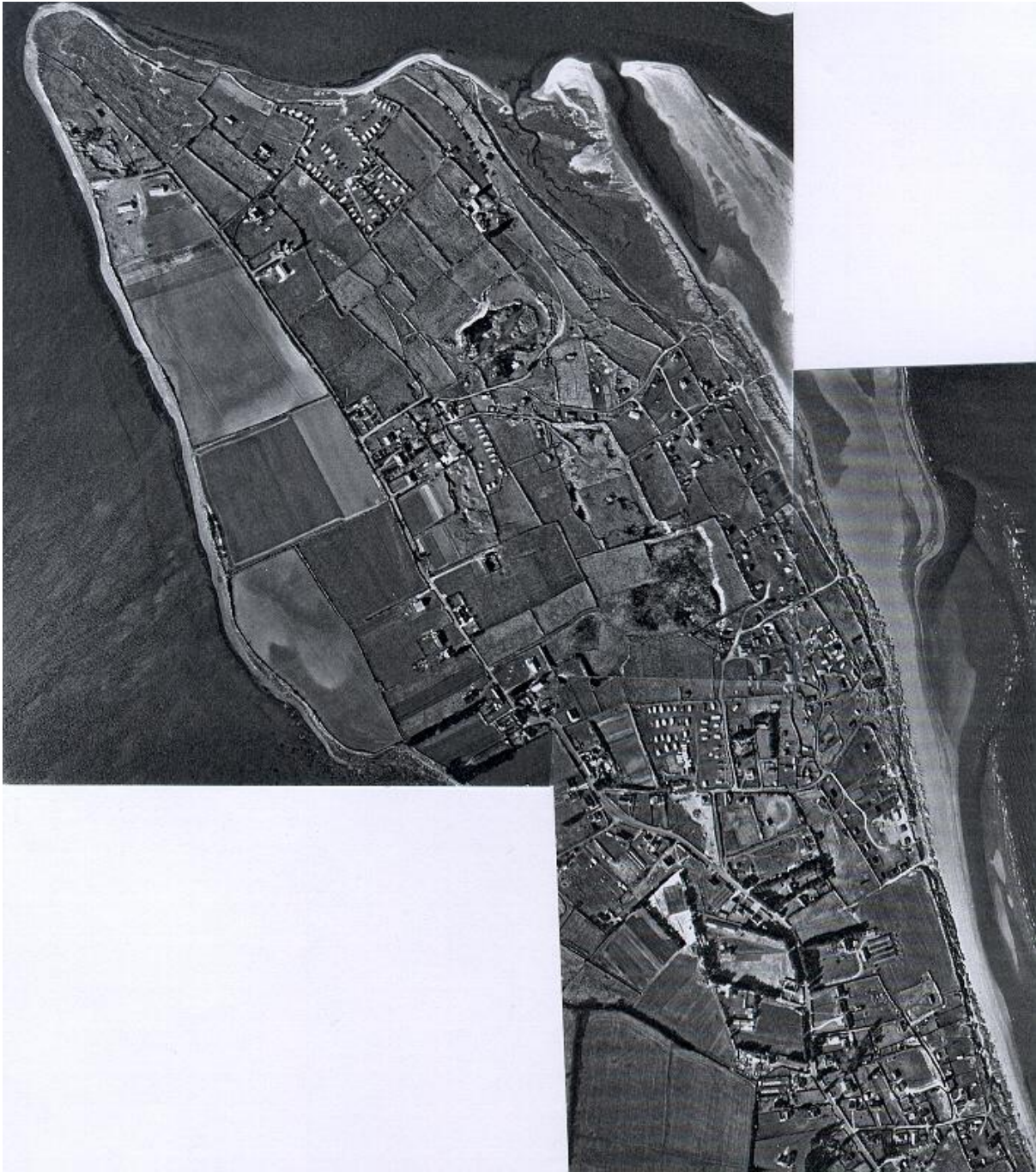


Figure 12: Aerial photograph of Portrane taken in 1982



Figure 13: Aerial photograph of the Northern end of the Burrow taken in 1993



Figure 14: Aerial photograph of the Northern end of the Burrow taken in 1997



Figure 15: Aerial photograph of the middle section of the Burrow taken in 1997



Figure 16: Heavily used rear dunes at Portrane, 1998



Figure 17: Embryo Dune establishing at Portrane in 1998



Figure 18: Sand accumulating at the fore-dune in 1998



Figure 19: Dune erosion at the northern end of the Burrow in 1998



Figure 20: Complete erosion of the dunes at the northern end of the Burrow in 1998



