National Parks and Wildlife Service

Conservation Objectives Series

Tramore Dunes and Backstrand SAC 000671



An Roinn Ealaíon, Oidhreachta agus Gaeltachta

Department of Arts, Heritage and the Gaeltacht



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Introduction

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

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

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

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

Favourable conservation status of a habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

• population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and

• the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and

• there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Notes/Guidelines:

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.

2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.

3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.

4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.

5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

Qualifying Interests

indicates a priority habitat under the Habitats Directive				
000671	Tramore Dunes and Backstrand SAC			
1140	Mudflats and sandflats not covered by seawater at low tide			
1210	Annual vegetation of drift lines			
1220	Perennial vegetation of stony banks			
1310	لُعظِهَةِ {} هُتُعَمَّ على الله الله الله الله الله الله الله ال			
1330	Atlantic salt meadows (Glauco-Puccinellietalia maritimae)			
1410	Mediterranean salt meadows (Juncetalia maritimi)			
2110	Embryonic shifting dunes			
2120	Shifting dunes along the shoreline with Of { { [] @ #### \} #### (white dunes)			
2130	Fixed coastal dunes with herbaceous vegetation (grey dunes)E			

Please note that this SAC overlaps with Tramore Back Strand SPA (004027). 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 :	1999		
Title :	National Shingle Beach Survey of Ireland 1999		
Author :	Moore, D.; Wilson, F.		
Series :	Unpublished Report to NPWS		
Year :	2007		
Title :	Saltmarsh Monitoring Project 2006		
Author :	McCorry, M.		
Series :			
Year :	Unpublished report to NPWS 2008		
Title :	A survey of mudflats and sandflats in Ireland. An intertidal soft sediment survey of Tramore beach and back strand.		
Author :	Aquatic Services Unit		
Series :	Unpublished report to NPWS		
Year :	2009		
Title :	Coastal Monitoring Project 2004-2006		
Author :	Ryle, T.; Murray, A.; Connolly, C.; Swann, M.		
Series :	Unpublished report to NPWS		
Year :	2009		
Title :	Saltmarsh monitoring project 2007-2008		
Author :	McCorry, M; Ryle, T.		
Series :	Unpublished report to NPWS		
Year :	2013		
Title :	Tramore Dunes and Backstrand SAC (site code 671) Conservation objectives supporting document- coastal habitats V1		
Author :	NPWS		
Series :	Conservation objectives supporting document		
Year :	2013		
Title :	Tramore Dunes and Backstrand SAC (site code 671) 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

Spatial data sources

Year :	Interpolated 2013		
Title :	Intertidal survey 2008		
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 3 and 4)		
Year :	2005		
Title :	OSi Discovery series vector data		
GIS Operations :	High water mark (HWM) and low water mark (LWM) polyline feature classes converted into polygon feature classes and combined; EU Annex I Saltmarsh and Coastal data erased out if present		
Used For :	Marine community types base data (map 4)		
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 5)		
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 :	2110, 2120, 2130 (map 6)		

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 Tramore Dunes and Backstrand SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes. See map 3	Habitat area was estimated using OSi data as 548ha
Community extent	Hectares	Maintain the extent of the <i>Zostera</i> -dominated community, subject to natural processes. See map 4	Based on an intertidal survey undertaken in 2008 (ASU, 2008). See marine supporting document for further information
Community structure: <i>Zostera</i> density	Shoots/m ²	Conserve the high quality of the <i>Zostera</i> -dominated community, subject to natural processes	Based on an intertidal survey undertaken in 2008 (ASU, 2008). See marine supporting document for further details
Community distribution	Hectares	Conserve the following community types in a natural condition: Intertidal fine sand with <i>Bathyporeia</i> <i>pilosa</i> and <i>Nephtys cirrosa</i> community; Intertidal muddy sand with <i>Pygospio</i> <i>elegans</i> and <i>Tubificoides</i> <i>benedii</i> community complex. See map 4	Based on an intertidal survey undertaken in 2008 (ASU, 2008). See marine supporting document for further details

