

National Parks and Wildlife Service

Conservation Objectives Series

Kilpatrick Sandhills SAC 001742



An Roinn Ealaíon, Oidhreachta,
Gnóthaí Réigiúnacha, Tuaithe agus Gaeltachta

Department of Arts, Heritage,
Regional, Rural and Gaeltacht Affairs



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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*

001742 Kilpatrick Sandhills SAC

- 1210 Annual vegetation of drift lines
- 2110 Embryonic shifting dunes
- 2120 Shifting dunes along the shoreline with ~~Calluna vulgaris~~ (white dunes)
- 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)E
- 2150 Atlantic decalcified fixed dunes (Calluno-Ulicetea)E

Supporting documents, relevant reports & publications

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

NPWS Documents

Year : 2009

Title : Coastal Monitoring Project 2004-2006

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

Series : Unpublished report to NPWS

Year : 2013

Title : Monitoring survey of Annex I sand dune habitats in Ireland

Author : Delaney, A.; Devaney, F.M.; Martin, J.M.; Barron, S.J.

Series : Irish Wildlife Manual No. 75

Year : 2017

Title : Kilpatrick Sandhills SAC (site code: 1742) Conservation objectives supporting document-coastal 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 Ph.D. Thesis, National University of Ireland, Dublin

Spatial data sources

Year : 2009

Title : Coastal Monitoring Project 2004-2006. Version 1

GIS Operations : QIs selected; clipped to SAC boundary. Expert opinion used as necessary to resolve any issues arising

Used For : 1210, 2110, 2120, 2130, 2150 (map 2)

1210 Annual vegetation of drift lines

To maintain the favourable conservation condition of Annual vegetation of drift lines in Kilpatrick Sandhills 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 the sub-site mapped: Kilpatrick - 0.03ha. See map 2	Based on data from the Coastal Monitoring Project (CMP) (Ryle et al., 2009). Annual vegetation of drift lines was mapped at the sub-site Kilpatrick (CMP site ID: 023) to give a total estimated area of 0.03ha within Kilpatrick Sandhills SAC. The habitat is very difficult to measure in view of its dynamic nature which means that it can appear and disappear within a site from year to year. See the Kilpatrick Sandhills SAC conservation objectives supporting document for coastal habitats for further details
Habitat distribution	Occurrence	No decline or change in habitat distribution, subject to natural processes. See map 2 for known distribution	Based on data from Ryle et al. (2009). The annual strandline habitat in the SAC is of limited extent and is currently confined to two small patches. See the 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. Accumulation of organic matter in tidal litter is essential for trapping sand and initiating dune formation. See the 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). There are transitional communities between a range of habitats in the SAC including strandlines to embryonic dunes. See the 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 oraches (<i>Atriplex</i> spp.)	Based on data from Ryle et al. (2009). The strandline habitat at Kilpatrick Sandhills SAC is characterised by the presence of typical strandline species such as sea rocket (<i>Cakile maritima</i>), sea sandwort (<i>Honckenya peploides</i>) and prickly saltwort (<i>Salsola kali</i>). See the 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. See the coastal habitats supporting document for further details

2110 Embryonic shifting dunes

To restore the favourable conservation condition of Embryonic shifting dunes in Kilpatrick Sandhills 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 the sub-site mapped: Kilpatrick - 0.25ha. See map 2	Based on data from the Coastal Monitoring Project (CMP) (Ryle et al., 2009). Embryonic shifting dunes habitat was mapped at the sub-site Kilpatrick (CMP site ID: 023) to give a total estimated area of 0.25ha within Kilpatrick Sandhills SAC. The habitat is very difficult to measure in view of its dynamic nature. See the Kilpatrick Sandhills SAC conservation objectives supporting document for coastal habitats for further details
Habitat distribution	Occurrence	No decline or change in habitat distribution, subject to natural processes. See map 2 for known distribution	Based on data from Ryle et al. (2009). The embryonic dune area consists of a number of small patches of habitat in the southern half of the SAC. See the 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. See the 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). Kilpatrick Sandhills SAC shows the developmental stages of dune formation from embryonic dunes, to dunes stabilised by marram (<i>Ammophila arenaria</i>), to fixed dunes. See the coastal habitats supporting document for further details
Vegetation composition: plant health of foredune grasses	Percentage cover	More than 95% of sand couch grass (<i>Elytrigia juncea</i>) and/or lyme-grass (<i>Leymus arenarius</i>) should be healthy (i.e. green plant parts above ground and flowering heads present)	Based on data from Ryle et al. (2009). See the coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities with typical species: sand couch grass (<i>Elytrigia juncea</i>) and/or lyme-grass (<i>Leymus arenarius</i>)	Based on data from Ryle et al. (2009). The embryonic shifting dunes support species such as marram (<i>Ammophila arenaria</i>), sand couch (<i>Elytrigia juncea</i>), sea spurge (<i>Euphorbia paralias</i>) and sea sandwort (<i>Honkenya peploides</i>). Typical strandline species such as sea rocket (<i>Cakile maritima</i>) and prickly saltwort (<i>Salsola kali</i>) also occur. See the 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 Gaynor (2008) and 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 the coastal habitats supporting document for further details