Figure 21: The saltmarsh at the northern tip of the Burrow in 1998



Figure 22: Breach at the eastern side of the salt marsh in 1998



Figure 23: Extensive beach area at Portrane in 1998



Figure 24: Holiday homes behind the dunes at Portrane in 1998

APPENDIX B: SEDIMENT GRADING CURVES FOR PORTRANE AND RUSH BEACHES

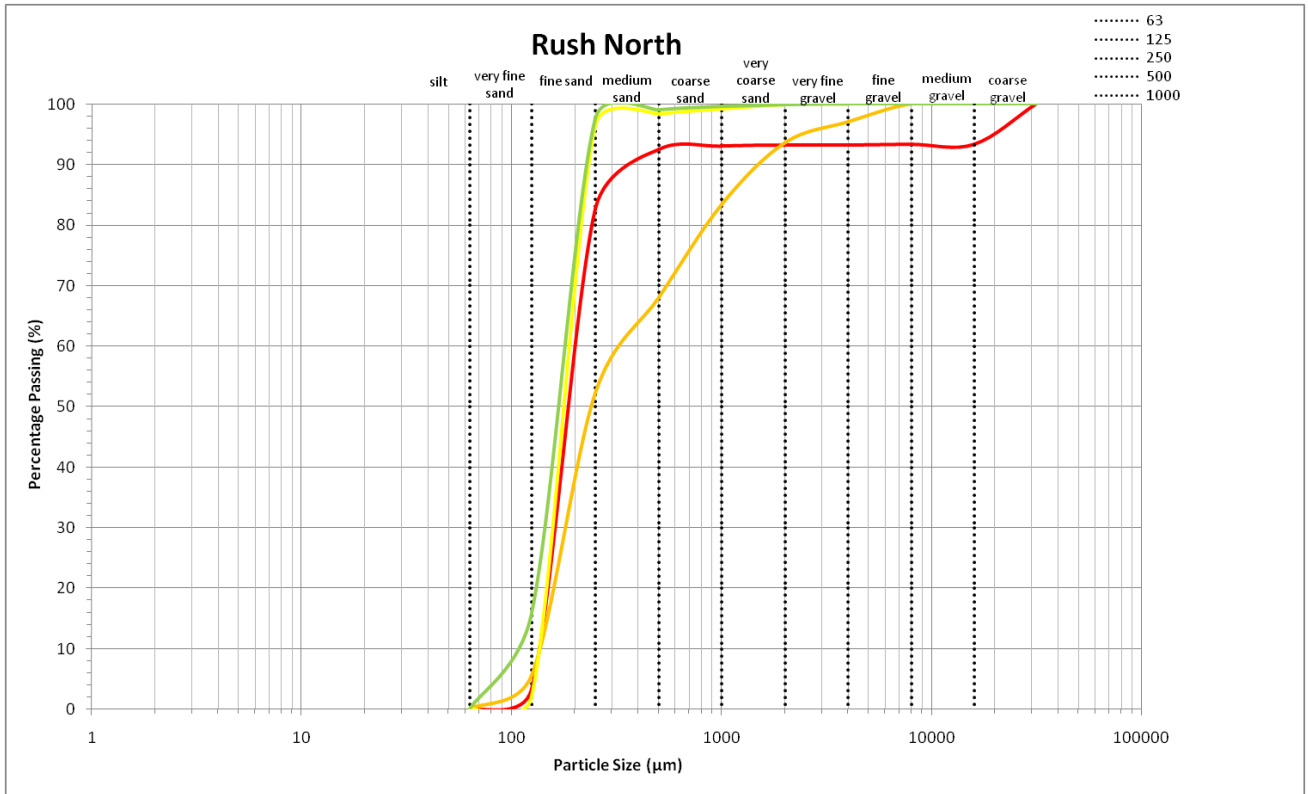


Figure 25: Sediment grading curve for the Northern section of Rush beach

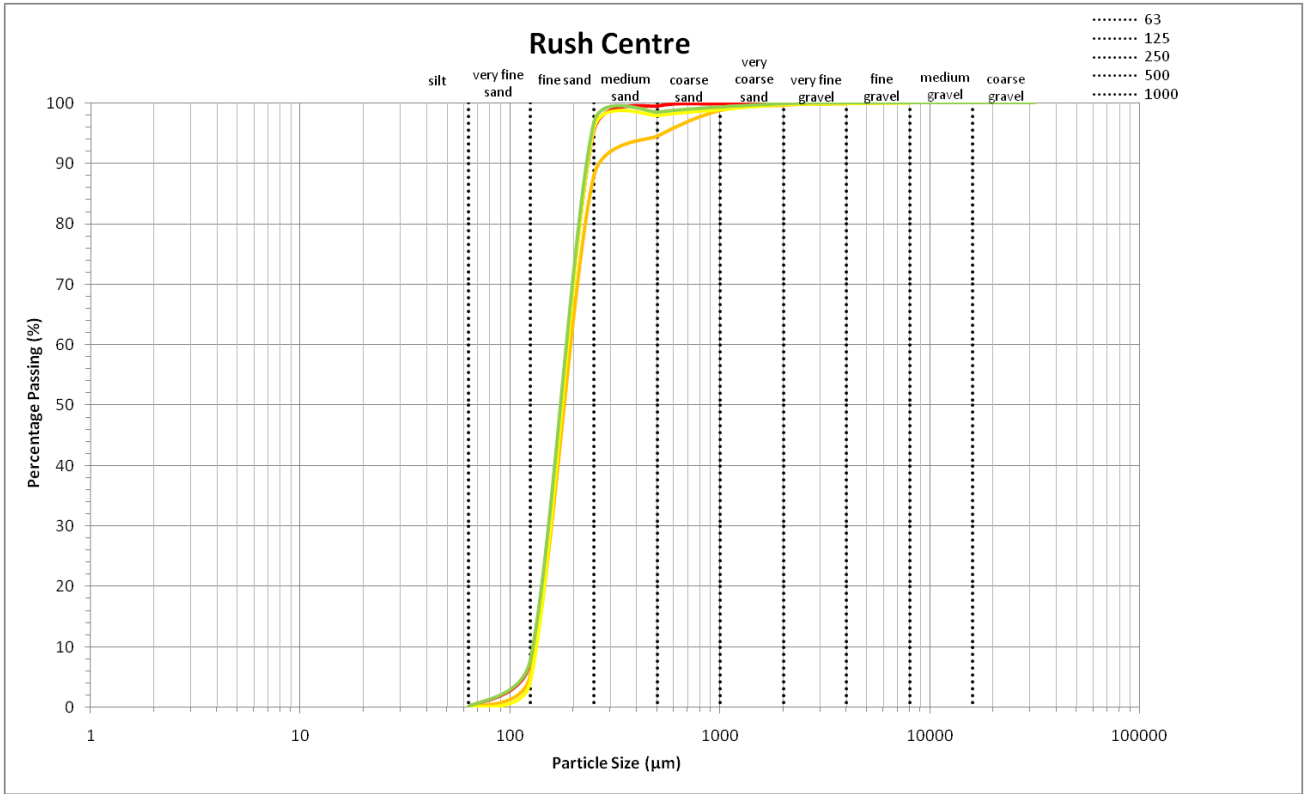


Figure 26: Sediment grading curve for the Central section of Rush beach

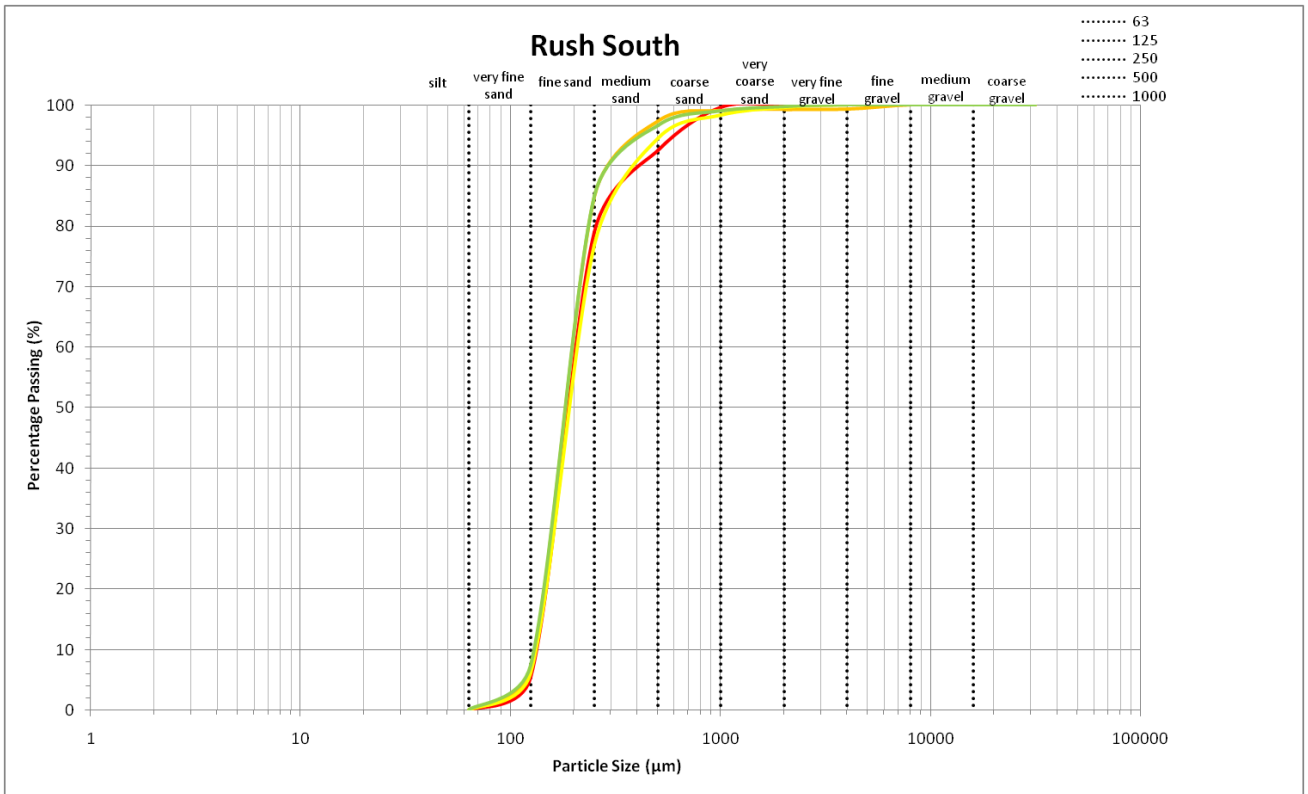


Figure 3: Sediment grading curve for Central section of Rush beach

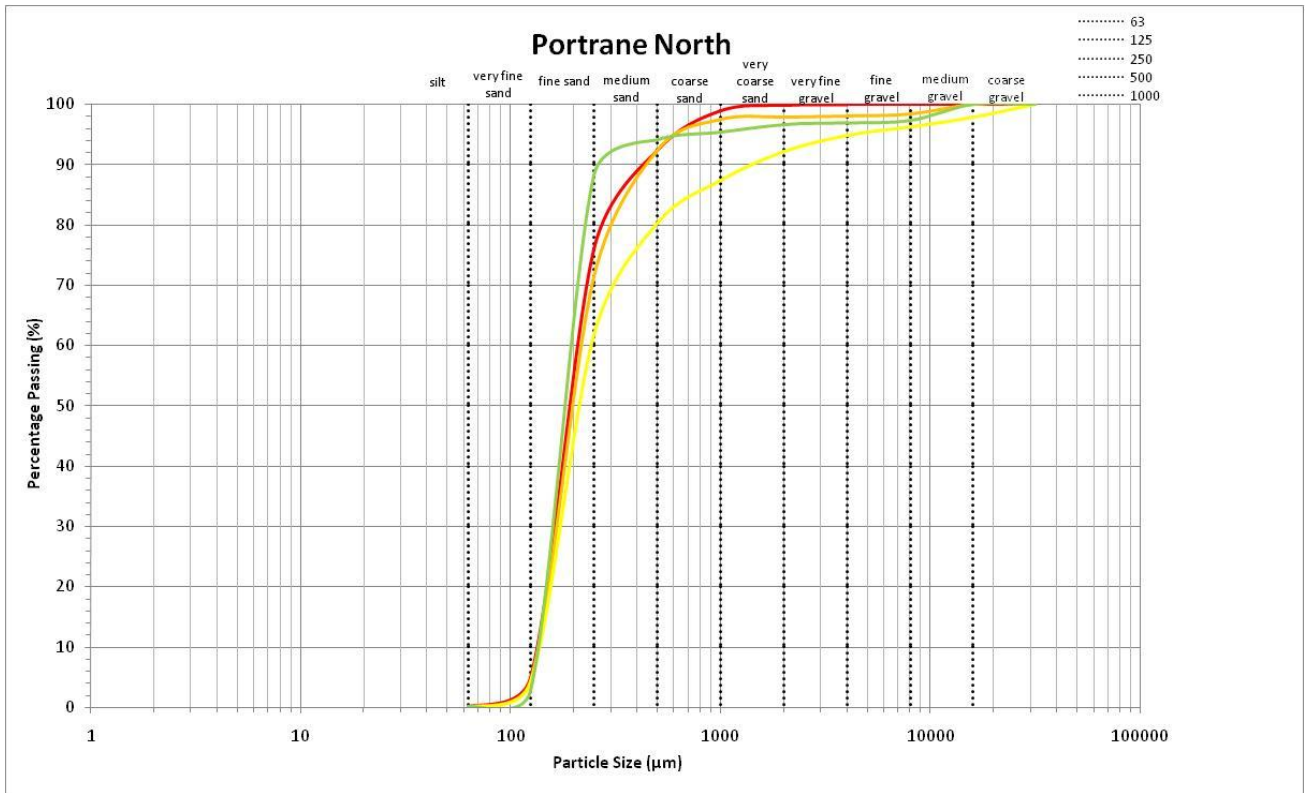


Figure 27: Sediment grading curve for the Northern section of Portrane beach

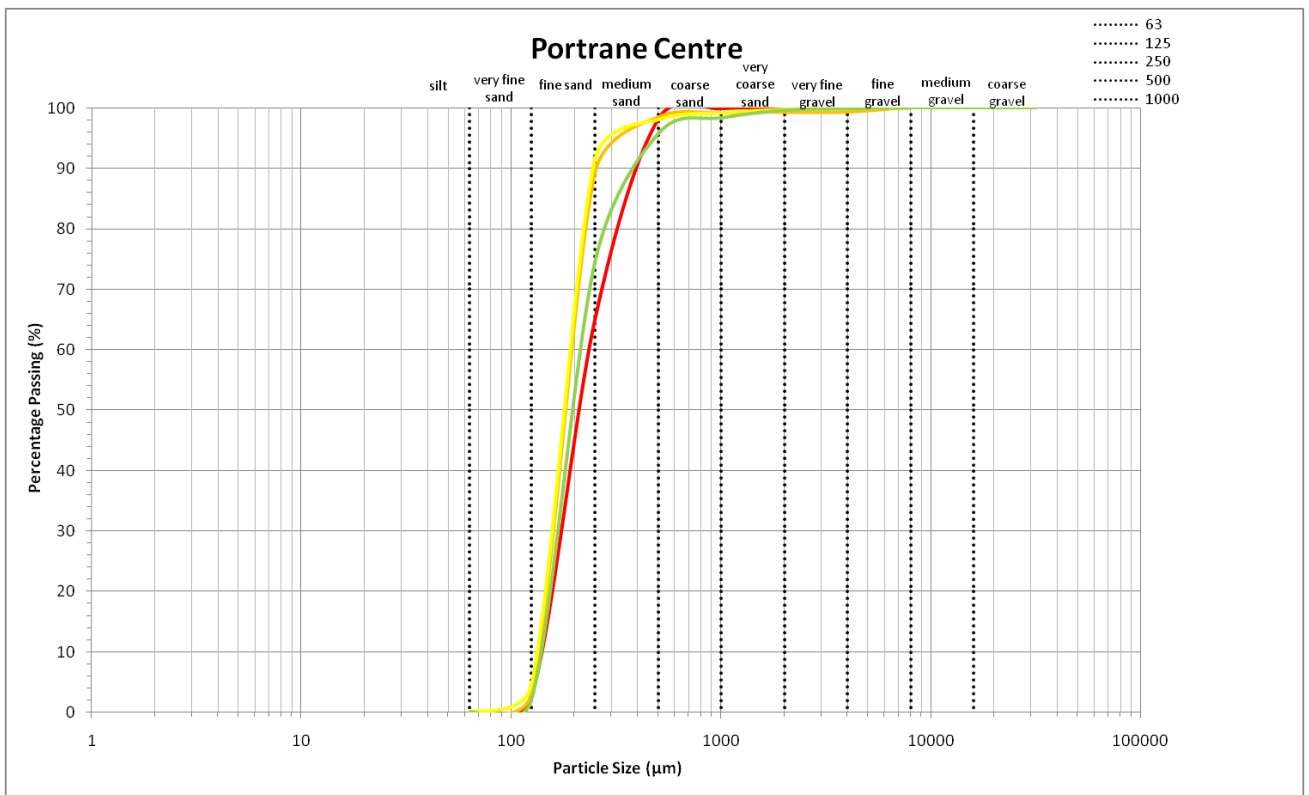


Figure 28 Sediment grading curve for the Central section of Portrane beach

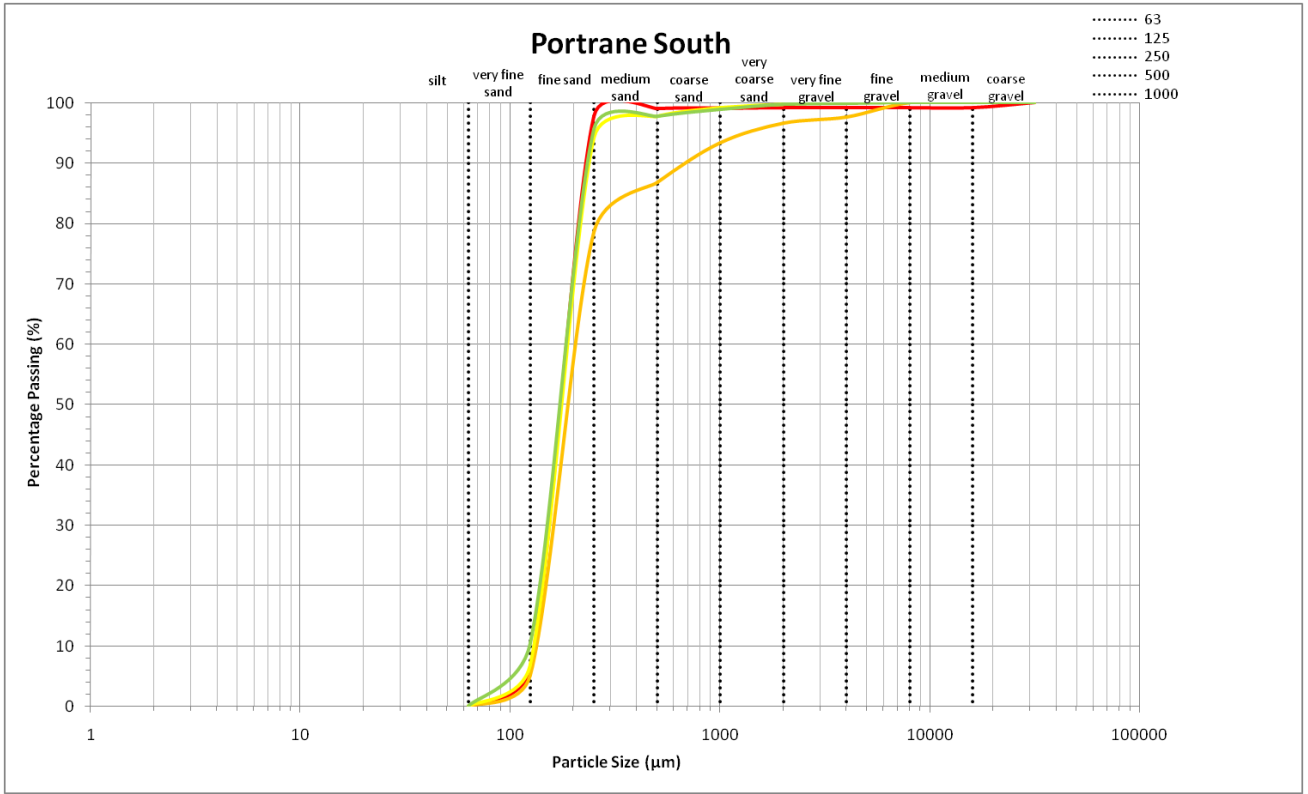


Figure 29: Sediment grading curve for the Southern section of Portrane beach

APPENDIX C: COASTAL PROCESSES

Extreme Event Analysis: Extreme Wave Heights for 1 in 1 to 1 in 200 year return periods.