1210 Annual vegetation of drift lines

To maintain the favourable conservation condition of Annual vegetation of drift lines in Tramore Dunes and Backstrand 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:Tramore - 0.44ha. See map 6	Based on data from the Coastal Monitoring Project (CMP) (Ryle et al., 2009). Annual vegetation of driftlines was surveyed and mapped at a single sub- site, giving a total estimated area of 0.44ha. NB further unsurveyed areas maybe present within the site. Habitat is very difficult to measure in view of it 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 6	Based on data from Ryle et al. (2009). This habitat was recorded from the Burrow and Bass Point and is absent along considerable stretches of the beach, particularly at the western end where recreational pressures are greatest. See coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Dunes are naturally dynamic systems that require continuous supply and circulation of sand. Accumulation of organic matter in tidal litter is essential for trapping sand and initiating dune formation. Physical barriers can lead to fossilisation or over-stabilisation of dunes, as well as beach starvation resulting in increased rates of erosion. Rock gabions and fencing have been erected at Tramore. 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). Transitional communities occur between sand dune and saltmarsh habitats. See coastal habitats supporting document for further details
Vegetation composition: typical species and sub- communities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities with typical species: sea rocket (<i>Cakile maritima</i>), sea sandwort (<i>Honckenya peploides</i>), prickly saltwort (<i>Salsola kali</i>) and orache (<i>Atriplex spp</i> .)	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. 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 Tramore Dunes and Backstrand 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	Current area unknown. The site was visited during the National Shingle Beach Survey (NSBS) (Moore and Wilson, 1999) but the extent of the habitat was not mapped. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes	Based on data from Moore and Wilson (1999) and Ryle et al. (2009). Current distribution is unclear bu it is known to be associated with the shingle ridge a Tramore Burrow. There is also some shingle on the east side of the channel at Bass Point as well as behind the main strandline above the saltmarsh. Se 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 Moore and Wilson (1999). Shingle features are relatively stable in the long term. 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 Moore and Wilson (1999). Transitions to intertidal, saltmarsh and sand dune habitats occur at this site. 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 and Wilson (1999). The rare species sea kale (<i>Crambe maritima</i>) and sea knotgrass (<i>Polygonum maritimum</i>) have previously recorded at the site, though their current status is unclear. 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 and 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 furthe details

1310

Salicornia and other annuals colonising mud and sand

To restore the favourable conservation condition of *Salicornia* and other annuals colonizing mud and sand in Tramore Dunes and Backstrand 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:Tramore - 0.99ha. See map 5	Based on data from the Saltmarsh Monitoring Project (SMP) (McCorry, 2007). Habitat recorded at a single sub-site giving a total estimated area of 0.99ha. NB 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 5 for known distribution	Based on data from McCorry (2007). <i>Salicornia</i> is an annual species, so its distribution can vary significantly from year to year. It is found at two locations at Tramore: on mudflats partially enclosed by the Malcolmson embankment in the south-west section of the Back Strand and along the edge of the saltmarsh at Lisselan in the north-east section. 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 McCorry (2007). Sediment supply is particularly important for pioneer saltmarsh community, as the distribution of this habitat depends on accretion rates. The development of the Malcolmson Embankment in the 1860s affected sedimentation in the area. Reclamation and drainage works have occurred in the past at Lisselan and Tramore Intake. 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 McCorry (2007). Creeks deliver sediment throughout the saltmarsh system. Creeks and pan structures are well developed at Lisselan. See coastal habitats supporting document for furthe 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 (2007). Transitional communities occur 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 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 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 McCorry (2007). See coastal habitats supporting document for further details
Vegetation structure: negative indicator species - <i>Spartina</i> <i>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 McCorry (2007). <i>Spartina</i> forms a significant part of the saltmarsh and the intertidal flats around the back strand. This species has been present at the site since the 1960s and has increased significantly since then. See coastal habitats supporting document for further details

1330

Atlantic salt meadows (Glauco-Puccinellietalia maritimae)