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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 Kilpatrick Sandhills 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 the sub-site mapped: Kilpatrick - 0.36ha. See map 2	Based on data from the Coastal Monitoring Project (CMP) (Ryle et al., 2009). Shifting dunes along the shoreline with <i>Ammophila arenaria</i> was mapped at the sub-site Kilpatrick (CMP site ID: 023) to give a total estimated area of 0.36ha within Kilpatrick Sandhills SAC. The habitat is very difficult to measure in view of its dynamic nature. See the Kilpatrick Sandhills SAC conservation objectives supporting document for coastal habitats for further details
Habitat distribution	Occurrence	No decline or change in habitat distribution, subject to natural processes. See map 2 for known distribution	Based on data from Ryle et al. (2009). The mobile dunes consist of a continuous strip, mostly less than 10m wide. See the 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. Marram grass (<i>Ammophila arenaria</i>) reproduces vegetatively and requires constant accretion of fresh sand to maintain active growth encouraging further accretion. See the 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). Kilpatrick Sandhills SAC shows the developmental stages of dune formation from embryonic dunes, to dunes stabilised by marram (<i>Ammophila arenaria</i>), to fixed dunes. See the coastal habitats supporting document for further details
Vegetation composition: plant health of dune grasses	Percentage cover	More than 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). At Kilpatrick Sandhills SAC, there are places where marram grass (<i>Ammophila arenaria</i>) is stabilising some of the previously eroded areas. However, there were some areas where a significant cover of unhealthy marram was symptomatic of a lack of mobility in the habitat. See the 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 Ryle et al. (2009). The shifting dunes of Kilpatrick Sandhills SAC are dominated by marram (<i>Ammophila arenaria</i>), with species such as sea spurge (<i>Euphorbia paralias</i>), sea bindweed (<i>Calystegia soldanella</i>) and sea-holly (<i>Eryngium maritimum</i>) also found. See the 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. At Kilpatrick Sandhills SAC, the negative indicator species common ragwort (<i>Senecio jacobaea</i>) and creeping thistle (<i>Cirsium arvense</i>) were noted in the mobile dunes. See the 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 Kilpatrick Sandhills 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 the sub-site mapped: Kilpatrick - 12.93ha. See map 2	Based on data from the Coastal Monitoring Project (CMP) (Ryle et al., 2009). Fixed coastal dunes with herbaceous vegetation was mapped at the sub-site Kilpatrick (CMP site ID: 023) to give a total estimated area of 12.93ha within Kilpatrick Sandhills SAC. See the Kilpatrick Sandhills SAC conservation objectives supporting document for coastal habitats for further details
Habitat distribution	Occurrence	No decline or change in habitat distribution, subject to natural processes. See map 2 for known distribution	Based on data from Ryle et al. (2009). The fixed dunes comprise the vast majority of the total Qualifying Interest Annex I sand dune habitats present in the SAC. See the coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Physical barriers can lead to fossilisation or over-stabilisation of dunes, as well as beach starvation resulting in increased rates of erosion. See the 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). Kilpatrick Sandhills SAC shows the developmental stages of dune formation from embryonic dunes, to dunes stabilised by marram (<i>Ammophila arenaria</i>), to fixed dunes. See the 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). Bare ground at Kilpatrick Sandhills SAC was estimated to exceed 20% of the total fixed dune area by the CMP. See the 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). The fixed dune grassland in the SAC contains plenty of short turf areas, with good species diversity. See the coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in Delaney et al. (2013)	Based on data from Ryle et al. (2009). In the fixed dunes in the SAC, red fescue (<i>Festuca rubra</i>) is the dominant grass. Other species present include lady's bedstraw (<i>Galium verum</i>), kidney vetch (<i>Anthyllis vulneraria</i>), wild thyme (<i>Thymus polytrichus</i>), common restharrow (<i>Ononis repens</i>), cat's ear (<i>Hypochaeris radicata</i>) and sheep's-bit (<i>Jasione montana</i>). This fixed dune/coastal grassland also contained coastal cliff elements such as thrift (<i>Armeria maritima</i>) and buck's-horn plantain (<i>Plantago coronopus</i>). On the older dunes, there is an abundance of legumes, including common bird's-foot trefoil (<i>Lotus corniculatus</i>) and clovers (<i>Trifolium</i> spp.). Lichens noted included <i>Peltigera</i> sp. and <i>Cladonia</i> species. Further inland, on the more mature grey dunes, burnet rose (<i>Rosa pimpinellifolia</i>) is common. See the 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 Gaynor (2008) and 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. The negative indicator species common ragwort (<i>Senecio jacobaea</i>) and creeping thistle (<i>Cirsium arvense</i>) were noted in the fixed dunes in the SAC. See the 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). See the coastal habitats supporting document for further details