Sector 0-30			Sector 30-60		
Return period N (years)	Significant wave height (m)	Mean period (s)	Return period N (years)	Significant wave height (m)	Mean period (s)
1.00	1.75	4.74	1.00	1.72	4.7
2.00	2.30	5.43	2.00	2.29	5.45
5.00	2.90	6.10	5.00	2.84	6.04
10.00	3.30	6.51	10.00	3.13	6.34
20.00	3.70	6.80	20.00	3.60	6.89
50.00	4.20	7.34	50.00	4.20	7.34
100.00	4.60	7.69	100.00	4.60	7.69
200.00	5.05	8.05	200.00	4.98	8.00

Sector 60-90			Sector 90-120		
Return period N (years)	Significant wave height (m)	Mean period (s)	Return period N (years)	Significant wave height (m)	Mean period (s)
1.00	1.68	4.64	1.00	1.68	4.64
2.00	2.12	5.22	2.00	2.08	5.17
5.00	2.62	5.80	5.00	2.64	5.82
10.00	3.04	6.25	10.00	3.05	6.26
20.00	3.46	6.67	20.00	3.44	6.65
50.00	4.06	7.22	50.00	4.02	7.18
100.00	4.40	7.52	100.00	4.50	7.60
200.00	5.02	8.03	200.00	4.90	7.93

Sector 120-150			Sector 150-180		
Return period N (years)	Significant wave height (m)	Mean period (s)	Return period N (years)	Significant wave height (m)	Mean period (s)
1.00	1.72	4.70	1.00	2.75	5.94
2.00	2.12	5.22	2.00	3.75	6.94
5.00	2.58	5.76	5.00	4.40	7.52
10.00	3.10	6.31	10.00	4.70	7.77
20.00	3.44	6.65	20.00	5.35	8.29
50.00	4.15	7.30	50.00	5.80	8.63
100.00	4.66	7.74	100.00	6.40	9.07
200.00	5.02	8.03	200.00	6.80	9.34

Sector 180-210		
Return	Significant wave	Mean

Sector 210-240		
Return	Significant wave	Mean

period N (years)	height (m)	period (s)	period N (years)	height (m)	period (s)
1.00	4.38	7.50	1.00	3.82	7.00
2.00	4.72	7.78	2.00	4.14	7.29
5.00	5.18	8.16	5.00	4.58	7.67
10.00	5.46	8.37	10.00	4.90	7.93
20.00	5.78	8.61	20.00	5.20	8.17
50.00	6.20	8.92	50.00	5.64	8.51
100.00	6.50	9.14	100.00	5.76	8.60
200.00	6.82	9.36	200.00	6.24	8.95

Sector 240-270			Sector 270-300		
Return period N (years)	Significant wave height (m)	Mean period (s)	Return period N (years)	Significant wave height (m)	Mean period (s)
1.00	3.04	6.25	1.00	3.52	6.72
2.00	3.41	6.62	2.00	3.68	6.87
5.00	3.92	7.09	5.00	3.89	7.07
10.00	4.31	7.44	10.00	4.04	7.20
20.00	4.70	7.77	20.00	4.19	7.33
50.00	5.20	8.17	50.00	4.39	7.51
100.00	5.60	8.48	100.00	4.53	7.63
200.00	5.98	8.76	200.00	4.68	7.75

Sector 300-330			Sector 330-360		
Return period N (years)	Significant wave height (m)	Mean period (s)	Return period N (years)	Significant wave height (m)	Mean period (s)
1.00	2.44	5.60	1.00	2.75	5.94
2.00	2.74	5.93	2.00	3.30	6.51
5.00	3.15	6.36	5.00	3.75	6.94
10.00	3.44	6.65	10.00	4.15	7.30
20.00	3.70	6.89	20.00	4.50	7.60
50.00	4.18	7.33	50.00	5.08	8.08
100.00	4.48	7.58	100.00	5.45	8.37
200.00	4.78	7.83	200.00	5.80	8.63

Extreme Event Analysis: Extreme Wind Velocities for 1 in 1 to 1 in 200 year return periods.

Sector 0-30		Sector 30-60	
Return Period	Wind Velocity (m/s)	Return Period	Wind Velocity (m/s)
1.00	16.10	1.00	15.18
2.00	17.83	2.00	16.79
5.00	19.67	5.00	18.86
10.00	21.16	10.00	20.36
20.00	22.54	20.00	21.85
50.00	24.50	50.00	23.92
100.00	25.88	100.00	25.53
200.00	27.26	200.00	27.03

Sector 60-90		Sector 90-120	
Return Period	Wind Velocity (m/s)	Return Period	Wind Velocity (m/s)
1.00	14.61	1.00	13.86
2.00	15.76	2.00	15.41
5.00	17.25	5.00	17.25
10.00	18.29	10.00	18.75
20.00	19.44	20.00	20.24
50.00	20.82	50.00	10.47
100.00	21.97	100.00	23.46
200.00	23.00	200.00	24.96

Sector 120-150		Sector 150-180	
Return Period	Wind Velocity (m/s)	Return Period	Wind Velocity (m/s)
1.00	16.68	1.00	20.13
2.00	18.29	2.00	21.51
5.00	20.47	5.00	23.12
10.00	22.20	10.00	24.38
20.00	23.81	20.00	25.76
50.00	25.88	50.00	27.37
100.00	27.60	100.00	28.64
200.00	29.21	200.00	29.79

Sector 180-210

Return Period	Wind Velocity (m/s)
1.00	22.54
2.00	24.04
5.00	26.11
10.00	27.60
20.00	29.21
50.00	31.17
100.00	32.55
200.00	34.16

Sector 210-240

Return Period	Wind Velocity (m/s)
1.00	20.93
2.00	22.20
5.00	23.69
10.00	24.84
20.00	25.88
50.00	27.49
100.00	28.52
200.00	29.67

Sector 240-270

Return Period	Wind Velocity (m/s)
1.00	19.32
2.00	20.47
5.00	21.85
10.00	22.89
20.00	23.92
50.00	25.19
100.00	26.11
200.00	27.26

Sector 270-300

Return Period	Wind Velocity (m/s)
1.00	17.94
2.00	18.86
5.00	181.13
10.00	21.16
20.00	22.08
50.00	23.35
100.00	24.27
200.00	25.19

Sector 300-330

Return Period	Wind Velocity (m/s)
1.00	17.02
2.00	18.29
5.00	19.78
10.00	20.82
20.00	21.85
50.00	23.35
100.00	24.38
200.00	25.53

Sector 330-360

Return Period	Wind Velocity (m/s)
1.00	17.48
2.00	18.63
5.00	20.24
10.00	21.28
20.00	22.43
50.00	23.92
100.00	25.07
200.00	26.11

APPENDIX E: WEIGHTINGS AND SCORING GUIDANCE FOR MULTI-CRITERIA ANALYSIS

Weightings Guidance

Criteria	Objective	Weighting Criteria
1 Technical Effectiveness	Level of mechanical or human intervention required	Weighting of 5 applied
	Health and Safety	Weighting of 5 applied
2 Economic	Minimise Economic risk	5= where annual damages exceed €5 million
		4= where annual damages are between €1 million and €4.99 million
		3= where annual damages are between €1 million and €4.99 million
		2= where annual damages are between €0.5 million and €0.99 million
		1= where there are no annual average damages
	Minimise Risk to Transport Infrastructure	5= where major transport infrastructure is at risk
		4= where significant transport routes are at risk
		3= where regionally important infrastructure route are at risk
		2= where minor/local transport routes are at risk
		1= where negligible impacts to transport infrastructure
0= no infrastructure assets at risk		
3 Social	Minimise Risk to Health and Life, including properties	5= where the number of residential properties at risk is greater than 500
		4= where the number of residential properties at risk is between 250 than 499
		3= where the number of residential properties at risk is between 100 and 249
		2= where the number of residential properties at risk is between 10 and 49
		1= where the number of residential properties at risk is between 10 and 49
		0= where no residential properties are at risk

Criteria	Objective	Weighting Criteria
4 Environmental Acceptability	Avoid damage to designated sites of importance	5= where an internationally important site is present and potentially affected
		4= where a nationally important site is present and potentially affected
		3= where legally protected species/species of conservation concern are present/likely to be present and potentially affected
		2= where a site of local importance is present and potentially affected
		1= where there are no designated sites or known records of legally protected species/species of conservation concern, but habitats are present that could be affected
		0= no sites, habitats or species at present that could be affected
	Protect landscape character	5= landscape designated as an internationally/nationally important landscape and potentially affected
		4= landscape character type designated at a county level as highly sensitive and/or exceptional/high value and potentially affected
		3= landscape character type designated at a county level as moderate sensitivity and/or medium value; protected views as low sensitivity and/or medium value; protected views present that could be affected
		2=landscape character type designated at a county level as low sensitivity and or/low value and potentially affected
		1= no landscape sensitivity/value, but landscape features/views are important at a local level and potentially affected
		0= no specific designation, and no landscape value/sensitivity
	5 Other	Other Future changes

Scoring Guidance

Criteria	Objective	Scoring Criteria
1 Technical Effectiveness	Level of mechanical or human intervention required	5= No future maintenance requirements over the life of options (Approximately 50yrs)
		3= Limited future maintenance requirements over life of option
		1=Medium future maintenance requirements over life of option
		0= Regular future maintenance required (approximately every 5 years)
		-1=Significant maintenance requirements
2 Economic	Health and Safety	5= No health and safety risk to construction workers
		3= Limited health and safety risk to construction workers
		1= Medium health and safety risk to construction workers
		0= Significant health and safety risk to construction workers
		-1= Very significant health and safety risk to construction workers
	Minimise Economic risk	5= All economic damages removed
		3= Significant reduction in economic damages
		1= Limited reduction in economic damages
		0= No increase in economic damages
		-1= Potential for limited increase in economic damages
		-3= Potential for increase in economic damages
		-5=Potential significant increase in economic damages
	Minimise Risk to Transport Infrastructure	5= All transport routes protected from any risks
		3= Risks reduced to a significant number of transport routes
		1= Risks reduced to a number of transport routes
		0= No increase in the number of transport routes at risk
		-1= Potential for impacts on a limited number of transport routes (either directly or indirectly)
		-3= Potential for impacts on a number of transport routes (either directly or indirectly)
-5= Potential impacts on a significant number of transport routes (either directly or indirectly)		

Criteria	Objective	Scoring Criteria
3 Social	Minimise Risk to Health and Life, including properties	5= All residential properties protected from the risk of erosion. All high vulnerability properties protected from risk of erosion.
		3= Risk reduced to a significant number of residential properties and o high vulnerability properties
		1= Flood risk reduced to a limited number of residential properties and high vulnerability properties
		0= No increase in the number of residential properties at risk
		-1= Potential for impacts on a limited number of residential properties (either directly or indirectly) and high vulnerability properties
		-3= Potential for impacts on an a number of residential properties (either directly or indirectly) and high vulnerability properties
		-5= Potential for impacts on a significant number of residential properties (either directly or indirectly) and high vulnerability properties.
4 Environmental Acceptability	Avoid damage to designated sites of importance	5= Improvement in conservation status of designated sites; increase in population sixes and/or extent of suitable habitat supporting target species; and/or, increase in extent of riverine, wetland and coastal habitats.
		3= Potential for habitat enhancement within designated sites.
		1= Potential for localised habitat enhancement
		0= No deterioration in the conservation status of designated sites; no net increase in population sizes and/or loss of extent of suitable habitat supporting target species; and/or, no net loss of or permanent damage to existing riverine, wetland and coastal habitats
		-1= Potential for impacts on designated sites and their features, and/or damage to and/or loss of existing riverine, wetland and coastal habitats and associated species, although limited by the already modified nature of the channel/shoreline or by the localised nature of the option
		-3= Potential for impacts on designated sites and their features, and or/damage to and/or loss of existing riverine, wetland and coastal habitats and associated species
		-5= Potential for a significant effect on designated sites which may lead to deterioration of the conservation status; significant loss of habitats and associated species.

Criteria	Objective	Scoring Criteria
4 Environmental Acceptability	Protect landscape character	5= Improvement to visual amenity into/from designated areas.
		3= Opportunities identified to enhance visual amenity and landscape character in wider area
		1= Opportunities identified to enhance visual amenity and landscape character in the local area
		0= No adverse impacts on landscape character; and/or, no deterioration in quality of views into/from designated areas.
		-1= Adverse change in local landscape character, although severity of impact reduced by use of demountables or low height of defences, impact is temporary, the fact that existing defences in this area or landscape is designated as being of low sensitivity
		-3= Adverse change in local landscape character within a landscape designated as being of medium to high sensitivity
		-5= Significant adverse change in landscape character across a wide area; significant change in views into/from landscapes designated as being of medium to high sensitivity.
5 Other	Other - Future changes	3= Option will not be affected by future coastal processes or political circumstances
		1= Option highly unlikely to be affected by future coastal processes or political circumstances
		0= Option unlikely to be affected by future coastal processes or political circumstances
		-1 = Option may be affected by future coastal processes or political circumstances
		-3 = Option likely to be affected by future coastal processes or political circumstances

**APPENDIX F: CHARACTERISING THE SIGNIFICANT
STORM EVENT IN EARLY JANUARY 2014.**

In early January of 2014, a combination of gale force winds, storm surges and high tidal levels resulted in Met Eireann issuing a series of nationwide weather warnings. During this period it was reported that the dune system at Portrane lost a significant amount of the fore-dune to coastal erosion (circa 4 - 5m), resulting in an over-steepened dune face in localised regions along the Burrow.