To maintain the favourable conservation condition of Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) in Tramore Dunes and Backstrand 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: Tramore - 30.29ha. See map 5	Based on data from the Saltmarsh Monitoring Project (SMP) (McCorry, 2007). Atlantic salt meadow (ASM) was surveyed and mapped at a single sub- site, giving a total estimated area of 30.29ha. 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 5 for known distribution	Based on data from McCorry (2007). Saltmarsh has a wide distribution throughout the site. The largest area of saltmarsh occurs at The Cush, which is enclosed by the Malcolmson Embankment. Two small patches occur along the northern section of the Back Strand at Tramore Intake in the west and Lisselan in the east. 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 McCorry (2007). The development of the Malcolmson Embankment in the 1860s affected sedimentation in the area. Reclamation and drainage works have occurred in the past at Lisselan and Tramore Intake. See coasta 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 McCorry (2007). The ASM along the west side of the Cush has a uniform topography with few creeks and pans. Creeks and pan structures are well developed at Lisselan. 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 furthe 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 McCorry (2007). Saltmarsh zonation is particularly well developed along The Cush. At Tramore Intake there is a mosaic of saltmarsh habitats present throughout the site. Transitional communities occur 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 McCorry (2007). Stock grazing i currently absent from the site, but is known to have occurred in the past at Lissellan. Natural grazing by wildfowl occurs throughout the site. 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	See coastal habitats supporting document for furthed 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)	Based on data from McCorry (2007). Golden- samphire (<i>Inula crithmoides</i>) is a species of local distinctiveness in the ASM at the site. See coastal habitats supporting document for further details
Vegetation structure: negative indicator species - <i>Spartina</i> <i>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 McCorry (2007). <i>Spartina</i> has been recorded from the site since the 1960s and ha expanded significantly since then. See coastal habitats supporting document for further details

1410 Mediterranean salt meadows (Juncetalia maritimi)

To maintain the favourable conservation condition of Mediterranean salt meadows (*Juncetalia maritimi*) in Tramore Dunes and Backstrand 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: Tramore - 1.54ha. See map 5	Based on data from the Saltmarsh Monitoring Project (SMP) (McCorry, 2007). Mediterranean Salt Meadow (MSM) was surveyed and mapped at a single sub-site, giving a total estimated area of 1.54ha. NB further unsurveyed areas maybe presen within the site. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, subject to natural processes. See map 5 for known distribution	Based on data from McCorry (2007). Saltmarsh has a wide distribution throughout the site. The largest area of saltmarsh occurs at The Cush, which is enclosed by the Malcolmson Embankment. Two small patches occur along the northern section of the Back Strand at Tramore Intake in the west and Lisselan in the east. MSM was recorded from Tramore Intake and Lisselan but was absent from The Cush. See coastal habitats supporting documen 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 McCorry (2007). The development of the Malcolmson Embankment in the 1860s affected sedimentation in the area. Reclamation and drainage works have occurred in the past at Lisselan and Tramore Intake. See coasta 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 McCorry (2007). The saltmarsh topography at Lisselan is quite well developed. 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 furthe 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 McCorry (2007). Saltmarsh zonation is particularly well developed along The Cush. At Tramore Intake there is a mosaic of saltmarsh habitats present. Transitional communitie occur 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 McCorry (2007). Stock grazing currently absent from the site, but is known to have occurred in the past at Lissellan. Natural grazing by wildfowl occurs throughout the site. 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	See coastal habitats supporting document for furthed details
Vegetation composition: typical species and sub- communities	Percentage cover at a representative sample of monitoring stops		Based on data from McCorry (2007). Sharp rush (<i>Juncus acutus</i>) is a species of local distinctiveness in the MSM at the site. See coastal habitats supporting document for further details
Vegetation structure: negative indicator species - <i>Spartina</i> <i>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 McCorry (2007). <i>Spartina</i> has been recorded from the site since the 1960s and ha expanded significantly since then. See coastal habitats supporting document for further details

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2110 Embryonic shifting dunes

To maintain the favourable conservation condition of Embryonic shifting dunes in Tramore Dunes and Backstrand 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: Tramore - 4.30ha. See map 6	Based on data from the Coastal Monitoring Project (CMP) (Ryle et al., 2009). Embryonic dunes were surveyed and mapped at a single sub-site, giving a total estimated area of 4.30ha. Habitat is very difficult to measure in view of its dynamic nature. This habitat is present along much of the southern side of Tramore Burrow. 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 Ryle et al. (2009). Embryonic dunes are particularly well developed at the tip of the spit, but are absent where recreational pressure are greatest near the west end of the site. Embryonic dunes were also recorded at Bass Point by the CMP. 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 Ryle et al. (2009). Dunes are naturally dynamic systems that require continuous supply and circulation of sand. Physical barriers can lead to fossilisation or over-stabilisation of dunes, as well as beach starvation resulting in increased rates of erosion. Rock gabions and fencing have been erected at Tramore. Sand extraction was noted by the CMP at Bass Point. 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). Transitional communities occur between sand dune and saltmarsh habitats. See coastal habitats supporting document for further details
Vegetation composition: plant health of foredune grasses	Percentage cover	More than 95% of sand couch (<i>Elytrigia juncea</i>) and/or lyme-grass (<i>Leymus arenarius</i>) should be healthy (i.e. green plant parts above ground and flowering heads present)	Based on data from 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: sand couch (<i>Elytrigia juncea</i>) and/or lyme-grass (<i>Leymus arenarius</i>)	Based on data from Ryle et al. (2009). The Burrow and Bass Point support characteristic dune flora. See coastal habitats supporting document for further details
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-native species) to represent less than 5% cover	Based on data from 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