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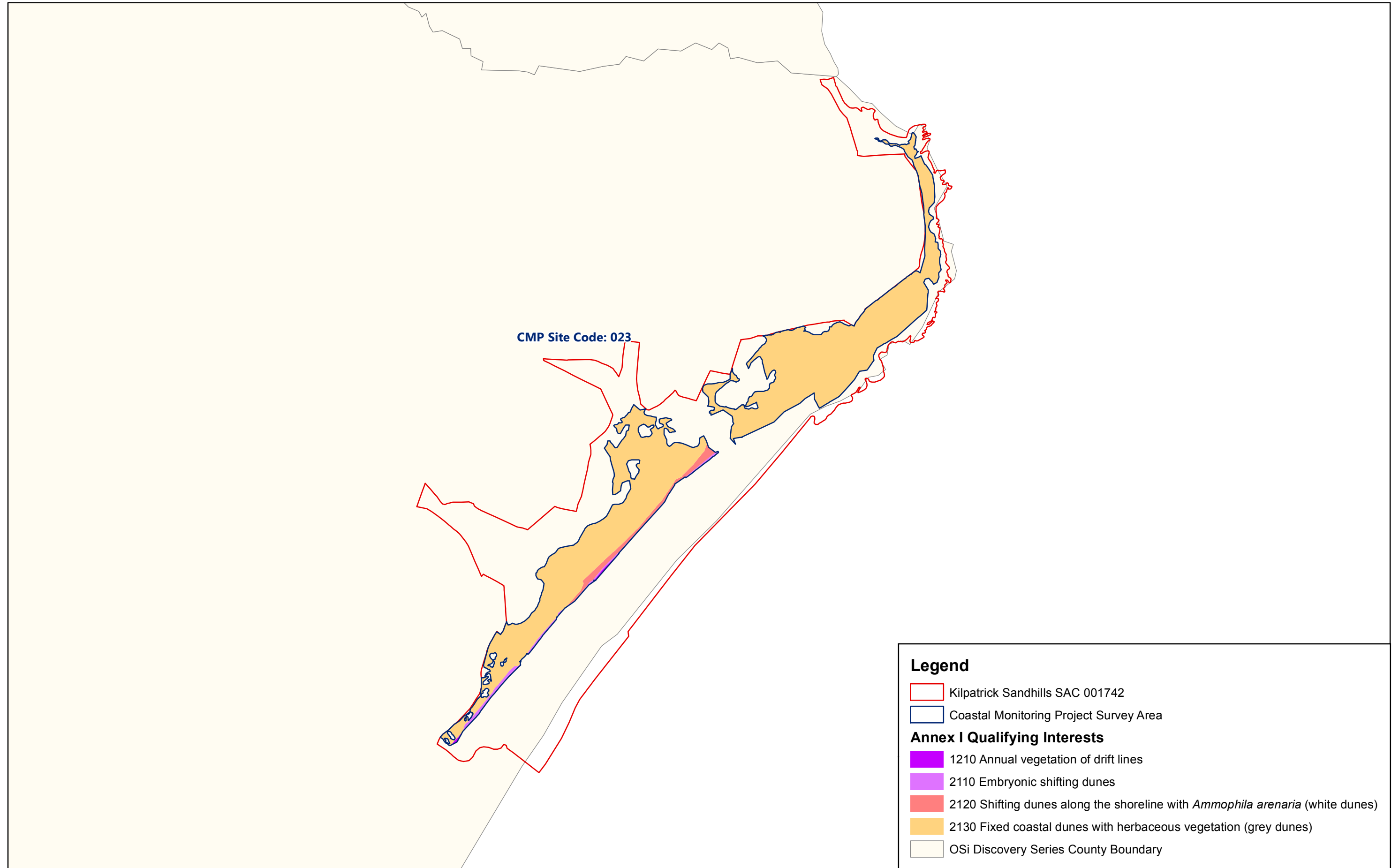
2150 Atlantic decalcified fixed dunes (Calluno-Ulicetea)