Following the event, RPS investigated data recorded by several hydrographic instruments including the tidal gauge at Howth and Marine Institutes' M2 weather buoy located in the Irish Sea to characterise the specific event that was most likely to have resulted in the erosion observed along the Burrow. Furthermore, RPS also took this opportunity to determine if the coupled hydrodynamic and spectral wave model that was used to simulate coastal processes was capable of predicting such an event to a sufficient degree of accuracy.

1.1.1 1.1 Observed and expected storm surges

It was shown by the tidal data recorded by the tide gauge at Howth that there were several storm surges that could have had significant implications for the beach at Portrane (see Figure 30). The first two of these events increased the surface elevations by approximately 0.35m and 0.6m respectively. Despite these notable surges, it is unlikely that the first of these events increased the water level to a sufficient depth to allow incident waves to break on the dune system along the dune system of Portrane and result in erosion. The second event may have increased the local water depth sufficiently to allow waves to reach the shore and expose sections of the dune system and shore to wave attack.

Unfortunately data recorded by the M2 weather buoy, which would have provided data on wave height, wave direction, wind speed and wind direction for this period was unavailable from the Marine Institutes' website. Therefore it is not possible to comment if the wind and wave climate was likely to have resulted in the observed damage to the dune system at Portrane

It can be seen in Figure 31 that the surge during event number 3 increased the local water depth to circa 2.85m, which would have likely allowed waves to reach the shore and expose sections of the dune system to significant wave attack. Furthermore, the data recorded by the M2 buoy shows that the wind velocity at the peak of this event was circa 20m/s and that the wave direction ranged from 170 - 200 degrees. Considering this, it is reasonable to assume that it was this particular event that would have resulted in the damage observed at the dune system of Portrane in early January.

It can also be noted that the ICPSS model that was used to determine the boundaries for the Portrane model performed very well and predicted the surface elevation, wind velocity and phasing to a sufficient degree of accuracy (see Figure 31).

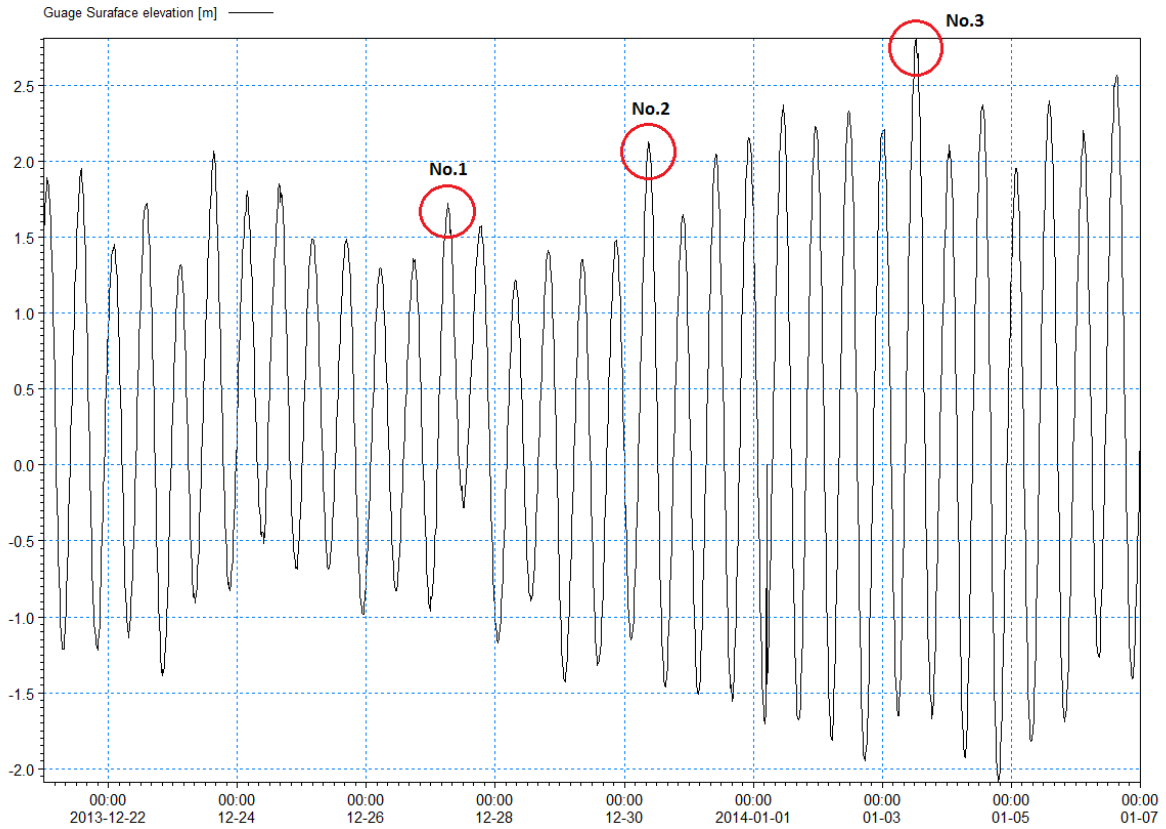


Figure 30: Surface elevation measurements at Howth recorded by the tidal gauge at Howth.

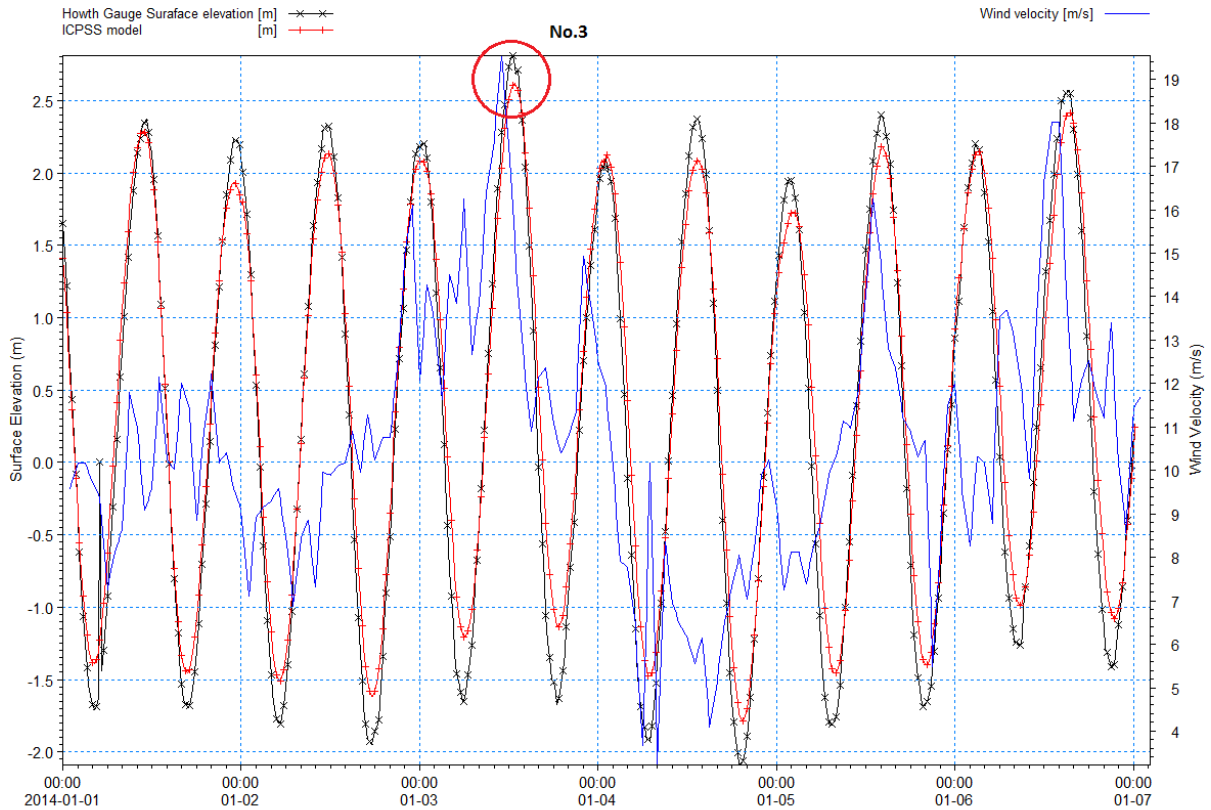


Figure 31: Surface elevation measurements recorded by Howth tide gauge compared with the ICPSS model predictions. The wind velocity recorded by the M2 buoy is also presented.

1.1.2 1.2 Correlation between Observed and expected storm surges

As can be seen from Table 1, the storm event observed on the 03.01.2013 was predicted by the Portrane coastal model. Furthermore, if the wind velocity and high water levels are compared to the predicted measurements independently, then each of these storm components are given 1 in 10 year return periods. Based on the Joint Probability of the observed wind velocity and sea surface elevations measurements occurring concurrently, the storm event observed on the 03.01.2013 is estimated to have been a 1 in 30 year storm event.

Table 1: Predicted and observed wind and surface elevation measurements.

Return Period N(years)	Predicted	Observed	Predicted	Observed
	Wind Velocity (m/s)		High Water Level (OD Malin)	
1	16.1		2.57	
5	19.67	<u>20</u>	2.8	<u>2.85</u>
10	21.16		2.9	
50	24.495		3.13	
100	25.88		3.22	
200	27.26		3.32	

To put this particular event into perspective, during the storm event that made the headlines in October of 2012, the recorded tidal elevation data peaked at 2.42m whilst the maximum wind velocity peaked at 14.8m/s on the 17th of October. This would therefore suggest that the recently observed event was larger than the event observed in October of 2012.

National Parks and Wildlife Service

Conservation Objectives Series

Rogerstown Estuary SAC 000208



An Roinn
Ealaíon, Oidhreachta agus Gaeltachta

Department of
Arts, Heritage and the Gaeltacht



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and the Gaeltacht.**

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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

000208	Rogerstown Estuary SAC
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1130	Estuaries
1140	Mudflats and sandflats not covered by seawater at low tide
1310	<i>Salicornia</i> and other annuals colonising mud and sand
1330	Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)
1410	Mediterranean salt meadows (<i>Juncetalia maritimi</i>)
2120	Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)
2130	Fixed coastal dunes with herbaceous vegetation (grey dunes)*

Please note that this SAC overlaps with Rogerstown Estuary SPA (004015). See map 2. The conservation objectives for this site should be used in conjunction with those for the overlapping SPA 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 :	2007
Title :	Saltmarsh Monitoring Project 2006
Author :	McCorry, M.
Series :	Unpublished report to NPWS
<hr/>	
Year :	2009
Title :	Coastal Monitoring Project 2004-2006
Author :	Ryle, T.; Murray, A.; Connolly, C.; Swann, M.
Series :	Unpublished report to NPWS
<hr/>	
Year :	2009
Title :	Saltmarsh monitoring project 2007-2008
Author :	McCorry, M; Ryle, T.
Series :	Unpublished report to NPWS
<hr/>	
Year :	2013
Title :	Rogerstown Estuary SAC (208) Conservation objectives supporting document- coastal habitats V1
Author :	NPWS
Series :	Conservation Objectives supporting document
<hr/>	
Year :	2013
Title :	Rogerstown Estuary SAC (208) 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 Rogerstown Estuary SAC and Rogerstown Estuary SPA
Author :	MERC
Series :	Unpublished report to the Marine Institute and NPWS
<hr/>	
Year :	2012
Title :	Subtidal benthic survey of Rogerstown Estuary SAC and Rogerstown Estuary SPA
Author :	MERC
Series :	Unpublished report to the Marine Institute and NPWS

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)
<hr/>	
Year :	Interpolated 2013
Title :	Intertidal and subtidal surveys 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 :	Marine community types, 1140 (maps 4 and 5)
<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 5)
<hr/>	
Year :	Revision 2010
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 (map 6)
<hr/>	
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 :	2120, 2130 (map 7)