2120

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

To maintain the favourable conservation condition of Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes') in Tramore Dunes and Backstrand 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: Tramore - 4.12ha. See map 6	Based on data from the Coastal Monitoring Project (CMP) (Ryle et al., 2009). Habitat was surveyed and mapped at a single sub-site, giving a total estimated area of 4.12ha. 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 6 for known distribution	Based on data from Ryle et al. (2009). Embryonic dunes occur at both The Burrow and Bass Point. See coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Dunes are naturally dynamic systems that require continuous supply and circulation of sand. Marram grass (<i>Ammophila arenaria</i>) reproduces vegetatively and requires constant accretion of fresh sand to maintain active growth encouraging further accretion. Rock gabions and fencing have been erected at Tramore. 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). Transitional communities occur between sand dune and 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 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 marram grass (<i>Ammophila</i> <i>arenaria</i>) and/or lyme- grass (<i>Leymus arenarius</i>)	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 (<i>Hippophae rhamnoides</i>) should be absent or effectively controlled. See coastal habitats supporting document for further details

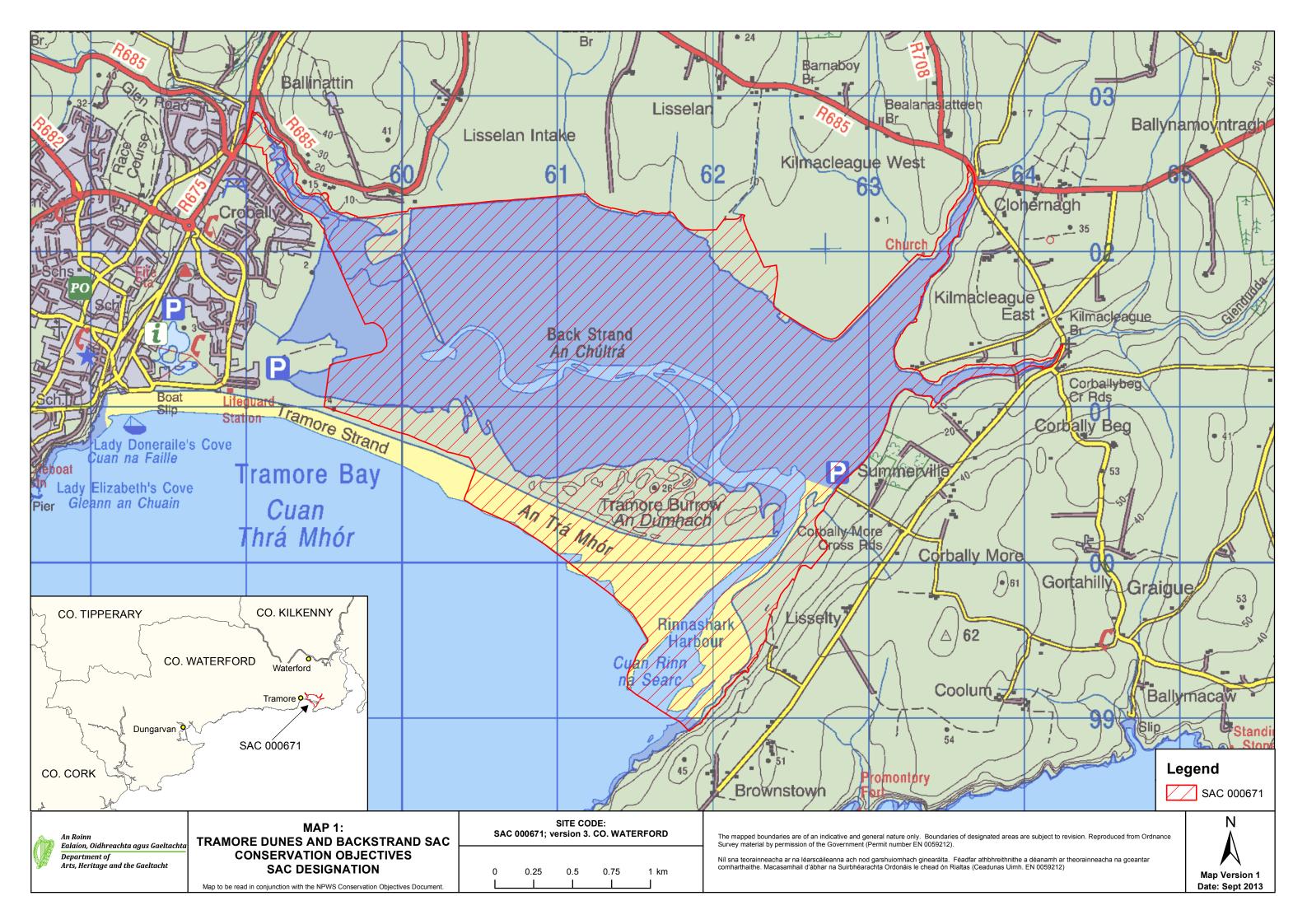
2130

Fixed coastal dunes with herbaceous vegetation (grey dunes)

To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation ('grey dunes') in Tramore Dunes and Backstrand 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: Tramore - 57.47ha. See map 6	estimated area of 57.47ha. Most of the fixed dune occurs on The Burrow while less than 5ha occurs at Bass Point. NB 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 Ryle et al. (2009). Fixed dune 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 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. Rock gabions and fencin- have been erected at Tramore. Sand extraction was noted by the CMP from the fixed dunes at Bass Point. 