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

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes including erosion and succession	Based on data from the Coastal Monitoring Project (CMP) (Ryle et al., 2009). No area was mapped for Atlantic decalcified fixed dune habitat at Kilpatrick Sandhills SAC by the CMP, but it is potentially present as evidenced by the occurrence of European gorse (<i>Ulex europaeus</i>). It also occurs in mosaic with fixed coastal dunes with herbaceous vegetation making mapping difficult. Thus, the total area of the qualifying habitat within the SAC is unknown. See the Kilpatrick Sandhills SAC conservation objectives supporting document for coastal habitats for further details
Habitat distribution	Occurrence	No decline or change in habitat distribution, subject to natural processes	Based on data from Ryle et al. (2009). This habitat is characterised by the presence of European gorse (<i>Ulex europaeus</i>), which occurs towards the back of the fixed dune area in the SAC. See the coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Physical barriers can lead to fossilisation or over-stabilisation of dunes, as well as beach starvation resulting in increased rates of erosion. See the 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). The Kilpatrick sand dune system shows the various development stages of dunes, from strandlines, to embryonic dunes, to white dunes stabilised by marram (<i>Ammophila arenaria</i>), to fixed dunes and dune slack. See the coastal habitats supporting document for further details
Vegetation structure: bare ground	Percentage cover	Bare ground should not exceed 10% of the dune habitat, subject to natural processes	Based on data from Gaynor (2008) and Ryle et al. (2009). See the 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). See the coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in Delaney et al. (2013)	Based on data from Gaynor (2008) and Ryle et al. (2009). In Kilpatrick Sandhills SAC, the area classified as dune heath is dominated by gorse (<i>Ulex europaeus</i>) and other species recorded in this area include blackthorn (<i>Prunus spinosa</i>), bracken (<i>Pteridium aquilinum</i>), cleavers (<i>Galium aparine</i>), common sorrel (<i>Rumex acetosa</i>), common ragwort (<i>Senecio jacobaea</i>), burnet rose (<i>Rosa pimpinellifolia</i>), tormentil (<i>Potentilla erecta</i>) and bramble (<i>Rubus fruticosus</i> agg.). See the 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 Gaynor (2008) and 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. The dune heath scrub in the SAC includes bracken (<i>Pteridium aquilinum</i>). See the 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). In Kilpatrick Sandhills SAC, the dune heath is dominated by gorse (<i>Ulex europaeus</i>) and other species recorded in this area include blackthorn (<i>Prunus spinosa</i>). See the coastal habitats supporting document for further details
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Legend

- Kilpatrick Sandhills SAC 001742
- Coastal Monitoring Project Survey Area
- Annex I 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)
- OSi Discovery Series County Boundary

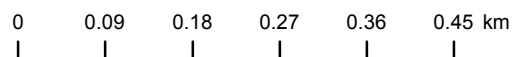


An Roinn Ealaíon, Oidhreacht,
Gnóthaí Réigiúnacha, Tuaithe agus Gaeltachta
Department of Arts, Heritage,
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**MAP 2:
KILPATRICK SANDHILLS SAC
CONSERVATION OBJECTIVES
COASTAL HABITATS**

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

**SITE CODE:
SAC 001742; version 3.
CO. WEXFORD**



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



**Map Version 1
Date: Nov 2016**