1130 Estuaries

To maintain the favourable conservation condition of Estuaries in Rogerstown Estuary 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 268ha using OSi data and the defined Transitional Water Body area under the Water Framework Directive
Community extent	Hectares	Maintain the extent of the <i>Zostera</i> -dominated community and the <i>Mytilus edulis</i> -dominated community, subject to natural processes. See map 5	Based on intertidal and subtidal surveys undertaken in 2011 (MERC, 2012a,b) and EPA surveys. See marine supporting document for further details
Community structure: <i>Zostera</i> density	Shoots/m ²	Conserve the high quality of the <i>Zostera</i> -dominated community, subject to natural processes	Estimated during 2011 EPA survey. See marine supporting document for further details
Community structure: <i>Mytilus edulis</i> density	Individuals/m ²	Conserve the high quality of the <i>Mytilus edulis</i> -dominated community, subject to natural processes	Estimated during an intertidal survey in 2011 (MERC, 2012). See marine supporting document for further details
Community distribution	Hectares	Conserve the following community types in a natural condition: Sand to coarse sediment with <i>Nephtys cirrosa</i> and <i>Scolecopsis squamata</i> community complex; Estuarine sandy mud to mixed sediment with <i>Tubificoides benedii</i> , <i>Hediste diversicolor</i> and <i>Peringia ulvae</i> community complex. See map 5	Based on intertidal and subtidal surveys undertaken in 2011 (MERC, 2012). See marine habitats supporting document for further details

Conservation Objectives for : Rogerstown Estuary SAC [000208]

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 Rogerstown Estuary 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 using OSi data as 370ha
Community extent	Hectares	Maintain the extent of the <i>Zostera</i> -dominated community and the <i>Mytilus edulis</i> -dominated community, subject to natural processes. See map 5	Based on intertidal and subtidal surveys undertaken in 2011 (MERC, 2012) and EPA surveys. See marine supporting document for further details
Community structure: <i>Zostera</i> density	Shoots/m ²	Conserve the high quality of the <i>Zostera</i> -dominated community, subject to natural processes	Estimated during 2011 EPA survey. See marine supporting document for further details
Community structure: <i>Mytilus edulis</i> density	Individuals/m ²	Conserve the high quality of the <i>Mytilus edulis</i> -dominated community, subject to natural processes	Estimated during an intertidal survey in 2011 (MERC, 2012). See marine supporting document for further details
Community distribution	Hectares	Conserve the following community types in a natural condition: Sand to coarse sediment with <i>Nephtys cirrosa</i> and <i>Scolelepis squamata</i> community complex; Estuarine sandy mud to mixed sediment with <i>Tubificoides benedii</i> , <i>Hediste diversicolor</i> and <i>Peringia ulvae</i> community complex. See map 5	Based on intertidal and subtidal surveys undertaken in 2011 (MERC, 2012). See marine habitats supporting document for further details

Conservation Objectives for : Rogerstown Estuary SAC [000208]

1310 *Salicornia* and other annuals colonising mud and sand

To maintain the favourable conservation condition of *Salicornia* and other annuals colonising mud and sand in Rogerstown Estuary 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: Rogerstown Estuary 0.90ha. See map 6	Based on data from Saltmarsh Monitoring Project (SMP) (McCorry, 2007). Habitat surveyed and mapped at a single sub-site, giving a total estimated area of 0.90ha. N.B. Further unsurveyed areas may be present within this 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 SMP (McCorry, 2007). <i>Salicornia</i> is an annual species, so its distribution can vary significantly from year to year. This habitat occurs at several locations within the inner and outer estuary, See coastal habitats supporting document for further details
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions	Based on data from SMP (McCorry, 2007). Sediment supply is particularly important for this pioneer saltmarsh community, as the distribution of this habitat depends on accretion rates. See coastal habitats supporting document for further details
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession	Based on data from SMP (McCorry, 2007). Creeks deliver sediment throughout saltmarsh system. See coastal habitats supporting document for further details
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime	Based on data from SMP (McCorry, 2007). 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 SMP (McCorry, 2007). A range of saltmarsh habitats occurs at this site including mosaics. In the outer estuary at Portrane Burrow, there are zonations between saltmarsh and sand dune habitats. See coastal habitats supporting document for further details
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward	Based on data from SMP (McCorry, 2007). See coastal habitats supporting document for 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 SMP (McCorry, 2007). See coastal habitats supporting document for details
Vegetation composition: typical species and sub-communities	Percentage cover	Maintain the presence of species-poor communities listed in SMP (McCorry and Ryle, 2009)	Based on data from SMP (McCorry, 2007). See coastal habitats supporting document for further details
Vegetation structure: negative indicator species - <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>). No new sites for this species and an annual spread of less than 1% where it is already known to occur	Based on data from SMP (McCorry, 2007). <i>Spartina</i> has formed swards on both the intertidal mudflats and also forms mosaics with established saltmarsh. See coastal habitats supporting document for further details

Conservation Objectives for : Rogerstown Estuary SAC [000208]

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

To restore the favourable conservation condition of Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) in Rogerstown Estuary 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: Rogerstown Estuary-37.2ha. See map 6	Based on data from Saltmarsh Monitoring Project (SMP) (McCorry, 2007). Habitat surveyed and mapped at a single sub-site, giving a total estimated area of 37.2ha. N.B. Further unsurveyed areas may be 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 SMP (McCorry, 2007). ASM is the most common saltmarsh habitat at this site. 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	Based on data from SMP (McCorry, 2007). See coastal habitats supporting document for further details
Physical structure: creeks and pans	Occurrence	Allow creek and pan structure to develop, subject to natural processes, including erosion and succession	Based on data from SMP (McCorry, 2007). The saltmarsh topography is well developed in most of the larger sections of ASM. See coastal habitats supporting document for further details
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime	Based on data from SMP (McCorry, 2007). See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from SMP (McCorry, 2007). A range of saltmarsh habitats occurs at this site including mosaics. In the outer estuary at Portrane Burrow, there are zonation between saltmarsh and sand dune habitats. See coastal habitats supporting document for further details
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward	Based on data from SMP (McCorry, 2007). Much of the saltmarsh is not grazed by livestock and has a relatively high sward height. Hares and wildfowl graze on the saltmarsh and the mid-marsh zone has a typical natural low sward height. 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% area outside creeks vegetated	Based on data from SMP (McCorry, 2007). 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 SMP (McCorry and Ryle, 2009)	See coastal habitats supporting document for further details
Vegetation structure: negative indicator species - <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1% where it is known to occur	Based on data from SMP (McCorry, 2007). <i>Spartina</i> has formed swards on both the intertidal mudflats and also forms mosaics with established saltmarsh. See coastal habitats supporting document for further details

Conservation Objectives for : Rogerstown Estuary SAC [000208]

1410 Mediterranean salt meadows (*Juncetalia maritimi*)

To maintain the favourable conservation condition of Mediterranean salt meadows (*Juncetalia maritimi*) in Rogerstown Estuary 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: Rogerstown Estuary- 2.18ha. See map 6	Based on data from the Saltmarsh Monitoring Project (SMP) (McCorry, 2007). Habitat surveyed and mapped at a single sub-site giving a total estimated area of 2.18ha. N.B. Further unsurveyed areas may be present within the site. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, subject to natural processes. See map 6 for known distribution	Based on data from SMP (McCorry, 2007). There are small areas of MSM in this site. See coastal habitats supporting document for further details
Physical structure: sediment supply	Presence/absence of physical barriers	Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions	Based on data from SMP (McCorry, 2007). See coastal habitats supporting document for further details
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession	Based on data from the SMP (McCorry, 2007). Within the MSM there are occasional salt pans present. See coastal habitats supporting document for further details
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime	Based on data from SMP (McCorry, 2007). MSM 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 range of saltmarsh habitats including transitional zones, subject to natural processes including erosion and succession.	Based on data from SMP (McCorry, 2007). A range of saltmarsh habitats occur at this site including mosaics. In the outer estuary at Portrane Burrow, there are zonation between saltmarsh and sand dune habitats. See coastal habitats supporting document for further details
Vegetation structure: vegetation height	Centimetres	Maintain structural variation in the sward	Based on data from SMP (McCorry, 2007). Much of the saltmarsh is not grazed by livestock and has a relatively high sward height. Hares and wildfowl graze on the saltmarsh and the mid-marsh zone has a typical natural low sward height. 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 SMP (McCorry, 2007). 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 characteristic species listed in SMP (McCorry and Ryle, 2009)	Based on data from SMP (McCorry, 2007). Species of local distinctiveness include meadow barley (<i>Hordeum secalinum</i>), and rock sea lavender (<i>Limonium binervosum</i>). See coastal habitats supporting document for further details
Vegetation structure: negative indicator species - <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1% where it is already known to occur	Based on data from SMP (McCorry, 2007). <i>Spartina</i> has formed swards on both the intertidal mudflats and also forms mosaics with established saltmarsh. See coastal habitats supporting document for further details

Conservation Objectives for : Rogerstown Estuary SAC [000208]

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 Rogerstown Estuary SAC, which is defined by the following list of attributes and targets:

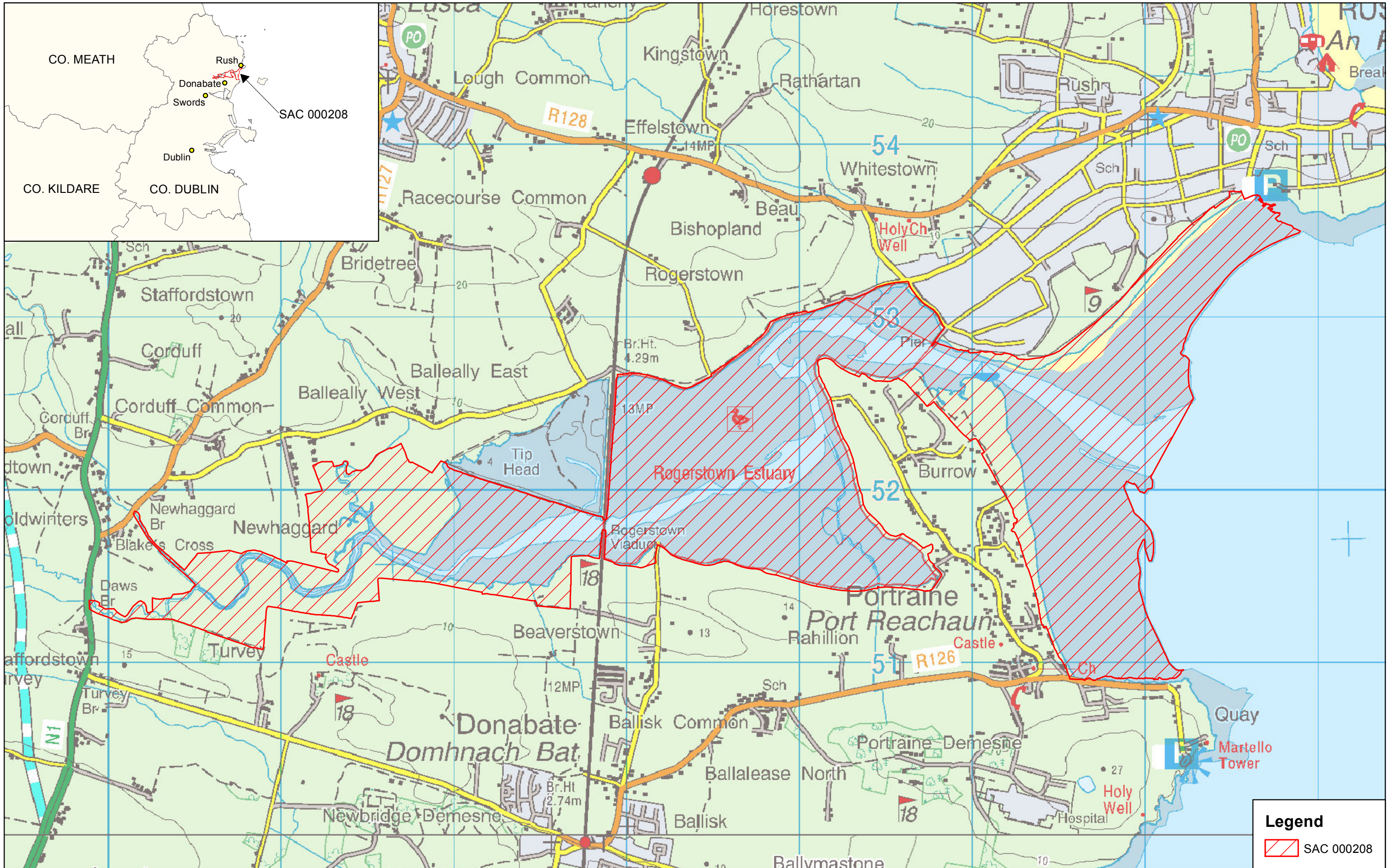
Attribute	Measure	Target	Notes
Habitat area	Hectares	Area increasing, subject to natural processes including erosion and succession. For sub-sites mapped: Rush - 1.25ha, Portrane - 1.31ha. See map 7	Based on data from the Coastal Monitoring Project (CMP) (Ryle et al., 2009). Two sub-sites were surveyed and mapped, giving an estimated area of 2.56ha. 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	Based on data from CMP (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	Based on data from CMP (Ryle et al., 2009). 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. At Rush sandhills, a sea wall has been built at Rush Sailing Club and is likely to be impacting on sediment dynamics at this sub-site. 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). At both sub-sites there are transitions between sand dune habitats. At Portrane there are also transitions to saltmarsh habitats. 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 CMP (Ryle et al., 2009). At Portrane there is a high cover of unhealthy specimens of marram grass <i>Ammophila arenaria</i> . 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 CMP (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 CMP (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. See coastal habitats supporting document for further details