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). Transitional communities occur between sand dune and 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). Within The Burrow, recreational pressures are high, causing localised patches of severe erosion. 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 Ryle et al. (2009). Grazing is absent from Tramore Burrow, which has led to the development of a rank, specie poor vegetation. Cattle graze Bass Point dunes but supplementary feeding has led to considerable area dominated by nitrophilous vegetation. 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). Rare elements of the flora include the Red Data Book species, wild asparagus (<i>Aspargus</i> <i>officinalis</i> var. <i>prostratus</i>) and bee orchid (<i>Ophyrys</i> <i>apifera</i>). Patches of wild privet (<i>Ligustrum vulgare</i>) are also a notable feature as it is uncommon in Irist dune systems. See coastal habitats supporting document for further details
Vegetation composition: negative indicator species (including <i>Hippophae</i> <i>rhamnoides</i>)	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover	Based on data from Ryle et al. (2009). Negative indicators include non-native species, species indicative of changes in nutrient status and species not considered characteristic of the habitat. Sea- buckthorn (<i>Hippophae rhamnoides</i>) should be absent or effectively controlled. This species is currently absent from the site, however, bracken (<i>Pteridium aquilinum</i>) is common both at Tramore and Bass Point dunes. See coastal habitats supporting document for further details

Vegetation composition: scrub/trees	Percentage cover	No more than 5% cover or under control	Based on data from Ryle et al. (2009). At Tramore Burrow, scrub composed of dewberry (<i>Rubus</i> <i>caesius</i>) occurs throughout the fixed dunes. See coastal habitats supporting document for further details
			details



MAP 2:
An Roinn Ealaíon, 0idhreachta agus Gaeltachta Ealaíon, 0idhreachta agus Gaeltachta