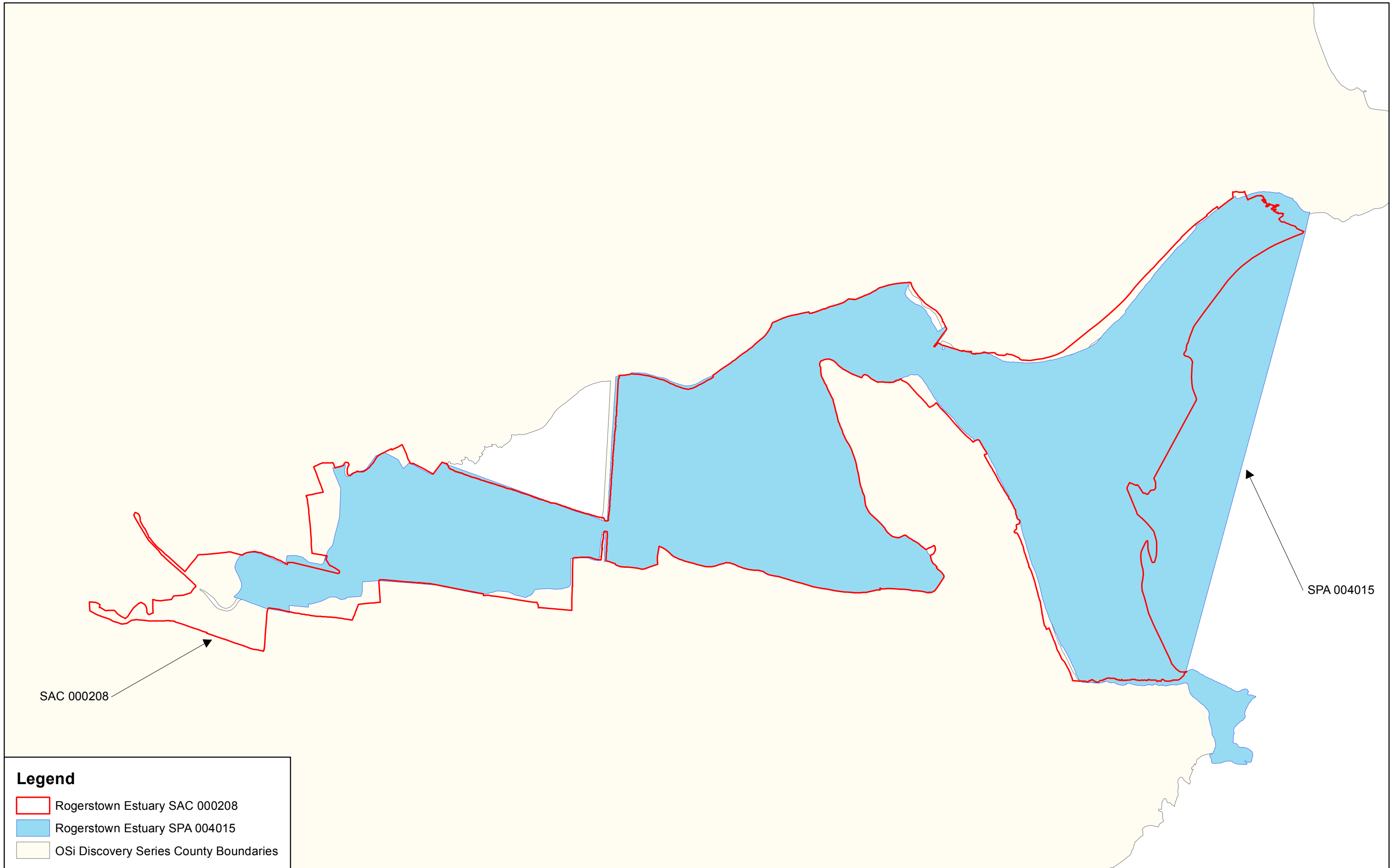
Conservation Objectives for : Rogerstown Estuary SAC [000208]

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 Rogerstown Estuary SAC, which is defined by the following list of attributes and targets:

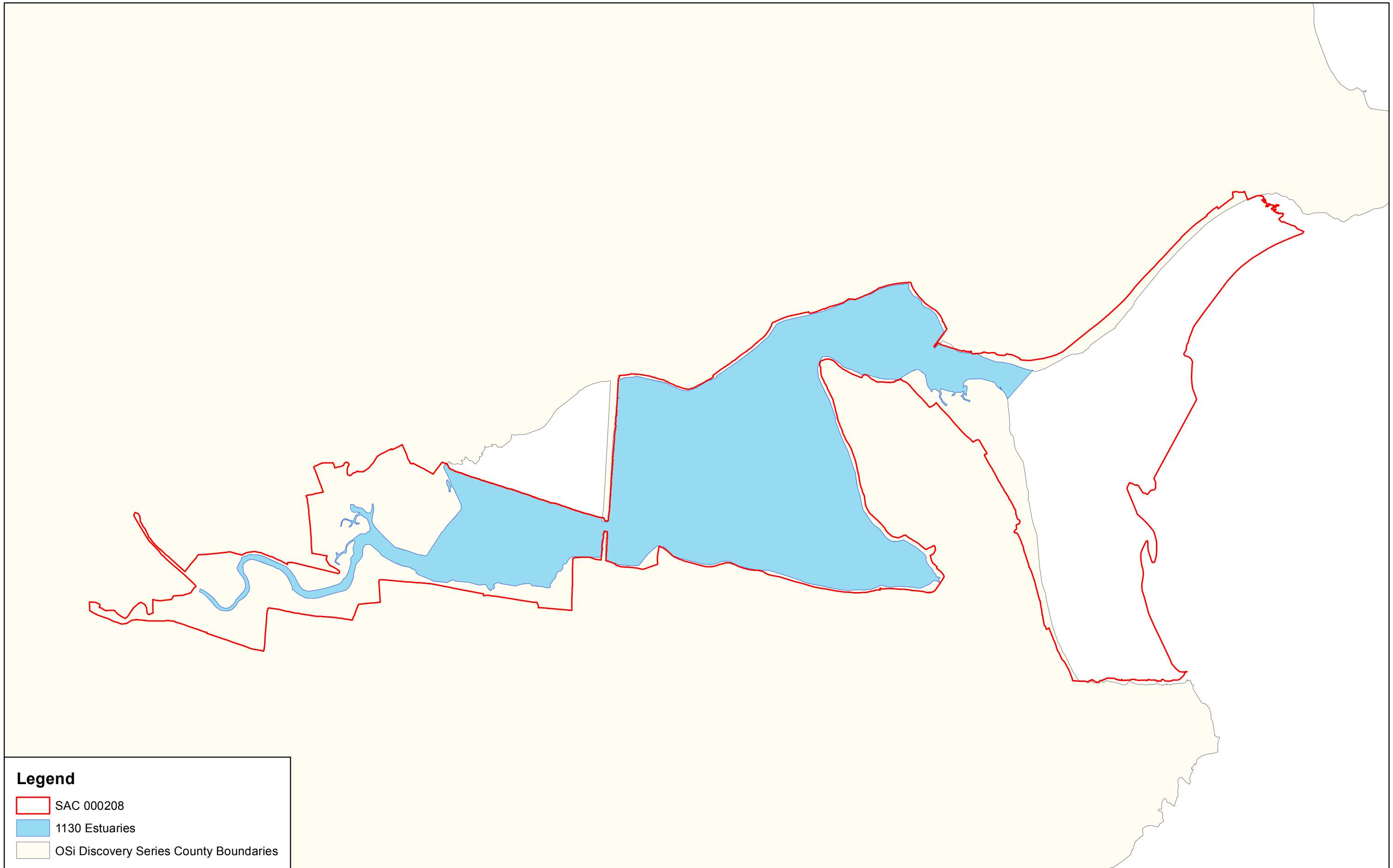
Attribute	Measure	Target	Notes
Habitat area	Hectares	Area increasing, subject to natural processes including erosion and succession. For sub-sites mapped: Rush - 3.24ha; Portrane - 5.13ha. See map 7	Based on data from Coastal Monitoring Project (CMP) (Ryle et al., 2009). Two sub-sites surveyed and mapped, giving an estimated area of 8.37ha. 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 CMP (Ryle et al., 2009). Fixed dune habitat is the most abundant sand dune habitat within the SAC. 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	Based on data from CMP (Ryle et al., 2009). Physical barriers can lead to fossilisation or over-stabilisation of dunes, as well as beach starvation resulting in increased rates of erosion. At Rush sandhills, a sea wall has been built at Rush Sailing Club and is likely to impact on sediment dynamics. 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 CMP (Ryle et al., 2009). At both sub-sites there are transitions between sand dune habitats. At Portrane there are also transitions to saltmarsh habitats. 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). High recreational pressure on both sub-sites has resulted in the creation of numerous tracks. See coastal habitats supporting document for further details
Vegetation structure: sward height	Centimetres	Maintain structural variation within sward	Based on data from Gaynor (2008) and CMP (Ryle et al., 2009). Grazing by livestock is absent from the sub-sites. At Rush Sandhills, there are some small patches of rabbit-grazed short turf. 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 CMP (Ryle et al., 2009). The presence of the Red Data Book species green-winged orchid (<i>Orchis morio</i>) and hairy violet (<i>Viola hirta</i>) in fixed dunes are an indicator of local distinctiveness. See coastal habitats supporting document for further details.
Vegetation composition: negative indicator species (including <i>Hippophae rhamnoides</i>)	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover	Based on data from CMP (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. 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 CMP (Ryle et al., 2009). See coastal habitats supporting document for further details





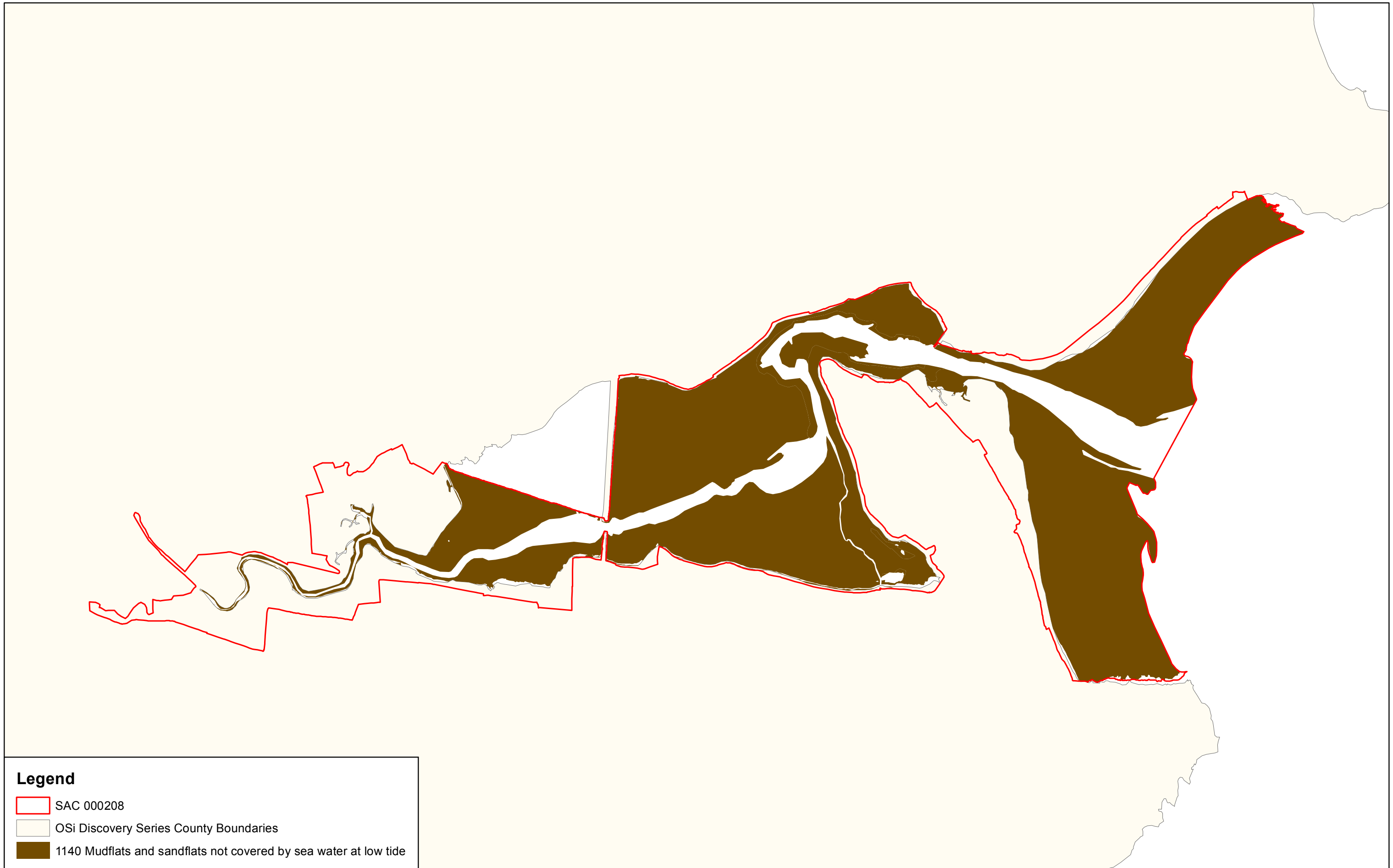
Legend

- Rogerstown Estuary SAC 000208
- Rogerstown Estuary SPA 004015
- OSi Discovery Series County Boundaries



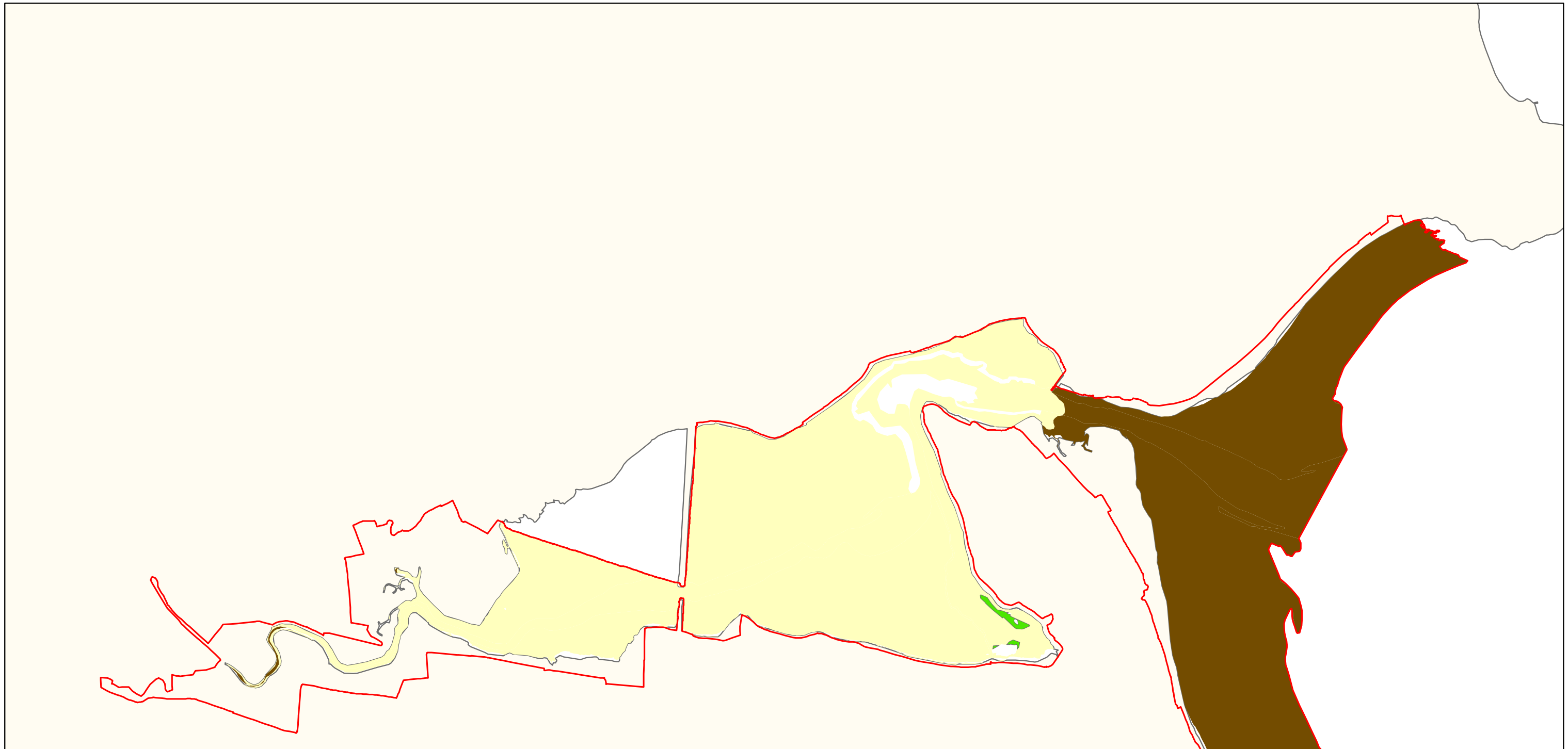
Legend

- SAC 000208
- 1130 Estuaries
- OSi Discovery Series County Boundaries



Legend

- SAC 000208
- OSi Discovery Series County Boundaries
- 1140 Mudflats and sandflats not covered by sea water at low tide

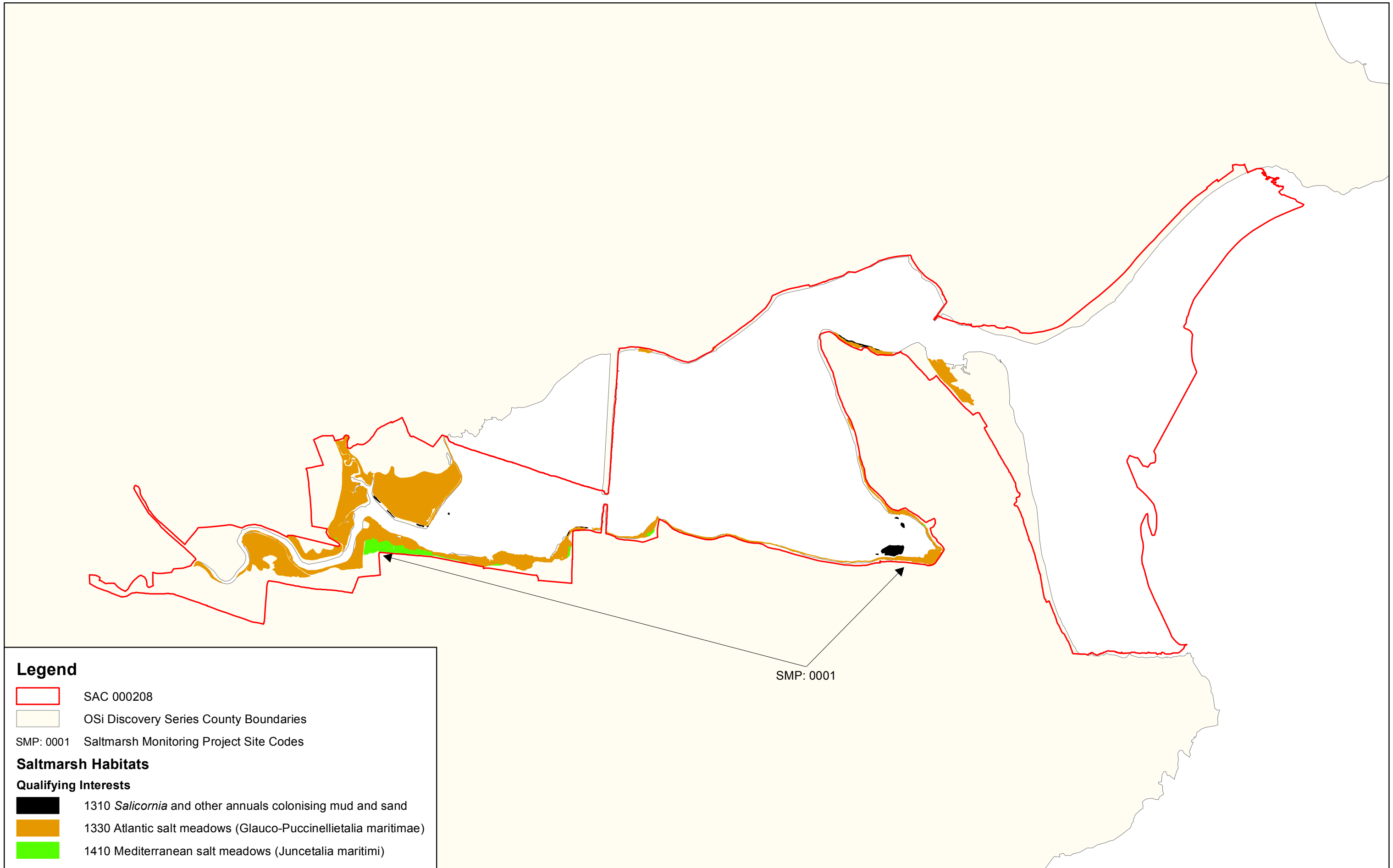


Legend

- SAC 000208
- OSi Discovery Series County Boundaries

Marine Community Types

- Estuarine sandy mud to mixed sediment with *Tubificoides benedii*, *Hediste diversicolor* and *Peringia ulvae* community complex
- Mytilus edulis*-dominated community complex
- Sand to coarse sediment with *Nephtys cirrosa* and *Scolelepis squamata* community complex
- Zostera*-dominated community



Legend

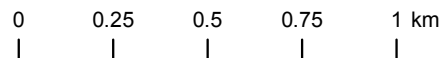
- SAC 000208
- OSi Discovery Series County Boundaries
- SMP: 0001 Saltmarsh Monitoring Project Site Codes

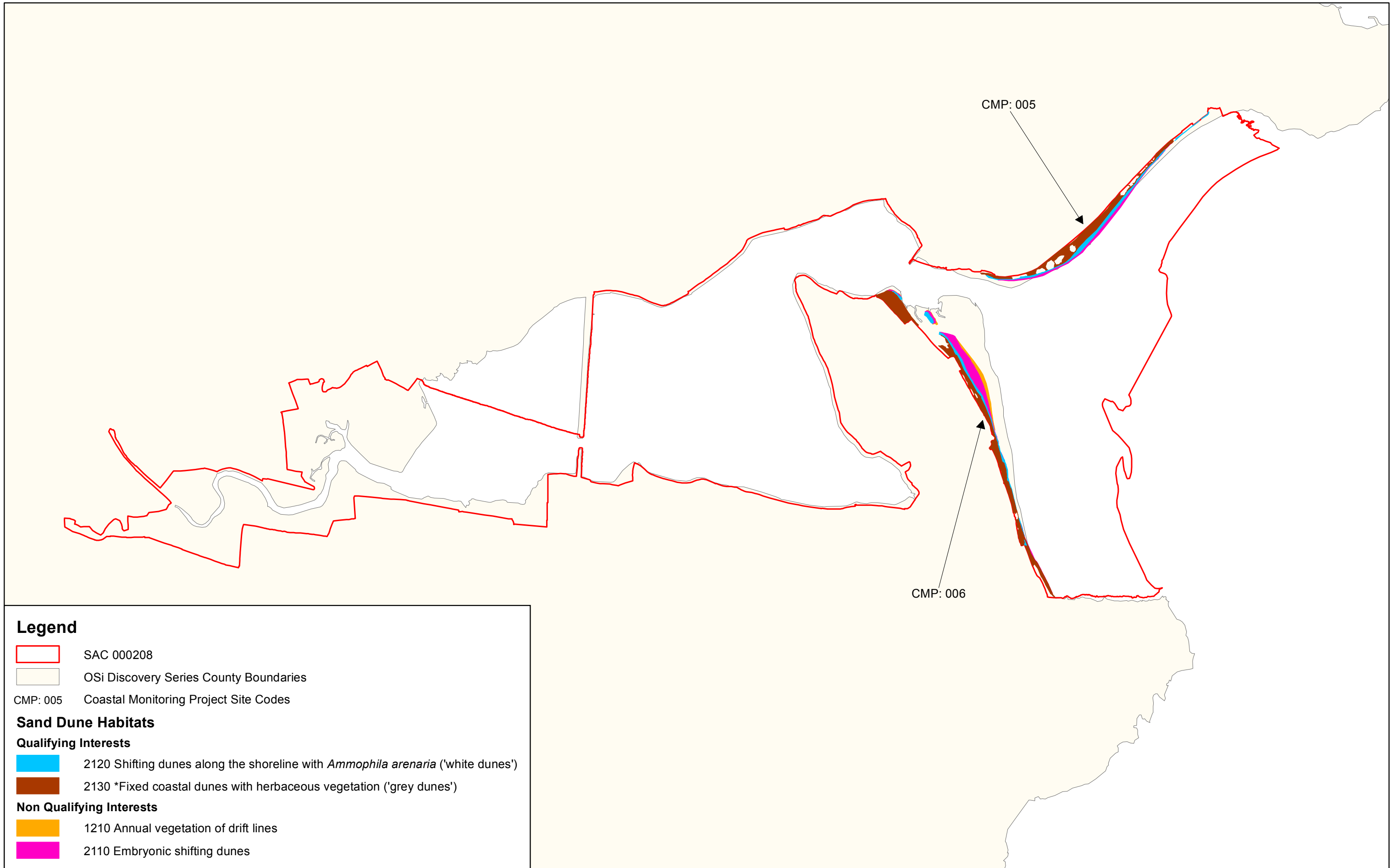
Saltmarsh Habitats

Qualifying Interests

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

SMP: 0001





Legend

- SAC 000208
- OSi Discovery Series County Boundaries
- CMP: 005 Coastal Monitoring Project Site Codes