Legend



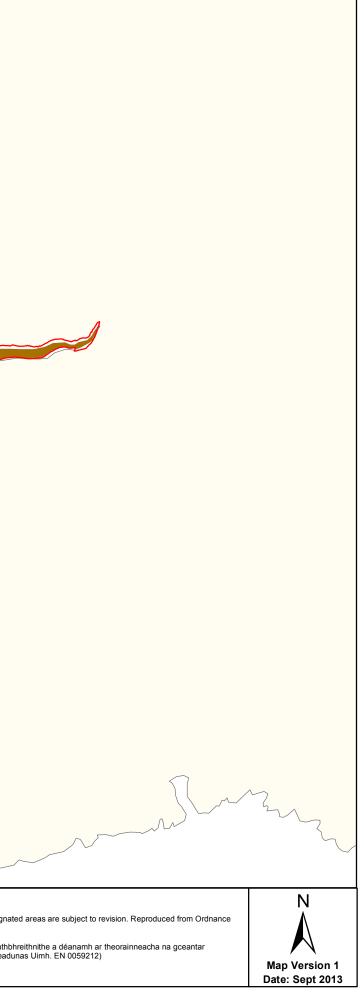
Tramore Dunes and Backstrand SAC 000671 Tramore Back Strand SPA 004027 OSi Discovery Series Coastal Boundary

ated areas are subject to revision. Reproduced from Ordnance

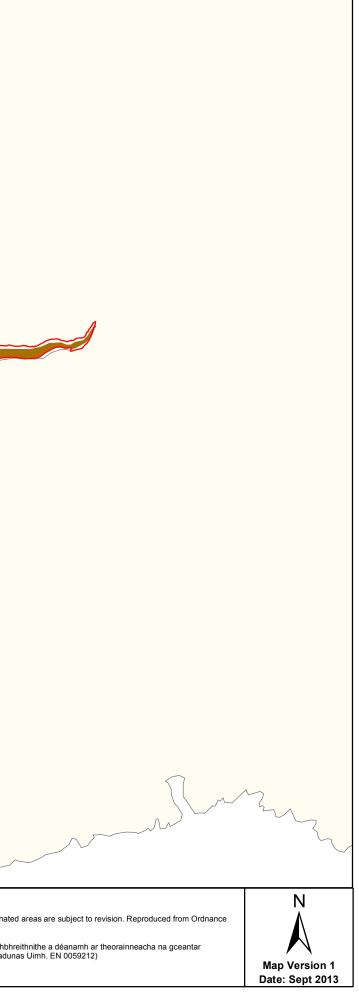
nbhreithnithe a déanamh ar theorainneacha na gceantar idunas Uimh. EN 0059212)



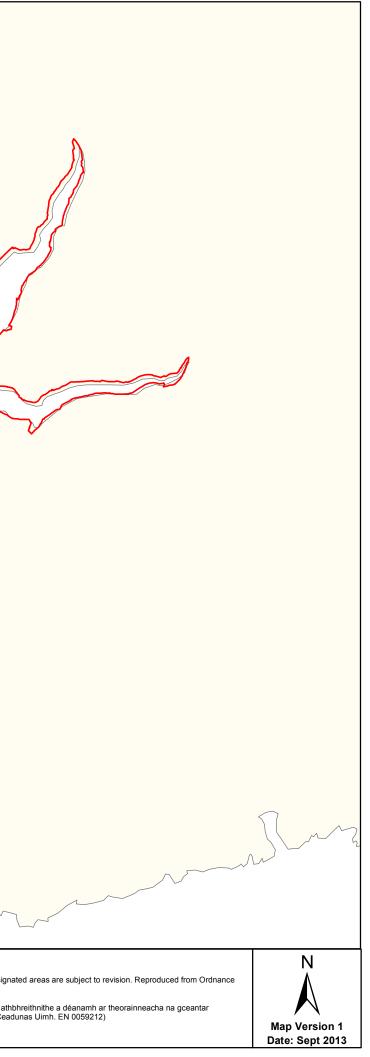
Legend				
SAC 000671				
1140 Mudflats and sandflats not OSi Discovery Series Coastal Bo	covered by sea water at low tide oundary			
An Roinn Ealaíon, Oidhreachta agus Gaeltachta TRAN	MAP 3: MORE DUNES AND BACKSTR		SITE CODE: SAC 000671; version 3. CO. WATERFORD	The mapped boundaries are of an indicative and general nature only. Boundaries of desig Survey material by permission of the Government (Permit number EN 0059212).
Department of Arts, Heritage and the Gaeltacht T	CONSERVATION OBJECTIV IDAL MUDFLATS AND SANDF be read in conjunction with the NPWS Conservation Object	FLATS	0 0.25 0.5 0.75 1 km	Níl sna teorainneacha ar na léarscáileanna ach nod garshuiomhach ginearálta. Féadfar at comharthaithe. Macasamhail d'ábhar na Suirbhéarachta Ordonáis le chead ón Rialtas (Cea



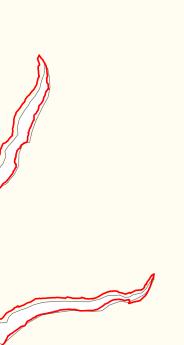
Legend SAC 000671 OSi Discovery Series C	oastal Boundary				
Marine Community Type					
	with Pygospio elegans and Tubificoides benedii community	complex		5	
Zostera-dominated com	imunity				
An Roinn Ealaíon, Oidhreachta agus Gaeltachta Department of Arts, Heritage and the Gaeltacht	MAP 4: TRAMORE DUNES AND BACKSTRAND SAC CONSERVATION OBJECTIVES MARINE COMMUNITY TYPES	SA	SITE C 000671; version 0.25 0.5	CODE: n 3. CO. WATERFORD	The mapped boundaries are of an indicative and general nature only. Boundaries of design Survey material by permission of the Government (Permit number EN 0059212). Níl sna teorainneacha ar na léarscáileanna ach nod garshuiomhach ginearálta. Féadfar ath comharthaithe. Macasamhail d'ábhar na Suirbhéarachta Ordonáis le chead ón Rialtas (Cea
	Map to be read in conjunction with the NPWS Conservation Objectives Document.	Ĺ			



		SMP: 0	
Legend			
SAC 000671 OSi Discovery Series	Coastal Boundary	(
SMP: 0007 Saltmarsh Monitoring	-		
Saltmarsh Habitats			
Qualifying Interests	other annuals colonising mud and sand		
	adows (Glauco-Puccinellietalia maritimae)		
1330 / 1410 Atlantic s	salt meadows (Glauco-Puccinellietalia maritimae) / Medite	rranean salt meadows (Juncetalia maritimi)	
1410 Mediterranean	salt meadows (Juncetalia maritimi)		
An Roinn	MAP 5: TRAMORE DUNES AND BACKSTRAND SAC	SITE CODE: SAC 000671; version 3. CO. WATERFORD	The mapped boundaries are of an indicative and general nature only. Boundaries of desig Survey material by permission of the Government (Permit number EN 0059212).
Ealaíon, Oidhreachta agus Gaeltachta Department of Arts, Heritage and the Gaeltacht	AND BACKSTRAND SAC CONSERVATION OBJECTIVES SALTMARSH HABITATS Map to be read in conjunction with the NPWS Conservation Objectives Document.	0 0.25 0.5 0.75 1 km	Survey material by permission of the Government (Permit number EN 0059212). Níl sna teorainneacha ar na léarscáileanna ach nod garshuiomhach ginearálta. Féadfar a comharthaithe. Macasamhail d'ábhar na Suirbhéarachta Ordonáis le chead ón Rialtas (Ce



Legend OSi Discovery Series Coastal Boundary CMP: 046 Coastal Monitoring Project Site Codes Sand Dune Habitats Qualifying Interests 1210 Annual vegetation of drift lines 2110 Embryonic shifting dunes 2120 Shifting dunes along the shoreline with Ammophila arenaria ('white dunes') 2130 *Fixed coastal dunes with herbaceous vegetation ('grey dunes') Non Qualifying Interests 2190 Humid dune slacks		CMP: 24
An Roinn Ealaíon, Oidhreachta agus Gaeltachta Department of Arts, Heritage and the Gaeltacht MAP 6: TRAMORE DUNES AND BACKSTRAND SAC CONSERVATION OBJECTIVES SAND DUNE HABITATS Map to be read in conjunction with the NPWS Conservation Objectives Document.	SITE CODE: SAC 000671; version 3. CO. WATERFORD 0 0.25 0.5 0.75 1 km	The mapped boundaries are of an indicative and general nature only. Boundaries of designated Survey material by permission of the Government (Permit number EN 0059212). Níl sna teorainneacha ar na léarscáileanna ach nod garshuiomhach ginearálta. Féadfar athbhr comharthaithe. Macasamhail d'ábhar na Suirbhéarachta Ordonáis le chead ón Rialtas (Ceadun



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nbhreithnithe a déanamh ar theorainneacha na gceantar idunas Uimh. EN 0059212)