Sand Dune Habitats

Qualifying Interests

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

Non Qualifying Interests

- 1210 Annual vegetation of drift lines
- 2110 Embryonic shifting dunes

National Parks and Wildlife Service

Conservation Objectives Series

Rogerstown Estuary SPA 004015



An Roinn
Ealaíon, Oidhreachta agus Gaeltachta

Department of
Arts, Heritage and the Gaeltacht



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Citation:

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and the Gaeltacht.**

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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

004015	Rogerstown Estuary SPA
A043	Greylag Goose <i>Anser anser</i>
A046	Brent Goose <i>Branta bernicla hrota</i>
A048	Shelduck <i>Tadorna tadorna</i>
A056	Shoveler <i>Anas clypeata</i>
A130	Oystercatcher <i>Haematopus ostralegus</i>
A137	Ringed Plover <i>Charadrius hiaticula</i>
A141	Grey Plover <i>Pluvialis squatarola</i>
A143	Knot <i>Calidris canutus</i>
A149	Dunlin <i>Calidris alpina alpina</i>
A156	Black-tailed Godwit <i>Limosa limosa</i>
A162	Redshank <i>Tringa totanus</i>
A999	Wetlands

Please note that this SPA overlaps with Rogerstown Estuary SAC (000208). 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 : 2013

Title : Rogerstown Estuary SPA (site code 4015) Conservation Objectives Supporting Document V1

Author : NPWS

Series : Conservation objectives supporting document

A043 Greylag Goose *Anser anser*

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

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Number and range of areas used by waterbirds	No significant decrease in the range, timing or intensity of use of areas by greylag goose, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A046 **Brent Goose *Branta bernicla hrota***

To maintain the favourable conservation condition of Light-bellied Brent Goose in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Number and range of areas used by waterbirds	No significant decrease in the range, timing and intensity of use of areas by light-bellied brent goose, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A048 *Shelduck Tadorna tadorna*

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

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Number, range, timing and intensity of areas used by waterbirds	No significant decrease in the range, timing or intensity of use of areas by shelduck, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A056 **Shoveler *Anas clypeata***

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

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Number and range of areas used by waterbirds	No significant decrease in the range, timing or intensity of use of areas by shoveler, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A130 Oystercatcher *Haematopus ostralegus*

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

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Number, range, timing and intensity of areas used by waterbirds	No significant decrease in the range, timing and intensity of use of areas by oystercatcher, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part four of the conservation objectives supporting document

A137 **Ringed Plover *Charadrius hiaticula***

To maintain the favourable conservation condition of Ringed Plover in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Number and range of areas used by waterbirds	No significant decrease in the range, timing or intensity of use of areas by ringed plover, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of conservation objectives supporting document

A141 Grey Plover *Pluvialis squatarola*

To maintain the favourable conservation condition of Grey Plover in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Number, range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by grey plover, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A143 Knot *Calidris canutus*

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

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Number, range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by knot, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A149 **Dunlin *Calidris alpina alpina***

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

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Number, range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by dunlin, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A156 **Black-tailed Godwit *Limosa limosa***

To maintain the favourable conservation condition of Black-tailed Godwit in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Number, range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by black-tailed godwit, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A162 Redshank *Tringa totanus*

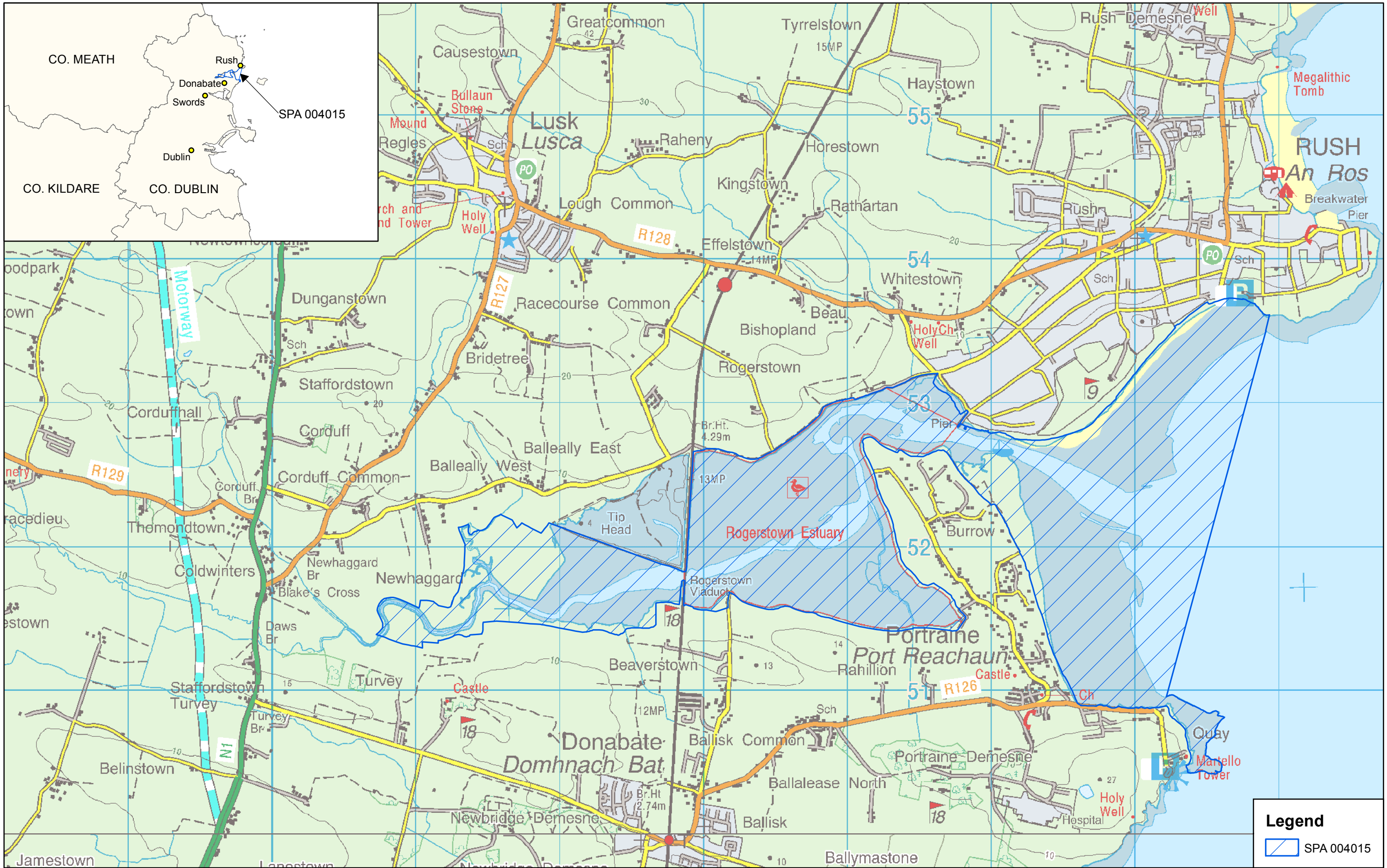
To maintain the favourable conservation condition of Redshank in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets:

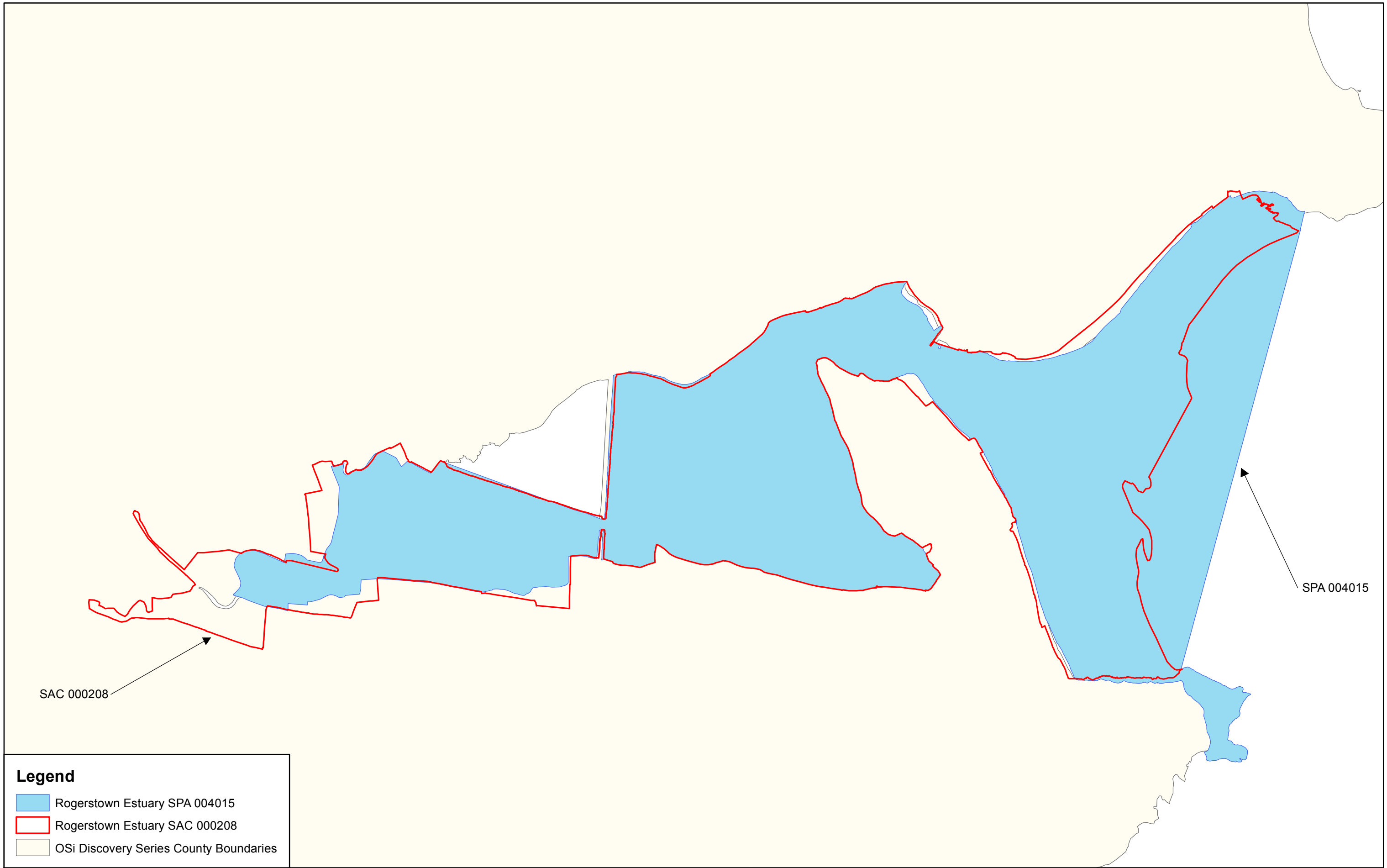
Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Number, range, timing and intensity of use of area	No significant decrease in the range, timing or intensity of use of areas by redshank, other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A999 Wetlands

To maintain the favourable conservation condition of wetland habitat in Rogerstown Estuary SPA as a resource for the regularly occurring migratory waterbirds that utilise it. This is defined by the following attribute and target:

Attribute	Measure	Target	Notes
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 646 hectares, other than that occurring from natural patterns of variation	The wetland habitat area was estimated as 646ha using OSi data and relevant orthophotographs. For further information see part three of the conservation objectives supporting document





Legend

- Rogerstown Estuary SPA 004015
- Rogerstown Estuary SAC 000208
- OSi Discovery Series County Boundaries